COURTROOM, CITY HALL
1 MUNICIPAL PLAZA
BEACON, NY 12508

Len Warner
Karen Quiana
Kevin Byrne
Jill Reynolds
J. Randall Williams
J.C. Calderon
Chair John Gunn

December 14, 2021
7:00 PM
Planning Board Agenda

Regular Meeting

1. Continue public hearing for SEQRA environmental review on application for Subdivision (lot merger) Approval and Site Plan Approval, three-story mixed-use residential and commercial development, 364 Main Street, submitted by O'Donnell Construction Corp.
2. Continue public hearing for SEQRA environmental review on application for Subdivision and Site Plan Approval, "Beacon Views Townhouses" 40 units, Conklin Street, submitted by Beacon Views, LLC
3. Public hearing on application for Special Use Permit and Site Plan Approval, accessory apartment, 1080 Wolcott Avenue, submitted by Catrinel Bartolomeu & Bruno Maddox
4. Continue review of application for Subdivision Approval, 6-unit apartment building to individual units, Ferry Landing Project, submitted by WRJG, LLC
5. Continue review of application for Site Plan Approval, hotel and event space, 1113 Wolcott Avenue, submitted by Prophecy Theater, LLC
6. Review application for Special Use Permit and Site Plan Approval, Mirbeau Inn & Spa @ Howland Estate, 7 Craig House Lane, submitted by The Mirabeau Companies

Miscellaneous Business

1. Zoning Board of Appeals - No applications for the December Meeting
2. Consider request for one 90-day extension of Subdivision Approval and Certificate of Appropriateness Approval - Monell Place, submitted by Allison Cross and Henry Nye
3. Consider request for two 90-day extensions of Subdivision Approval - 25 Townsend Street, submitted by AK Property Holding, LLC
4. City Council request for review Local Law regarding Accessory Apartments

Architectural Review

1. Single Family House - North Cedar Street

City of Beacon Planning Board Agenda
12/14/2021

Title:

Continue public hearing for SEQRA environmental review on application for Subdivision (lot merger) Approval and Site Plan Approval, three-story mixed-use residential and commercial development, 364 Main Street, submitted by O'Donnell Construction Corp.

ATTACHMENTS

364 Main Street Cover Letter.pdf

364 Main Street Revised Site Plan.pdf

364 Main Street - Exhibit C Engineer Response to Stormwater Runoff.pdf

364 Main Street - Exhibit D Architect Response Letter.pdf

364 Main Street - Exhibit E Engineer Response Letter.pdf

364 Main Street - Exhibit F Traffic Engineer Response Letter.pdf

364 Main Street - Exhibit A Updated Application Form.pdf

364 Main Street - Exhibit B Revised EAF.pdf

Engineer Review Letter.pdf

Planner Review Letter.pdf

Traffic Engineer Review Letter.pdf

CUDDY +FEDER LLP

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Taylor M. Palmer, Esq.
tpalmer@cuddyfeder.com

November 30, 2021

VIA E-MAIL
AND HAND DELIVERY
Hon. John Gunn
And Members of the Planning Board
City of Beacon
1 Municipal Plaza
Beacon, New York 12508

Re: Supplemental Submission – Application for Site Plan, Special Use Permit, and Subdivision Approval
Refined Commercial and Multi-Family Residential Mixed-Use Development
Premises: 364 Main Street & Eliza Street, Beacon, New York
Tax Parcel IDs: (6054-29-006819 & 6054-29-004836)

Dear Chairman Gunn and Members of the Planning Board:

On behalf of O'Donnell Construction Corp. (the "Applicant"), the owner of the above-referenced Premises, we respectfully submit this letter and the referenced enclosures in furtherance of the Applicant's pending Applications for Site Plan, Special Permit, and Lot Merger Approval (collectively, the "Applications").

Since last appearing before the Planning Board on November 9, 2021, the Applicant has further refined and improved the building program in response to the comments raised by the Board at that meeting and the comments contained in the memoranda prepared by the City's Engineering Consultant, Lanc & Tully, dated September 8, 2021 & November 5, 2021 (the "Engineering Comments Memoranda");[1] the City's Planning Consultant, John Clarke Planning and Design, dated November 4, 2021 (the "Planning Comments Memorandum"); and the City's Traffic Consultant, Creighton Manning, dated November 9, 2021 (the "Traffic Comments Memorandum").

FURTHER REFINED BUILDING PROGRAM:

As was discussed at the November 9th meeting, the Building Department determined that the proposed one (1)-story extension of the setback west wing of the updated building program to be located in the former drive-thru egress lane cannot be less than two (2) stories. To construct a one

[1] Note: The City Engineer's November 5, 2021 Comments Memorandum does not present any new comments for the Applicant but instead requests verification that the engineering comments made in the September 8, 2021 Comments Memorandum are addressed in the Applicant's updated plans and response letter.

(1)-story addition, rather than a permitted three (3) story addition would require an area variance from the Zoning Board of Appeals. Accordingly, the Applicant proposes to adjust the previously proposed zoning noncompliant one (1)-story addition to a permitted three (3)-story addition that is still setback from main building frontage along Main Street and the landscaped area. As was the case with the one (1)-story addition, the proposed addition eliminates the existing means of egress to Main Street located on the west side of the existing building that previously served as a drive-through on the Premises. As is more fully detailed in the enclosed updated Site Plan set, the three (3)-story addition expands the proposed residential spaces on the second and third floors and incorporates additional landscaping at the Main Street frontage while also satisfying the frontage and height requirement in the CMS Zoning District.[2] We would also note that the overall height of the building and number of residential units of the building remains the same as previously proposed and submitted.

In addition to the adjustments noted above, the refined building program now consists of a 35,097 sq. ft. mixed-use development, which includes the following updates:

- The commercial area on the first floor was decreased to 8,794 sq. ft.;
- The residential common area on the first floor was expanded to 1,729 sq. ft.;
- The residential area on the second and third floors was increased to 24,574 sq. ft.;[3]
- Additional green space was added to the site plan, which includes landscaping along the right side of the building;
- A 5' setback along the western property line was established, reducing the width of the building to 89.0'. This alleyway area will include a gated entryway that will

[2] Note: In response to comments from the City's Consultants and Building Inspector regarding the previously proposed one (1)-story addition, the Applicant has refined the Building Program to revise the addition to be three (3)-stories, which is in conformance with the City's Zoning Code provisions in the CMS Zoning District. The Applicant also respectfully submits that a two (2)-story addition is not viable as it impacts the internal layout and function of the proposed mixed-use building and is not feasible. Accordingly, the Applicant is pursuing a permitted three (3) story addition in the area of the prior drive-through, which is setback from the adjoining property that is presently improved by a one-story building, which adjoining property could also be improved to three (3) stories as-of-right or four (4) stories via a Special Permit.

[3] Note: Private terraces were previously proposed above the one (1)-story addition. These were removed in order to adjust the plan for a zoning-complaint three (3) story addition.

prevent any public access to the rear of the Premises; and

- An additional entrance was established on the right side of the façade.

In support of this supplemental submission, we respectfully submit the revised site plans and renderings entitled "364 Main Street", prepared by Day & Stokosa Engineering P.C. and Aryeh Siegal, Architect, dated April 29, 2021, last revised November 30, 2021, unless otherwise noted, numbered and titled as follows:

- Sheet 1 of 12 Site Plan;
- Sheet 2 of 12 Existing Conditions & Demolition Plan;
- Sheet 3 of 12 Landscape Plan & Planting Schedule[4];
- Sheet 4 of 12 Building Plans;
- Sheet 5 of 12 Building Elevations & Renderings;
- Sheet UP.1 Utility Plan;
- Sheet VM.1 Truck Movement Plan;
- Sheet CD.1 Construction Details;
- Sheet CD.2 Construction Details;
- Sheet CD.3 Construction Details;
- Sheet ESC.1 Erosion & Sediment Control Plan; and
- Sheet ESC.2 Erosion & Sediment Control Details.

The above-referenced project refinements are reflected in the enclosed, updated Site Plan and Special Permit Application Form, as well as in the updated Full Environmental Assessment Form ("Full EAF"). *See* **Exhibit A** – Updated Application for Site Plan Approval and Special Use Permit Form; **Exhibit B** – Full EAF.[5]

As was discussed at the November 9th Board meeting, the Project also incorporates stormwater improvements that will reduce runoff from the Premises, including reduced impervious surface, additional landscaped area, and roof drains that will direct runoff into the storm sewer system. Additionally, pursuant to the limited public comments during the SEQR Public Hearing, a snow storage area is now shown on the Site Plans, which is located between the landscaped areas. Taken together, these mitigation measures will reduce the peak rate of runoff from the Premises. *See* **Exhibit C** – Letter to the City's Engineering Consultant prepared by Day Stokosa Engineering,

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[4] Note: The Landscape Plan was prepared in collaboration with Debra Adamsons of Landscape Restorations.

[5] Note: The refined building program does not change any information that would require an update to the Application for Subdivision Lot Merger Approval appended to the Applicant's August 31, 2021 supplemental submission to this Board.

P.C. dated November 27, 2021.

Furthermore, the updated Site Plan Set incorporates vehicle movement plans for passenger cars and 30' box trucks in the turnaround area located behind the building. *See* Site Plan Sheet 1 & VM.1. These turning paths demonstrate that this area will sufficiently accommodate the required vehicle maneuvers to turn around in the parking area and return to the Eliza Street parcel parking area. Additional details pertaining to truck turnaround are included in the response to comments letter prepared by Colliers Engineering & Design CT, P.C., dated November 29, 2021, which is enclosed herein as **Exhibit F**.

EASEMENT ACCESS & BEACON NATURAL FOODS MARKET:

As the Applicant previously reviewed with the Board and the Planning Board attorney, the title review of the Premises revealed that the adjacent property, presently occupied by Beacon Natural Foods Market, *does not* have any formal written agreement or legal right to use the Applicant's Premises as a means of ingress/egress into its own parking lot. At the Board's recommendation, we understand that the Applicant has communicated with Beacon Natural Foods Market regarding potential easement access for the same and that Beacon Natural Foods Market has not indicated any immediate desire to establish an easement as it is in the process of selling the property.

ADDITIONAL RESPONSE TO COMMENTS MEMORANDA:

To assist this Board in its continued review of the further refined proposal, the Applicant respectfully submits the following memoranda prepared by its Consultants providing annotated responses to the applicable comments noted in the Engineering Comments Memoranda, the Planning Comments Memorandum, and the Traffic Comments Memorandum:

- Response to Comments Memorandum prepared by Aryeh J. Seigel Architect dated November 30, 2021, providing responses to the Planning Comments Memorandum (the "Architect Response to Comments Memorandum"). *See* **Exhibit D** – Architect Response to Comments Memorandum;

- Response to Comments Memorandum prepared by Day Stokosa Engineering, P.C. dated November 27, 2021 (the "Day Response to Comments Memorandum"). *See* **Exhibit E** – Day Response to Comments Memorandum; and

- Response to Comments letter prepared by Colliers Engineering & Design CT, P.C., dated November 29, 2021 (the "Colliers Response to Comments Memorandum"). *See* **Exhibit**

F – Colliers Response to Comments Memorandum.

INDEX OF ENCLOSURES:

In support of this supplemental submission, please find enclosed five (5) sets of the instant letter with the following materials:

Exhibit A: Updated Application for Site Plan Approval and Special Use Permit Form;[6]

Exhibit B: Updated Full Environmental Assessment Form;

Exhibit C: Letter to the City's Engineering Consultant prepared by Day Stokosa Engineering, P.C. dated November 27, 2021, providing responses to public comments regarding stormwater mitigation measures;

Exhibit D: Response to Comments Memorandum prepared by Aryeh J. Seigel Architect dated November 30, 2021, providing responses to the Planning Comments Memorandum;

Exhibit E: Response to Comments Memorandum prepared by Day Stokosa Engineering, P.C. dated November 27, 2021, providing responses to the Engineering Comments Memoranda; and

Exhibit F: Response to Comments Memorandum prepared by Colliers Engineering & Design CT, P.C., dated November 29, 2021, providing responses to the Traffic Comments Memorandum.

[6] Note: As noted above, there are no changes to the subdivision plat that require modification to the Subdivision Application Form that was previously submitted to this Board.

We look forward to appearing at the Planning Board's December 14th regular meeting for further review of the Project and to continue the State Environmental Quality Review Act ("SEQR") Public Hearing. In the meantime, should the Planning Board or City Staff have any questions or comments with regard to the foregoing, please do not hesitate to contact me.

Very truly yours,

Taylor M. Palmer

Enclosures

cc: Jennifer L. Gray, Esq.
John Clarke Planning and Design
Lanc & Tully, P.C.
Aryeh J. Seigel Architect
Mark A. Day, P.E. – Day Stokosa Engineering, P.C.
Colliers Engineering & Design CT, P.C.
Allison Fausner, Esq.

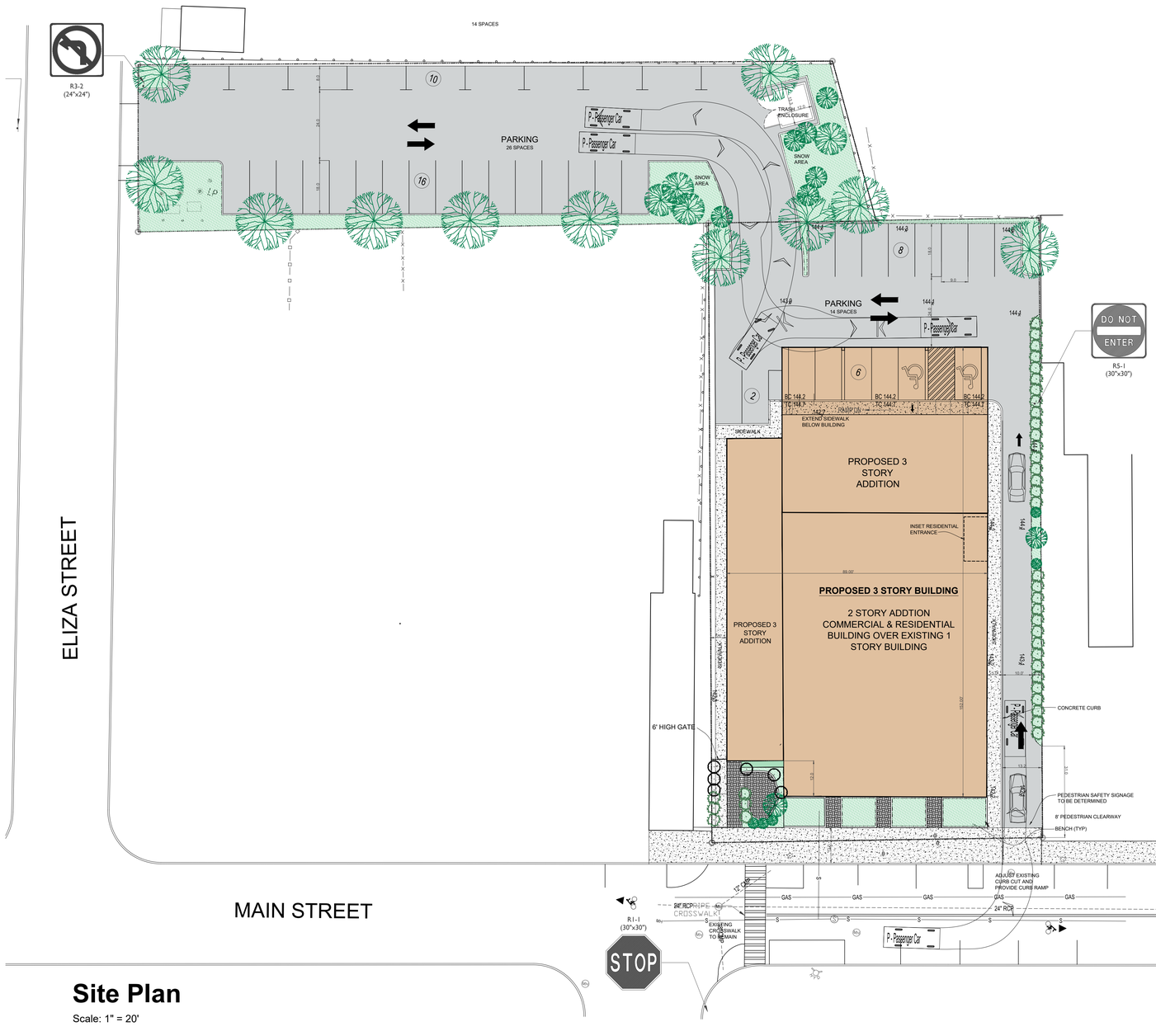
Bulk Zoning Regulations Table - Parking Lot

	Required Setbacks			Proposed Setbacks			Lot Depth Required	Lot Depth Existing	Allowable Building Height	Proposed Building Height	Lot Area	Proposed Floor Area
	Front	Side	Rear	Front	Side	Rear						
Zoning District												
T*	10'	10'	20'	NA	NA	NA	100'	242.6'	2.5 | 35'	NA	0.85	NA

Bulk Zoning Regulations Table

	Required Setbacks			Proposed Setbacks			Main Street Frontage Required	Main Street Frontage Required	Minimum Lot Depth	Proposed Lot Depth	Allowable Building Height	Proposed Building Height	Minimum Landscaped Area	Proposed Landscaped Area	Lot Area	Proposed Floor Area
	Front	Side	Rear	Front	Side	Rear										
Zoning District																
CMS*	0'-10'	0'	20'	14.78'	18' exist 5'	44'	80%	89%	75'	264.37'	3 | 38' & 4th Story w/ Special Permit	3 Stories 38'	10% 5% if open to public	11%	0.85 acres	11,715 SF

REVISIONS:			
NO.	DATE	DESCRIPTION	BY
1	07/27/21	REVISED PER PLANNING BOARD COMMENTS	AJS
2	08/27/21	REVISED PER PLANNING BOARD COMMENTS	AJS
3	10/26/21	REVISED PER PLANNING BOARD COMMENTS	AJS
4	11/30/21	REVISED PER PLANNING BOARD COMMENTS	AJS



Site Plan

Scale: 1" = 20'



Location Plan

Not to Scale

Zoning Summary

Zoning District:	CMS (Central Main Street) & T (Transition Zone)
Tax Map No.:	6054-29-006819 (364 Main Street) & 6054-29-0004836 (Eliza Street)
Lot Area:	0.54 Acres & 0.31 Acres
Building Footprint:	12,632 SF
Historical Overlay District:	No
Parking Overlay District:	Partial, not the portion of the lot in the T District.
Existing Use:	Vacant (364 Main Street) & Parking Lot
Proposed Use:	Mixed-Use: Retail / Residential

Parking & Loading

Use & Parking Requirements	Proposed Area	Current Parking Requirement
Residential		
(1) space per unit (CMS)	(20) Apartments	20 parking spaces
Commercial		
(2) spaces per 1,000 SF (CMS) for Retail	9,328 sf	19 parking spaces
Total Required		**39 parking spaces**
Total Provided		**42 parking spaces**

Notes:
1. Commercial hours are 7am – 12am, Monday through Sunday, inclusive.
2. No signage is proposed as part of this application. Retail tenants will apply separately to the Planning Board for their own signage

Index of Drawings

Sheet 1 of 12	Site Plan
Sheet 2 of 12	Existing Conditions & Demolition Plan
Sheet 3 of 12	Landscape Plan & Planting Schedule
Sheet 4 of 12	Building Plans
Sheet 5 of 12	Building Elevations & Renderings
Sheet UP.1	Utility Plan
Sheet VM.1	Truck Movement Plan
Sheet CD.1	Construction Details
Sheet CD.2	Construction Details
Sheet CD.3	Construction Details
Sheet ESC.1	Erosion & Sediment Control Plan
Sheet ESC.2	Erosion & Sediment Control Details

Site Plan Application

Sheet 1 of 12 - Site Plan

Owner:
O'Donnell & Son
P.O. Box 526
Fishkill, NY 12524

Architect:
Aryeh Siegel, Architect
84 Mason Circle
Beacon, New York 12508

Site / Civil Engineer:
Day & Stokosa Engineering P.C
3 Van Wyck Lane
Wappingers Falls, New York 12590

Landscape Designer:
Landscape Restorations
7 Creek Drive
Beacon, New York 12508

364 Main Street
Beacon, New York
Scale: 1" = 20'
October 4, 2021

REVISIONS:			
NO.	DATE	DESCRIPTION	BY
1	07/27/21	REVISED PER PLANNING BOARD COMMENTS	AJS
2	08/27/21	REVISED PER PLANNING BOARD COMMENTS	AJS
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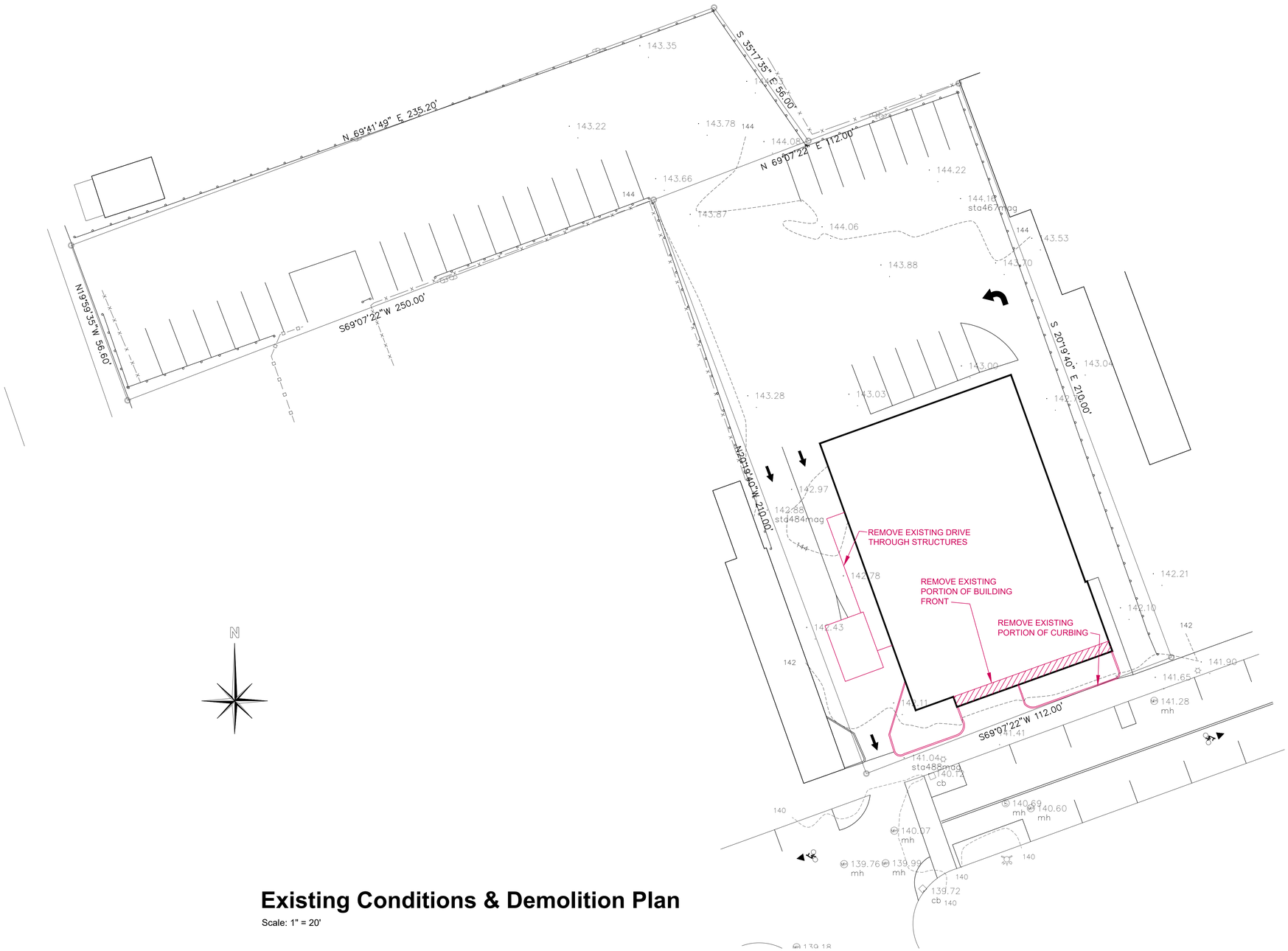
4	11/30/21	REVISED PER PLANNING BOARD COMMENTS	AJS



Existing Conditions & Demolition Plan

Scale: 1" = 20'

Site Plan Application

Sheet 2 of 12 - Existing Conditions & Demolition Plan

Owner:
O'Donnell & Son
P.O. Box 526
Fishkill, NY 12524

Architect:
Aryeh Siegel, Architect
84 Mason Circle
Beacon, New York 12508

Site / Civil Engineer:
Day & Stokosa Engineering P.C
3 Van Wyck Lane
Wappingers Falls, New York 12590

Landscape Designer:
Landscape Restorations
7 Creek Drive
Beacon, New York 12508

364 Main Street
Beacon, New York
Scale: 1" = 20'
October 4, 2021

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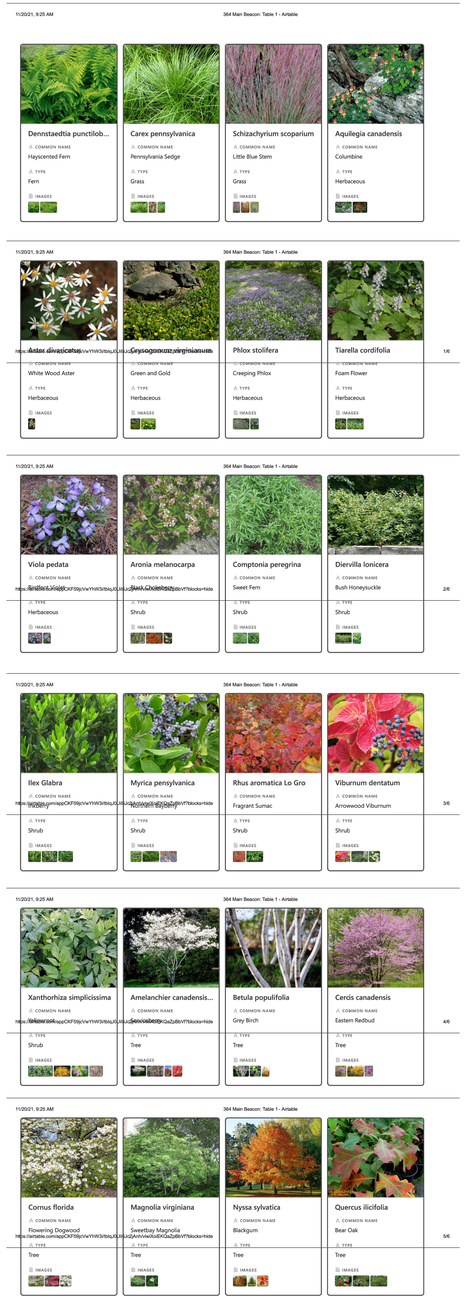
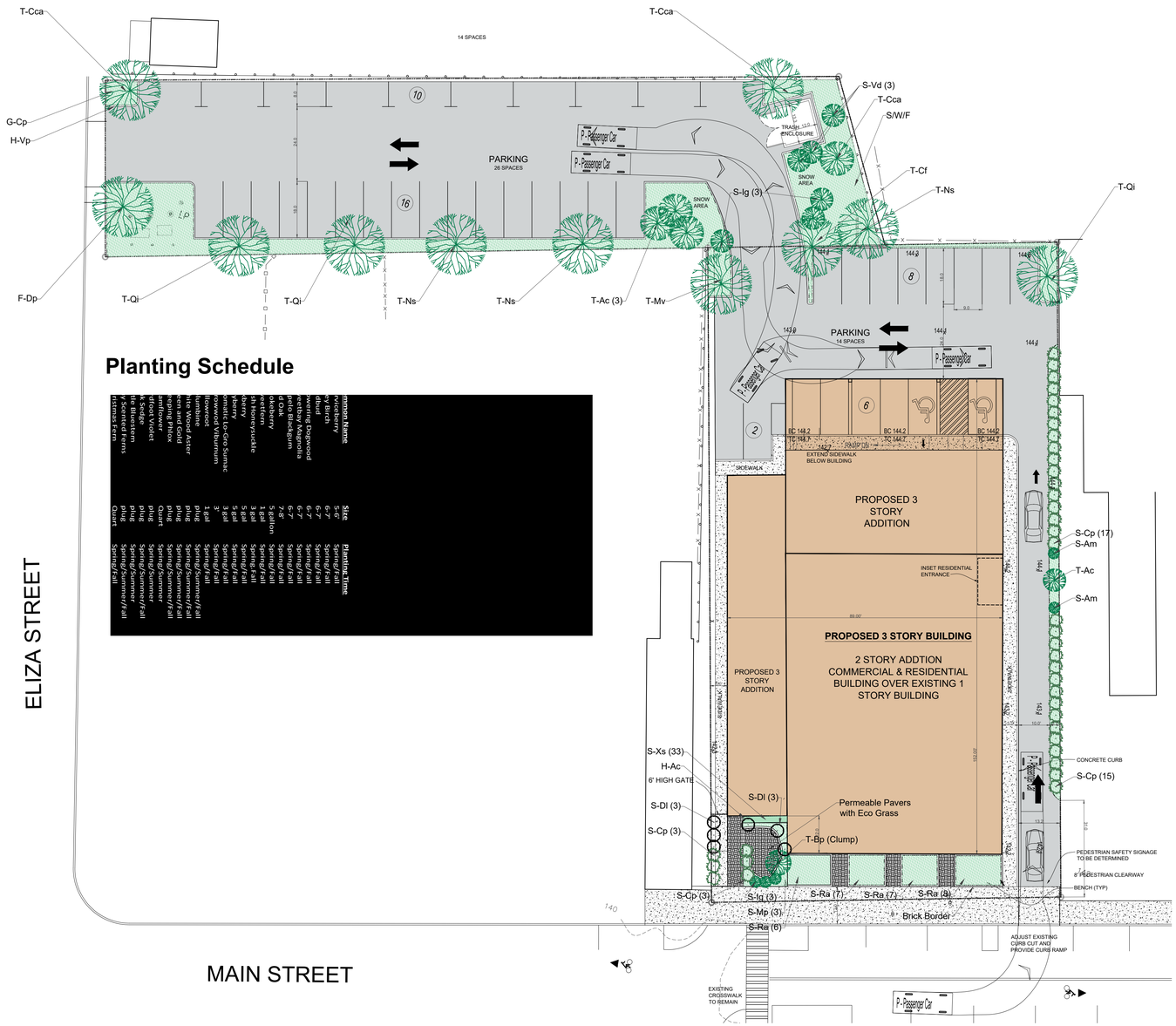
4	11/30/21	REVISED PER PLANNING BOARD COMMENTS	AJS

Planting Notes

1. CONTRACTORS SHALL ENTER AND EXIT SITE THROUGH PRE-APPROVED ROUTES ONLY.
2. NO NON-NATIVE PLANT SPECIES SHALL BE INTRODUCED ONTO THE SITE. ALL SPECIES SHALL BE INDIGENOUS TO THE NORTHEAST REGION OF NORTH AMERICA.
3. IF A STRAIGHT SPECIE IS SPECIFIED, NO CULTIVARS WILL BE ACCEPTED WITHOUT PRIOR APPROVAL OF DESIGNER.
4. NO PLANTS WILL BE ACCEPTED THAT DISPLAY MECHANICAL INJURY, DISEASE OR SPECIE IRREGULARITIES.
5. SOIL SHALL BE PREPPED BY REMOVING ALL CONSTRUCTION DEBRIS, LOOSE ROOTS AND STONES LARGER THAN 3".
6. ALL PLANTS MUST BE LABELED WHEN DELIVERED TO SITE.
7. AREAS TO BE PLANTED SHALL BE MARKED AND LABELED BY DESIGNER.
8. ALL PLANT LOCATIONS AND ORIENTATIONS IN THE FIELD REQUIRE APPROVAL FROM DESIGNER AND OWNER PRIOR TO INSTALLATION.
9. TEST TREE-PIT FOR DRAINAGE BEFORE PLANTING. DO NOT PLANT TREE IN PIT IF WATER IS STILL EVIDENT AFTER ONE HOUR. CONTACT SITE ENGINEER OR LANDSCAPE DESIGNER IF THIS CONDITION IS ENCOUNTERED.
10. ALL TREE-PLANTING TO BE COORDINATED WITH AS-BUILT UTILITIES. TREES TO BE LOCATED MINIMUM OF 5' FROM ACTIVE LINES.
11. ALL TREES SHALL BE BALL AND BURLAP UNLESS OTHERWISE SPECIFIED ON PLANT LIST.
12. EACH NEW TREE HOLE TREE SHALL BE TWICE THE WIDTH OF THE ROOTBALL.
13. BURLAP, WIRE, CORDS, TIES AND ANY WRAPPING MATERIALS MUST BE REMOVED FROM ALL ROOTBALLS BEFORE BACKFILLING.
14. PLANT ALL PLANTS SO TOP OF ROOTBALL IS SLIGHTLY ABOVE SURROUNDING SOIL(SMALL AND LARGE PLANTS)
15. NO PLANTING SHALL BE DONE IN MUDDY, RAINY OR FROZEN CONDITIONS.
16. ALL PLANTS CALLING FOR "OVERFLOWING" IN THE NOTES SHALL NOT BE ACCEPTED BY DESIGNER IF PLANTS ARE THIN.
17. IF PLANTING IS DELAYED FOR MORE THAN 3 HOURS AFTER DELIVERY, SET PLANTS IN SHADE. PROTECT FROM WEATHER AND MECHANICAL DAMAGE. KEEP ROOTS MOIST AND COVER WITH MULCH.
18. CONTRACTORS SHALL LEAVE SITE NEAT AND ORDERLY DURING COURSE OF PROJECT, AND STORE MATERIALS AND EQUIPMENT IN OWNER-APPROVED LOCATIONS AWAY FROM ALL TREES AND PLANTS. STORE ALL UNPLANTED PLANT MATERIAL AWAY FROM DAMAGING SUN.
19. IF SITE CONDITIONS CONFLICT WITH INTENDED DESIGN, CONTRACTOR SHALL ALERT OWNER AND DESIGNER.
20. NO SUBSTITUTIONS ARE TO BE MADE WITHOUT THE WRITTEN OR VERBAL CONSENT OF LANDSCAPE DESIGNER AND OWNER
21. CREATE A SIZE-SPECIFIC WATER-WELL AROUND EACH PLANT, 3' FROM CENTER OF TREE, AND MULCH FROM THE OUTSIDE. DO NOT MULCH CROWN.
22. WATER THOROUGHLY AFTER PLANTING EACH PLANT. WATER SCHEDULE TO BE DETERMINED.
23. SPRAY FOR DEER IF PLANTED IN FALL. SOMETIMES BUCKS MARK THEIR TERRITORY WITH THEIR ANTLERS.
24. KEEP PLANTING AREAS WEED-FREE UNTIL PLANT IS ESTABLISHED.
25. ECO LAWN SEEDING SHALL BE IMPLEMENTED BY CONTRACTOR FAMILIAR WITH THIS SPECIE MIX AND WITH THE PROCESS, AND APPROVED BY DESIGNER. THIS IS NOT THE SAME AS CASTING CONTRACTOR GRASS SEED.
26. PERVIOUS/PERMEABLE PAVERS AND ASSOCIATED GRASS SEEDING SHALL BE INSTALLED BY CONTRACTOR WITH EXPERIENCE IN THIS PROCESS. THIS PROCESS REQUIRES ESTABLISHMENT MAINTENANCE, IN ORDER TO SUCCEED.
27. BERMED AREAS SHALL BE BUILT WITH DESIGNER DIRECTING CONSTRUCTION
28. STREET TREE AND SURROUNDING TREE-PIT SHALL BE INSTALLED BY CONTRACTOR EXPERIENCED WITH THESE MATERIALS AND APPROVED BY DESIGNER
29. ALL PLANTS REQUIRE REGULAR WATERING FOR THE FIRST TWO SEASONS IN ORDER TO SUCCEED

Illustrated Plant List





Planting Schedule

Common Name	Size	Planting Time
Christmas Fern	5-6'	Spring/Fall
Evergreen Sentinel Ferns	plug	Spring/Summer/Fall
Hayscented Fern	plug	Spring/Summer/Fall
Pennsylvania Sedge	Quart	Spring/Summer
Little Blue Stem	plug	Spring/Summer/Fall
Columbine	plug	Spring/Summer/Fall
Birdfoot Violet	plug	Spring/Summer/Fall
Green and Gold	plug	Spring/Summer/Fall
White Wood Aster	plug	Spring/Summer/Fall
Foam Flower	plug	Spring/Summer/Fall
Sunshine	plug	Spring/Summer/Fall
Arrowwood Viburnum	1 gal	Spring/Fall
Fragrant Lo-Gro Sumac	3 gal	Spring/Fall
Inkberry	5 gal	Spring/Fall
Bayberry	3 gal	Spring/Fall
Bush Honeysuckle	5 gal	Spring/Fall
Sweetfern	1 gal	Spring/Fall
Black Chokeberry	5 gallon	Spring/Fall
Blackgum	7-8'	Spring/Fall
Sweetbay Magnolia	6-7'	Spring/Fall
Flowering Dogwood	6-7'	Spring/Fall
Shadblow Serviceberry	6-7'	Spring/Fall
Yellowroot	6-7'	Spring/Fall

Landscape Plan

Scale: 1" = 20'

Site Plan Application

Sheet 3 of 12 - Landscape Plan

Owner:
O'Donnell Construction Corp.
P.O. Box 526
Fishkill, NY 12524

Architect:
Aryeh Siegel, Architect
84 Mason Circle
Beacon, New York 12508

Site / Civil Engineer:
Day & Stokosa Engineering P.C
3 Van Wyck Lane
Wappingers Falls, New York 12590

Landscape Designer:
Landscape Restorations
7 Creek Drive
Beacon, New York 12508

364 Main Street
Beacon, New York
Scale: 1/8" = 1'-0"
May 25, 2021

REVISIONS:			
NO.	DATE	DESCRIPTION	BY
1	07/27/21	REVISED PER PLANNING BOARD COMMENTS	AJS
2	10/26/21	REVISED PER PLANNING BOARD COMMENTS	AJS
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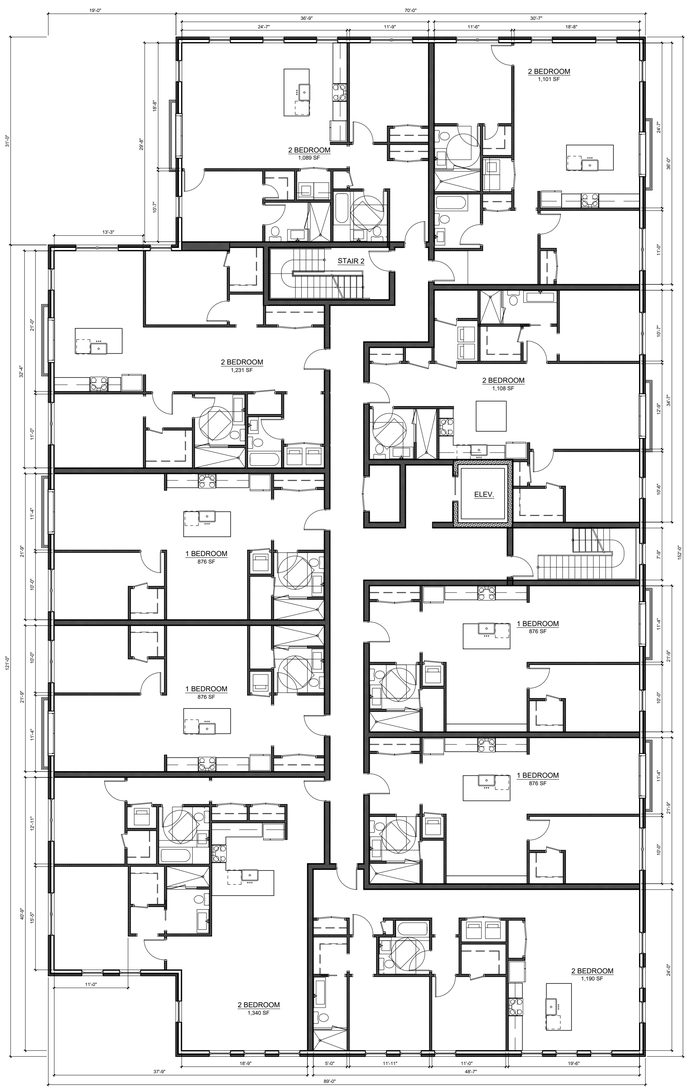
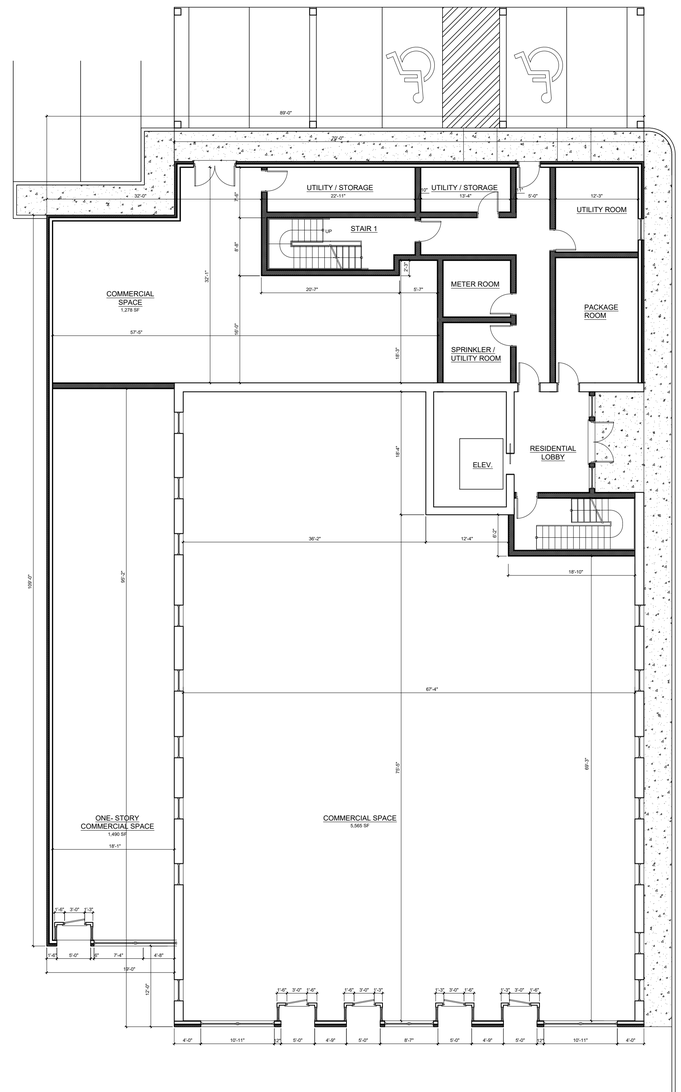
4	11/30/21	REVISED PER PLANNING BOARD COMMENTS	AJS



2nd & 3rd Floor Plans

Scale: $\frac{3}{32}$" = 1'-0"



1st Floor Plan

Scale: $\frac{3}{32}$" = 1'-0"

Site Plan Application

Sheet 4 of 12 - Building Plans

Owner:
O'Donnell Construction Corp.
P.O. Box 526
Fishkill, NY 12524

Architect:
Aryeh Siegel, Architect
84 Mason Circle
Beacon, New York 12508

Site / Civil Engineer:
Day & Stokosa Engineering P.C
3 Van Wyck Lane
Wappingers Falls, New York 12590

Landscape Designer:
Landscape Restorations
7 Creek Drive
Beacon, New York 12508

364 Main Street
Beacon, New York
Scale: $\frac{3}{32}$" = 1'-0"
May 25, 2021

PAINTED AZEK TRIM

HARDIE BOARD SIDING

PAINTED CORNICE TRIM AND CORBELS

BRICK: GLEN GARY STONINGTON GRAY VELOUR, OR APPROVED EQUAL

ANDERSEN DOUBLE GLAZED INSULATED WINDOWS OR APPROVED EQUAL

PAINTED AZEK AND GLASS STOREFRONT

PAINTED METAL VERTICAL PICKET RAILING



Elevation: South

Scale: $\frac{1}{8}$" = 1'-0"



View: From Main Street

Not to Scale



View: From Main Street

Not to Scale



View: From Main Street

Not to Scale



View: From Driveway

Not to Scale

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4	11/30/21	REVISED PER PLANNING BOARD COMMENTS	AJS

PAINTED AZEK TRIM

HARDIE BOARD SIDING

PAINTED CORNICE TRIM AND CORBELS

GLEN GARY STONINGTON GRAY VELOUR, OR APPROVED EQUAL

ANDERSEN DOUBLE GLAZED INSULATED WINDOWS OR APPROVED EQUAL

PAINTED WOOD & METAL AWNING

PAINTED AZEK AND GLASS STOREFRONT



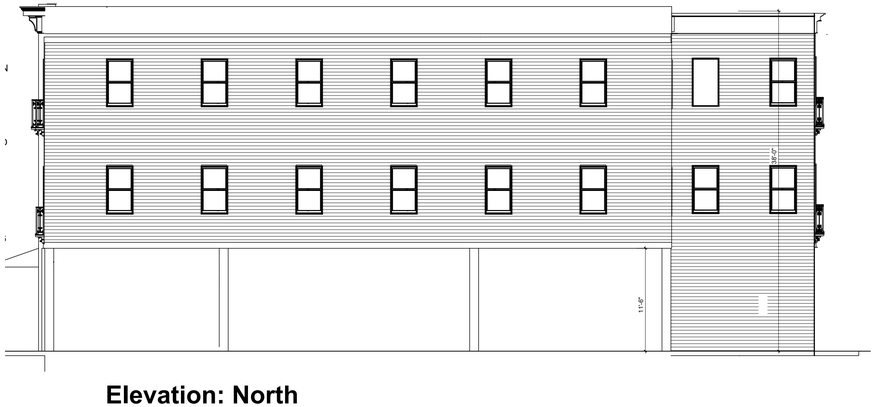
Elevation: East

Scale: $\frac{1}{8}$" = 1'-0"



View: Main Street

Not to Scale



Elevation: North

Scale: $\frac{1}{8}$" = 1'-0"

PAINTED AZEK TRIM

HARDIE BOARD SIDING

PAINTED CORNICE TRIM AND CORBELS

GLEN GARY STONINGTON GRAY VELOUR, OR APPROVED EQUAL

ANDERSEN DOUBLE GLAZED INSULATED WINDOWS OR APPROVED EQUAL

PAINTED WOOD & METAL AWNING

PAINTED AZEK AND GLASS STOREFRONT

PAINTED AZEK COVERED STRUCTURAL COLUMNS



Elevation: West

Scale: $\frac{1}{8}$" = 1'-0"

Site Plan Application

Sheet 5 of 12 - Building Elevations

Owner:
O'Donnell Construction Corp.
P.O. Box 526
Fishkill, NY 12524

Architect:
Aryeh Siegel, Architect
84 Mason Circle
Beacon, New York 12508

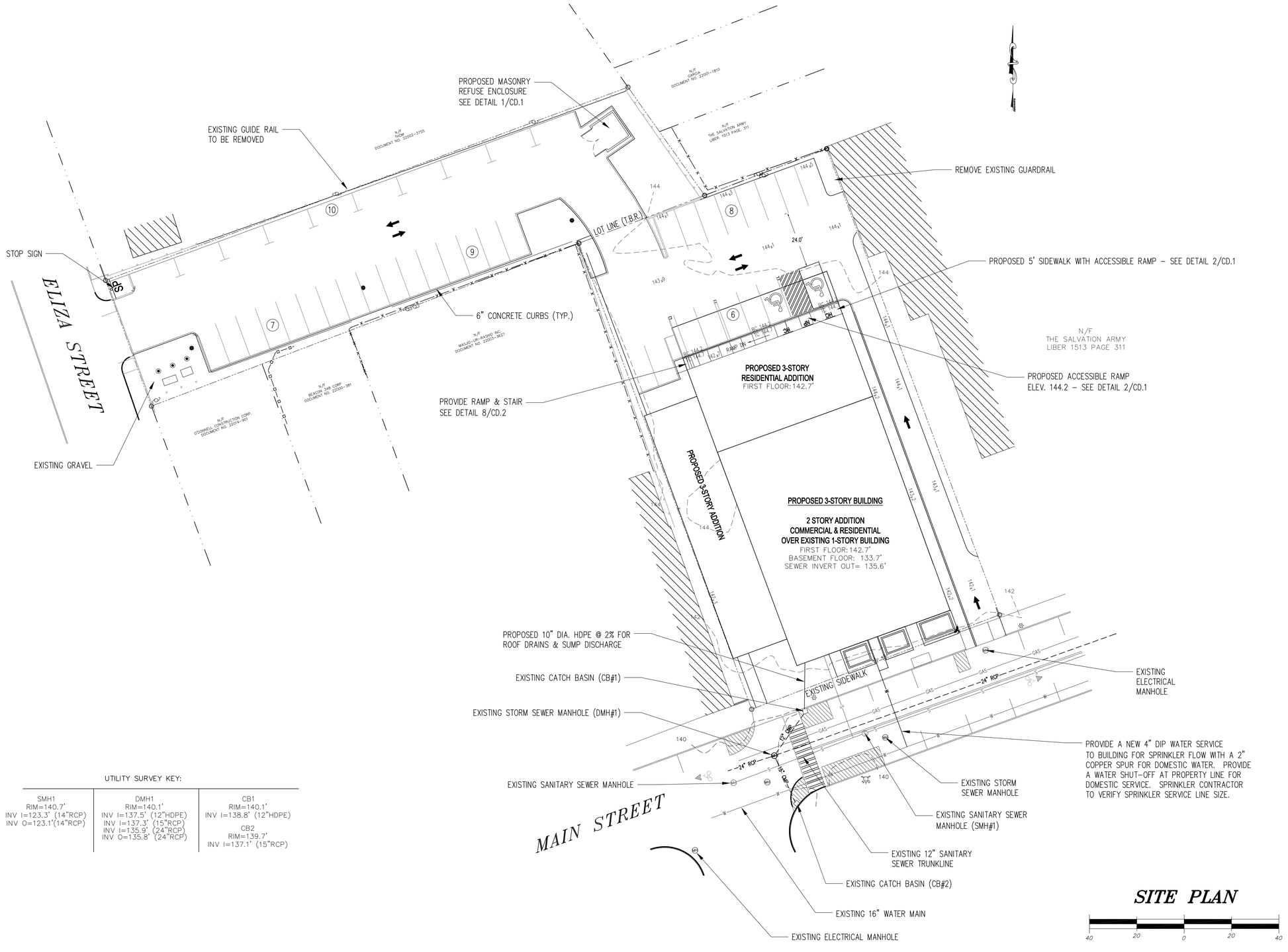
Site / Civil Engineer:
Day & Stokosa Engineering P.C
3 Van Wyck Lane
Wappingers Falls, New York 12590

Landscape Designer:
Landscape Restorations
7 Creek Drive
Beacon, New York 12508

364 Main Street
Beacon, New York
Scale: $\frac{1}{8}$" = 1'-0"
May 25, 2021

PARKING AND ACCESS EASEMENTS:

THERE SHALL BE A BLANKET ACCESS AND PARKING EASEMENT OVER BOTH LOTS ALLOWING BOTH ACCESS AND PARKING FOR EACH LOT OVER THE OTHER LOT.



SITE PLAN

40 20 0 20 40

UTILITY SURVEY KEY:

SMH1	DMH1	CB1
RIM=140.7'	RIM=140.1'	RIM=140.1'
INV I=123.3' (14"RCP)	INV I=137.5' (12"HDPE)	INV I=138.8' (12"HDPE)
INV O=123.1'(14"RCP)	INV I=137.3' (15"RCP)	
	INV I=135.9' (24"RCP)	CB2
	INV O=135.8' (24"RCP)	RIM=139.7'
		INV I=137.1' (15"RCP)

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Mark A. Day, PE

STATE OF NEW YORK MARK A. DAY No. 069646 LICENSED PROFESSIONAL ENGINEER

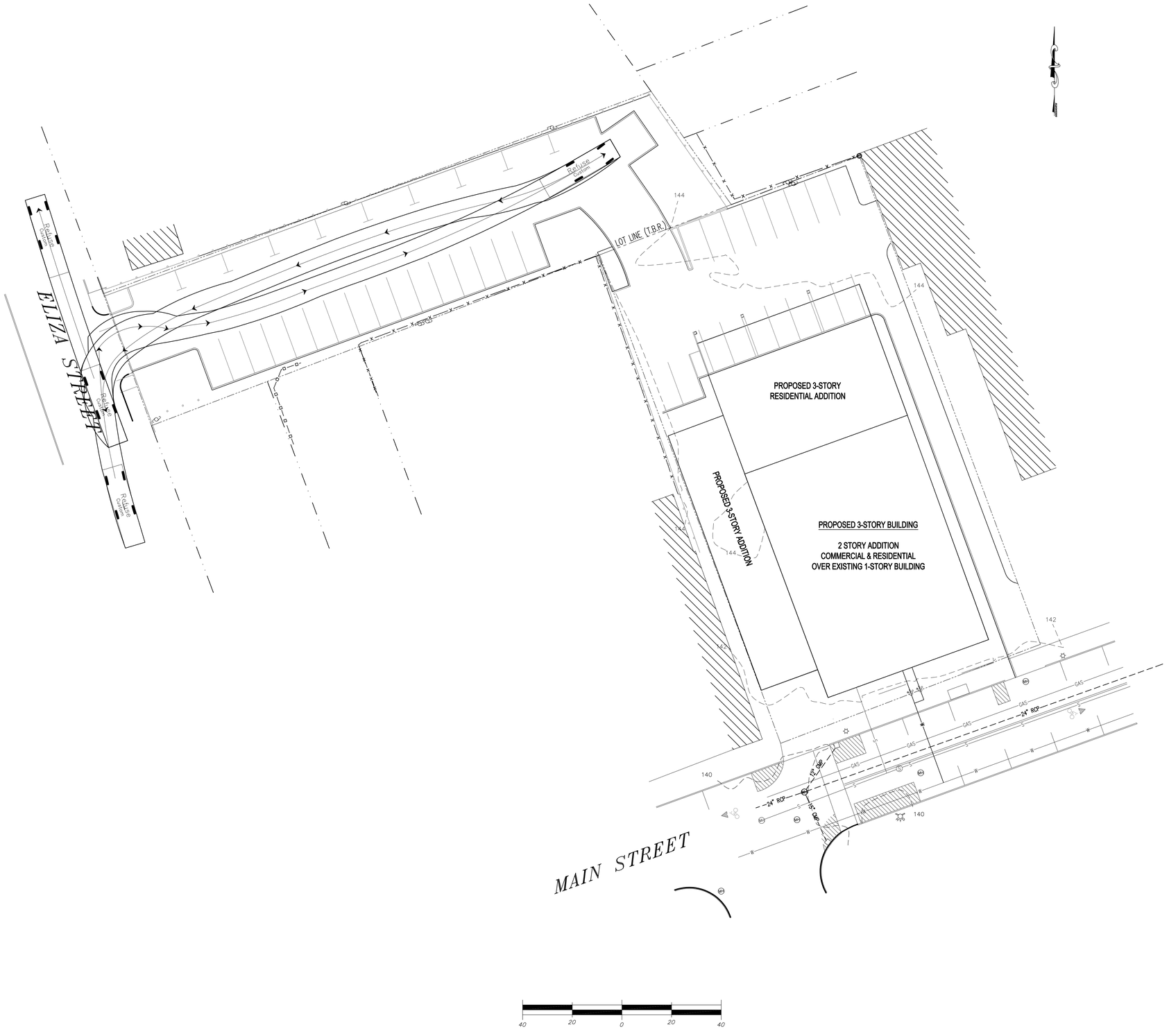
Revisions	
	11-27-21
	08-27-21
	07-20-21
Project No.	2020.475
	License No. 069646

DAY STOKOSA ENGINEERING P.C.
3 Van Wyck
Lane Suite 2
Wappingers Falls, New York
(845)-223-3202

PROJECT
364 Main Street
City of Beacon Dutchess County, New York

DRAWING
Utility Plan

SCALE	DRAWN BY	DRAWING No.
1" = 20'	MAD	UP.1
DATE	CHECKED BY	
04-02-21	MAD	



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	Mark A. Day, PE
	STATE OF NEW YORK · MARK A. DAY · 069646 · LICENSED PROFESSIONAL ENGINEER
11-27-21	
08-27-21	
Revisions 07-20-21	
Project No. 2020.475	License No. 069646

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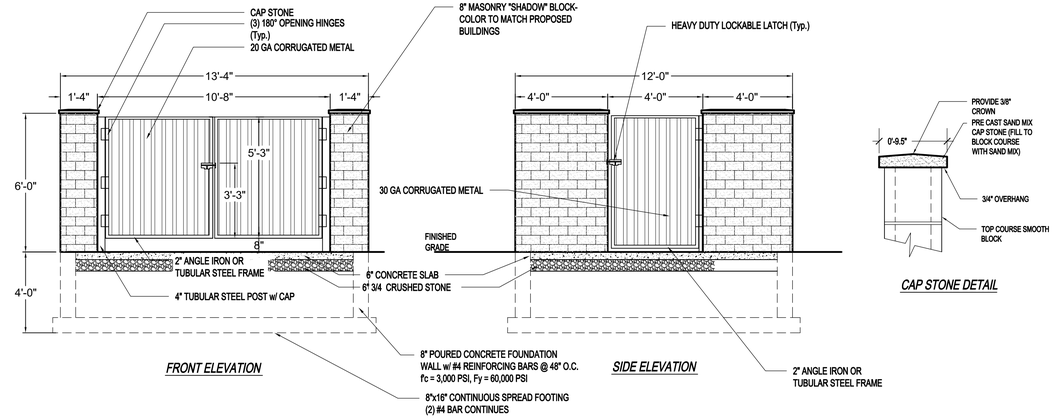
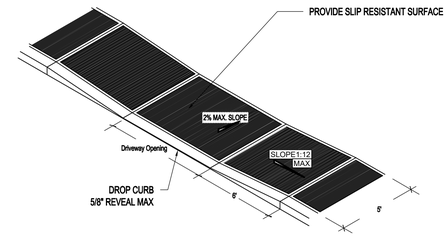
PROJECT
364 Main Street
City of Beacon Dutchess County, New York

DRAWING
Truck Movement Plan

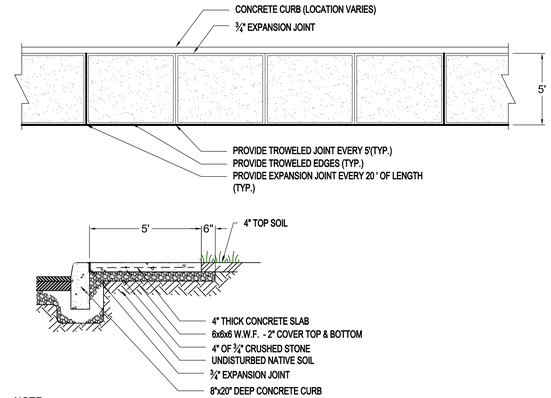
SCALE	DRAWN BY	DRAWING No.
1" = 20'	MAD	VM.1
DATE 04-02-21	CHECKED BY MAD	



1 REFUSE ENCLOSURE DETAIL
NOT TO SCALE

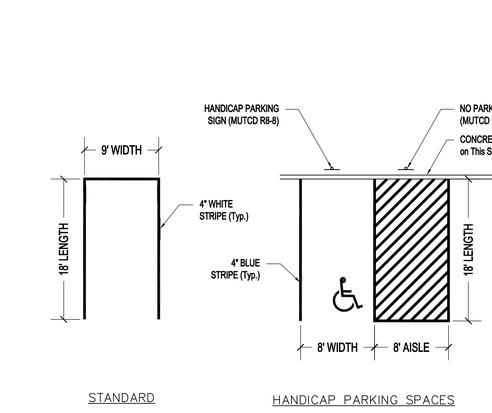


2 ADA RAMP & SIDEWALK DETAIL
NOT TO SCALE

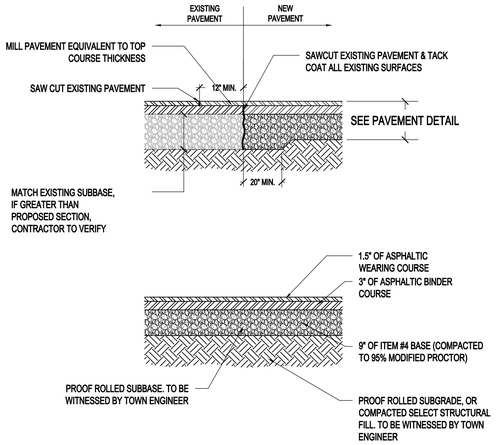


NOTE:
1. ALL CONCRETE SHALL HAVE A 28 COMPRESSIVE STRENGTH OF 4,000 PSI
2. ALL EXPOSED SURFACES SHALL HAVE A BROOM TEXTURED FINISH
3. ALL SIDEWALK SHALL BE 6" THICK AT DRIVEWAY CROSSINGS
4. EXPANSION JOINTS SHALL BE LOCATED AS MAXIMUM OF 20'-0" ON CENTER, OR AS INDICATED ON PLANS.

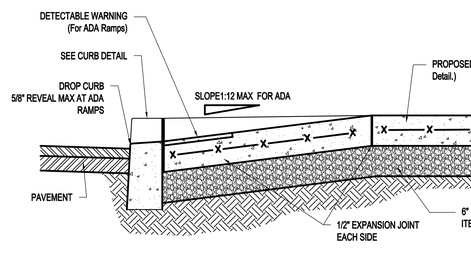
3 SIDEWALK & CURB DETAILS
NOT TO SCALE



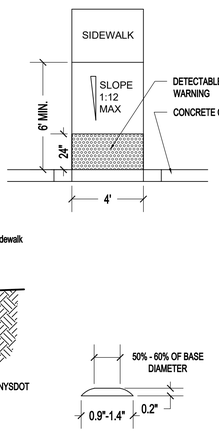
4 PARKING STALL DETAIL
NOT TO SCALE



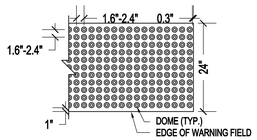
5 PARKING LOT PAVEMENT SECTION
NOT TO SCALE

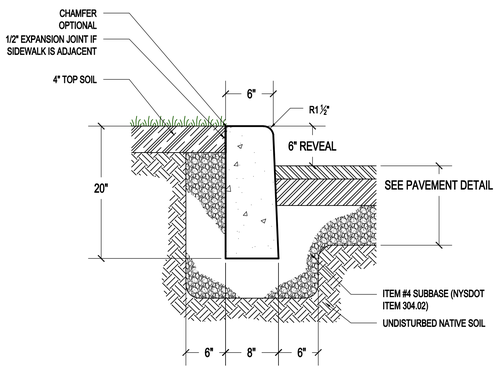


6 ADA RAMP DETAIL
NOT TO SCALE



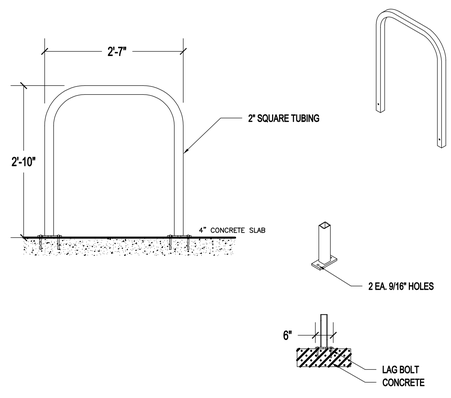
NOTES:
1. THE SIZE OF THE DETECTABLE WARNING FIELD SHALL BE 24" IN THE DIRECTION OF TRAVEL AND SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE, EXCLUSIVE OF SIDE FLARES.
2. THE ROWS OF DOMES SHALL BE ALIGNED TO BE PERPENDICULAR OR RADIAL TO THE GRADE BREAK BETWEEN THE RAMP LANDING OR CURB RAMP AND THE STREET.
3. WHERE DOMES ARE ARRAYED RADIALLY THEY MAY DIFFER IN DOME DIAMETER AND CENTER-TO-CENTER SPACING WITHIN THE RANGES SPECIFIED ON THIS SHEET.
4. DETECTABLE WARNING SHALL BE LOCATED SO THAT THE EDGE OR CORNER OF THE WARNING FIELD NEAREST TO THE ROADWAY IS 5" TO 9" FROM THE CURB TO THE ROADWAY EDGE.





NOTE:
1. CONCRETE SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI
2. EXPANSION JOINTS OF 1/2" CELLULOSE OR SIMILAR MATERIAL SHALL NE INSTALLED WHERE REQUIRED (AT CURB BOXES, CATCH BASINS, BRIDGES, ETC.). CONSTRUCTION (CONTROL) JOINTS SHALL BE INSTALLED AT 20' INTERVALS

7 CAST-IN-PLACE CONCRETE CURB DETAIL
NOT TO SCALE



8 BIKE RACK DETAIL
NOT TO SCALE

SIGN SCHEDULE

SYMBOL	MUTCD NUMBER	PANEL	SIZE (WxH)	QUANTITY
HC	NY R7-8	RESERVED PARKING	12 x 18	8
		PERMIT REQUIRED TOWN-WIDE ZONE	12 x 6	8
NP	R7-1	NO PARKING ANY TIME	12 x 18	3
SP	R1-1	STOP	36x36	3

SYMBOL	MUTCD NUMBER	PANEL	SIZE (WxH)	QUANTITY
OW	R6-2L	ONE WAY	12" x 18"	1
DNE	R3-15C	DO NOT ENTER	30"x 30"	1

9 PROPOSED SIGNAGE
NOT TO SCALE

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	Mark A. Day, PE
11-27-21	
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Revisions 07-20-21	
Project No. 2020.475	License No. 069646

DAY | STOKOSA ENGINEERING P.C.
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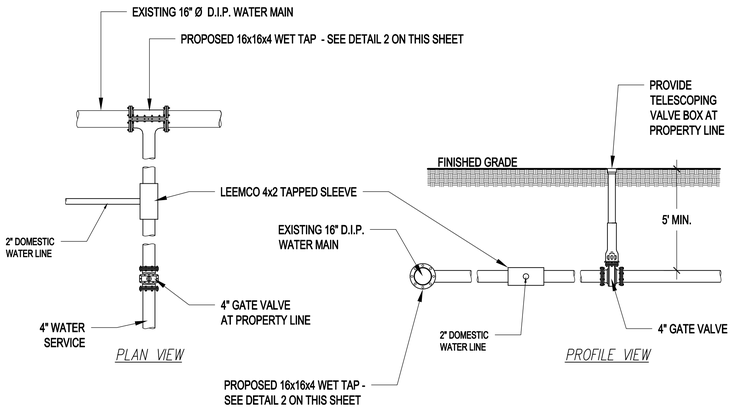
Wappingers Falls, New York
(845)-223-3202

PROJECT
364 Main Street
City of Beacon Dutchess County, New York

DRAWING
Construction Details

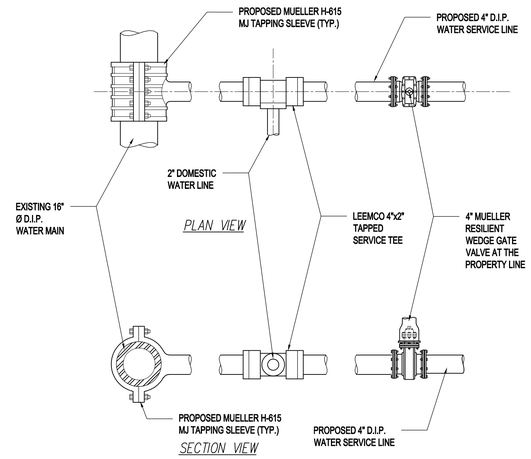
SCALE	DRAWN BY	DRAWING No.
As Noted	MAD	CD.1
DATE 04-02-21	CHECKED BY MAD	



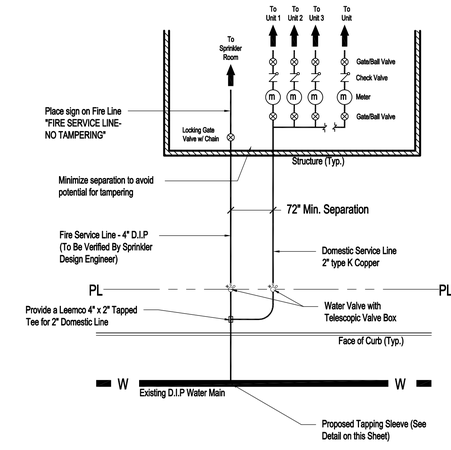
NOTES:

1. PRESSURE AND LEAKAGE TESTING SHALL BE DONE IN ACCORDANCE WITH THE LATEST AWWA SPECIFICATIONS.
2. ALL MECHANICAL JOINT FITTINGS SHALL BE SUPPLIED WITH RETAINER GLANDS. ALL FITTINGS SHALL BE COMPACT DUCTILE IRON TYPE MANUFACTURED IN ACCORDANCE WITH APPLICABLE AWWA STANDARDS. FOREIGN-MADE FITTINGS SHALL NOT BE ALLOWED.
3. THE CONTRACTOR SHALL NOTIFY THE LOCAL WATER DEPARTMENT PRIOR TO CONSTRUCTION.
4. ALL WATER LINE INSTALLED SHALL BE DISINFECTED IN ACCORDANCE WITH CURRENT AWWA SPECIFICATIONS FOR DISINFECTION OF WATER LINES (WITH THE EXCEPTION OF THE TABLET METHOD). DISINFECTED WATER SHALL REMAIN IN THE NEWLY INSTALLED PIPING FOR A MINIMUM OF 24 HOURS. THE LINES SHALL BE FLUSHED AND BACTERIOLOGICAL TEST TAKEN. THIS PROCEDURE SHALL BE REPEATED UNTIL AN ACCEPTABLE BACTERIOLOGICAL TESTS ARE TAKEN.
5. ALL NEW WATER LINE INSTALLED SHALL BE FILLED WITH WATER FOR A MINIMUM PERIOD OF 48 HOURS PRIOR TO A MINIMUM 2 HOUR HYDROSTATIC PRESSURE TEST OF 1.5 TIMES THE NORMAL WORKING PRESSURE AT THE LOWEST ELEVATION OF THE NEWLY INSTALLED PIPE.

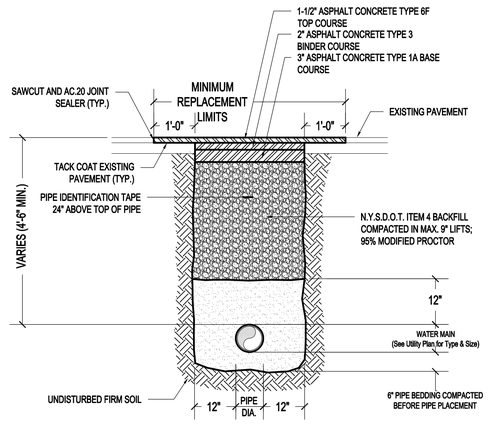
1 WET TAP AND VALVE INSTALLATION DETAIL
NOT TO SCALE



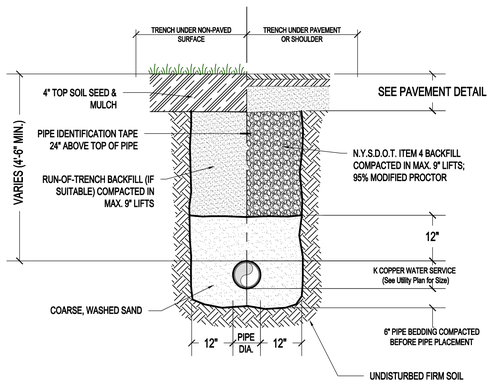
2 TAPPING SLEEVE AND VALVE INSTALLATION DETAIL
NOT TO SCALE



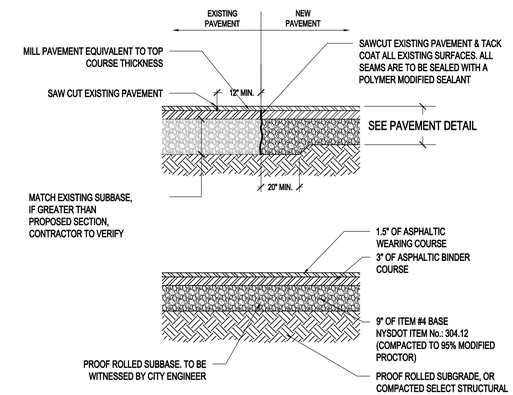
3 WATER SERVICE DETAIL
NOT TO SCALE



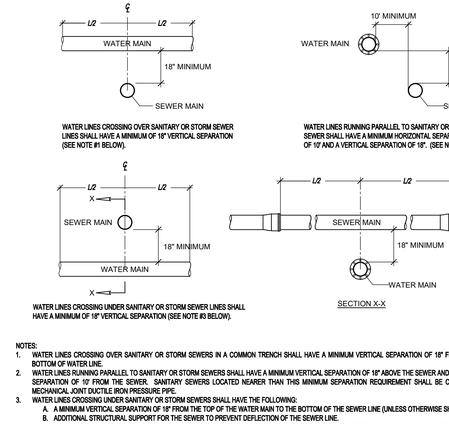
4 UTILITY TRENCH DETAIL (Below Existing Pavement)
NOT TO SCALE



5 TYPICAL WATER SERVICE (BELOW 2" DIA.) DETAIL
NOT TO SCALE

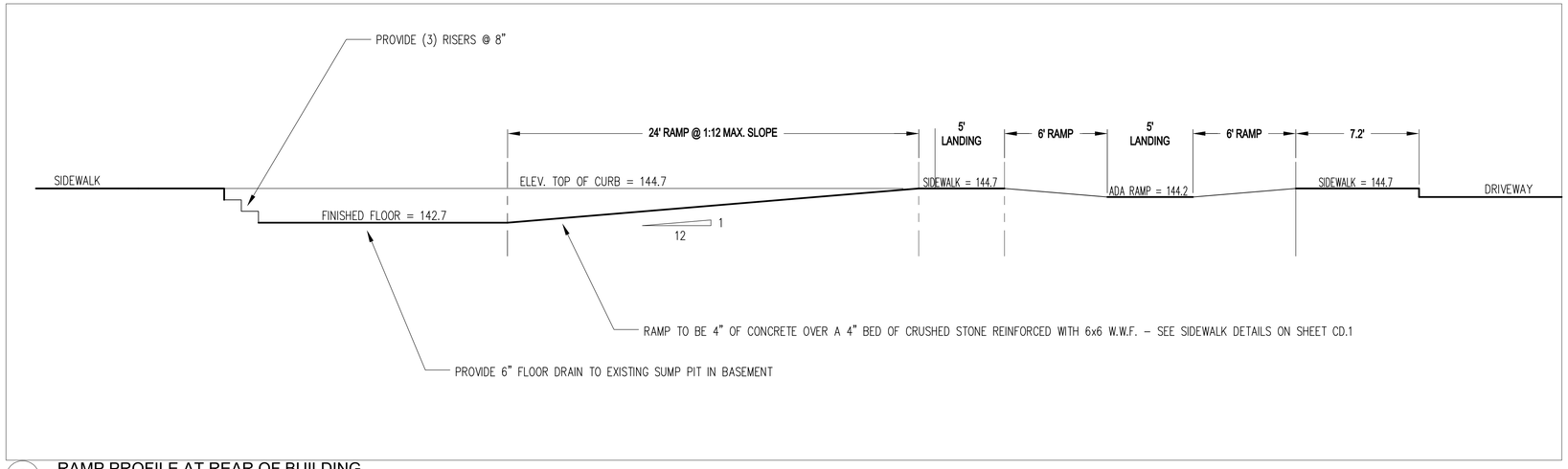


6 PAVEMENT SECTION
NOT TO SCALE



NOTES:
1. WATER LINES CROSSING OVER SANITARY OR STORM SEWERS IN A COMMON TRENCH SHALL HAVE A MINIMUM VERTICAL SEPARATION OF 18" FROM TOP OF SEWER TO BOTTOM OF WATER LINE.
2. WATER LINES RUNNING PARALLEL TO SANITARY OR STORM SEWERS SHALL HAVE A MINIMUM VERTICAL SEPARATION OF 18" ABOVE THE SEWER AND A MINIMUM HORIZONTAL SEPARATION OF 10' FROM THE SEWER. SANITARY SEWERS LOCATED NEARER THAN THIS MINIMUM SEPARATION REQUIREMENT SHALL BE CLASS 52 CEMENT LINED MECHANICAL JOINT DUCTILE IRON PRESSURE PIPE.
3. WATER LINES CROSSING UNDER SANITARY OR STORM SEWERS SHALL HAVE THE FOLLOWING:
   A. A MINIMUM VERTICAL SEPARATION OF 18" FROM THE TOP OF THE WATER MAIN TO THE BOTTOM OF THE SEWER LINE (UNLESS OTHERWISE SHOWN).
   B. ADDITIONAL STRUCTURAL SUPPORT FOR THE SEWER TO PREVENT DEFLECTION OF THE SEWER LINE.
   C. AN 18' FOOT MINIMUM LENGTH OF SEWER PIPE CENTERED OVER THE POINT WHERE THE SEWER LINE CROSSES OVER THE WATER MAIN SO THAT THE JOINTS OF THE SEWER MAIN ARE EQUIDISTANT FROM THE CENTERLINE OF THE WATER MAIN.

7 WATER & SEWER SEPARATION
NOT TO SCALE



8 RAMP PROFILE AT REAR OF BUILDING
NOT TO SCALE

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Mark A. Day, PE

STATE OF NEW YORK · MARK A. DAY · No. 069646 · LICENSED PROFESSIONAL ENGINEER

Revisions	
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	08-27-21
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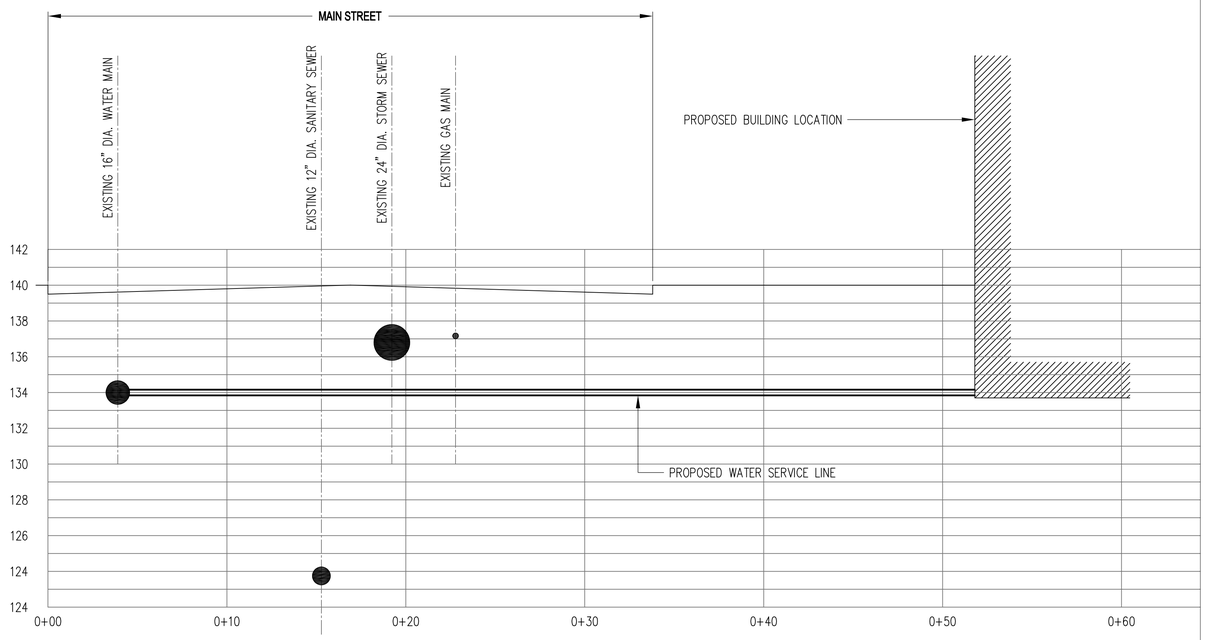
PROJECT
364 Main Street
City of Beacon — Dutchess County, New York

DRAWING
Construction Details

SCALE	DRAWN BY	DRAWING No.
As Noted	MAD	CD.2
DATE	CHECKED BY	
04-02-21	MAD	



8 WATER LINE PROFILE
3" = 1'-0"

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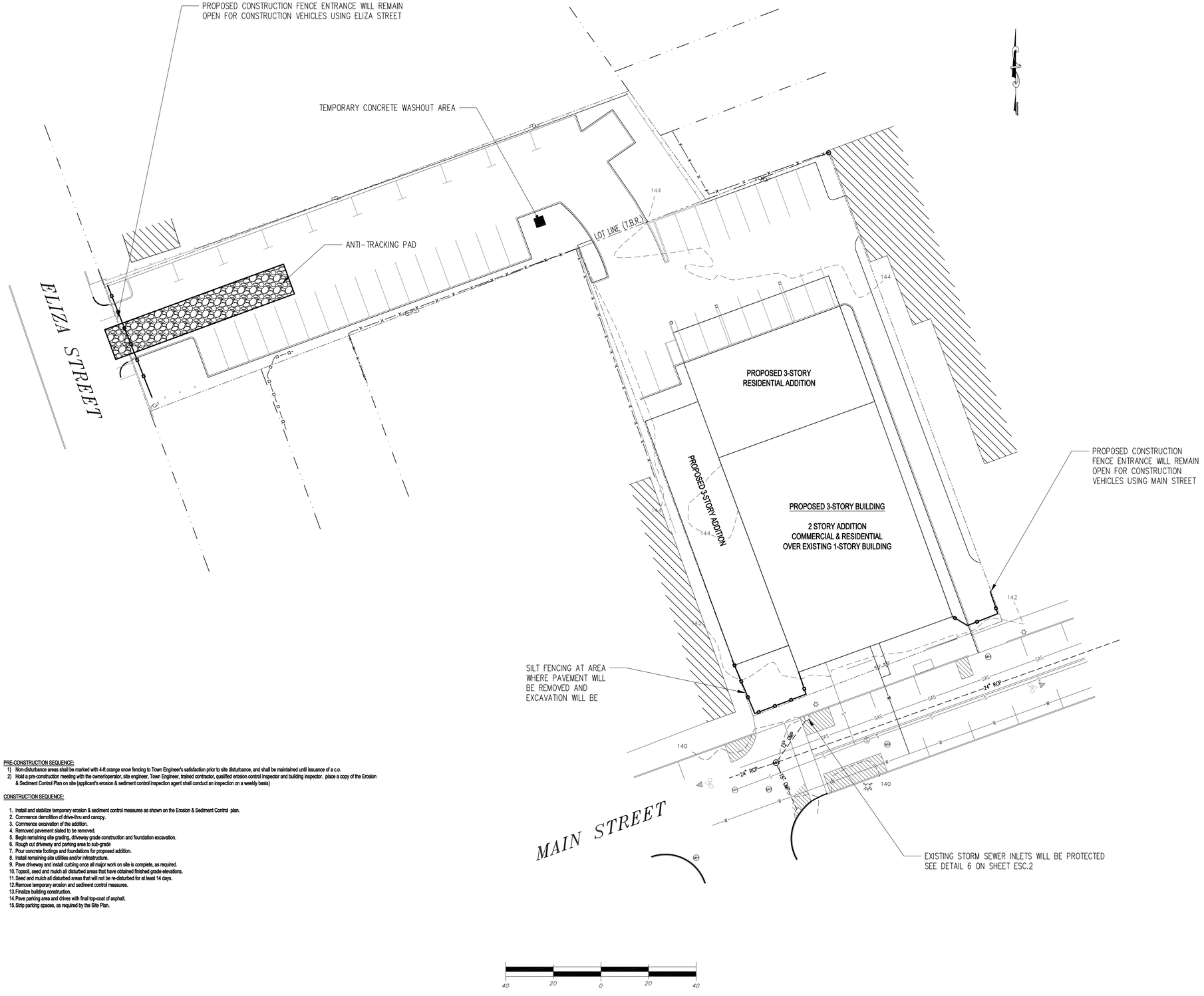
Construction Details

SCALE	DRAWN BY	DRAWING No.
As Noted	MAD	CD.3
DATE 04-02-21	CHECKED BY MAD	



PRE-CONSTRUCTION SEQUENCE:

1) Non-disturbance areas shall be marked with 4-ft orange snow fencing to Town Engineer's satisfaction prior to site disturbance, and shall be maintained until issuance of a c.o.
2) Hold a pre-construction meeting with the owner/operator, site engineer, Town Engineer, trained contractor, qualified erosion control inspector and building inspector. place a copy of the Erosion & Sediment Control Plan on site (applicant's erosion & sediment control inspection agent shall conduct an inspection on a weekly basis)

CONSTRUCTION SEQUENCE:

1. Install and stabilize temporary erosion & sediment control measures as shown on the Erosion & Sediment Control plan.
2. Commence demolition of drive-thru and canopy.
3. Commence excavation of the addition.
4. Removed pavement slated to be removed.
5. Begin remaining site grading, driveway grade construction and foundation excavation.
6. Rough cut driveway and parking area to sub-grade
7. Pour concrete footings and foundations for proposed addition.
8. Install remaining site utilities and/or infrastructure.
9. Pave driveway and install curbing once all major work on site is complete, as required.
10. Topsoil, seed and mulch all disturbed areas that have obtained finished grade elevations.
11. Seed and mulch all disturbed areas that will not be re-disturbed for at least 14 days.
12. Remove temporary erosion and sediment control measures.
13. Finalize building construction.
14. Pave parking area and drives with final top-coat of asphalt.
15. Strip parking spaces, as required by the Site Plan.

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PROJECT

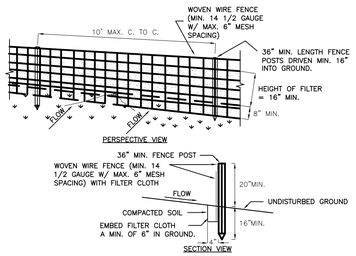
364 Main Street

City of Beacon Dutchess County, New York

DRAWING

Erosion & Sediment Control Plan

SCALE	DRAWN BY	DRAWING No.
1" = 20'	MAD	ESC.1
DATE 04-02-21	CHECKED BY MAD	

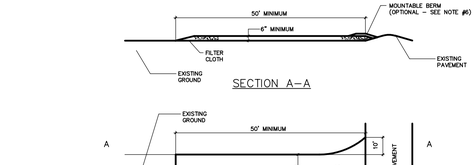


CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 12 1/2 GAUGE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

1 SILT FENCE DETAIL

NOT TO SCALE



NOTES:

1. STONE SIZE – USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH – AS REQUIRED, BUT NOT LESS THAN 50 FEET.
3. THICKNESS – NOT LESS THAN SIX (6) INCHES.
4. WIDTH – 12 FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. 24 FOOT MINIMUM IF SINGLE ENTRANCE TO SITE.
5. FILTER CLOTH – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURE USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DRIPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WASHING – WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

2 ANTI-TRACKING PAD DETAIL

NOT TO SCALE

Construction Waste Management Plan

Construction waste management practices are designed to maintain a clean and orderly work environment. This will reduce the potential for significant materials to come into contact with stormwater. A maintenance schedule shall be developed for these areas. The general contractor shall implement the following practices:

1. Material resulting from the clearing and grubbing operation will be stockpiled up slope from adequate sedimentation controls.
2. Equipment cleaning, maintenance, and repair areas shall be designated and protected by a temporary perimeter berm.
3. The use of detergents for large scale washing is prohibited (i.e., vehicles, buildings, pavement surfaces, etc.).
4. Spill Prevention and Response
   A Spill Prevention and Response Plan shall be developed for the site by the general contractor. The plan shall detail the steps needed to be followed in the event of an accidental spill and shall identify contact names and phone numbers of people and agencies that must be notified.

   The plan shall include Material Safety Data Sheets (MSDS) for all materials to be stored on-site. All workers on-site will be required to be trained on safe handling and spill prevention procedures for all materials used during construction. Regular tailgate safety meetings shall be held and all workers that are expected on the site during the week shall be required to attend.
5. Material Storage
   Construction materials shall be stored in a dedicated staging area. The staging area shall be located in an area that minimizes the impacts of the construction materials effecting stormwater quality.

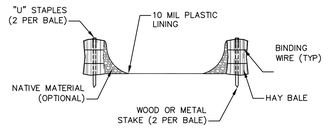
   Chemicals, paints, solvents, fertilizers, and other toxic material must be stored in waterproof containers. Except during application, the contents must be kept in trucks or within storage facilities. Runoff containing such material must be collected, removed from the site, treated and disposed at an approved solid waste or chemical disposal facility.
6. Temporary Concrete Washout Facility
   Temporary concrete washout facilities should be located a minimum of 50 ft from storm drain inlets, open drainage facilities, and watercourses. Each facility should be located away from construction traffic or access areas to prevent disturbance or tracking. A sign should be installed adjacent to each washout facility to inform concrete equipment operators to utilize the proper facilities.

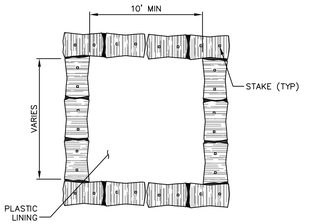
   When temporary concrete washout facilities are no longer required for the work, the hardened concrete shall be removed and disposed of. Materials used to construct the temporary concrete washout facilities shall be removed from the site and disposed of. Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facilities shall be backfilled and/or repaired and seeded and mulched for final stabilization.
7. Solid Waste Disposal
   No solid materials, including building materials, are allowed to be discharged from the site with stormwater. All solid waste, including disposable materials incidental to the major construction activities, must be collected and placed in containers. The containers will be emptied periodically by a contract trash disposal service and hauled away from the site.

   Substances that have the potential for polluting surface and/or groundwater must be controlled by whatever means necessary in order to ensure that they do not discharge from the site. As an example, special care must be exercised during equipment fueling and servicing operations. If a spill occurs, it must be contained and disposed so that it will not flow from the site or enter groundwater, even if this requires removal, treatment, and disposal of soil. In this regard, potentially polluting substances should be handled in a manner consistent with the impact they represent.
8. Water Source
   Non-stormwater components of site discharge must be clean water. Water used for construction, which discharges from the site, must originate from a public water supply or private well approved by the Health Department. Water used for construction that does not originate from an approved public supply must not discharge from the site. It can be retained in the ponds until it infiltrates and evaporates.

7 CONSTRUCTION WASTE MANAGEMENT PLAN

NOT TO SCALE



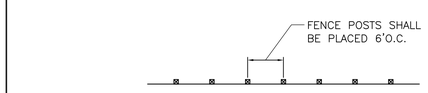


NOTES:

1. CONCRETE WASHOUT SIGN TO BE INSTALLED WITHIN 30 FEET OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
2. REMOVE HARDEN CONCRETE WHEN WITHIN 4" FROM TOP OF STRUCTURE.
3. CONSTRUCT NEW FACILITIES ONCE CURRENT FACILITIES ARE TWO-THIRDS FULL.
4. LINERS, HAYBALES, ET.C SHALL BE INSPECTED FOR DAMAGE. ANY DAMAGE SHALL BE REPAIR PROMPTLY.

8 TEMPORARY CONCRETE WASHOUT DETAIL

NOT TO SCALE



3 TYPICAL ORANGE CONSTRUCTION FENCE DETAIL

NOT TO SCALE

1. ALL SEDIMENT & EROSION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THESE PLANS & DETAILS. CHANGES, OMISSIONS AND/OR OTHER ALTERATIONS CAN NOT BE MADE TO THESE PLANS WITHOUT THE CONSENT OF THE DESIGN ENGINEER.
2. SILT FENCE SHALL BE INSTALLED AS SHOWN ON THIS DRAWING PRIOR TO BEGINNING ANY CLEARING, GRUBBING AND EARTHWORK.
3. EXPOSED SLOPES AND ALL GRADED AREAS SHALL BE SEEDED WITH THE FOLLOWING GRASS SEED MIX IMMEDIATELY UPON COMPLETION OF ITS CONSTRUCTION, OR IF PLANNED TO BE LEFT UNDISTURBED FOR MORE THAN 21 DAYS. GRASS SEED MIX TO BE APPLIED AT A RATE OF 50 POUNDS PER ACRE IN THE FOLLOWING PROPORTIONS:

   KENTUCKY BLUEGRASS 40% CREEPING RED FESCUE 40% RYE GRASS 20%
4. GRASS SEED MIX MAY BE APPLIED BY EITHER MECHANICAL OR HYDROSEEDING METHODS. HYDROSEEDING SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT EDITION OF THE NYSDOT STANDARD SPECIFICATIONS, CONSTRUCTION AND MATERIALS, SECTION 610-3.02, METHOD No. 1.
5. SEEDED AREAS SHALL BE MULCHED WITH STRAW AT A RATE OF 2 TONS PER ACRE, OR 90 LBS. PER 1,000 SQUARE FEET, SUCH THAT IT FORMS A CONTINUOUS BLANKET.
6. SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE INSPECTED AND MAINTAINED ON A DAILY BASIS BY THE OWNER's FIELD REPRESENTATIVE.
7. DUST SHALL BE CONTROLLED BY SPRINKLING OF WATER OR OTHER APPROVED METHODS AS NECESSARY AS DIRECTED BY THE OWNER's FIELD REPRESENTATIVE.
8. CUTS AND FILLS SHALL NOT ENDANGER ADJOINING PROPERTY, NOR DIVERT SURFACE WATER ONTO ADJOINING PROPERTIES.
9. ALL FILLS SHALL BE COMPACTED TO PROVIDE STABILITY OF MATERIALS AND TO PREVENT SETTLEMENT.
10. EXCAVATIONS AND FILLS TO BE ROLLED, SEALED AND STABILIZED AT COMPLETION OF EACH DAY's WORK.
11. THE OWNER's FIELD REPRESENTATIVE SHALL INSPECT THE DOWNSTREAM CONDITIONS FOR EVIDENCE OF SEDIMENTATION ON A WEEKLY BASIS AND AFTER RAINSTORMS.
12. AS WARRANTED BY FIELD CONDITIONS, SPECIAL ADDITIONAL SEDIMENTATION AND EROSION CONTROL MEASURES MAY BE ADDED TO THIS PLAN BY THE SITE ENGINEER, TOWN ENGINEER AND HIGHWAY SUPERINTENDENT. ANY REVISIONS TO THIS PLAN MUST BE SUBMITTED TO THE SITE ENGINEER. ANY CHANGES DEEMED NECESSARY TO THIS PLAN SHALL BE DICTATED BY THE SITE ENGINEER AS NECESSARY TO CARRY-OUT THE INTENT OF THIS PLAN.

4 SEEDING & MULCHING NOTES

NOT TO SCALE

EROSION AND SEDIMENT CONTROL MEASURES:

1. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE IN STRICT COMPLIANCE WITH "NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL", AUGUST 2005.
2. DAMAGE TO SURFACE WATERS RESULTING FROM EROSION AND SEDIMENTATION SHALL BE MINIMIZED BY STABILIZING DISTURBED AREAS AND BY REMOVING SEDIMENT FROM CONSTRUCTION SITE DISCHARGES.
3. SITE PREPARATION ACTIVITIES SHALL BE PLANNED TO MINIMIZE THE SCOPE AND DURATION OF SOIL DISRUPTION.
4. PERMANENT TRAFFIC CORRIDORS SHALL BE ESTABLISHED AND "ROUTES OF CONVENIENCE" SHALL BE AVOIDED. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT ALL POINTS OF ENTRY ONTO THE PROJECT SITE.
6. SEEDED AREAS TO BE MULCHED WITH STRAW OR HAY MULCH IN ACCORDANCE WITH VEGETATIVE COVER SPECIFICATIONS.
7. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES THROUGHOUT THE COURSE OF CONSTRUCTION.
8. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST BY SPRINKLING EXPOSED SOIL AREAS PERIODICALLY WITH WATER AS REQUIRED. THE CONTRACTOR IS TO SUPPLY ALL EQUIPMENT AND WATER.
9. WHEN ALL DISTURBED AREAS ARE STABLE, ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED.

MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES:

A. PERMANENT AND TEMPORARY VEGETATION:
   INSPECT ALL AREAS THAT HAVE RECEIVED VEGETATION EVERY SEVEN DAYS. ALL AREAS DAMAGED BY EROSION OR WHERE SEED HAS NOT ESTABLISHED SHALL BE REPAIRED AND RESTABILIZED IMMEDIATELY.

B. STABILIZED CONSTRUCTION ENTRANCE:
   INSPECT THE ENTRANCE PAD EVERY SEVEN DAYS. CHECK FOR MUD, SEDIMENT BUILD-UP AND PAD INTEGRITY. MAKE DAILY INSPECTIONS DURING WET WEATHER. RESHAPE PAD AS NEEDED FOR DRAINAGE AND RUNOFF CONTROL. WASH AND REPLACE STONE AS NEEDED. THE STONE IN THE ENTRANCE SHOULD BE WASHED OR REPLACED WHENEVER THE ENTRANCE FAILS TO REDUCE MUD BEING CARRIED OFF-SITE BY VEHICLES. IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADS BY BRUSHING OR SWEEPING. REMOVE TEMPORARY CONSTRUCTION ENTRANCE AS SOON AS THEY ARE NO LONGER NEEDED TO PROVIDE ACCESS TO THE SITE.

C. SILT FENCE:
   INSPECT FOR DAMAGE EVERY SEVEN DAYS. MAKE ALL REPAIRS IMMEDIATELY. REMOVE SEDIMENT FROM THE UP-SLOPE FACE OF THE FENCE BEFORE IT ACCUMULATES TO A HEIGHT EQUAL TO 1/3 THE HEIGHT OF THE FENCE. IF FENCE FABRIC TEARS, BEGINS TO DECOMPOSE, OR IN ANY WAY BECOMES INEFFECTIVE, REPLACE THE AFFECTED SECTION OF FENCE IMMEDIATELY.

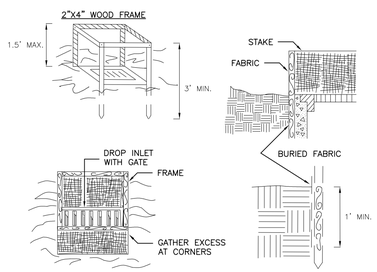
D. INLET PROTECTION:
   INSPECT INLET PROTECTION FOR DAMAGE EVERY SEVEN DAYS. MAKE ALL REPAIRS IMMEDIATELY. REMOVE SEDIMENT AS NECESSARY TO PROVIDE FOR ADEQUATE STORAGE VOLUME FOR SUBSEQUENT RAINS.

E. DUST CONTROL:
   SCHEDULE CONSTRUCTION OPERATIONS TO MINIMIZE THE AMOUNT OF DISTURBED AREAS AT ANY ONE TIME DURING THE COURSE OF WORK. APPLY TEMPORARY SOIL STABILIZATION

   PRACTICES SUCH AS MULCHING, SEEDING, AND SPRAYING (WATER). STRUCTURAL MEASURES (MULCH, SEEDING) SHALL BE INSTALLED IN DISTURBED AREAS BEFORE SIGNIFICANT BLOWING PROBLEMS DEVELOP. WATER SHALL BE SPRAYED AS NEEDED. REPEAT AS NEEDED, BUT AVOID EXCESSIVE SPRAYING, WHICH COULD CREATE RUNOFF AND EROSION PROBLEMS.

5 EROSION & SEDIMENT CONTROL NOTES

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

1. FILTER FABRIC SHALL HAVE AN EOS OF 40–85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2" x 4" WOOD OR EQUIVALENT. METAL WITH A MINIMUM LENGTH OF 3 FEET.
4. SPACE STAKES EVENLY AROUND INLET 3 FEET APART AND DRIVE A MINIMUM 18 INCHES DEEP. SPANS GREATER THAN 3 FEET MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
5. FABRIC SHALL BE EMBEDDED 1 FOOT MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2" x 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.

   MAXIMUN DRAINAGE AREA 1 ACRE

6 FILTER FABRIC DROP INLET PROTECTION DETAIL

NOT TO SCALE

IT IS A VIOLATION OF NEW YORK STATE EDUCATION LAW FOR ANY PERSONS TO ALTER THESE PLANS, SPECIFICATIONS, OR REPORTS IN ANY WAY, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR.

	Mark A. Day, PE
11-27-21	
08-27-21	
Revisions 07-20-21	
Project No. 2020.475	License No. 069646

DAY | STOKOSA ENGINEERING P.C.
3 Van Wyck
Lane Suite 2
Wappingers Falls, New York
(845)-223-3202

PROJECT
364 Main Street
City of Beacon Dutchess County, New York

DRAWING
Erosion & Sediment Control Details

SCALE	DRAWN BY	DRAWING No.
As Noted	MAD	ESC.2
DATE 04-02-21	CHECKED BY MAD	

DAY | STOKOSA
ENGINEERING P.C.

3 Van Wyck Lane
Suite 2
Wappingers Falls, New York 12590
Phone: 845-223-3202

November 27, 2021

Mr. John Russo, PE
Engineering Consultant for the City of Beacon Planning Board
City of Beacon City Hall
1 Municipal Plaza
Beacon, New York 12508

Re: 364 Main Street Site Plan Application
364 Main Street, City of Beacon, New York

Mr. Russo,

This letter is submitted in response to the comments received at the November 9, 2021 Planning Board meeting and the electronic correspondence sent to the Planning Board after the Board's November 9th meeting in regards to stormwater concerns at a property located north of the above-captioned Premises, which is adjacent to the entry drive for the Hamilton Fish Plaza development.

In response to these comments, I offer following mitigation measures that are part of the current Application. The proposal will reduce the amount of runoff from the site by reducing the existing amount of impervious land cover. There is a considerable amount of new landscaping areas that is being proposed by the new Application. This will promote percolation into the ground in lieu of sheet flow off the site during rain events or snowmelt. A snow storage area has also been identified on the site plans.

It should also be pointed out that the runoff from the roofs of the proposed additions to the building will be directed to the storm sewer system via roof drains. Currently these areas are paved and allow stormwater to sheet off of the site.

In my opinion, the current proposal will reduce the peak rate of runoff from the site by the inclusion of the increased landscaping areas and the use of roof drains on the building.

Please feel free to contact me if you have any questions about the information in this response letter or in the plan set.

Sincerely yours,

Mark A. Day, PE

ARYEH SIEGEL
ARCHITECT

John Gunn - Planning Board Chairman
City of Beacon
One Municipal Plaza
Beacon, NY 12508

Re: 364 Main Street, Beacon, New York
Site Plan Application – Responses to Comments

November 30, 2021

Dear Chairman Gunn and Members of the Planning Board,

Below please find our responses to the comments included in John Clarke Planning and Design's Memorandum, dated November 4, 2021 Please refer to Day & Stokoska's response letter regarding Lanc & Tully's letter dated November 5, 2021.

John Clarke Planning and Design Comment Responses:

1. Comment acknowledged. The Applicant will submit a subdivision plan to merge the 2 lots when the surveyor provides the drawing. Vehicle circulation plans are shown the site plans.

2. Comment acknowledged. The Planning Board agreed in principle that the addition to the west can be 12 feet deeper than the 10 foot maximum. The area in front of the setback was redesigned to combine landscaping and paving to allow for uses that enhance street life. Bike rack location will be confirmed.

3. The site plan has 11% landscaped area.

4. A portion of the one-way entrance drive from Main Street has been narrowed to 10 feet wide to provide landscaping on the east side of the drive.

5. Comment acknowledged.

6. Comment acknowledged.

7. For Sheet 10 & 11 Building Plans
    a A residential entrance has been added to the east side of the building for pedestrian access from Main Street.
    b A roof plan will be provided in the next submission
    c The 1st floor plan shows the storefront entrance for the west addition

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Beacon, New York 12508 | www.ajsarch.com | *Fax* 845 838 2657

d Comment acknowledged. The project will be referred to the Architectural Review Committee.

Please refer to Day & Stokoska's letter for responses to additional engineering comments from Lanc & Tully.

Thank you. Please let me know if you have any questions.

Sincerely,



Aryeh Siegel
Aryeh Siegel, Architect

DAY | STOKOSA
ENGINEERING P.C.

3 Van Wyck Lane
Suite 2
Wappingers Falls, New York 12590
Phone: 845-223-3202

November 27, 2021

Mr. John Gunn, Chair, and the City of Beacon Planning Board
City of Beacon City Hall
1 Municipal Plaza
Beacon, New York 12508

Re: 364 Main Street Site Plan Application
364 Main Street
City of Beacon
Dutchess County, New York

Mr. Chairman and Board members:

This office has received comment letters from the City's Engineering Consultant, Lanc & Tully, P.C. dated September 8, 2021.[1] This cover letter and the accompanying submission is in response to the comments indicated therein. I offer the following:

Lanc & Tully – September 8, 2021:

General Comments:

1. The Full Environmental Assessment Form has been revised to reflect the total proposed commercial and residential areas.

Site Plan:

1. The proposed 4" water line has been shifted so that it is clear of the root ball of the existing tree.

2. A profile of the proposed water service has been added to the CD.3 of the plan set.

3. The 4" and 2" water services have been darkened on this submission showing the utilities.

4. The wet tap has been shown on the 4" water service line and a curb stop has been shown on the 2" service line. All valves have been shown.

[1] The City's Engineering Consultant's November 5, 2021 comment letter did not provide any additional comments.

5. A detail has been shown for the 2" service line. A tapped tee for the 2" line off of the 4" water service line has been shown.

6. The water main size has been amended to a 16" line and has been verified by the City Water Dept.

7. The sewer trunkline size has been shown as 12" and has been verified with the City.

8. All manholes have been identified on the utility plan.

9. The dimension label located under the street tree at the front of the site has been removed from the plan.

10. The proposed stairs in the rear of the building are necessary to gain access to the building in the rear. The proposed ramp meets the ADA requirements of 1:12 slope and max. run of 30'. This allows ADA access to the rear of the building.

11. A signage plan has been prepared by the Architect-of-Record (AOR).

12. Areas of snow storage has been placed on the Site Plan by the AOR.

13. Refer to response 11.

Landscaping Plan:

1. The landscaping plan has been prepared by Ms. Debra Adamsons of Landscape Restorations.

Construction Details (Sheet 7 of 9):

1. The wet tap detail has been updated.

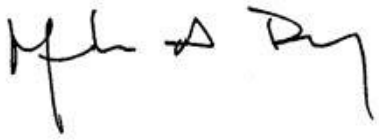
2. The wet tap details have been revised to include a valve box.

Construction Details (Sheet 9 of 9):

3. Concrete washout areas will be shown on the subsequent plan set.

Please feel free to contact me if you have any questions about the information in this response letter or in the plan set.

Sincerely yours,



Mark A. Day, PE

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Suite 180E
Valhalla New York 10595
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colliersengineering.com

Colliers
Engineering
& Design

November 29, 2021

Chairman John Gunn
City of Beacon Planning Board
City of Beacon City Hall
1 Municipal Plaza
Beacon, NY 12508

364 Main Street
City of Beacon, Dutchess County, New York
Colliers Engineering & Design Project No. 21001718A

Dear Chairman Gunn and Members of the Planning Board:

The following items are in response to the comments contained in the Creighton Manning (CM) letter dated November 9, 2021. The items are numbered according to their review comments. Note, that where appropriate the previous CM comment and/or Colliers' Reponses have been included for context.

Site Plan

1. CM Review #1 Comment: CM notes that there is trash enclosure proposed in the parking lot. CM recommends that a truck circulation exhibit be provided so the route can be reviewed. The truck circulation exhibit should also include the path of a typical vehicle used for residential "move-in" and "move-out" activities.

   CM Review #2 Follow-Up Comment: A Site Plan was not included in the aforementioned submittal package considered for review. Please submit Site Plan to confirm your response.

   Response: The requested truck circulation paths for a garbage truck for trash collection and for a 30 ft. single unit truck for move-in/move-out activities have been included on the Site Plans.

2. CM Review #1 Comment: CM recommends that (a) a No Left Turn sign be installed at the driveway exit approach to Eliza Street and (b) a One-Way sign be installed across from the Eliza Street driveway exit.

   CM Review #2 Follow-Up Comment: A Site Plan was not included in the aforementioned submittal package considered for review. Please submit Site Plan to confirm your response

   Response: The proposed "No Left Turn" and "One-Way" signs to be installed at the Eliza Street driveway are now reflected on the Site Plans.

Colliers Engineering & Design

3. CM Review #1 Comment: CM recommends that the applicant investigate the need for a Stop sign on the Veterans Place approach to Main Street, across from the subject property.

   CM Review #2 Follow-Up Comment: Comment addressed.

   Response: The proposed "Stop" sign to be installed on the Veterans Road approach is now reflected on the Site Plans.

4. CM Review #1 Comment: CM acknowledges the applicant's concern over limited sight distance for left turns onto Main Street due to the existing building immediately to the west (see photo at right). CM recommends that a crash history analysis be conducted at and immediately adjacent to the intersection of Main Street and Veterans Place, inclusive of the site driveway, to identify safety concerns, especially those involving pedestrians and bicyclists, to further inform this matter. It is important that the crash data include a three-year period while the bank was in normal operation. Regardless of the crash history analysis, the applicant should propose treatments at both Main Street driveways to enhance pedestrian safety since the expansion of the site will increase vehicle-pedestrian interaction at these locations.

   Colliers' Response: The crash history data has been requested by from the City of Beacon and NYSDOT but has not yet been received. However, since the existing exit driveway, which was previously proposed to remain as part of the Project, is now proposed to be eliminated, it is the opinion of Colliers Engineer & Design that this crash analysis is no longer necessary.

   CM Review #2 Follow-Up Comment: CM agrees that a crash analysis is no longer necessary given that the egress driveway on Main Street is being eliminated. Furthermore, Colliers is proposing pedestrian safety countermeasures in conjunction with recently completed pedestrian safety countermeasures constructed separate of the subject project under review.

   Response: No further response required. See further discussion regarding pedestrian safety countermeasures in response to Traffic Impact Study Comment #6 below.

5. CM Review #1 Comment: CM recommends that a Do Not Enter sign be installed at the Main Street egress-only driveway facing Veterans Place.

   Colliers' Response: The existing egress only driveway is now proposed to be eliminated and therefore additional signage at this driveway location is no longer required.

   CM Review #2 Follow-Up Comment: Comment addressed.

   Response: No further response required.

6. CM Review #1 Comment: Given the mixed-use nature of the project, how will the off-street parking operate? Will parking spaces be assigned to residents and patrons/employees of the retail space? If so, please delineate this on the plan and detail any applicable signs.

   CM Review #2 Follow-Up Comment: CM recommends that the spaces for the residential use be designated for residents-only. This would help eliminate the event of a resident needing to turn

Colliers Engineering & Design

around inside the parking lot and exit via the egress-only driveway due to a spot not being available.

Response: It is the Applicant's preference to not assign parking spaces to the residents of the Project. Assigning of parking spaces to the residential units will eliminate the ability for shared parking between the residential and commercial uses of the project. The provision of a turnaround area, which is discussed further in Response to Item 8 below, will accommodate vehicles needing to turn around inside the parking lot and exit via the egress-only driveway due to a spot not being available.

It is also anticipated that residents of the Project will learn to utilize the Main Street access to access the parking behind the building first to avoid the need for this turn-around maneuver.

7. CM Review #1 Comment: The applicant should consider including at least one electric vehicle (EV) charging station on the site.

   CM Review #2 Follow-Up Comment: Comment addressed.

   Response: No further response required.

8. CM Review #1 Comment: The one-way inbound driveway creates a dead-end parking condition near the northeast corner of the site. The applicant should consider improving this condition to avoid inefficient site circulation.

   CM Review #2 Follow-Up Comment: A Site Plan was not included in the aforementioned submittal package considered for review. Please submit Site Plan to confirm your response.

   Response: **As shown on the Site Plans the west side building extension has been stepped to the south allowing the two western most parking spaces directly behind the building to also be stepped to the south by approximately 8 ft. this provides additional area for both a passenger vehicle or a moving vehicle that may need to turn around behind the building to do so. The vehicle turning paths for both a passenger car and 30 ft. single unit truck show that this area will sufficiently accommodate the required vehicle maneuvers to turn around in this parking area and return to the Eliza Street parcel parking area.**

Traffic Impact Study

1. CM Review #2 Follow-Up Comment: Colliers' Revised Traffic Impact Study utilizes trip generation rates found in the ITE Trip Generation Manual, 11th Edition. These rates were applied to the revised commercial space square-footage as well as the previously proposed 20-unit residential component. CM notes that the 11th Edition results provide a more conservative analysis.

   Response: No further response required.

Colliers Engineering & Design

2. CM Review #1 Comment: Colliers' Revised Traffic Impact Study is based on traffic data collected in early June 2021, which was compared to Colliers' data from February 2020 as well as NYSDOT traffic data. CM agrees that the existing 2021 data is appropriate for analysis.

   CM Review #2 Follow-Up Comment: Comment addressed.

   Response: No further response required.

3. CM Review #2 Follow-Up Comment: CM reviewed the trip generation results listed in Table 1R and does not have any comments.

   Response: No further response required

4. CM Review #2 Follow-Up Comment: CM reviewed Figures 14R and 15R and does not have any comments regarding Colliers' anticipated trip distribution and associated trip assignments. CM notes that the proposed access plan, which considers 100-percent of exiting traffic will utilize Eliza Street, will effectively double the traffic along Eliza Street. However, the trips generated by the site remain under the NYSDOT and ITE 100-trip threshold, and there would likely remain adequate capacity along Eliza Street to accommodate the site generated traffic.

   Response: No further response required

5. CM Review #1 Comment: CM reviewed Table 3 and confirms that the required off-street parking ratios used for the residential and commercial uses are based on the City of Beacon Code. CM acknowledges that the off-street parking provided exceeds the parking required by City Code. The applicant may want to consider land-banking the surplus parking to decrease the amount of impervious area on the site.

   Colliers' Response: Table No. 3R above contains the revised parking calculations for the Project based on the City of Beacon Code requirements. As indicated in the table the development is requires 39 parking spaces where 42 are provided, resulting in an excess of 3 spaces. Land banking of parking spaces is not proposed.

   CM Review #2 Follow-Up Comment: Comment addressed.

   Response: No further response required

6. CM Review #2 Follow-Up Comment: Upon further review of existing pedestrian safety countermeasures along the Main Street corridor, Advance Warning signs are not needed given the urban environment and adjacent crosswalks within an eighth of a mile.

   Response: **Since completing the initial Traffic Study for the Project, which included recommendations for signing and striping improvements at this crosswalk location, the crosswalk has been modified with new sidewalk curb ramps including curb bump-outs and crosswalk warning signage. This has also been done at the Main Street/Eliza Street crosswalk location. The below photo shows the upgrades that have been completed at the Main Street crosswalk at the**

Colliers
Engineering & Design

Site location, with the signage are the Eliza Street crossing shown in the background. If not completed by the time of construction on the Project site, the Project will still propose to restripe the Main Street crosswalk as was previously proposed.



Sincerely,

Colliers Engineering & Design CT, P.C.

Richard D'Andrea, P.E., PTOE
Assistant Department Manager

R:\Projects\2021\21001718A\Correspondence\OUT\211129RGD_CM 11.9.2021 Response.docx

APPLICATION FOR SPECIAL USE PERMIT & SITE PLAN APPROVAL

Submit to Planning Board Secretary, One Municipal Plaza, Suite One, Beacon, New York 12508

IDENTIFICATION OF APPLICANT

Name: O'Donnell Construction Corp.

Address: P.O. Box 526
Fishkill, NY 12524

Signature: _____

Date: 11/30/2021

Phone: 845-590-0622

(For Official Use Only)

	Date	Initials
Application & Fee Rec'd		
Initial Review Public Hearing		
Conditional Approval		
Final Approval		

IDENTIFICATION OF REPRESENTATIVE / DESIGN PRFESSIONAL

Name: Cuddy & Feder, LLP

Address: 300 Westage Business Center Dr., Suite 380, Fishkill, NY

Phone: 914-761-1300

Fax: 914-761-5378

Email address: tpalmer@cuddyfeder.com

IDENTIFICATION OF SUBJECT PROPERTY:

Property Address: 346 Main Street & Eliza Street, Beacon, NY 12508

Tax Map Designation: Section 6054 Block 29 Lot(s) 006819 & 004836

Land Area: .54 acres 364 Main St. & .31 acres Elisa St.

Zoning District(s) CMS, T

DESCRIPTION OF PROPOSED DEVELOPMENT:

Proposed Use: Mixed-Use Multi-Family Residential and Commercial

Gross Non-Residential Floor Space: Existing 7,031+/- sq. ft. Proposed 1,763 +/- sq. ft.

TOTAL: 8,798 +/- sq. ft.

Dwelling Units (by type): Existing 0 Proposed 20 multi-family units

TOTAL: 20

ITEMS TO ACCOMPANY THIS APPLICATION

a. One electronic and five (5) **folded** paper copies of a site location sketch showing the location of the subject property and the proposed development with respect to neighboring properties and developments.

b. One electronic and five (5) **folded** paper copies of the proposed site development plan, consisting of sheets, showing the required information as set forth on the back of this form and other such information as deemed necessary by the City Council or the Planning Board to determine and provide for the property enforcement of the Zoning Ordinance.

c. One electronic and five (5) **folded** paper copies of additional sketches, renderings or other information.

d. An application fee, payable to the City of Beacon, computed per the attached fee schedule.

e. An initial escrow amount, payable to the City of Beacon, as set forth in the attached fee schedule.

INFORMATION TO BE SHOWN ON SITE LOCATION SKETCH

a. Property lines, zoning district boundaries and special district boundaries affecting all adjoining streets and properties, including properties located on the opposite sides of adjoining streets.
b. Any reservations, easements or other areas of public or special use which affect the subject property.
c. Section, block and lot numbers written on the subject property and all adjoining properties, including the names of the record owners of such adjoining properties.

INFORMATION TO BE SHOWN ON THE SITE DEVELOPMENT PLAN

a. Title of development, date and revision dates if any, north point, scale, name and address of record owner of property, and of the licensed engineer, architect, landscape architect, or surveyor preparing the site plan.
b. Existing and proposed contours at a maximum vertical interval of two (2) feet.
c. Location and identification of natural features including rock outcrops, wooded areas, single trees with a caliper of six (6) or more inches measured four (4) feet above existing grade, water bodies, water courses, wetlands, soil types, etc.
d. Location and dimensions of all existing and proposed buildings, retaining walls, fences, septic fields, etc.
e. Finished floor level elevations and heights of all existing and proposed buildings.
f. Location, design, elevations, and pavement and curbing specifications, including pavement markings, of all existing and proposed sidewalks, and parking and truck loading areas, including access and egress drives thereto.
g. Existing pavement and elevations of abutting streets, and proposed modifications.
h. Location, type and design of all existing and proposed storm drainage facilities, including computation of present and estimated future runoff of the entire tributary watershed, at a maximum density permitted under existing zoning, based on a 100 year storm.
i. Location and design of all existing and proposed water supply and sewage disposal facilities.
j. Location of all existing and proposed power and telephone lines and equipment, including that located within the adjoining street right-of-way. All such lines and equipment must be installed underground.
k. Estimate of earth work, including type and quantities of material to be imported to or removed from the site.
l. Detailed landscape plan, including the type, size, and location of materials to be used.
m. Location, size, type, power, direction, shielding, and hours of operation of all existing and proposed lighting facilities.
n. Location, size, type, and design of all existing and proposed business and directional signs.
o. Written dimensions shall be used wherever possible.
p. Signature and seal of licensed professional preparing the plan shall appear on each sheet.
q. Statement of approval, in blank, as follows:

Approved by Resolution of the Beacon Planning Board
on the_____day of_____, 20_____
subject to all conditions as stated therein

_____ _____
Chairman, City Planning Board **Date**

APPLICATION FEES

Site Plan	**Residential $500 + $250 per dwelling unit** **Commercial $500 + $250 per 1,000 s.f.**
Special Use Permit	**Residential $500 + $250 per dwelling unit** **Commercial $500 + $250 per 1,000 s.f.**
Subdivision	**$ 750 for 2-4 lots + $100 per lot** **$1,000 for 5 or more lots + $300 per lot**
Zoning Board of Appeals	**Use Variance $500 Area Variance $250** **Interpretation $250**

ESCROW FEES

ALL SUBDIVISIONS, AND RESIDENTIAL SITE PLAN AND SUP APPLICATIONS

No. of Lots or Dwelling Units	Initial Deposit	Depleted to	Replenishment
1-5 (including lot-line realignment)	$ 2,500	$ 1,000	Current bills + $1,000
6-15	$ 7,500	$ 2,500	Current bills + $1,000
Over 15	$ 15,000	$ 5,000	Current bills + $5,000

NON-RESIDENTIAL SITE PLAN AND SUP APPLICATIONS

	Initial Deposit	Depleted to	Replenishment
Existing Buildings/Change of Use with no site development	$ 1,500	$ 1,000	Current bills + $500
Up to 3,000 s.f. gross floor area	$ 2,500	$ 1,000	Current bills + $1,000
3,000 to 10,000 s.f. gross floor area	$ 2,500 + $0.50 per sq.ft. over 3,000	$ 2,500	Current bills + $2,500
Over 10,000 s.f. gross floor area	$ 7,500 + $0.50 per sq.ft. over 10,000	$ 2,500	Current bills + $2,500

ZONING

* *if required by Chairman*	Initial Deposit	Depleted to	Replenishment
Use Variance*	$ 1,000	$500	Current bills + $500
Area Variance*	$ 1,000	$500	Current bills + $500
Interpretation*	$ 1,000	$500	Current bills + $500

ARCHITECTURAL REVIEW OR CERTIFICATE OF APPROPRIATENESS ***(if not currently before PB)***

* *if required by Chairman*	Initial Deposit	Depleted to	Replenishment
Single Family House*	$500	$250	Current bills + $250
All others*	$500	$250	Current bills + $250

APPLICATION PROCESSING RESTRICTION LAW

Affidavit of Property Owner

Property Owner: O'Donnell Construction Corp.

If owned by a corporation, partnership or organization, please list names of persons holding over 5% interest.

Sean O'Donnell.

List all properties in the City of Beacon that you hold a 5% interest in:

Eliza Street – (Parcel ID: 5954-36-994862)

Applicant Address: P.O. Box 526, Fishkill, New York 12525

Project Address: 364 Main Street & Eliza Street

Project Tax Grid # 6054-29-006819 & 6054-29-004836

Type of Application: Special Permit & Site Plan Approval for Proposed Mixed-Used Development

Please note that the property owner is the applicant. "Applicant" is defined as any individual who owns at least five percent (5%) interest in a corporation or partnership or other business.

I, Sean O'Donnell, the undersigned owner of the above referenced property, hereby affirm that I have reviewed my records and verify that the following information is true.

1. No violations are pending for ANY parcel owned by me situated within the City of Beacon — X
2. Violations are pending on a parcel or parcels owned by me situated within the City of Beacon — N/A
3. ALL tax payments due to the City of Beacon are current — X
4. Tax delinquencies exist on a parcel or parcels owned by me within the City of Beacon — N/A
5. Special Assessments are outstanding on a parcel or parcels owned by me in the City of Beacon — N/A
6. ALL Special Assessments due to the City of Beacon on any parcel owned by me are current — X

Signature of Owner
By: Sean O'Donnell

President, O'Donnell Construction Corp.

Title if owner is corporation

Office Use Only:

	NO	YES	Initial
Applicant has violations pending for ANY parcel owned within the City of Beacon (Building Dept.)	___	___	___
ALL taxes are current for properties in the City of Beacon are current (Tax Dept.)	___	___	___
ALL Special Assessments, i.e. water, sewer, fines, etc. are current (Water Billing)	___	___	___

CITY OF BEACON
SITE PLAN SPECIFICATION FORM

Name of Application: 364 Main Street – Application for Site Plan & Special Permit Approval

PLEASE INDICATE WHETHER THE SITE PLAN DRAWINGS SHOW THE SUBJECT INFORMATION BY PLACING A CHECK MARK IN THE APPROPRIATE BOXES BELOW.		
	YES	**NO**
The site plan shall be clearly marked "Site Plan", it shall be prepared by a legally certified individual of firm, such as a Registered Architect or Professional Engineer, and it shall contain the following information:	✓	
LEGAL DATA		
Name and address of the owner of record.	✓	
Name and address of the applicant (if other than the owner).	✓	
Name and address of person, firm or organization preparing the plan.	✓	
Date, north arrow, and written and graphic scale.		
NATURAL FEATURES		
Existing contours with intervals of two (2) feet, referred to a datum satisfactory to the Planning Board.	✓	
Approximate boundaries of any areas subject to flooding or stormwater overflows.	✓	
Location of existing watercourses, wetlands, wooded areas, rock outcrops, isolated trees with a diameter of eight (8) inches or more measured three (3) feet above the base of the trunk, and any other significant existing natural features.	✓	
EXISTING STRUCTURES, UTILITIES, ETC.		
Outlines of all structures and the location of all uses not requiring structures. Paved areas, sidewalks, and vehicular access between the site and public streets.	✓	
Locations, dimensions, grades, and flow direction of any existing sewers, culverts, water lines, as well as other underground and above ground utilities within and adjacent to the property.	✓	
Other existing development, including fences, retaining walls, landscaping, and screening.	✓	
Sufficient description or information to define precisely the boundaries of the property.	✓	
The owners of all adjoining lands as shown on the latest tax records.	✓	
The locations, names, and existing widths of adjacent streets and curb lines.	✓	
Location, width, and purpose of all existing and proposed easements, setbacks, reservations, and areas dedicated to private or public use within or adjacent to the properties.	✓	

PROPOSED DEVELOPMENT	YES	NO
The location, use and design of proposed buildings or structural improvements.	✓	
The location and design of all uses not requiring structures, such as outdoor storage (if permitted), and off-street parking and unloading areas.	✓	
Any proposed division of buildings into units of separate occupancy.	✓	
The location, direction, power, and time of use for any proposed outdoor lighting.	✓	
The location and plans for any outdoor signs.	✓	
The location, arrangement, size(s) and materials of proposed means of ingress and egress, including sidewalks, driveways, or other paved areas.	✓	
Proposed screening and other landscaping including a planting plan and schedule prepared by a qualified individual or firm.	✓	
The location, sizes and connection of all proposed water lines, valves, and hydrants and all storm drainage and sewer lines, culverts, drains, etc.	✓	
Proposed easements, deed restrictions, or covenants and a notation of any areas to be dedicated to the City.	✓	
Any contemplated public improvements on or adjoining the property.		✓
Any proposed new grades, indicating clearly how such grades will meet existing grades of adjacent properties or the street.	✓	
Elevations of all proposed principal or accessory structures.	✓	
Any proposed fences or retaining walls.	✓	
MISCELLANEOUS		
A location map showing the applicant's entire property and adjacent properties and streets, at a convenient scale.	✓	
Erosion and sedimentation control measures.	✓	
A schedule indicating how the proposal complies with all pertinent zoning standards, including parking and loading requirements.	✓	
An indication of proposed hours of operation.		✓
If the site plan only indicates a first stage, a supplementary plan shall indicate ultimate development.		✓

For all items marked "NO" above, please explain below why the required information has not been provided:

Please See Attached Project Application Narrative

Applicant/Sponsor Name: O'Donnell Construction Corp.

Signature: _____ By: Sean O'Donnell, President

Date: 11/30/2021

FOR OFFICE USE ONLY
Application #

CITY OF BEACON
1 Municipal Plaza, Beacon, NY
Telephone (845) 838-5000 • http://cityofbeacon.org/

INDIVIDUAL DISCLOSURE FORM

(This form must accompany every land use application and every application for a building permit or certificate of occupancy submitted by any person(s))

Disclosure of the names and addresses of all persons) filing a land-use application with the City is required pursuant to Section 223-62 of the City Code of the City of Beacon. Applicants shall submit supplemental sheets for any additional information that does not fit within the below sections, identifying the Section being supplemented.

SECTION A

Name of Applicant: O'Donnell Construction Corp.

Address of Applicant: P.O. Box 526, Fishkill, NY 12524

Telephone Contact Information: 845-590-0622

SECTION B. List all owners of record of the subject property or any part thereof.

Name	Residence or Business Address	Telephone Number	Date and Manner title was acquired	Date and place where the deed or document of conveyance was recorded or filed.
O'Donnell Construction Corp.	P.O. Box 526, Fishkill, NY 12524	845-590-0622	3/6/2017 Deed	3/16/2017 Dutchess County Clerk's Office

SECTION B. Is any owner of record an officer, elected or appointed, or employee of the City of Beacon or related, by marriage or otherwise, to a City Council member, planning board member, zoning board of appeals member or employee of the City of Beacon ?

☐ **YES** ☒ **NO**

If yes, list every Board, Department, Office, agency or other position with the City of Beacon with which a party has a position, unpaid or paid, or relationship and identify the agency, title, and date of hire.

Agency	Title	Date of Hire, Date Elected, or Date Appointed	Position or Nature of Relationship

SECTION C. If the applicant is a contract vendee, a duplicate original or photocopy of the full and complete contract of purchase, including all riders, modification and amendments thereto, shall be submitted with the application.

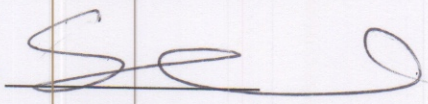
SECTION D. Have the present owners entered into a contract for the sale of all or any part of the subject property and, if in the affirmative, please provide a duplicate original or photocopy of the fully and complete contract of sale, including all riders, modifications and amendments thereto.

[X] **YES** [ ] **NO**

I, Sean O'Donnell being first duly sworn, according to law, deposes and says that the statements made herein are true, accurate, and complete.

O'Donnell Construction Corp.

(Print) By: Sean O'Donnell, President

(Signature) 

FOR OFFICE USE ONLY
Application #

CITY OF BEACON
1 Municipal Plaza, Beacon, NY
Telephone (845) 838-5000 • http://cityofbeacon.org/

ENTITY DISCLOSURE FORM

(This form must accompany every land use application and every application for a building permit or certificate of occupancy submitted by any entity)

Disclosure of the names and addresses of all persons or entities owning any interest or controlling position of any Limited Liability Company, Partnership, Limited Partnership, Joint Venture, Corporation or other business entity (hereinafter referred to as the "Entity") filing a land-use application with the City is required pursuant to Section 223-61.4 of the City Code of the City of Beacon. If any Member of the Entity is not a natural person, then the names and addresses as well as all other information sought herein must be supplied about the non-natural person member of that Entity, including names, addresses and Formation filing documents. Applicants shall submit supplemental sheets for any additional information that does not fit within the below sections, identifying the Section being supplemented.

SECTION A.

IF AFFIANT IS A PARTNERSHIP, JOINT VENTURE OR OTHER BUSINESS ENTITY, EXCEPT A CORPORATION:

Name of Entity	Address of Entity
Place where such business entity was created	Official Registrar's or Clerk's office where the documents and papers creating entity were filed
Date such business entity or partnership was created	Telephone Contact Information

IF AFFIANT IS A CORPORATION:

Name of Entity O'Donnell Construction Corp.	Telephone Contact Information 845-590-0622
Principal Place of Business of Entity P.O. Box 526, Fishkill, NY 12524	Place and Date of incorporation New York New York State Dept. of State (7/20/1995)
Method of Incorporation Domestic Business Corporation	Official place where the documents and papers of incorporation were filed New York State Dept. of State

SECTION B. List all persons, officers, limited or general partners, directors, members, shareholders, managers, and any others with any interest, mortgage, encumbrance or other interest (recorded or unrecorded) in or with the above referenced

Entity. List all persons to whom corporate stock has been pledged, mortgaged or encumbered and with whom any agreement has been made to pledge, mortgage or encumber said stock. Use a supplemental sheet to list additional persons.

Name	Resident Address	Resident Telephone Number	Nature and Extent of Interest
Sean O'Donnell	P.O. Box 526, Fishkill, New York 12524	845-590-0622	100%

SECTION C. List all owners of record of the subject property or any part thereof.

Name	Residence or Business Address	Telephone Number	Date and Manner title was acquired	Date and place where the deed or document of conveyance was recorded or filed.
O'Donnell Construction Corp.	P.O. Box 526, Fishkill, NY 12524		3/6/2017 Deed	3/16/2017 Dutchess County Clerk's Office

SECTION D. Is any owner, of record or otherwise, an officer, director, stockholder, agent or employee of any person listed in Section B-C?

☐ **YES** ☒ **NO**

Name	**Employer**	**Position**

SECTION E. Is any party identified in Sections A- C an officer, elected or appointed, or employee of the City of Beacon or related, by marriage or otherwise, to a City Council member, planning board member, zoning board of appeals member or employee of the City of Beacon ?

☐ **YES** ☒ **NO**

If yes, list every Board, Department, Office, agency or other position with the City of Beacon with which a party has a position, unpaid or paid, or relationship and identify the agency, title, and date of hire.

Agency	**Title**	**Date of Hire, Date Elected, or Date Appointed**	**Position or Nature of Relationship**

SECTION F. Was any person referred to in Sections A-D known by any other name within five (5) years preceding the date of the application?

☐ **YES** ☒ **NO**

Current Name	**Other Names**

SECTION G. List the names and addresses of each person, business entity, partnership and corporation in the chain of title of the subject premises for the five (5) years next preceding the date of the application.

Name	**Address**
O'Donnell Construction Corp.	P.O. Box 526, Fishkill, New York 12524
CRE JV Five Branch Holdings LLC	C/o Grammercy Property Trust, 90 Park Avenue, 32nd Floor, New York, NY 10016

SECTION H. If the applicant is not a record owner of the subject property, describe the applicant's interest in the subject property and the relationship the applicant has to the record owner(s) of the subject property.

N/A

SECTION I. If the applicant is a contract vendee, a duplicate original or photocopy of the full and complete contract of purchase, including all riders, modification and amendments thereto, shall be submitted with the application. Any sensitive or confidential information may be redacted from the contract prior to production.

SECTION J.

1. Where the record owner or contract vendee is a corporation, the following additional information shall be submitted**:**

Name of the Corporation O'Donnell Construction Corp.	Telephone Contact Information 845-590-0622
Principal Business Address P.O. Box 526, Fishkill, New York 12524	Place and Date of Incorporation New York State Dept. of State (7/20/1995)
Method of Incorporation Domestic Business Corporation	Official place where the documents and papers of incorporation were filed New York Dept. of State

2. Please provide the following information for every incorporator, officer, director and shareholder of the corporation.

Name	**Residence or business address**	**Telephone number**
Sean O'Donnell	P.O. Box 526, Fishkill, New York 12524	845-590-0622

3. Have any shares of the stock of the corporation or of any stockholder been pledged, mortgaged or encumbered?

☐ **YES** ☒ **NO** (X)

If so, please list the name and address of each person having, holding, owning or claiming any such interest.

Name	**Address**

SECTION K. Have the present owners entered into a contract for the sale of all or any part of the subject property and, if in the affirmative, please provide a duplicate original or photocopy of the fully and complete contract of sale, including all riders, modifications and amendments thereto.

☐ YES ☒ NO

I, Sean O'Donnell being first duly sworn, according to law, deposes and says that I am (Title) President, an active and qualified member of O'Donnell Construction Corp., a business duly authorized by law to dobusiness in the State of New York, and that the statements made herein are true, accurate, and complete.

O'Donnell Construction Corp.

(Print) By: Sean O'Donnell, President

(Signature) _____

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the applicant or project sponsor to verify that the information contained in Part 1is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project: 364 MAIN STREET - APPLICATION FOR SITE PLAN, SPECIAL USE PERMIT, AND SUBDIVISION APPROVAL		
Project Location (describe, and attach a general location map): 364 MAIN STREET, BEACON, NEW YORK 12508		
Brief Description of Proposed Action (include purpose or need): Application for Site Plan, Special Use Permit, and Subdivision Approval proposing to add two (2) stories to an existing one (1)-story commercial building and to construct a three (3)-story addition to the rear and a one (1) story addition to the west of the same building for a commercial and multi-family residential mixed-use building fronting on Main Street. The first story will consist of 8,794 s.f. of commercial space and 1,729 s.f. of residential common area space. The second and third floors will include a total of 24,574 s.f. of multi-family residential space, consisting of 20 apartments with 31 total bedrooms. The property is presently comprised of two (2) lots, and the site will provide off-street parking facilities with driveway connections to Main Street and Eliza Street.		
Name of Applicant/Sponsor: O'DONNELL CONSTRUCTION CORP.	Telephone: 845-590-0622 E-Mail: SEANEO64@GMAIL.COM	
Address: P.O. BOX 526		
City/PO: FISHKILL	State: NEW YORK	Zip Code: 12524
Project Contact (if not same as sponsor; give name and title/role): TAYLOR M. PALMER, ESQ., - CUDDY & FEDER LLP - ATTORNEY FOR APPLICANT	Telephone: 914-761-1300 E-Mail: TPALMER@CUDDYFEDER.COM	
Address: 300 WESTAGE BUSINESS CENTER, SUITE 300		
City/PO: FISHKILL	State: NEW YORK	Zip Code: 12524
Property Owner (if not same as sponsor): SAME	Telephone: E-Mail:	
Address:		
City/PO:	State:	Zip Code:

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)

Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Counsel, Town Board, or Village Board of Trustees ☐Yes ☑No		
b. City, Town or Village Planning Board or Commission ☑Yes ☐No	PB- SITE PLAN, SPECIAL USE PERMIT PB - SUBDIVISION	05/25/2021 AMENDED 11/30/2021 8/31/2021
c. City, Town or Village Zoning Board of Appeals ☐Yes ☑No		
d. Other local agencies ☑Yes ☐No	BUILDING DEPARTMENT- BUILDING PERMIT	03/1/2022
e. County agencies ☐Yes ☑No		
f. Regional agencies ☐Yes ☑No		
g. State agencies ☐Yes ☑No		
h. Federal agencies ☐Yes ☑No		

i. Coastal Resources.

i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☐Yes ☑No

ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☑Yes ☐No

iii. Is the project site within a Coastal Erosion Hazard Area? ☐Yes ☑No

C. Planning and Zoning

C.1. Planning and zoning actions.

Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? ☐Yes ☑No

- **If Yes,** complete sections C, F and G.
- **If No,** proceed to question C.2 and complete all remaining sections and questions in Part 1

C.2. Adopted land use plans.

a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located? ☑Yes ☐No

If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located? ☑Yes ☐No

b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway; Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) ☐Yes ☑No

If Yes, identify the plan(s):

_____

_____

_____

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? ☐Yes ☑No

If Yes, identify the plan(s):

_____

_____

_____

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☑ Yes ☐ No
If Yes, what is the zoning classification(s) including any applicable overlay district?
CMS - CENTRAL MAIN STREET DISTRICT & T - TRANSITIONAL DISTRICT.

b. Is the use permitted or allowed by a special or conditional use permit? ☑ Yes ☐ No

c. Is a zoning change requested as part of the proposed action? ☐ Yes ☑ No
If Yes,
i. What is the proposed new zoning for the site? _____

C.4. Existing community services.

a. In what school district is the project site located? BEACON CITY SCHOOL DISTRICT

b. What police or other public protection forces serve the project site?
CITY OF BEACON POLICE

c. Which fire protection and emergency medical services serve the project site?
CITY OF BEACON FIRE DEPARTMENT

d. What parks serve the project site?
MOUNT BEACON, GREEN STREET PARK, MEMORIAL PARK.

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? COMMERCIAL, RESIDENTIAL MIXED USES.

b. a. Total acreage of the site of the proposed action? 0.85 acres
b. Total acreage to be physically disturbed? 0.54 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 0.85 acres

c. Is the proposed action an expansion of an existing project or use? ☑ Yes ☐ No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % 25.1-increased 1,763 sq.ft. Units: non-residential sq. ft.

d. Is the proposed action a subdivision, or does it include a subdivision? ☑ Yes ☐ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)
COMMERCIAL, RESIDENTIAL
ii. Is a cluster/conservation layout proposed? ☐ Yes ☑ No
iii. Number of lots proposed? 1
iv. Minimum and maximum proposed lot sizes? Minimum 0.85 AC Maximum 0.85 AC

e. Will the proposed action be constructed in multiple phases? ☐ Yes ☑ No
i. If No, anticipated period of construction: 12 months
ii. If Yes:
- Total number of phases anticipated _____
- Anticipated commencement date of phase 1 (including demolition) _____ month _____ year
- Anticipated completion date of final phase _____ month _____year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

f. Does the project include new residential uses? ☑ Yes ☐ No

If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase				20
At completion of all phases				20

g. Does the proposed action include new non-residential construction (including expansions)? ☑ Yes ☐ No

If Yes,

i. Total number of structures 1

ii. Dimensions (in feet) of largest proposed structure: 38' height; 89.0' width; and 152' length

iii. Approximate extent of building space to be heated or cooled: 31,616 square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ☐ Yes ☑ No

If Yes,

i. Purpose of the impoundment: _____

ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☐ Other specify:

_____

iii. If other than water, identify the type of impounded/contained liquids and their source.

_____

iv. Approximate size of the proposed impoundment. Volume: _____ million gallons; surface area: _____ acres

v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length

vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete):

_____

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? (Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite) ☐ Yes ☑ No

If Yes:

i .What is the purpose of the excavation or dredging? _____

ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?

- Volume (specify tons or cubic yards): _____
- Over what duration of time? _____

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them.

_____

_____

i*v.* Will there be onsite dewatering or processing of excavated materials? ☐ Yes ☐ No

If yes, describe. _____

_____

v. What is the total area to be dredged or excavated? _____acres

vi. What is the maximum area to be worked at any one time? _____ acres

vii. What would be the maximum depth of excavation or dredging? _____ feet

viii. Will the excavation require blasting? ☐ Yes ☐ No

ix. Summarize site reclamation goals and plan: _____

_____

_____

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ☐ Yes ☑ No

If Yes:

i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): _____

_____

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:

_____

_____

_____

_____

iii. Will the proposed action cause or result in disturbance to bottom sediments? ☐ Yes ☐ No

If Yes, describe: _____

iv. Will the proposed action cause or result in the destruction or removal of aquatic vegetation? ☐ Yes ☐ No

If Yes:

- acres of aquatic vegetation proposed to be removed: _____
- expected acreage of aquatic vegetation remaining after project completion: _____
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access): _____

_____

- proposed method of plant removal: _____
- if chemical/herbicide treatment will be used, specify product(s): _____

v. Describe any proposed reclamation/mitigation following disturbance: _____

_____

c. Will the proposed action use, or create a new demand for water? ☑ Yes ☐ No

If Yes:

i. Total anticipated water usage/demand per day: 4,355.1 gallons/day

ii. Will the proposed action obtain water from an existing public water supply? ☑ Yes ☐ No

If Yes:

- Name of district or service area: CITY OF BEACON
- Does the existing public water supply have capacity to serve the proposal? ☑ Yes ☐ No
- Is the project site in the existing district? ☑ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☑ No
- Do existing lines serve the project site? ☑ Yes ☐ No

iii. Will line extension within an existing district be necessary to supply the project? ☐ Yes ☑ No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____

_____

- Source(s) of supply for the district: _____

iv. Is a new water supply district or service area proposed to be formed to serve the project site? ☐ Yes ☑ No

If, Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- Proposed source(s) of supply for new district: _____

v. If a public water supply will not be used, describe plans to provide water supply for the project: _____

_____

vi. If water supply will be from wells (public or private), what is the maximum pumping capacity: _____ gallons/minute.

d. Will the proposed action generate liquid wastes? ☑ Yes ☐ No

If Yes:

i. Total anticipated liquid waste generation per day: 4,355.1 gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each): _____

SANITARY WASTEWATER

_____

iii. Will the proposed action use any existing public wastewater treatment facilities? ☑ Yes ☐ No

If Yes:

- Name of wastewater treatment plant to be used: CITY OF BEACON WASTEWATER TREATMENT PLANT
- Name of district: CITY OF BEACON
- Does the existing wastewater treatment plant have capacity to serve the project? ☑ Yes ☐ No
- Is the project site in the existing district? ☑ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☑ No

- Do existing sewer lines serve the project site? ☑ Yes ☐ No
- Will a line extension within an existing district be necessary to serve the project? ☐ Yes ☑ No

  If Yes:
  - Describe extensions or capacity expansions proposed to serve this project: _____

_____

_____

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? ☐ Yes ☑ No

If Yes:
- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- What is the receiving water for the wastewater discharge? _____

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge or describe subsurface disposal plans):

_____

_____

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____

_____

_____

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? ☐ Yes ☑ No

If Yes:

i. How much impervious surface will the project create in relation to total size of project parcel?

_____ Square feet or _____ acres (impervious surface)

_____ Square feet or _____ acres (parcel size)

ii. Describe types of new point sources. _____

_____

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?

_____

_____

- If to surface waters, identify receiving water bodies or wetlands: _____

_____

_____

- Will stormwater runoff flow to adjacent properties? ☐ Yes ☐ No

iv. Does the proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? ☐ Yes ☐ No

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? ☐ Yes ☑ No

If Yes, identify:

i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)

_____

ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)

_____

iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

_____

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? ☐ Yes ☑ No

If Yes:

i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) ☐ Yes ☐ No

ii. In addition to emissions as calculated in the application, the project will generate:
- _____Tons/year (short tons) of Carbon Dioxide (CO_2)
- _____Tons/year (short tons) of Nitrous Oxide (N_2O)
- _____Tons/year (short tons) of Perfluorocarbons (PFCs)
- _____Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- _____Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- _____Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? ☐Yes ☑No

If Yes:

i. Estimate methane generation in tons/year (metric): _____

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____

_____

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? ☐Yes ☑No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):

_____

_____

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? ☐Yes ☑No

If Yes:

i. When is the peak traffic expected (Check all that apply): ☐ Morning ☐ Evening ☐Weekend ☐ Randomly between hours of _____ to _____.

ii. For commercial activities only, projected number of truck trips/day and type (e.g., semi trailers and dump trucks): _____

_____

iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____

iv. Does the proposed action include any shared use parking? ☐Yes ☐No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe:

_____

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☐Yes ☐No

vii Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? ☐Yes ☐No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? ☐Yes ☐No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? ☑Yes ☐No

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: _____

TBD

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other):

CENTRAL HUDSON GAS AND ELECTRIC CO.

iii. Will the proposed action require a new, or an upgrade, to an existing substation? ☐Yes ☑No

l. Hours of operation. Answer all items which apply.

i. During Construction:

- Monday - Friday: 7 AM - 5 PM
- Saturday: 9 AM - 5 PM
- Sunday: 9 AM - 5 PM
- Holidays: N/A

ii. During Operations:

- Monday - Friday: TBD
- Saturday: TBD
- Sunday: TBD
- Holidays: TBD

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☑ Yes ☐ No

If yes:

i. Provide details including sources, time of day and duration:

Ambient noise levels will increase slightly during construction only.

ii. Will the proposed action remove existing natural barriers that could act as a noise barrier or screen? ☐ Yes ☑ No

Describe: _____

n. Will the proposed action have outdoor lighting? ☑ Yes ☐ No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures: See Lighting Plan

There will be building mounted lighting over entry/exit doors on the building, as well as light poles in the parking area. The closest light pole to the nearest occupied structure is approximately 50'. The light fixtures will be shieled LED, which will comply with the City's requirements for light spill.

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? ☐ Yes ☑ No

Describe: _____

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☐ Yes ☑ No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: _____

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☐ Yes ☑ No

If Yes:

i. Product(s) to be stored _____

ii. Volume(s) _____ per unit time _____ (e.g., month, year)

iii. Generally, describe the proposed storage facilities: _____

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? ☐ Yes ☑ No

If Yes:

i. Describe proposed treatment(s):

ii. Will the proposed action use Integrated Pest Management Practices? ☐ Yes ☐ No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☑ Yes ☐ No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: 1.0 tons per MONTH (unit of time)
- Operation : 0.3 tons per MONTH (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction: RECYCLING
- Operation: RECYCLING

iii. Proposed disposal methods/facilities for solid waste generated on-site:

- Construction: APPROVED CONTRACTOR TO AN APROVED SITE
- Operation: APPROVED CONTRACTOR TO AN APPROVED SITE

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will the proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No

If Yes: provide name and location of facility: _____

If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility:

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

☑ Urban ☐ Industrial ☑ Commercial ☐ Residential (suburban) ☐ Rural (non-farm)
☐ Forest ☐ Agriculture ☐ Aquatic ☑ Other (specify): RESIDENTIAL - MULTIFAMILY

ii. If mix of uses, generally describe:

MIXED USES CONSISTENT WITH MAIN STREET AND THE SURROUNDING CMS AND TRANSITIONAL DISTRICTS.

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	0.85	0.82	-0.03
• Forested	0	0	0
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	0	0	0
• Agricultural (includes active orchards, field, greenhouse etc.)	0	0	0
• Surface water features (lakes, ponds, streams, rivers, etc.)	0	0	0
• Wetlands (freshwater or tidal)	0	0	0
• Non-vegetated (bare rock, earth or fill)	0	0	0
• Other Describe: LANDSCAPING	0	0.03	+0.03

c. Is the project site presently used by members of the community for public recreation? ☐ Yes ☑ No

i. If Yes: explain: _____

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? ☐ Yes ☑ No

If Yes,

i. Identify Facilities:

CITY OF BEACON HIGH SCHOOL ATHLETIC FIELDS.

e. Does the project site contain an existing dam? ☐ Yes ☑ No

If Yes:

i. Dimensions of the dam and impoundment:

- Dam height: _____ feet
- Dam length: _____ feet
- Surface area: _____ acres
- Volume impounded: _____ gallons OR acre-feet

ii. Dam's existing hazard classification: _____

iii. Provide date and summarize results of last inspection:

_____

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Has the facility been formally closed? ☐ Yes ☐ No

- If yes, cite sources/documentation: _____

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:

_____

iii. Describe any development constraints due to the prior solid waste activities: _____

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:

_____

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☐ Yes ☑ No

If Yes:

i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☐ Yes ☑ No

☐ Yes – Spills Incidents database Provide DEC ID number(s): _____

☐ Yes – Environmental Site Remediation database Provide DEC ID number(s): _____

☐ Neither database

ii. If site has been subject of RCRA corrective activities, describe control measures:_____

_____

iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☑ Yes ☐ No

If yes, provide DEC ID number(s): B00130, C314118

iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):

C314118 IS LOCATED AT 1 EAST MAIN STREET ACCORDING TO THE DATABASE, AND IS A CLASS N SITE. B00130 IS LOCATED AT 33 NORTH CEDAR STREET, AND IS A CLASS C SITE. THIS SITE HAS BEEN REMEDIATED.

v. Is the project site subject to an institutional control limiting property uses? ☐ Yes ☑ No

- If yes, DEC site ID number: _____
- Describe the type of institutional control (e.g., deed restriction or easement): _____
- Describe any use limitations: _____
- Describe any engineering controls: _____
- Will the project affect the institutional or engineering controls in place? ☐ Yes ☐ No
- Explain: _____

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? GREATER THAN 7.0 feet

b. Are there bedrock outcroppings on the project site? ☐ Yes ☑ No
If Yes, what proportion of the site is comprised of bedrock outcroppings? _____%

c. Predominant soil type(s) present on project site:

KuB-KNICKERBOCKER-URBAN	12.6 %
Ur-URBAN LAND	87.4 %
	%

d. What is the average depth to the water table on the project site? Average: >5' feet

e. Drainage status of project site soils:
☐ Well Drained: _____% of site
☐ Moderately Well Drained: _____% of site
☑ Poorly Drained 100 % of site

f. Approximate proportion of proposed action site with slopes:
☑ 0-10%: 100 % of site
☐ 10-15%: _____% of site
☐ 15% or greater: _____% of site

g. Are there any unique geologic features on the project site? ☐ Yes ☑ No
If Yes, describe: _____

h. Surface water features.

i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? ☐ Yes ☑ No

ii. Do any wetlands or other waterbodies adjoin the project site? ☐ Yes ☑ No

If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.

iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? ☐ Yes ☑ No

iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name _____ Classification _____
- Lakes or Ponds: Name _____ Classification _____
- Wetlands: Name _____ Approximate Size _____
- Wetland No. (if regulated by DEC) _____

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☐ Yes ☑ No

If yes, name of impaired water body/bodies and basis for listing as impaired: _____

i. Is the project site in a designated Floodway? ☐ Yes ☑ No

j. Is the project site in the 100-year Floodplain? ☐ Yes ☑ No

k. Is the project site in the 500-year Floodplain? ☐ Yes ☑ No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☐ Yes ☑ No
If Yes:

i. Name of aquifer: _____

m. Identify the predominant wildlife species that occupy or use the project site:
BIRDS SQUIRRELS
SMALL MAMMALS
RACCOON

n. Does the project site contain a designated significant natural community? ☐ Yes ☑ No
If Yes:
i. Describe the habitat/community (composition, function, and basis for designation): _____
ii. Source(s) of description or evaluation: _____
iii. Extent of community/habitat:
- Currently: _____ acres
- Following completion of project as proposed: _____ acres
- Gain or loss (indicate + or -): _____ acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☑ Yes ☐ No

If Yes:
i. Species and listing (endangered or threatened):
Indiana Bat

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☐ Yes ☑ No

If Yes:
i. Species and listing:

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☐ Yes ☑ No
If yes, give a brief description of how the proposed action may affect that use: _____

E.3. Designated Public Resources On or Near Project Site

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐ Yes ☑ No
If Yes, provide county plus district name/number: _____

b. Are agricultural lands consisting of highly productive soils present? ☐ Yes ☑ No
i. If Yes: acreage(s) on project site? _____
ii. Source(s) of soil rating(s): _____

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐ Yes ☑ No
If Yes:
i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature
ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐ Yes ☑ No
If Yes:
i. CEA name: _____
ii. Basis for designation: _____
iii. Designating agency and date: _____

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places? ☑ Yes ☐ No

If Yes:

i. Nature of historic/archaeological resource: ☐ Archaeological Site ☑ Historic Building or District

ii. Name: Eligible property:EMPIRE NAT. BANK, Eligible property:ROOSA COMMERCIAL, Eligible property:STAVROS COMMERCIAL, Eligibl...

iii. Brief description of attributes on which listing is based:

AUTO-FILLED BY THE EAF MAPPER. PROPERTY IS NOT LOCATED IN THE CITY'S HISTORIC DISTRICT AND LANDMARK OVERLAY DISTRICT.

f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory? ☑ Yes ☐ No

g. Have additional archaeological or historic site(s) or resources been identified on the project site? ☐ Yes ☑ No

If Yes:

i. Describe possible resource(s): _____

ii. Basis for identification: _____

h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? ☑ Yes ☐ No

If Yes:

i. Identify resource: MOUNT BEACON, HUDSON RIVER, LONG DOCK PARK.

ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): STATE OR LOCAL PARK

iii. Distance between project and resource: 1.5 miles.

i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? ☐ Yes ☑ No

If Yes:

i. Identify the name of the river and its designation: _____

ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666? ☐ Yes ☐ No

F. Additional Information

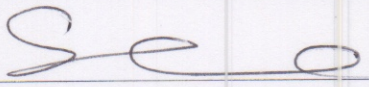
Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

I certify that the information provided is true to the best of my knowledge.

Applicant/Sponsor Name O'DONNELL CONSTRUCTION CORP. Date 11/30/2021

Signature  BY: SEAN O'DONNELL Title MANAGING MEMBER

PRINT FORM



Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.



B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	Yes
C.2.b. [Special Planning District]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.iii [Within 2,000' of DEC Remediation Site]	Yes
E.1.h.iii [Within 2,000' of DEC Remediation Site - DEC ID]	B00130, C314118
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	No
E.2.h.ii [Surface Water Features]	No
E.2.h.iii [Surface Water Features]	No
E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	No
E.2.k. [500 Year Floodplain]	No
E.2.l. [Aquifers]	No
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	Yes

E.2.o. [Endangered or Threatened Species - Name]	Indiana Bat
E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National or State Register of Historic Places or State Eligible Sites]	Yes - Digital mapping data for archaeological site boundaries are not available. Refer to EAF Workbook.
E.3.e.ii [National or State Register of Historic Places or State Eligible Sites - Name]	Eligible property:EMPIRE NAT. BANK, Eligible property:ROOSA COMMERCIAL, Eligible property:STAVROS COMMERCIAL, Eligible property:ANGELO COMMERCIAL, Eligible property:DUMKE COMMERCIAL, Eligible property:Memorial Building, Brett, Madam Catharyna, Homestead, US Post Office--Beacon
E.3.f. [Archeological Sites]	Yes
E.3.i. [Designated River Corridor]	No

LANC & TULLY

ENGINEERING AND SURVEYING, P.C.

John J. O'Rourke, P.E., Principal
David E. Higgins, P.E., Principal
John Queenan, P.E., Principal
Rodney C. Knowlton, L.S., Principal
Jerry A. Woods, L.S., Principal
John D. Russo, P.E., Principal
John Lanc, P.E., L.S.
Arthur R. Tully, P.E.

December 8, 2021

Mr. John Gunn
Beacon Planning Board Chair
City of Beacon
1 Municipal Plaza
Beacon, NY 12508

RE: 364 Main Street
Tax No. 6054-29-006819
Subdivision & Site Plan
City of Beacon

Dear Mr. Gunn:

My office has received the following in regard to the above application:

- Correspondence dated November 30, 2021, from Taylor Palmer, Esq. of Cuddy & Feder, LLP.
- Correspondence dated November 27, 2021, from Day/Stokosa Engineering, regarding stormwater runoff.
- Response correspondence dated November 30, 2021, from Aryeh Siegel, Architect.
- Response correspondence dated November 27, 2021, from Day/Stokosa Engineering.
- Response correspondence dated November 29, 2021, from Colliers Engineering.
- Plans titled "364 Main Street", consisting of Sheets 1 through 5 of 12 with the latest revision date of November 30, 2021, as prepared by Aryeh Siegel, Architect and Landscape Restorations; Sheets 6 through 12 of 12 with the latest revision date of November 27, 2021, as prepared by Day & Stokosa Engineering.

The proposed project is comprised of two parcels, totaling 0.85± acres, with the main parcel being located on Main Street and the 2nd parcel be located on Eliza Street. The parcel on Main Street is located in the "CMS" (Central Main Street) zoning district, whereas the parcel on Eliza Street is located within the "T" (Transitional) zoning district. The applicant is seeking to merge the 2 parcels into a single parcel at this time, and to develop a mixed-use commercial and multi-family residential development, with commercial space (8,794 sf) and a residential common area (1,729 sf) on the 1st floor, and 20 residential apartments to be located on the 2nd and 3rd, floors totaling 24,574 square feet.

Based on our review of the above documents and plans, we would like to offer the following comments:

General Comments:

1. The applicant's engineer has provided a correspondence with regard to drainage from the site based upon comments raised at the last planning board meeting. The applicant's consultant has noted that the amount of impervious area is being reduced so that landscaping can be provided, as well as the roof of the building being connected to the City's drainage system to reduce the amount of runoff from the site. We would request that additional spot elevations and topography be shown on the plans for the existing parking lot site to the north, especially along the northern edge of the parking lot, to verify how the site drains. Based upon the limited spot elevations and topography provided, it appears that the northern portion of the parking lot, and that of the proposed snow storage area, will continue to drain towards the neighboring parcels. The applicant should consider providing additional storm drainage on the site to convey stormwater runoff to the City's storm drainage system to further reduce drainage impacts on the neighboring parcel.

2. The 7 sheets prepared by Day/Stokosa Engineering shall be labeled as Sheet 6 of 12 through Sheet 12 of 12, so as to coordinate all sheets within the 12-sheet set.

Site Plan – Sheet 1 of 12:

1. The "Parking and Loading" table shall be revised to reflect the actual square footage of the commercial area.

2. The "Bulk Zoning" table shall be revised to reflect the actual square footage of "Proposed Floor Area".

3. The "Revisions" table on the left side of the sheet should be relocated, as it is covering up the call out for a traffic sign.

4. As signage is represented on this sheet, the required signage for the accessible parking shall also be provided on this sheet.

Existing Conditions Plan – Sheet 2 of 12:

1. The plan shall be updated to provide additional topography and spot elevations along the existing parking lot off of Eliza Street, especially along the north side of the parking lot, as requested in Comment No. 1 under General Comments above.

Building Plans – Sheet 4 of 12:

1. We would recommend that a table be provided on this sheet that lists out the area of the commercial space, non-commercial area on the 1st floor, and the area of the 2nd and 3rd floor residential areas.

Building Elevations Plan – Sheet 5 of 12:

1. The "Main Street" views shall be updated to reflect the building setback and green areas in front of the building as shown on Sheet 1 of 12.

Utility Plan – Sheet 6 of 12 (UP.1):

1. The Beacon Water Department is requesting that the 2" domestic water service line that is being tapped off of the proposed 4" line outside of the building be actually tapped off the 4" line inside the building to reduce the number of fitting and connections on the buried 4" water line. This will also allow for easier future maintenance of the 2" domestic water line without excavation of the sidewalks in front of the building if repair work is required on this line.

Construction Details – Sheet 8 of 12:

1. A "Bike Rack" detail is included on the plan sheet, but there were not bike racks noted on the site plan. If bike racks are to be located on the site, then they shall be shown on the site plan. If bike racks are no longer proposed, then the details shall be removed from the plan.

Construction Details – Sheet 9 of 12:

1. The pavement sections listed in the "Pavement Section" detail and "Utility Trench" detail shall be revised to reflect a 1.5" top course, 3" binder course and a 3" base course. It should be further noted that portions of Main Street have concrete under the asphalt, and that the overall pavement thickness shall be increased in these areas to the thickness of the concrete plus the asphalt.

Construction Details – Sheet 10 of 12:

1. The profile shall be updated to reflect the actual vertical and horizontal scales, along with providing the actual separation distance between the exterior of the existing pipes and that of the proposed 4" water line to service the project.

Erosion & Sediment – Sheet 11 of 12:

1. The note on the left side of the building with regards to silt fence appears to be incomplete. The note shall be revised to reflect the full statement that was to be made.

Erosions & Control Details – Sheet 12 of 12:

1. The detail provided for the protection of the catch basin located in Main Street cannot be installed as depicted in the detail. Another method for protection of this catch basin, if required, shall be provided.

This completes our review at this time. Further comments may be provided based on future submissions. **A written response letter addressing each of the above comments should be provided with the next submission.** If you have any questions, or require any additional information, please do not hesitate to contact our office.

Very truly,

LANC & TULLY, P.C.

John Russo, P.E.

cc: John Clarke, Planner
Jennifer Gray, Esq.
David Buckley, Building Inspector

John Clarke Planning and Design jclarkeplandesign@gmail.com
845.797.4152

To: John Gunn, Chair, and the City of Beacon Planning Board
Date: December 9, 2021
Re: **364 Main Street Site Plan and Lot Merger Subdivision**

I have reviewed the November 30, 2021 cover letter from Cuddy+Feder, November 30, 2021 revised Site Plan Application, two November 27, 2021 response letters from Day Stokosa Engineering, November 30, 2021 response letter from Aryeh Siegel, November 30, 2021 Long EAF Part 1, November 29, 2021 traffic/parking response letter by Colliers Engineering and Design, and a 12-sheet set, with sheets 1-5 dated November 30, 2021 and sheets 6-12 dated November 27, 2021.

Proposal
The applicant is proposing to construct a 3-story, mixed-use building on a 0.54-acre parcel in the Central Main Street (CMS) district, including 9,451 square feet of first floor commercial and 20 apartments. An adjoining 0.31-acre parcel in the Transitional (T) district will be used for parking and merged into one combined lot by subdivision approval.

Comments and Recommendations
1. Future submissions should include a subdivision plan to merge the two lots. Also, both the cover letter and EAF refer to a Special Permit, which is no longer needed for the revised proposal.

2. The Sheet 1 parking table should have a commercial square footage that is consistent with the cover letter, EAF, and Sheet 4 floor plans.

3. The Planning Board has agreed in principle to the western addition's setback beyond the 10-foot maximum in the CMS district, since the area is landscaped and will enhance street life. The proposed landscaped area in front the of the western section should be shown in detail on the Sheet 3 Landscape Plan and benches/seating, bike racks, and perhaps a tree should be included.

4. On the Sheet 3 Landscape Plan, a tree at the Eliza Lot entrance is mislabeled. The Plan should also be updated to be consistent with the Sheet 1 Site Plan.

5. The one-way entrance drive from Main Street should be reduced to 10 feet wide up to the front of the building. The Board should decide whether the eastern landscaping strip should be on the west side of the driveway to help buffer the sidewalk.

6. The Board should request fencing along the north side of the Eliza Street parking lot.

7. For the Sheet 4 and 5 Building Plans:

    a. The floor plans and elevations show 5 storefront entrances, while the site plans only show 4.

    b. A roof plan should be included, indicating any tenant access space, mechanical equipment, stair and elevator bulkhead, green roof plantings, or solar panels.

    c. The architectural plans should be referred to the Architectural Review Subcommittee.

8. A Lighting Plan should be provided, including all exterior fixtures, heights, and listed specifications that demonstrate consistency with Section 223-14B.

If you have any questions or need additional information, please feel free to contact me.

John Clarke, Beacon Planning Consultant

c: Dave Buckley, Building Inspector
Jennifer L. Gray, Esq., City Attorney
Arthur R. Tully, P.E., City Engineer
John Russo, P.E., City Engineer
Taylor Palmer, Esq., Project Attorney
Aryeh Siegel, Project Architect

December 9, 2021

Mr. John Gunn, Chairman
Beacon Planning Board
City of Beacon City Hall
1 Municipal Plaza
Beacon, NY 12508

RE: **Site Plan, Traffic and Parking Study Review #3 for Proposed Commercial and Multi-family Mixed-use Redevelopment, 364 Main Street, City of Beacon, Dutchess County, New York; CM Project No. 121-295**

Dear Mr. Gunn:

Creighton Manning Engineering, LLP (CM) has performed a review of the documents enclosed in the "211130_364 Main Street Supplemental PB Submission" (Submittal Package). Since CM's second review letter, dated November 9, 2021, the project has been modified such that the commercial space on the first floor is 657 square feet smaller and the residential common area on the first floor is 208 square feet larger. Therefore, the proposed project now consists of an 8,794-square-foot commercial space and a 1,729-square-foot residential common space on the first floor, 20 residential units on the two new upper floors, and 42 parking spaces. Site access will be provided via the existing ingress-only driveway on Main Street and one right-in/right-out driveway on Eliza Street.

Below, please find our follow up comments and any additional comments regarding the submitted materials:

Site Plan

Review #1 Comments

1. CM notes that there is trash enclosure proposed in the parking lot. CM recommends that a truck circulation exhibit be provided so the route can be reviewed. The truck circulation exhibit should also include the path of a typical vehicle used for residential "move-in" and "move-out" activities.
   - *Colliers' Response: The requested truck circulation exhibit will be included in the Site Plans.*
   - **CM Review #2 Follow-Up Comment: A Site Plan was not included in the aforementioned submittal package considered for review. Please submit Site Plan to confirm your response.**
   - *Colliers' Response: The request truck circulation paths for a garbage truck for trash collection and a 30 ft. single unit truck for move-in/move-out activities have been included on the Site Plans.*
   - **CM Review #3 Follow-Up Comment: The Submittal Package includes a Truck Movement Plan, prepared by Day Stokosa Engineering PC, depicting a refuse vehicle accessing the garbage enclosure by fronting into the site and backing out. Because the refuse truck will be conducting a reversing maneuver onto Eliza Street, CM recommends that the refuse pickup be restricted to off-peak hours to avoid conflicts with drivers and pedestrians. Attached is a site plan submitted separately from the Submittal Package depicting a 30 ft. single unit box truck maneuvering in and out of the site. Can the Applicant confirm that a 30 ft. single unit box truck is the largest non-emergency vehicle anticipated to enter the site? Additionally, based on the turning maneuvers indicating that parking spaces adjacent to the building will be blocked, will there be a designated loading/unloading area for the commercial tenant to receive goods?**

2. CM recommends that (a) a No Left Turn sign be installed at the driveway exit approach to Eliza Street and (b) a One Way sign be installed across from the Eliza Street driveway exit.
   - *Colliers' Response: A "No Left Turn" sign (MUTCD Sign No. R3-2) and a "One-Way" (MUTCD Sign No. R6-1) sign will be installed at the Project driveway location with Eliza Street. These signs are been reflected in the Site Plans.*
   - **CM Review #2 Follow-Up Comment: A Site Plan was not included in the aforementioned submittal package considered for review. Please submit Site Plan to confirm your response.**

- *Colliers' Response: The proposed "No Left Turn" and "One-Way" signs to be installed at the Eliza Street driveway are now reflected on the Site Plans.*
- **CM Review #3 Follow-Up Comment: The Submittal Package includes a Site Plan depicting the requested "No Left Turn" sign. Attached is a site plan submitted separately from the Submittal Package depicting the requested "One-Way" sign on Eliza Street. Upon review, CM has no further comment regarding the requested signs.**

3. CM recommends that the applicant investigate the need for a Stop sign on the Veterans Place approach to Main Street, across from the subject property.
   - *Colliers' Response: A new "Stop" sign (MUTCD Sign No. R1-1) will be installed on the Veteran Place approach by the Applicant as part of the Project. This is reflected in Exhibit 1R below.*
   - **CM Review #2 Follow-Up Comment: Comment addressed.**
   - *Colliers' Response: The proposed "Stop" sign to be installed on the Veterans Road approach is now reflected on the Site Plans.*
   - **CM Review #3 Follow-Up Comment: Comment addressed.**

4. CM acknowledges the applicant's concern over limited sight distance for left turns onto Main Street due to the existing building immediately to the west (see photo at right). CM recommends that a crash history analysis be conducted at and immediately adjacent to the intersection of Main Street and Veterans Place, inclusive of the site driveway, to identify safety concerns, especially those involving pedestrians and bicyclists, to further inform this matter. It is important that the crash data include a three-year period while the bank was in normal operation. Regardless of the crash history analysis, the applicant should propose treatments at both Main Street driveways to enhance pedestrian safety since the expansion of the site will increase vehicle-pedestrian interaction at these locations.
   - *Colliers' Response: The crash history data has been requested by from the City of Beacon and NYSDOT but has not yet been received. However, since the existing exit driveway, which was previously proposed to remains as part of the Project, is now proposed to be eliminated, it is the opinion of Colliers Engineer & Design that this crash analysis is no longer necessary.*
   - **CM Review #2 Follow-Up Comment: CM agrees that a crash analysis is no longer necessary given that the egress driveway on Main Street is being eliminated. Furthermore, Colliers is proposing pedestrian safety countermeasures in conjunction with recently completed pedestrian safety countermeasures constructed separate of the subject project under review.**
   - *Colliers' Response: No further response required. See further discussion regarding pedestrian safety countermeasures in response to Traffic Impact Study Comment #6 below.*
   - **CM Review #3 Follow-Up Comment: No further comment.**

5. CM recommends that a Do Not Enter sign be installed at the Main Street egress-only driveway facing Veterans Place.
   - *Colliers' Response: The existing egress only driveway is now proposed to be eliminated and therefore additional signage at this driveway location is no longer required.*
   - **CM Review #2 Follow-Up Comment: Comment addressed.**

6. Given the mixed-use nature of the project, how will the off-street parking operate? Will parking spaces be assigned to residents and patrons/employees of the retail space? If so, please delineate this on the plan and detail any applicable signs.
   - *Colliers' Response: The parking spaces are not proposed to be specifically assigned to residents and/or patrons/employees of the commercial space.*

- **<u>CM Review #2 Follow-Up Comment:</u> CM recommends that the spaces for the residential use be designated for residents-only. This would help eliminate the event of a resident needing to turn around inside the parking lot and exit via the egress-only driveway due to a spot not being available.**
- *Colliers' Response: It is the Applicant's preference to not assign parking spaces to the residents of the Project. Assigning of parking spaces to the residential units will eliminate the ability for shared parking between the residential and commercial uses of the project. The provision of a turnaround area, which is discussed further in Response to Item 8 below, will accommodate vehicles needing to turn around inside the parking lot and exit via the egress-only driveway due to a spot not being available.*

  It is also anticipated that residents of the Project will learn to utilize the Main Street access to access the parking behind the building first to avoid the need for this turn-around maneuver.
- **<u>CM Review #3 Follow-Up Comment:</u> CM understands there is no requirement that the off-street parking spaces be assigned and therefore defers to the Board as to its preference on this matter. There are benefits and drawbacks to assigning spaces versus leaving them unassigned—CM understands the value and flexibility of shared parking and also the desire of future residents to have a predictable parking experience. If not now as part of the site plan, the applicant could decide to assign parking spaces in the future, once the building is occupied, to address the issue then.**

7. The applicant should consider including at least one electric vehicle (EV) charging station on the site.
   - *Colliers' Response: The installation of an electric vehicle charging station is not proposed as part of the Project.*
   - **<u>CM Review #2 Follow-Up Comment:</u> Comment addressed.**

8. The one-way inbound driveway creates a dead-end parking condition near the northeast corner of the site. The applicant should consider improving this condition to avoid inefficient site circulation.
   - *Colliers' Response: This item is being reviewed as part of the Site Plans. A sufficient area for vehicles to turn around in the event that parking on the Main Street parcel is full will be provided and diagrammed as part of the a future Site Plan submission.*
   - **<u>CM Review #2 Follow-Up Comment:</u> A Site Plan was not included in the aforementioned submittal package considered for review. Please submit Site Plan to confirm your response.**
   - *Colliers' Response: As shown on the Site Plan the west side building extension has been stepped to the south allowing the two western most parking spaces directly behind the building to also be stepped to the south by approximately 8 ft. this provides additional area for both a passenger vehicle or a moving vehicle that may need to turn around behind the building to do so. The vehicle turning paths for both a passenger car and a 30 ft. single unit truck show that this area will sufficiently accommodate the required vehicle maneuvers to turn around in this parking area and return to the Eliza Street parcel parking area.*
   - **<u>CM Review #3 Follow-Up Comment:</u> The Submittal Package includes a site plan depicting a passenger vehicle conducting a turnaround maneuver. Attached is a site plan submitted separately from the Submittal Package depicting a 30 ft. single unit box truck maneuvering in and out of the site. Can the Applicant confirm that a 30 ft. single unit box truck is the largest non-emergency vehicle anticipated to enter the site? Additionally, based on the turning maneuvers indicating that parking spaces adjacent to the building will be blocked, will there be a designated loading/unloading area for the commercial tenant to receive goods?**

<u>Traffic Impact Study</u>

A revised traffic impact study was not included in the Submittal Package. As noted, the proposed project has been further refined such that the proposed commercial space is 657 square feet smaller while the number of residential units – 20 – remain the same. Because this reduction would not result in an increase in site trip generation, CM does not require a revised Traffic Impact Study to be prepared and submitted by the applicant.

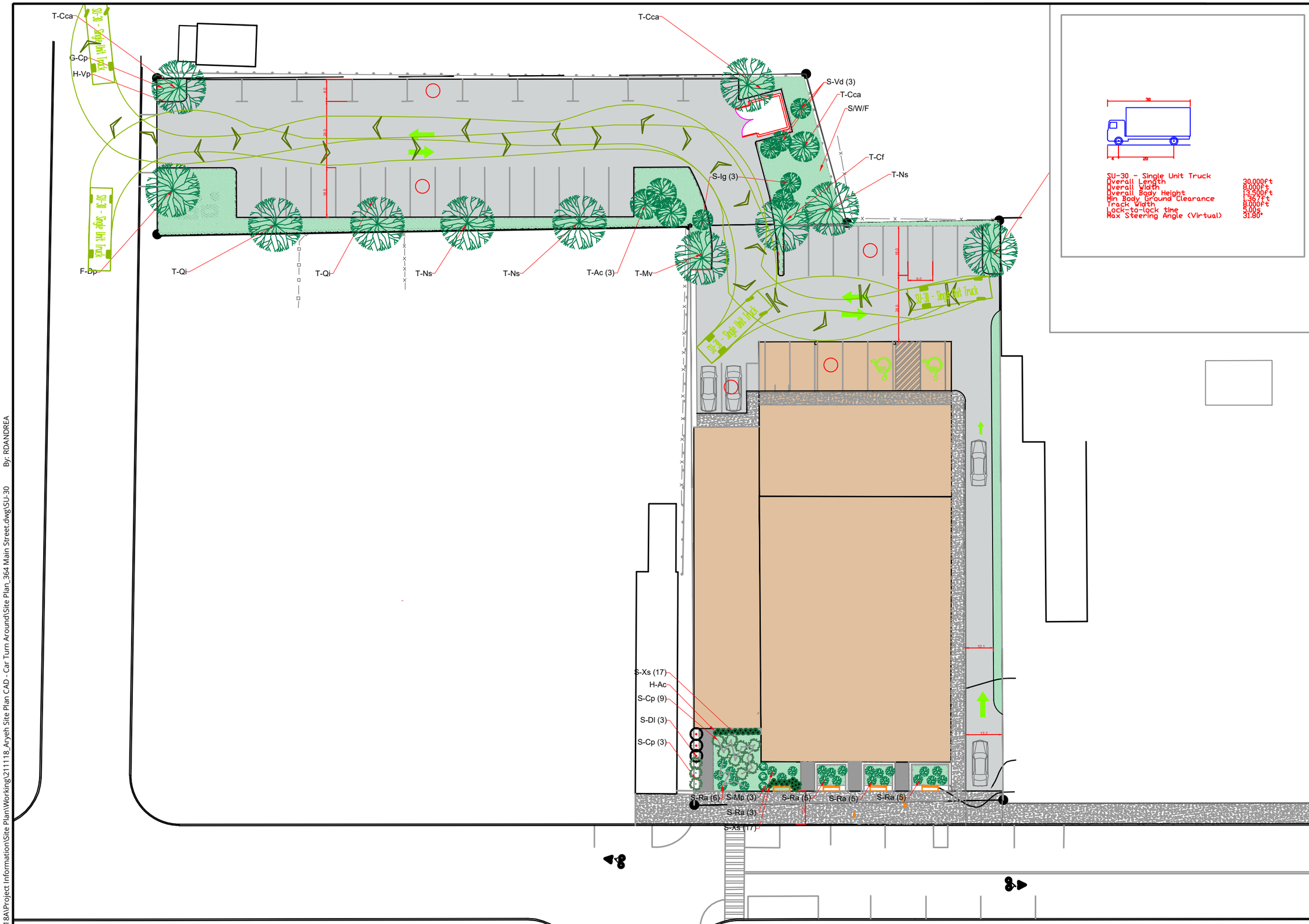
If you have any questions about the above comments, please do not hesitate to contact our office at (914) 800-9201.
Respectfully,

Creighton Manning Engineering, LLP

Frank A. Filiciotto, PE
Associate

Starke W. Hipp, PE
Project Engineer

N:\Projects\2021\121-295 Beacon - 2021 Traffic Reviews\Working\Correspondence\364 Main Street\364 Main Street_Review 3.docx



SU-30 - Single Unit Truck

Overall Length	30.000ft
Overall Width	8.000ft
Overall Body Height	13.500ft
Min Body Ground Clearance	1.367ft
Track Width	8.000ft
Lock-to-lock time	5.00s
Max Steering Angle (Virtual)	31.80°

Colliers Engineering & Design

www.colliersengineering.com

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REV	DATE	DRAWN BY	DESCRIPTION

TRUCK MANEUVERING PLANS FOR 364 MAIN STREET

CITY OF BEACON
DUTCHESS COUNTY
NEW YORK

Colliers Engineering & Design
WESTCHESTER
400 Columbus Avenue, Suite 180E
Valhalla, NY 10595
Phone: 914.347.7500
COLLIERS ENGINEERING & DESIGN CT, P.C. DOING BUSINESS AS MASER CONSULTING ENGINEERING & LAND SURVEYING

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	12/09/21	MJA	RGD

PROJECT NUMBER:	DRAWING NAME:
21001718A	SITE PLAN_364 MAIN STREET

SHEET TITLE:
SU-30
TRUCK MANEUVERING PLAN

SHEET NUMBER:
1 of 1

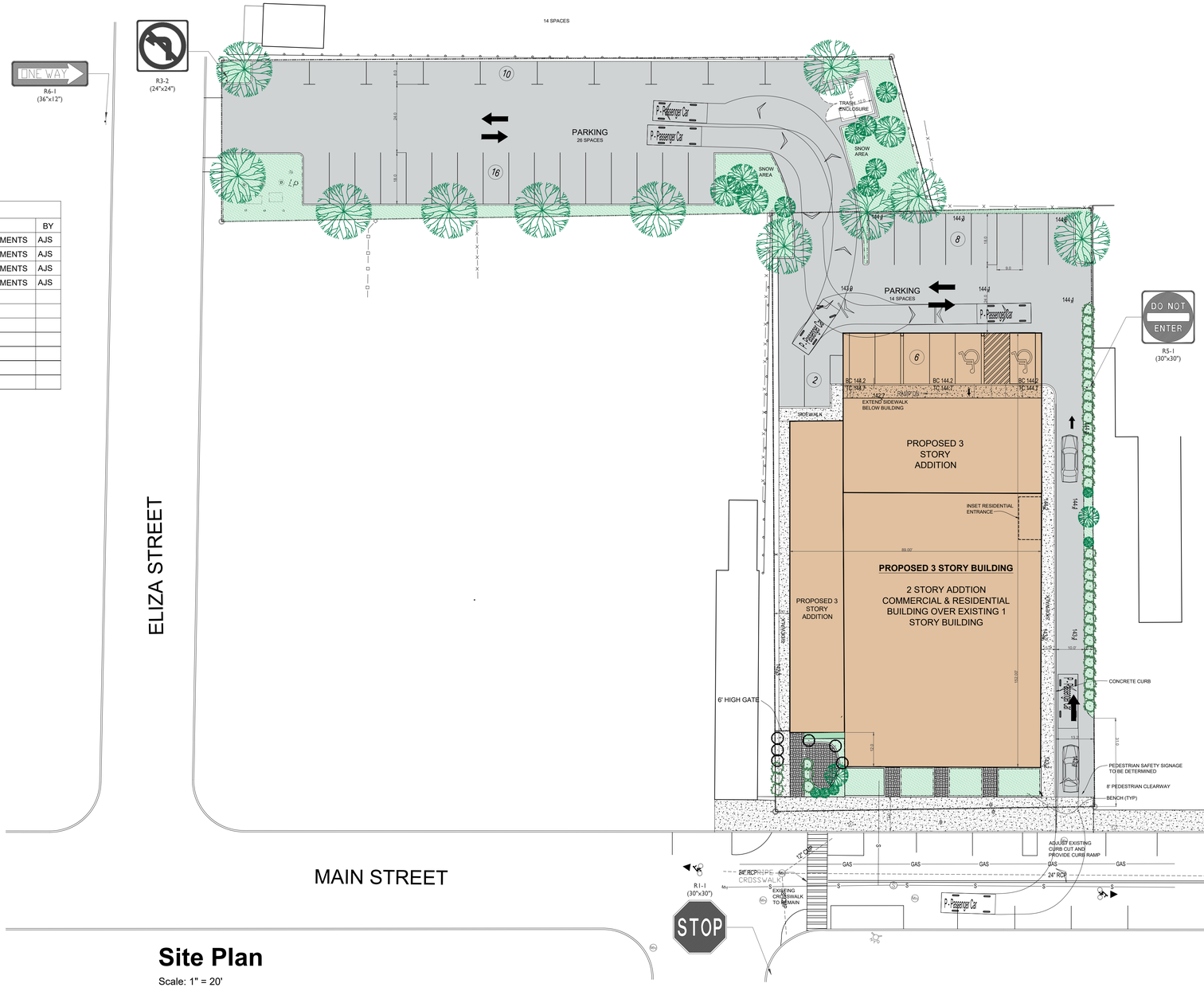
1718A\Project Information\Site Plan\Working\211118_Aryeh Site Plan CAD - Car Turn Around\Site Plan_364 Main Street.dwg\SU-30 By: RDANDREA

Bulk Zoning Regulations Table - Parking Lot

	Required Setbacks			Proposed Setbacks			Lot Depth Required	Lot Depth Existing	Allowable Building Height	Proposed Building Height	Lot Area	Proposed Floor Area
	Front	Side	Rear	Front	Side	Rear						
Zoning District												
T*	10'	10'	20'	NA	NA	NA	100'	242.6'	2.5 | 35'	NA	0.85	NA

Bulk Zoning Regulations Table

	Required Setbacks			Proposed Setbacks			Main Street Frontage Required	Main Street Frontage Required	Minimum Lot Depth	Proposed Lot Depth	Allowable Building Height	Proposed Building Height	Minimum Landscaped Area	Proposed Landscaped Area	Lot Area	Proposed Floor Area
	Front	Side	Rear	Front	Side	Rear										
Zoning District																
CMS*	0'-10'	0'	20'	14.78'	18' exist 5'	44'	80%	89%	75'	264.37'	3 | 38' & 4th Story w/ Special Permit	3 Stories 38'	10% 5% if open to public	11%	0.85 acres	11,715 SF



Site Plan

Scale: 1" = 20'

REVISIONS:			
NO.	DATE	DESCRIPTION	BY
1	07/27/21	REVISED PER PLANNING BOARD COMMENTS	AJS
2	08/27/21	REVISED PER PLANNING BOARD COMMENTS	AJS
3	10/26/21	REVISED PER PLANNING BOARD COMMENTS	AJS
4	11/30/21	REVISED PER PLANNING BOARD COMMENTS	AJS



Location Plan

Not to Scale

Zoning Summary

Zoning District:	CMS (Central Main Street) & T (Transition Zone)
Tax Map No.:	6054-29-006819 (364 Main Street) & 6054-29-0004836 (Eliza Street)
Lot Area:	0.54 Acres & 0.31 Acres
Building Footprint:	12,632 SF
Historical Overlay District:	No
Parking Overlay District:	Partial, not the portion of the lot in the T District.
Existing Use:	Vacant (364 Main Street) & Parking Lot
Proposed Use:	Mixed-Use: Retail / Residential

Parking & Loading

Use & Parking Requirements	Proposed Area	Current Parking Requirement
Residential		
(1) space per unit (CMS)	(20) Apartments	20 parking spaces
Commercial		
(2) spaces per 1,000 SF (CMS) for Retail	9,328 sf	19 parking spaces
Total Required		**39 parking spaces**
Total Provided		**42 parking spaces**

Notes:

1. Commercial hours are 7am – 12am, Monday through Sunday, inclusive.
2. No signage is proposed as part of this application. Retail tenants will apply separately to the Planning Board for their own signage

Index of Drawings

Sheet 1 of 12	Site Plan
Sheet 2 of 12	Existing Conditions & Demolition Plan
Sheet 3 of 12	Landscape Plan & Planting Schedule
Sheet 4 of 12	Building Plans
Sheet 5 of 12	Building Elevations & Renderings
Sheet UP.1	Utility Plan
Sheet VM.1	Truck Movement Plan
Sheet CD.1	Construction Details
Sheet CD.2	Construction Details
Sheet CD.3	Construction Details
Sheet ESC.1	Erosion & Sediment Control Plan
Sheet ESC.2	Erosion & Sediment Control Details

Site Plan Application

Sheet 1 of 12 - Site Plan

Owner:
O'Donnell & Son
P.O. Box 526
Fishkill, NY 12524

Architect:
Aryeh Siegel, Architect
84 Mason Circle
Beacon, New York 12508

Site / Civil Engineer:
Day & Stokosa Engineering P.C
3 Van Wyck Lane
Wappingers Falls, New York 12590

Landscape Designer:
Landscape Restorations
7 Creek Drive
Beacon, New York 12508

364 Main Street
Beacon, New York
Scale: 1" = 20'
October 4, 2021

City of Beacon Planning Board Agenda
12/14/2021

Title:

Continue public hearing for SEQRA environmental review on application for Subdivision and Site Plan Approval, "Beacon Views Townhouses" 40 units, Conklin Street, submitted by Beacon Views, LLC

ATTACHMENTS

Beacon Views Cover Letter.pdf

Beacon Views Full Site Plan.pdf

Beacon Views SWPPP.pdf

Beacon Views Wetland Mitigation.pdf

Beacon Views Easement and License Agreement.pdf

Beacon Views Ecological Analysis Letter.pdf

Planner Review Letter.pdf

Engineer Review Letter.pdf

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

November 30, 2020

City of Beacon Planning Board
1 Municipal Plaza
Beacon, NY 12508

RE: Beacon Views Site Plan and Conservation Subdivision
Conklin Street
Beacon, New York
Tax Parcel ID: 6055-03-331123

Dear Chairman Gunn and Members of the Board:

Enclosed please find the following documents in support of the subject application:

- Site Plan Set and Architectural Plans (consisting of 20 sheets), revised November 30, 2021.
- Stormwater Pollution Prevention Plan, dated November 30, 2021.
- Draft Easement Agreement, produced by Richard Cantor, Esq. of Teahan & Constantino, LLP, dated November 29, 2020.
- Communication from Richard Cantor, Esq. of Teahan & Constantino, LLP, dated November 30, 2020.
- Letter from James A. Bates of Ecological Analysis, LLC, dated November 24, 2021.

In response to the comments provided in a letter from John Clarke Planning and Design, dated January 8, 2021, we offer the following responses:

1. The following updates are provided for the items requested:

   a. The applicant continues to seek acknowledgement from the ownership of the Highland Meadows property regarding the rights to construct the proposed stormwater management facilities and access road within the easement. The applicant no longer seeks to do wetland mitigation within the easement.

   b. The applicant, with their wetland consultant, James A. Bates, have identified a location within the city of Beacon, viable for the required off-site wetland mitigation. Refer to the enclosed letter from Mr. Bates and draft easement agreement between the applicant and the owner of the proposed off-site wetland mitigation site for more details as to the current proposal for wetland mitigation.

2. The galvanized steel guiderail detail replaced the wood guiderail detail as the proposed road is anticipated to be conveyed to the city, and the steel guiderail is a more robust option for within the public right of way.

In response to the comments provided in a letter from John Russo of Lanc & Tully Engineering and Surveying, P.C., dated January 8, 2021, we offer the following responses:

<u>General Comments</u>

1. The applicant is now assuming a 2:1 ratio of mitigation to wetland disturbance. A portion of the mitigation is to be provided onsite and the balance will be provided offsite at the Hiddenbrook

Road site shown in the draft easement agreement. This property is within City limits. Once the Board has approved the location we will update the mitigation report for the new location, and submit to the Army Corps of Engineers (ACOE). We will also provide a complete copy of the ACOE submittal package to the Planning Board for their review and files. Please see the enclosed letter from James A. Bates of Ecological Analysis, LLC and the draft easement agreement between the applicant and the owner of the proposed off-site wetland mitigation property for more information.

2. A map is provided with the draft easement agreement. Further mapping and detailed design of the mitigation will be provided to the Planning Board in a future submission.

3. This comment is acknowledged. The applicant continues to seek agreement with the owner of the Highland Meadows property.

4. Once the Planning board has approved the location of the proposed off-site wetland mitigation area a full plan and report will be completed and submitted to both the Planning Board and ACOE. All correspondence with the ACOE will be submitted to the Planning Board for their review and files.

5. It is noted that the proposed water and sewer main extensions are required to be reviewed and approved by the Dutchess County Department of Health (DCDOH). The Planning Board and City Engineer's office will receive copies of all correspondence between this office and the DCDOH.

Water & Sewer Report Comments:

1. The requested note has been added to General Note #4 on Drawing SP-2.2 in lieu of the Water & Wastewater Engineering Report.

Preliminary Subdivision Plat:

1. The final plat will include bearings and distances for the proposed property lines.

2. Written descriptions will be provided with the final plat submission.

Grading and Drainage Plan:

1. Mr. Cantor, the applicant's attorney has reviewed the easement agreement and has confirmed that the agreement grants the ownership of Beacon Views to enter the easement area to construct and maintain the stormwater facilities. Further, Beacon Views can, and it is typical practice in many communities, to enter into an Agreement with the city to maintain the drainage facilities and to keep them in proper repair. There is no limit in the easement that prohibits Beacon Views from allowing the City to enter onto the property to carry out the obligations of Beacon Views if Beacon Views fails to carry out its obligations.

2. The drainage pipe between structure SDI-14A and CB-6 has been removed from the Grading & Drainage Plan and the Erosion & Sediment Control Plan.

3. The drainage pipe between structure DMH-9 and CB-4 has been removed from the Grading & Drainage Plan and the Erosion & Sediment Control Plan.

Utilities Plan:

1. The stationing along the proposed water main has been revised to be more legible.

Off Site Improvements Plan:

1. The width of the sidewalks has been shown on sheet SP-5. The sidewalk is 5' wide in all locations except for a portion between the existing edge of pavement and the property line where it needs to be tapered to 4' to stay on the property. Further, there is a note on drawing SP-5, stating the same.

Details

1. The Permanent Stormwater Facilities Maintenance Schedule on Drawing SP-2.1 provides the short-term and long-term maintenance requirements for to post-construction stormwater management facilities. The requested notes have been added to the Permanent Stormwater Facilities Maintenance Schedule.

SWPPP Comments

1. The drainage pipe between structure SDI-14A and CB-6 has been removed from the Grading & Drainage Plan and the Erosion & Sediment Control Plan.
2. Sediment trap sizing calculations are provided in Appendix M of the SWPPP and construction details for the temporary sediment trap are provided on Drawing D-5..
3. The requested notes have been added to the Overall Construction Sequence on Drawing SP-3.
4. The drainage pipe between structure DMH-9 and CB-6 has been removed from the Grading & Drainage Plan and the Erosion & Sediment Control Plan.
5. The hydrodynamic separator detail provided on Drawing D-5 includes the specific model specified on the project plans and SWPPP.
6. The proposed roof leader drains have been added to the Flow Splitter FS 1.2 Detail on Drawing D-5.

We request appearance before the Board at their December 14, 2021 meeting to further discuss the revised materials we have provided and closing of the SEQRA Public Hearing.

Should you have any questions or comments regarding this information, please feel free to contact our office.

Very truly yours,

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

By: _____
Jeffrey J. Contelmo, PE
Senior Principal Engineer

JJC/adt

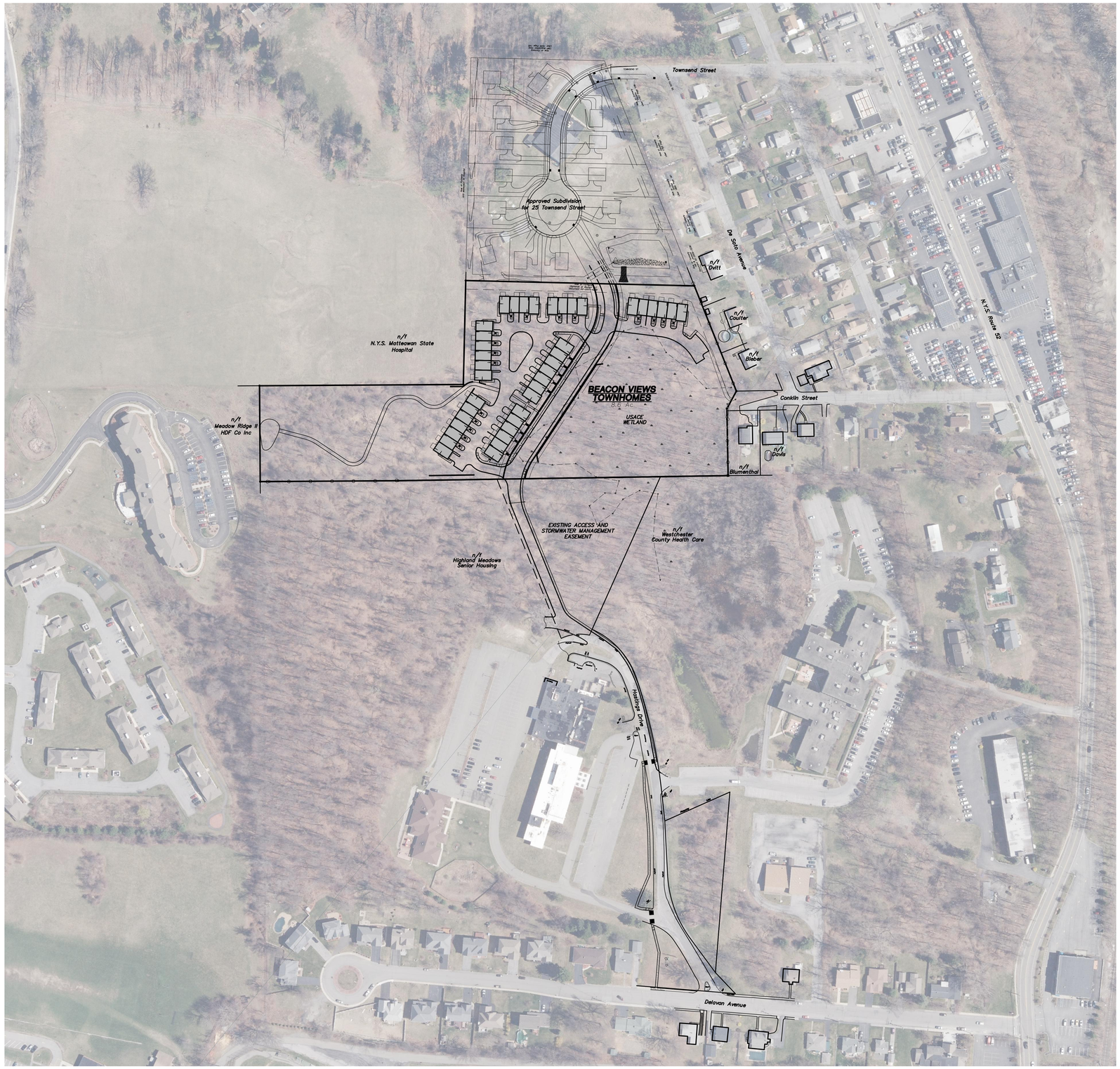
Enclosures

cc: Nathan Kahn
Greg Kamedulski
Richard Cantor, Esq. (Email Only
Aryeh Siegel (Email Only)
Phil Grealy, P.E. (Email Only)

Insite File No. 19131.100

BEACON VIEWS

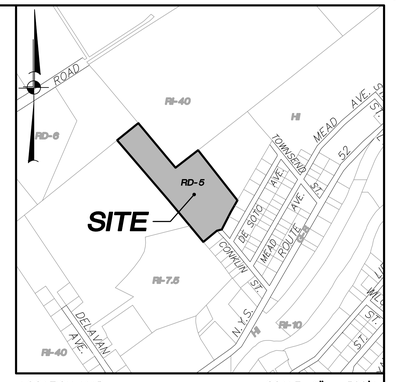
HASTINGS DRIVE / CONKLIN STREET
CITY OF BEACON, NY



ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

SITE PLAN DRAWING LIST

DRAWING NO.	DRAWING NAME	SHEET NO.
CS-1	COVER SHEET	1
EX-1	EXISTING CONDITIONS & REMOVALS PLAN	2
SP-1	LAYOUT & LANDSCAPE PLAN	3
SP-2.1	GRADING & DRAINAGE PLAN	4
SP-2.2	UTILITIES PLAN	5
SP-3	EROSION & SEDIMENT CONTROL PLAN	6
SP-4	ENLARGED PLANS	7
SP-5	OFF-SITE IMPROVEMENTS PLAN	8
SP-6	VEHICLE MANEUVERING PLAN	9
LP-1	LIGHTING PLAN	10
PR-1	DRAINAGE PROFILES	11
PR-2	WATER & SEWER PROFILES	12
D-1	DETAILS	13
D-2	DETAILS	14
D-3	DETAILS	15
D-4	DETAILS	16
D-5	DETAILS	17
A-1	BUILDING PLANS - FRONT GARAGE	18
A-2	BUILDING PLANS - REAR GARAGE	19
A-3	ELEVATIONS / VIEWS	20



LOCATION MAP SCALE: 1" = 500'±

Applicant:
Beacon Views, LLC
500 River Avenue, Suite 145
Wakefield, NJ 08701

Record Owner:
Highlands at Beacon, LLC
2847 Church Street
Pine Plains, NY 12567

Site Data:

Tax Map No.:	6055-03-331123
Total Lot Area:	8.6 AC.
Zone:	RD-5

General Notes:

1. Property line shown on these plans is based upon a map entitled "Boundary and Topographic Survey of Property prepared for Beacon Community Foundation, Inc.", dated March 22, 2005 as prepared by Insite Engineering, Surveying & Landscape Architecture, P.C.
2. Topography shown on these plans are based upon aerial photography dated April 14, 2003 and is photogrametrically compiled. Elevations shown hereon conform to the North American Vertical Datum of 1988 (N.A.V.D. 1988) as derived by GPS observation. The contour interval is 2'.
3. Site features and topography at the boundary of the access and stormwater easement where it meets Hastings Drive were field located on August 8, 2019 by Insite Engineering, Surveying & Landscape Architecture, P.C.
4. The existing wetland limit line as shown on these plans is based on a field delineation performed by Ecological Solutions, LLC on April 15, 2019 and survey located by Insite Engineering, Surveying & Landscape Architecture, P.C. The area of the wetland on the subject property is 2.55 acres.

Site Access Notes:

1. The applicant seeks to utilize the proposed connection to the right of way through the approved subdivision on 25 Townsend Street as its primary means of access for the Beacon Views Properties.
2. The road shown in the existing easement on the Highland Meadows Senior Housing Property would be utilized as an emergency access only, in this case.
3. In the event there is a delay in the construction of the road in the approved 25 Townsend Street right of way, the applicant would exercise the easement over the Highland Meadows Senior Housing Property, and utilize the proposed road thereon as the primary access to the site, until such time as the 25 Townsend Street road was constructed. In this event, the proposed alternate grading plan for Conklin Street emergency access on sheet SP-4 would be constructed. When access becomes available through the 25 Townsend Subdivision, the road through the Highland Meadows Senior Housing Property easement would be gated and transitioned to emergency access only, as stated above.
4. In the event that the road through the 25 Townsend Street subdivision is not built, the applicant and subsequent owner will retain ownership of the main road shown within the proposed right of way, and will be responsible for maintaining it. When the 25 Townsend Street access is constructed, the right of way will be dedicated to the city, as proposed.

Affordable-Workforce-Housing Notes:

1. The project shall comply with the requirements of city code Chapter 223 Zoning, Article IVB Affordable Workforce Housing.
2. Based on the proposed unit count of 40 townhomes, there shall be four (4) townhomes meeting the requirements for below-market-rate requirements of the code.

Habitat Protection Notes:

1. Trees clearing will only occur between the period of October 1 through March 31 when bats are not in the vicinity of the site.
2. Lighting on the site will use City of Beacon Planning Board approved light fixtures that have tops that direct light down to minimize light pollution and not interfere with potential bat foraging activities.
3. Implementing soil conservation and dust control best management practices, such as watering dry disturbed soil areas to keep dust down, and using staked, recessed silt fence and anti tracking pads to prevent erosion and sedimentation in surface waters on the site.
4. Stormwater pond/s will not be maintained with any chemicals that might adversely affect bats or insect populations on which they may feed.

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

Site Plan

Approved by resolution of the Beacon Planning Board on the 30th day of June, 2020.

Chairman, City Planning Board — Date

NO.	DATE	REVISION	BY
6	11-30-21	REVISED PER PLANNING BOARD COMMENTS	EJP
5	12-29-20	REVISED PER PLANNING BOARD COMMENTS	JFR
4	7-28-20	REVISED PER PLANNING BOARD COMMENTS	JFR
4	7-28-20	REVISED PER PLANNING BOARD COMMENTS	JFR
3	6-30-20	REVISED PER PLANNING BOARD COMMENTS	JFR
2	5-26-20	REVISED PER PLANNING BOARD COMMENTS	JFR
1	4-28-20	RESUBMISSION TO PLANNING BOARD	JFR

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3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-enp.com

PROJECT:
BEACON VIEWS
CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

DRAWING:
COVER SHEET

STATE OF NEW YORK — STACEY J. CONTINO — 31931 — LICENSED PROFESSIONAL ENGINEER

PROJECT NUMBER	19131.100	PROJECT MANAGER	J.J.C.
DATE	8-27-19	DRAWN BY	J.F.R.
SCALE	1" = 100'	CHECKED BY	A.D.T.

DRAWING NO. CS-1 SHEET 1 / 20

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Approved Subdivision for 25 Townsend Street

n/f N.Y.S. Matteawan State Hospital

n/f Ovitt

n/f Coulter

n/f Bieber

n/f Davis

n/f Blumenthal

n/f Meadow Ridge II HDF Co Inc

n/f Highland Meadows Senior Housing

n/f Westchester County Health Care (Wingate at Beacon)

DE SOTO AVE.

CONKLIN STREET

HASTINGS DRIVE

USACE WETLAND

Existing Utility Easement as per FM 10853

EXISTING CHAIN LINK FENCE TO BE REMOVED

EXISTING ACCESS AND STORMWATER MANAGEMENT EASEMENT

Lot Line Realignment prepared for JCMW, Inc. (filed September 30, 1987 as map no. 8138)

Drain Line-Fence Generally on Line

S 24°59'01" E (deed)
S 24°56'10" E (comp)

241.50' (total)
38.00'
203.50'

25' REAR YARD SETBACK

17.5' SIDE YARD SETBACK

30' FRONT YARD SETBACK

530.95'

S 41°55'10" W

473.19'

N 65°00'59" E

S 26°41'10" E

222.71'

N 63°15'18" E

298.91'

N 26°51'40" W 21.65'

765.83'

N 26°41'40" W

S 62°42'26" W 155.74'

229.78'

N 27°12'40" W
N 27°41'40" W (per f.m.)
(comp)

49.19'

5.00'

Asphalt

Curb

Steps

Benches

Building

Sign

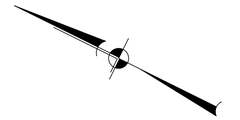
Inlet

Rip Rap

Frame Shed

Pool

Lot 4



LEGEND

- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- EXISTING CHAIN LINK FENCE
- EXISTING EDGE OF PAVEMENT
- EXISTING WETLAND
- WL A23 — WL A24 — EXISTING WETLAND FLAG
- EXISTING TREE LINE
- 190 — EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- × 215.1 EXISTING SPOT GRADE
- EXISTING ITEMS TO BE REMOVED

General Notes:

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2. Topography shown on these plans are based upon aerial photography dated April 14, 2003 and is photogrametricaly compiled. Elevations shown herean conform to the North American Vertical Datum of 1988 (N.A.V.D. 1988) as derived by GPS observation. The contour interval is 2'.
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4. The existing wetland limit line as shown on these plans is based on a field delineation performed by Ecological Solutions, LLC on April 15, 2019 and survey located by Insite Engineering, Surveying & Landscape Architecture, P.C. The area of the wetland on the subject property is 2.55 acres.

UNIT DENSITY CALCULATIONS (RD–5)

Based on note "H" of Chapter 223–17D Schedule of Dimensional Regulations

Total Parcel (8.6 acres)	= 374,518 SF±
Wetland	= 111,078 SF±
Slopes 25% or Greater	= 8,500 SF±
Buildable Area	= 254,940 SF
Permitted Units @ 5,000 SF per Unit	= 50 Units
Proposed Units	= 40 Units

* Pursuant to article IVB of the city code, four (4) units of the proposed forty (40) are to be below–market–rate.

GRAPHIC SCALE
0 20 40 80
(IN FEET)
1 inch = 40 ft.

NO.	DATE	REVISION	BY
6	11–30–21	REVISED PER PLANNING BOARD COMMENTS	EJP
5	12–29–20	REVISED PER PLANNING BOARD COMMENTS	JFR
4	7–28–20	REVISED PER PLANNING BOARD COMMENTS	JFR
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(845) 225–9717 fax
www.insite–eng.com

PROJECT:
BEACON VIEWS
CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

DRAWING:
EXISTING CONDITIONS & REMOVALS PLAN

STATE OF NEW YORK — JEFFREY J. CONTARINO — 51931 — LICENSED PROFESSIONAL ENGINEER

PROJECT NUMBER	19131.100	PROJECT MANAGER	J.J.C.
DATE	8–27–19	DRAWN BY	J.F.R.
SCALE	1" = 40'	CHECKED BY	A.D.T.

DRAWING NO. EX–1 SHEET 2 / 20

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

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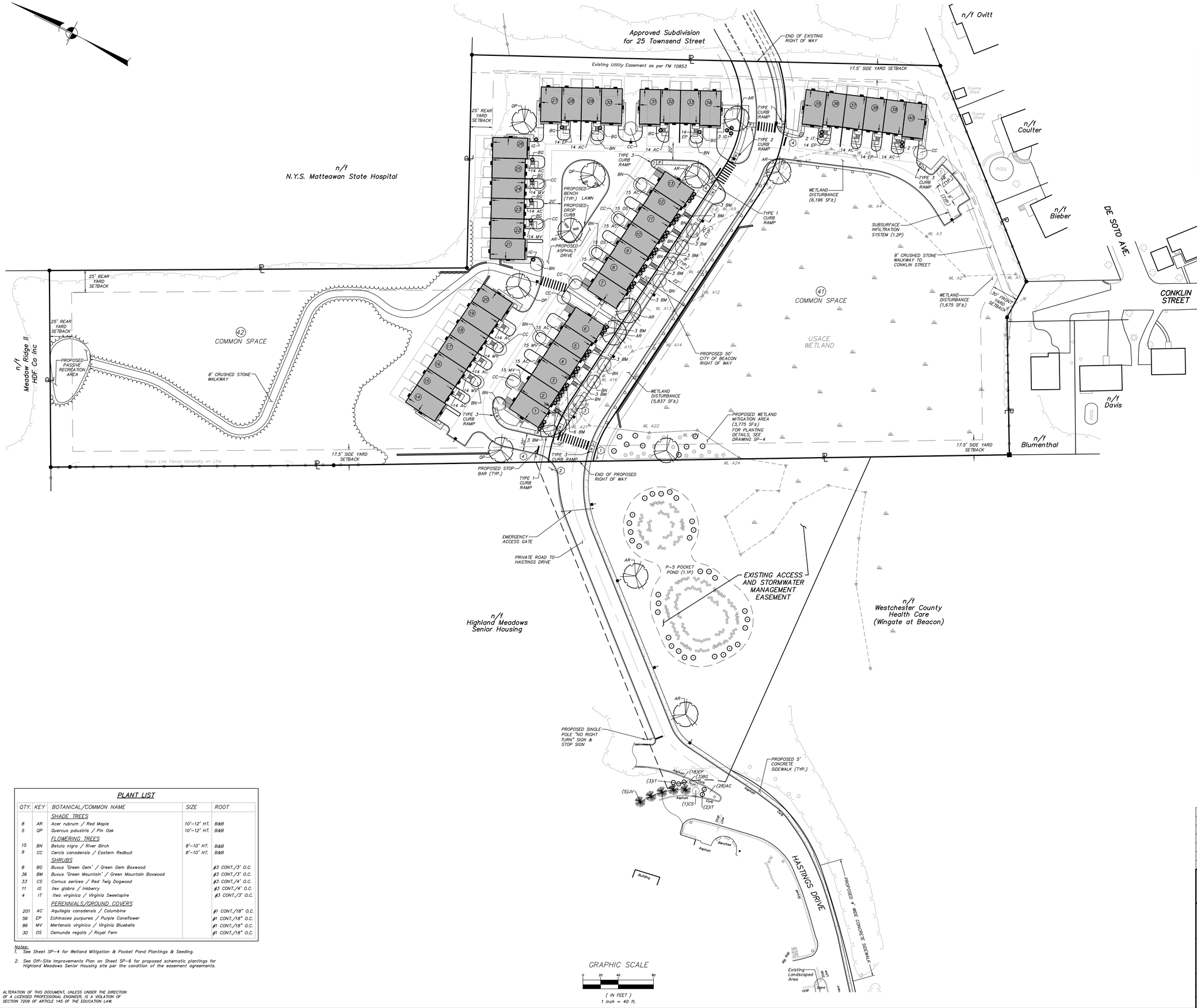

GENERAL NOTES:

1. Trash and recycling to be collected at each unit by a privately hired waste management contractor.

RD-5 ZONE REQUIREMENTS:

	Required/Permitted:	Provided:
Minimum Lot Area:	5,000 SF	374,518 SF±
Minimum Lot Width:	50'	440'±
Minimum Lot Depth:	100'	848'±
Minimum Yard Setbacks:		
Front:	30'	30'
Minimum Side:	17.5'	35'
Total of 2:	20'	75'
Rear:	25'	25'
Minimum Distance Between Buildings on the Same Lot:	30'	20'*
Maximum Building Height:	3 Stories or 35'	Less than 35'
Minimum Building Height:	1 Story and 12'	More than 12'
Maximum Building Coverage		
Multi-family:	20%	8.1%
Other uses:	30%	0%
Maximum No. of Dwelling Units per Building	16	7

* Seeking relief from minimum distance as part of terms of conservation subdivision.

PARKING REQUIREMENTS:

2 per Dwelling Unit + .25 Spaces per Bedroom	= 110 Spaces
Garage Spaces	= 80 Spaces
Driveway Spaces	= 40 Spaces
Visitor Spaces	= 19 Spaces
	= 139 Spaces Provided

RECREATION AREAS SUMMARY

Required SF @ 2,000 for First 20 Units Required 100 SF for Each Additional Unit	= 4,000 SF Required
Western Trail Passive Recreation Area	= 7,590 SF
Southern Trail to Conklin Street Area	= 1,385 SF
	= 8,975 SF Provided

WETLANDS SUMMARY

U.S.A.C.E. WETLAND PFOIE

TOTAL PROPOSED DISTURBANCE = 13,708 SF±
POTENTIAL TOTAL WETLAND DISTURBANCE PER ALTERNATE GRADING PLAN FOR ACCESS TO CONKLIN STREET ON SHEET SP-4 = 15,246 SF±
PROPOSED ON-SITE MITIGATION AREA = 3,775 SF±
PROPOSED OFF-SITE MITIGATION AREA = 26,720 SF±
TOTAL PROPOSED MITIGATION = 30,495 SF± (2:1 MITIGATION:DISTURBANCE)

*SEE WETLAND MITIGATION NOTES ON SP-4

LEGEND

- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- EXISTING CHAIN LINK FENCE
- EXISTING EDGE OF PAVEMENT
- EXISTING WETLAND
- EXISTING WETLAND FLAG
- EXISTING TREE LINE
- PROPOSED SIGN
- PROPOSED DOOR LOCATION
- PROPOSED # OF STALLS TO BE STRIPED
- PROPOSED CONCRETE CURB
- PROPOSED EDGE OF SIDEWALK
- PROPOSED RETAINING WALL
- PROPOSED PAINTED STOPBAR
- PROPOSED CROSSWALK
- PROPOSED LANDSCAPING
- PROPOSED GUIDE RAIL
- PROPOSED POLE MOUNTED LIGHT
- PROPOSED BUILDING MOUNTED LIGHT

SIGN DATA TABLE

LOCATION NO.	TEXT	M.U.T.C.D. NUMBER	SIZE OF SIGN (s.f.)	DESCRIPTION
1		R3-1	30" x 30"	White Background Black Arrow Red Symbol Black Border
2	NO OUTLET		12" x 18"	Red on White
3	RIGHT LANE MUST TURN RIGHT	R3-32C	30" x 30"	Black on White
4	STOP	R1-1C	30" x 30"	White on Red

PLANT LIST

QTY.	KEY	BOTANICAL/COMMON NAME	SIZE	ROOT
		SHADE TREES		
8	AR	Acer rubrum / Red Maple	10'-12' HT.	B&B
5	QP	Quercus palustris / Pin Oak	10'-12' HT.	B&B
		FLOWERING TREES		
15	BN	Betula nigra / River Birch	8'-10' HT.	B&B
9	CC	Cercis canadensis / Eastern Redbud	8'-10' HT.	B&B
		SHRUBS		
8	BG	Buxus 'Green Gem' / Green Gem Boxwood		#3 CONT./3' O.C.
36	BM	Buxus 'Green Mountain' / Green Mountain Boxwood		#3 CONT./3' O.C.
33	CS	Cornus sericea / Red Twig Dogwood		#3 CONT./4' O.C.
11	IG	Ilex glabra / Inkberry		#3 CONT./4' O.C.
4	IT	Itea virginica / Virginia Sweetspire		#3 CONT./3' O.C.
		PERENNIALS/GROUND COVERS		
201	AC	Aquilegia canadensis / Columbine		#1 CONT./18" O.C.
56	EP	Echinacea purpurea / Purple Coneflower		#1 CONT./18" O.C.
86	MV	Mertensia virginica / Virginia Bluebells		#1 CONT./18" O.C.
30	OS	Osmunda regalis / Royal Fern		#1 CONT./18" O.C.

Notes:
1. See Sheet SP-4 for Wetland Mitigation & Pocket Pond Plantings & Seeding.
2. See Off-Site Improvements Plan on Sheet SP-6 for proposed schematic plantings for Highland Meadows Senior Housing site per the condition of the easement agreements.

NO.	DATE	REVISION	BY
6	11-30-21	REVISED PER PLANNING BOARD COMMENTS	EJP
5	12-29-20	REVISED PER PLANNING BOARD COMMENTS	JFR
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(845) 225-9717 fax
www.insite-eng.com

PROJECT:
BEACON VIEWS
CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

DRAWING:
LAYOUT & LANDSCAPE PLAN

JEFFREY J. CONTENTO — 091931 — LICENSED PROFESSIONAL ENGINEER — STATE OF NEW YORK

PROJECT NUMBER	19131.100	PROJECT MANAGER	J.J.C.
DATE	8-27-19	DRAWN BY	J.F.R.
SCALE	AS SHOWN	CHECKED BY	A.D.T.

DRAWING NO. SP-1 — SHEET 3 / 20

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

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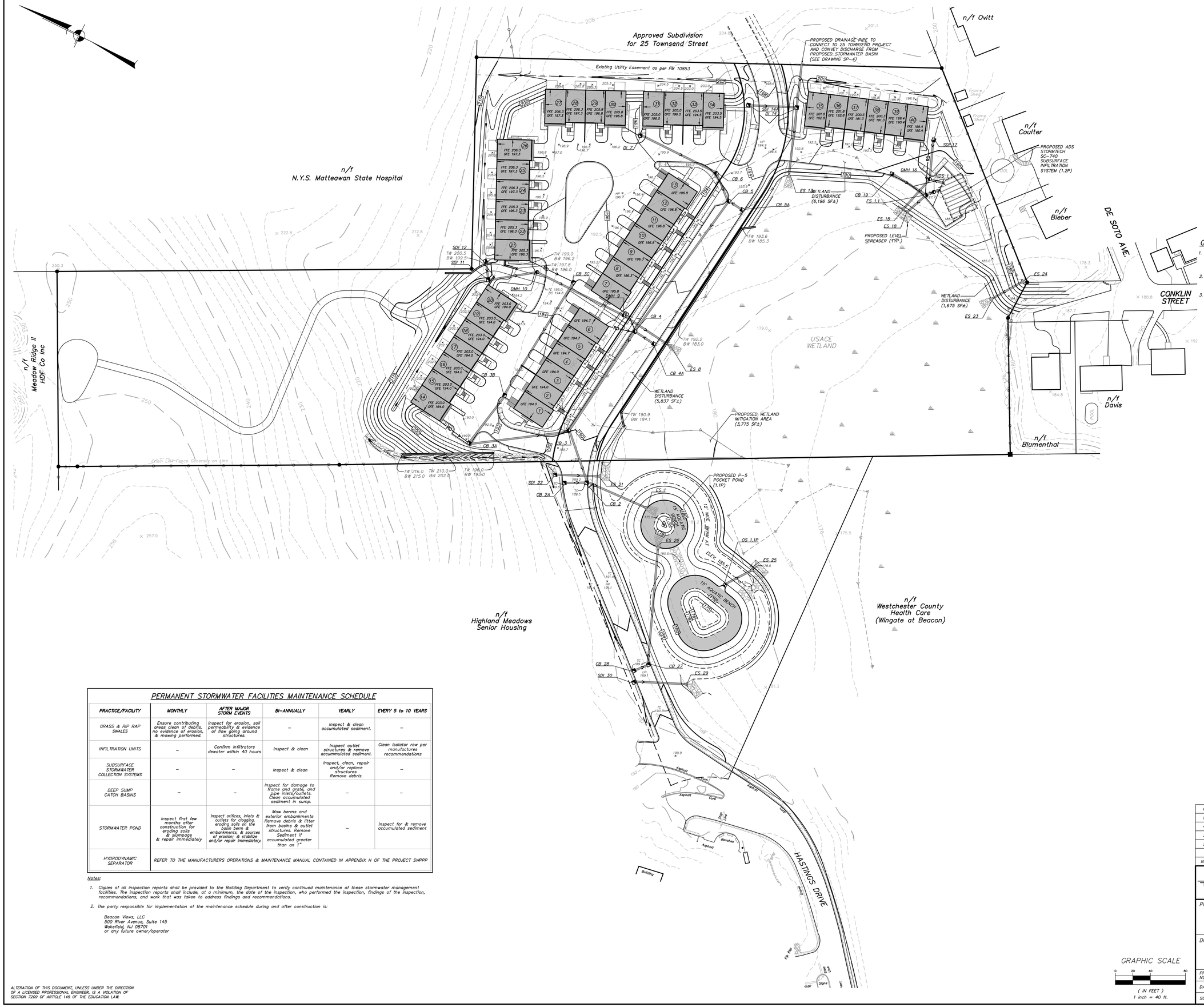

LEGEND

- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- EXISTING CHAIN LINK FENCE
- EXISTING EDGE OF PAVEMENT
- EXISTING WETLAND
- EXISTING WETLAND FLAG
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- EXISTING SPOT GRADE
- PROPOSED 10' CONTOUR
- PROPOSED 2' CONTOUR
- PROPOSED SPOT ELEVATION
- PROPOSED TOP OF WALL & BOTTOM OF WALL ELEVATIONS
- PROPOSED DRAINAGE MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED OUTLET STRUCTURE
- PROPOSED END SECTION
- PROPOSED HDPE DRAINAGE PIPE (SIZE AS NOTED)
- PROPOSED GRASS SWALE

General Notes:

1. Stormwater management facilities located within the access and utility easement on the Highland Meadows property are to be maintained by the applicant and subsequent ownership of the proposed project. Maintenance of these facilities will not fall on the City, or the Highland Meadows ownership.
2. In an emergency event the City of Beacon will have the right to maintain the drainage between CB3 and ES1, if the applicant or subsequent owners fail to fulfill their maintenance obligations.
3. All drainage improvements within the proposed City right of way are to be dedicated to the City of Beacon.

PROPOSED DRAINAGE TABLE

STRUCTURE	RIM	INV.	PIPE	LENGTH	SLOPE
DI 7	195.8	192.6			
CB 6	193.6	190.4	12" HDPE	97 L.F.	2.3%
CB 5	193.5	IN 190.0 | OUT 189.8	12" HDPE	35 L.F.	1.2%
CB 4	191.2	IN 187.3 | OUT 187.0	15" HDPE	183 L.F.	1.3%
CB 3	190.2	IN 185.6 | OUT 185.4	18" HDPE	136 L.F.	1.0%
CB 2	189.0	182.7	24" HDPE	63 L.F.	3.7%
ES 1	--	180.0	24" HDPE	76 L.F.	3.6%
CB 5A	193.5	190.3	12" HDPE	18 L.F.	1.7%
CB 5	193.5	190.0			
CB 4A	191.2	188.0	12" HDPE	26 L.F.	1.9%
CB 4	191.2	187.5			
CB 2A	189.0	185.8	12" HDPE	25 L.F.	2.0%
CB 2	189.0	185.3			
CB 3C	195.2	189.5	15" HDPE	151 L.F.	1.1%
CB 3B	192.7	187.9	15" HDPE	68 L.F.	1.0%
CB 3A	193.2	IN 187.2 | OUT 186.9	18" HDPE	115 L.F.	1.1%
CB 3	190.2	185.6			
SDI 22	190.0	186.6	15" HDPE	52 L.F.	4.0%
ES 21	--	184.5			
SDI 12	202.9	198.8	12" HDPE	22 L.F.	9.2%
SDI 11	199.9	IN 196.8 | OUT 195.5	15" HDPE	57 L.F.	5.8%
DMH 10	195.9	192.5	15" HDPE	110 L.F.	2.9%
DMH 9	192.9	IN 189.3 | OUT 187.7	15" HDPE	60 L.F.	8.3%
ES 8	--	182.5			
SDI 14A	196.0	192.6	15" HDPE	55 L.F.	4.5%
DI 14	193.8	IN 190.1 | OUT 189.7	24" HDPE	80 L.F.	4.1%
ES 13	--	186.0			
SDI 17	190.5	187.1	12" HDPE	45 L.F.	7.3%
DMH 16	188.1	183.8	12" HDPE	47 L.F.	1.7%
ES 15	--	183.0			
CB 19	189.3	186.1	12" HDPE	46 L.F.	3.1%
FS 1.1	187.7	184.7	12" HDPE	30 L.F.	5.7%
ES 18	--	183.0			
FS 1.1	187.7	184.7	8" HDPE	10 L.F.	2.0%
HDS 1.1	187.8	184.5	8" HDPE	9 L.F.	2.2%
1.2P	--	184.3			
1.2P	--	184.5	6" HDPE	17 L.F.	1.2%
DMH 16	188.1	184.3			
ES 24	--	176.0	15" HDPE	44 L.F.	1.1%
ES 23	--	175.5			
OS 1.1P	184.5	179.0	18" HDPE	37 L.F.	1.4%
ES 25	--	178.5			
CB 28	188.9	185.7	12" HDPE	18 L.F.	2.8%
CB 27	188.9	185.2	12" HDPE	136 L.F.	3.8%
ES 26	--	180.0			
SDI 30	189.5	186.3	12" HDPE	61 L.F.	3.8%
ES 29	--	184..0			

PERMANENT STORMWATER FACILITIES MAINTENANCE SCHEDULE

PRACTICE/FACILITY	MONTHLY	AFTER MAJOR STORM EVENTS	BI-ANNUALLY	YEARLY	EVERY 5 to 10 YEARS
GRASS & RIP RAP SWALES	Ensure contributing areas clean of debris, no evidence of erosion, & mowing performed.	Inspect for erosion, soil permeability & evidence of flow going around structures.	–	Inspect & clean accumulated sediment.	–
INFILTRATION UNITS	–	Confirm infiltrators dewater within 40 hours	Inspect & clean	Inspect outlet structures & remove accummulated sediment.	Clean isolator row per manufactures recommendations
SUBSURFACE STORMWATER COLLECTION SYSTEMS	–	–	Inspect & clean	Inspect, clean, repair and/or replace structures. Remove debris.	–
DEEP SUMP CATCH BASINS	–	–	Inspect for damage to frame and grate, and pipe inlets/outlets. Clean accumulated sediment in sump.	–	–
STORMWATER POND	Inspect first few months after construction for eroding soils & slumpage & repair immediately	Inspect orifices, inlets & outlets for clogging, eroding soils on the basin berm & embankments, & sources of erosion; & stabilize and/or repair immediately.	Mow berms and exterior embankments Remove debris & litter from basins & outlet structures. Remove Sediment if accumulated greater than an 1"	–	Inspect for & remove accumulated sediment
HYDRODYNAMIC SEPARATOR	REFER TO THE MANUFACTURERS OPERATIONS & MAINTENANCE MANUAL CONTAINED IN APPENDIX H OF THE PROJECT SWPPP				

Notes:

1. Copies of all inspection reports shall be provided to the Building Department to verify continued maintenance of these stormwater management facilities. The inspection reports shall include, at a minimum, the date of the inspection, who performed the inspection, findings of the inspection, recommendations, and work that was taken to address findings and recommendations.
2. The party responsible for implementation of the maintenance schedule during and after construction is:

   Beacon Views, LLC
   500 River Avenue, Suite 145
   Wakefield, NJ 08701
   or any future owner/operator

NO.	DATE	REVISION	BY
6	11-30-21	REVISED PER PLANNING BOARD COMMENTS	EJP
5	12-29-20	REVISED PER PLANNING BOARD COMMENTS	JFR
4	7-28-20	REVISED PER PLANNING BOARD COMMENTS	JFR
3	6-30-20	REVISED PER PLANNING BOARD COMMENTS	JFR
2	5-26-20	REVISED PER PLANNING BOARD COMMENTS	JFR
1	4-28-20	RESUBMISSION TO PLANNING BOARD	JFR

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3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
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PROJECT:
BEACON VIEWS
CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

DRAWING:
GRADING & DRAINAGE PLAN

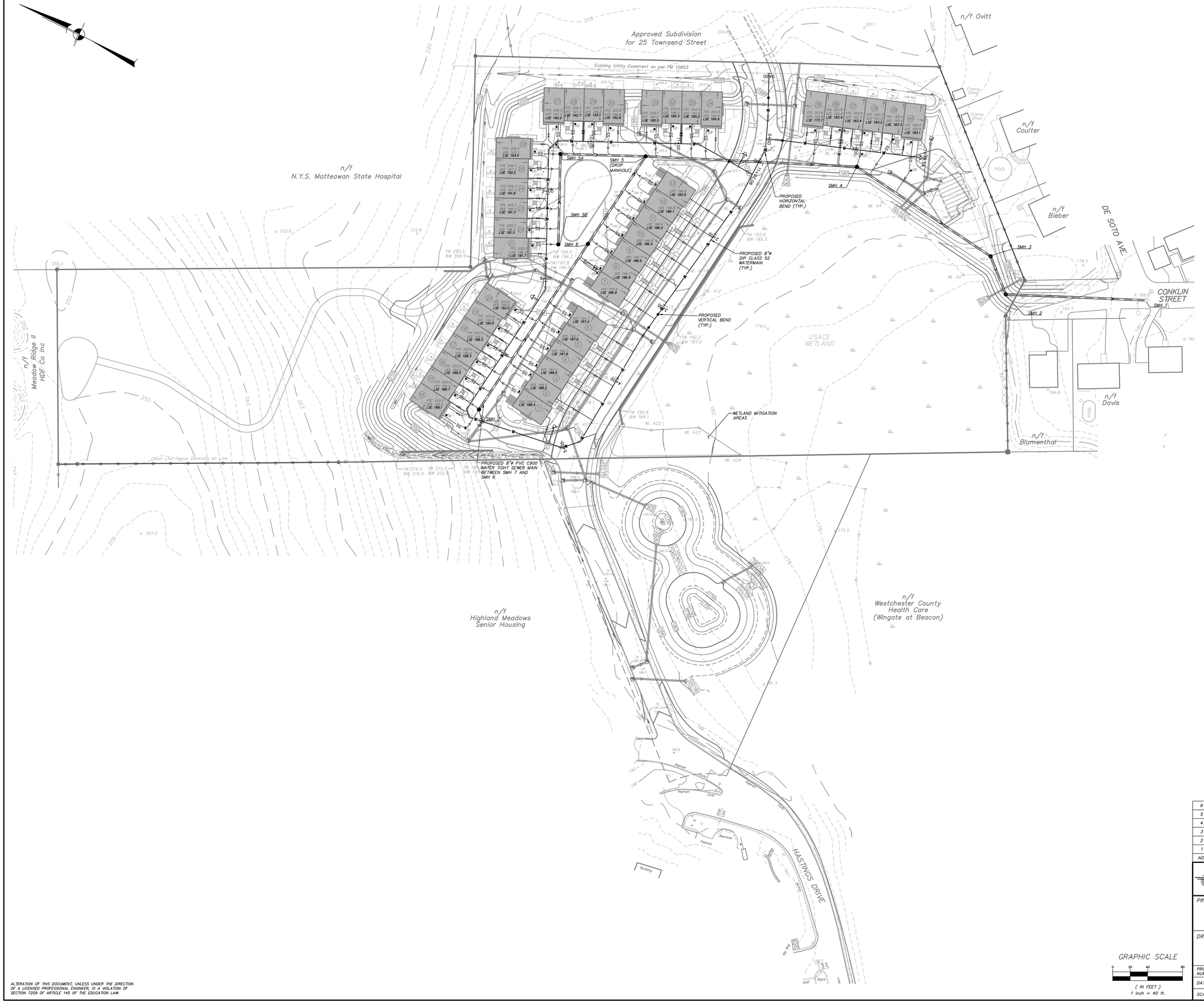
STATE OF NEW YORK — JEFFREY J. CONTARINO — 21931 — LICENSED PROFESSIONAL ENGINEER

GRAPHIC SCALE
0 20 40 80
(IN FEET)
1 inch = 40 ft.

PROJECT NUMBER	191.31.100	PROJECT MANAGER	J.J.C.	DRAWING NO.	SHEET
DATE	8-27-19	DRAWN BY	J.F.R.	SP-2.1	4 / 20
SCALE	1" = 40'	CHECKED BY	A.D.T.		

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

Z:\DEVELOPMENT\Active\Beacon Views\Dwg\191.31.100 Beacon Views SP-2.1.dwg, 11/29/2021 1:00:58 PM, jmarsh, 1:1



LEGEND

- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- EXISTING CHAIN LINK FENCE
- EXISTING EDGE OF PAVEMENT
- EXISTING WETLAND
- EXISTING WETLAND FLAG
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- EXISTING SPOT GRADE
- EXISTING 12"ø WATER MAIN
- PROPOSED 10' CONTOUR
- PROPOSED 2' CONTOUR
- PROPOSED SPOT ELEVATION
- PROPOSED TOP OF WALL & BOTTOM OF WALL ELEVATIONS
- PROPOSED SEWER MANHOLE
- PROPOSED DRAINAGE MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED OUTLET STRUCTURE
- PROPOSED END SECTION
- PROPOSED WATER GATE VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED HDPE DRAINAGE PIPE (SIZE AS NOTED)
- PROPOSED 8"ø PVC SDR 35 SEWER MAIN (UNLESS OTHERWISE NOTED)
- PROPOSED 4"ø PVC SDR 35 SEWER SERVICE WITH CLEANOUT
- PROPOSED 8"ø DIP CLASS 52 WATER MAIN
- PROPOSED 1"ø DIP WATER SERVICE LINE
- PROPOSED GRASS SWALE

PROPOSED SEWER TABLE

STRUCTURE	RIM.	INV.	PIPE	LENGTH	SLOPE
SMH 7	192.5	188.0			
SMH 6	194.7	IN 186.2 | OUT 186.0	8" PVC	227 L.F.	0.8%
SMH 5	196.0	IN 185.1 | OUT 185.0	8" PVC	120 L.F.	0.8%
SMH 4	190.4	IN 182.4 | OUT 182.2	8" PVC	242 L.F.	1.1%
SMH 3	185.0	IN 180.8 | OUT 180.3	8" PVC	184 L.F.	0.8%
SMH 2	184.5	IN 180.3 | OUT 180.2	8" PVC	47 L.F.	0.9%
SMH 1	188.8	178.9	8" PVC	161 L.F.	0.8%
SMH 5B	195.2	191.0			
SMH 5A	196.6	IN 190.1 | OUT 190.0	8" PVC	104 L.F.	0.9%
SMH 5	196.1	IN 189.1 | OUT 185.0	8" PVC	97 L.F.	0.9%

General Notes:

1. The City of Beacon shall own, operate and maintain the water main and all hydrants/stubs.
2. All sanitary sewer mains and manholes up to the existing manhole shall be owned, operated, and maintained by the City of Beacon.
3. Blanket agreements and easements to be granted to the City of Beacon for access and utility maintenance purposes.
4. Prior to final approval, a letter from the Town of Fishkill shall be required to show that the required established calculated fee, as provided in Appendix C of the project Water & Wastewater Engineering Report, has been paid and that the project is authorized to make the proposed connection to the existing water main.

GRAPHIC SCALE

0 20 40 80

(IN FEET)
1 inch = 40 ft.

NO.	DATE	REVISION	BY
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5	12-29-20	REVISED PER PLANNING BOARD COMMENTS	JFR
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1	4-28-20	RESUBMISSION TO PLANNING BOARD	JFR

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PROJECT:
BEACON VIEWS
CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

DRAWING:
UTILITIES PLAN

STATE OF NEW YORK — ANTHONY J. COSTANTINO — 21931 — LICENSED PROFESSIONAL ENGINEER

PROJECT NUMBER	19131.100	PROJECT MANAGER	J.J.C.	DRAWING NO.	SHEET
DATE	8-27-19	DRAWN BY	J.F.R.	SP-2.2	5 / 20
SCALE	1" = 40'	CHECKED BY	A.D.T.		

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

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LEGEND

- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- EXISTING CHAIN LINK FENCE
- EXISTING EDGE OF PAVEMENT
- EXISTING WETLAND
- EXISTING WETLAND FLAG
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- EXISTING SPOT GRADE
- PROPOSED 10' CONTOUR
- PROPOSED 2' CONTOUR
- PROPOSED SEWER MANHOLE
- PROPOSED DRAINAGE MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED OUTLET STRUCTURE
- PROPOSED END SECTION
- PROPOSED FIRE HYDRANT
- PROPOSED GRASS SWALE
- PROPOSED SILT FENCE
- PROPOSED CONSTRUCTION FENCE
- PROPOSED STONE RIP-RAP
- PROPOSED LIMITS OF DISTURBANCE
- PROPOSED STONE CHECK DAM
- PROPOSED TEMPORARY DIVERSION SWALE
- PROPOSED TEMPORARY SOIL STOCKPILE
- PROPOSED STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED EROSION CONTROL BLANKET
- PROPOSED DRAINAGE STRUCTURE W/ INLET PROTECTION
- PROPOSED PHASING LINE
- PROPOSED PHASING NUMBER

OVERALL CONSTRUCTION SEQUENCE:

(1) PHASE 1: *(Total Disturbance 3.4 Ac. ±)*

1. A pre-construction meeting shall be coordinated with the Site Contractor, Site Design Engineer, City Engineer & City Personnel prior to the start of construction. During the pre-construction meeting the general construction procedures and sequencing shall be reviewed and all sensitive areas at the project site shall be delineated and marked-out with orange construction fence.
2. Install stabilized construction entrances in accordance with the notes and details at location shown on drawing.
3. Install erosion control measures shown on the plan in accordance with the details. Install construction fence around the proposed subsurface infiltration system (1.2P).
4. Clear trees and grub in the area of stormwater basin 1.1P.
5. Construct and stabilize the temporary sediment basin in accordance with the notes and details.
6. Begin earthwork associated with the road, parking area and building within limits of the phase.
7. Install drainage structures with inlet protection as shown and pipes within limits of phase.
8. Install the subsurface infiltration system (1.2P) and plug the outlet pipe to the infiltration practice in the upstream flow splitter (FS 1.2).
9. Install building within phase.
10. Install gravel subbase in the proposed paved areas.
11. Install Wetland Mitigation.
12. Upon completion of all grading operations topsoil, seed, and mulch any and all disturbed areas as soon as practical in accordance with the sedimentation and erosion control notes. Phase 1 must be stabilized prior to the commencement of Phase 2.

(2) PHASE 2: *(Total Disturbance 2.7 Ac. ±)*

1. Install erosion control measures shown on the plan in accordance with the details.
2. Clear trees and grub within the limits of the phase.
3. Begin earthwork associated with the parking area and buildings.
4. Install drainage structures with inlet protection as shown and pipes within the limits of the phase.
5. Install buildings and gravel subbase in the proposed paved areas.
6. Upon completion of all grading operations topsoil, seed, and mulch any and all disturbed areas as soon as practical in accordance with the sedimentation and erosion control notes.
8. Upon stabilization of all contributing area complete, convert the temporary sediment basin to the proposed stormwater management practice per the notes and details and remove plug from primary outlet in FS 1.2 to the infiltration practice.

(3) PHASE 3: *(0.7 Ac±)*

1. Install crushed stone walkway and passive recreation area.

CONSTRUCTION NOTES:

1. The following notes are in reference to the proposed water and sewer main improvements on Conklin Street:
   a. Maintenance and Protection of Traffic shall be provide in accordance with Section 619 of the Standard Specifications, the New York State Manual of Uniform Control Devices, and any provisions contained in the project plans and specifications.
   b. Prior to the start of work, the contractor shall submit a Maintenance and Protection of Traffic Plan to the project engineer for approval.
   c. Contractor must give notice to all effected residential dwellings on Conklin Street fourty-eight (48) hours prior to water and sewer improvement connections on Conklin Street.
   d. Pedestrian and vehicular access to all residence must be maintained at all times during construction.
   e. Any open excavation at the end of the work day must be covered with steel plates. Plates must be recessed into the pavement and pinned or pinned with asphalt ramps placed along all sides of the plate. Asphalt ramps should have a maximum slope of ½ inch per foot.
   f. The contractor shall not maintain construction equipment or stored overnight within the City of Beacon Right-of-Way or any adjacent properties. Construction equipment maintenance and storage must be performed on the project site.
   g. No construction equipment or material is to be left within the City of Beacon Right-of-Way or adjacent properties at the end of each work day.
   h. The contractor shall be responsible for the restoration of any offsite disturbance and/or damage to existing offsite features and shall be repaired or replaced in kind at the expense of the contractor.

GRAPHIC SCALE

0 20 40 80

(IN FEET)
1 inch = 40 ft.

NO.	DATE	REVISION	BY
6	11-30-21	REVISED PER PLANNING BOARD COMMENTS	EJP
5	12-29-20	REVISED PER PLANNING BOARD COMMENTS	JFR
4	7-28-20	REVISED PER PLANNING BOARD COMMENTS	JFR
3	6-30-20	REVISED PER PLANNING BOARD COMMENTS	JFR
2	5-26-20	REVISED PER PLANNING BOARD COMMENTS	JFR
1	4-28-20	RESUBMISSION TO PLANNING BOARD	JFR

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Carmel, NY 10512
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(845) 225-9717 fax
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PROJECT:
BEACON VIEWS
CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

DRAWING:
EROSION & SEDIMENT CONTROL PLAN

STATE OF NEW YORK — JEFFREY J. CONTENTO — 91931 — LICENSED PROFESSIONAL ENGINEER

PROJECT NUMBER	19131.100	PROJECT MANAGER	J.J.C.
DATE	8-27-19	DRAWN BY	J.F.R.
SCALE	1" = 40'	CHECKED BY	A.D.T.

DRAWING NO. SP-3 — SHEET 6 / 20

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

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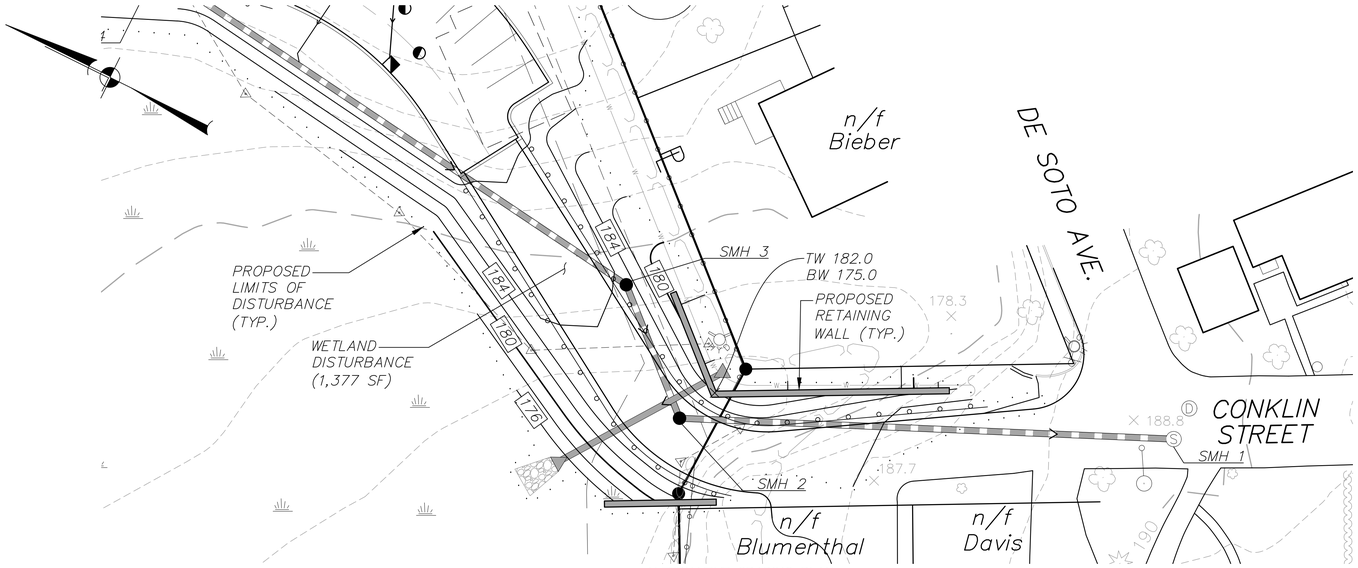
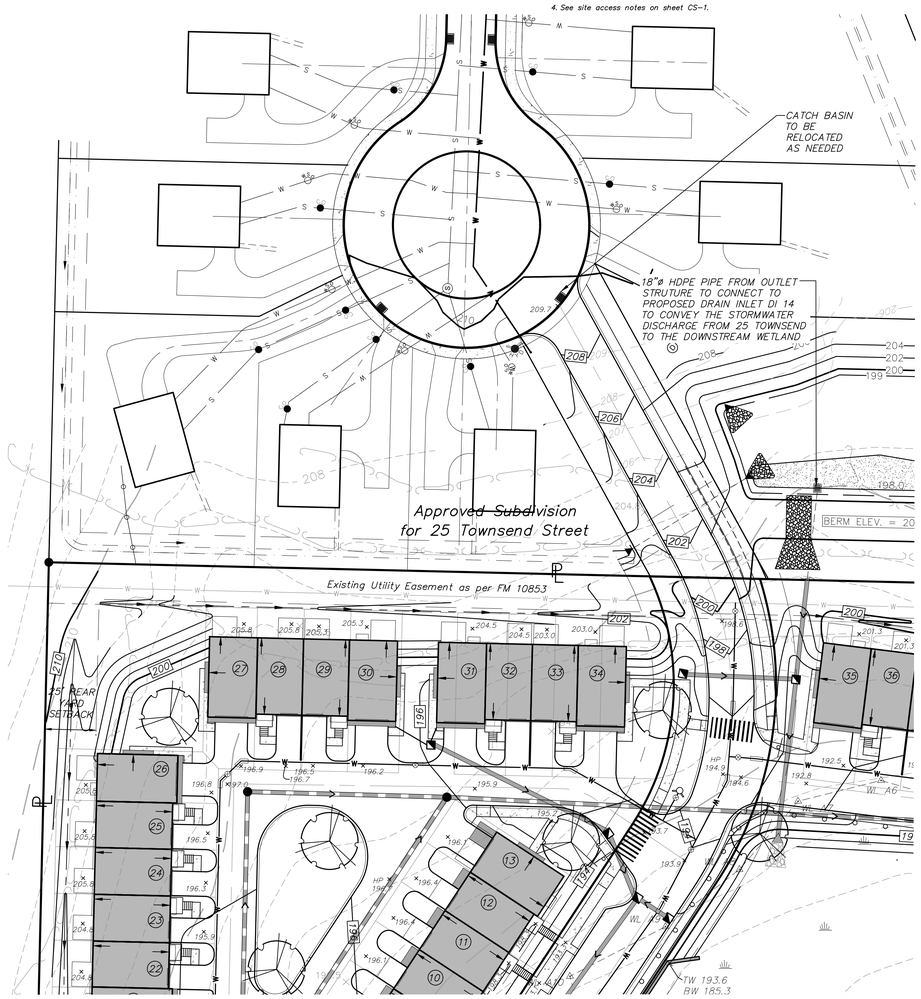


ALTERNATIVE GRADING PLAN FOR CONKLIN STREET EMERGENCY ACCESS

Notes:
1. The above grading is proposed in the event that an emergency access must be connected through to Conklin Street. See Site Access Notes for primary and contingency options for accessing the subdivision.
2. This contingency emergency access point will generate 1,377 SF± of additional wetland disturbance. The wetland mitigation area shown in this plan set accounts for the potential additional disturbance on a 1:1 basis.
3. In the event that this contingency emergency access is built, and at a later date, the proposed emergency access to Hastings Drive is made available after the construction of the proposed primary access to Townsend Street, the Conklin Street connection will continue to serve as a pedestrian path, and could, at the discretion of emergency services, function as a secondary emergency access.
4. See site access notes on sheet CS-1.

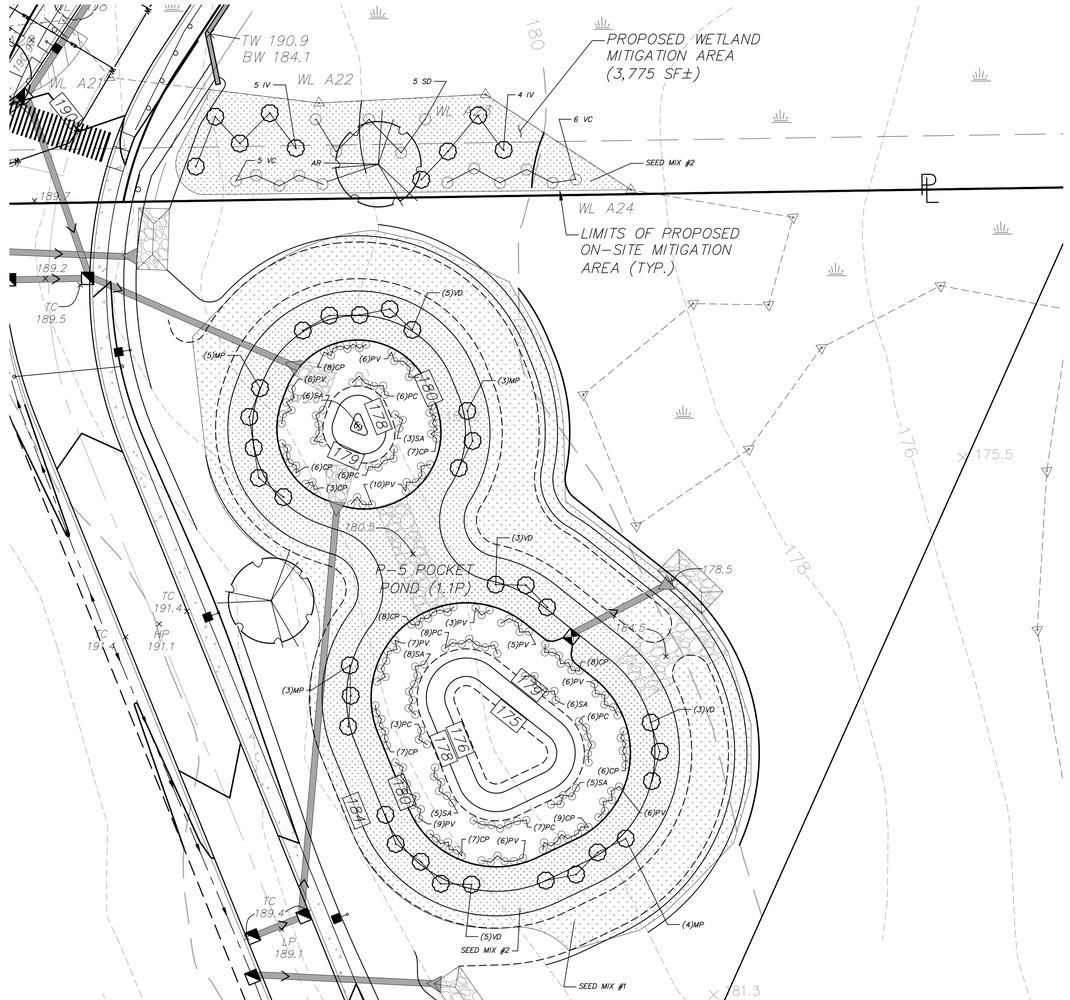
GRAPHIC SCALE
0 10 20 40
(IN FEET)
1 inch = 20 ft.



25 TOWNSEND STREET THROUGH CONNECTION

Note: See site access notes on sheet CS-1.

GRAPHIC SCALE
0 15 30 60
(IN FEET)
1 inch = 30 ft.



WETLAND MITIGATION & POCKET POND PLANTINGS & SEEDING PLAN

GRAPHIC SCALE
0 10 20 40
(IN FEET)
1 inch = 20 ft.

LEGEND

- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- EXISTING CHAIN LINK FENCE
- EXISTING EDGE OF PAVEMENT
- EXISTING WETLAND
- EXISTING WETLAND FLAG
- EXISTING TREE LINE
- PROPOSED SIGN
- PROPOSED DOOR LOCATION
- PROPOSED # OF STALLS TO BE STRIPED
- PROPOSED CONCRETE CURB
- PROPOSED EDGE OF SIDEWALK
- PROPOSED RETAINING WALL
- PROPOSED PAINTED STOPBAR
- PROPOSED CROSSWALK
- PROPOSED LANDSCAPING
- PROPOSED GUIDE RAIL
- PROPOSED POLE MOUNTED LIGHT
- PROPOSED BUILDING MOUNTED LIGHT

WETLAND MITIGATION NOTES:

1. Limits of both on-site and off-site wetland mitigation areas will be staked prior to the commencement of mitigation.
2. In addition to the plantings shown hereon the mitigation area is to be seeded at a rate of 25 lbs. per acre: New England Erosion Control/Restoration Mix For Detention Basins and Moist Sites from New England Wetland Plants, Inc. of Amherst, MA. See seeding notes for additional information.
3. All plant material to be nursery grown.
4. Plants shall conform with ANSI Z60.1 American Standard for Nursery Stock in all ways including dimensions.
5. Plants shall be taken from healthy nursery stock.
6. Plants shall be grown under climate conditions similar to those in the locality of the project.
7. The location and layout of landscape plants shown on the site plan shall take precedence in any discrepancies between the quantities of plants shown on the plans and the quantity of plants in the Plant List.
8. Provide a 3" layer of shredded mulch (or as specified) over entire watering saucer at all tree pits or over entire planting bed. Do not place mulch within 3" of tree or shrub trunks.
9. All landscape plantings shall be maintained in a healthy condition at all times. Any dead or diseased plants shall immediately be replaced "in kind" by the contractor (during warranty period) or project owner.
10. All landscape and mitigation plantings shall be installed by hand. No mechanical equipment shall be permitted.

WETLAND MITIGATION & POCKET POND PLANT LIST

QTY.	KEY	BOTANICAL/COMMON NAME	SIZE	ROOT
		SHADE TREES		
4	AR	Acer rubrum / Red Maple	10'-12' HT.	B&B
		SHRUBS		
33	IV	Ilex verticillata / Winterberry		#5 CONT./15' O.C.
30	MP	Myrica pensylvanica / Bayberry		#2 CONT./10' O.C.
21	SD	Salix discolor / Pussy Willow		#5 CONT./15' O.C.
35	VC	Vaccinium corymbosum / Highbush Blueberry		#5 CONT./15' O.C.
32	VD	Viburnum dentatum / Arrowwood Viburnum		#2 CONT./10' O.C.
		PERENNIALS/GRASSES/GROUND COVERS		
70	PC	Pontederia cordata / Pickerelweed		#1 CONT./36" O.C.
66	SA	Schoenoplectus acutus / Hard Stem Bulrush		#1 CONT./36" O.C.
128	PV	Panicum virgatum / Switchgrass		#1 CONT./36" O.C.
138	CP	Carex pensylvanica / Pennsylvania Sedge		#1 CONT./24" O.C.

NO.	DATE	REVISION	BY
4	11-30-21	REVISED PER PLANNING BOARD COMMENTS	EJP
3	12-29-20	REVISED PER PLANNING BOARD COMMENTS	JFR
2	7-28-20	REVISED PER PLANNING BOARD COMMENTS	JFR
1	6-30-20	REVISED PER PLANNING BOARD COMMENTS	JFR

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PROJECT:
BEACON VIEWS
CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

DRAWING:
ENLARGED PLANS

STATE OF NEW YORK — ASHLEY J. CONTARINO — 31931 — LICENSED PROFESSIONAL ENGINEER

PROJECT NUMBER	19131.100	PROJECT MANAGER	J.J.C.
DATE	5-26-20	DRAWN BY	J.F.R.
SCALE	AS SHOWN	CHECKED BY	A.D.T.

DRAWING NO. SP-4 | SHEET 7 / 20

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

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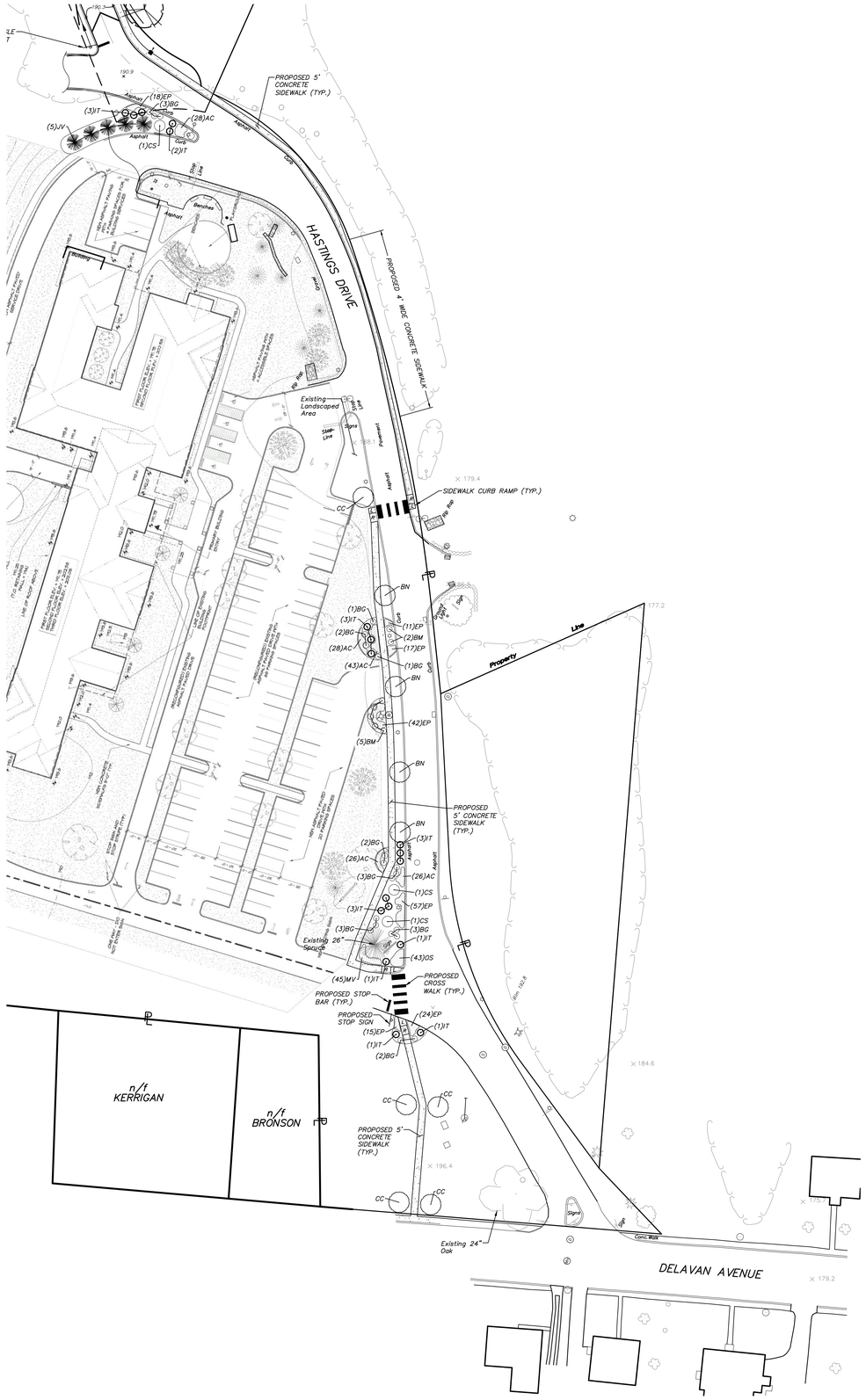

OFF-SITE IMPROVEMENTS PLAN

Notes:
1. See Site Access Notes on Sheet CS-1.

GRAPHIC SCALE

0 20 40 80

(IN FEET)
1 inch = 40 ft.

OFF-SITE IMPROVEMENTS PLANT LIST

QTY.	KEY	BOTANICAL/COMMON NAME	SIZE	ROOT
		EVERGREEN TREES		
5	JV	Juniperus virginiana / Eastern Red Cedar	10'-12' HT.	B&B
		FLOWERING TREES		
4	BN	Betula nigra / River Birch	8'-10' HT.	B&B
5	CC	Cercis canadensis / Eastern Redbud	8'-10' HT.	B&B
		SHRUBS		
20	BG	Buxus 'Green Gem' / Green Gem Boxwood		#3 CONT./3' O.C.
7	BM	Buxus 'Green Mountain' / Green Mountain Boxwood		#3 CONT./3' O.C.
3	CS	Cornus sericea / Red Twig Dogwood		#3 CONT./4' O.C.
18	IT	Itea virginica / Virginia Sweetspire		#3 CONT./3' O.C.
		PERENNIALS/GROUND COVERS		
151	AC	Aquilegia canadensis / Columbine		#1 CONT./18" O.C.
184	EP	Echinacea purpurea / Purple Coneflower		#1 CONT./18" O.C.
45	MV	Mertensia virginica / Virginia Bluebells		#1 CONT./18" O.C.
43	OS	Osmunda regalis / Royal Fern		#1 CONT./18" O.C.

LEGEND

- EXISTING PROPERTY LINE
- EXISTING EDGE OF PAVEMENT
- EXISTING TREE LINE
- EXISTING UTILITY POLE W/ GUY WIRE
- EXISTING HYDRANT
- EXISTING DRAINAGE MANHOLE
- EXISTING SEWER MANHOLE
- EXISTING MANHOLE
- EXISTING WATER VALVE
- EXISTING LIGHT
- EXISTING SIGN
- EXISTING TREES
- PROPOSED SIGN
- PROPOSED CONCRETE CURB
- PROPOSED EDGE OF SIDEWALK
- PROPOSED PAINTED STOPBAR
- PROPOSED CROSSWALK
- PROPOSED LANDSCAPING

General Note:

1. Boundary information and field conditions shown hereon were field located on August 8, 2019 by Insite Engineering, Surveying & Landscape Architecture, P.C.
2. Property line information for the Kerrigan and Bronson lots were taken from the Dutchess County Tax Map.
3. Layout information for the Highland Meadows Senior Housing property was taken from design plans by The Schwartz Architectural Group, P.C., dated November 3, 2011.
4. The 140 LF portion of the proposed sidewalk that is proposed at 4' wide is reduced from the 5' width shown elsewhere to accommodate the existing edge of pavement, and its close proximity to the property line. All other proposed sidewalks shown on this plan are 5' wide.

NO.	DATE	REVISION	BY
2	11-30-21	REVISED PER PLANNING BOARD COMMENTS	EJP
1	12-29-20	REVISED PER PLANNING BOARD COMMENTS	JFR

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Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

PROJECT:
BEACON VIEWS
CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

DRAWING:
OFF SITE IMPROVEMENTS PLAN

STATE OF NEW YORK · JEFFREY J. CONTELMO · 51931 · LICENSED PROFESSIONAL ENGINEER

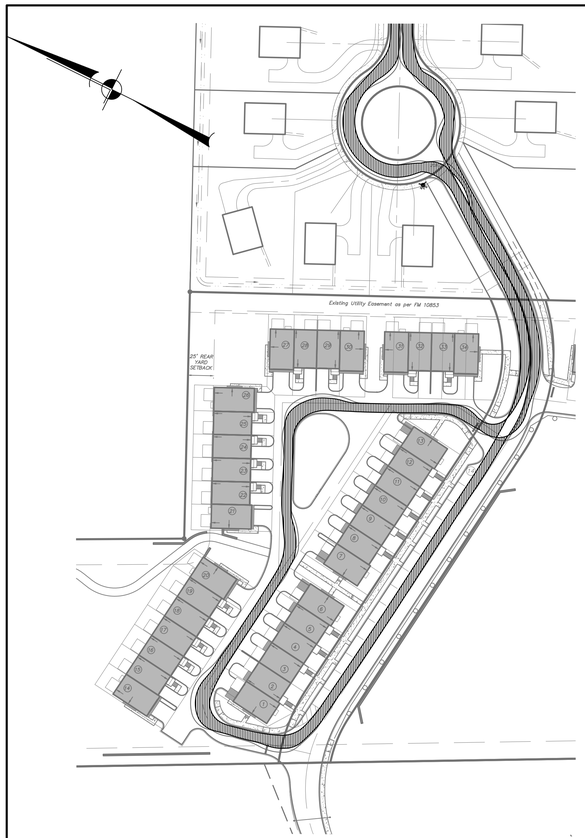
PROJECT NUMBER	19131.100	PROJECT MANAGER	J.J.C.
DATE	7-28-20	DRAWN BY	J.F.R.
SCALE	1" = 40'	CHECKED BY	A.D.T.

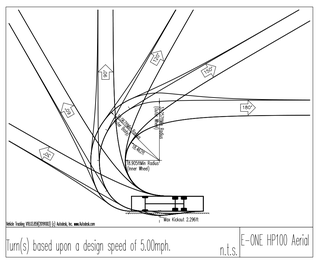
DRAWING NO. SP-5

SHEET 8 / 20

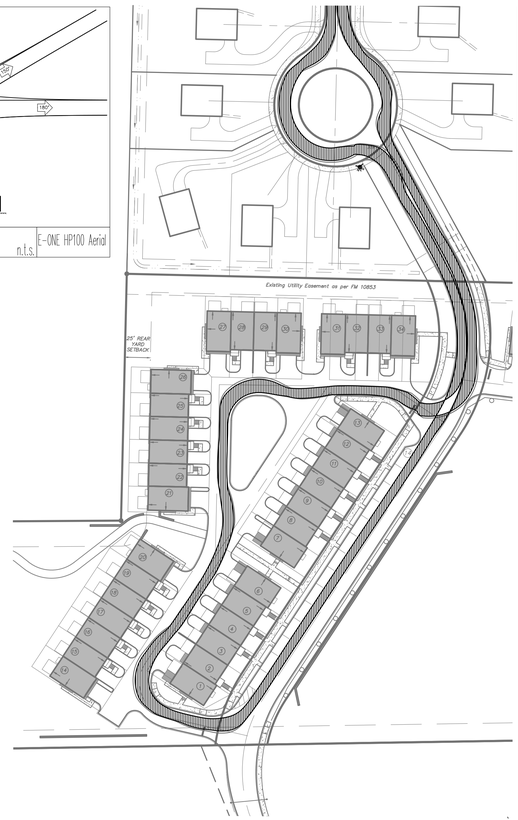
ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

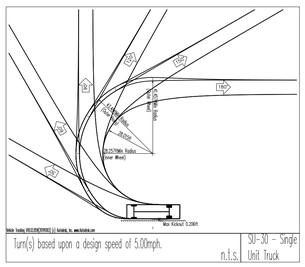
Z:\E\19131100 Kohn\08 SP-5.dwg 11/29/2021 12:31:05 PM jmatis 1:1



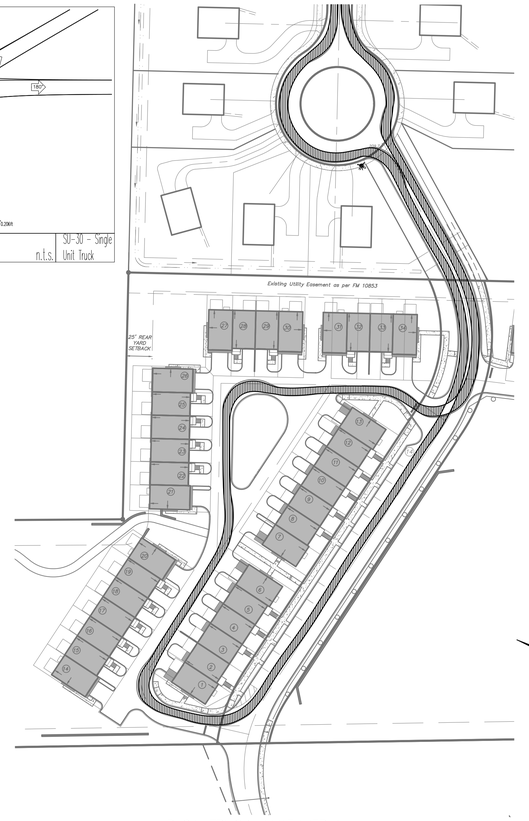


FIRE TRUCK MANEUVER 1
SCALE : 1" = 60'





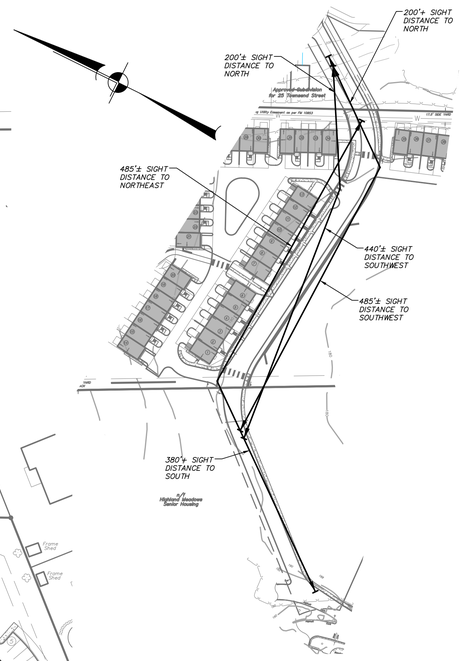
DELIVERY TRUCK MANEUVER 1
SCALE : 1" = 60'



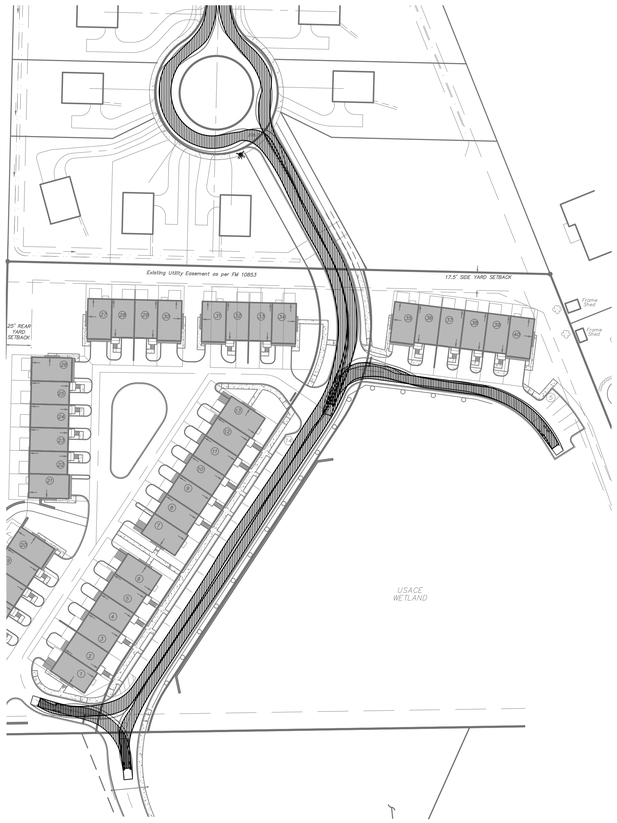
PLOW TRUCK MANEUVER 1
SCALE : 1" = 60'

LEGEND

- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- EXISTING CHAIN LINK FENCE
- EXISTING EDGE OF PAVEMENT
- EXISTING WETLAND
- WL A23 WL A24 EXISTING WETLAND FLAG
- EXISTING TREE LINE
- PROPOSED SIGN
- PROPOSED DOOR LOCATION
- 9 PROPOSED # OF STALLS TO BE STRIPED
- PROPOSED CONCRETE CURB
- PROPOSED EDGE OF SIDEWALK
- PROPOSED RETAINING WALL
- PROPOSED PAINTED STOPBAR
- PROPOSED CROSSWALK
- PROPOSED LANDSCAPING
- PROPOSED GUIDE RAIL
- PROPOSED POLE MOUNTED LIGHT
- PROPOSED BUILDING MOUNTED LIGHT



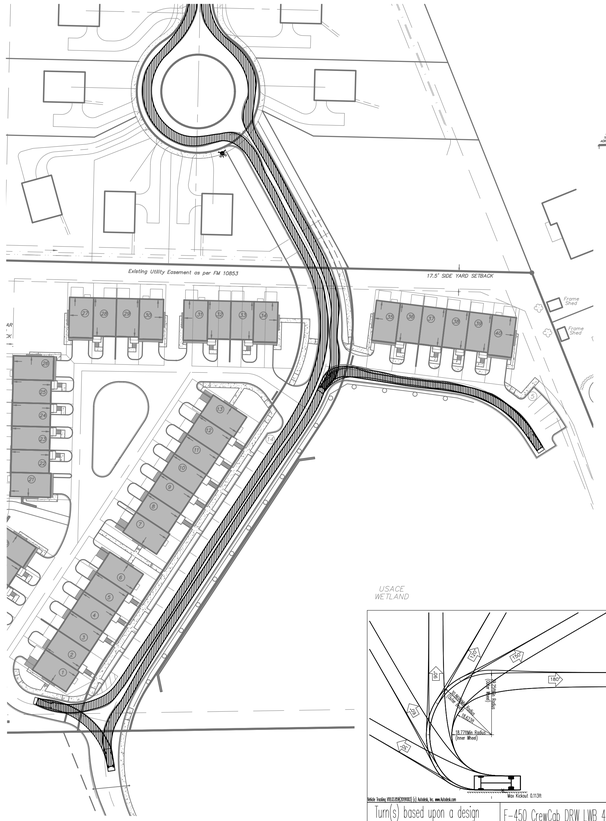
SIGHT DISTANCE ANALYSIS
SCALE : 1" = 100'



FIRE TRUCK MANEUVER 2
SCALE : 1" = 60'



DELIVERY TRUCK MANEUVER 2
SCALE : 1" = 60'



PLOW TRUCK MANEUVER 2
SCALE : 1" = 60'

REFER TO CS-1 FOR SITE ACCESS NOTES

NO.	DATE	REVISION	BY
4	11-30-21	REVISED PER PLANNING BOARD COMMENTS	EJP
3	12-29-20	REVISED PER PLANNING BOARD COMMENTS	JFR
2	7-28-20	REVISED PER PLANNING BOARD COMMENTS	JFR
1	6-30-20	REVISED PER PLANNING BOARD COMMENTS	JFR

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(845) 225-9717 fax
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PROJECT:
BEACON VIEWS
CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

DRAWING:
VEHICLE MANEUVERING PLAN

STATE OF NEW YORK · JEFFREY J. CONTELMO · 51931 · LICENSED PROFESSIONAL ENGINEER

PROJECT NUMBER	19131.100	PROJECT MANAGER	J.J.C.	DRAWING NO.	SHEET
DATE	6-30-20	DRAWN BY	J.F.R.	SP-6	9 / 20
SCALE	AS SHOWN	CHECKED BY	A.D.T.		

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.



Streetworks

DESCRIPTION

The Galleon™ LED luminaire delivers exceptional performance in a highly scalable, low-profile design. Patented, high-efficiency AccuLED Optics™ system provides uniform and energy conscious illumination to walkways, parking lots, roadways, building areas and security lighting applications. IP66 rated and UL/cUL Listed for wet locations.

GAN=Galleon
AF=1A Drive Current
01=1
LED=Solid
U=Universal (120-277V)
T4W=Type IV Wide
8030=80 CRI 3000K[1]

GAN
GALLEON LED

1-10 Light Squares
Solid State LED

AREA / ROADWAY LUMINAIRE
GAN-AF-01-LED-U-T4W-8030

DIMENSIONS

1-Light Zinc Outdoor Wall Barn Light Sconce Lantern
by **Hampton Bay**

Details

Compatible Bulb Type	CFL,Incandescent,LED	Exterior Lighting Product Type	Outdoor Lanterns
Fixture Color/Finish	Zinc	Fixture Material	Stainless Steel
Glass/Lens Type	No Glass/Lens	Included	Hardware Included
Light Bulb Base Code	E26	Light Bulb Type Included	No Bulbs Included
Maximum Bulb Wattage	60	Maximum Wattage (watts)	0
Number of Lights	1 Light	Outdoor Lighting Features	Dark Sky,Dimmable,Weather Resistant
Power Type	Hardwired	Power Type	Hardwired
Product Size	Small	Product Size	Medium
Product Weight (lb.)	1.756	Recommended Light Bulb Shape Code	A19
Returnable	180-Day	Sconce Type	Barn Light
Size	Medium	Style	Farmhouse,Industrial,Rustic
UL Listing	1-UL Listed	Voltage Type	Line Voltage

LIGHTING NOTES:

1. All lighting shall be as noted on the plan or approved equal.
2. Style and finish of all luminaires to be selected by owner and approved by the Planning Board.
3. Site lights will be on photocells and will run from dusk to dawn.
4. Photometrics for building mounted lights are not depicted in this plan.
5. Type, location, and shading of all proposed lighting shall prevent the spillover of light onto all adjacent residential properties.

LIGHT CONTOUR LEGEND

0.1	0.10 Foot Candles
0.5	0.50 Foot Candles
1	1.00 Foot Candles

* Photometric calculations shown on plan are in foot candles.

LUMINAIRE SCHEDULE

Symbol	Qty	Catalog Number	Description	Lamp	Mounting Height
▪■	14	GAN-AF-01-LED --U--T4W-8030	Galleon Area and Roadway Luminaire, 80 CRI, 3000K, Type 4 Distribution	LED	12' – 0"
▬	120	–	1-Light Zinc Outdoor Wall Barn Sconce Lantern Outfitted with 2700K 9W LED Bulbs CRI 80	LED	7' – 0"

GRAPHIC SCALE
0 20 40 80
(IN FEET)
1 inch = 40 ft.

NO.	DATE	REVISION	BY
6	11-30-21	REVISED PER PLANNING BOARD COMMENTS	EJP
5	12-29-20	REVISED PER PLANNING BOARD COMMENTS	JFR
4	7-28-20	REVISED PER PLANNING BOARD COMMENTS	JFR
3	6-30-20	REVISED PER PLANNING BOARD COMMENTS	JFR
2	5-26-20	REVISED PER PLANNING BOARD COMMENTS	JFR
1	4-28-20	RESUBMISSION TO PLANNING BOARD	JFR

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Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
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PROJECT:
BEACON VIEWS
CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

DRAWING:
LIGHTING PLAN

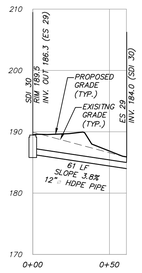
STATE OF NEW YORK — JEFFREY J. CONTRADA — 91931 — LICENSED PROFESSIONAL ENGINEER

PROJECT NUMBER	19131.100	PROJECT MANAGER	J.J.C.
DATE	8-27-19	DRAWN BY	J.F.R.
SCALE	1" = 40'	CHECKED BY	A.D.T.

DRAWING NO. LP-1 SHEET 10 / 20

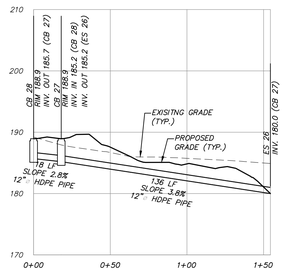
ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

Z:\E19\19100 Asfield\LP-1.dwg, 11/30/2021 12:27:44 PM, jhoss, 1:1



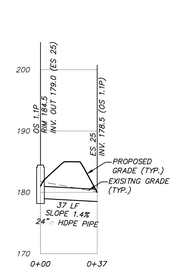
SDI 30 TO ES 29

SCALE: HORIZ. 1" = 40'
VER. 1" = 10'



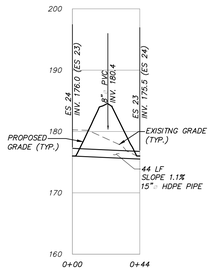
CB 28 TO ES 26

SCALE: HORIZ. 1" = 40'
VER. 1" = 10'



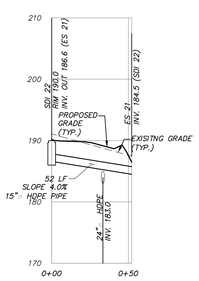
OS 1.1P TO ES 25

SCALE: HORIZ. 1" = 40'
VER. 1" = 10'



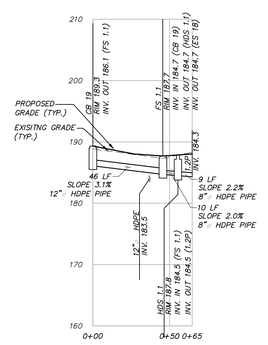
ES 24 TO ES 23

SCALE: HORIZ. 1" = 40'
VER. 1" = 10'



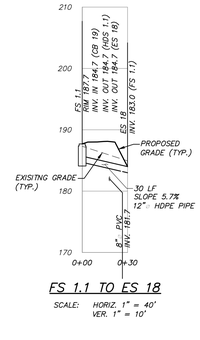
SDI 22 TO ES 21

SCALE: HORIZ. 1" = 40'
VER. 1" = 10'



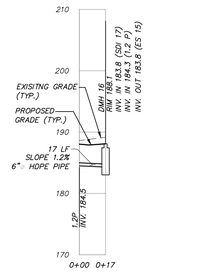
CB 19 TO INFILTRATION SYSTEM 1.2P

SCALE: HORIZ. 1" = 40'
VER. 1" = 10'



FS 1.1 TO ES 18

SCALE: HORIZ. 1" = 40'
VER. 1" = 10'



INFILTRATION SYSTEM 1.1P TO DMH 16

SCALE: HORIZ. 1" = 40'
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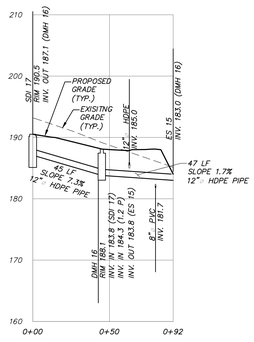

SDI 17 TO ES 15

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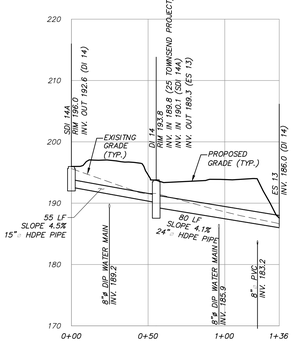

SDI 14A TO ES 13

SCALE: HORIZ. 1" = 40'
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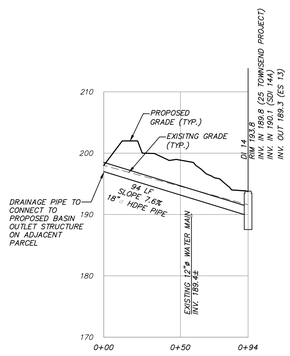
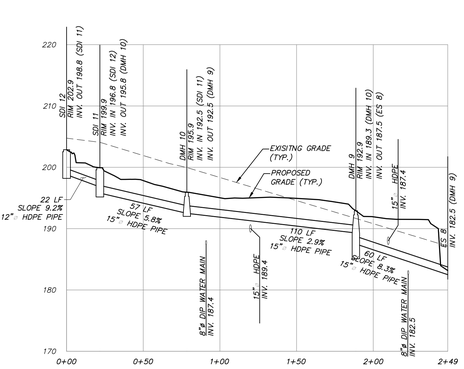


DRAINAGE EXTENSION FROM ADJACENT PROJECT TO DI 14

SCALE: HORIZ. 1" = 40'
VER. 1" = 10'



SDI 12 TO ES 8

SCALE: HORIZ. 1" = 40'
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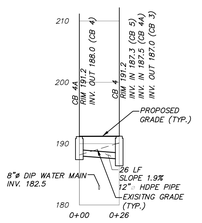

CB 4A TO CB 4

SCALE: HORIZ. 1" = 40'
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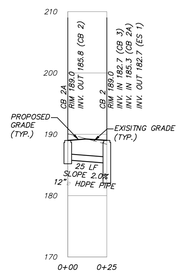
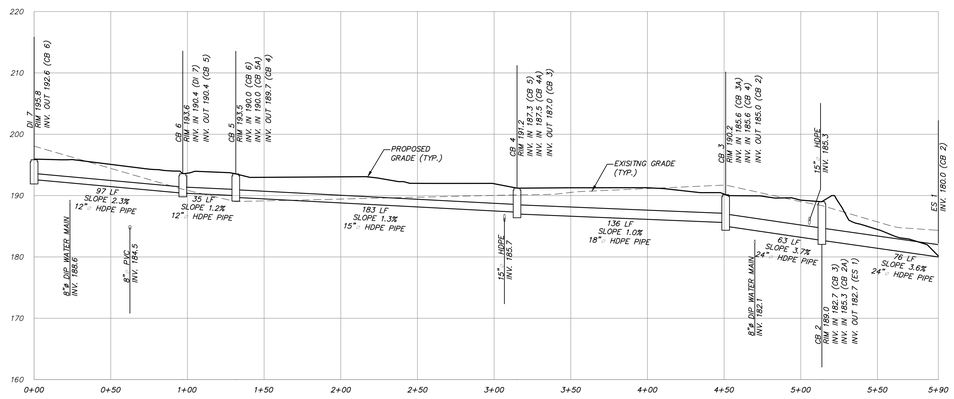


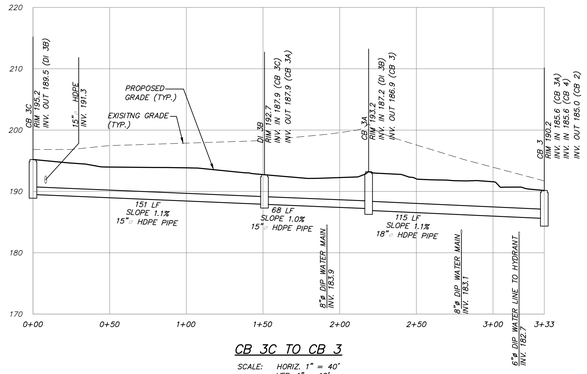
CB 2A TO CB 2

SCALE: HORIZ. 1" = 40'
VER. 1" = 10'



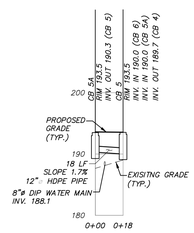
DI 7 TO ES 1

SCALE: HORIZ. 1" = 40'
VER. 1" = 10'



CB 3C TO CB 3

SCALE: HORIZ. 1" = 40'
VER. 1" = 10'



CB 5A TO CB 5

SCALE: HORIZ. 1" = 40'
VER. 1" = 10'

NO.	DATE	REVISION	BY
4	11-30-21	REVISED PER PLANNING BOARD COMMENTS	EJP
3	12-29-20	REVISED PER PLANNING BOARD COMMENTS	JFR
2	7-28-20	REVISED PER PLANNING BOARD COMMENTS	JFR
1	6-30-20	REVISED PER PLANNING BOARD COMMENTS	JFR

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3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

PROJECT:
BEACON VIEWS
CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

DRAWING:
DRAINAGE PROFILES

STATE OF NEW YORK — STANLEY J. CONTI — 91931 — LICENSED PROFESSIONAL ENGINEER

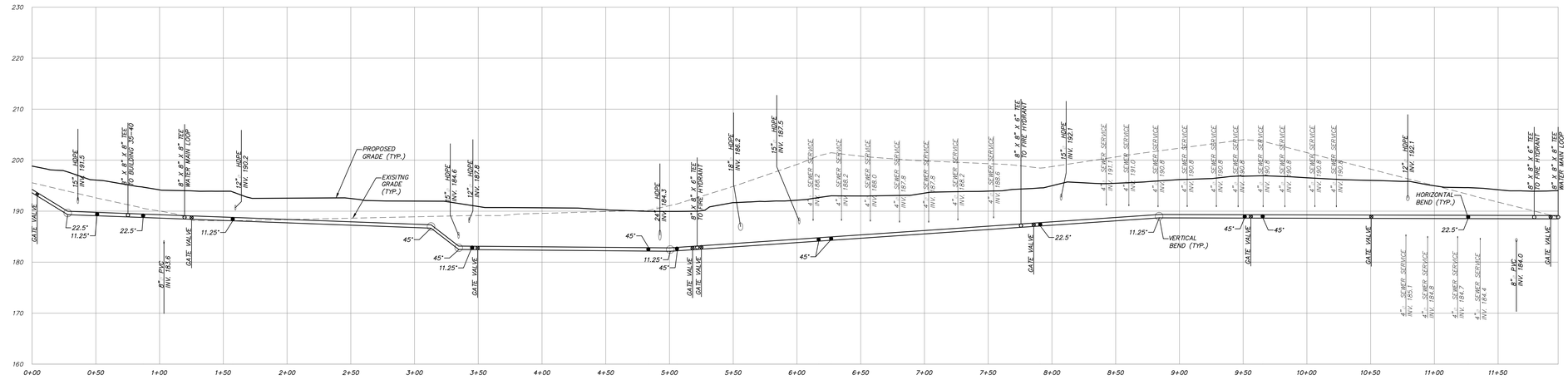
GRAPHIC SCALE
0 20 40 80
(IN FEET)
1 inch = 40 ft.

PROJECT NUMBER	19131.100	PROJECT MANAGER	J.J.C.
DATE	8-27-19	DRAWN BY	E.J.P.
SCALE	AS SHOWN	CHECKED BY	Z.M.P.

DRAWING NO. PR-1 SHEET 11/20

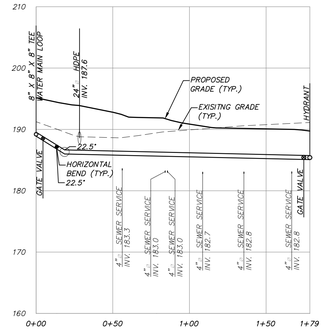
ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

Z:\E\19131\00\dwg\11 PR 2-Dwg, 12/29/2021 7:15:59 AM, epeckham, 1:1



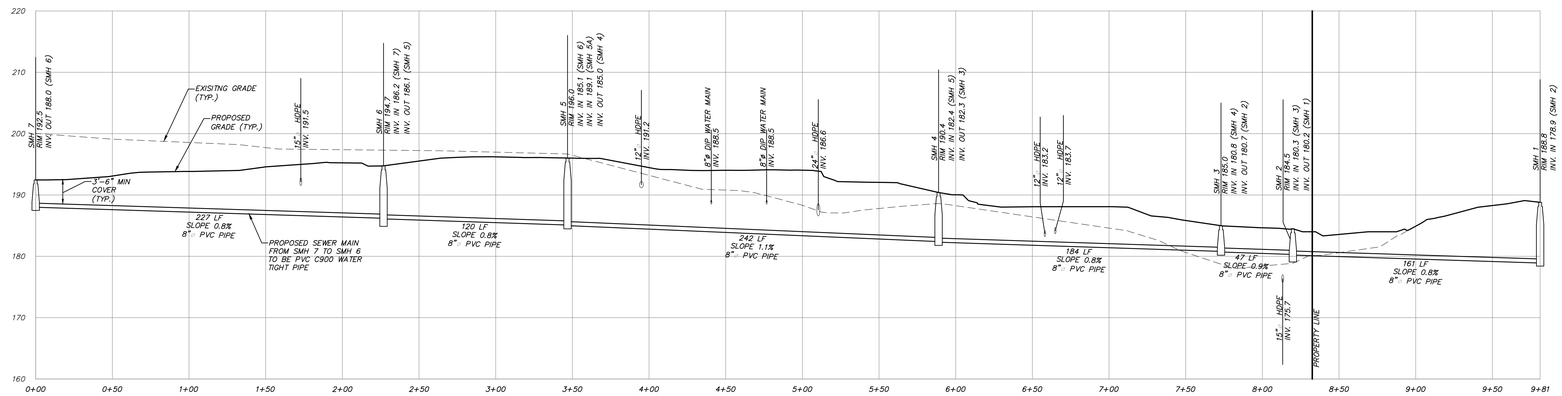
PROPOSED WATER MAIN LOOP PROFILE

SCALE: HORIZ. 1" = 40'
VER. 1" = 10'



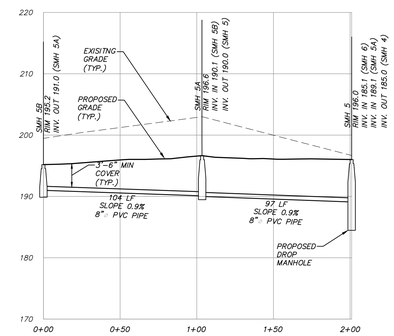
PROPOSED WATER MAIN EXTENSION TO BUILDING 35-40

SCALE: HORIZ. 1" = 40'
VER. 1" = 10'



SMH 7 TO SMH 1

SCALE: HORIZ. 1" = 40'
VER. 1" = 10'



SMH 5B TO SMH 5

SCALE: HORIZ. 1" = 40'
VER. 1" = 10'

GRAPHIC SCALE
0 20 40 80
(IN FEET)
1 inch = 40 ft.

NO.	DATE	REVISION	BY
4	11-30-21	REVISED PER PLANNING BOARD COMMENTS	EJP
3	12-29-20	REVISED PER PLANNING BOARD COMMENTS	JFR
2	7-28-20	REVISED PER PLANNING BOARD COMMENTS	JFR
1	6-30-20	REVISED PER PLANNING BOARD COMMENTS	JFR

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Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

PROJECT:
BEACON VIEWS
CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

DRAWING:
WATER & SEWER PROFILES

STATE OF NEW YORK — JEFFREY J. CONTENTO — 91931 — LICENSED PROFESSIONAL ENGINEER

PROJECT NUMBER	19131.100	PROJECT MANAGER	J.J.C.	DRAWING NO.	SHEET
DATE	8-27-19	DRAWN BY	E.J.P.	PR-2	12 / 20
SCALE	AS SHOWN	CHECKED BY	Z.M.P.		

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

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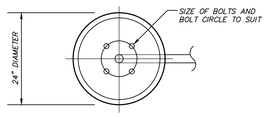
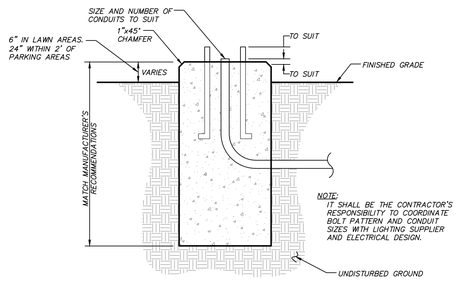
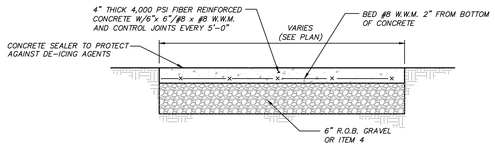


PLAN VIEW



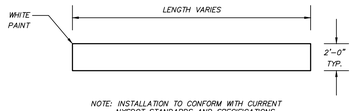
SECTION

LIGHT POLE BASE DETAIL
(N.T.S.)



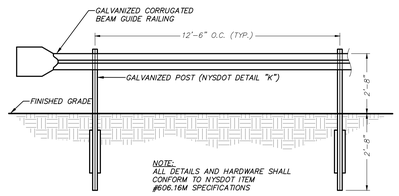
NOTE: INSTALL EXPANSION JOINTS EVERY 10'-0"
AND CONTROL JOINTS EVERY 5'-0"

CONCRETE SIDEWALK DETAIL
(N.T.S.)



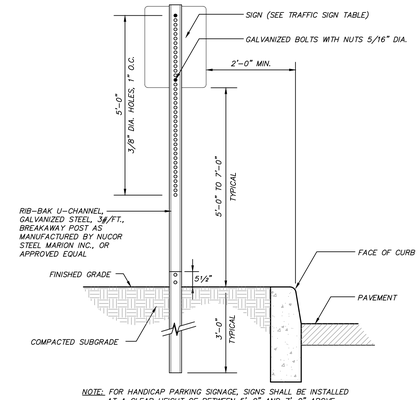
NOTE: INSTALLATION TO CONFORM WITH CURRENT
NYSDOT STANDARDS AND SPECIFICATIONS.

PAINTED STOP BAR DETAIL
(N.T.S.)



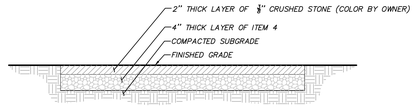
NOTE:
ALL DETAILS AND HARDWARE SHALL
CONFORM TO NYSDOT ITEM
#606.16M SPECIFICATIONS

GUIDERAIL DETAIL
(N.T.S.)

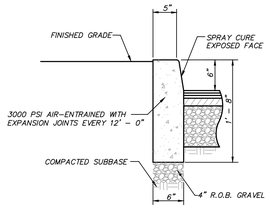


NOTE: FOR HANDICAP PARKING SIGNAGE, SIGNS SHALL BE INSTALLED
AT A CLEAR HEIGHT OF BETWEEN 5'-0" AND 7'-0" ABOVE
GRADE OF PARKING SPACE AND SUCH THAT SIGNS SHALL NOT
BE OBSCURED BY A VEHICLE PARKED IN THE SPACE.

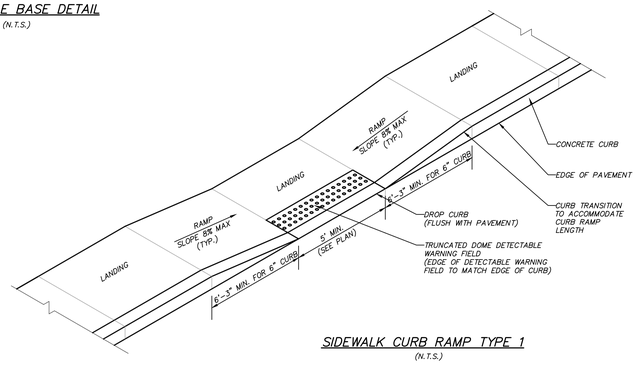
TRAFFIC SIGN DETAIL
(N.T.S.)



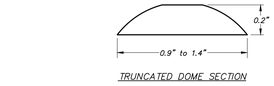
GRAVEL WALKWAY DETAIL
(N.T.S.)



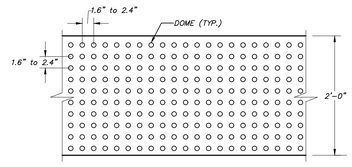
CONCRETE CURB DETAIL
(N.T.S.)



SIDEWALK CURB RAMP TYPE 1
(N.T.S.)



TRUNCATED DOME SECTION

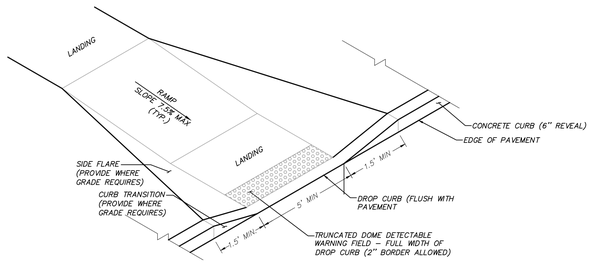


TRUNCATED DOME SPACING

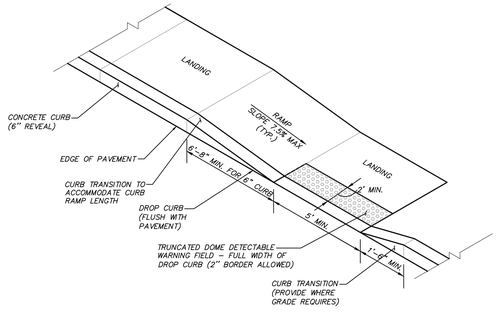
TRUNCATED DOME DETAIL
(N.T.S.)

TRUNCATED DOME DETECTABLE WARNING FIELD NOTES:

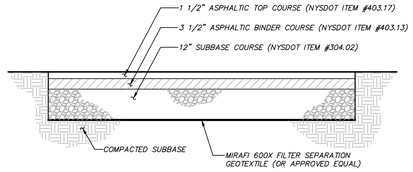
1. The detectable warning field shall consist of raised truncated domes with a nominal diameter of 0.9 inches, a nominal height of 0.2 inches, and a nominal spacing of 2.35 inches on center in accordance with the most recent version of ANSI ICC A117.1.
2. The details provided are not drawn to scale. The quantity of domes depicted on the detectable warning field (the domes and the entire 24 inch level surface) is for illustration only.
3. The size of the detectable warning field shall be 24 inches in the direction of travel and shall extend the full width of the curb ramp or flush surface, exclusive of side flares.
4. Detectable warnings shall be located so that the edge of the warning field nearest to the roadway or street surface is 6 inches to 9 inches from the edge of the roadway/street, or from the front of the dropped curb, where a dropped curb continues across the bottom of the sidewalk curb ramp.
5. Domes shall be aligned on a square grid in the predominant direction of travel.
6. The detectable warning field shall be yellow.



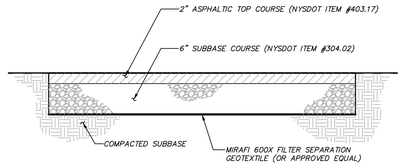
SIDEWALK CURB RAMP TYPE 2
(N.T.S.)



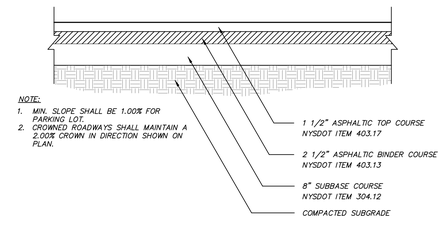
SIDEWALK CURB RAMP TYPE 3
(N.T.S.)



RIGHT OF WAY ASPHALT DETAIL
(N.T.S.)



PRIVATE DRIVEWAY ASPHALT DETAIL
(N.T.S.)



NOTE:
1. MIN. SLOPE SHALL BE 1.00% FOR PARKING LOT.
2. CROWNED ROADWAYS SHALL MAINTAIN A 2.00% CROWN IN DIRECTION SHOWN ON PLAN.

PRIVATE ROAD PAVEMENT DETAIL
(N.T.S.)

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2	5-26-20	REVISED PER PLANNING BOARD COMMENTS	JFR
1	4-28-20	RESUBMISSION TO PLANNING BOARD	JFR

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3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

PROJECT:
BEACON VIEWS
CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

DRAWING:
DETAILS

STATE OF NEW YORK – JEFFREY J. CONTARINO – 091931 – LICENSED PROFESSIONAL ENGINEER

PROJECT NUMBER	19131.100	PROJECT MANAGER	J.J.C.
DATE	8-27-19	DRAWN BY	J.F.R.
SCALE	AS NOTED	CHECKED BY	A.D.T.

DRAWING NO. D-1 | SHEET 13 / 20

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

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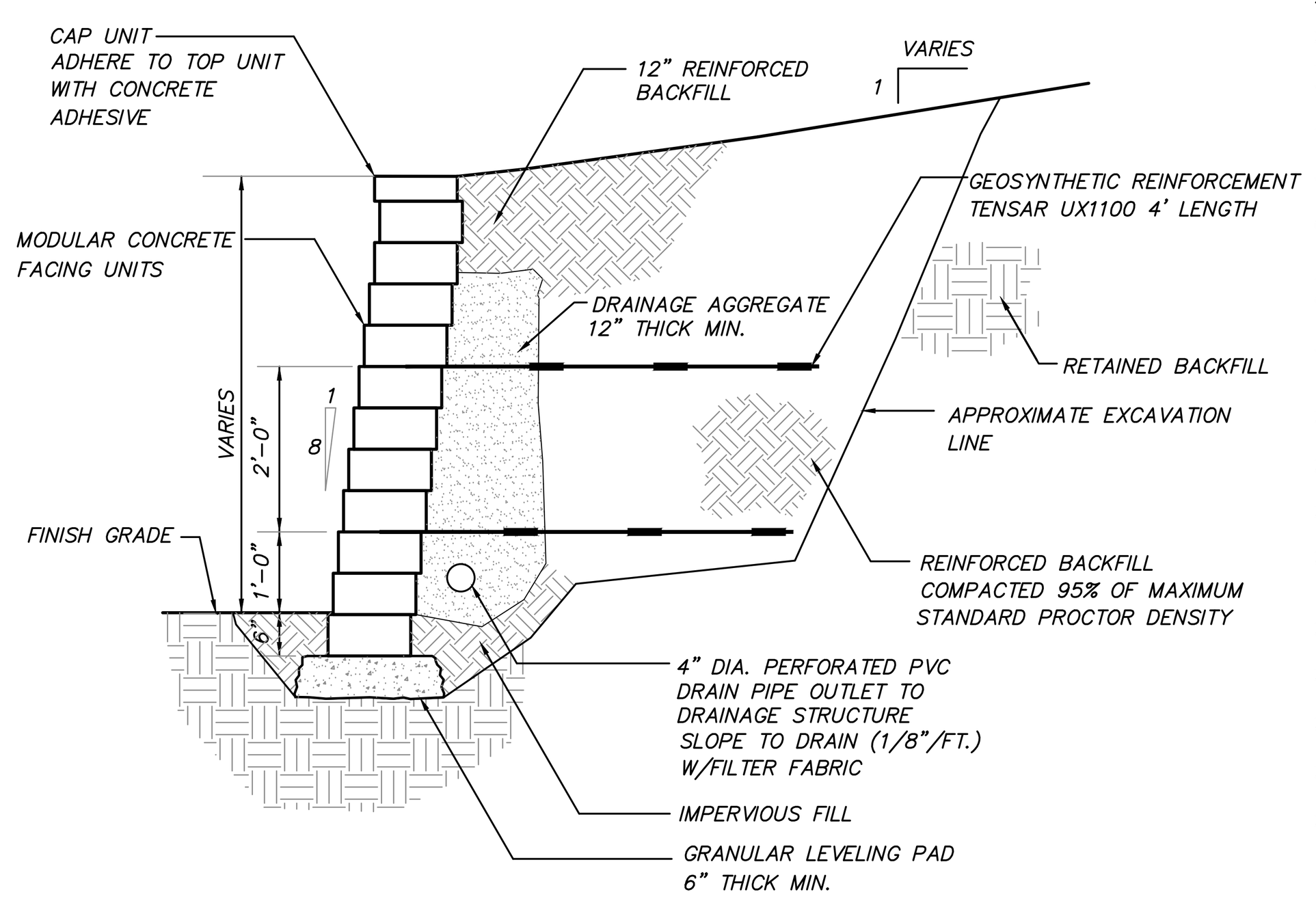
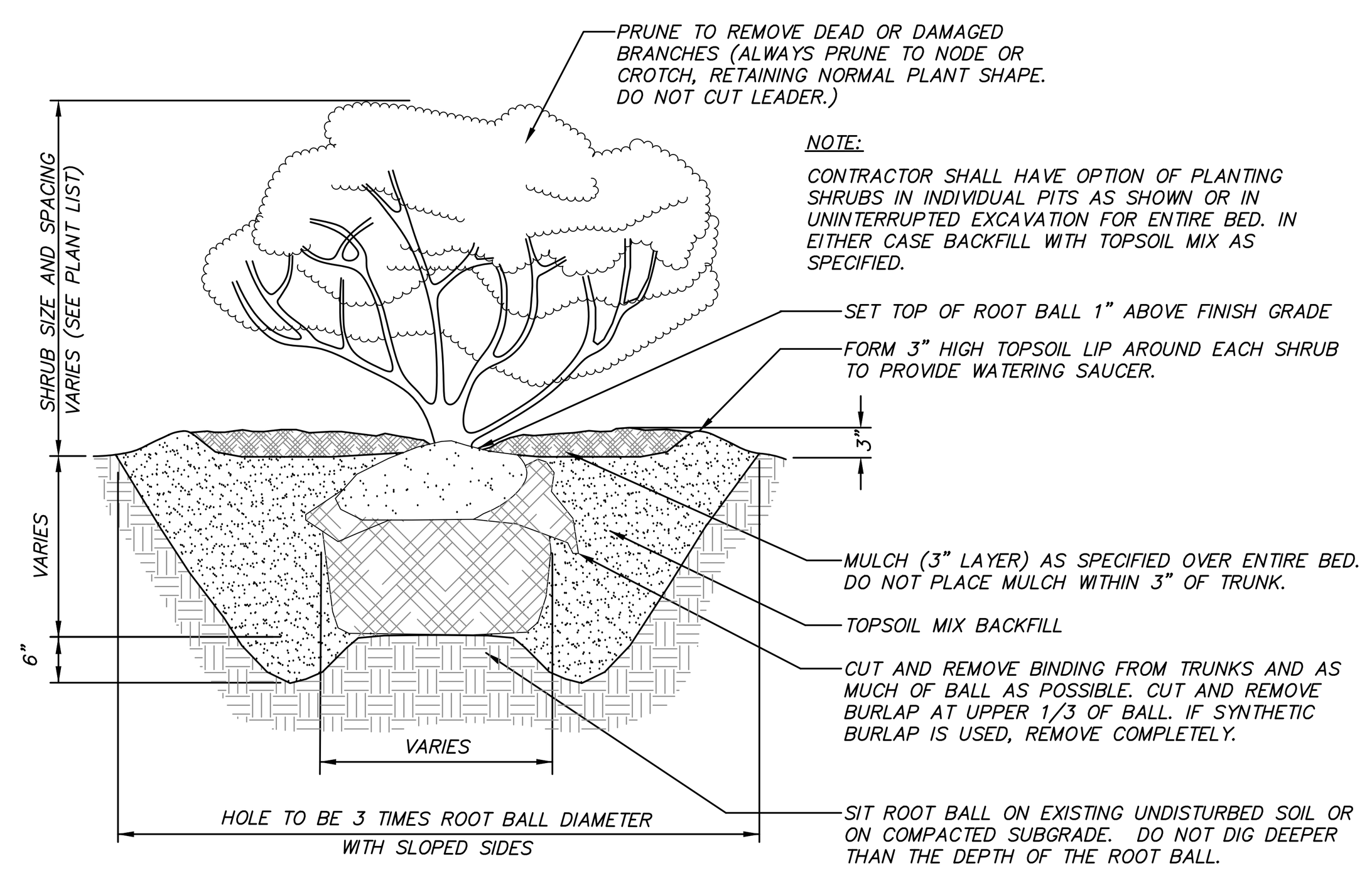


NOTES:

1. STRIP VEGETATION AND ORGANIC SOIL FROM WALL AND GEOSYNTHETIC ALIGNMENT.
2. BENCH CUT ALL EXCAVATED SLOPES.
3. DO NOT OVER EXCAVATE UNLESS DIRECTED BY SITE ENGINEER TO REMOVE UNSUITABLE SOIL.
4. SITE ENGINEER SHALL VERIFY FOUNDATION SOILS AS BEING COMPETENT PER THE DESIGN STANDARDS AND PARAMETERS.
5. LEVELING PAD SHALL CONSIST OF COMPACTED COARSE SAND OR CRUSHED GRAVEL, 6" THICK MIN.
6. CONTRACTOR MAY OPT FOR A LEAN CONCRETE PAD. CONCRETE PAD SHALL BE UNREINFORCED, 3" THICK MAXIMUM.
7. MINIMUM EMBEDMENT OF WALL BELOW FINISH GRADE SHALL BE 6".
8. FOR UNITS TO BE EMBEDDED, COMPACT FILL IN FRONT OF UNITS AT THE SAME TIME FILL BEHIND UNITS IS COMPACTED.
9. DRAINAGE AGGREGATE SHALL BE INSTALLED DIRECTLY BEHIND THE WALL WITHIN 12" OF THE TOP OF THE WALL. DRAINAGE AGGREGATE SHALL NOT EXTEND BELOW FINAL GRADE IN FRONT OF WALL.
10. COMPACTION SHALL BE TO 95% OF MAXIMUM STANDARD PROCTOR DENSITY.(ASTM D-698)
11. COMPACTION TESTS SHALL BE TAKEN AS THE WALL IS INSTALLED. THE MINIMUM NUMBER OF TESTS SHALL BE DETERMINED BY THE SITE SOILS ENGINEER.
12. COMPACTION WITHIN 3 FT. OF WALL SHALL BE LIMITED TO HAND OPERATED EQUIPMENT.
13. GEOSYNTHETIC SHALL BE PLACED WITH STRONGEST DIRECTION PERPENDICULAR TO WALL. FOLLOW GEOSYNTHETIC MANUFACTURER'S INSTALLATION INSTRUCTIONS AND WRITTEN SPECIFICATIONS.
14. CONTRACTOR SHALL DIRECT SURFACE RUNOFF TO AVOID DAMAGING WALL WHILE UNDER CONSTRUCTION.
15. ANY SURFACE DRAINAGE FEATURES, FINISH GRADING, PAVEMENT, OR TURF SHALL BE INSTALLED IMMEDIATELY AFTER WALL IS COMPLETED.
16. FOLLOW APPLICABLE PROVISIONS OF THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND WRITTEN SPECIFICATIONS.
17. MODULAR BLOCK RETAINING WALL AT STEPS TO BE INSTALLED VERTICALLY (NO BATTER)
18. MODULAR BLOCK RETAINING WALL MANUFACTURER TO SUPPLY CONSTRUCTION DETAILS OF WALL SIGNED AND SEALED BY AN ENGINEER LICENSED IN THE STATE OF NEW YORK.

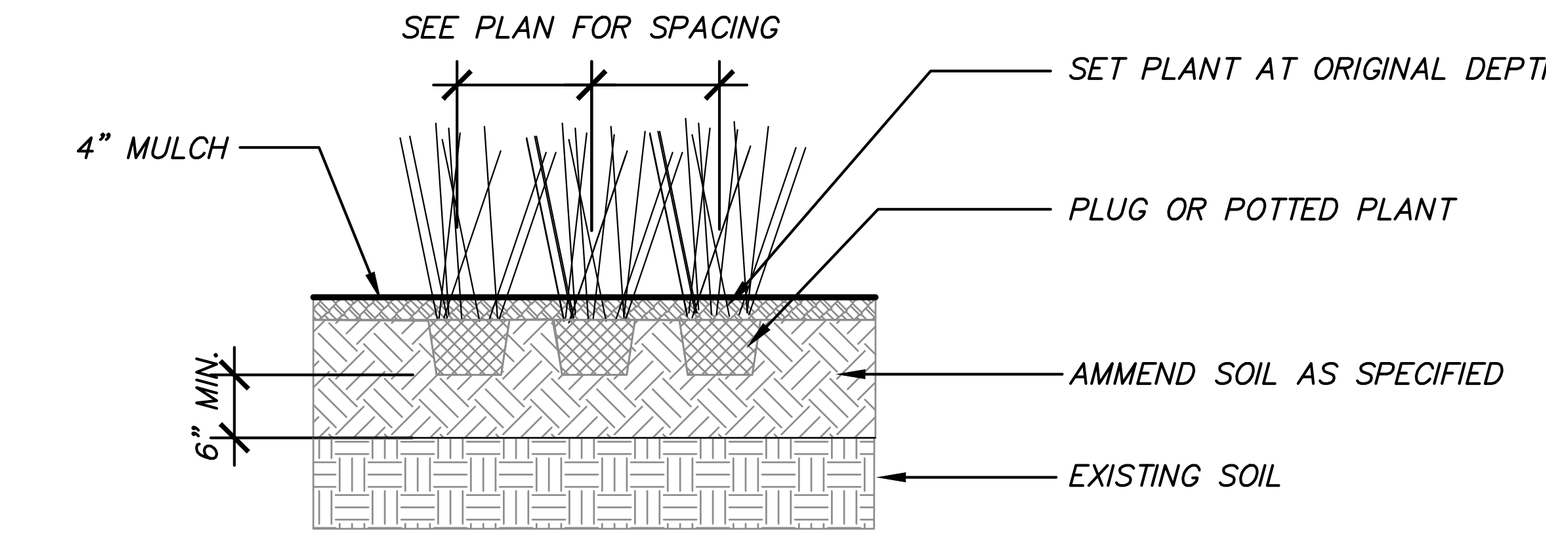
MODULAR BLOCK RETAINING WALL DETAIL

(N.T.S.)



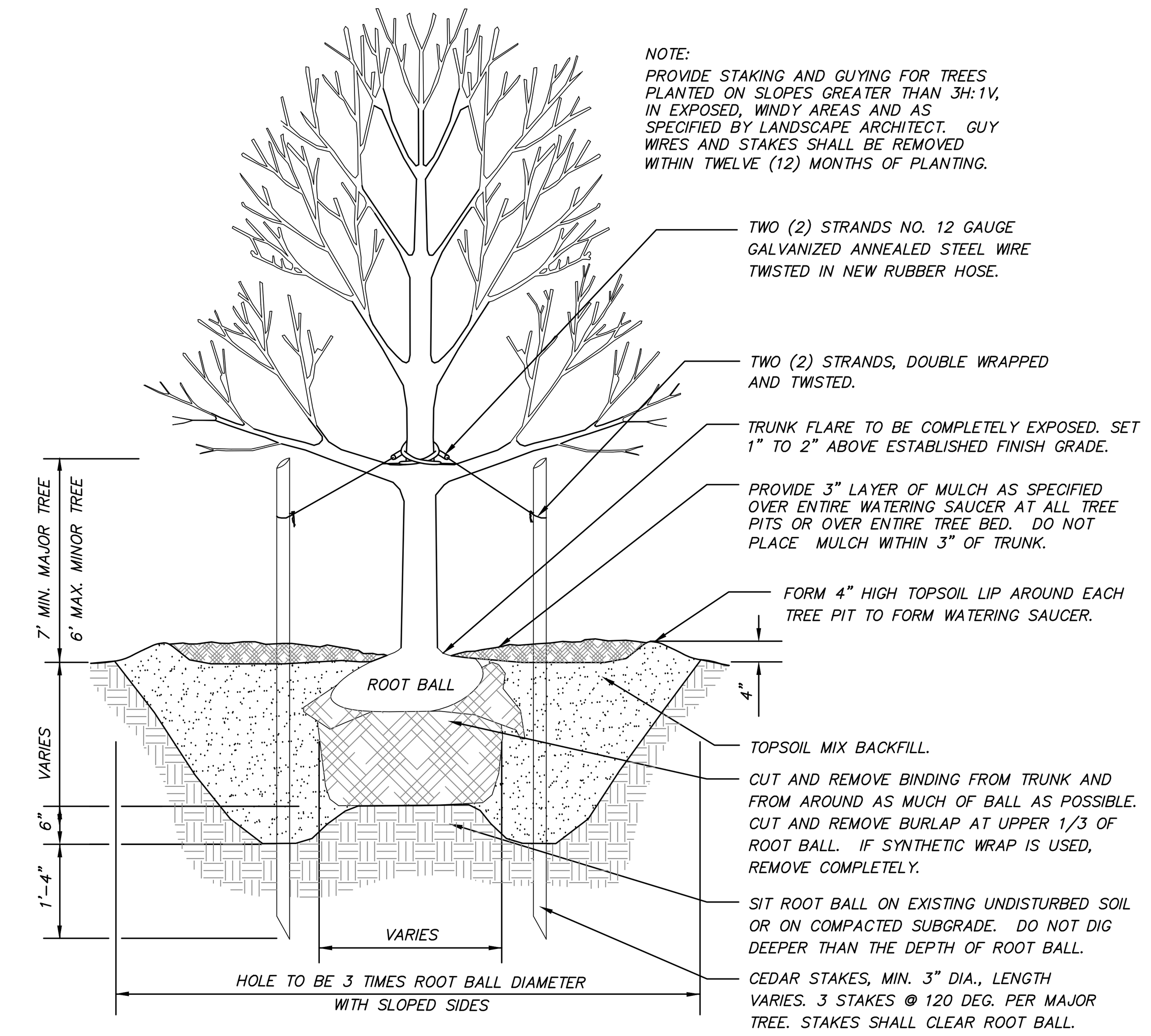
SHRUB PLANTING DETAIL

(N.T.S.)



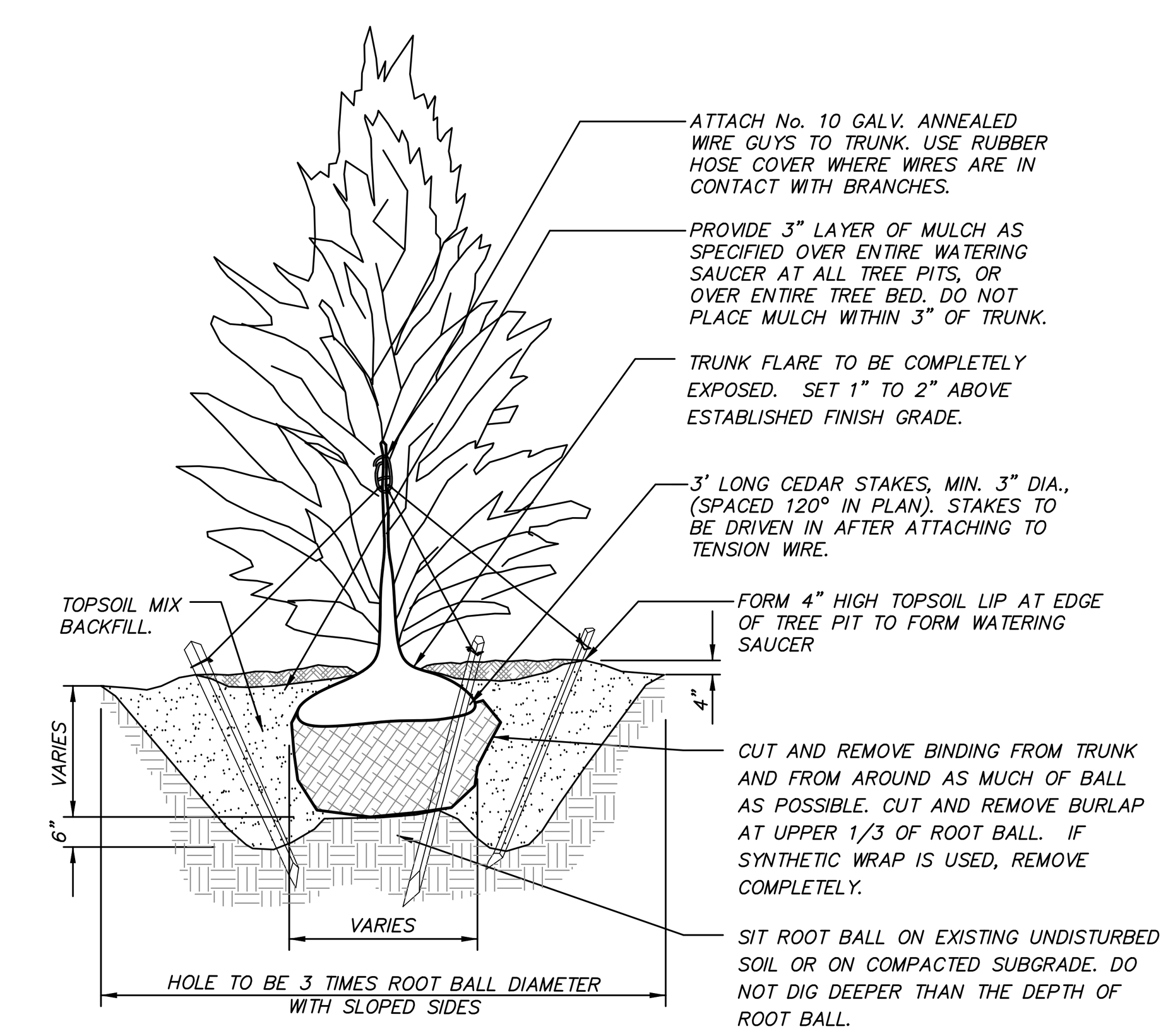
PERENNIAL / ORNAMENTAL GRASS PLANTING DETAIL

(N.T.S.)



TREE PLANTING DETAIL

(N.T.S.)



NOTE:
PROVIDE STAKING AND GUYING FOR TREES PLANTED ON SLOPES GREATER THAN 3H:1V, IN EXPOSED, WINDY AREAS AND AS SPECIFIED BY LANDSCAPE ARCHITECT. GUY WIRES AND STAKES SHALL BE REMOVED WITHIN TWELVE MONTHS OF PLANTING.

EVERGREEN TREE PLANTING DETAIL

(N.T.S.)

GENERAL PLANTING NOTES:

1. All proposed planting beds to receive a 12" min. depth of topsoil. Soil amendments and fertilizer application rates shall be determined based on specific testing of topsoil material.
2. Any new soils added will be amended as required by results of soil testing and placed using a method that will not cause compaction.
3. No fertilizer shall be added in stormwater basin plantings. Nutrient requirements to be met by incorporation of acceptable organic matter.
4. All plant material to be nursery grown.
5. Plants shall conform with ANSI Z60.1 American Standard for Nursery Stock in all ways including dimensions.
6. Plant material shall be taken from healthy nursery stock.
7. All plants shall be grown under climate conditions similar to those in the locality of the project.
8. Plants shall be planted in all locations designed on the plan or as staked in the field by the Landscape Architect.
9. The location and layout of landscape plants shown on the site plan shall take precedence in any discrepancies between the quantities of plants shown on the plans and the quantity of plants in the Plant List.
10. Provide a 3" layer of shredded pine bark mulch (or as specified) over entire watering saucer at all tree pits or over entire planting bed. Do not place mulch within 3" of tree or shrub trunks.
11. All landscape plantings shall be maintained in a healthy condition at all times. Any dead or diseased plants shall immediately be replaced "in kind" by the contractor (during warranty period) or project owner.

GENERAL SITE SEEDING NOTES:

1. All proposed seeded areas to receive 4" min. depth of topsoil. Soil amendments and fertilizer application rates shall be determined based on specific testing of topsoil material.
2. Upon final grading and placement of topsoil and any required soil amendments, areas to receive permanent vegetation cover in combination with suitable mulch as follows:
   - select seed mixture per drawings and seeding notes.
   - fertilizer applied at the manufacturer's recommended rate using Lesco 10-0-18 (no phosphorous) fertilizer or equivalent.
   - mulch: salt hay or small grain straw applied at a rate of 90 lbs./1000s.f. or 2 tons/acre, to be applied and anchored according to New York State Standards and Specifications for Erosion and Sediment Control, August 2005.
   - if the season prevents the establishment of a permanent vegetation cover, the disturbed areas will be mulched with straw or equivalent.
3. Seed Mix #1 for areas as shown on the drawings, including tops of berms and backslopes of embankments of stormwater basins at a rate of 25 lbs. per acre: New England Conservation/Wildlife Mix from New England Wetland Plants, Inc. of Amherst, MA.
4. Seed Mix #2 for areas as shown on the drawings in stormwater basins with no standing water at a rate of 18 lbs per acre: Erosion Control/ Restoration Mix for Detention Basins and Moist Sites from New England Wetland Plants, Inc. of Amherst MA.
5. Seed Mix #3 for all other disturbed areas not specified as seed mix #1 or #2. Primarily for lawn areas and mow strip along roads at a rate of 100 lbs. per acre:
   Kentucky Bluegrass 20%
   Creeping Red Fescue 40%
   Perennial Ryegrass 20%
   Annual Ryegrass 20%
6. Seed mixes to be planted between March 21 and May 20, or between August 15 and October 15 or as directed by project representative.
7. Mulch: Salt hay or small grain straw applied at a rate of 90 lbs./1000 S.F. or 2 tons/acre, to be applied and anchored according to "New York Standards and Specification For Erosion and Sediment Control," latest edition.
8. Grass seed mix may be applied by either mechanical or hydroseeding methods. Seeding shall be performed in accordance with the current edition of the "NYSDOT Standard Specification, Construction and Materials, Section 610-3.02, Method No. 1". Hydroseeding shall be performed using materials and methods as approved by the site engineer.

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PROJECT:

BEACON VIEWS

CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

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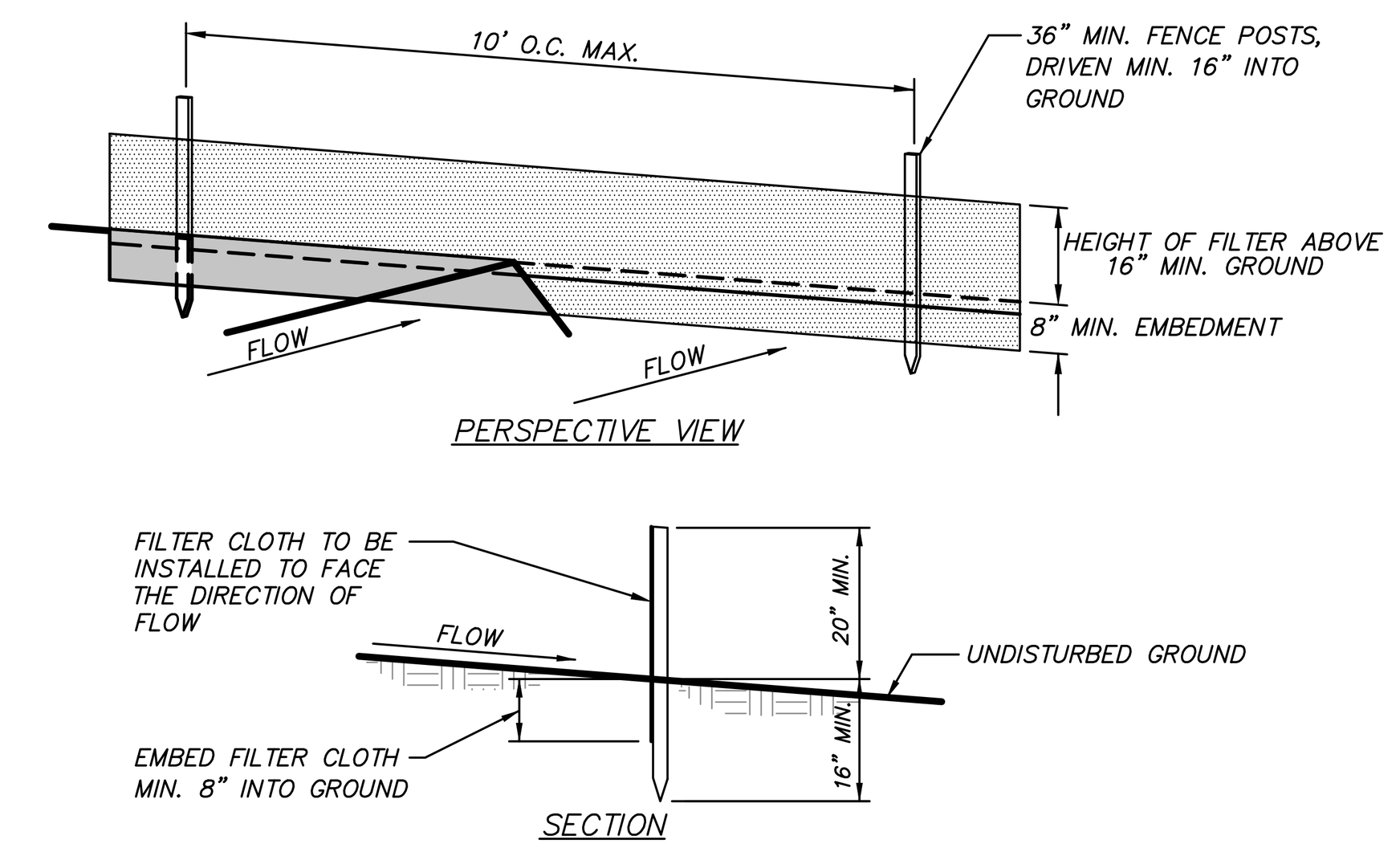


CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

1. FILTER CLOTH TO BE FASTENED SECURELY TO POSTS AT TOP AND MID SECTION.
2. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
3. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

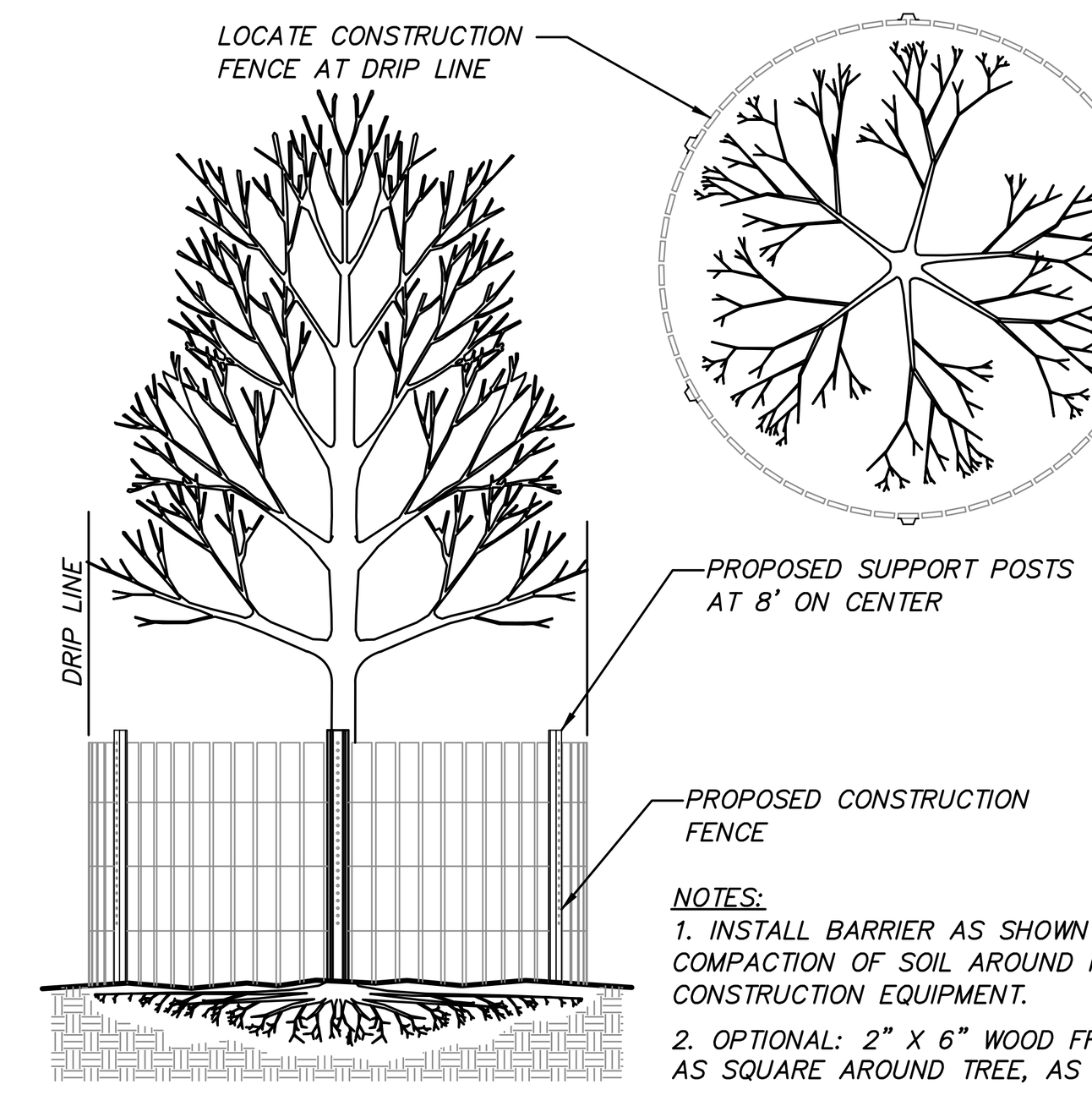
POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD

FILTER CLOTH: FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUAL

PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL

SILT FENCE DETAIL

(N.T.S.)



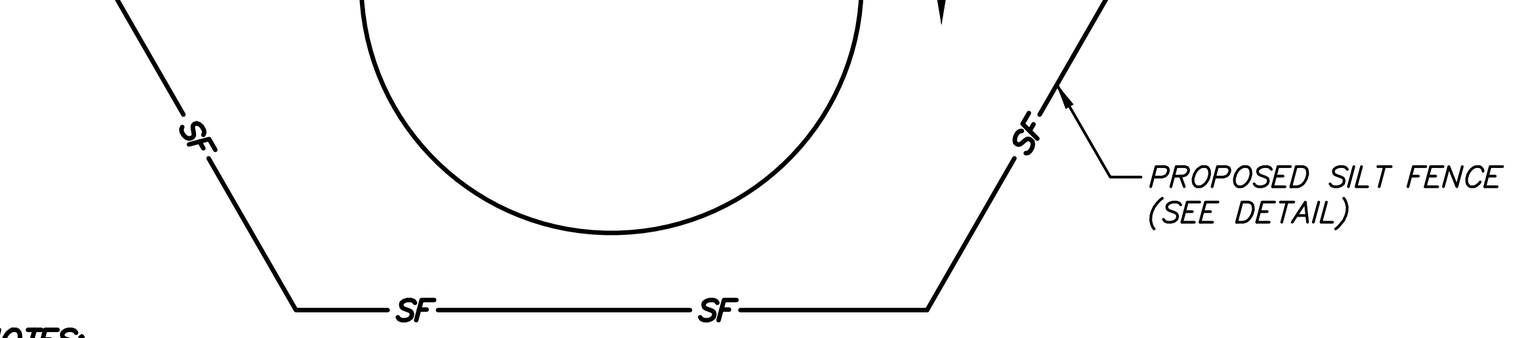
NOTES:
1. INSTALL BARRIER AS SHOWN TO PREVENT COMPACTION OF SOIL AROUND ROOTS BY CONSTRUCTION EQUIPMENT.
2. OPTIONAL: 2" X 6" WOOD FRAMING BUILT AS SQUARE AROUND TREE, AS ALTERNATIVE.

TREE PROTECTION DETAIL

(N.T.S.)

TREE PROTECTION NOTES:

1. Trees to be preserved in proximity to disturbance areas shall be marked in the field by the Landscape Architect prior to start of construction.
2. Install tree protection measures prior to start of site clearing & construction.
3. No construction equipment shall be parked and no earth or construction materials shall be stockpiled or stored under the canopy of trees to be preserved.
4. During tree removal operations associated with construction, do not damage adjacent trees to remain. Lower limbs and tree trunks, do not drop them.
5. Carefully tie back any tree branches that conflict with construction equipment.
6. Where trenching for utilities is required within a root zone, tunneling under and around roots shall be by hand digging. If roots 3" or larger are encountered immediately adjacent to the location of new construction and relocation is not practical, the roots shall be hand pruned under the supervision of a Certified Arborist or Landscape Architect to 6" back from the new construction limit. All exposed roots to receive appropriate treatment prior to backfilling.
7. If tree protection fencing to protect the root zone is not possible, six to eight inches of wood chip mulch and 3/4 inch plywood shall be placed over the entire affected root zone area to prevent soil compaction.
8. Any tree damaged during construction activities must be immediately repaired by a qualified arborist at no additional cost to the owner.

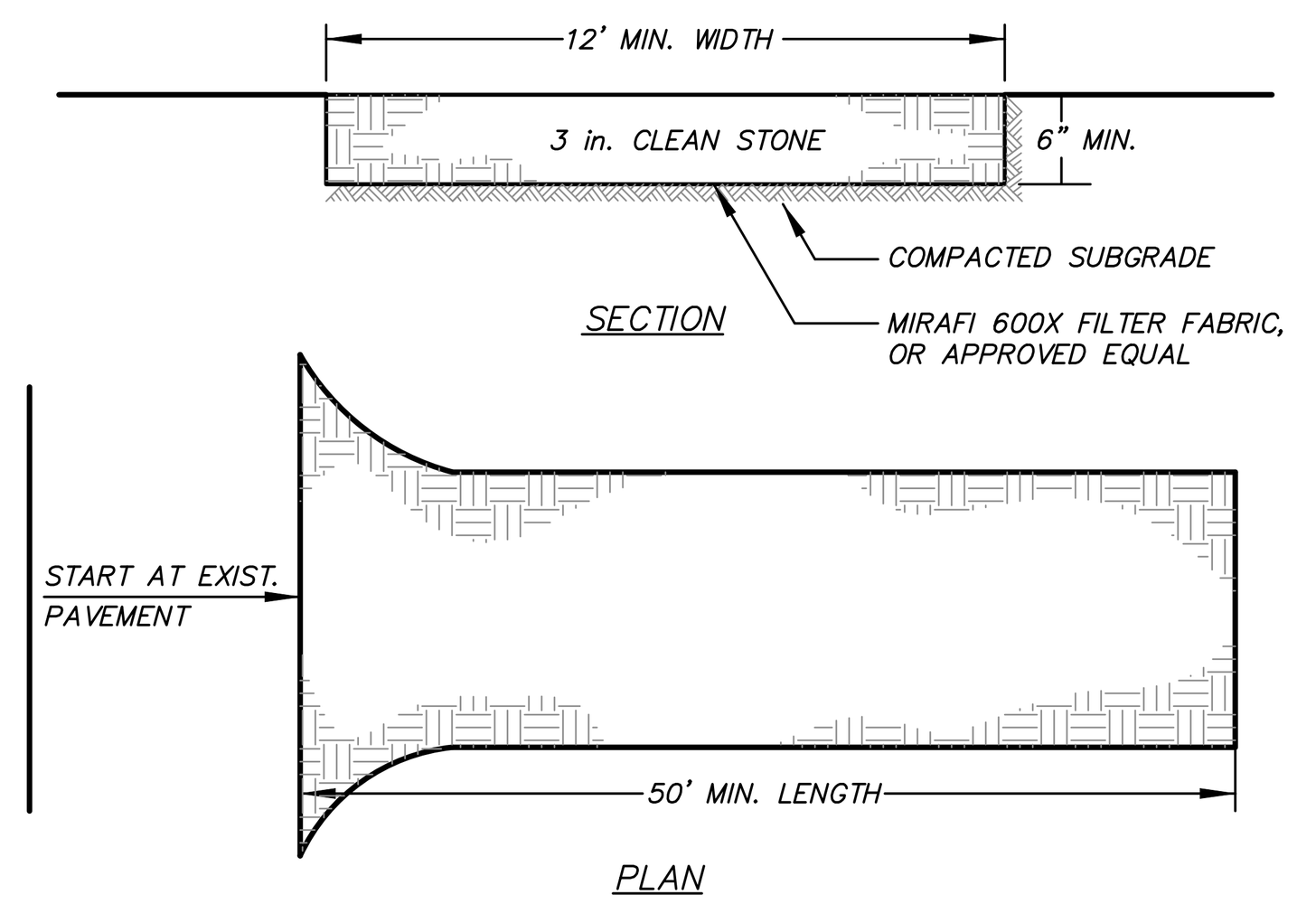


NOTES:

1. AREA CHOSEN FOR STOCKPILE LOCATION SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 2:1.
3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE IMMEDIATELY SEEDED WITH K31 PERENNIAL TALL FESCUE.
4. ALL STOCKPILES SHALL BE PROTECTED WITH SILT FENCING INSTALLED ON THE DOWNGRADIENT SIDE.

TEMPORARY SOIL STOCKPILE DETAIL

(N.T.S.)

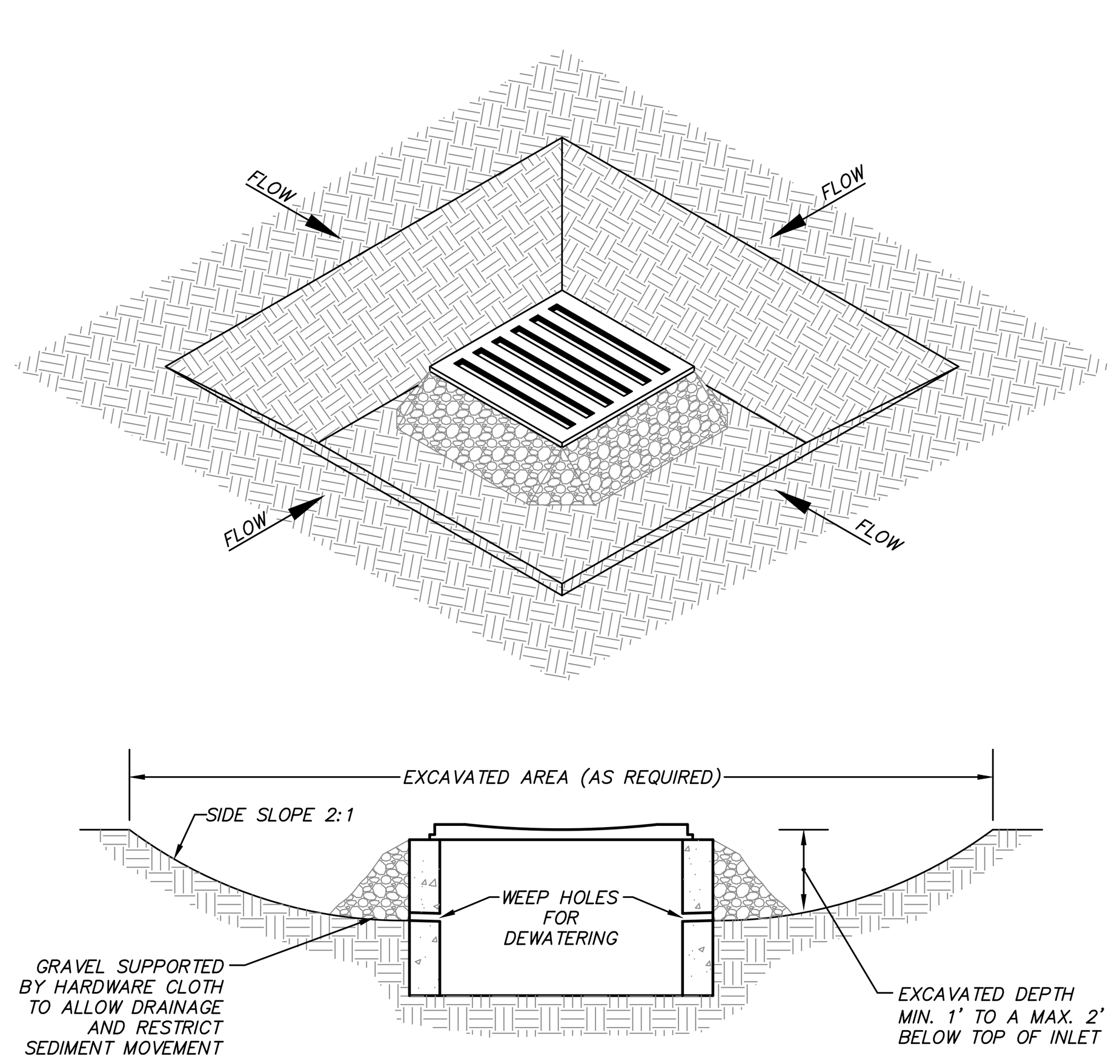


INSTALLATION NOTES

1. STONE SIZE – USE 3" STONE
2. LENGTH – AS REQUIRED, BUT NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY.)
3. THICKNESS – NOT LESS THAN SIX (6) INCHES.
4. WIDTH – 12 FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCUR.
5. FILTER CLOTH – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE. FILTER CLOTH WILL NOT BE REQUIRED ON A SINGLE FAMILY RESIDENCE LOT.
6. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT OF WAY THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT OF WAY MUST BE REMOVED IMMEDIATELY.
8. WASHING – WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT OF WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

STABILIZED CONSTRUCTION ENTRANCE DETAIL

(N.T.S.)

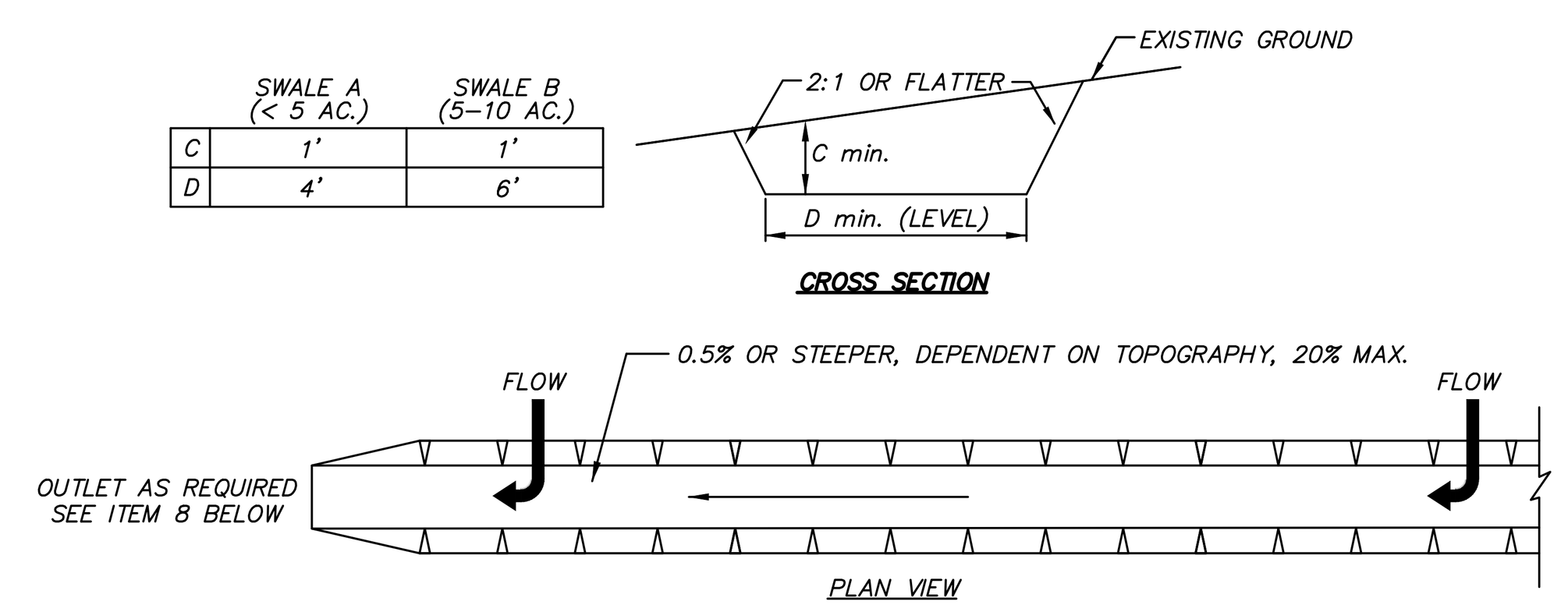


1. CLEAR THE AREA OF ALL DEBRIS THAT WILL HINDER EXCAVATION
2. GRADE APPROACH TO THE INLET UNIFORMLY AROUND THE BASIN
3. WEEP HOLES SHALL BE PROTECTED BY GRAVEL
4. UPON STABILIZATION OF CONTRIBUTING DRAINAGE AREA, SEAL WEEP HOLES, FILL EXCAVATION WITH STABLE SOIL TO FINAL GRADE, COMPACT IT PROPERLY, AND STABILIZE WITH PERMANENT SEEDING
5. MAXIMUM DRAINAGE AREA = 1 ACRE

EXCAVATED DROP INLET PROTECTION DETAIL

(N.T.S.)

	SWALE A (< 5 AC.)	SWALE B (5–10 AC.)
C	1'	1'
D	4'	6'



CONSTRUCTION SPECIFICATIONS

1. ALL TEMPORARY SWALES SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.
2. DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
3. DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED STABILIZED AREA AT NON–EROSIVE VELOCITY.
4. ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE SWALE.
5. THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN AND BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH WILL IMPEDE NORMAL FLOW.
6. FILLS SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.
7. ALL EARTH REMOVED AND NOT NEEDED ON CONSTRUCTION SHALL BE PLACED SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE SWALE.
8. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.
9. STABILIZATION SHALL BE AS PER THE CHART BELOW:

FLOW CHANNEL STABILIZATION

TYPE OF TREATMENT	CHANNEL GRADE	A (5 AC. OR LESS)	B (5–10 AC.)
1	0.5–3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1–5.0%	SEED AND STRAW MULCH	SEED USING JUTE OR EXCELSIOR
3	5.1–8.0%	SEED WITH JUTE OR EXCELSIOR; SOD	LINED RIP–RAP 4–8" RECYCLED CONCRETE EQUIVALENT
4	8.1–20%	LINED 4–8" RIP–RAP	ENGINEERED DESIGN

TEMPORARY SWALE DETAIL

(N.T.S.)

REQUIRED EROSION CONTROL SWPPP CONTENTS:

Pursuant to the NYSDEC "SPDES General Permit for Stormwater Discharges from Construction Activity" (GP–0–20–001), all Stormwater Pollution Prevention Plan's (SWPPP) shall include erosion and sediment control practices designed in conformance with the most current version of the technical standard, "New York Standards and Specifications for Erosion and Sediment Control." Where erosion and sediment control practices are not designed in conformance with this technical standard, the owner or operator must demonstrate equivalence to the technical standard. The following list of required SWPPP components is provided in accordance with Part III.B.1a–l of General Permit GP–0–20–001:

a. Background Information: The subject project consists of the construction of (7) townhome buildings with appurtenances and utilities.

b. Site map / construction drawing: These plans serve to satisfy this SWPPP requirement.

c. Description of the soils present at the site: Onsite soils located within the proposed limits of disturbance consist of Bernardston Silt Loam (BeB), Canandigua Silt Loam (Ca), and Nassau–Cardigan Complex (NwC) as identified on the Soil Conservation Service Websoil Survey. These soil types belong to the Hydrologic Soil Group "C/D" and "D"."

d. Construction phasing plan / sequence of operations: The Construction Sequence and phasing found on these plans provide the required phasing. A Construction Sequence and Erosion and Sediment Control Maintenance Schedule has been provided. The Sedimentation and Erosion Control Notes contained hereon outline a general sequence of operations for the proposed project. In general all erosion and sediment control facilities shall be installed prior to commencement with land disturbing activities, and areas of disturbance shall be limited to the shortest period of time as practicable.

e. Description of erosion and sediment control practices: This plan, and details / notes shown hereon serve to satisfy this SWPPP requirement.

f. Temporary and permanent soil stabilization plan: The Sedimentation and Erosion Control Notes and Details provided heron identify temporary and permanent stabilization measures to be employed with respect to specific elements of the project, and at the various stages of development.

g. Site map / construction drawing: This plan set serves to satisfy this SWPPP requirement.

h. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices: The details, Erosion and Sediment Control Notes, and Erosion and Sediment Control Maintenance Schedule serve to satisfy this SWPPP requirement.

i. An inspection schedule: Inspections are to be performed twice weekly and by a qualified professional as required by the General Permit GP–0–20–001. In addition the NYSDEC Trained Contractor shall perform additional inspections as cited in the Erosion and Sediment Control Notes.

j. A description of pollution prevention measures that will be used to control litter, construction chemicals and construction debris: In general, all construction litter / debris shall be collected and removed from the site. The general contractor shall supply either waste barrels or dumpster for proper waste disposal. Any construction chemicals utilized during construction shall either be removed from site daily by the contractor or stored in a structurally sound and weatherproof building. No hazardous waste shall be disposed of onsite, and shall ultimately be disposed of in accordance with all federal, state and local regulations. Material Safety Data Sheets (MSDS), material inventory, and emergency contact numbers shall be maintained by the general contractor for all construction chemicals utilized onsite. Finally, temporary sanitary facilities (portable toilets) shall be provided onsite during the entire length of construction, and inspected weekly for evidence of leaking holding tanks.

k. A description and location of any stormwater discharges associated with industrial activity other than construction at the site: There are no known industrial stormwater discharges present or proposed at the site.

l. Identification of any elements of the design that are not in conformance with the technical standard, "New York Standards and Specifications for Erosion and Sediment Control." All proposed elements of this SWPPP have been designed in accordance with the "New York Standards and Specifications for Erosion and Sediment Control."

REQUIRED POST–CONSTRUCTION STORMWATER MANAGEMENT PRACTICE COMPONENTS:

1. Pursuant to the NYSDEC "SPDES General Permit for Stormwater Discharges from Construction Activity" (GP–0–20–001), all construction projects needing post–construction stormwater management practices shall prepare a SWPPP that also includes practices designed in conformance with the most current version of the technical standard, New York State Stormwater Management Design Manual ("Design Manual"). Where post–construction stormwater management practices are not designed in conformance with this technical standard, the owner or operator must demonstrate equivalence to the technical standard. The following list of SWPPP components is provided in accordance with Part III.B.2a–g and III.B.3:

   a. Identification of all post–construction stormwater management practices to be constructed as part of the project; This plan, and details/notes shown hereon serve to satisfy this SWPPP requirement.

   b. A site map/construction drawing(s) showing the specific location and size of each post–construction stormwater management practice; This plan, and details/notes shown hereon serve to satisfy this SWPPP requirement.

A Stormwater Modeling and Analysis Report including pre–development conditions, post–development conditions, the results of the stormwater modeling, a summary table demonstrating that each practice has been designed in conformance with the sizing criteria, identification of and justification for any deviations from the Design Manual, and identification of any design criteria that are not required. The required analysis will be provided in a Preliminary Stormwater Pollution Prevention Plan.

   c. Soil testing results and locations. This SWPPP requirement will be provided in the Preliminary Stormwater Pollution Prevention Plan.

   d. Infiltration testing results. This SWPPP requirement will be provided in the Preliminary Stormwater Pollution Prevention Plan.

   e. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each post–construction stormwater management practice. The plan shall identify the entity that will be responsible for the long term operation and maintenance of each practice. The Permanent Stormwater Facilities Maintenance Schedule provided on these plans serves to satisfy this requirement.

2. Enhanced Phosphorus Removal Standards – Beginning on September 30, 2008, all construction projects identified in Table 2 of Appendix B that are located in the watersheds identified in Appendix C shall prepare a SWPPP that includes post–construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards included in the most current version of the technical standard, New York Stormwater Management Design Manual. At a minimum, the post–construction stormwater management practice component of the SWPPP shall include items 2.a – 2.f above: These standards do not apply to the subject project.

EROSION & SEDIMENT CONTROL NOTES:

1. The Erosion and Sediment Control Plan is only to be referred to for the installation of erosion and sediment control measures. For all other construction related activities, including, but not limited to, grading and utilities, refer to the appropriate drawings.
2. Each contractor or subcontractor responsible for soil disturbance shall have a NYSDEC trained contractor onsite during soil disturbing activities. The NYSDEC trained contractor will be responsible to comply with the stormwater pollution prevention plan and for the implementation and maintenance of erosion and sediment control measures on this site prior to and during construction. The NYSDEC trained contractor shall sign a certification statement required by GP–0–20–001.
3. All construction activities involving the removal or disposition of soil are to be provided with appropriate protective measures to minimize erosion and contain sediment disposition within. Minimum soil erosion and sediment control measures shall be implemented as shown on the plans and shall be installed in accordance with "New York Standards and Specifications For Erosion and Sediment Control," latest edition.
4. Wherever feasible, natural vegetation should be retained and protected. Disturbance shall be minimized in the areas required to perform construction. No more than 5 acres of unprotected soil shall be exposed at any one time, unless prior authorization is granted by the MS4.
5. When land is exposed during development, the exposure shall be kept to the shortest practical period of time, but in no case more than 7 days after the construction activity in that portion of the site has ceased. Disturbance shall be minimized in the areas required to perform construction.
6. All construction vehicles shall be kept clear of the watercourses and wetland control areas outside the areas of proposed development. Silt fence and orange construction fence shall be installed in the areas where the grading is in close proximity of the watercourses or wetland control areas.
7. The stabilized construction entrance and silt fence shall be installed as shown on the plans prior to beginning any clearing, grubbing or earthwork.
8. All topsoil to be stripped from the area being developed shall be stockpiled and immediately seeded with a rye grass mixture having a quick germination time.
9. Any graded areas not subject to further disturbance or construction traffic shall, within 7 days of final grading, receive permanent vegetation cover in combination with a suitable mulch. Refer to "Site Seeding Notes" for additional detail and application rate.
10. Grass seed mix may be applied by either mechanical or hydroseeding methods. Turf establishment shall be performed in accordance with the current edition of the "NYSDOT Standard Specification, Construction and Materials, Section 610–3.02, Method No. 1".
11. Cut or fill (all) slopes steeper than 3:1 shall be stabilized immediately after grading with a rolled erosion control product (RECP) such as, Curlex I Single Net Erosion Control Blanket, or approved equal.
12. Paved roadways shall be kept clean at all times.
13. The site shall at all times be graded and maintained such that all stormwater runoff is diverted to soil erosion and sediment control facilities.
14. All storm drainage outlets shall be stabilized, as required, before the discharge points become operational.
15. Stormwater from disturbed areas must be passed through erosion control barriers before discharge beyond disturbed areas or discharged into other drainage systems.
16. Erosion and sediment control measures shall be inspected and maintained on a daily basis by the NYSDEC Trained Contractor. to insure that channels, temporary and permanent ditches and pipes are clear of debris, that embankments and berms have not been breached and that all straw bales and silt fences are intact. Any failure of erosion and sediment control measures shall be immediately repaired by the contractor and inspected for approval by the site engineer.
17. Dust shall be controlled by sprinkling or other approved methods as necessary, or as directed by the trained contractor or site engineer.
18. Cut and fills shall not endanger adjoining property, nor divert water onto the property of others.
19. All fills shall be placed and compacted in 6" lifts to provide stability of material and to prevent settlement.
20. The NYSDEC Trained Contractor shall inspect downstream conditions for evidence of sedimentation on a weekly basis and after rainstorms.
21. As warranted by field conditions, special additional erosion and sediment control measures, as specified by the site engineer and the Town Engineer shall be installed by the contractor.
22. Erosion and sediment control measures shall remain in place until all disturbed areas are suitably stabilized.
23. After completion of the site improvements, the owner will assume responsibility for maintenance of the access drive, parking lot, drainage system and stormwater facilities. Each spring the paved areas shall be cleaned to remove the winter accumulation of traction sand. After this is completed all drain inlet and catch basin sumps should be cleaned. All pipes should be checked for debris and blockage and cleaned as required. During the cleaning process, the drain inlets, catch basins and pipes should be inspected for structural integrity and overall condition. Repairs and/or replacements should be made as required.
24. Inspection of the stormwater basin should be performed every 6 months and after large storm events. These inspections should, at a minimum, check the outlet pipes for blockage and the general overall integrity of the basin and appurtenances.
25. Maintain basin vegetation including removal of trees and replacement of vegetation that should die. Remove any litter which accumulates as necessary. Typically, the accumulated silt will be required to be removed every 10 to 20 years. Any accumulated silt shall be removed from the stormwater basins once the site has been stabilized.
26. Refer to the Stormwater Pollution Prevention Plan for additional details regarding long–term maintenance of the storm drainage facilities.

EROSION AND SEDIMENT CONTROL MAINTENANCE SCHEDULE

MONITORING REQUIREMENTS				MAINTENANCE REQUIREMENTS	
PRACTICE	DAILY	WEEKLY	AFTER RAINFALL	DURING CONSTRUCTION	AFTER CONSTRUCTION
SILT FENCE BARRIER	–	Inspect	Inspect	Clean/Replace	Remove
STABILIZED CONSTRUCTION ENTRANCE	Inspect	–	Inspect	Clean/Replace Stone and Fabric	Remove
DUST CONTROL	Inspect	–	Inspect	Mulching/ Spraying Water	N/A
*VEGETATIVE ESTABLISHMENT	–	Inspect	Inspect	Water/Reseed/ Remulch	Reseed to 80% Coverage
INLET PROTECTION	–	Inspect	Inspect	Clean/Repair/ Replace	Remove
SOIL STOCKPILES	–	Inspect	Inspect	Mulching/ Silt Fence Repair	Remove
SWALES	–	Inspect	Inspect	Clean/Mulch/ Repair	Mow Permanent Grass/Replace/ Repair Rip Rap
CHECK DAMS	–	Inspect	Inspect	Clean/Replace Stones/Repair	Clean/Replace Stones/Repair
CONCRETE DRAINAGE STRUCTURES	–	Inspect	Inspect	Clean Sumps/ Remove Debris/ Repair/Replace	Clean Sumps/ Remove Debris/ Repair/Replace
DRAINAGE PIPES	–	Inspect	Inspect	Clean/Repair	Clean/Repair
ROAD & PAVEMENT	–	Inspect	Inspect	Clean	Clean

* Permanent vegetation is considered stabilized when 80% of the plant density is established. Erosion control measures shall remain in place until all disturbed areas area permanently stabilized.

Note: The party responsible for implementation of the maintenance schedule during and after construction is:

BEACON VIEWS, LLC
500 RIVER AVENUE
WAKEFIELD, NEW JERSEY 08701

and/or the current owner(s) of the subject property.

SOIL RESTORATION REQUIREMENTS[1,2]

(ONSITE SOILS WITHIN THE LIMIT OF DISTURBANCE BELONG TO THE HYDROLOGIC SOIL GROUP (HSG) C/D)

TYPE OF SOIL DISTURBANCE	SOIL RESTORATION REQUIREMENT		COMMENTS/EXAMPLES
No soil disturbance	Restoration not permitted		Preservation of Natural Features
Minimal soil disturbance	Restoration not required		Clearing and grubbing
Areas where topsoil is stripped only – no change in grade	~~HSG A & B~~ ~~Apply 6" of topsoil~~	HSG C & D Aerate[3] and apply 6" of topsoil	Protect area from any ongoing construction activities
Areas of cut or fill	~~HSG A & B~~ ~~Aerate[3] and apply 6" of topsoil~~	HSG C & D Apply full Soil Restoration[4]	
Heavy traffic areas on site (especially in a zone 5–25 feet around buildings but not within a 5 foot perimeter around foundation walls.)	Apply full Soil Restoration[5] (de–compaction and compost enhancement)[6]		
Areas where runoff reduction and/or infiltration practices are applied	Restoration not required, but may be applied for appropriate practices.		Keep construction equipment from crossing these areas. To protect newly installed practices from any ongoing construction activities construction a single phase operation fence area.
~~Redevelopment projects~~	~~Soil restoration is required on redevelopment projects in areas where existing impervious area will be converted to pervious area.~~		

1. Table taken from Chapter 5 of the "New York State Stormwater Management Design Manual"
2. Items struck out on the table are items that are not applicable to this project.
3. Aeration includes the use of machines such as tractor–drawn implements with coulters making a narrow slit in the soil, a roller with many spikes making indentations in the soil, or prongs which functions like a mini–subsoiler.
4. Per "Deep Ripping and Decompaction, DEC 2008"
5. During periods of relatively low to moderate subsoil moisture, the disturbed soils are returned to rough grade and the following Soil Restoration steps applied:
   - 5.1. Apply 3 inches of compost over subsoil.
   - 5.2. Till compost into subsoil to a depth of at least 12 inches using a cat–mounted ripper, tractor–mounted disc, or tiller, mixing, and circulating air and compost into subsoils.
   - 5.3. Rock–pick until uplifted stone/rock materials of four inches and larger size area cleaned off the site.
   - 5.4. Apply topsoil to a depth of 6 inches.
   - 5.5. Vegetate as required by Erosion & Sediment Control Note #9.
   - 5.6. Tilling should not be performed within the drip line of any existing trees or over any utility installations that are within 24 inches of the surface
6. Compost shall be aged, from plant derived materials, free of viable weed seeds, have no visible free water or dust produced when handling, pass through a half inch screen and have a pH suitable to grow desired plants.

NO.	DATE	REVISION	BY
6	11–30–21	REVISED PER PLANNING BOARD COMMENTS	EJP
5	12–29–20	REVISED PER PLANNING BOARD COMMENTS	JFR
4	7–28–20	REVISED PER PLANNING BOARD COMMENTS	JFR
3	6–30–20	REVISED PER PLANNING BOARD COMMENTS	JFR
2	5–26–20	REVISED PER PLANNING BOARD COMMENTS	JFR
1	4–28–20	RESUBMISSION TO PLANNING BOARD	JFR

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(845) 225–9690
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www.insite–eng.com

PROJECT:
BEACON VIEWS
CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

DRAWING:
DETAILS

STATE OF NEW YORK · JEFFREY J. CONTELMO · LICENSED PROFESSIONAL ENGINEER · 61931

PROJECT NUMBER	19131.100	PROJECT MANAGER	J.J.C.	DRAWING NO.	SHEET
DATE	8–27–19	DRAWN BY	J.F.R.	D–3	15 / 20
SCALE	AS NOTED	CHECKED BY	A.D.T.		

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

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SEWER TESTING PROCEDURES

TESTS FOR NON-PRESSURE PIPELINES FOR TRANSPORT OF SEWAGE

The leakage shall be determined by exfiltration, infiltration or low pressure air.

A. Exfiltration Testing

1. Exfiltration tests shall be made by filling a section of pipeline with water and measuring the quantity of leakage.

2. The head of water at the beginning of the test shall be at least 2 feet above the highest pipe within the section being tested.

   a. Should groundwater be present within the section being tested, the head of water for the test shall be 2 feet above the hydraulic gradient of the groundwater.

   b. Should the requirement of 2 feet of water above the highest pipe subject any joint at the lower end of the test section to a differential head of greater than 11.5 feet, another method of testing shall be employed.

B. Infiltration Testing

1. Infiltration tests will be allowed only when the water table gauges determine the groundwater level to be 2 feet or more above the highest pipe of the section being tested.

2. Infiltration test shall be made by measuring the quantity of water leaking into a section of pipeline.

3. Measurement of the infiltration shall be by means of a calibrated weir constructed at the outlet of the section being tested.

C. Allowable Leakage for Non-Pressure Pipelines

1. The allowable leakage (exfiltration or infiltration) for non-pressure pipelines shall not exceed the following in gallons per 24 hours per inch of diameter per 1000 feet of pipe:

Type of Pipe	Leakage
Ductile iron – mechanical or push-on joints	100
Polyvinyl chloride, thermal plastic or fiberglass with rubber joints	100
Cast iron soil pipe	0

2. Regardless of the above allowable leakage, any spurting leaks detected shall be permanently stopped.

D. Low Pressure Air Testing

1. Air testing for acceptance shall not be performed until the backfilling has been completed.

2. Low pressure air tests shall conform to ASTM F1417-92, Section 8.2.2, Time-Pressure Drop Method for a 0.5 psi drop, except as specified herein and shall not be limited to type or size of pipe.

3. All sections of pipelines shall be cleaned and flushed prior to testing.

4. The air test shall be based on the starting pressure of 3.5 to 4.0 psi gauge. The time allowed for the 0.5 psi drop in pressure, measured in seconds, will be computed based on the size and length of the test section by the Engineer.

   a. When groundwater is present, the average test pressure of 3 psig shall be above any back pressure due to the groundwater level.

   b. The maximum pressure allowed under any condition in air testing shall be 10 psig. The maximum groundwater level for air testing is 13 feet above the top of the pipe.

5. The equipment required for air testing shall be furnished by the Contractor and shall include the necessary compressor, valves, gauges and plugs to allow for the monitoring of the pressure, release of pressure and a separable test gauge.

   a. The test gauge shall be sized to allow for the measuring of the 0.5 psig loss allowed during the test period and shall be on a separate line to the test section.

E. Deflection Testing

1. Deflection testing shall be performed 30 days after backfilling. The test shall be made by passing a ball or cylinder no less then 95% of the pipe diameter through the pipe. The test shall be performed without mechanical pulling devices.

F. Manhole Testing

1. General

   a. Each manhole shall be tested by vacuum testing.

2. Vacuum testing shall be performed after backfilling in accordance with the latest revision of ASTM C1244-11 as follows:

   a. The test head shall be placed at the top of the manhole in accordance with the manufacturer's recommendations.

   b. A vacuum of 10 in. of mercury shall be drawn on the manhole, the valve on the vacuum line of the test head closed, and the vacuum pump shut off. The time shall be measured for the vacuum to drop to 9 in. of mercury.

   c. The manhole shall pass if the time for the vacuum reading to drop from 10 in. of mercury to 9 in. of mercury meets or exceeds the values indicated below:

Minimum Test Times for Various Manhole Diameters in Seconds:

Depth (ft)	Diameter (inches) 48	60
	Time (seconds)	
8 or less	20	26
10	25	33
12	30	39
14	35	46
16	40	52
18	45	59
20	50	65

   d. If the manhole fails the initial test, necessary repairs shall be made by an approved method. The manhole shall then be retested until a satisfactory test is obtained.

Dutchess County Department of Health Notes:

Standard Notes for Projects with Central Water & Sewer

1. The design, construction and installation shall be in accordance with this plan and generally accepted standards in effect at the time of construction which include:
   - "New York State Design Standards for Intermediate Sized Wastewater Treatment Systems", NYSDEC
   - "Recommended Standards for Sewage Treatment Works, (Ten States)."
   - "Recommended Standards for Water Works, (Ten States)."
   - "New York State Department of Health and Dutchess County Environmental Health Services Division policies, procedures and standards."
   - "Dutchess County and New York State Sanitary Codes."
   - "Dutchess County Environmental Health Services Division Certificate of Approval letter."
2. This plan is approved as meeting the appropriate and applied technical standards, guidelines, policies and procedures for arrangement of sewage disposal and water supply facilities.
3. Upon completion of the facilities, the finished works shall be inspected, tested, and certified complete to the DC EHSD by the New York State licensed Professional Engineer supervising construction. No part of the facilities shall be placed into service until accepted by the DC EHSD.
4. Approval of any plan(s) or amendment thereto shall be valid for a period of five (5) years from the date of approval. Following the expiration of said approval, the plan(s) shall be re-submitted to the Commissioner of Health for consideration for re-approval. Re-submission or revised submission of plans and/or associated documents shall be subject to compliance with the technical standards, guidelines, policies and procedures in effect at the time of the re-submission.
5. No cellar, footing, floor, garage, cooler or roof drains shall be discharged into the sewage collection system.
6. All buildings shall be constructed at an elevation high enough to ensure gravity flow to the sewage collection system.
7. All required Erosion & Sediment Control and Stormwater Pollution Prevention Water Quality & Quantity Control structures, permanent and temporary, are shown on the plans.
8. The DC EHSD shall be notified sixty days prior to any change in use; use changes may require re-approval by the DC EHSD.
9. No buildings are to be occupied and the new water system shall not be placed into service, until a "Completed Works Approval" is issued under section 5-1.22(d) of Part 5 of the New York State Sanitary Code (10NYCRR5).
10. No buildings are to be occupied and the new wastewater collection system shall not be placed into service until, a "Certificate of Construction Compliance" is issued under section 19.7 of Article 19 of the Dutchess County Sanitary Code.
11. All service lines are the responsibility of the owner up to the property line. The water and sewer companies shall be responsible for all valves and pipes which are not on the owner's property.
12. The retaining wall / slope stabilization details shown on the project plans are not certified for structural integrity by the DC EHSD.
13. The undersigned owners of the property hereon state that they are familiar with this map, its contents and its legends and hereby consent to all said terms and conditions as stated hereon.

______________ Owner Signature   ______________ Date

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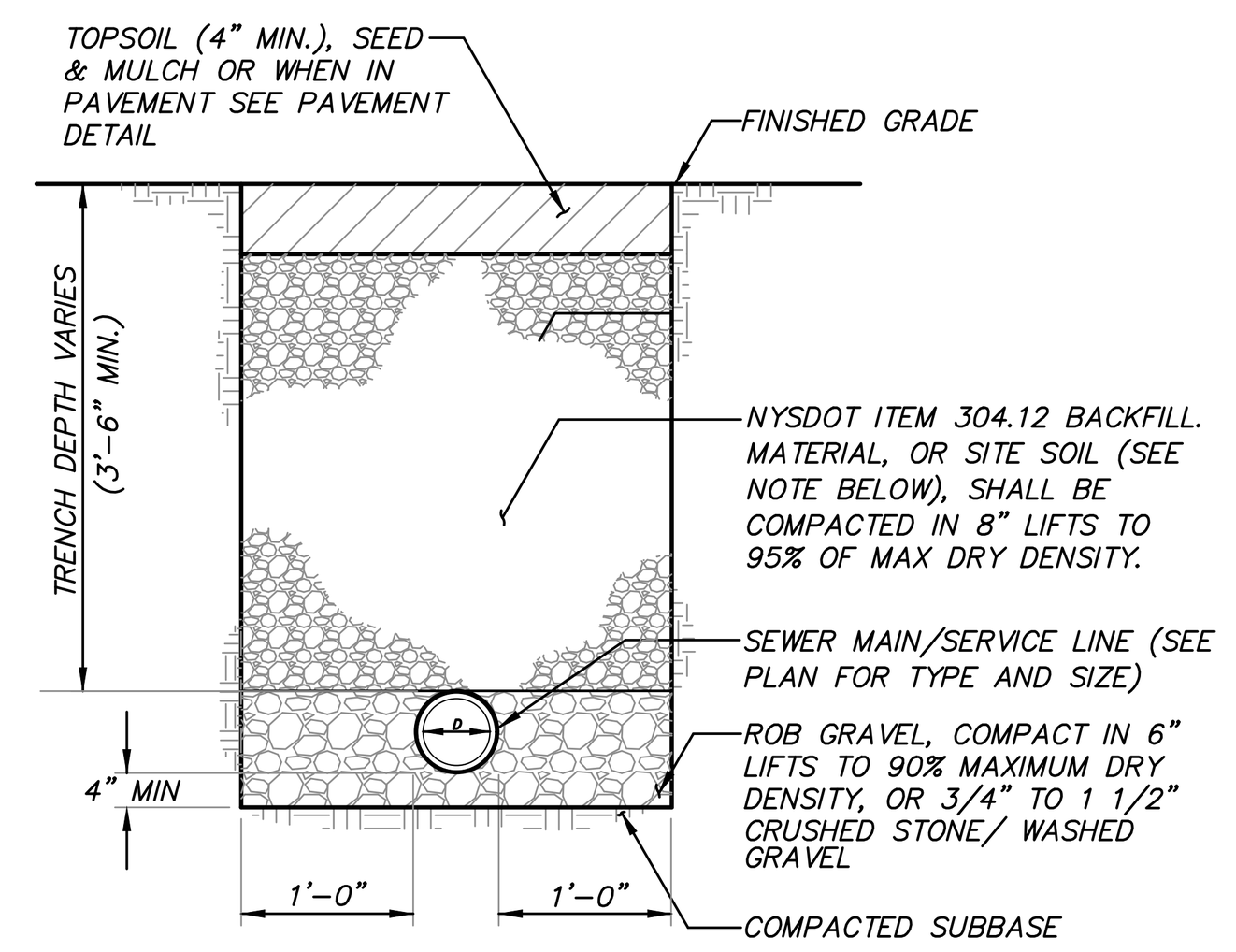
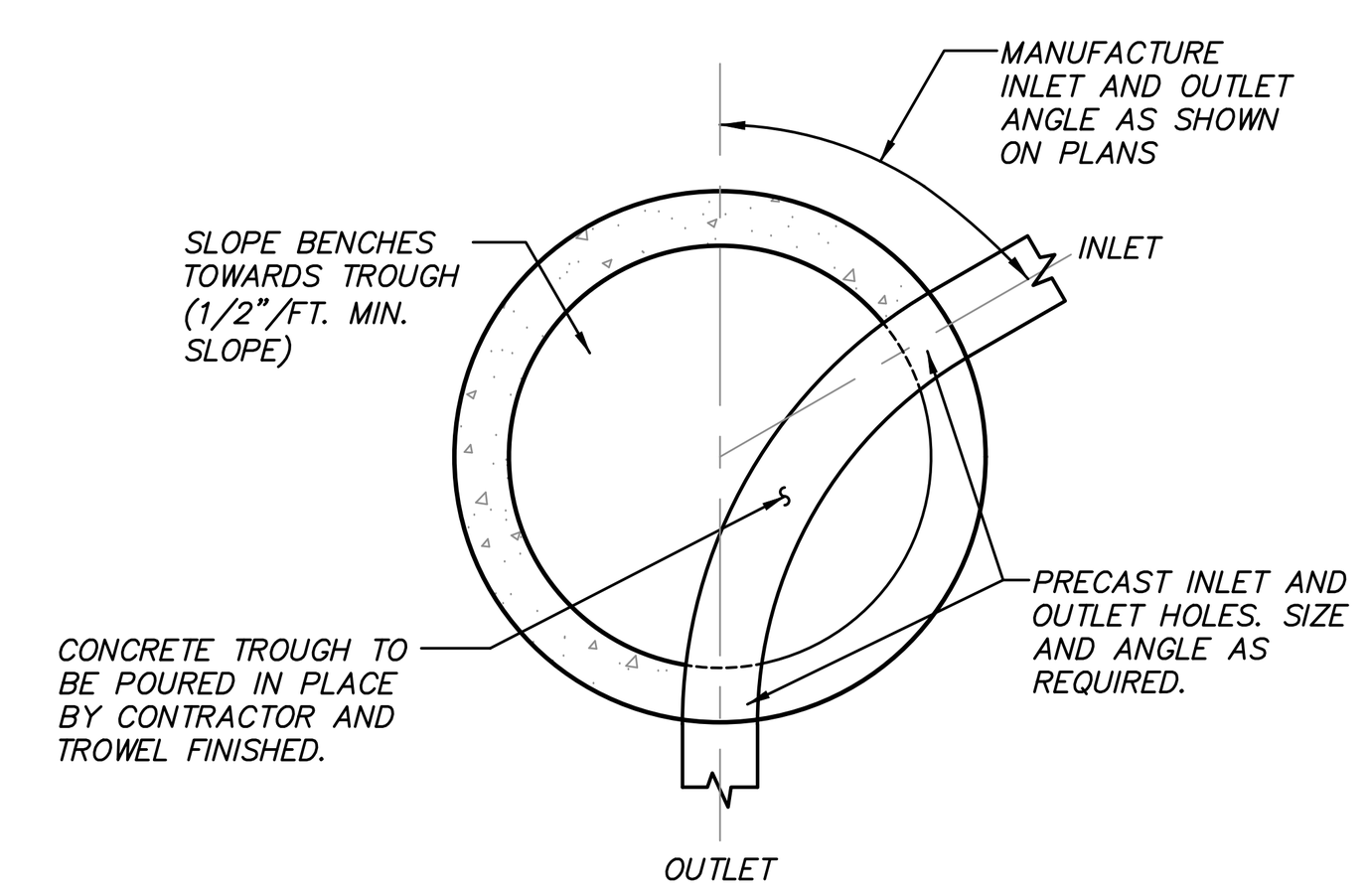
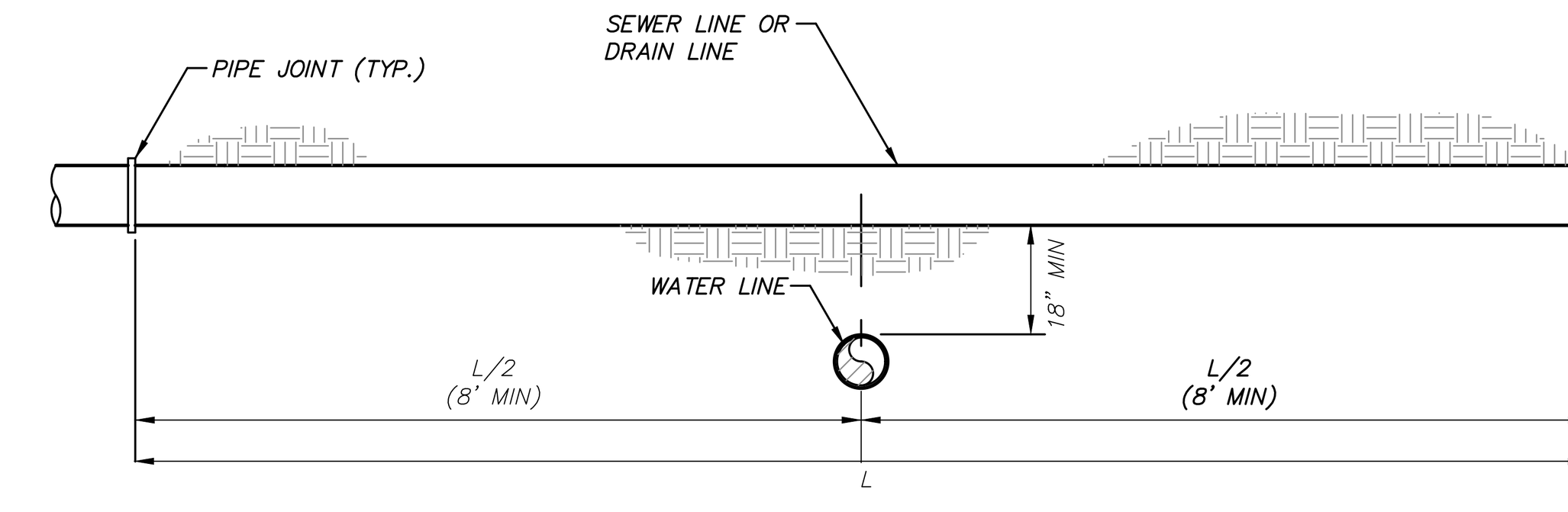


SANITARY SEWER / SANITARY SERVICE LINE TRENCH DETAIL
(N.T.S.)

NOTES:
1. WHERE WATERMAIN TRENCHES LIE WITHIN THE PROPOSED CITY OF BEACON R.O.W., TRENCHES ARE TO BE BACKFILLED WITH NYSDOT ITEM 304.12 BACKFILL MATERIAL. MATERIAL SHALL BE COMPACTED IN 8" LIFTS TO 95% OF MAX DRY DENSITY.
2. WHERE WATERMAIN AND SERVICE CONNECTION TRENCHES LIE OUTSIDE THE PUBLIC R.O.W., TRENCHES TO BE FILLED WITH CLEAN SITE SOIL.



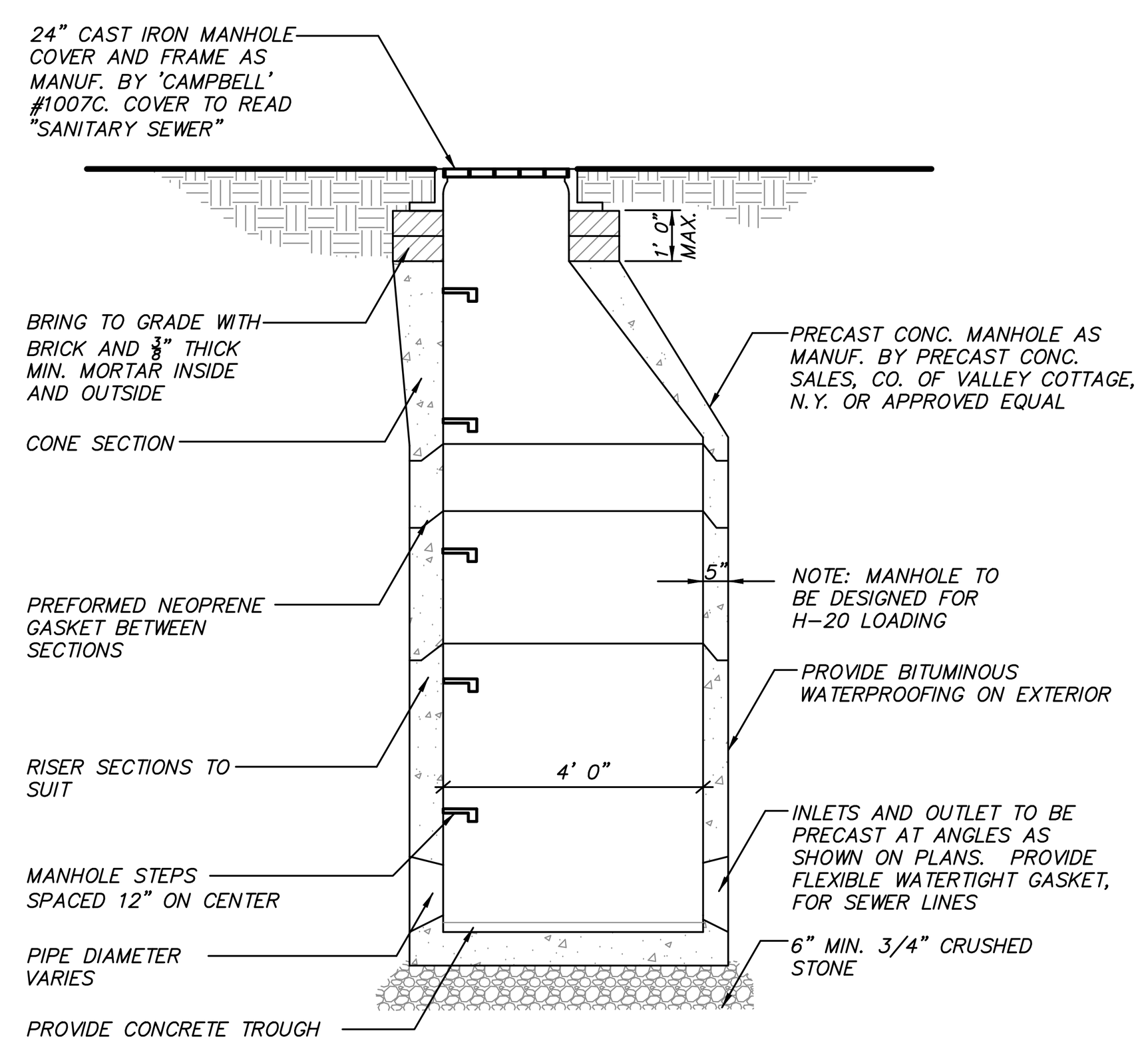
MANHOLE TROUGH DETAIL
(N.T.S.)



WATER LINE CROSSING UNDER SANITARY SEWER LINE OR STORM DRAIN LINE

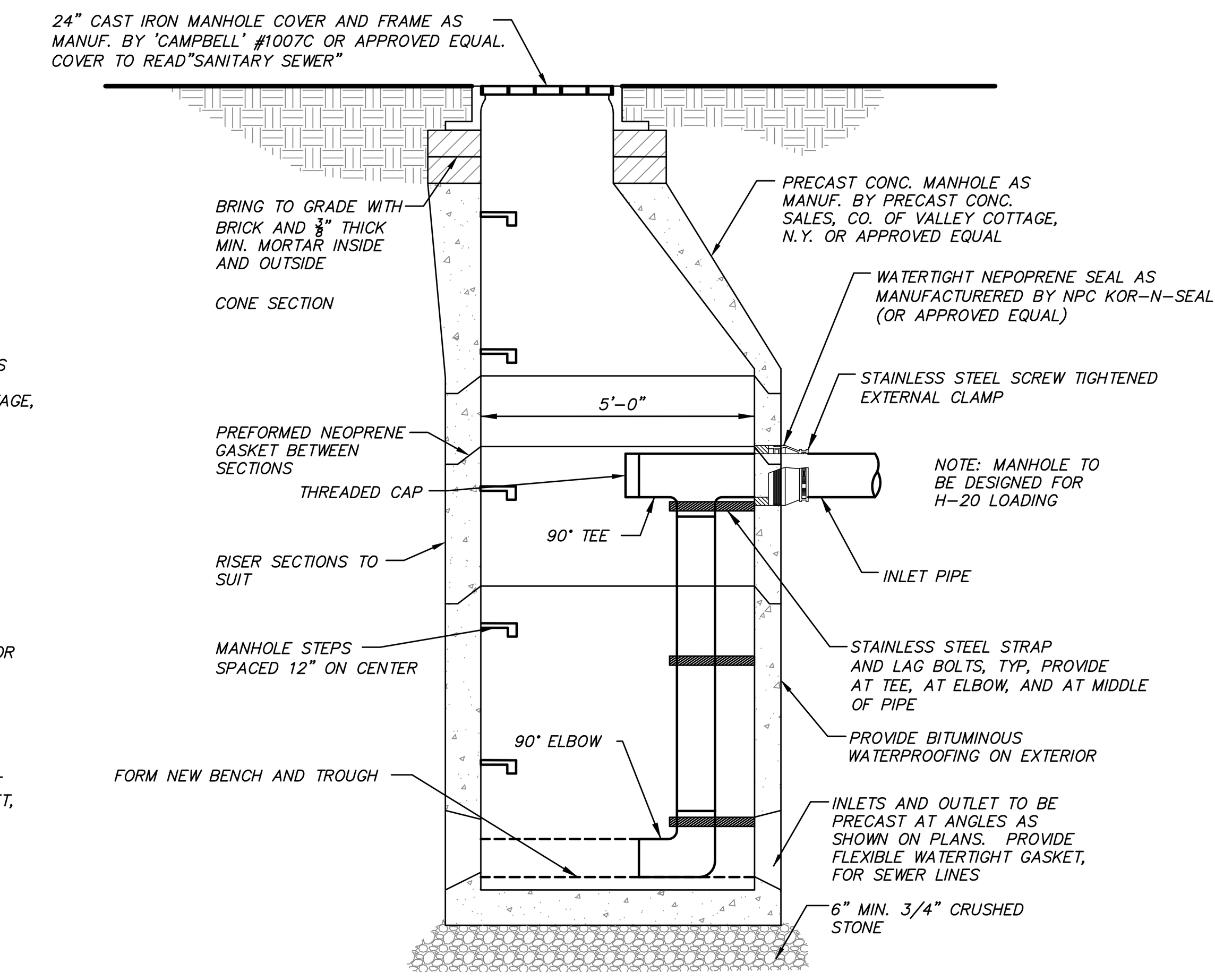
NOTES:
1. WHEN 18" SEPARATION CANNOT BE MAINTAINED, THE WATER LINE SHALL BE ENCASED IN CONCRETE (SEE DETAIL) ONLY WITH PRIOR APPROVAL OF THE DESIGN ENGINEER AND DEPARTMENT OF HEALTH.
2. PROVIDE PIPE AND FITTING RESTRAINT AS REQUIRED.
3. THE 18" SEPARATION APPLIES TO WATER MAINS AND WATER SERVICE CONNECTIONS.

WATER LINE CROSSING DETAIL
(N.T.S.)

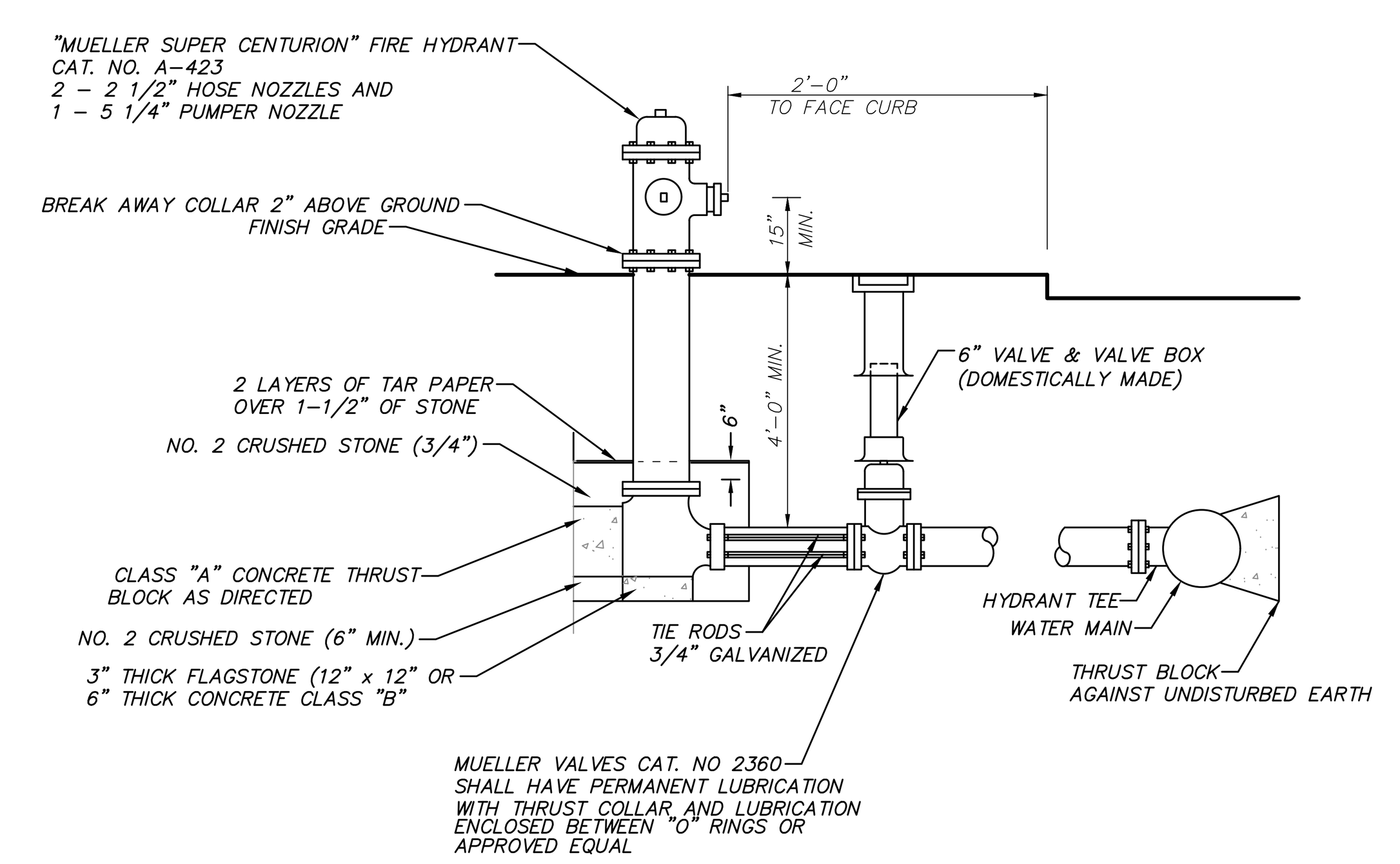


SANITARY MANHOLE DETAIL
(N.T.S.)

NOTE: ALL MANHOLE CASTINGS AND CATCH BASIN CASTINGS ARE TO BE DOMESTICALLY MADE FOR ANY STRUCTURE LOCATED WITHIN THE CITY RIGHT-OF-WAY, OR TO BE DEDICATED TO THE CITY.



INTERNAL DROP SANITARY MANHOLE DETAIL
(N.T.S.)



HYDRANT NOTES:
1. PUMPER OUTLET SHALL FACE STREET;
2. HOSE OUTLETS SHALL BE PARALLEL TO STREET.
3. 1-1/2" STONE SHALL BE PLACED AROUND THE HYDRANT FROM THE BOTTOM OF THE TRENCH, BUT AT LEAST 6" BELOW THE BASE OF THE HYDRANT TO 6" ABOVE THE WASTE OPENING AND TO A DISTANCE OF 12" AROUND THE ELBOW.
4. IF GROUND WATER IS ENCOUNTERED WITHIN 7' OF SURFACE, THEN HYDRANT DRAINS SHOULD BE PLUGGED. WHEN THE DRAINS ARE PLUGGED, THE BARRELS MUST BE PUMPED DRY AFTER USE DURING FREEZING WEATHER. WHERE HYDRANT DRAINS ARE NOT PLUGGED, A GRAVEL POCKET OR DRY WELL SHALL BE PROVIDED UNLESS THE NATURAL SOILS WILL PROVIDE ADEQUATE DRAINAGE. HYDRANT DRAINS SHALL NOT BE CONNECTED TO OR LOCATED WITHIN 10 FEET OF SANITARY SEWERS OR STORM DRAINS.

HYDRANT DETAIL
(N.T.S.)

DUCTILE IRON PIPE WATER TESTING PROCEDURES

TESTS ON PRESSURE PIPING FOR TRANSPORT OF WATER

A. Hydrostatic Pressure Test
Hydrostatic testing shall be performed in accordance with the revision of AWWA C600, Section 5.2, "Hydrostatic Testing".

1. Test pressure shall be as scheduled or, where no pressure is scheduled, shall be 150 psi, or 1.25 times the static operating pressure, whichever is higher.
2. Test pressure shall be held on the piping for a period of at least 2 hours, unless a longer period is requested by the Engineer.
3. The test medium shall be water.

B. Hydrostatic Leakage Test

1. The leakage test shall be conducted concurrently with the pressure test.
2. The rate of leakage shall be determined at 15-minute intervals by means of volumetric measurement of the makeup water added to maintain the test pressure. The test shall proceed until the rate of leakage has stabilized or is decreasing below an allowable value, for three consecutive 15-minute intervals. After this, the test pressure shall be maintained for at least another 15 minutes.
   a. At the completion of the test, the pressure shall be released at the furthermost point from the point of application.
3. All exposed piping shall be examined during the test and all leaks, defective material or joints shall be repaired or replaced before repeating the tests.
4. The allowable leakage will be determined by the following formula.

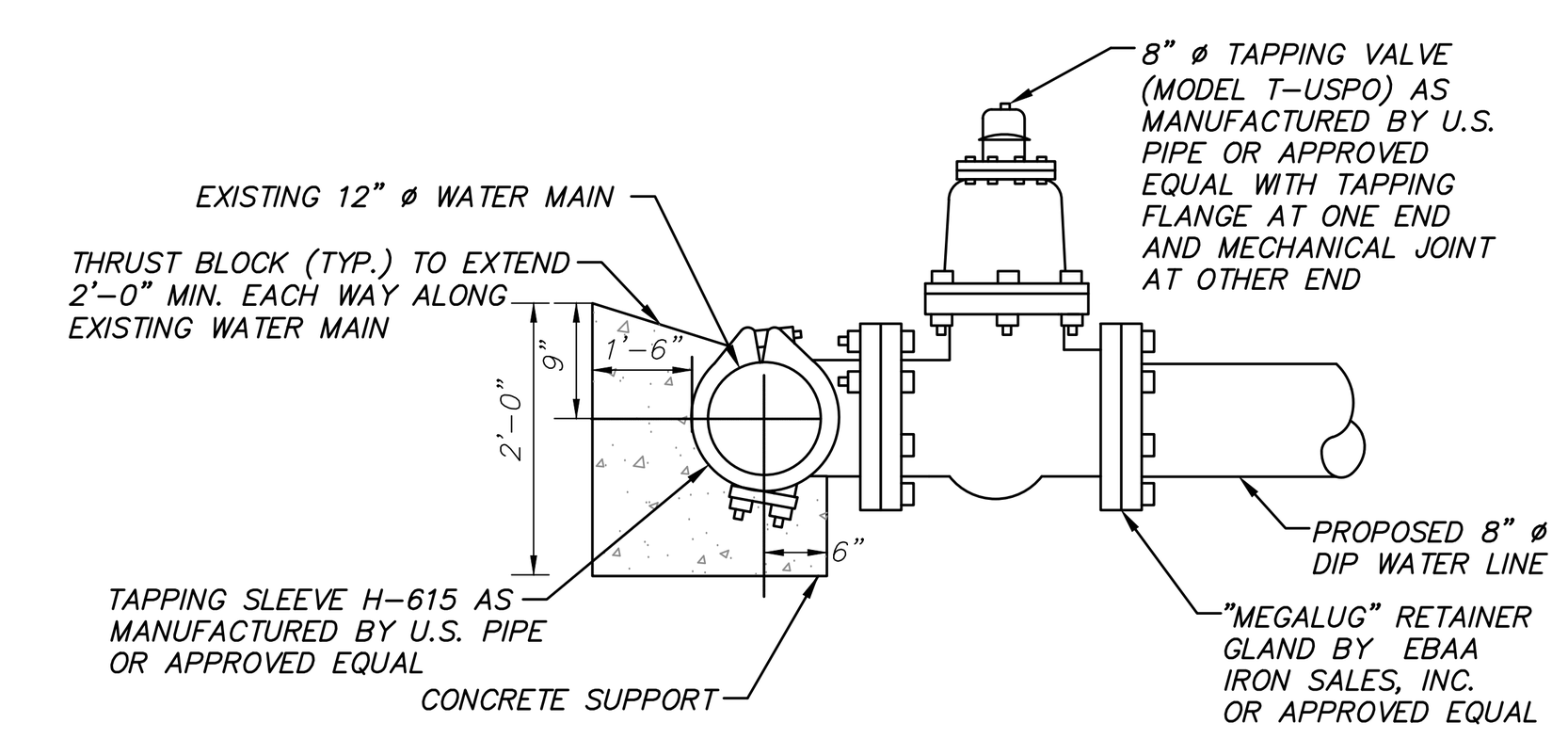
$$Q = \frac{LD\sqrt{P}}{148{,}000}$$

Where:
- Q = quantity of makeup water, in gallons per hour
- L = length of pipe tested, in feet
- D = nominal diameter of the pipe, in inches
- P = average test pressure during the hydrostatic test, in pounds per square inch (gauge)

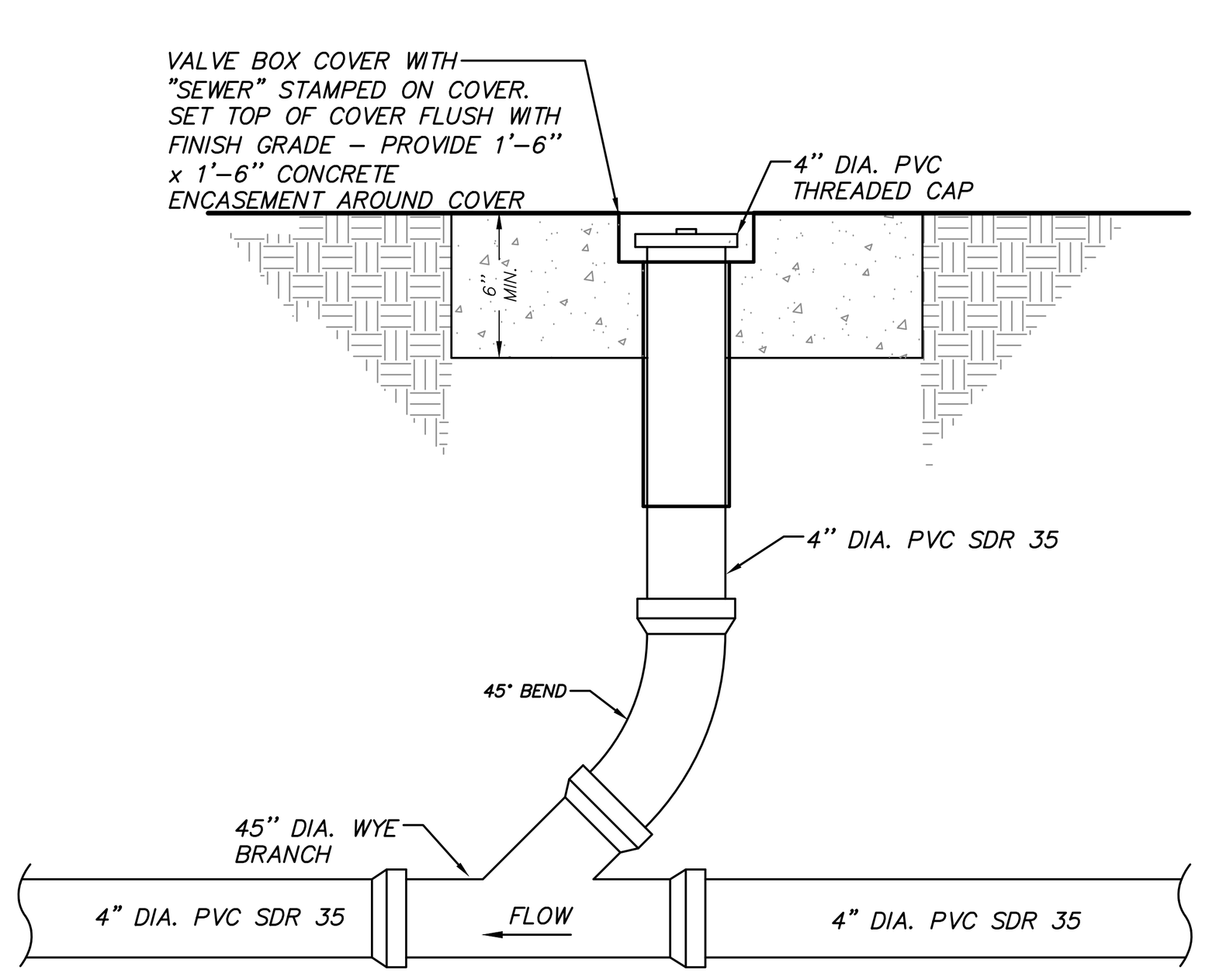
5. Regardless of the above allowables, any visible leaks shall be permanently stopped.
6. The test medium shall be water.

C. Disinfection
Prior to placing the water main into service, the new pipe shall be cleaned and disinfected in accordance with the latest revision of AWWA C651, Section 4.4.3, "The Continuous Feed Method". The "Tablet Method" will not be accepted.

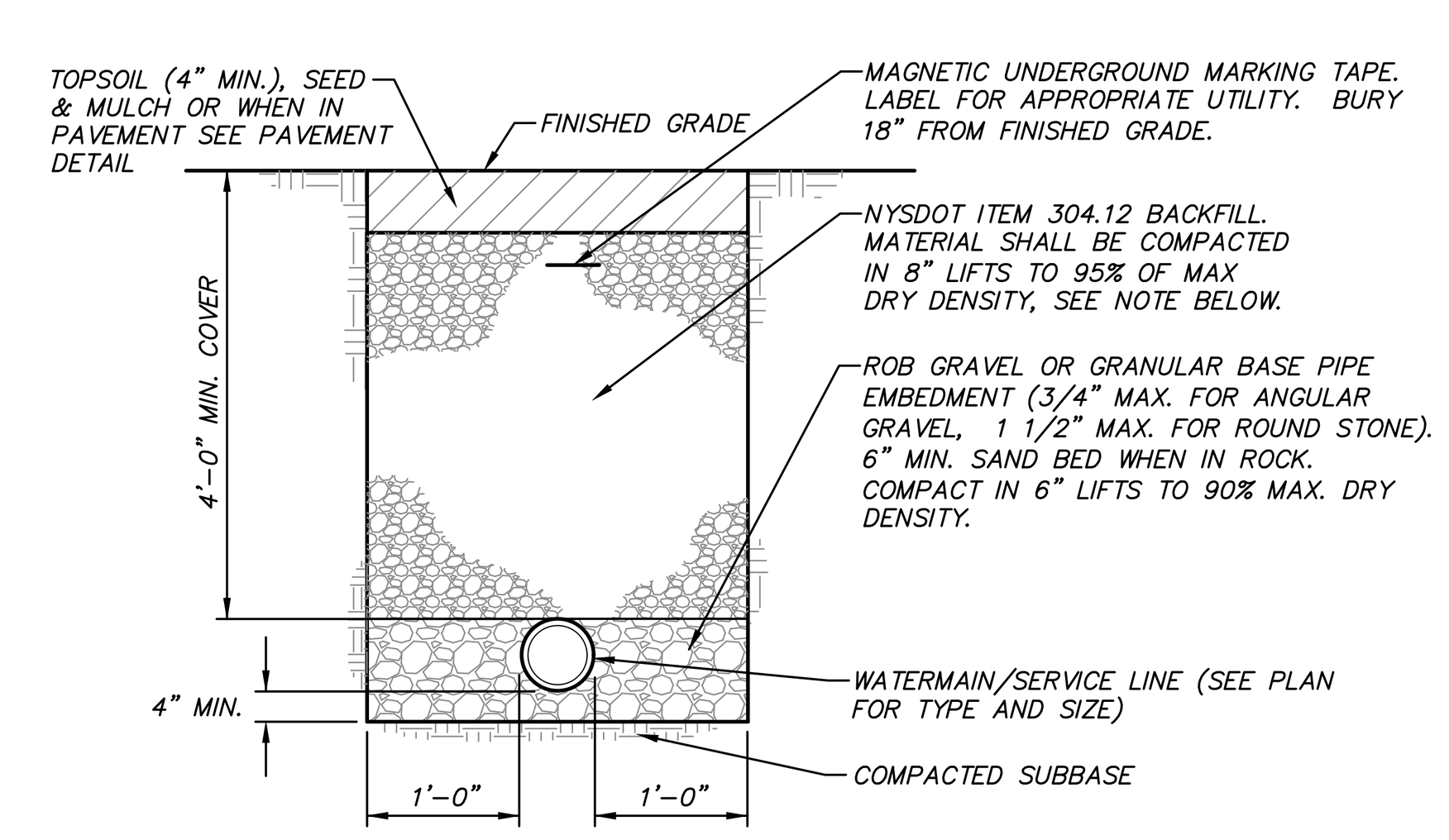
1. All work under this section shall be performed in the presence of the Design Engineer, and a representative of the public health authority having jurisdiction, as required.
2. Chlorination shall be scheduled such that sampling and flushing will be performed during normal daylight working hours. The contractor shall provide acceptable backflow prevention on all supply water to prevent any potential backflow contamination or cross connection.
3. Chlorination shall be by the use of a solution of water and liquid chlorine, calcium hypochlorite or sodium hypochlorite and the solution shall be contained in the pipe or structure as specified.
4. Prior to chlorination, all dirt and foreign matter shall be removed by a thorough cleaning and flushing of the pipeline or structure.
5. The chlorine solution shall be introduced to pipelines through corporation stops placed in the horizontal axis of the pipe, to structures by means of tubing extending directly into the structure, or other approved methods.
6. The application of the chlorine solution shall be by means of a controlled solution feed device. The rate of chlorine solution flow shall be in such proportion to the rate of water entering the pipe or structure that the resulting free chlorine residual shall be between 25 and 50 parts per million (PPM) or milligrams per liter (mg/l).
7. The chlorine treated water shall be retained in the pipe or structure at least 24 hours, unless otherwise directed. During the retention period, all valves and hydrants within the treated sections shall be operated.
8. The chlorine residual shall be not less than 10 PPM (or mg/l) at any point in the pipe or structure at the end of the 24-hour retention period.
9. When making repairs to, or when specified, structures and portions of pipelines shall be chlorinated by a concentrated chlorine solution containing not less than 200 PPM (mg/l) of free chlorine. The solution shall be applied with a brush or sprayed on the entire inner surface of the empty pipes or structures. The structures disinfected shall remain in contact with the strong chlorine solution for at least 30 minutes.
10. After the required retention of chlorinated water in the pipe or structures, they shall be thoroughly flushed until the replacement water shall, upon test, both chemically and bacteriological, be proven equal to water quality served by the public from the existing water supply system.
11. The disposal of chlorinated water from any pipe or structure shall be such that it will not cause damage to any vegetation, fish, or animal life.
12. The Contractor shall make all arrangements for the testing of water quality by an approved independent laboratory. Two acceptable bacteriological test, taken at least 24 hours apart, shall be collected from the new water main. At least 1 set of samples must be collected from every 1,000 LF of the new water main, plus one set from the end of the line and at least one set from each branch. The results for all tests shall be forwarded to the Design Engineer and the public health authority having jurisdiction.
13. All water quality requirements shall be fulfilled prior to the passage of any water through the new system to a public supply or the use of the new system.



TAPPING SLEEVE, VALVE, AND THRUST BLOCK DETAIL
(N.T.S.)



SEWER LINE CLEANOUT DETAIL
(N.T.S.)



NOTE: THE WATER TRENCH SHALL BE COMPLETELY BACKFILLED WITH NYSDOT ITEM 304.12 WITHIN THE NYSDOT RIGHT OF WAY

WATERMAIN/SERVICE LINE TRENCH DETAIL
(N.T.S.)

NOTES:
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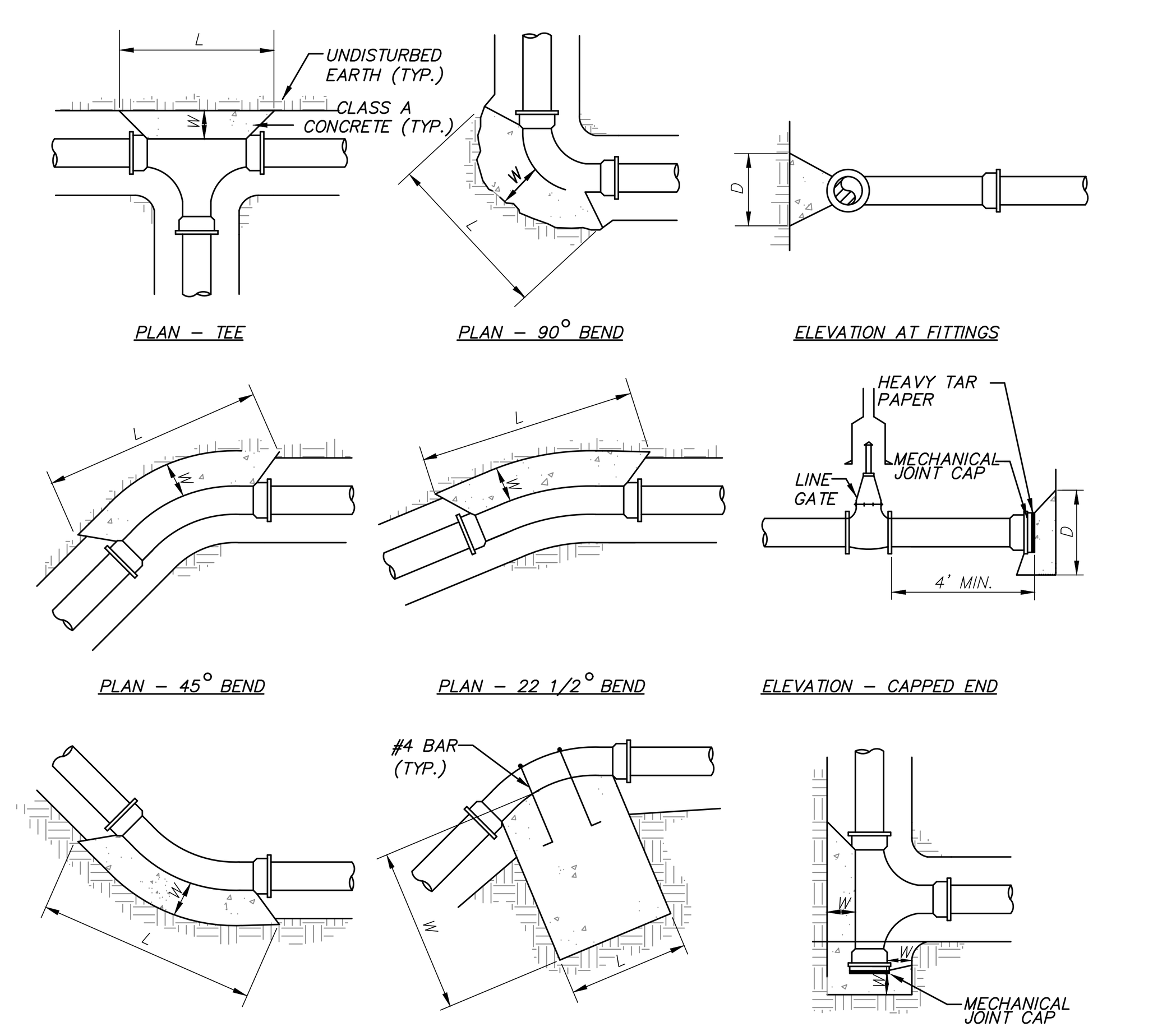
2. WHERE WATERMAIN AND SERVICE CONNECTION TRENCHES LIE OUTSIDE THE PUBLIC R.O.W., TRENCHES TO BE FILLED WITH CLEAN SITE SOIL.



THRUST BLOCK SCHEDULE									
PIPE SIZE	CAP/TEE		22 1/2°		45°		90°		W
	L	D	L	D	L	D	L	D	
6"	2'	1.5'	2'	1.5'	2'	1.5'	2'	1.5'	1.5'

THRUST BLOCK DETAILS
(N.T.S.)

NO.	DATE	REVISION	BY
6	11-30-21	REVISED PER PLANNING BOARD COMMENTS	EJP
5	12-29-20	REVISED PER PLANNING BOARD COMMENTS	JFR
4	7-28-20	REVISED PER PLANNING BOARD COMMENTS	JFR
3	6-30-20	REVISED PER PLANNING BOARD COMMENTS	JFR
2	5-26-20	REVISED PER PLANNING BOARD COMMENTS	JFR
1	4-28-20	RESUBMISSION TO PLANNING BOARD	JFR

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

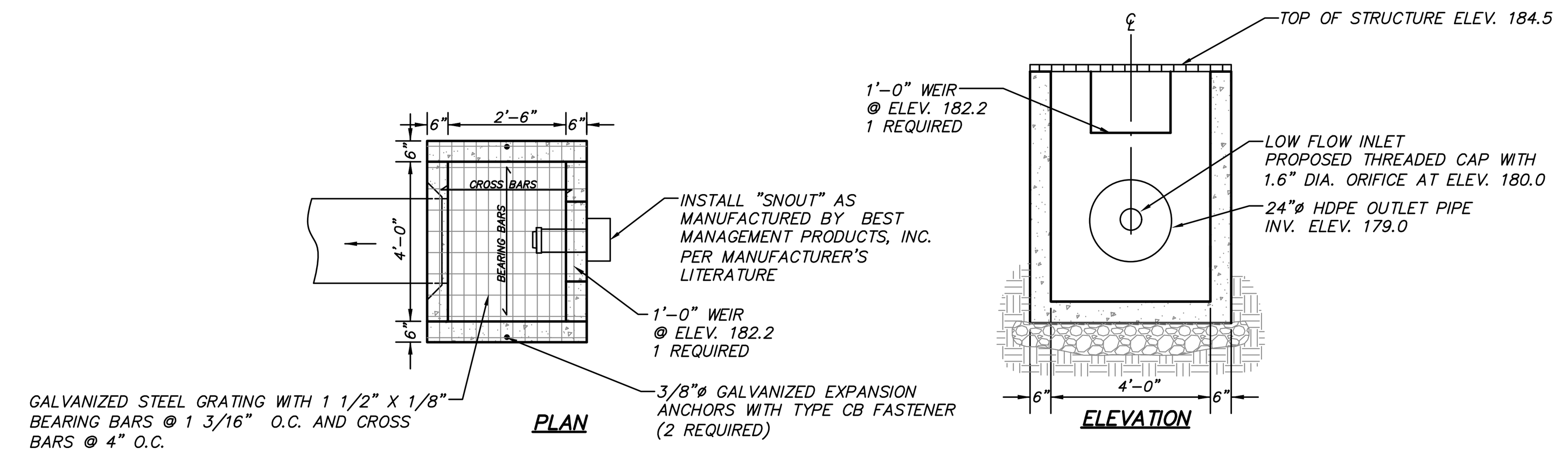
PROJECT: BEACON VIEWS
CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

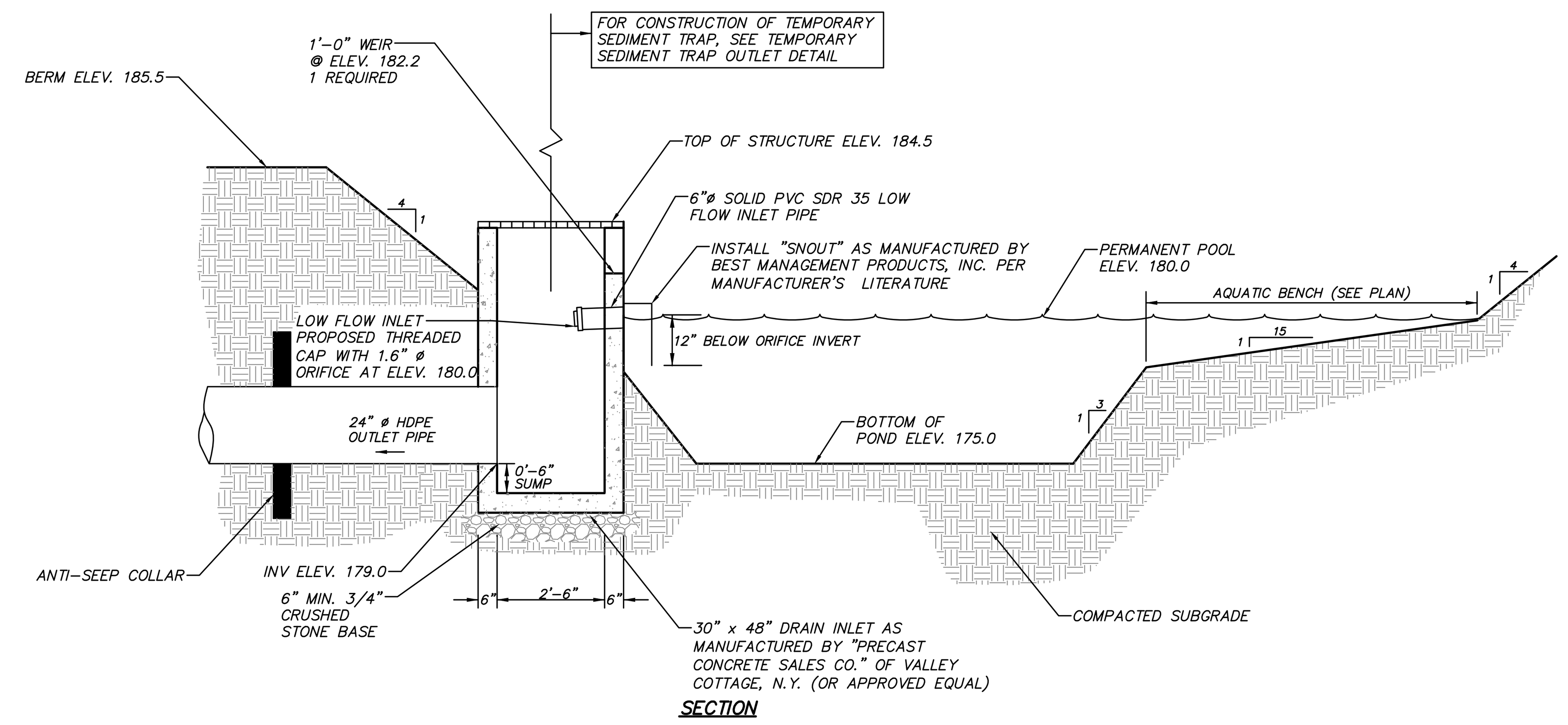
DRAWING: DETAILS

STATE OF NEW YORK – JEFFREY J. CONTELMO – LICENSED PROFESSIONAL ENGINEER – 61931

PROJECT NUMBER	19131.100	PROJECT MANAGER	J.J.C.
DATE	8-27-19	DRAWN BY	J.F.R.
SCALE	AS NOTED	CHECKED BY	A.D.T.

DRAWING NO. D-4   SHEET 16 / 20





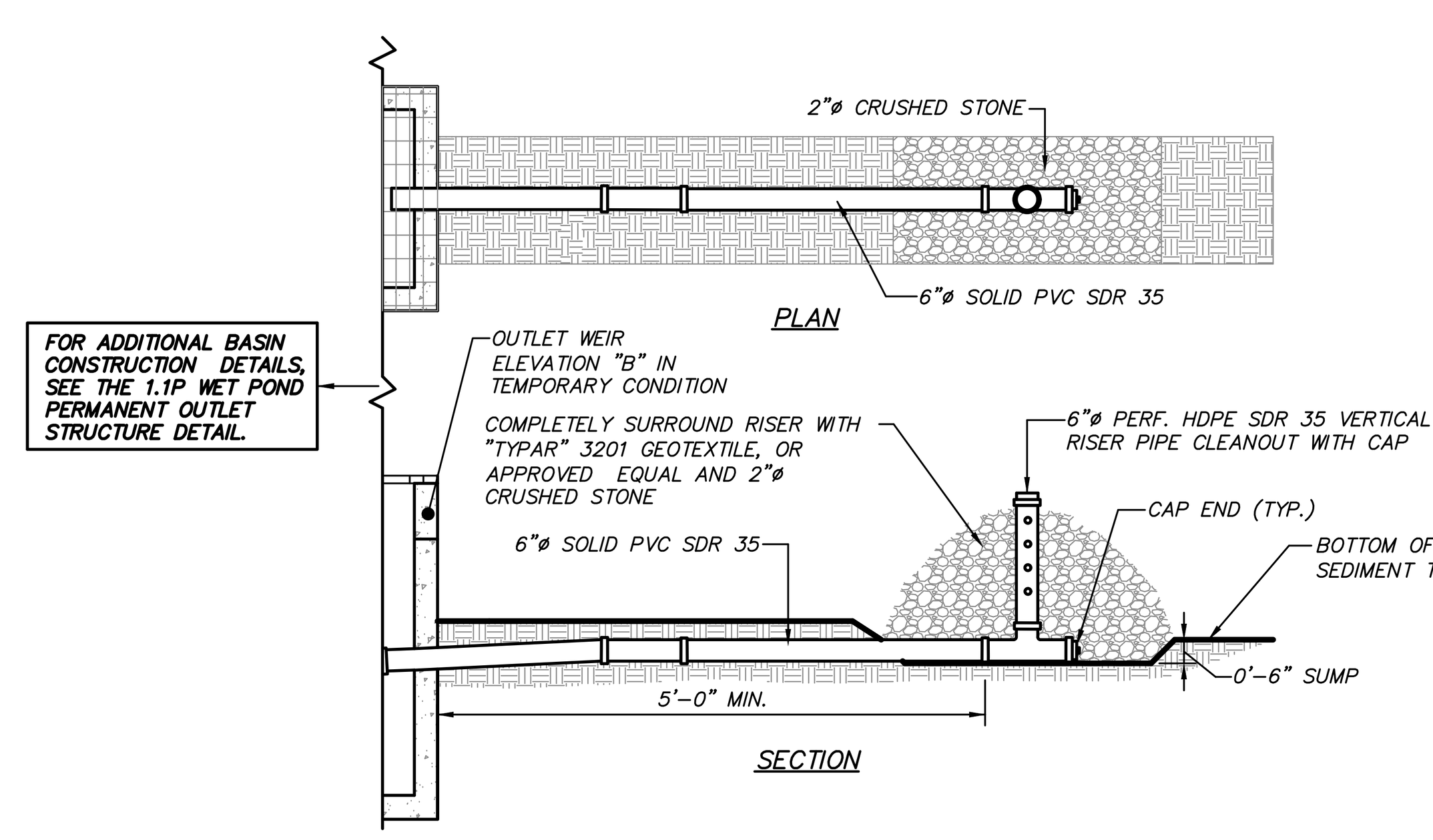
NOTE: THE "SNOUT" ON THE OUTLET STRUCTURE IS PROVIDED AS AN ANTI-CLOGGING DEVICE TO MEET THE REQUIREMENTS OF THE "NEW YORK STATE STORMWATER MANAGEMENT DESIGN MANUAL".

1.1P POCKET POND (NYSDEC DESIGN P-5) PERMANENT OUTLET STRUCTURE DETAIL

(N.T.S.)

POCKET POND OUTLET NOTES

1. THE POCKET POND (1.1P) BASIN IS PROPOSED TO BE UTILIZED AS TEMPORARY SEDIMENT BASINS DURING CONSTRUCTION.
2. AFTER THE CONTRIBUTING AREAS TO THE BASIN HAS BEEN PERMANENTLY STABILIZED, THE FOLLOWING SHALL BE ACCOMPLISHED:
   A. CLEAN BASIN AND OUTLET STRUCTURE AND REMOVE 6"ø PERFORATED VERTICAL RISER PIPE, CRUSHED STONE AND FILTER FABRIC.
   B. ADD THREADED CAP WITH ORIFICE AT DISCHARGE END OF 6"ø SOLID PVC SDR 35 PIPES PER DETAIL.
   C. REPLACE THE PERFORATED PIPE AND CRUSHED STONE. DO NOT REPLACE FILTER FABRIC.
   D. ESTABLISH THE FINAL VEGETATION IN THE BASIN IN ACCORDANCE WITH THE TYPICAL P-2 WET POND BASIN PLANTING DETAIL.
3. FOLLOWS: * WHEN INITIALLY USED AS THE TEMPORARY SEDIMENT BASIN DEWATERING DEVICE THE RISER SHALL BE WRAPPED WITH TYPAR 3201 GEOTEXTILE OR APPROVED EQUAL AND SURROUNDED WITH 2"ø STONE. THE TOP OF THE RISER SHALL BE SET AT THE SAME ELEVATION AS THE WEIRS AS SHOWN IN THE STORMWATER BASIN OUTLET STRUCTURE DETAILS.

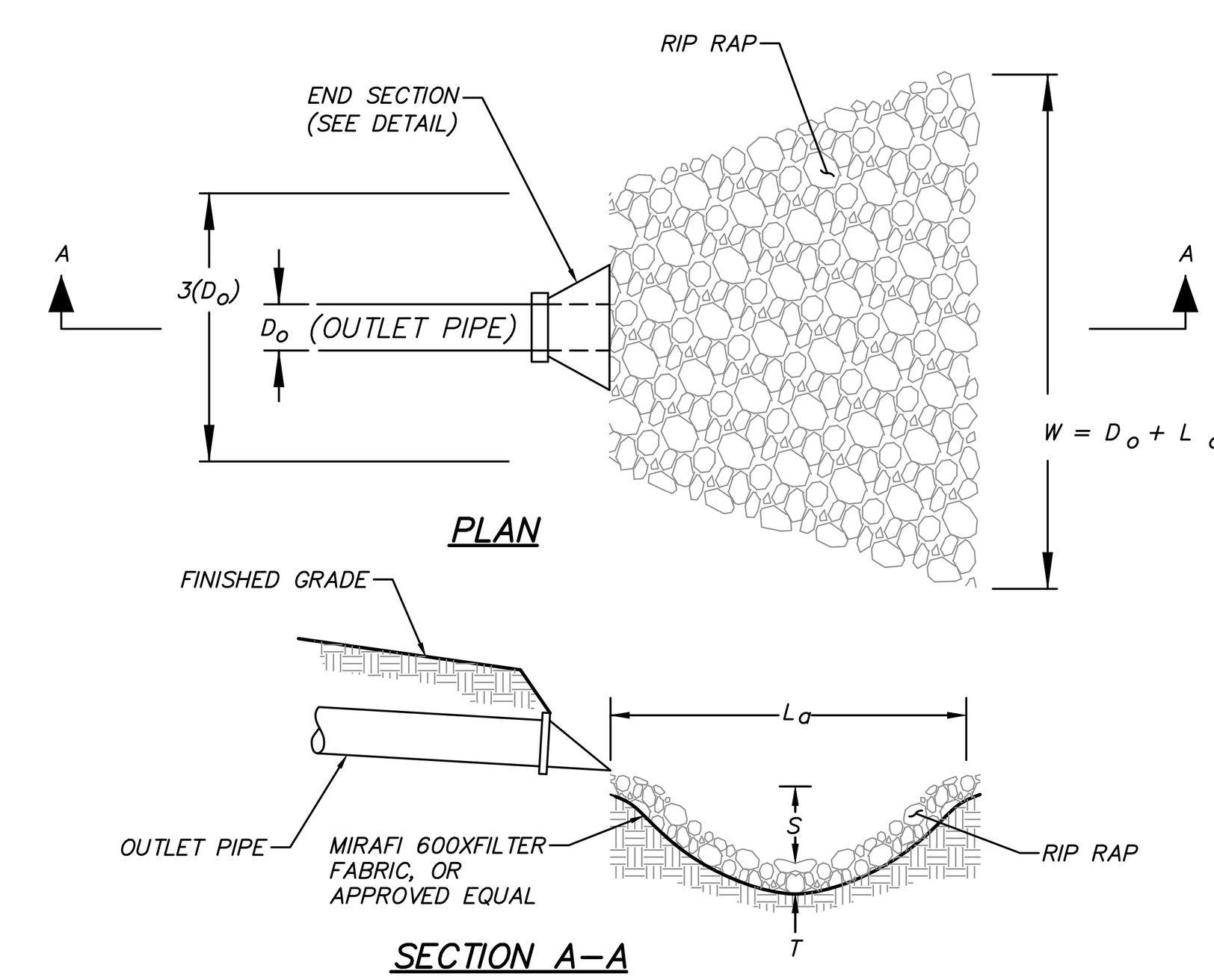


OUTLET STRUCTURE	BOTTOM OF TEMPORARY SEDIMENT TRAP (A)	OUTLET WEIR ELEVATION (B)	CONTRIBUTING AREA (ACRES)	MINIMUM VOLUME REQUIRED* (CF)	VOLUME PROVIDED (CF)
OS 1.1P	180.0	182.2	3.6	12,960	18,258

*MINIMUM 3,600 C.F. OF STORAGE PROVIDED PER ACRE OF CONTRIBUTING AREA PER "NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL".

TEMPORARY SEDIMENT TRAP OUTLET STRUCTURE DETAIL

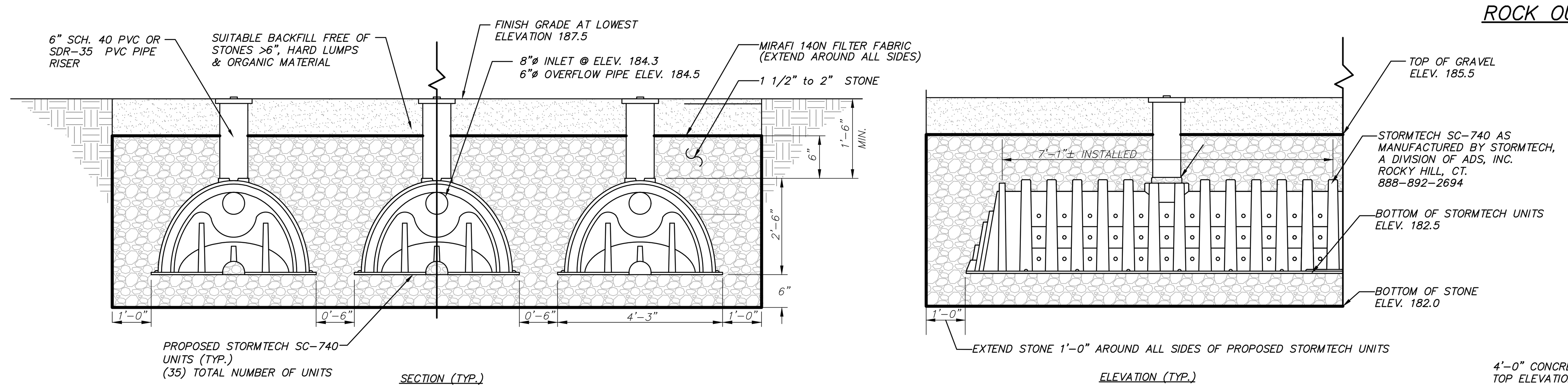
(N.T.S.)



END SECTION ID	OUTLET PIPE DIAMETER (D_o)	CONTRIBUTING DRAINAGE AREA (AC.)	DISCHARGE (100-YEAR)	D50 RIP RAP SIZE	MAX. RIP RAP SIZE	THICKNESS RIP RAP (T)	LENGTH (L_a)MIN.	SUMP DEPTH (S)
ES 1	18"	3.4	8.1 CFS	6"	9"	14"	11 FT	2 FT.
ES 8	15"	4.3	8.3 CFS	6"	9"	14"	8 FT	2 FT.
ES 13	24"	4.4	8.4 CFS	6"	9"	14"	12 FT	2 FT.
ES 23	15"	0.8	4.1 CFS	6"	9"	14"	8 FT	2 FT.
ES 26	12"	0.2	1.1 CFS	6"	9"	14"	6 FT	2 FT.

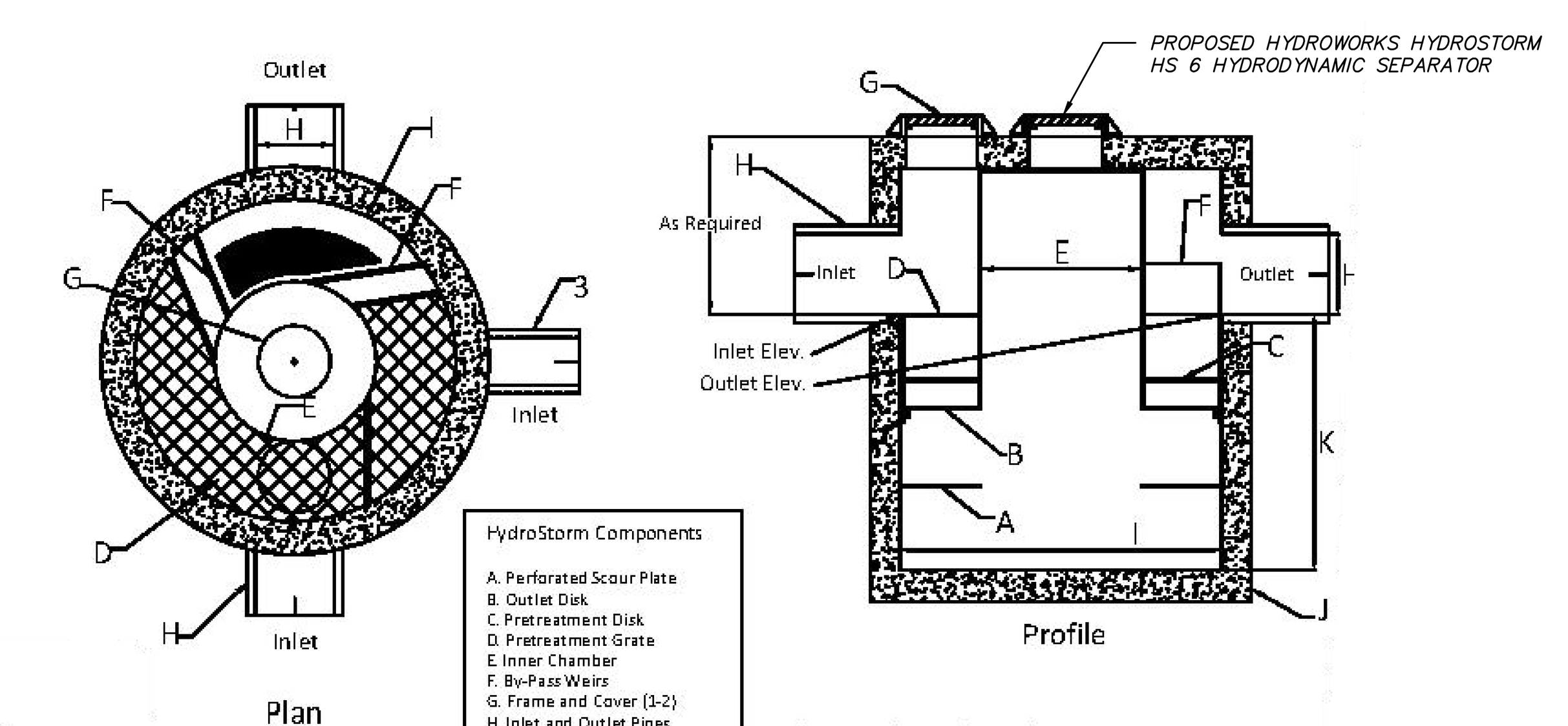
ROCK OUTLET PROTECTION DETAIL

(N.T.S.)



STORMWATER INFILTRATION SYSTEM 1.2P (NYSDEC DESIGN I-4) DETAIL

(N.T.S.)



HydroStorm Components

A. Perforated Scour Plate
B. Outlet Disk
C. Pretreatment Disk
D. Pretreatment Grate
E. Inner Chamber
F. By-Pass Weirs
G. Frame and Cover (1-2)
H. Inlet and Outlet Pipes
I. Structure Diameter
J. Base Extension (HS4 - HS6)
K. Sump Depth

HydroStorm by Hydroworks, LLC
US Patent No. 10,710,907
www.hydroworks.com
888-290-7900

HydroStorm Dimensions / Capacities							
Model	Diameter ft (m) (9)	Sump Depth ft (m) (11)	Inner Chamber Diam. ft (m) (5)	Max. Pipe in (mm) (8)	Oil Spill Volume gal (L)	Sediment Volume ft3 (m3)	Total Volume gal (L)
HS 6	6 (1.8)	6 (1.8)	3 (0.9)	36 (900)	270 (1030)	110 (3.2)	1265 (4800)

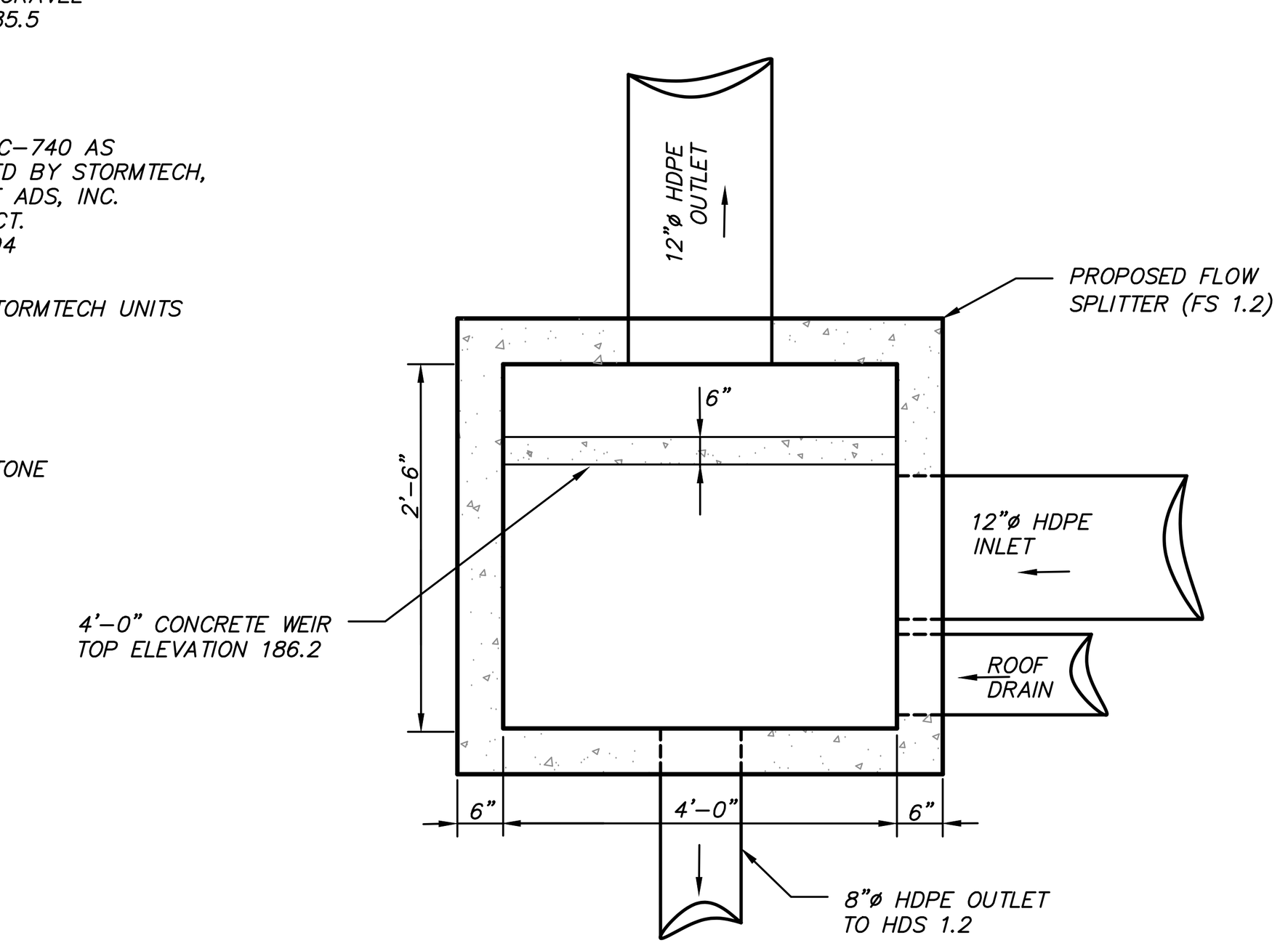
Notes:

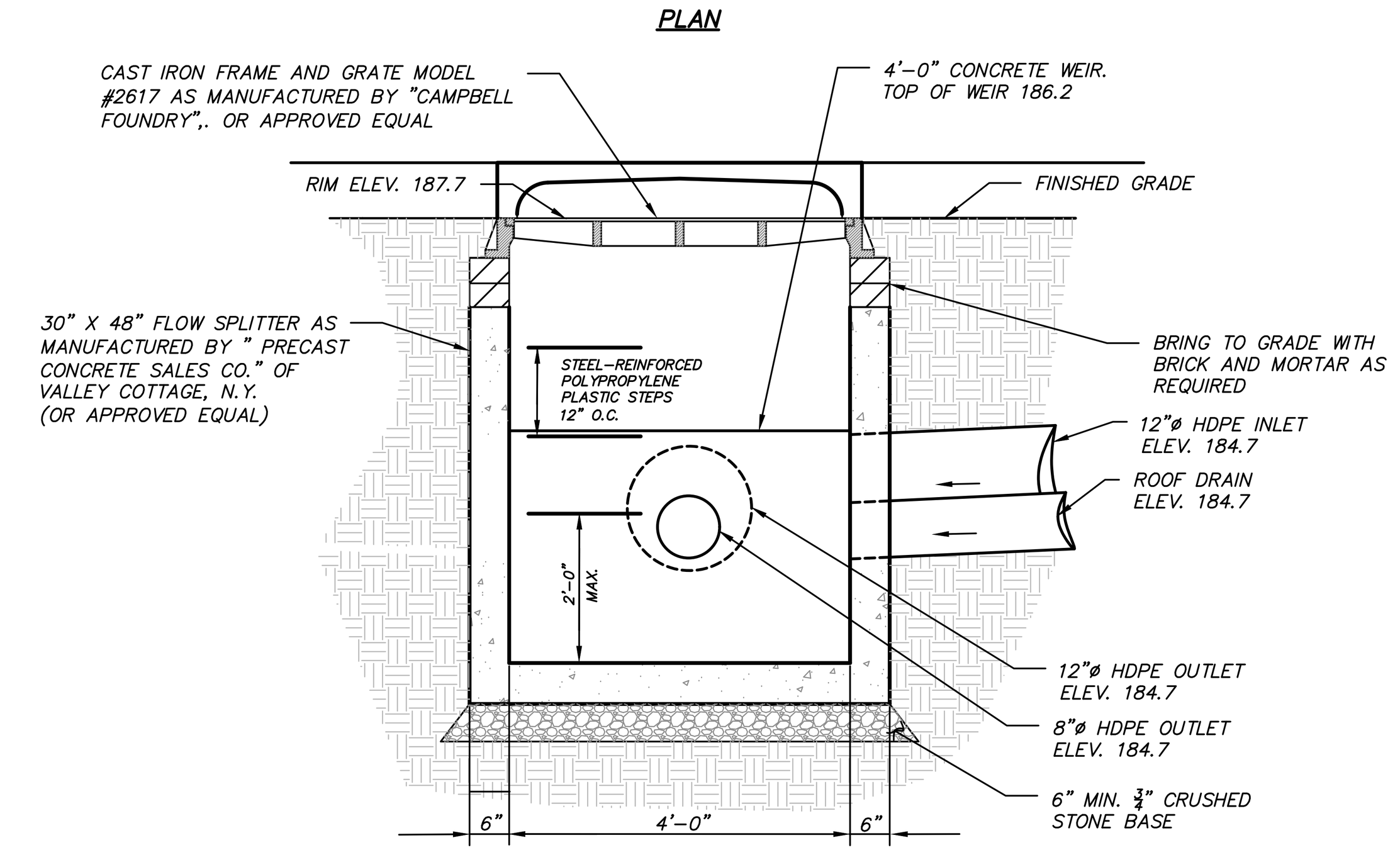
1. Headloss K factor of 1.04 for hydraulic gradeline calculations
2. Sump depths shown are typical. Additional depth can be added as required
3. Multiple inlet pipes allowed
4. Drops allowed
5. Inlet invert elevations should be the same or higher than the outlet invert elevation. Inlet can be up to 12" (300 mm) lower than outlet if pretreatment area is omitted but 12" (300 mm) must be added to sump depth to maintain overall treatment volume.
6. Solid Cover shown. HydroStorm can be desiged with an inlet grate if required.
7. Oil capacities given are spill capacities.
8. Sediment depths are maximum holding capacities and not recommended capacities for regular maintenance.
9. Capacities are rounded down to nearest 5 gal or ft3 (1L or 0.1 m3 for metric units)
10. Base Extensions not provided on standard units larger than the HS 6. Extensions can be provided if required due to groundwater/buoyancy concerns at the request of the engineer of record.
11. HS4 to HS6 models require one frame and cover. HS7 to HS12 models require two covers

HDS 1.2 HYDROWORKS HYDROSTORM HS 6 HYDRODYNAMIC SEPARATOR DETAIL

(N.T.S.)

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.





FLOW SPLITTER FS 1.2 DETAIL

(N.T.S.)

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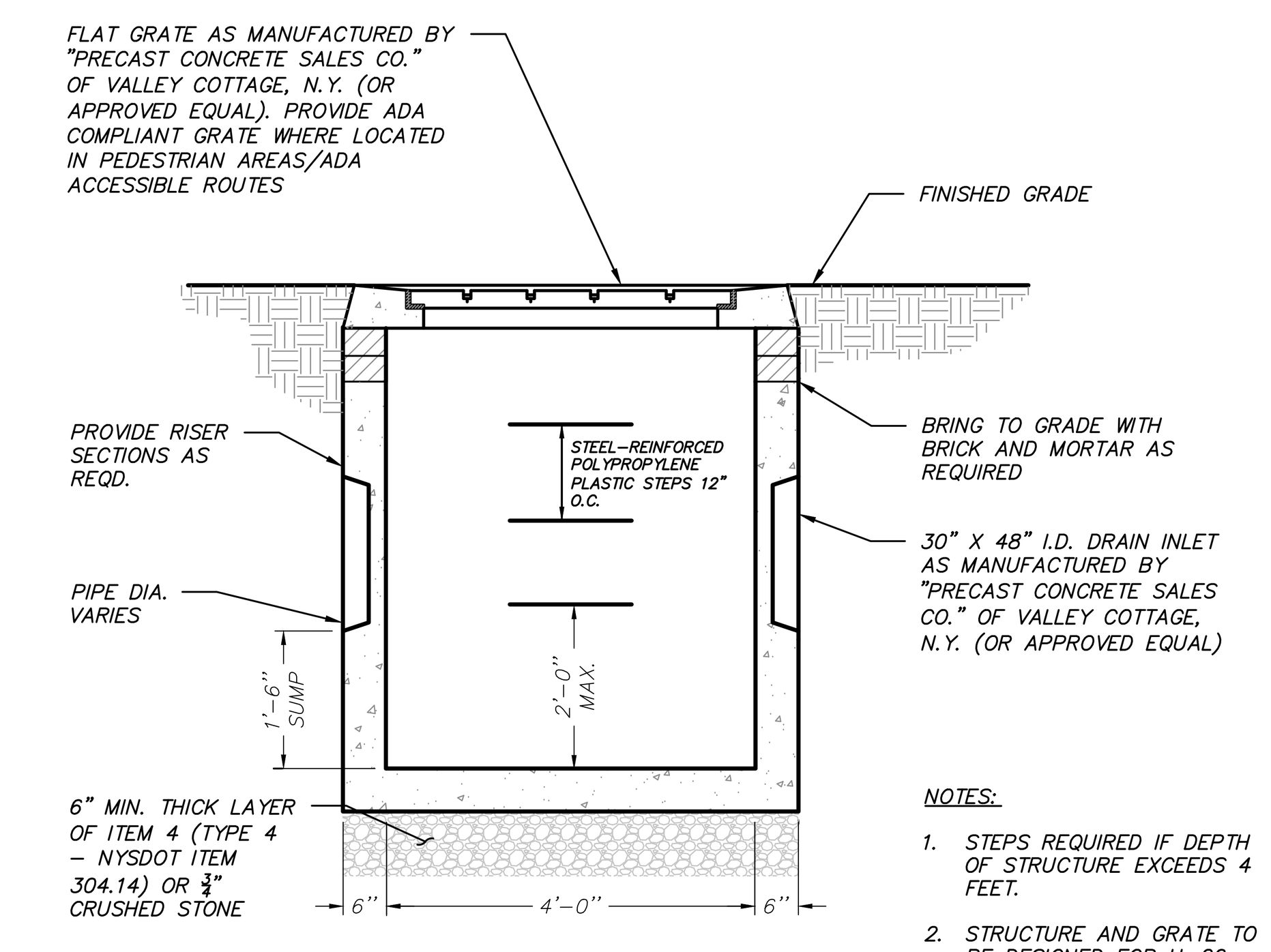

NOTES:

1. STEPS REQUIRED IF DEPTH OF STRUCTURE EXCEEDS 4 FEET.
2. STRUCTURE AND GRATE TO BE DESIGNED FOR H-20 LOADING.

30" X 48" DRAIN INLET DETAIL

(N.T.S.)

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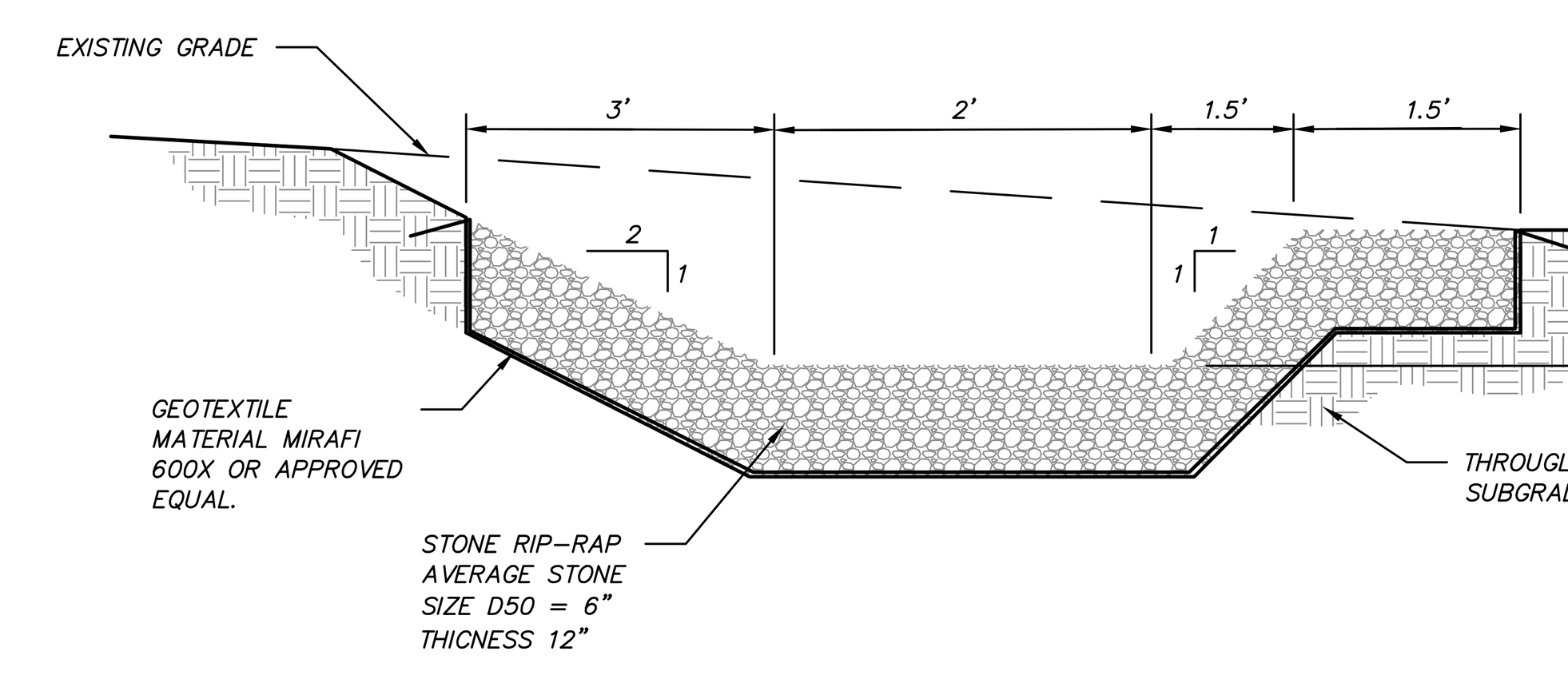
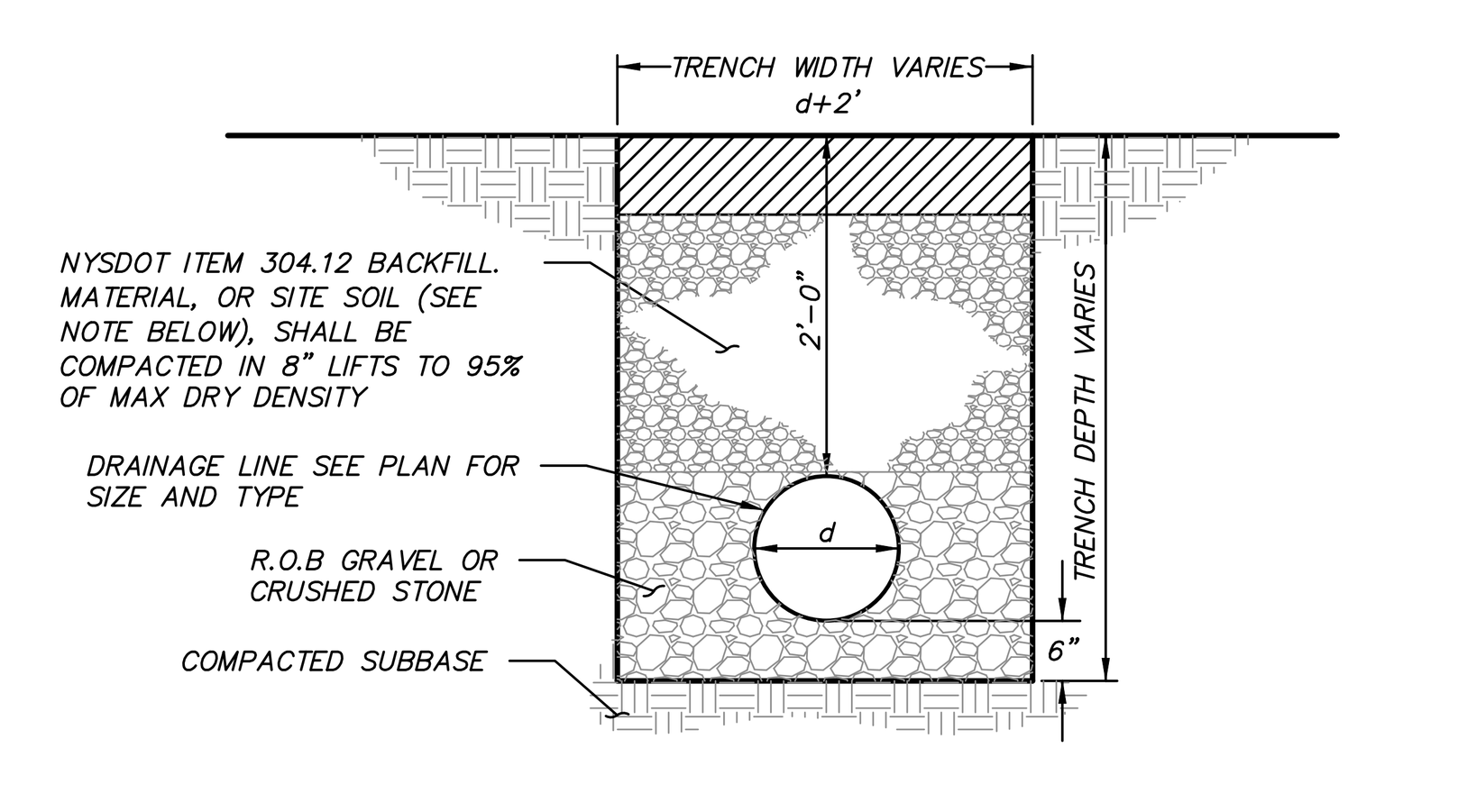


END SECTION ID	DRAINAGE AREA (ac)	100-YEAR PEAK FLOW (cfs)	LENGTH (ft.)	ELEVEATION (A)	ELEVATION (B)
ES 15 & ES 18	1.0	3.8	8	183.0	181.5
ES 21	2.2	4.2	9	186.0	184.5
ES 25	3.5	8.9	18	178.5	177.0
ES 29	1.5	2.9	6	185.5	184.0

LEVEL SPREADER DETAIL

(N.T.S.)

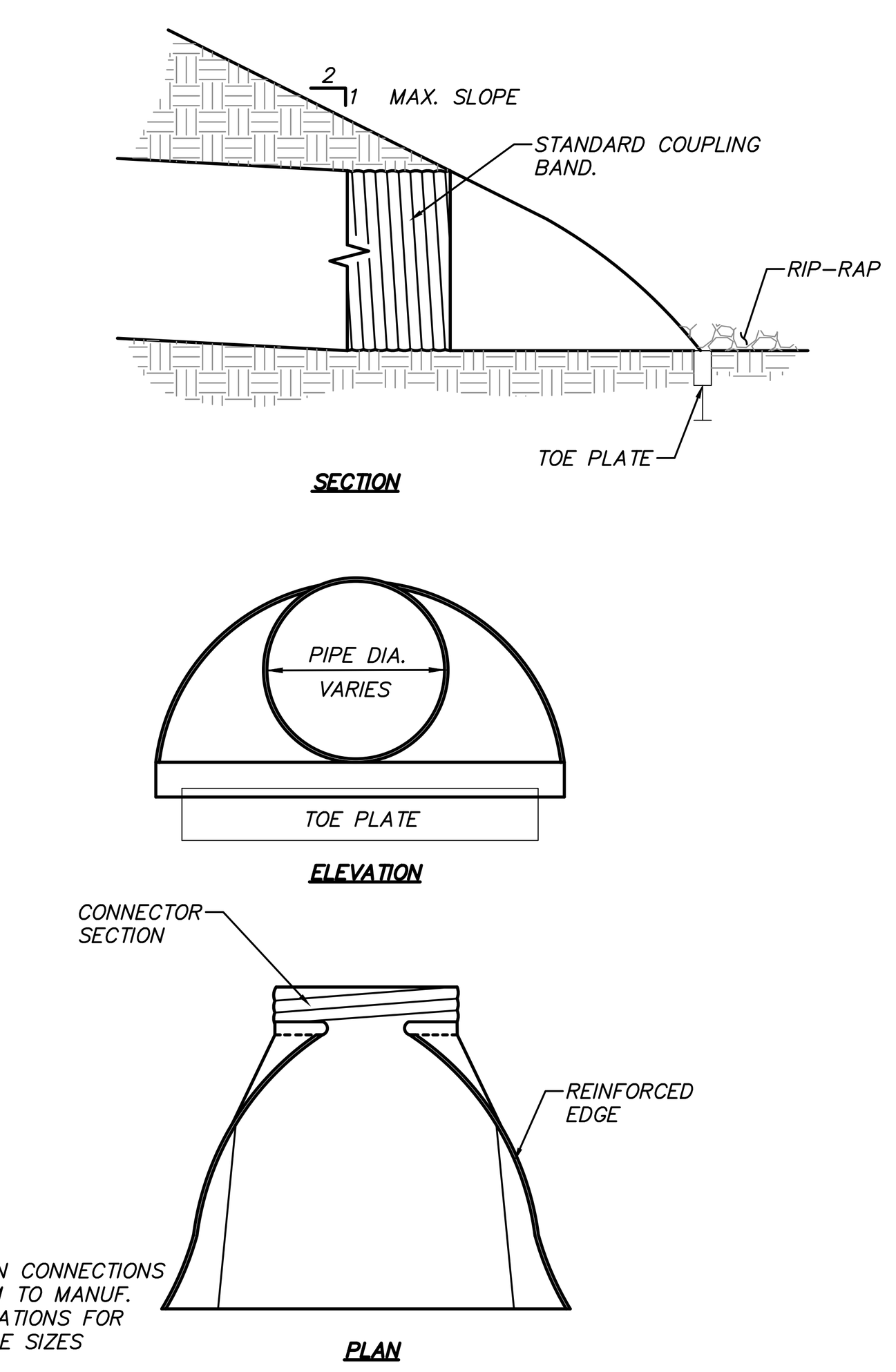


DRAINAGE LINE TRENCH DETAIL

(N.T.S.)

NOTES:

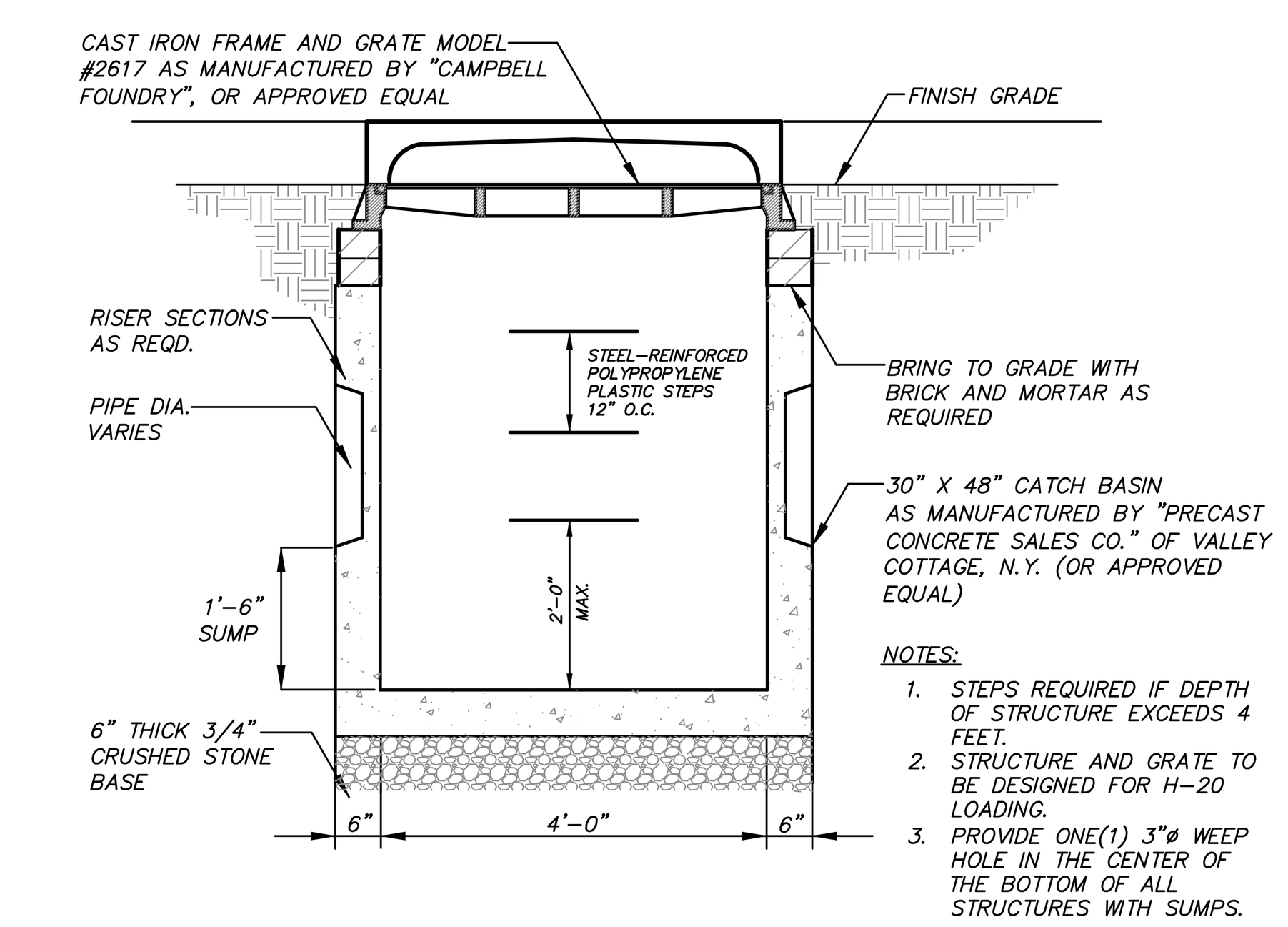
1. WHERE WATERMAIN TRENCHES LIE WITHIN THE PROPOSED CITY OF BEACON R.O.W., TRENCHES ARE TO BE BACKFILLED WITH NYSDOT ITEM 304.12 BACKFILL MATERIAL. MATERIAL SHALL BE COMPACTED IN 8" LIFTS TO 95% OF MAX DRY DENSITY.
2. WHERE WATERMAIN AND SERVICE CONNECTION TRENCHES LIE OUTSIDE THE PUBLIC R.O.W., TRENCHES TO BE FILLED WITH CLEAN SITE SOIL.



NOTE: END SECTION CONNECTIONS TO CONFORM TO MANUF. RECOMMENDATIONS FOR VARIOUS PIPE SIZES

END SECTION DETAIL

(N.T.S.)



NOTES:

1. STEPS REQUIRED IF DEPTH OF STRUCTURE EXCEEDS 4 FEET.
2. STRUCTURE AND GRATE TO BE DESIGNED FOR H-20 LOADING.
3. PROVIDE ONE(1) 3"ø WEEP HOLE IN THE CENTER OF THE BOTTOM OF ALL STRUCTURES WITH SUMPS.

CATCH BASIN DETAIL

(N.T.S.)

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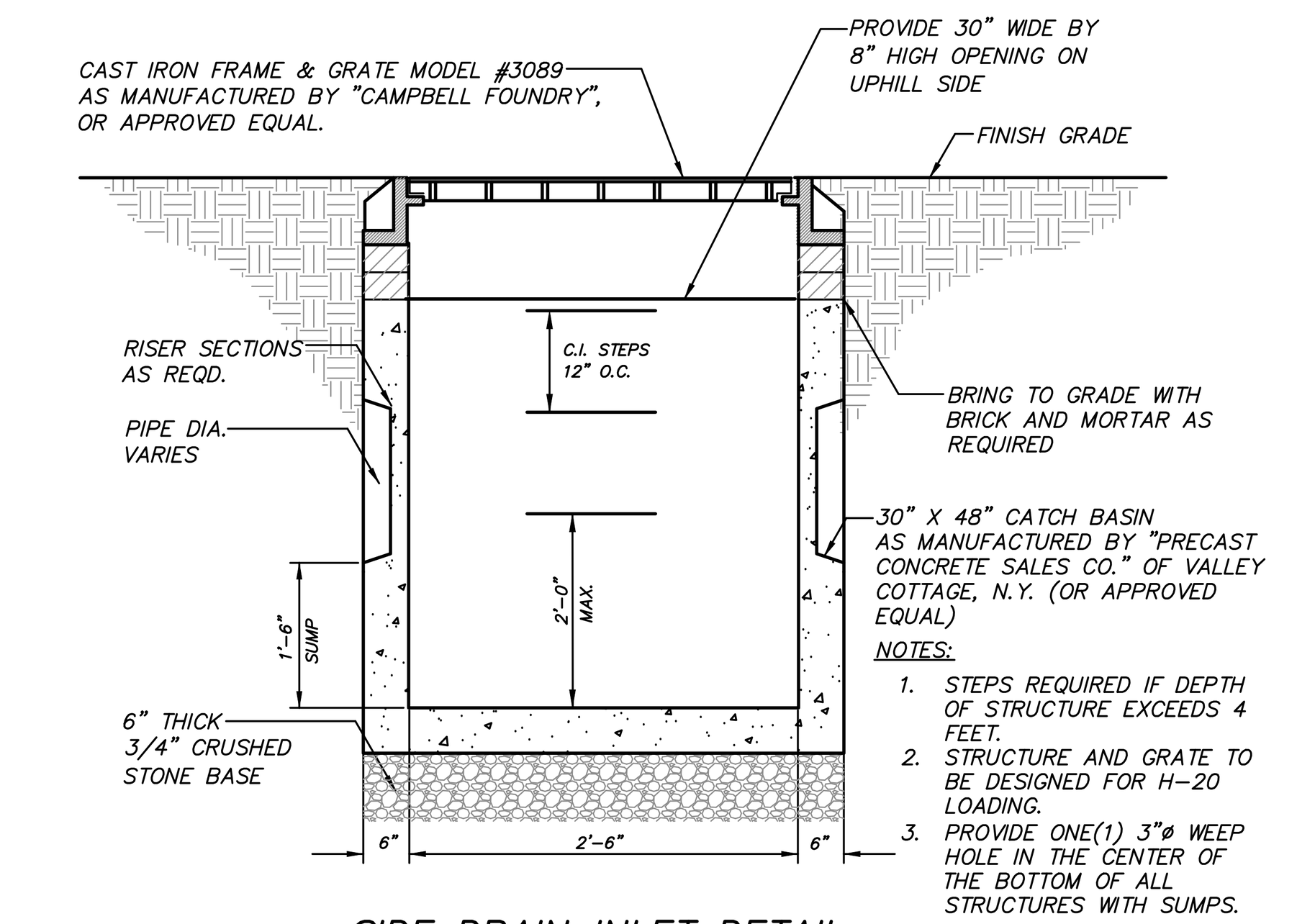

NOTES:

1. STEPS REQUIRED IF DEPTH OF STRUCTURE EXCEEDS 4 FEET.
2. STRUCTURE AND GRATE TO BE DESIGNED FOR H-20 LOADING.
3. PROVIDE ONE(1) 3"ø WEEP HOLE IN THE CENTER OF THE BOTTOM OF ALL STRUCTURES WITH SUMPS.

SIDE DRAIN INLET DETAIL

(N.T.S.)

(STRUCTURE AND GRATE TO BE DESIGNED FOR H-20 LOADING)

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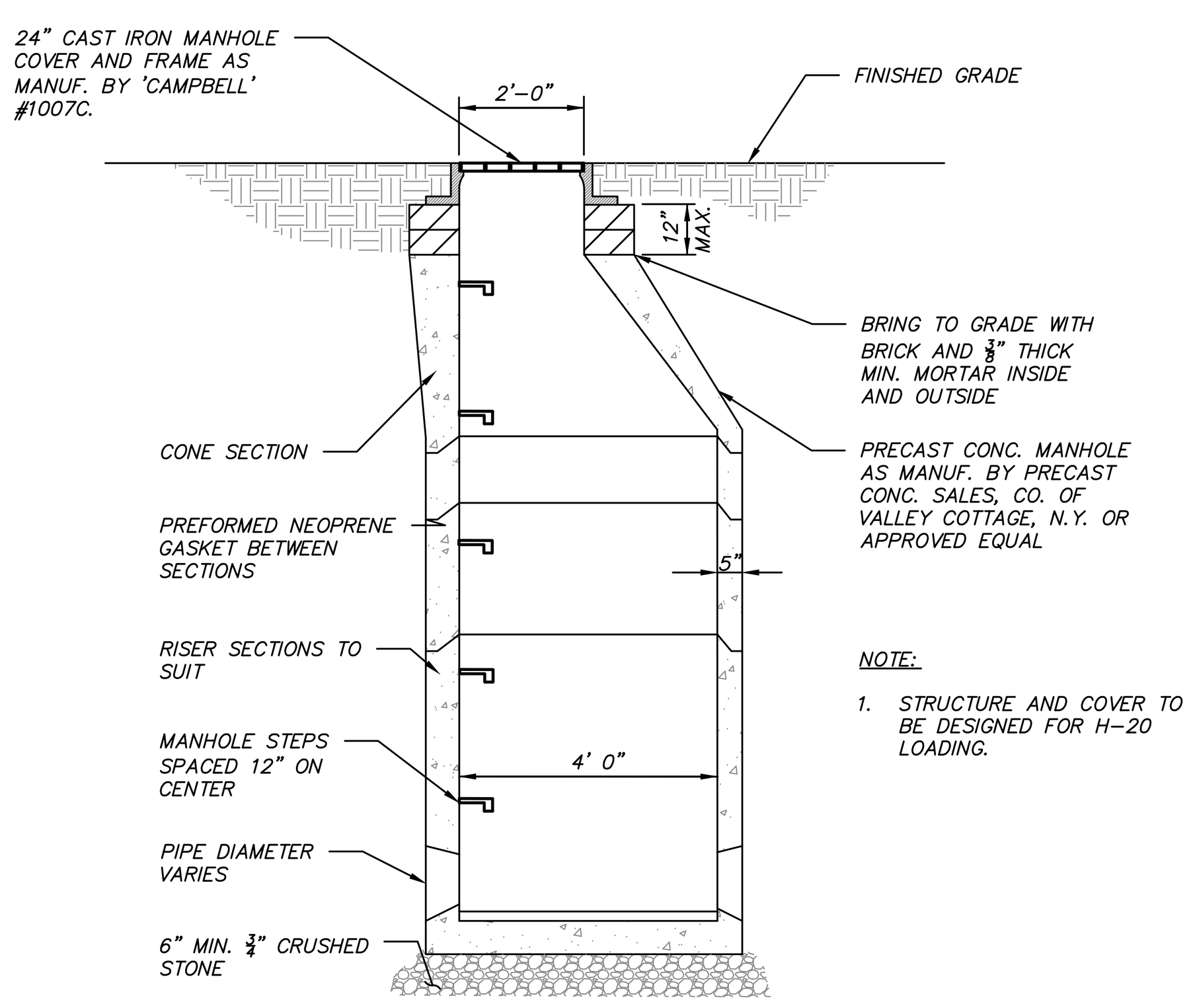

NOTE:

1. STRUCTURE AND COVER TO BE DESIGNED FOR H-20 LOADING.

DRAINAGE MANHOLE DETAIL

(N.T.S.)

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4	7-28-20	REVISED PER PLANNING BOARD COMMENTS	JFR
3	6-30-20	REVISED PER PLANNING BOARD COMMENTS	JFR
2	5-26-20	REVISED PER PLANNING BOARD COMMENTS	JFR
1	4-28-20	RESUBMISSION TO PLANNING BOARD	JFR

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(845) 225-9717 fax
www.insite-eng.com

PROJECT:

BEACON VIEWS

CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

DRAWING:

DETAILS

STATE OF NEW YORK · JEFFREY J. CONTELMO · 61931 · LICENSED PROFESSIONAL ENGINEER

PROJECT NUMBER	19131.100	PROJECT MANAGER	J.J.C.	DRAWING NO.	SHEET
DATE	8-27-19	DRAWN BY	J.F.R.	D-5	17/20
SCALE	AS NOTED	CHECKED BY	A.D.T.		

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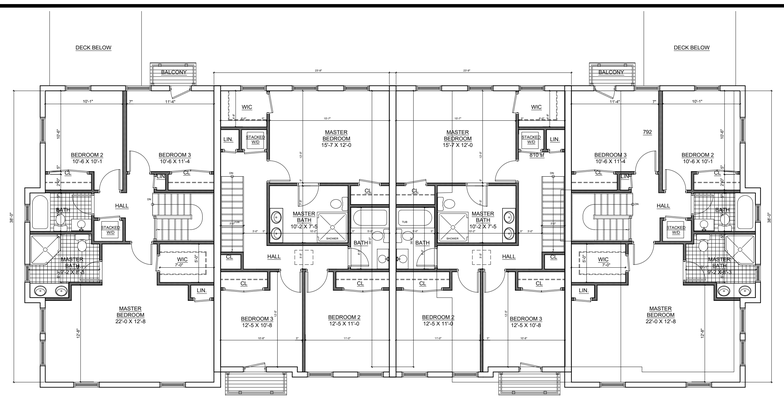

2nd Floor Plan

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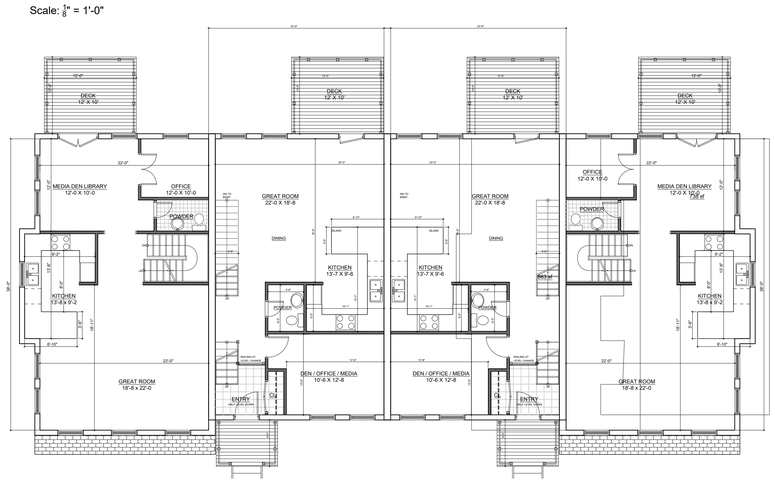
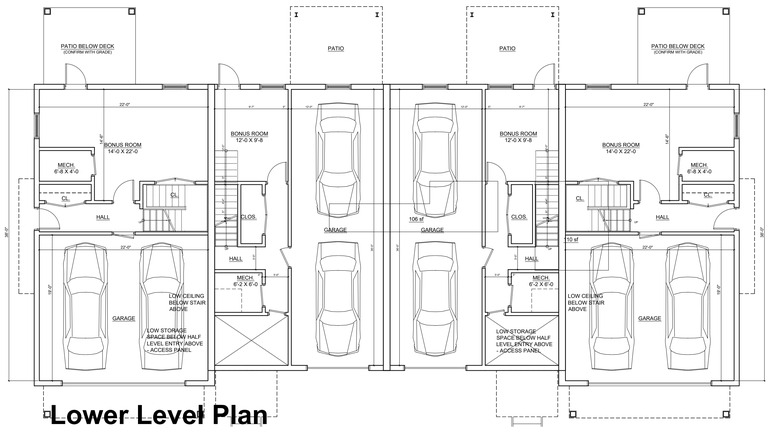


1st Floor Plan

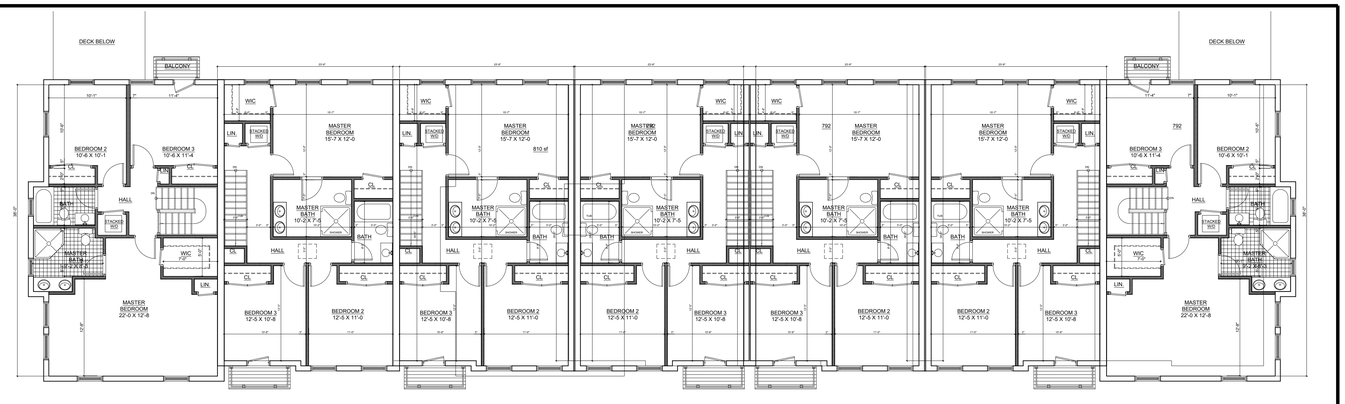
Scale: $\frac{1}{8}$" = 1'-0"



Lower Level Plan

Scale: $\frac{1}{8}$" = 1'-0"

4 Unit Townhouse Plans - Front Garage



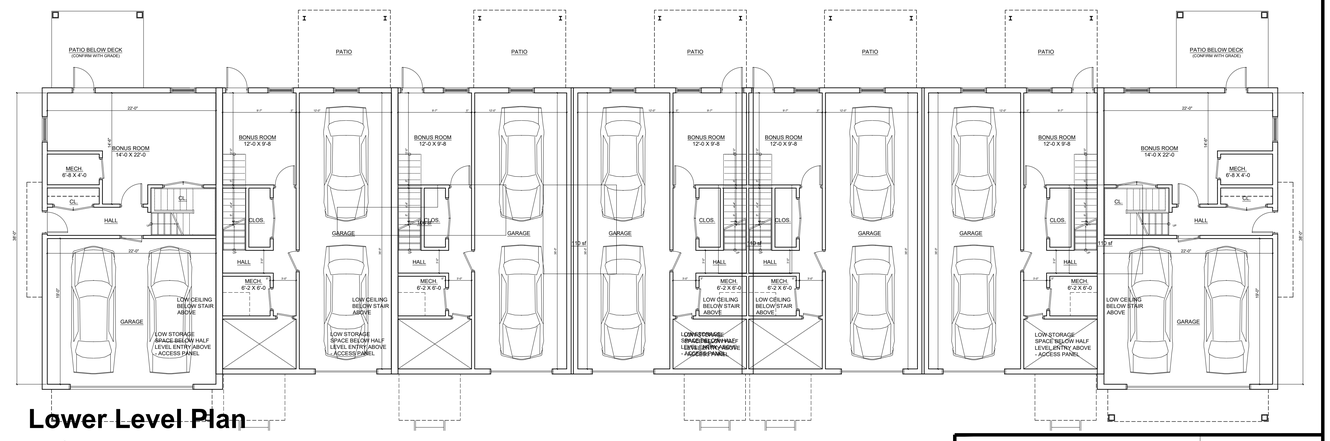
2nd Floor Plan

Scale: $\frac{1}{8}$" = 1'-0"



1st Floor Plan

Scale: $\frac{1}{8}$" = 1'-0"



Lower Level Plan

Scale: $\frac{1}{8}$" = 1'-0"

7 Unit Townhouse Plans - Front Garage

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_____ SECRETARY

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NO.	DATE	REVISION	BY
5	7/28/20	NO CHANGE	AJS
4	6/30/20	NO CHANGE	AJS
3	5/26/20	NO CHANGE	AJS
2	4/28/20	REVISED PER PLANNING BOARD COMMENTS	AJS
1	2/25/20	REVISED PER PLANNING BOARD COMMENTS	AJS

Architect:
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Beacon, New York 12508

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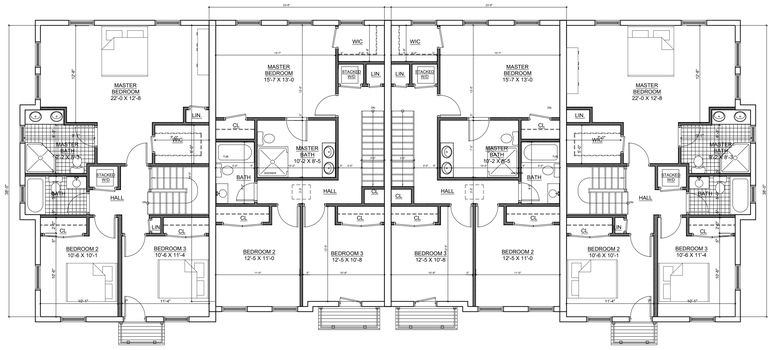
PROJECT:
BEACON VIEWS
CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

DRAWING:
Building Plans – Front Garage

PROJECT NUMBER	19131.100	PROJECT MANAGER	
DATE	10-29-19	DRAWN BY	AJS
SCALE	Not to Scale	CHECKED BY	

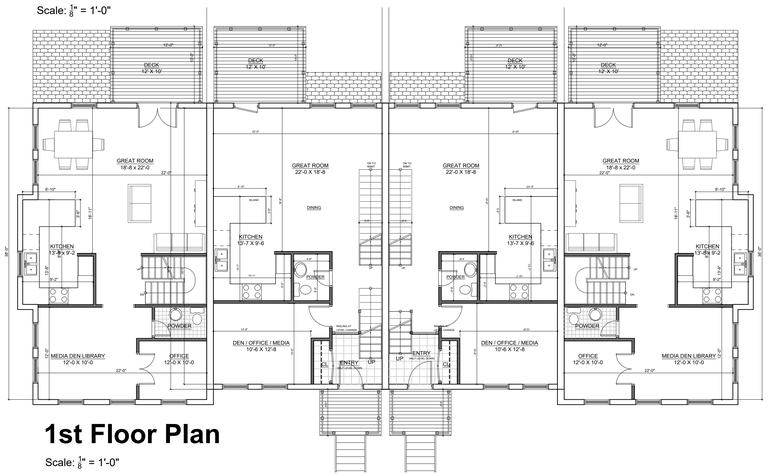
DRAWING NO. A-1

SHEET 18 / 20



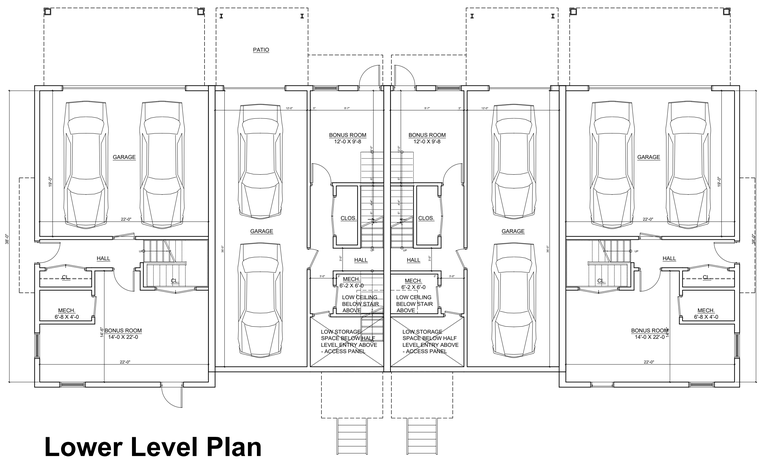
2nd Floor Plan

Scale: $\frac{1}{8}$" = 1'-0"



1st Floor Plan

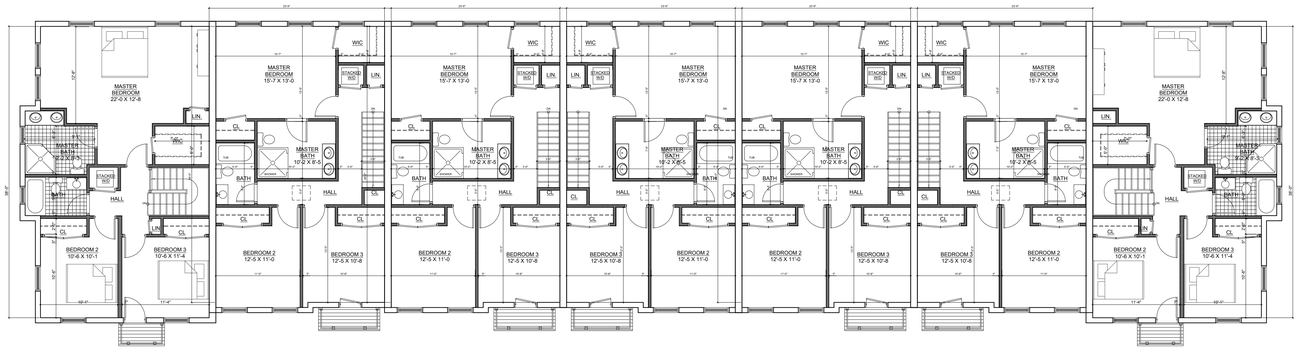
Scale: $\frac{1}{8}$" = 1'-0"



Lower Level Plan

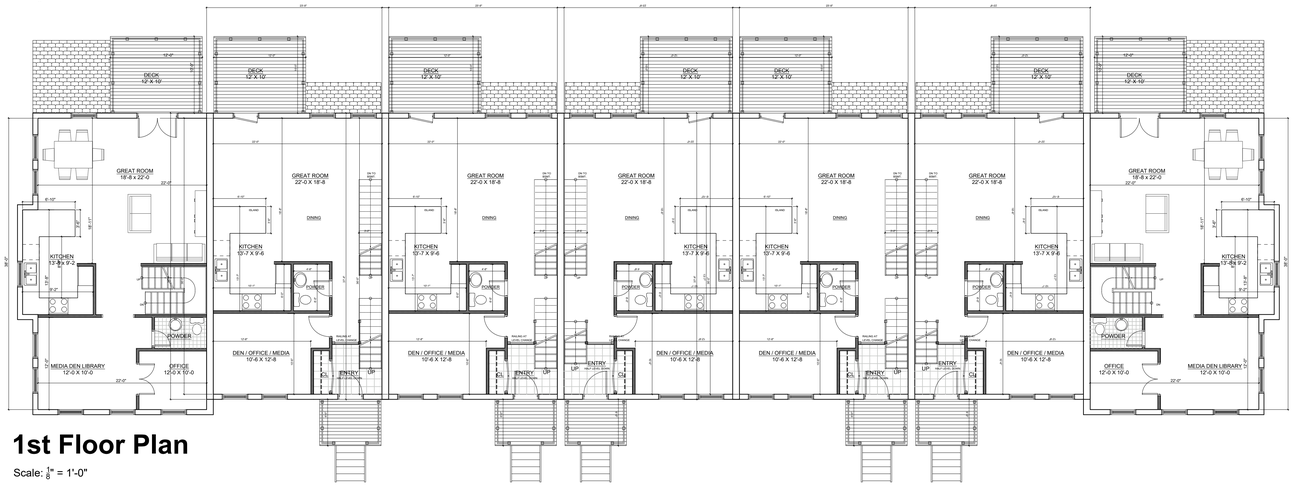
Scale: $\frac{1}{8}$" = 1'-0"

4 Unit Townhouse Plans - Rear Garage



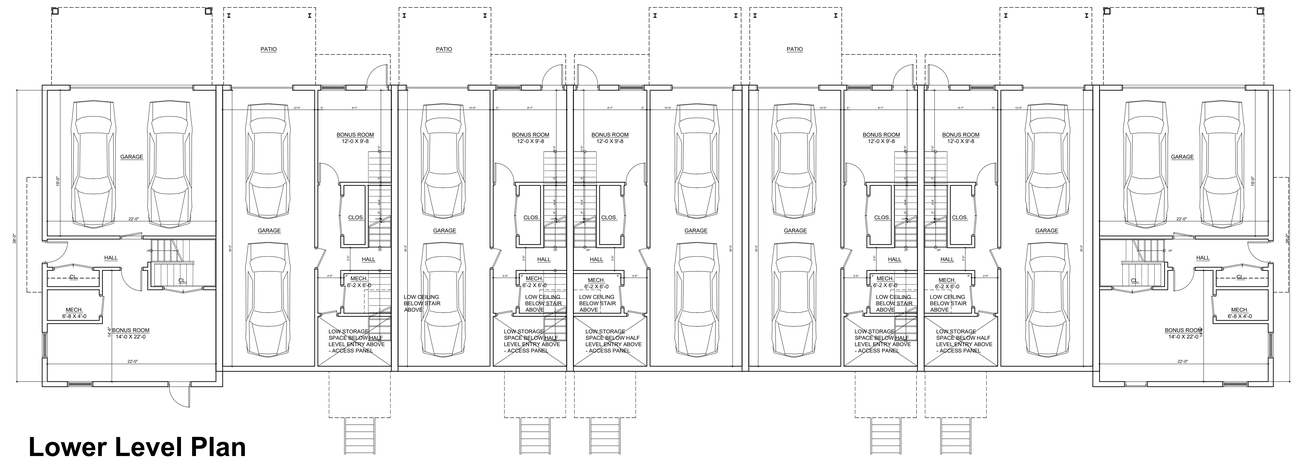
2nd Floor Plan

Scale: $\frac{1}{8}$" = 1'-0"



1st Floor Plan

Scale: $\frac{1}{8}$" = 1'-0"



Lower Level Plan

Scale: $\frac{1}{8}$" = 1'-0"

7 Unit Townhouse Plans - Rear Garage

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(845) 225-9717 fax
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PROJECT: BEACON VIEWS
CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

DRAWING: Building Plans – Rear Garage

PROJECT NUMBER	19131.100	PROJECT MANAGER	
DATE	10-29-19	DRAWN BY	AJS
SCALE	Not to Scale	CHECKED BY	

DRAWING NO. A-2 | SHEET 19/20

ROOF:
ARCHITECTURAL ASPHALT SHINGLES. COLOR: GRAY

PARAPETS:
SHEET METAL FLASHING. COLOR: LEAD GRAY

WINDOWS:
VINYL CLAD DOUBLE HUNG WINDOWS BY ANDERSEN OR APPROVED EQUAL. COLOR: WHITE

SIDING:
HORIZONTAL VINYL SIDING. COLOR: VARIATIONS ON LIGHT GRAY SHADES. NOTE THAT EACH BUILDING GROUP WILL BE ONE COLOR, BUT THERE WILL BE 3 COLORS OF SIDING THROUGHOUT THE PROJECT

WINDOW TRIM:
AZEK. COLOR: WHITE

PORCH & BALCONY TRIM:
AZEK. COLOR: LIGHT GRAY



Elevation: Front

BRICK:
GLEN GARY THIN BRICK. COLOR: 56DD OR APPROVED EQUAL



Elevation: Right Side



Elevation: Left Side

RAILING:
TREX RAILING SYSTEM AND DECKING, OR APPROVED EQUAL. COLOR: LIGHT GRAY

GARAGE DOOR:
AUTOMATIC ROLLUP GARAGE DOOR. PANELS AND GLAZING SIMILAR TO DRAWING. COLOR: LIGHT GRAY



Elevation: Rear

Elevations: Rear Garage Entrance

Scale: $\frac{1}{16}$" = 1'-0"



View at Garage Side

Not to Scale

ROOF:
ARCHITECTURAL ASPHALT SHINGLES. COLOR: GRAY

PARAPETS:
SHEET METAL FLASHING. COLOR: LEAD GRAY

WINDOWS:
VINYL CLAD DOUBLE HUNG WINDOWS BY ANDERSEN OR APPROVED EQUAL. COLOR: WHITE

SIDING:
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GLEN GARY THIN BRICK. COLOR: 56DD OR APPROVED EQUAL



Elevation: Right Side



Elevation: Left Side

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TREX RAILING SYSTEM AND DECKING, OR APPROVED EQUAL. COLOR: LIGHT GRAY

GARAGE DOOR:
AUTOMATIC ROLLUP GARAGE DOOR. PANELS AND GLAZING SIMILAR TO DRAWING. COLOR: LIGHT GRAY



Elevation: Rear

Elevations: Front Garage Entrance

Scale: $\frac{1}{16}$" = 1'-0"



View at Entry Side

Not to Scale

NOTE THAT THE RENDERINGS ARE ARTISTIC INTERPRETATIONS OF THE PROPOSED BUILDING DESIGN TO AID IN REVIEWING THE PROPOSED DESIGN OF THE BUILDINGS ONLY; AND ARE NOT INTENDED AS DETAILED REPRESENTATIONS OF SITE CONDITIONS. CHANGES TO DESIGN ELEMENTS MAY OCCUR IN THE FINAL CONSTRUCTION DOCUMENTS TO SUIT TENANT LAYOUTS AND BUILDING CODE REQUIREMENTS

APPROVED BY RESOLUTION OF THE PLANNING BOARD OF THE CITY OF BEACON, NEW YORK, ON THE

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4	6/30/20	UPDATE RENDERING	AJS
3	5/26/20	NO CHANGE	AJS
2	4/28/20	REVISED PER PLANNING BOARD COMMENTS	AJS
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Architect:
Aryeh Siegel, Architect
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PROJECT:
BEACON VIEWS
CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

DRAWING:
Elevations / Views

PROJECT NUMBER	19131.100	PROJECT MANAGER	
DATE	10-29-19	DRAWN BY	AJS
SCALE	Not to Scale	CHECKED BY	

DRAWING NO. A-3

SHEET 20 / 20

INSITE
ENGINEERING, SURVEYING &
LANDSCAPE ARCHITECTURE, P.C.

STORMWATER POLLUTION PREVENTION PLAN

Prepared For

BEACON VIEWS

City of Beacon, New York

November 30, 2021

Applicant Information:

Beacon Views, LLC
500 River Avenue
Wakefield, New Jersey 08701

Note: This report in conjunction with the project plans make up the complete Stormwater Pollution Prevention Plan.

Prepared by:
Insite Engineering, Surveying & Landscape Architecture, P.C.
3 Garrett Place
Carmel, New York 10512

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APPENDICES

Appendix A	NYSDEC Water Quality Volume and Runoff Reduction Calculations
Appendix B	Pre-Development Computer Data
Appendix C	Post-Development Computer Data
Appendix D	Project and Owner information
Appendix E	NYSDEC SPDES for Construction Activities Construction Site Log Book
Appendix F	NYSDEC Stormwater Design Manual Chapter 5 Analysis
Appendix G	NYSDEC Stormwater Management Practice Construction and Maintenance Inspection Checklist
Appendix H	Hydrodynamic Separator Sizing and Maintenance Manual
Appendix I	NYSDEC Full Environmental Assessment Form
Appendix J	Pipe Sizing Calculations
Appendix K	Swale Sizing Calculations
Appendix L	Draft NYSDEC Notice of Intent
Appendix M	Temporary Sediment Trap Sizing Calculations

FIGURES
Figure 1: Location Map
Figure 2: Pre-Development Drainage Map
Figure 3: Post-Development Drainage Map
Figure 4: Testing Plan

1.0 INTRODUCTION

1.1 Project Description

The proposed project is located off of Conklin Street in the City of Beacon. The site is approximately 8.6 acres and is identified as Tax Map No. 6055-03-331123. The parcel is located in the RD-5 zoning district. The subject parcel and surroundings are shown on Figure 1. The project proposes seven (7) multi-family townhouse buildings (40 total townhouse units) and associated appurtenances. The primary access to the site will be off Hastings Drive, through the adjoining the former St. Francis Hospital property. An emergency access drive will be provided to the north, through the adjacent parcel. It is proposed to capture and treat the stormwater runoff associated with the proposed improvements.

1.2 Existing Stormwater Runoff Conditions

The subject project is located on one tax parcel off of Conklin Street, immediately north of Hastings Drive. The existing ground cover on the site is characterized as a mixture of woods, open grassed meadow areas and impervious surfaces from the adjacent properties. The property generally drains from north to south down to the onsite wetland.

The hydrologic soils groups for the project consists of C/D soils. The designations of the onsite soils located within the proposed limits of disturbance consist of Bernardston Silt Loam (BeB), Canandigua Silt Loam (Ca), and Nassau-Cardigan Complex (NwC) as identified on the Soil Conservation Service Web Soil Survey. The soils boundaries are shown on Figure 2 and 3 of this report.

As previously stated, the stormwater runoff from the existing property generally drains from north to south towards the existing onsite wetland. Approximately 20 acres of offsite stormwater runoff is conveyed through the subject property from offsite runoff. The analysis included in the project SWPPP utilizes one design line, Design Line 1, to assess the stormwater runoff from the property and any potential impacts from development to the existing natural resources on the property. Design Line 1 is located along a portion of the proposed wetland boundary in the post-development condition in order to analyze the stormwater runoff from all developed areas in the post-development condition. The Pre-Development Drainage Map (Figure 2 of this report) shows the location of Design Line 1. The contributing area to Design Line 1 is identified as subcatchment PRE.

1.3 Proposed Stormwater Runoff Conditions

As previously stated, the proposed application includes the construction of seven (7) multi-family town house buildings, asphalt driveway, parking areas and associated appurtenances. Stormwater mitigation for the newly created impervious surfaces will be provided in the form of proposed stormwater management practices (SMP's) discussed further in later sections of this report. The proposed SMP's will be designed to capture and treat runoff from the impervious surfaces associated with the proposed buildings, driveway, parking areas and pedestrian walkways.

It is proposed to maintain the existing drainage patterns on the site to the maximum extent practical in the proposed condition to minimize the impact to the existing downstream wetland. As previously discussed, the stormwater analysis included in the SWPPP utilizes one design line, Design Line 1. Design Line 1, is located along the proposed wetland boundary line in order to analyze the stormwater runoff from all areas of the propose development. Stormwater treatment for the subject project will be accomplished with two different practices including a subsurface infiltration system and a P-5 Pocket Pond. The stormwater management practices have been sized to capture and treat the Water Quality Volume from the developed area. A hydrodynamic separator is proposed upstream of the subsurface infiltration system for pretreatment only to satisfy the requirements of the Design Manual.

The stormwater runoff from the proposed development will be captured in a collection system and conveyed to the stormwater management practices. The stormwater runoff will be treated by two (2) stormwater management practices, including a I-4 Subsurface Infiltration System (1.2P) and a P-5 Pocket Pond (1.1P). Pretreatment of the stormwater runoff will be provided with a hydrodynamic separator upstream of the proposed subsurface infiltration system, and a forebay in the pocket pond. A flow splitter is proposed upstream of the subsurface infiltration system to discharge the water quality volume to the practice for treatment and bypass the larger storm events.

The contributing area to the subsurface infiltration system (1.2P) is shown as subcatchment 1.2S. Subcatchment 1.2S consists of proposed impervious surface on the southeast side of the project site including townhouse units 35-40 and associated parking area and is collected and conveyed to the proposed infiltration system through roof drains, drain inlets and drainage piping. The contributing area to the pocket pond (1.1P) is shown as subcatchment 1.1S. Subcatchment 1.2S consists of the majority of the proposed impervious area that is collected and conveyed through roof drains, drainage structures and drainage piping. The untreated/undeveloped area directly tributary to Design Line 1 in the post-development condition is shown as subcatchment 1.0S. The subcatchments are shown in Figure 3 of this report. A summary of the subcatchments in the post-development condition including the downstream treatment practice, total area and amount of impervious area within the subcatchment is shown in Table 1.3.1 below.

Table 1.3.1 – Post Development Subcatchment Summary

Subcatchment	Stormwater Management Practice	Total Area[1] (ac)	Impervious Area[1] (ac)
1.0S	Not Treated	18.4	0.5[2]
1.1S	1.1P	3.55	2.35
1.2S	1.2P	0.55	0.45

[1] Refer to subcatchment areas in Appendix C.
[2] The impervious area within subcatchment 1.0S is existing from the properties adjacent to the project site that are also tributary to Design Line 1.

As shown in the following sections of this report, the stormwater quality and quantity for the proposed development have been mitigated to the maximum extent practicable to minimize the impacts to the existing conditions of the downstream, onsite wetland. Additionally, an erosion and sediment control plan has been prepared in accordance with the *New York State Standards and Specifications for Erosion and Sediment Control* to protect the existing waterbodies and drainage features during construction activities and in the post development condition.

2.0 STORMWATER MANAGEMENT

The proposed stormwater management system for the Beacon Views has been designed to meet the requirements of local, city, and state stormwater ordinances and guidelines, including but not limited to those of the City of Beacon and the NYSDEC.

Since the subject project proposes the disturbance of more than one (1) acre, coverage under the New York State Department of Environmental Conservation (NYSDEC) SPDES General Permit No. GP-0-20-001 is required. In order to meet the requirements, set forth by this permit, the latest edition of the NYSDEC *New York State Stormwater Management Design Manual* (NYSSMDM) was referenced for the design of the proposed stormwater management system. The NYSSMDM specifies five design criteria that are discussed in detail below. They are Runoff Reduction Volume, Water Quality Volume, Stream Channel Protection Volume, Overbank Flood Control, and Extreme Flood Control. The first two of the requirements relates to treating water quality, while the later pertain to stormwater quantity (peak flow) attenuation.

To address stormwater quantity requirements of the NYSDEC, the “HydroCAD” Stormwater Modeling System,” by HydroCAD Software Solutions LLC in Tamworth, New Hampshire, was used to model and

assess the peak stormwater flows for the subject project. HydroCAD is a computer aided design program for modeling the hydrology and hydraulics of stormwater runoff. It is based primarily on hydrology techniques developed by the United States Department of Agriculture, Soil Conservation Service (USDA, SCS) TR-20 method combined with standard hydraulic calculations. For details on the input data for the subcatchments and design storms, please refer to Appendices B and C.

The input requirements for the HydroCAD computer program are as follows:

Subcatchments (contributing watershed/sub-watersheds)

- Design storm rainfall in inches
- CN (runoff curve number) values which are based on soil type and land use/ground cover
- Tc (time of concentration) flow path information
- Watershed Area in Acres

Stormwater Basins

- Surface area at appropriate elevations
- Flood elevation
- Outlet structure information

The precipitation values and intensity duration frequency (IDF) curves for the 1-Year, 10-Year, 100-Year 24-hour design storm events and rainfall distribution curves utilized for this report were obtained from the information provided by Northeast Regional Climate Center (NRCC) and the Natural Resources Conservation Service (NRCS) which is available online at *www.precip.eas.cornell.edu.* The values provided for all design storms analyzed have been listed below.

Table 2.0.1 – Precipitation Values for Corresponding Design Storms

Design Storm	24-Hour Rainfall
1-Year	2.6”
10-Year	4.7”
100-Year	8.3”

The CN (runoff curve number) values utilized in this report were referenced from the USDA, SCS publication *Urban Hydrology for Small Watersheds*. The following is a summary of the various land uses/ground covers and their associated CN values utilized in this report.

Table 2.0.2 – Project Ground Cover and Associated Curve Numbers (CN)

Land Use/Ground Cover	CN Value
Woods, D Soil	77
Meadow, D Soil	78
>75% Grass Cover, D Soil	80
Impervious Surface	98

2.1 NYSDEC Runoff Reduction Volume, RR_v

The Runoff Reduction Volume (RR_v) criterion is intended to replicate pre-development hydrology by maintaining preconstruction infiltration, peak flow runoff, discharge volume, as well as minimizing concentrated stormwater flow. As stated in Chapter 4 of the Design Manual, RR_v may be treated with standard SMP’s with RR_v capacity sized in accordance with the Chapter 4/6 requirements, or with green infrastructure practices (GIP’s) sized in accordance with the requirements set forth in Chapter 5. Runoff reduction is achieved when runoff from a site is captured, directed to a

SMP or a GIP, infiltrated to the ground, reused, or removed by evapotranspiration, so it does not contribute to the stormwater discharge from the site. The goal for each site is to reduce the entire WQ_v (100%) through the implementation of GIP's and standard SMP's with RR_v capacity. However, if 100% of the WQ_v cannot be reduced by applying a combination of green infrastructure techniques and standard SMP's with RR_v capacity, "they must, at a minimum, reduce runoff from a percentage of the impervious area constructed as part of the project using the green infrastructure techniques and standard SMPs with RR_v capacity. In addition, the designer must provide justification in the SWPPP that evaluates each of the green infrastructure techniques listed in Table 3.2 and identify the specific site limitations that make application of the technique(s) infeasible."

The project SWPPP cannot provide 100% of the WQ_v through the implementation of GIP's or standard SMP's with RR_v capacity. This is because the onsite soils conditions and depth to groundwater in portions of the site, thus minimizing the area where infiltration practices for treatment of the RR_v / WQ_v is possible. With respect to runoff volume, the project SWPPP addresses and satisfies the RR_V requirements of the Design Manual. In order to meet these requirements to the maximum extent practicable, the project SWPPP has minimized the creation of impervious surfaces to the maximum extent practicable. The types of GIP's and standard SMP's with RR_v capacity that can be employed onsite are limited. The project SWPPP as required by the Design Manual meets and exceeds the RR_v minimum required. In addition, as required by the Design Manual, an analysis evaluating each of the green infrastructure techniques in Table 3.2 has been provided in Appendix F. For this project there is one proposed infiltration practice employed towards meeting the RR_v requirements.

The project proposes an I-4 Subsurface Infiltration System in an area of the project site where the soil conditions meet the Design Manual requirements. These stormwater practice, sized in accordance with the Design Manual, will be applied as a GIP/SMP with volume reduction towards meeting the RR_v minimum. Sizing calculations for the subsurface infiltration practice are provided in Section 2.2 below.

For a calculation of the Initial WQ_v / RR_v, the RR_v minimum, the RR_v / WQ_v required, and the RR_v provided, refer to Appendix A. In calculating the RR_v minimum, onsite soils belongs to the Hydrologic Soil Groups D. These soil groups have a specific reduction factor of 0.20. The table below summarizes the RR_v requirements for the site, as calculated in Appendix A.

Table 2.1.1 Runoff Reduction Volume Summary

Design Line	Initial WQ_v / RR_v (c.f.)[1]	RR_v Minimum (c.f.)	WQ_v RR_v Required (Initial WQ_v / RR_v minus RR_v provided through GIP with Area Reduction) (c.f.)	RR_v Provided (c.f.)	WQ_v Required for Downstream SMP (c.f.)
Design Line 1	13,300	2,704	13,300	3,572	9,728

[1] Refer to Appendix A for Initial WQ_v Calculations

As noted in the table above the project has provided greater than the RR_v minimum. By implementing GIP's to the greatest extent practicable, and exceeding the RR_v minimum, the NYSDEC RR_v requirement has been addressed. As previously stated, 100% of the WQ_v/RR_v required could not be provided due to onsite soil conditions and the limited area where infiltration is feasible. As 100% of the WQ_v / RR_v required was not provided for the subcatchments, a downstream standard SMP must be provided to treat the difference between the WQ_v / RR_v required and the RR_v provided. A P-5 Pocket Pond will be provided as the primary downstream stormwater management practice to treat the remaining WQ_v for the subcatchments. As the WQv for subcatchment 1.1S, shown in Table

2.2.1, is greater than the remaining WQv required, the Pocket Pond has been sized to treat the greater WQ_v. The proposed Pocket Pond is being provided to meet stormwater quality/quantity requirements of the NYSDEC.

2.2 NYSDEC Water Quality Volume, WQ_v

The stormwater management practices have been designed in accordance with the *Performance Criteria* (Chapter 4) of the NYSSMDM. As outlined in Chapter 4, the WQv is the runoff volume produced during the 90% storm. The proposed infiltration practices have been designed to treat the WQv in accordance with the NYSSMDM. The following equation, per Chapter 4, was used to determine the water quality volume for the 90% storm for each of the contributing areas to the treatment practices:

$$\text{The water quality volume shall be } WQ_v = \frac{(P)(R_v)(A)}{12}$$

Where,

WQ_v = water quality volume (in acre-feet)
P = 90% Rainfall Event Number
R_v = 0.05 + 0.009(I), where I is percent impervious cover
A = site area in acres

The stormwater management practices have been designed in accordance with the *Performance Criteria* (Chapter 4) of the NYSSMDM. As outlined in Chapter 4, the WQv is the runoff volume produced during the 90% storm. The proposed infiltration practices have been designed to treat the WQv in accordance with the NYSSMDM. The equation above, per Chapter 4, was used to determine the water quality volume for the 90% storm for each of the contributing areas to the treatment practices:

Table 2.2.1 - Water Quality Volume Calculation Summary

Subcatchment	WQ_v[1] (cf)
1.1S	11,163
1.2S	2,136

[1] For detailed calculations see Appendix A

As previously stated, there are two stormwater management practices proposed as part of the development of the site to meet both the WQv and RRv requirements. Each practice has been designed to treat the Water Quality Volume from the contributing area. The subsurface infiltration practice is designed as an offline practice with a flow splitter upstream of the practice. The infiltration practice is sized to treat at a minimum the WQv from the contributing area, while allowing portions of larger storms to discharge from the infiltration practice through an overflow pipe as allowed by the NYSSMDM. The overflow pipe is set to allow the full WQv storage within the practice as required by the Design Manual. The calculation of the WQv is performed per the methods of the NYSSMDM in Appendix A.

Soil testing was performed in the location of the proposed stormwater management practices. Infitlration testing was performed for the proposed subsurface infiltration system. Testing results can be found on Figure 4. Soil and infiltration test results meet the stormwater infiltration practice requirements set forth in the Design Manual for separation to distances and an infiltration rate greater than 0.5 inches per hour.

Pretreatment has been provided for the proposed subsurface infiltration system in the form of a hydrodynamic separator. The hydrodynamic separator is proposed for pretreatment only and is not deisnged as a proprietary stormwater management practice to treat the stormwater runoff. The peak

flow for the 1-year storm was used to size the hydrodynamic separator used as pretreatment for the infiltration system. Per the Design Manual requirements a minimum pretreatment volume of 100% of the WQ_v must be provided for an infiltration facility where the infiltration rate for the underlaying soils is greater than 5.0 inches per hour. By sizing the hydrodynamic separator for the peak flow from the 1-year storm event, pretreatment for greater than 100% of the WQ_v is provided. The data (including capacities) for the hydrodynamic separator is included in Appendix H. Although the Hydroworks HydroStorm HS 6 does not meet the NYSDEC requirements of TSS and phosphorous removal to be used as a proprietary practice to treat new impervious development, it is a verified proprietary practice to be used for pretreatment. The table below summarizes the WQv-year peak flows and hydrodynamic separate flow rates.

Table 2.2.2 – Pretreatment Hydrodynamic Separator Summary

Stormwater Management Practice	WQv[1] Peak Flow (C.F.S).	Hydrodynamic Separator Model	Hydrodynamic Separator Capacity (C.F.S.)
1.2P	1.84	HydroStorm HS 6	1.98 CFS

[1] For detailed calculations see Appendix A

As noted in the table above the capacity of the hydrodynamic separator exceeds the calculated WQv peak flow. The hydrodynamic separator has an internal bypass capable of passing the flows from the contributing areas from the larger storm events.

The P-5 pocket pond has been sized in accordance with Chapter 6 of the Design Manual as shown in the table below. The P-5 Pocket Pond has been sized to store a minimum of 50% of the WQv in the permanent pool and a maximum of 50% in extended detention. As previously stated, the P-5 Pocket Pond has been sized for the WQv calculated in Appendix A as the WQv from the contributing area. The provided volume for the P-5 Pocket Pond can be verified in the stage storage tables contained in Appendix C. A P-5 Pocket Pond was chosen due to the overall contributing area to the proposed basin.

Table 2.1.3 P-5 Pocket Pond Summary

Design Elements	Required	Provided	Remarks
Pond Location	Not within Jurisdictional Waters	Outside of Jurisdictional Waters	See Project Plans
Forebay Volume	10% of WQv (1,116 cubic feet)	18% of WQv (2,050 cubic feet)	See Appendix C
Forebay Depth	4' Min. – 6' Max.	5' Provided	See Project Plans
WQv Storage	50% Min. within Permanent Pool (5,582 cubic feet)	50%+ within Permanent Pool (10,715 cubic feet)	See Appendix C
Minimum Length to Width Ratio	1.5 : 1	Greater than 2 : 1	See Project Plans
Minimum Surface Area to Drainage Area Ratio	1 : 100	1 : 39	See Project Plans
Benches at Water Level	Aquatic Bench	Aquatic Bench	See Project Plans
Landscaping	Pond and Buffer Plantings Required	Pond and Buffer Plantings Provided	See Project Plans
Center-of-Mass Detention Time (1-Year, 24-Hour Storm Event)	1,440 minutes	1,512 minutes	See Appendix C

2.3 NYSDEC Stream Channel Protection Volume, CP_v

The Stream Channel Protection (CP_v) criterion is intended to protect stream channels from erosion and is accomplished by the 24-hour extended detention of the 1-year, 24-hour storm event or by fully infiltrating the stormwater runoff from the 1-year, 24-hour storm event. The Stream Channel Protection Volume is calculated using the runoff volume from 1-year, 24-hour storm event from the HydroCAD modeling in Appendix C. Table 2.3.1 below provides a summary of the peak flow rate from each stormwater management practice proposed to provide CP_v for the 1-year, 24-hour storm event. The table provides the maximum allowable discharge rate based on the 1-year, 24-hour runoff volume over a 24-hour period, and the design discharge rate from each practice as shown in Appendix C. As shown in Appendix C, the proposed I-4 Subsurface Infiltration System has been designed to fully infiltrate the stormwater runoff from the 1-year, 24-hour design storm and the P-5 Pocket Pond has been designed to provide 24-hour extended detention of the 1-year, 24-hour storm, therefore the CPv criterion has been met for the proposed areas of new development.

Table 2.2.1 – Stream Channel Protection Volume Summary

Subcatchment	Stormwater Management Practice	1-Year, 24-Hour Runoff Volume (af)	Maximum Allowable Discharge Rate (cfs)	Provided Discharge Rate (cfs)
1.1S	1.1P	0.531	0.27	0.11
1.2S	1.2P	0.095	0.05	0.0

[1] See Appendix C for the runoff volume from the 1-Year, 24-Hour Storm Event

2.4 NYSDEC Overbank Flood Control, Q_p, and Extreme Flood Control, Q_f

The Overbank Flood Control (Q_p) requirement is intended to prevent an increase in the frequency and magnitude of out-of-bank flooding events generated by urban development. Overbank control requires storage to attenuate the post-development 10-year, 24-hour peak discharge to pre-development rates. The Extreme Flood Control (Q_f) requirement is intended to prevent the increased risk of flood damage from large storm events, maintain the boundaries of the pre-development 100-year flood plain, and protect the physical integrity of stormwater management practices. Extreme flood control requires storage to attenuate the post-development 100-year, 24-hour peak discharge to pre-development rates. As shown in Table 2.4.1 attenuation for both the 10-year and 100-year 24-hour storms has been provided thus satisfying the Q_p and Q_f requirements. As requested by the City of Beacon, in addition to the requirements of the Design Manual, attenuation of the peak flows for the 1-year, 24-hour design storm has been provided as shown in Table 2.4.1. The following table summarizes the pre and post development peak flows expected for the proposed project.

Table 2.4.1– Pre and Post-Development Peak Flows

24-HOUR DESIGN STORM PEAK FLOWS (c.f.s.)						
	1-YEAR		10-YEAR (Overbank Flood Control)		100-YEAR (Extreme Flood Control)	
	Pre	Post	Pre	Post	Pre	Post
Design Line 1	14.1	12.6	39.7	35.2	84.5	78.7

As shown in the above table the peak flows discharging to the design line in the proposed condition have been mitigated to slightly below the existing condition levels. Since the rate of runoff in the proposed condition is less than the existing condition, the proposed onsite stormwater improvements will mitigate the potential impact of the peak flows downstream in the final condition.

3.0 STORMWATER CONVEYANCE SYSTEM

The stormwater collection and conveyance systems for the project will consist of catch basins, drain inlets, drainage manholes, swales and HDPE pipe. The system will be sized to collect and convey at minimum the 100-year, 1-hour design storm using the Rational Method. The Rational Method is a standard method used by engineers to develop flow rates for sizing collection systems. The Rational Method calculates flows based on a one-hour design storm. Calculations are provided in Appendix J and K.

4.0 EROSION AND SEDIMENT CONTROL

Erosion and sediment control should be accomplished by four basic principles: diversion of clean water, containment of sediment, treatment of dirty water, and stabilization of disturbed areas. Diversion of clean water should be accomplished with swales. This diverted water should be safely conveyed around the construction area as necessary and discharged downstream of the disturbed areas. Sediment should be contained with the use of silt fence at the toe of disturbed slopes and excavation of the temporary sediment basin. Disturbed areas should be permanently stabilized within 14 days of final grading to limit the required length of time that the temporary facilities must be utilized. The owner will be responsible for the maintenance of the temporary erosion control facilities.

4.1 Temporary Erosion and Sediment Control Facilities

Temporary erosion and sediment control facilities should be installed and maintained as required to reduce the impacts to off-site properties. The owner will be required to provide maintenance for the temporary erosion and sediment control facilities. In general, the following temporary methods and materials should be used to control erosion and sedimentation from the project site:

- Stabilized Construction Entrance
- Silt Fence Barriers
- Storm Drain Inlet Protection
- Temporary Sediment Trap

A stabilized construction entrance should be installed at the entrance to the site as shown on the plan. The design drawings will include details to guide the contractor in the construction of this entrance. The intent of the stabilized construction entrance is to prevent the “tracking” of soil from the site. Dust control should be accomplished with water sprinkling trucks if required. During dry periods, sprinkler trucks should wet all exposed earth surfaces as required to prevent the transport of air-borne particles to adjoining areas.

Siltation barriers constructed of geosynthetic filter cloth should be installed at the toe of all disturbed slopes. The intent of these barriers is to contain silt and sediment at the source and inhibit its transport by stormwater runoff. The siltation barriers will also help reduce the rate of runoff by creating filters through which the stormwater must pass.

The proposed stormwater basins will act as temporary sediment traps during construction of the site. The stormwater runoff from disturbed areas will be directed to the sediment traps. These traps have been sized in accordance with the NYSSSESC, as shown in Appendix M of this report.

4.2 Permanent Erosion and Sediment Control Facilities

Permanent erosion and sediment control will be accomplished by diverting stormwater runoff from steep slopes, controlling/reducing stormwater runoff velocities and volumes, and vegetative and structural surface stabilization. All of the permanent facilities are relatively maintenance free and only require periodic inspections. The owner will provide maintenance for all the permanent erosion and sediment control facilities.

The temporary sediment trap shall be cleaned of all sediment and debris, and converted to an extended detention dry stormwater basin per the final elevations and dimensions, and stabilized with the vegetation as indicated on the project drawings. Riprap aprons will be used at the discharge end of all piped drainage systems. Runoff velocities will be reduced to levels that are non-erosive to the receiving waterbodies through use of these aprons.

Other than the buildings and paved surfaces, disturbed surfaces will be stabilized with vegetation. The vegetation will control stormwater runoff by preventing soil erosion, reducing runoff volume and velocities, and providing a filter medium. Permanent seeding should optimally be undertaken in the spring from March 21st through May 20th and in late summer from August 15th to October 15th.

5.0 IMPLEMENTATION, MAINTENANCE & GENERAL HOUSEKEEPING

5.1 Construction Phase

Details associated with the implementation and maintenance of the proposed stormwater facilities and erosion control measures during construction are shown on the project drawings. A Construction Sequence has been provided on the project plans to guide the contractor in the installation of the erosion control measures as well as the site plan features. In accordance with NYSDEC SPDES General Permit GP-0-20-001 no phase will exceed the maximum of 5 acres of disturbance at any given time as less than 5 acres of disturbance is proposed. The erosion control plan includes associated details and notes to aid the contractor in implementing the plan.

During construction, a Site Log Book, Appendix E, is required to be kept per NYSDEC SPDES General Permit GP-0-20-001. Erosion and sediment control inspections are required to be conducted as necessary under coverage of the permit (minimum twice a week) and an updated logbook and a copy of the SWPPP is required to be kept on site for the duration of the construction activities. The Construction Site Log Book is an appendix taken from the *New York Standards and Specifications for Erosion and Sediment Control* (Blue Book).

In addition to the proposed erosion and sediment control facilities, the following good housekeeping best management practices shall be implemented to mitigate potential pollution during the construction phase of the project. The general contractor overseeing the day-to-day site operation shall be responsible for the good housekeeping best management practices included in the following general categories:

- Material Handling and Waste Management
- Establishment of Building Material Staging Areas
- Establishment of Washout Areas
- Proper Equipment Fueling and Maintenance Practices
- Spill Prevention and Control Plan

All construction waste materials shall be collected and removed from the site regularly by the general contractor. The general contractor shall supply waste barrels for proper disposal of waste materials. All personnel working on the site shall be instructed of the proper procedures for construction waste disposal.

Although it is not anticipated any hazardous waste materials will be utilized during construction, any hazardous waste materials shall be disposed of in accordance with federal, state, and local regulations. No hazardous waste shall be disposed of on-site. Hazardous waste materials shall be stored in appropriate and clearly marked containers and segregated from the other non-waste materials. All hazardous waste shall be stored in a structurally sound and sealed shipping containers located in the staging areas. Material safety data sheets, material inventory, and emergency contact numbers will be maintained in the office trailer. All personnel working on the site shall be instructed of the proper procedures for hazardous waste disposal.

Temporary sanitary facilities (portable toilets) shall be provided on site during the entire length of construction. The sanitary facilities shall be in an alternate area away from the construction activities on the site. The portable toilets shall be inspected weekly for evidence of leaking holding tanks.

All recyclables, including wood pallets, cardboard boxes, and all other recyclable construction scraps shall be disposed of in a designated recycling barrel provided by the contractor and removed from the site regularly. All personnel working on the site shall be instructed of the proper procedures for construction waste recycling.

All construction equipment and maintenance materials shall be stored in a designated staging area. Silt fence shall be installed down gradient of the construction staging area. Shipping containers shall be utilized to store hand tools, small parts, and other construction materials, not taken off site daily. Construction waste barrels, recycling barrels and if necessary hazardous waste containers shall be located within the limits of the construction staging area.

Throughout the construction of the project, several types of vehicles and equipment will be used on-site. Fueling of the equipment shall occur within the limits of the construction staging area. Fuel will be delivered to the site as needed, by the general contractor, or a party chosen by the general contractor. Only minor vehicle equipment maintenance shall occur on-site, all major maintenance shall be performed off-site. All equipment fluids generated from minor maintenance activities shall be disposed of into designated drums and stored in accordance with the hazardous waste storage as previously discussed.

Vehicles and equipment shall be inspected on each day of use. Any leak discovered shall be repaired immediately. All leaking equipment unable to be repaired shall be removed from the site. Ample supplies of absorbent, spill-cleanup materials, and spill kits shall be located in the construction staging area. All spills shall be cleaned up immediately upon discovery. Spent absorbent materials and rags shall be hauled off-site immediately after the spill is cleaned for disposal at a local landfill. All personnel working on the site shall be instructed of the proper procedures for spill prevention and control. Any spill large enough to discharge to surface water will be immediately reported to the local fire / police departments and the National Response Center 1-800-424-8802.

During the initial year of planting, the plants may require watering to germinate and establish. Note that several seedings may be required during the first year to completely establish vegetation on the site.

As shown in the NYSDEC Full Environmental Assessment Form in Appendix I of this report, the project site is located in an area with threatened or endangered animals. The Indiana Bat and is listed as a threatened or endangered animal in the area of the proposed project site. Additional care should be taken during construction to monitor for the Indiana Bat and appropriate measures should be taken for protection of the Indiana Bat if one is to be observed onsite. The following conservation measures are proposed for the project:

- Tree clearing will only occur between the period of October 1 through March 31 when bats are not in the vicinity of the site.
- Lighting on the site will use City of Beacon Planning Board approved light fixtures that have tops that direct light down to minimize light pollution and not interfere with potential bat foraging activities.
- Implementing soil conservation and dust control best management practices, such as watering dry disturbed soil areas to keep dust down, recessed silt fence and anti-tracking pads to prevent erosion and sediment in surface waters on the site.
- Stormwater pond(s) will not be maintained with any chemicals that might adversely affect bats or insect populations on which they may feed.

5.2 Soil Restoration

Soil Restoration is required to be applied across areas of the development site where soils have been disturbed and will be vegetated. The purpose is to recover the original properties and porosity of the soil compacted during construction activity. Soil Restoration is applied in the cleanup, restoration, and landscaping phase of construction followed by the permanent establishment of an appropriate, deep-rooted groundcover to help maintain the restored soil structure. Soil restoration includes mechanical decompaction and compost amendment. The table below describes various soil disturbance activities related to land development, soil types and the requirements for soil restoration for each activity as identified in the Design Manual. Restoration is applied across areas of a development site where soils have been compacted and will be vegetated according to the criteria defined in the table below:

<table>
<tr><th colspan="4">Soil Restoration Requirements[1, 2,4]
(Onsite soils within the limit of disturbance belong to Hydrologic Soil Groups (HSG) D)</th></tr>
<tr><th>Type of Soil Disturbance</th><th colspan="2">Soil Restoration Requirement</th><th>Comments/Examples</th></tr>
<tr><td>No soil disturbance</td><td colspan="2">Restoration not permitted</td><td>Preservation of Natural Features</td></tr>
<tr><td>Minimal soil disturbance</td><td colspan="2">Restoration not required</td><td>Clearing and grubbing</td></tr>
<tr><td rowspan="2">Areas where topsoil is stripped only - no change in grade</td><td>HSG A & B</td><td>HSG C&D</td><td rowspan="2">Protect area from any ongoing construction activities.</td></tr>
<tr><td>Apply 6 inches of topsoil</td><td>Aerate[3] and apply 6 inches of topsoil</td></tr>
<tr><td rowspan="2">Areas of cut or fill</td><td>HSG A &B</td><td>HSG C&D</td><td rowspan="2"></td></tr>
<tr><td>Aerate[1] and apply 6 inches of topsoil</td><td>Apply full Soil Restoration [2]</td></tr>
<tr><td>Heavy traffic areas on site (especially in a zone 5-25 feet around buildings but not within a 5-foot perimeter around foundation walls)</td><td colspan="2">Apply full Soil Restoration (decompaction and compost Enhancement[6])</td><td></td></tr>
<tr><td>Areas where Runoff Reduction and/or Infiltration practices are applied</td><td colspan="2">Restoration not required, but may be applied to enhance the reduction specified for appropriate practices.</td><td>Keep construction equipment from crossing these areas. To protect newly installed practice from any ongoing construction activities construct a single phase operation fence area</td></tr>
<tr><td>Redevelopment projects</td><td colspan="2">Soil Restoration is required on redevelopment projects in areas where existing impervious area will be converted to pervious area.</td><td></td></tr>
</table>

1. Aeration includes the use of machines such as tractor-drawn implements with coulters making a narrow slit in the soil, a roller with many spikes making indentations in the soil, or prongs which function like a mini-subsoiler.
2. Per “Deep Ripping and De-compaction, DEC 2008”.
3. Aeration includes the use of machines such as tractor-drawn implements with coulters making a narrow slit in the soil, a roller with many spikes making indentations in the soil, or prongs which functions like a mini-subsoiler.
4. During periods of relatively low to moderate subsoil moisture, the disturbed soils are returned to rough grade and the following Soil Restoration steps applied:

5.1. Apply 3 inches of compost over subsoil.
5.2. Till compost into subsoil to a depth of at least 12 inches using a cat-mounted ripper, tractor-mounted disc, or tiller, mixing, and circulating air and compost into subsoils.
5.3. Rock-pick until uplifted stone/rock materials of four inches and larger size area cleaned off the site.
5.4. Apply topsoil to a depth of 6 inches.
5.5. Vegetate as required by seeding notes located on the project drawings.
5.6. Tilling should not be performed within the drip line of any existing trees or over any utility installations that are within 24 inches of the surface.

6. Compost shall be aged, from plant derived materials, free of viable weed seeds, have no visible free water or dust produced when handling, pass through a half inch screen and have a pH suitable to grow desired plants.

After soil restoration is completed an inspector should be able to push a 3/8" metal bar twelve inches into the soil with just body weight. Following decompaction/soil restoration activities, the following maintenance is anticipated during the first year:

- Initial inspections for the first six months (once after each storm greater than a half-inch).
- Reseeding to repair bare or eroding areas to assure grass stabilization.
- Water once every three days for first month, and then provide a half inch of water per week during first year. Irrigation plan may be adjusted according to the rain event.
- Fertilization may be needed in the fall after the first growing season to increase plant vigor.

In order to ensure the soil remains decompacted the following ongoing maintenance is recommended:

- Planting the appropriate ground cover with deep roots to maintain the soil structure.
- Keeping the site free of vehicular and foot traffic or other weight loads. Consider pedestrian footpaths (sometimes it may be necessary to de-thatch the turf every few years).

5.3 Long Term Maintenance Plan

Each spring the paved areas should be cleaned to remove the winter's accumulation of traction sand. After this is completed, all drain inlets sumps and the stormwater basins should be cleaned. All pipes should be checked for debris and blockages and cleaned as required. During the cleaning process, the drain inlets, catch basins, and pipes should be inspected for structural integrity and overall condition; repairs and/or replacement will be made as required.

The stormwater facilities for the subject project have been designed to minimize the required maintenance. This section discusses the minimum maintenance requirements to insure long-term performance of the stormwater facilities. Initially the stormwater facilities will require an increased maintenance and inspection schedule until all portions of the site are stable. Generally, the stormwater facilities consist of either collection and conveyance components or treatment components.

The stormwater collection and conveyance system is composed of HDPE, drainage pipe and precast concrete drainage structures. The owner will assume the maintenance responsibilities for the drainage system. Minimal maintenance is typically required for these facilities. All pipes should be checked for debris and blockages and cleaned as required. All drain inlet sumps, including the sumps within the hydrodynamic separators, shall be inspected bi-annually and cleaned to removed deposited sediment. During the cleaning process, the pipes should be inspected for structural integrity and overall condition; repairs and/or replacement should be made as required. Additionally, the detention systems shall be checked for deposited sediment as well. Visual inspection of system through the inspection ports shall take place yearly, and the system shall be cleaned / jetted as necessary to remove deposited sediment.

The stormwater facilities have been designed to limit the routine maintenance requirements. Initially the filter will require regular maintenance until the permanent vegetation is established. Permanent vegetation is considered established when 80% of the final plant density is established. Vegetation should be inspected weekly during construction as part of coverage under NYSDEC SPDES General Permit GP-0-20-001 during construction and in the permanent condition. Damaged areas should be immediately re-seeded and re-mulched. The floor of the filter will be planted with a seed mixture that contains plants that are tolerant of occasional flooding. The seed mixtures contain several

plant species that vary slightly in their needs for survival. It is expected that not all of the species will survive within the basin due to variations such as water, nutrients, and light. During the initial year of planting, the plants may require watering to germinate and become established. Note that several seedings may be required during the first year to completely establish vegetation within the basin. After the initial year of establishment, the filter does not need to be fertilized or watered. A natural selection process will occur over the first few years, such that the species within the seed mixture most suitable to the conditions will survive.

Refer to the Infiltration Trench and Basin Inspection & Maintenance checklist found in Appendix G of this report prepared for all portions of this project the requirements to insure long-term performance of all stormwater facilities

Refer to the Hydroworks Hydrostorm Operations & Maintenance Manual in Appendix H of this report for the manufacture maintenance requirements for the proposed hydrodynamic separator.

APPENDIX A

NYSDEC Water Quality Volume and Runoff Reduction Calculations

WQv Calculation Worksheet

Project: Beacon Views, LLC
Project #: 19131.100
Date: 7/28/2020

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

The following calculation determines the water quality flow rate for the 90% Water Quality Event using the Small Storm Hydrology Method specified in Appendix B of the New York State Stormwater Management Design Manual.

Subcatchment ID: 1.1

1.Water Quality Volume $=WQ_v = \frac{P * R_v * A}{12}$

P = WQv 24-hour Rainfall Amount	=	1.4	in.
A = Subcatchment Area	=	151880	SF
Ai= Impervious Area within Subcatchment Area	=	98640	
I = Ai/A	=	64.9	%
Rv = 0.05 + 0.009 (I%)	=	0.63	
WQv = Water Quality Volume	=	11,163	CF

Subcatchment ID: 1.2

1.Water Quality Volume $=WQ_v = \frac{P * R_v * A}{12}$

P = WQv 24-hour Rainfall Amount	=	1.4	in.
A = Subcatchment Area	=	21800	SF
Ai= Impervious Area within Subcatchment Area	=	19100	
I = Ai/A	=	87.6	%
Rv = 0.05 + 0.009 (I%)	=	0.84	
WQv = Water Quality Volume	=	2,136	CF

RRv Calculation Worksheet - Design Line 1

Project: Beacon Views, LLC
Project #: 19131.100
Date: 7/28/2020

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

1. RRv Initial = Water Quality Volume (WQv) *0.305 ac-ft* = *13,300 c.f.*
(refer to Water Quality Volume Calculation Sheet)

2. *RRv Minimum* = [(P) (Rv) (S) (Aic)] /12 where…

P = Rainfall (in.)	=	1.40	in.
Rv = 0.05 + 0.009 (100%)	=	0.95	
S = Hydrologic Soil Group Specific Reduction Factor	=	0.20	
[HSG A = 0.55] [HSG B = 0.40] [HSG C = 0.30] [HSG D = 0.20]			
Aic = Total area of new impervious cover	=	2.8	Acres
RRv Minimum	=	*2,704*	*c.f.*

3. *RRv Required* = RRv Initial - Green Infrastructure Practice (GIP) with Area Reduction

GIP with Area Reduction Applied in Project		
5.3.1 Conservation of Natural Area	N/A	
5.3.2 Sheet Flow to Riparian Buffers or Filter Strips	N/A	
5.3.4 Tree Planting / Tree Box (37 trees at 100 s.f. per tree)		c.f.
5.3.5 Disconnection of Rooftop Runoff	-	
5.3.6 Stream Daylighting	N/A	
RRv Required(=WQv-RRV by area)	= 13,300	c.f.

4. *RRv Provided*

GIP with Volume Reduction Applied in Project	WQv Treated (c.f.)	% of WQv Applied to *RRv Provided*	*RRv Provided (c.f.)*
5.3.3 Vegetated Open Swales		20%	0
[HSG A / B = 20%] [HSG C / D = 10%] {Modified HSG C - D = 15% - 12%]		10%	0
5.3.7 Rain Garden		40%	0
[No underdrains / Good Soils = 100%] [With underdrains / Poor Soils = 40%]			
5.3.8 Green Roof		100%	N/A
[RRv provided equals volume provided in Green Roof]			
5.3.9 Stormwater Planters		45%	N/A
[Infiltration Planters = 100%] [Flow Through HSG C = 45%] [Flow Though HSG D = 30%]			
5.3.10 Rain Tank / Cisterns		100%	N/A
5.3.11 Porous Pavement		100%	0
Infiltration Practice (Standard SMP)	3572	100%	3,572
Bioretention Practice (Standard SMP)		40%	0
[Without Underdrains HSG A/B = 80%] [With Underdrain HSG C\D = 40%]			
Dry Swale (Open Channel Practice) (Standard SMP)		20%	N/A
[HSG A/B = 40%] [HSG C/D = 20%]			
RRv Provided =			*3,572*

5. Summary

RRv Initial	=	13,300	c.f.
RRv Required	=	13,300	c.f.
RRv Minimum	=	2,704	c.f.
RRv Provided	=	3,572	c.f.
WQv Required for Downstream SMP	=	9,728	c.f. (= RRv Required - RRv Provided)

Is RRv Provided greater than or equal to RRv Minimum? Yes

APPENDIX B

Pre-Development Computer Data



Subcat Reach Pond Link

Routing Diagram for Pre Development

Prepared by Insite Engineering, Surveying & Landscape Architecture, P.C., Printed 7/27/2020

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Summary for Subcatchment PRE:

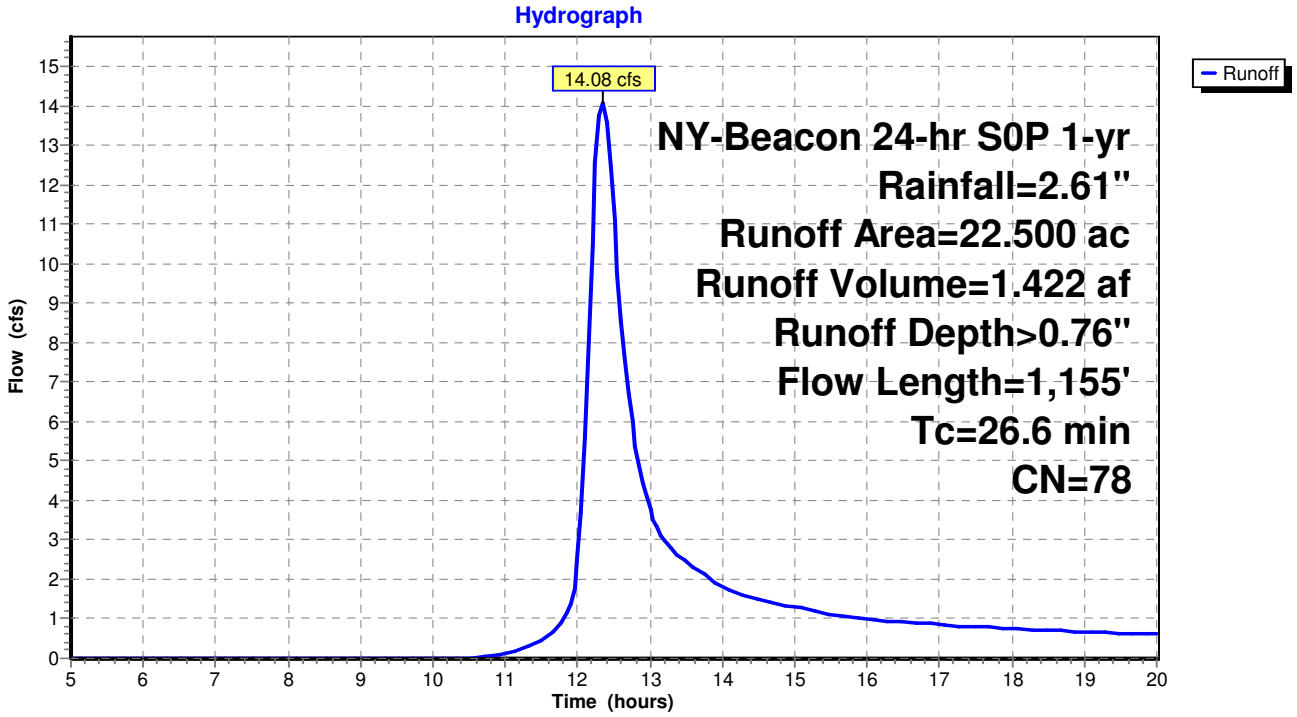
Runoff = 14.08 cfs @ 12.34 hrs, Volume= 1.422 af, Depth> 0.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NY-Beacon 24-hr S0P 1-yr Rainfall=2.61"

Area (ac)	CN	Description
15.700	77	Woods, Good, HSG D
5.800	78	Meadow, non-grazed, HSG D
0.500	80	>75% Grass cover, Good, HSG D
0.500	98	Paved parking, HSG D
22.500	78	Weighted Average
22.000		97.78% Pervious Area
0.500		2.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.9	100	0.0600	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.16"
4.7	345	0.0600	1.22		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.4	170	0.0800	1.98		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.6	340	0.1000	1.58		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.0	200	0.0500	1.12		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
26.6	1,155	Total			

Subcatchment PRE:



Summary for Subcatchment PRE:

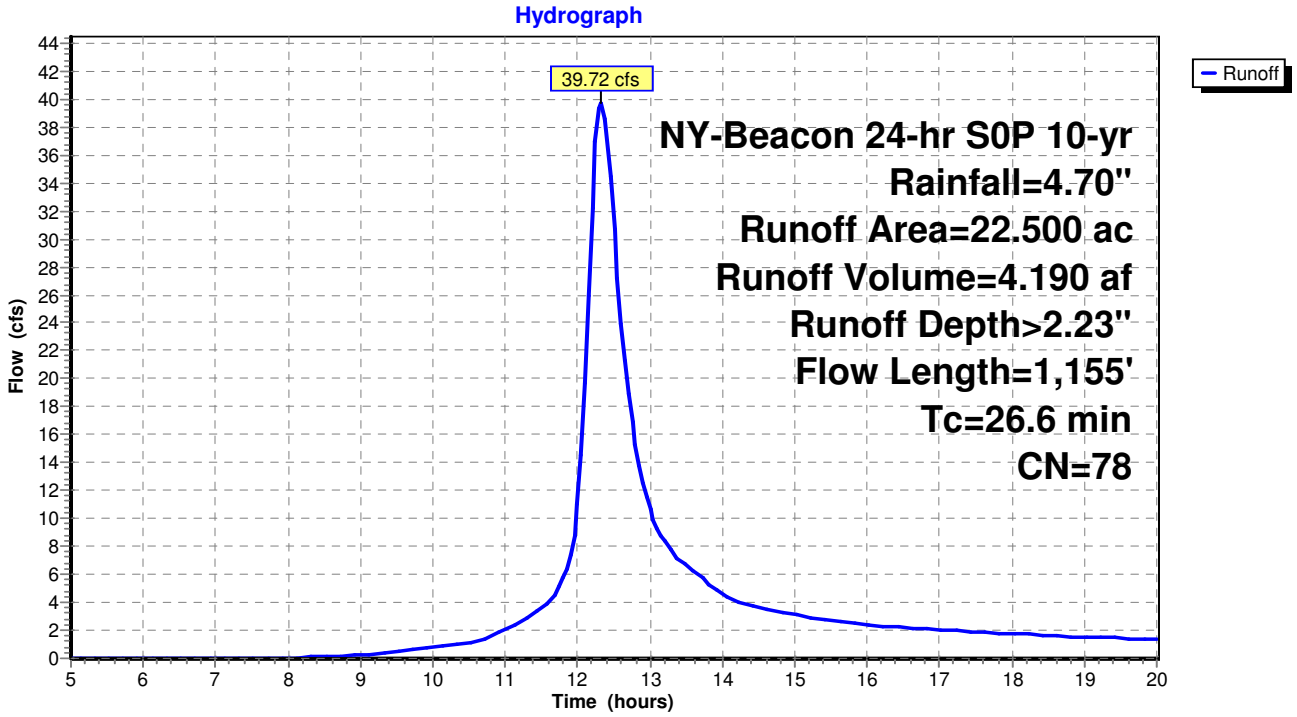
Runoff = 39.72 cfs @ 12.33 hrs, Volume= 4.190 af, Depth> 2.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NY-Beacon 24-hr S0P 10-yr Rainfall=4.70"

Area (ac)	CN	Description
15.700	77	Woods, Good, HSG D
5.800	78	Meadow, non-grazed, HSG D
0.500	80	>75% Grass cover, Good, HSG D
0.500	98	Paved parking, HSG D
22.500	78	Weighted Average
22.000		97.78% Pervious Area
0.500		2.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.9	100	0.0600	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.16"
4.7	345	0.0600	1.22		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.4	170	0.0800	1.98		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.6	340	0.1000	1.58		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.0	200	0.0500	1.12		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
26.6	1,155	Total			

Subcatchment PRE:



Summary for Subcatchment PRE:

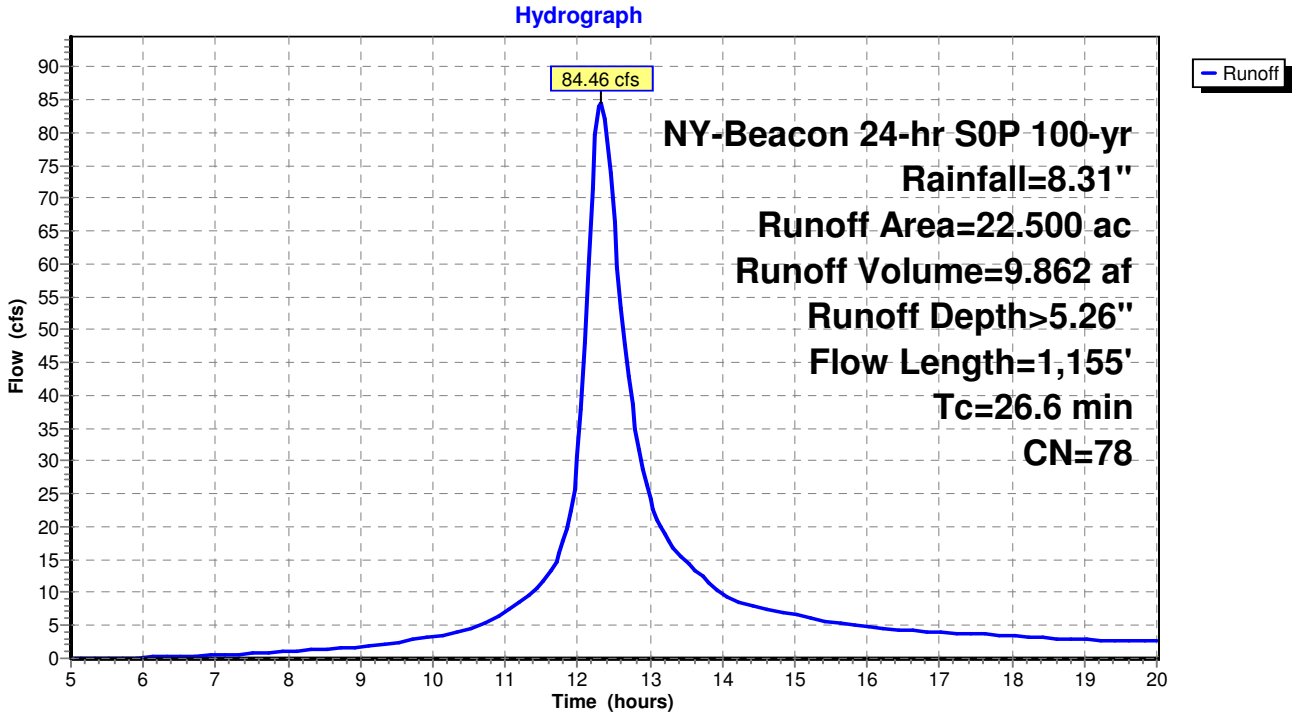
Runoff = 84.46 cfs @ 12.32 hrs, Volume= 9.862 af, Depth> 5.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NY-Beacon 24-hr S0P 100-yr Rainfall=8.31"

Area (ac)	CN	Description
15.700	77	Woods, Good, HSG D
5.800	78	Meadow, non-grazed, HSG D
0.500	80	>75% Grass cover, Good, HSG D
0.500	98	Paved parking, HSG D
22.500	78	Weighted Average
22.000		97.78% Pervious Area
0.500		2.22% Impervious Area

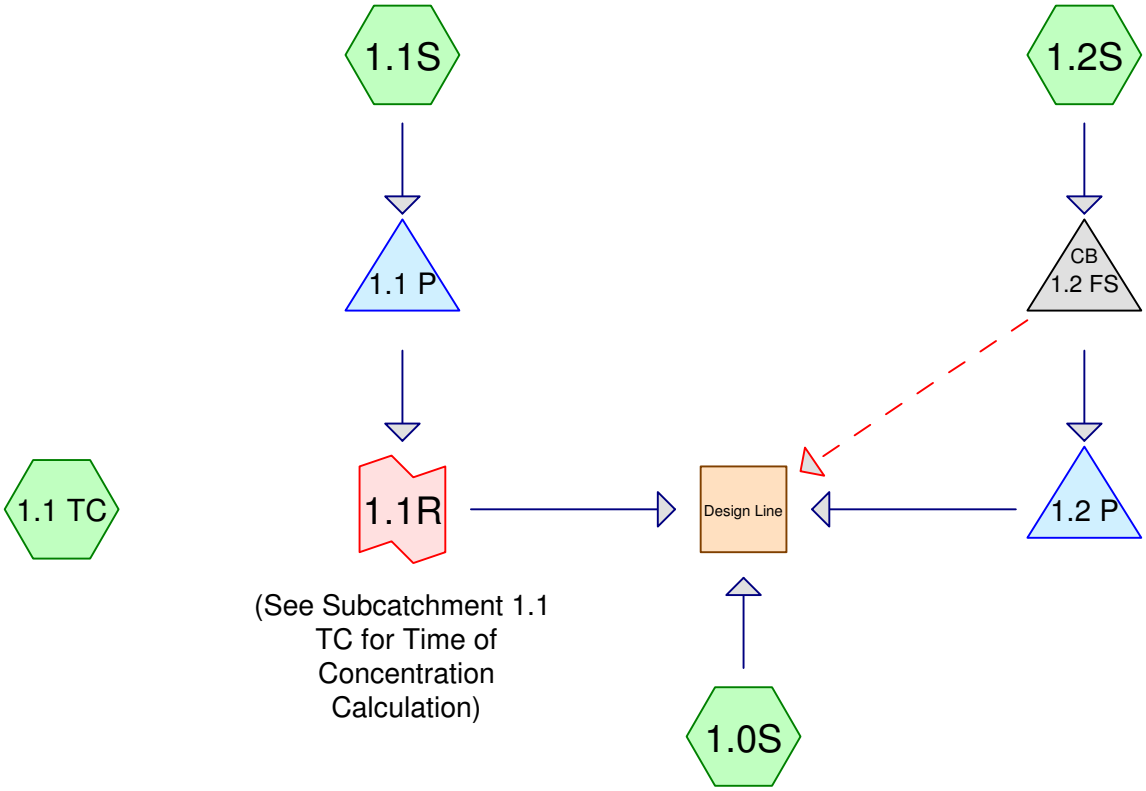
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.9	100	0.0600	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.16"
4.7	345	0.0600	1.22		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.4	170	0.0800	1.98		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.6	340	0.1000	1.58		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.0	200	0.0500	1.12		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
26.6	1,155	Total			

Subcatchment PRE:



APPENDIX C

Post-Development Computer Data



Subcat Reach Pond Link

Routing Diagram for Post Development

Prepared by Insite Engineering, Surveying & Landscape Architecture, P.C., Printed 7/27/2020

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Summary for Subcatchment 1.0S:

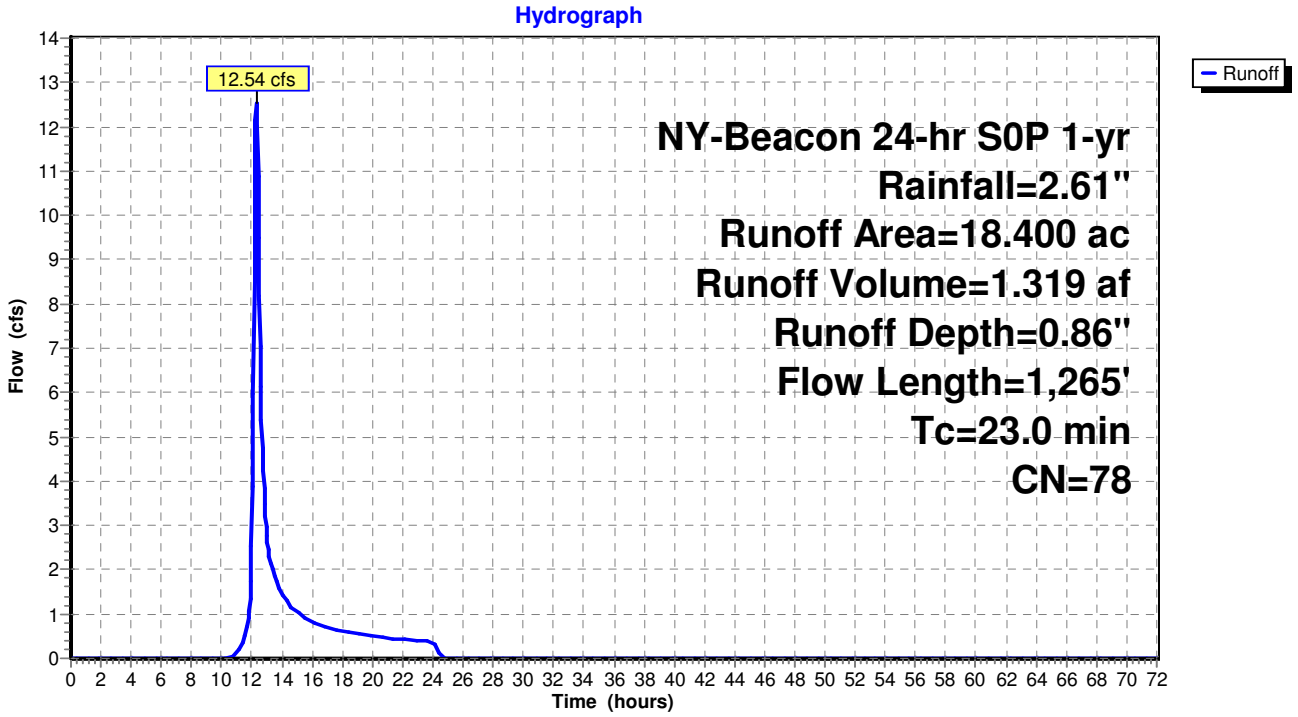
Runoff = 12.54 cfs @ 12.30 hrs, Volume= 1.319 af, Depth= 0.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Beacon 24-hr S0P 1-yr Rainfall=2.61"

Area (ac)	CN	Description
11.100	77	Woods, Good, HSG D
5.800	78	Meadow, non-grazed, HSG D
1.000	80	>75% Grass cover, Good, HSG D
0.500	98	Paved parking, HSG D
18.400	78	Weighted Average
17.900		97.28% Pervious Area
0.500		2.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	100	0.0800	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.16"
4.7	345	0.0600	1.22		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.4	170	0.0800	1.98		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.1	280	0.0900	1.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.2	235	0.0500	3.35		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.1	55	0.0450	11.17	13.70	**Pipe Channel, SDI 14A TO DI 14** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
0.1	80	0.0410	14.58	45.81	**Pipe Channel, DI 14 TO ES 13** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Corrugated PE, smooth interior
23.0	1,265	Total			

Subcatchment 1.0S:



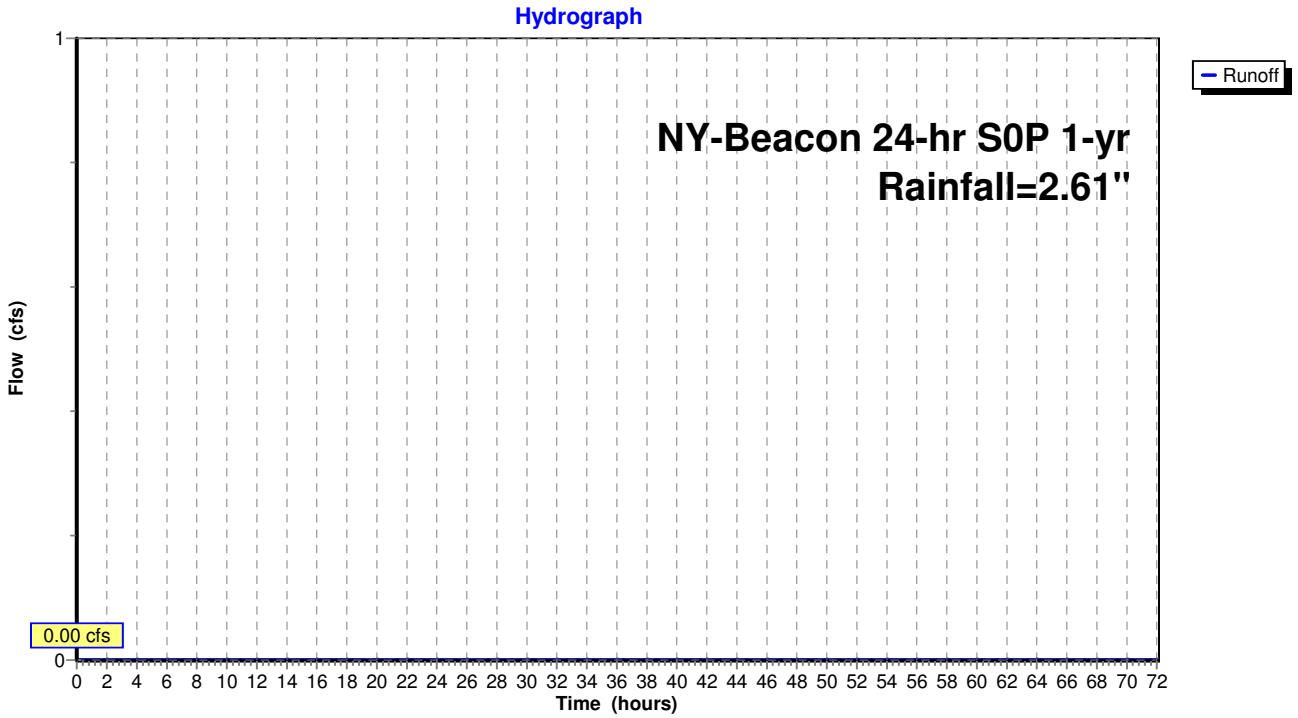
Summary for Subcatchment 1.1 TC:

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Beacon 24-hr S0P 1-yr Rainfall=2.61"

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.4	100	0.0300	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.16"
0.6	30	0.0300	0.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
19.0	130	Total			

Subcatchment 1.1 TC:



Summary for Subcatchment 1.1S:

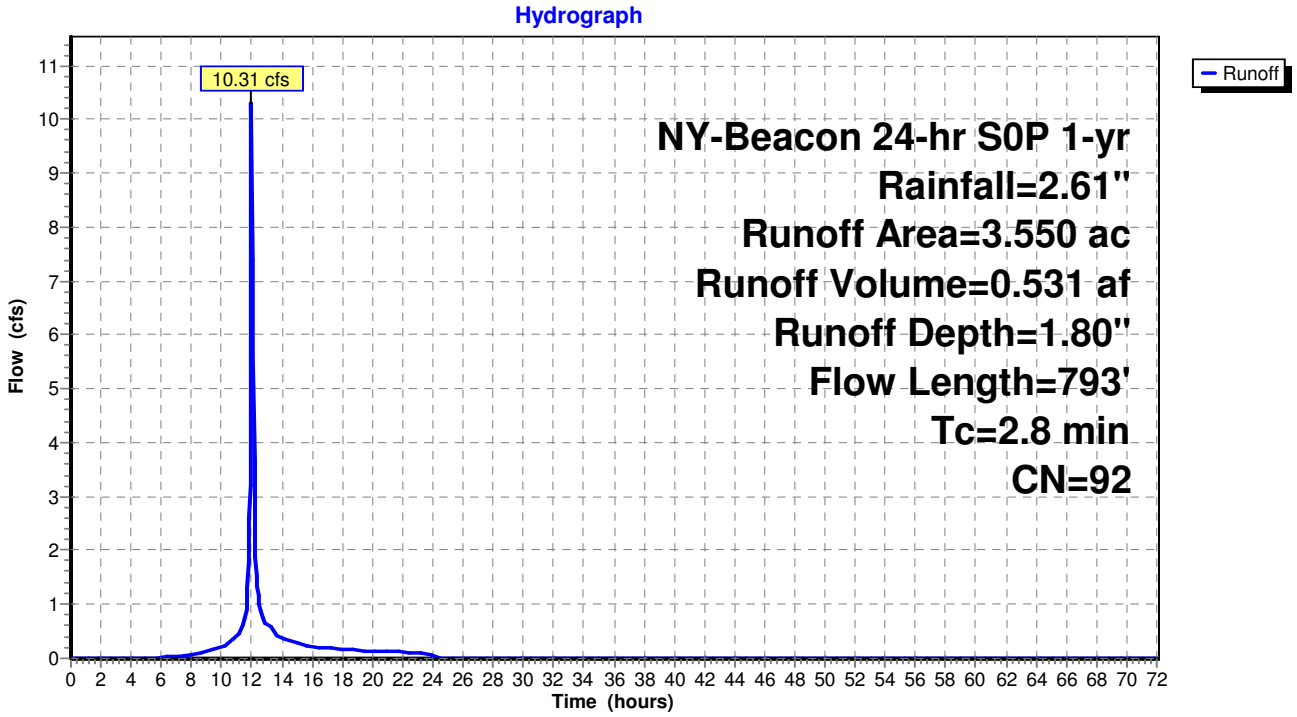
Runoff = 10.31 cfs @ 12.00 hrs, Volume= 0.531 af, Depth= 1.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Beacon 24-hr S0P 1-yr Rainfall=2.61"

Area (ac)	CN	Description
2.350	98	Paved parking, HSG D
1.200	80	>75% Grass cover, Good, HSG D
3.550	92	Weighted Average
1.200		33.80% Pervious Area
2.350		66.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	100	0.0600	2.12		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.7	200	0.0500	4.54		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	35	0.0120	4.97	3.90	**Pipe Channel, CB 6 TO CB 5** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.5	183	0.0130	6.00	7.37	**Pipe Channel, CB 5 TO CB 4** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
0.4	136	0.0100	5.94	10.50	**Pipe Channel, CB 4 TO CB 3** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
0.2	63	0.0100	5.94	10.50	**Pipe Channel, CB 3 TO CB 2** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
0.1	76	0.0360	11.28	19.93	**Pipe Channel, CB 2 TO ES 1** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
2.8	793	Total			

Subcatchment 1.1S:



Summary for Subcatchment 1.2S:

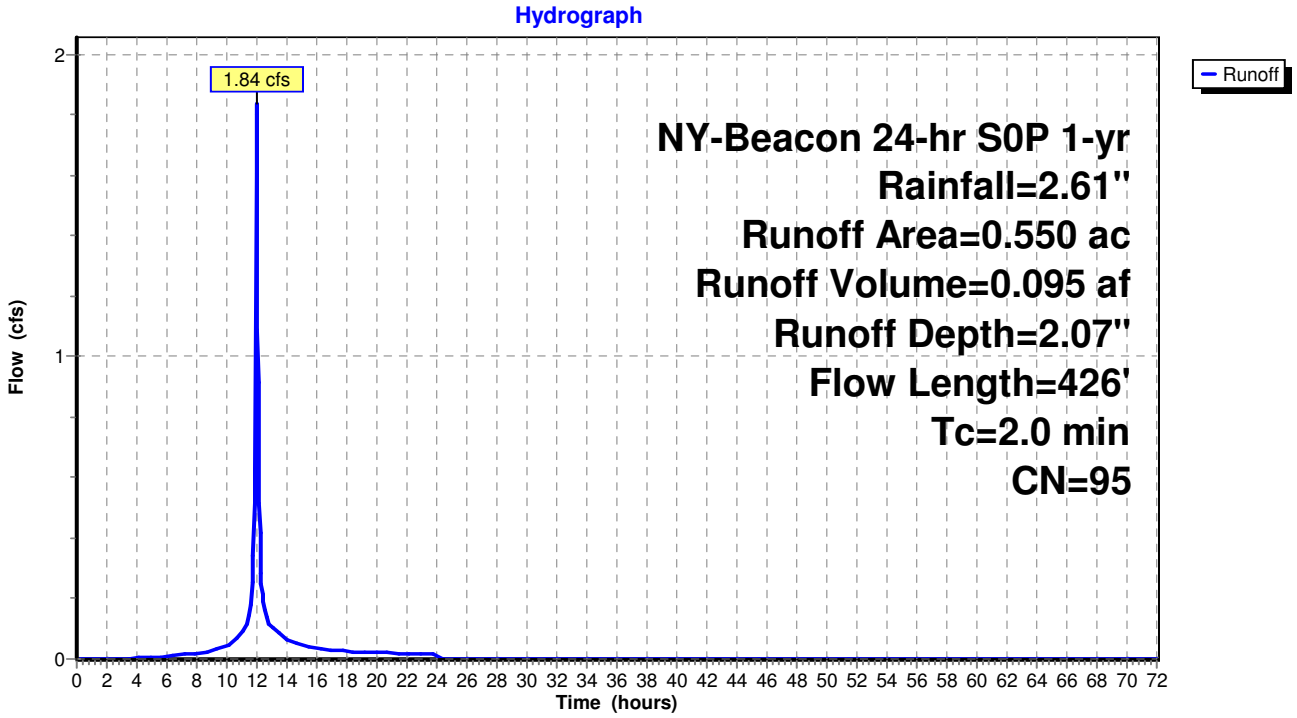
Runoff = 1.84 cfs @ 11.99 hrs, Volume= 0.095 af, Depth= 2.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Beacon 24-hr S0P 1-yr Rainfall=2.61"

Area (ac)	CN	Description
0.450	98	Paved parking, HSG D
0.100	80	>75% Grass cover, Good, HSG D
0.550	95	Weighted Average
0.100		18.18% Pervious Area
0.450		81.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	100	0.0600	2.12		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.4	120	0.0600	4.97		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	160	0.0350	3.80		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	46	0.0300	7.86	6.17	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
2.0	426	Total			

Subcatchment 1.2S:

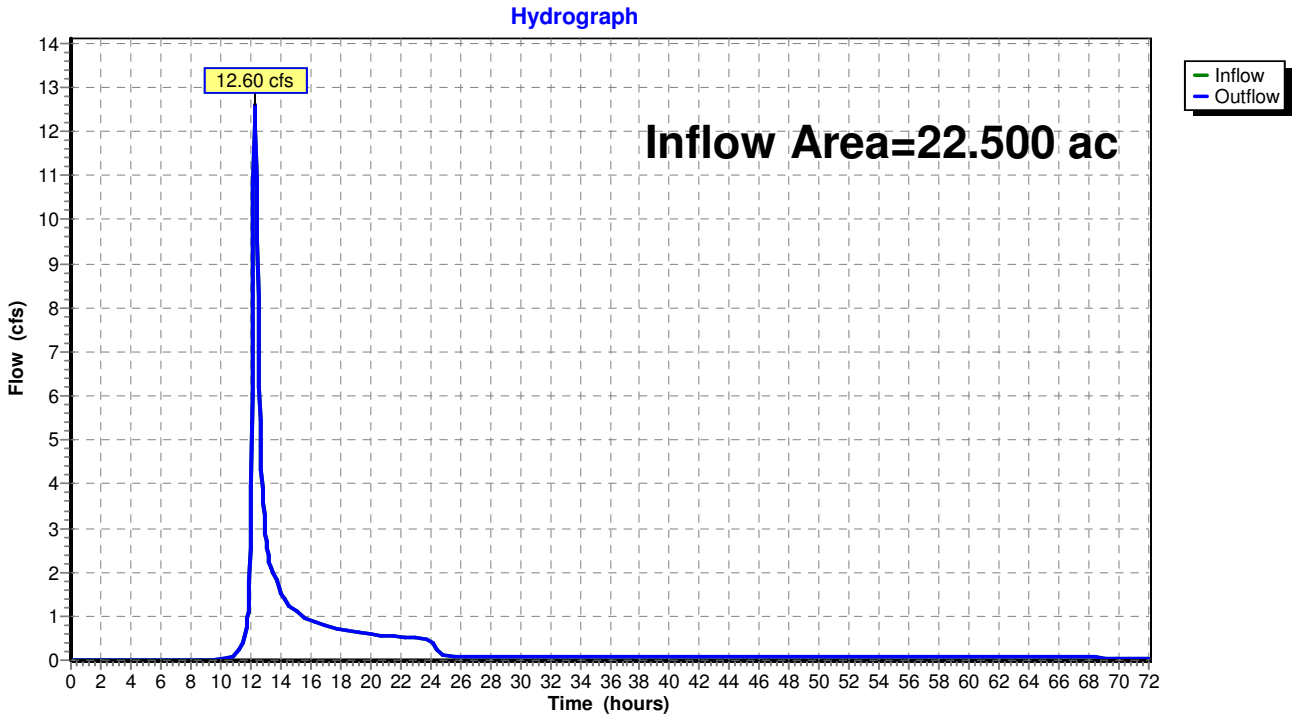


Summary for Reach Design Line:

Inflow Area = 22.500 ac, 14.67% Impervious, Inflow Depth > 0.93" for 1-yr event
Inflow = 12.60 cfs @ 12.30 hrs, Volume= 1.737 af
Outflow = 12.60 cfs @ 12.30 hrs, Volume= 1.737 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Reach Design Line:



Summary for Pond 1.1 P:

Inflow Area = 3.550 ac, 66.20% Impervious, Inflow Depth = 1.80" for 1-yr event
Inflow = 10.31 cfs @ 12.00 hrs, Volume= 0.531 af
Outflow = 0.11 cfs @ 23.08 hrs, Volume= 0.420 af, Atten= 99%, Lag= 665.1 min
Primary = 0.11 cfs @ 23.08 hrs, Volume= 0.420 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Starting Elev= 180.00' Surf.Area= 7,640 sf Storage= 10,715 cf
Peak Elev= 182.22' @ 23.08 hrs Surf.Area= 13,499 sf Storage= 29,210 cf (18,495 cf above start)
Flood Elev= 184.50' Surf.Area= 19,225 sf Storage= 60,459 cf (49,744 cf above start)

Plug-Flow detention time= 2,709.8 min calculated for 0.174 af (33% of inflow)
Center-of-Mass det. time= 1,511.7 min (2,320.7 - 809.1)

Volume	Invert	Avail.Storage	Storage Description
#1	175.00'	2,050 cf	**Forebay (Prismatic)** Listed below (Recalc)
#2	175.00'	67,360 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		69,410 cf	Total Available Storage

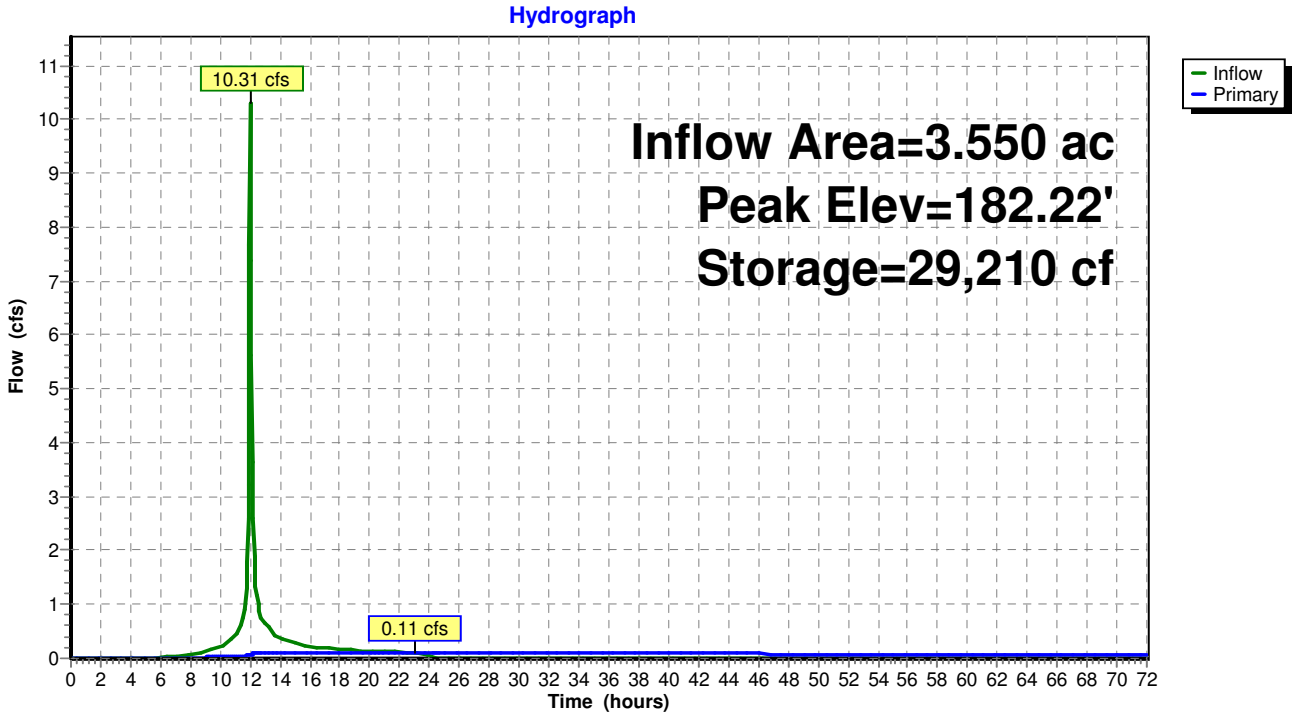
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
175.00	5	0	0
177.00	110	115	115
179.00	450	560	675
180.00	2,300	1,375	2,050

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
175.00	500	0	0
177.00	1,180	1,680	1,680
179.00	2,090	3,270	4,950
180.00	5,340	3,715	8,665
182.00	10,730	16,070	24,735
184.00	14,970	25,700	50,435
185.00	18,880	16,925	67,360

Device	Routing	Invert	Outlet Devices
#1	Primary	179.00'	**24.0" Round Culvert** L= 37.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 179.00' / 178.50' S= 0.0135 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	180.00'	**1.6" Vert. Orifice/Grate** C= 0.600
#3	Device 1	182.20'	**1.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.11 cfs @ 23.08 hrs HW=182.22' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Passes 0.11 cfs of 22.54 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 0.10 cfs @ 7.07 fps)
└**3=Broad-Crested Rectangular Weir** (Weir Controls 0.01 cfs @ 0.41 fps)

Pond 1.1 P:


Hydrograph
Inflow Area=3.550 ac
Peak Elev=182.22'
Storage=29,210 cf
10.31 cfs
0.11 cfs
Inflow
Primary
Flow (cfs)
Time (hours)
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72
0 1 2 3 4 5 6 7 8 9 10 11

Stage-Area-Storage for Pond 1.1 P:

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
175.00	0	180.20	11,837
175.10	52	180.30	12,438
175.20	109	180.40	13,067
175.30	169	180.50	13,722
175.40	233	180.60	14,404
175.50	302	180.70	15,113
175.60	374	180.80	15,849
175.70	450	180.90	16,612
175.80	530	181.00	17,403
175.90	613	181.10	18,219
176.00	701	181.20	19,063
176.10	793	181.30	19,934
176.20	889	181.40	20,832
176.30	988	181.50	21,757
176.40	1,092	181.60	22,709
176.50	1,199	181.70	23,687
176.60	1,310	181.80	24,693
176.70	1,426	181.90	25,725
176.80	1,545	182.00	26,785
176.90	1,668	182.10	27,869
177.00	1,795	182.20	28,973
177.10	1,927	182.30	30,099
177.20	2,065	182.40	31,247
177.30	2,210	182.50	32,415
177.40	2,361	182.60	33,605
177.50	2,518	182.70	34,815
177.60	2,681	182.80	36,047
177.70	2,851	182.90	37,301
177.80	3,027	183.00	38,575
177.90	3,209	183.10	39,871
178.00	3,398	183.20	41,187
178.10	3,592	183.30	42,525
178.20	3,793	183.40	43,885
178.30	4,000	183.50	45,265
178.40	4,214	183.60	46,667
178.50	4,433	183.70	48,089
178.60	4,659	183.80	49,533
178.70	4,891	183.90	50,999
178.80	5,130	184.00	52,485
178.90	5,374	184.10	54,002
179.00	5,625	184.20	55,557
179.10	5,904	184.30	57,152
179.20	6,235	184.40	58,786
179.30	6,617	184.50	60,459
179.40	7,049	184.60	62,171
179.50	7,533	184.70	63,922
179.60	8,067	184.80	65,712
179.70	8,652	184.90	67,542
179.80	9,289	185.00	**69,410**
179.90	9,977		
180.00	10,715		
180.10	11,262		

Summary for Pond 1.2 FS:

Inflow Area = 0.550 ac, 81.82% Impervious, Inflow Depth = 2.07" for 1-yr event
Inflow = 1.84 cfs @ 11.99 hrs, Volume= 0.095 af
Outflow = 1.84 cfs @ 11.99 hrs, Volume= 0.095 af, Atten= 0%, Lag= 0.0 min
Primary = 1.84 cfs @ 11.99 hrs, Volume= 0.095 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

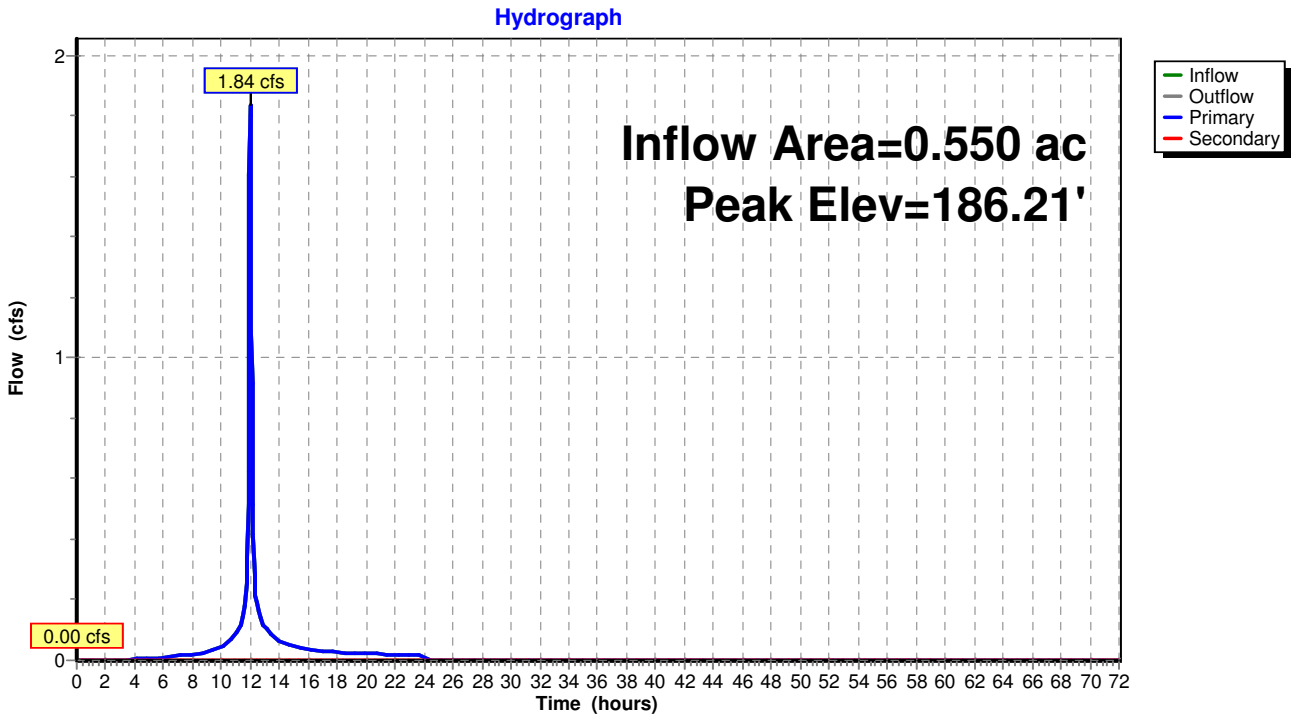
Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 186.21' @ 11.99 hrs
Flood Elev= 187.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	184.70'	**8.0" Round Culvert** L= 12.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 184.70' / 184.50' S= 0.0167 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Secondary	184.70'	**12.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 184.70' / 184.00' S= 0.0233 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	186.20'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=1.75 cfs @ 11.99 hrs HW=186.11' TW=182.48' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 1.75 cfs @ 5.00 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=184.70' TW=0.00' (Dynamic Tailwater)
└**2=Culvert** (Controls 0.00 cfs)
└**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1.2 FS:


Hydrograph
Inflow Area=0.550 ac
Peak Elev=186.21'
1.84 cfs
0.00 cfs
Inflow
Outflow
Primary
Secondary
Flow (cfs)
Time (hours)
0 1 2
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72

Stage-Area-Storage for Pond 1.2 FS:

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
184.70	**0**	185.74	0	186.78	0
184.72	0	185.76	0	186.80	0
184.74	0	185.78	0	186.82	0
184.76	0	185.80	0	186.84	0
184.78	0	185.82	0	186.86	0
184.80	0	185.84	0	186.88	0
184.82	0	185.86	0	186.90	0
184.84	0	185.88	0	186.92	0
184.86	0	185.90	0	186.94	0
184.88	0	185.92	0	186.96	0
184.90	0	185.94	0	186.98	0
184.92	0	185.96	0	187.00	0
184.94	0	185.98	0	187.02	0
184.96	0	186.00	0	187.04	0
184.98	0	186.02	0	187.06	0
185.00	0	186.04	0	187.08	0
185.02	0	186.06	0	187.10	0
185.04	0	186.08	0	187.12	0
185.06	0	186.10	0	187.14	0
185.08	0	186.12	0	187.16	0
185.10	0	186.14	0	187.18	0
185.12	0	186.16	0	187.20	0
185.14	0	186.18	0	187.22	0
185.16	0	186.20	0	187.24	0
185.18	0	186.22	0	187.26	0
185.20	0	186.24	0	187.28	0
185.22	0	186.26	0	187.30	0
185.24	0	186.28	0	187.32	0
185.26	0	186.30	0	187.34	0
185.28	0	186.32	0	187.36	0
185.30	0	186.34	0	187.38	0
185.32	0	186.36	0	187.40	0
185.34	0	186.38	0	187.42	0
185.36	0	186.40	0	187.44	0
185.38	0	186.42	0	187.46	0
185.40	0	186.44	0	187.48	0
185.42	0	186.46	0	187.50	0
185.44	0	186.48	0	187.52	0
185.46	0	186.50	0	187.54	0
185.48	0	186.52	0	187.56	0
185.50	0	186.54	0	187.58	0
185.52	0	186.56	0	187.60	0
185.54	0	186.58	0	187.62	0
185.56	0	186.60	0	187.64	0
185.58	0	186.62	0	187.66	0
185.60	0	186.64	0	187.68	0
185.62	0	186.66	0	187.70	0
185.64	0	186.68	0		
185.66	0	186.70	0		
185.68	0	186.72	0		
185.70	0	186.74	0		
185.72	0	186.76	0		

Summary for Pond 1.2 P:

Inflow Area = 0.550 ac, 81.82% Impervious, Inflow Depth = 2.07" for 1-yr event
Inflow = 1.84 cfs @ 11.99 hrs, Volume= 0.095 af
Outflow = 0.64 cfs @ 11.95 hrs, Volume= 0.095 af, Atten= 65%, Lag= 0.0 min
Discarded = 0.64 cfs @ 11.95 hrs, Volume= 0.095 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 182.77' @ 12.14 hrs Surf.Area= 0.030 ac Storage= 0.013 af

Plug-Flow detention time= 4.0 min calculated for 0.095 af (100% of inflow)
Center-of-Mass det. time= 4.0 min (792.2 - 788.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	182.00'	0.028 af	**34.75'W x 38.04'L x 3.50'H Field A** 0.106 af Overall - 0.037 af Embedded = 0.069 af x 40.0% Voids
#2A	182.50'	0.037 af	**ADS_StormTech SC-740** x 35 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap Row Length Adjustment= +0.44' x 6.45 sf x 7 rows
		0.065 af	Total Available Storage

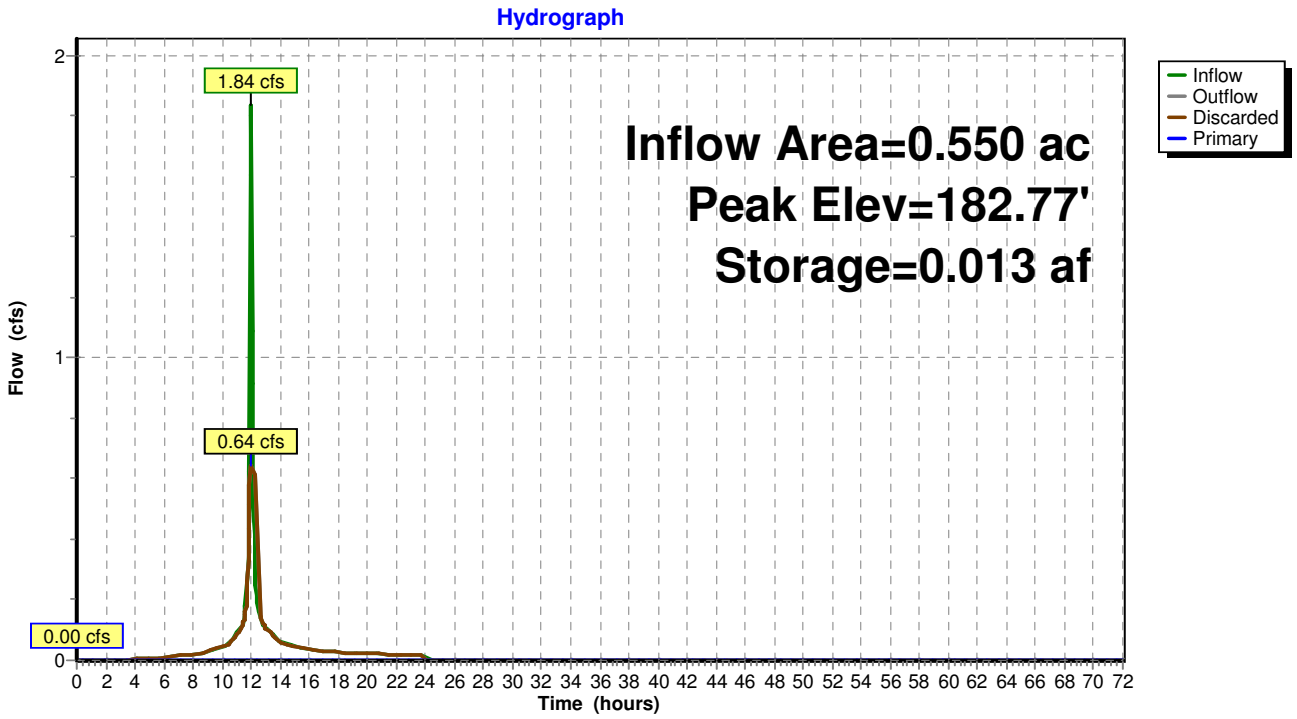
Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	182.00'	**21.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.10'
#2	Primary	184.50'	**6.0" Round Culvert** L= 17.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 184.50' / 184.30' S= 0.0118 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.64 cfs @ 11.95 hrs HW=182.26' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.64 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=182.00' TW=0.00' (Dynamic Tailwater)
↑—**2=Culvert** (Controls 0.00 cfs)

Pond 1.2 P:


Hydrograph
Inflow Area=0.550 ac
Peak Elev=182.77'
Storage=0.013 af
1.84 cfs
0.64 cfs
0.00 cfs
Inflow
Outflow
Discarded
Primary
Flow (cfs)
Time (hours)
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72
0
1
2

Stage-Area-Storage for Pond 1.2 P:

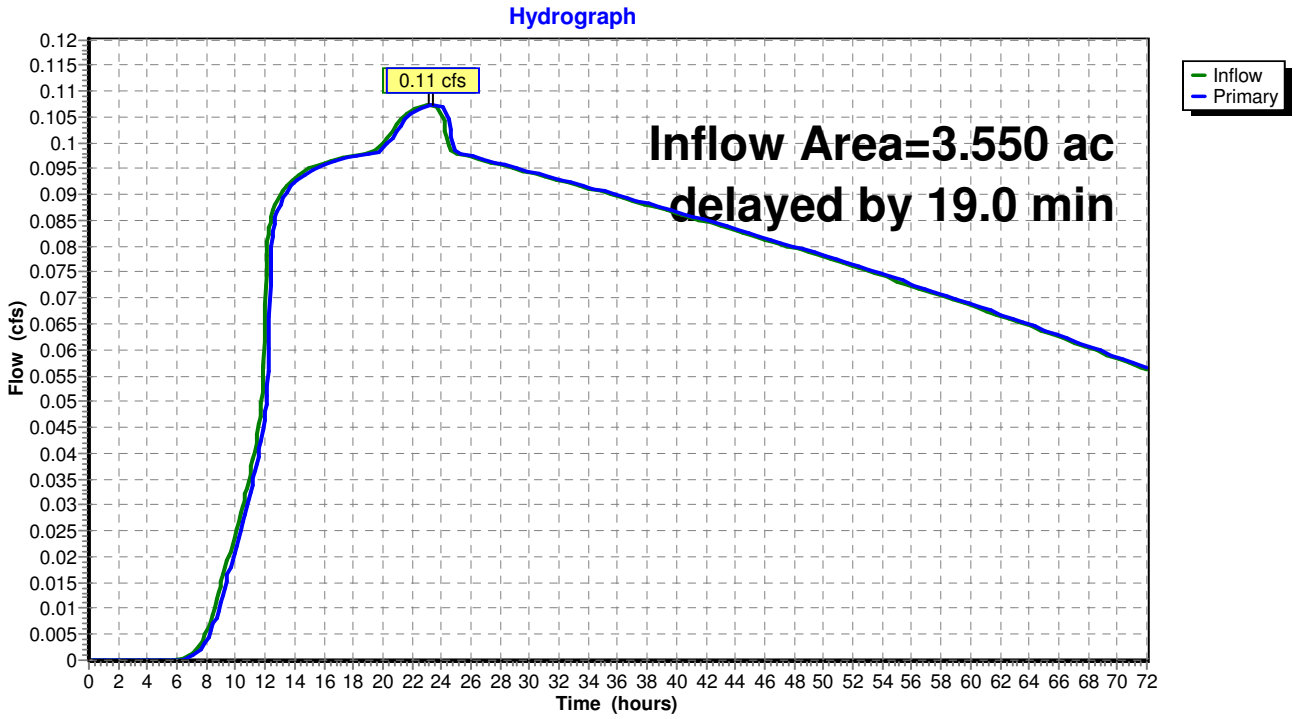
Elevation (feet)	Horizontal (acres)	Storage (acre-feet)
182.00	**0.030**	0.000
182.05	0.030	0.001
182.10	0.030	0.001
182.15	0.030	0.002
182.20	0.030	0.002
182.25	0.030	0.003
182.30	0.030	0.004
182.35	0.030	0.004
182.40	0.030	0.005
182.45	0.030	0.005
182.50	0.030	0.006
182.55	0.030	0.007
182.60	0.030	0.009
182.65	0.030	0.010
182.70	0.030	0.011
182.75	0.030	0.012
182.80	0.030	0.014
182.85	0.030	0.015
182.90	0.030	0.016
182.95	0.030	0.017
183.00	0.030	0.018
183.05	0.030	0.020
183.10	0.030	0.021
183.15	0.030	0.022
183.20	0.030	0.023
183.25	0.030	0.024
183.30	0.030	0.026
183.35	0.030	0.027
183.40	0.030	0.028
183.45	0.030	0.029
183.50	0.030	0.030
183.55	0.030	0.032
183.60	0.030	0.033
183.65	0.030	0.034
183.70	0.030	0.035
183.75	0.030	0.036
183.80	0.030	0.037
183.85	0.030	0.038
183.90	0.030	0.039
183.95	0.030	0.040
184.00	0.030	0.041
184.05	0.030	0.043
184.10	0.030	0.044
184.15	0.030	0.045
184.20	0.030	0.046
184.25	0.030	0.047
184.30	0.030	0.048
184.35	0.030	0.049
184.40	0.030	0.050
184.45	0.030	0.050
184.50	0.030	0.051
184.55	0.030	0.052
184.60	0.030	0.053
184.65	0.030	0.054
184.70	0.030	0.055
184.75	0.030	0.056
184.80	0.030	0.056
184.85	0.030	0.057
184.90	0.030	0.058
184.95	0.030	0.058
185.00	0.030	0.059
185.05	0.030	0.059
185.10	0.030	0.060
185.15	0.030	0.061
185.20	0.030	0.061
185.25	0.030	0.062
185.30	0.030	0.062
185.35	0.030	0.063
185.40	0.030	0.064
185.45	0.030	0.064
185.50	0.030	**0.065**

Summary for Link 1.1R: (See Subcatchment 1.1 TC for Time of Concentration Calculation)

Inflow Area = 3.550 ac, 66.20% Impervious, Inflow Depth > 1.42" for 1-yr event
Inflow = 0.11 cfs @ 23.08 hrs, Volume= 0.420 af
Primary = 0.11 cfs @ 23.40 hrs, Volume= 0.418 af, Atten= 0%, Lag= 19.0 min

Primary outflow = Inflow delayed by 19.0 min, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 1.1R: (See Subcatchment 1.1 TC for Time of Concentration Calculation)



Summary for Subcatchment 1.0S:

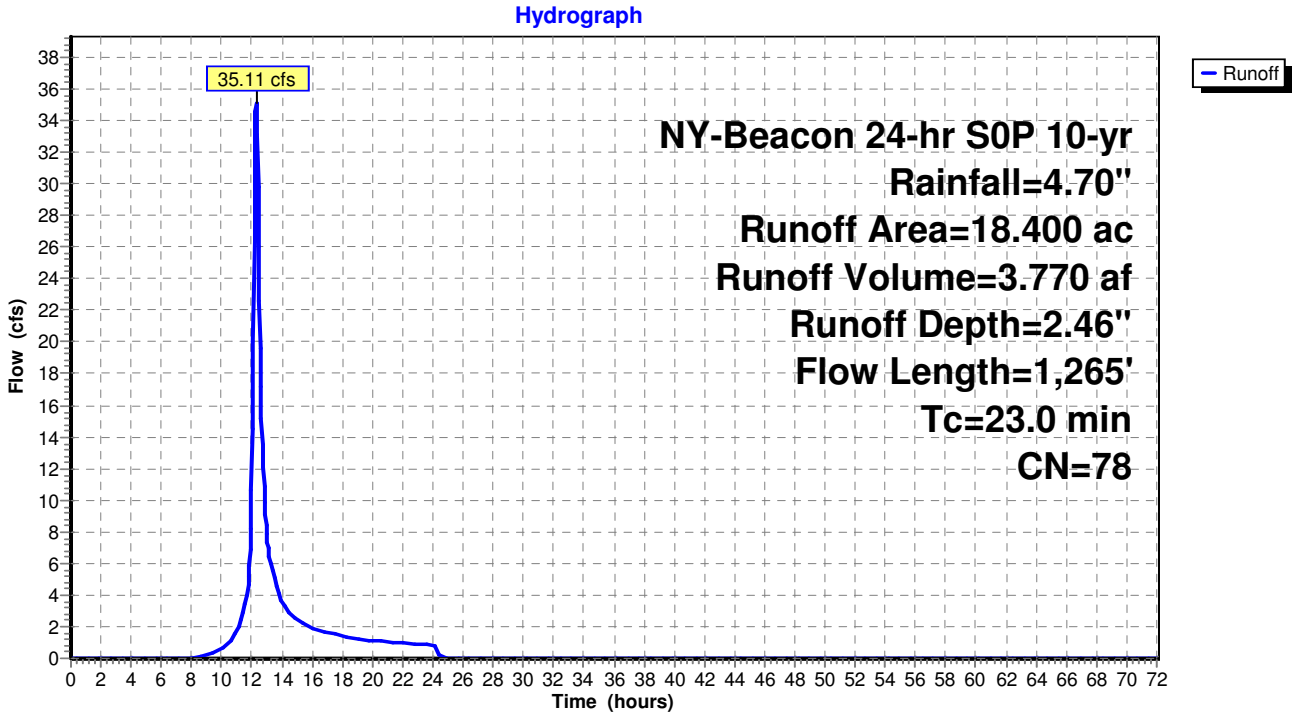
Runoff = 35.11 cfs @ 12.28 hrs, Volume= 3.770 af, Depth= 2.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Beacon 24-hr S0P 10-yr Rainfall=4.70"

Area (ac)	CN	Description
11.100	77	Woods, Good, HSG D
5.800	78	Meadow, non-grazed, HSG D
1.000	80	>75% Grass cover, Good, HSG D
0.500	98	Paved parking, HSG D
18.400	78	Weighted Average
17.900		97.28% Pervious Area
0.500		2.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	100	0.0800	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.16"
4.7	345	0.0600	1.22		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.4	170	0.0800	1.98		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.1	280	0.0900	1.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.2	235	0.0500	3.35		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.1	55	0.0450	11.17	13.70	**Pipe Channel, SDI 14A TO DI 14** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
0.1	80	0.0410	14.58	45.81	**Pipe Channel, DI 14 TO ES 13** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Corrugated PE, smooth interior
23.0	1,265	Total			

Subcatchment 1.0S:



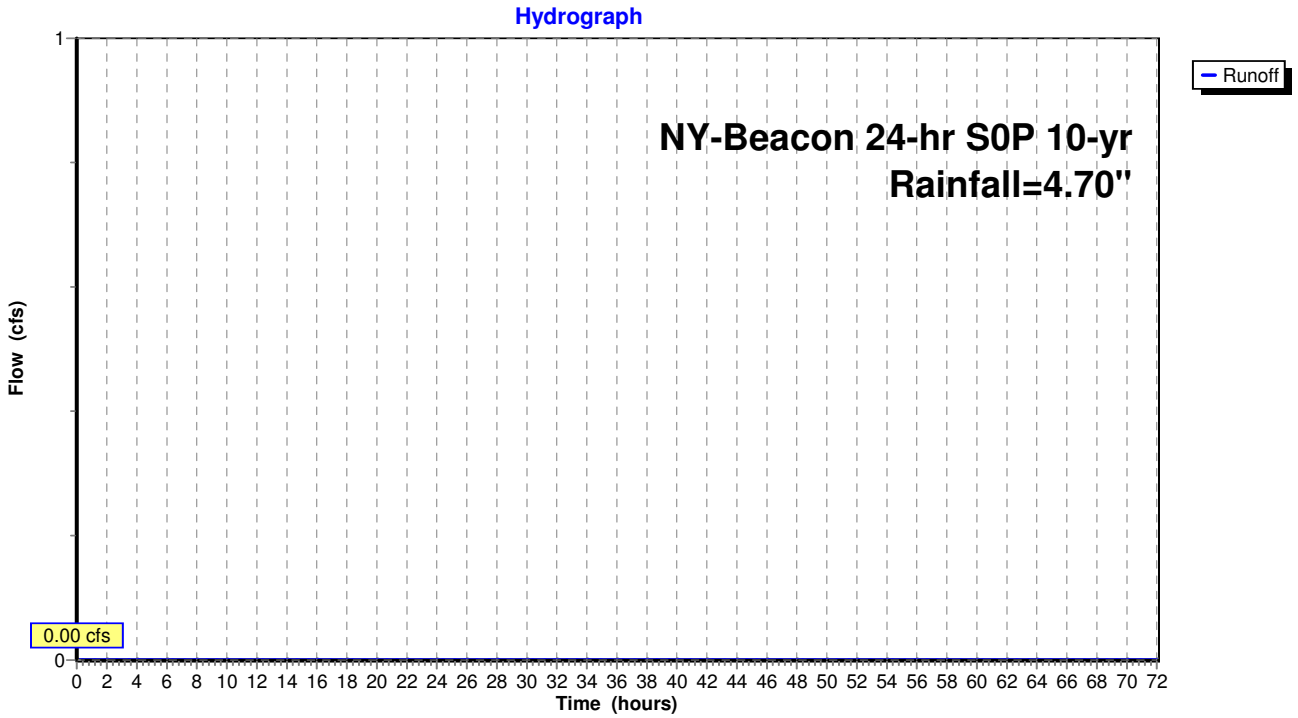
Summary for Subcatchment 1.1 TC:

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Beacon 24-hr S0P 10-yr Rainfall=4.70"

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.4	100	0.0300	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.16"
0.6	30	0.0300	0.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
19.0	130	Total			

Subcatchment 1.1 TC:



Summary for Subcatchment 1.1S:

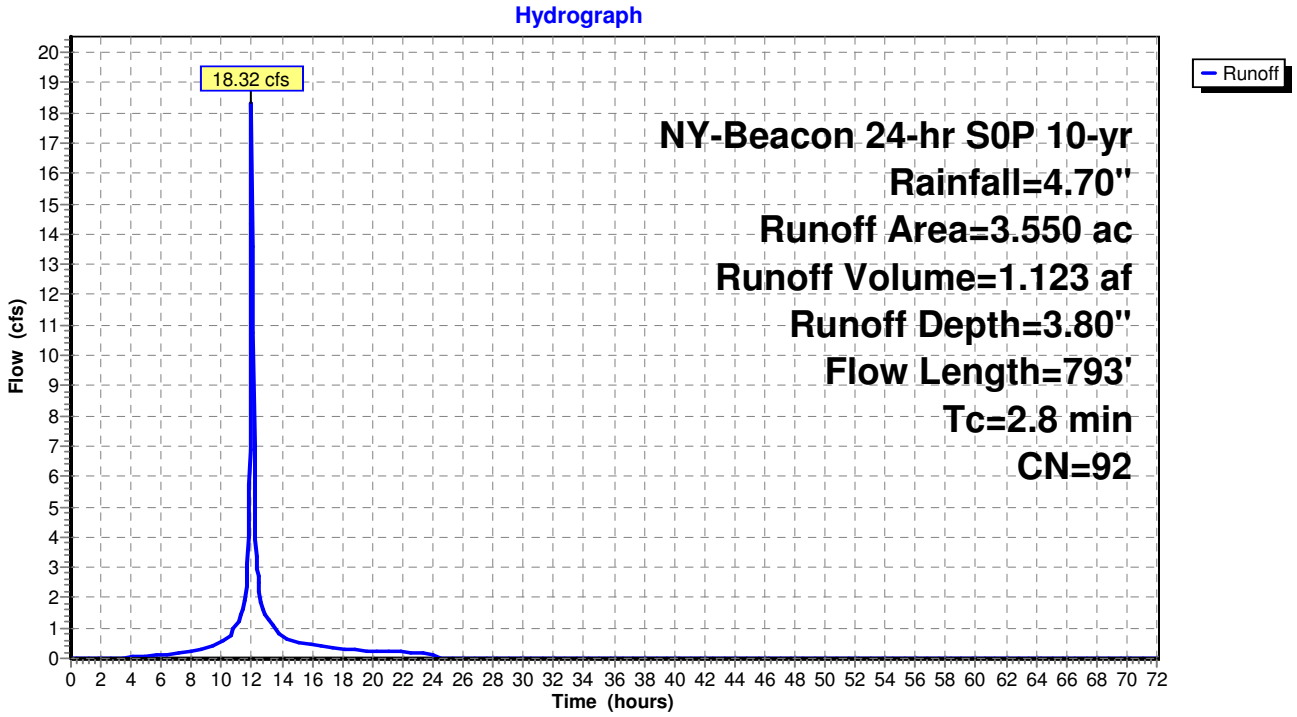
Runoff = 18.32 cfs @ 12.00 hrs, Volume= 1.123 af, Depth= 3.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Beacon 24-hr S0P 10-yr Rainfall=4.70"

Area (ac)	CN	Description
2.350	98	Paved parking, HSG D
1.200	80	>75% Grass cover, Good, HSG D
3.550	92	Weighted Average
1.200		33.80% Pervious Area
2.350		66.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	100	0.0600	2.12		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.7	200	0.0500	4.54		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	35	0.0120	4.97	3.90	**Pipe Channel, CB 6 TO CB 5** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.5	183	0.0130	6.00	7.37	**Pipe Channel, CB 5 TO CB 4** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
0.4	136	0.0100	5.94	10.50	**Pipe Channel, CB 4 TO CB 3** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
0.2	63	0.0100	5.94	10.50	**Pipe Channel, CB 3 TO CB 2** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
0.1	76	0.0360	11.28	19.93	**Pipe Channel, CB 2 TO ES 1** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
2.8	793	Total			

Subcatchment 1.1S:



Summary for Subcatchment 1.2S:

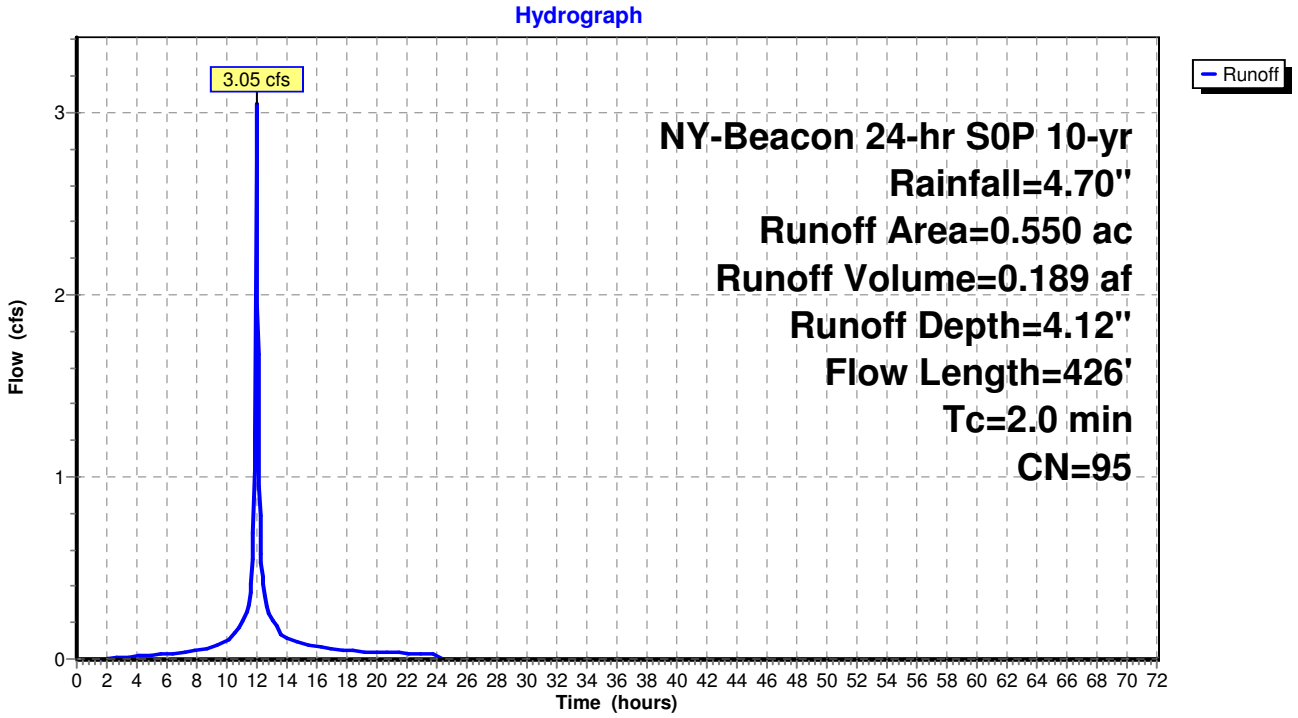
Runoff = 3.05 cfs @ 11.99 hrs, Volume= 0.189 af, Depth= 4.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Beacon 24-hr S0P 10-yr Rainfall=4.70"

Area (ac)	CN	Description
0.450	98	Paved parking, HSG D
0.100	80	>75% Grass cover, Good, HSG D
0.550	95	Weighted Average
0.100		18.18% Pervious Area
0.450		81.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	100	0.0600	2.12		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.4	120	0.0600	4.97		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	160	0.0350	3.80		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	46	0.0300	7.86	6.17	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
2.0	426	Total			

Subcatchment 1.2S:

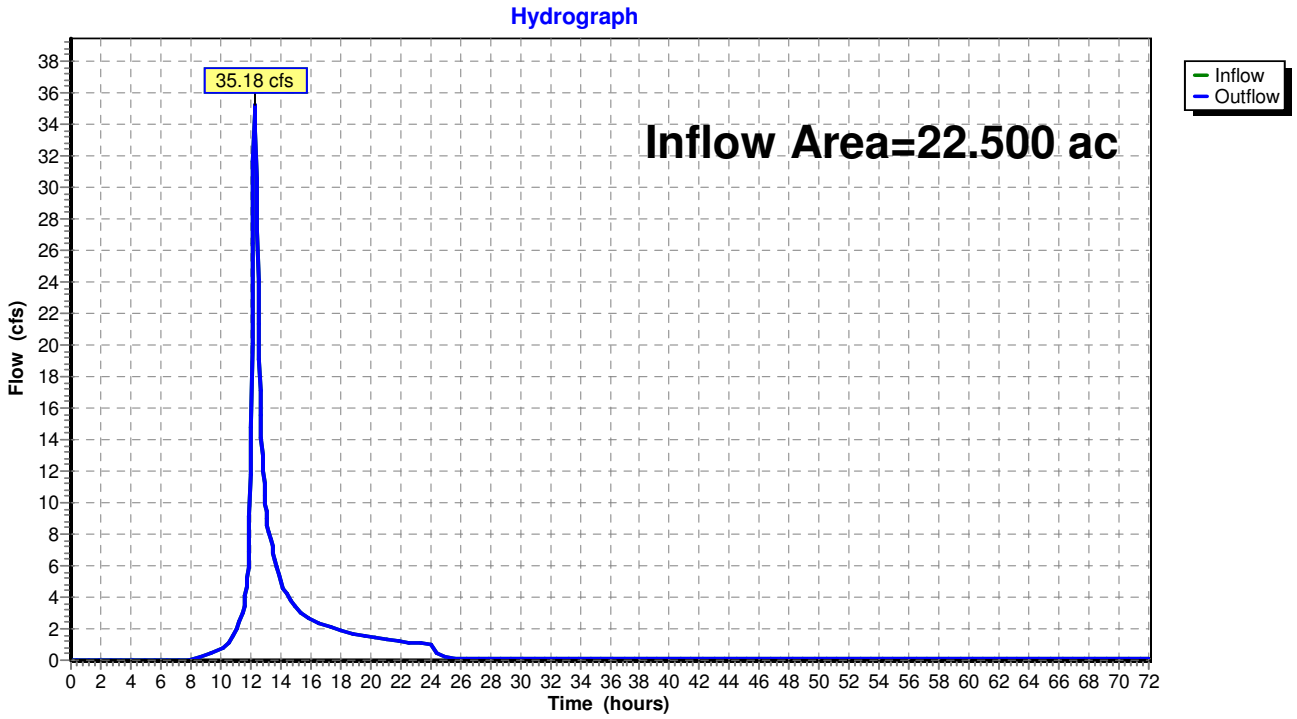


Summary for Reach Design Line:

Inflow Area = 22.500 ac, 14.67% Impervious, Inflow Depth > 2.55" for 10-yr event
Inflow = 35.18 cfs @ 12.29 hrs, Volume= 4.779 af
Outflow = 35.18 cfs @ 12.29 hrs, Volume= 4.779 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Reach Design Line:



Summary for Pond 1.1 P:

Inflow Area = 3.550 ac, 66.20% Impervious, Inflow Depth = 3.80" for 10-yr event
Inflow = 18.32 cfs @ 12.00 hrs, Volume= 1.123 af
Outflow = 2.11 cfs @ 12.55 hrs, Volume= 1.002 af, Atten= 88%, Lag= 33.1 min
Primary = 2.11 cfs @ 12.55 hrs, Volume= 1.002 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Starting Elev= 180.00' Surf.Area= 7,640 sf Storage= 10,715 cf
Peak Elev= 182.93' @ 12.55 hrs Surf.Area= 14,995 sf Storage= 37,641 cf (26,926 cf above start)
Flood Elev= 184.50' Surf.Area= 19,225 sf Storage= 60,459 cf (49,744 cf above start)

Plug-Flow detention time= 1,085.8 min calculated for 0.756 af (67% of inflow)
Center-of-Mass det. time= 731.9 min (1,516.9 - 785.0)

Volume	Invert	Avail.Storage	Storage Description
#1	175.00'	2,050 cf	**Forebay (Prismatic)** Listed below (Recalc)
#2	175.00'	67,360 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		69,410 cf	Total Available Storage

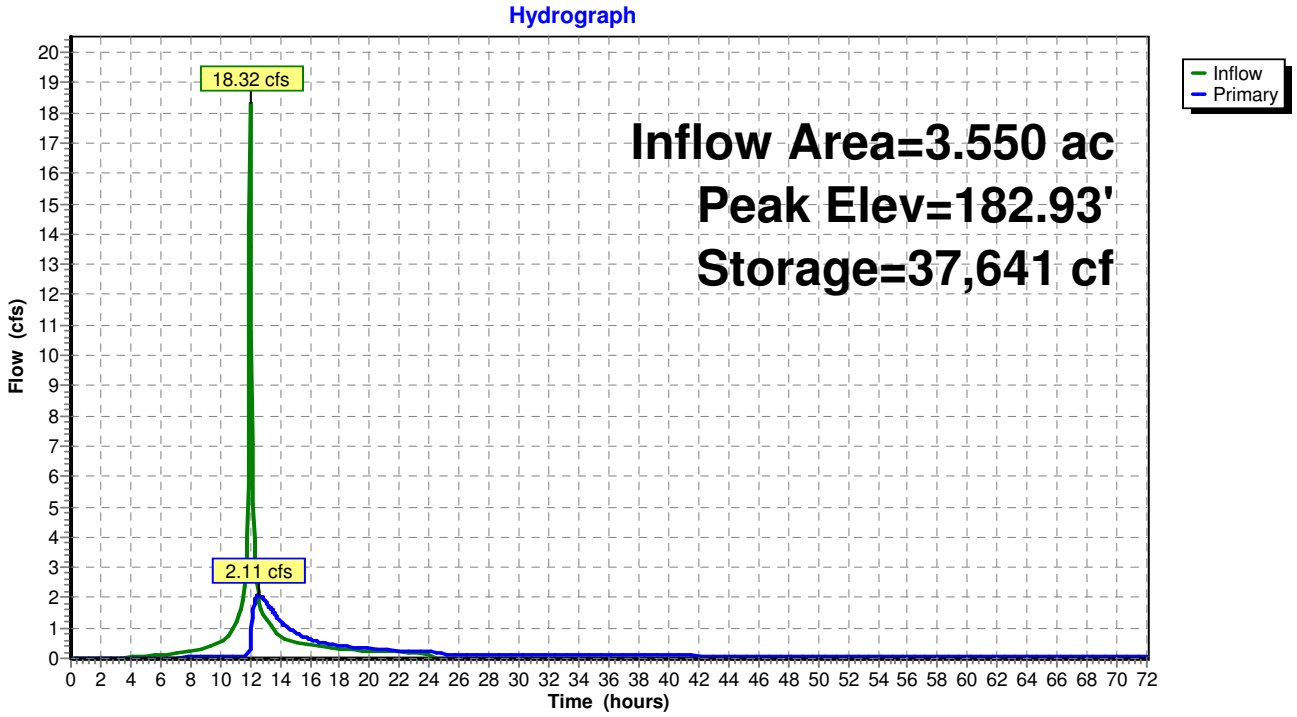
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
175.00	5	0	0
177.00	110	115	115
179.00	450	560	675
180.00	2,300	1,375	2,050

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
175.00	500	0	0
177.00	1,180	1,680	1,680
179.00	2,090	3,270	4,950
180.00	5,340	3,715	8,665
182.00	10,730	16,070	24,735
184.00	14,970	25,700	50,435
185.00	18,880	16,925	67,360

Device	Routing	Invert	Outlet Devices
#1	Primary	179.00'	**24.0" Round Culvert** L= 37.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 179.00' / 178.50' S= 0.0135 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	180.00'	**1.6" Vert. Orifice/Grate** C= 0.600
#3	Device 1	182.20'	**1.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=2.11 cfs @ 12.55 hrs HW=182.93' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 2.11 cfs of 25.88 cfs potential flow)
  └─**2=Orifice/Grate** (Orifice Controls 0.11 cfs @ 8.14 fps)
  └─**3=Broad-Crested Rectangular Weir** (Weir Controls 2.00 cfs @ 2.74 fps)

Pond 1.1 P:


Hydrograph
Inflow Area=3.550 ac
Peak Elev=182.93'
Storage=37,641 cf
18.32 cfs
2.11 cfs
Inflow
Primary
Flow (cfs)
Time (hours)
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Stage-Area-Storage for Pond 1.1 P:

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
175.00	0	180.20	11,837
175.10	52	180.30	12,438
175.20	109	180.40	13,067
175.30	169	180.50	13,722
175.40	233	180.60	14,404
175.50	302	180.70	15,113
175.60	374	180.80	15,849
175.70	450	180.90	16,612
175.80	530	181.00	17,403
175.90	613	181.10	18,219
176.00	701	181.20	19,063
176.10	793	181.30	19,934
176.20	889	181.40	20,832
176.30	988	181.50	21,757
176.40	1,092	181.60	22,709
176.50	1,199	181.70	23,687
176.60	1,310	181.80	24,693
176.70	1,426	181.90	25,725
176.80	1,545	182.00	26,785
176.90	1,668	182.10	27,869
177.00	1,795	182.20	28,973
177.10	1,927	182.30	30,099
177.20	2,065	182.40	31,247
177.30	2,210	182.50	32,415
177.40	2,361	182.60	33,605
177.50	2,518	182.70	34,815
177.60	2,681	182.80	36,047
177.70	2,851	182.90	37,301
177.80	3,027	183.00	38,575
177.90	3,209	183.10	39,871
178.00	3,398	183.20	41,187
178.10	3,592	183.30	42,525
178.20	3,793	183.40	43,885
178.30	4,000	183.50	45,265
178.40	4,214	183.60	46,667
178.50	4,433	183.70	48,089
178.60	4,659	183.80	49,533
178.70	4,891	183.90	50,999
178.80	5,130	184.00	52,485
178.90	5,374	184.10	54,002
179.00	5,625	184.20	55,557
179.10	5,904	184.30	57,152
179.20	6,235	184.40	58,786
179.30	6,617	184.50	60,459
179.40	7,049	184.60	62,171
179.50	7,533	184.70	63,922
179.60	8,067	184.80	65,712
179.70	8,652	184.90	67,542
179.80	9,289	185.00	**69,410**
179.90	9,977		
180.00	10,715		
180.10	11,262		

Summary for Pond 1.2 FS:

Inflow Area = 0.550 ac, 81.82% Impervious, Inflow Depth = 4.12" for 10-yr event
Inflow = 3.05 cfs @ 11.99 hrs, Volume= 0.189 af
Outflow = 3.05 cfs @ 11.99 hrs, Volume= 0.189 af, Atten= 0%, Lag= 0.0 min
Primary = 1.97 cfs @ 11.98 hrs, Volume= 0.181 af
Secondary = 1.07 cfs @ 11.99 hrs, Volume= 0.008 af

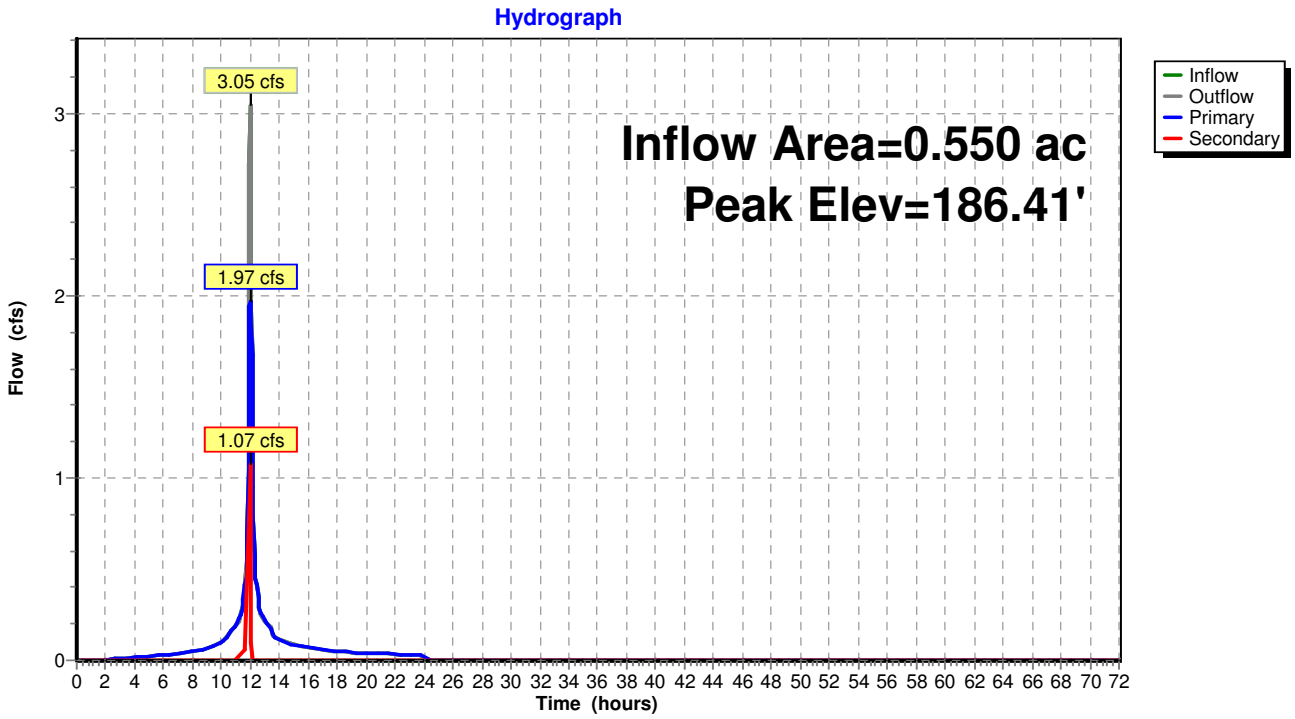
Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 186.41' @ 11.98 hrs
Flood Elev= 187.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	184.70'	**8.0" Round Culvert** L= 12.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 184.70' / 184.50' S= 0.0167 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Secondary	184.70'	**12.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 184.70' / 184.00' S= 0.0233 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	186.20'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=1.96 cfs @ 11.98 hrs HW=186.39' TW=182.73' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 1.96 cfs @ 5.61 fps)

Secondary OutFlow Max=0.95 cfs @ 11.99 hrs HW=186.39' TW=0.00' (Dynamic Tailwater)
└**2=Culvert** (Passes 0.95 cfs of 4.13 cfs potential flow)
└**3=Broad-Crested Rectangular Weir** (Weir Controls 0.95 cfs @ 1.23 fps)

Pond 1.2 FS:


Hydrograph
Inflow Area=0.550 ac
Peak Elev=186.41'
3.05 cfs
1.97 cfs
1.07 cfs
Inflow
Outflow
Primary
Secondary
Flow (cfs)
Time (hours)
0 1 2 3
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72

Stage-Area-Storage for Pond 1.2 FS:

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
184.70	**0**	185.74	0	186.78	0
184.72	0	185.76	0	186.80	0
184.74	0	185.78	0	186.82	0
184.76	0	185.80	0	186.84	0
184.78	0	185.82	0	186.86	0
184.80	0	185.84	0	186.88	0
184.82	0	185.86	0	186.90	0
184.84	0	185.88	0	186.92	0
184.86	0	185.90	0	186.94	0
184.88	0	185.92	0	186.96	0
184.90	0	185.94	0	186.98	0
184.92	0	185.96	0	187.00	0
184.94	0	185.98	0	187.02	0
184.96	0	186.00	0	187.04	0
184.98	0	186.02	0	187.06	0
185.00	0	186.04	0	187.08	0
185.02	0	186.06	0	187.10	0
185.04	0	186.08	0	187.12	0
185.06	0	186.10	0	187.14	0
185.08	0	186.12	0	187.16	0
185.10	0	186.14	0	187.18	0
185.12	0	186.16	0	187.20	0
185.14	0	186.18	0	187.22	0
185.16	0	186.20	0	187.24	0
185.18	0	186.22	0	187.26	0
185.20	0	186.24	0	187.28	0
185.22	0	186.26	0	187.30	0
185.24	0	186.28	0	187.32	0
185.26	0	186.30	0	187.34	0
185.28	0	186.32	0	187.36	0
185.30	0	186.34	0	187.38	0
185.32	0	186.36	0	187.40	0
185.34	0	186.38	0	187.42	0
185.36	0	186.40	0	187.44	0
185.38	0	186.42	0	187.46	0
185.40	0	186.44	0	187.48	0
185.42	0	186.46	0	187.50	0
185.44	0	186.48	0	187.52	0
185.46	0	186.50	0	187.54	0
185.48	0	186.52	0	187.56	0
185.50	0	186.54	0	187.58	0
185.52	0	186.56	0	187.60	0
185.54	0	186.58	0	187.62	0
185.56	0	186.60	0	187.64	0
185.58	0	186.62	0	187.66	0
185.60	0	186.64	0	187.68	0
185.62	0	186.66	0	187.70	0
185.64	0	186.68	0		
185.66	0	186.70	0		
185.68	0	186.72	0		
185.70	0	186.74	0		
185.72	0	186.76	0		

Summary for Pond 1.2 P:

Inflow Area = 0.550 ac, 81.82% Impervious, Inflow Depth = 3.95" for 10-yr event
Inflow = 1.97 cfs @ 11.98 hrs, Volume= 0.181 af
Outflow = 0.64 cfs @ 11.80 hrs, Volume= 0.181 af, Atten= 67%, Lag= 0.0 min
Discarded = 0.64 cfs @ 11.80 hrs, Volume= 0.181 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 183.37' @ 12.24 hrs Surf.Area= 0.030 ac Storage= 0.027 af

Plug-Flow detention time= 8.1 min calculated for 0.181 af (100% of inflow)
Center-of-Mass det. time= 8.1 min (778.3 - 770.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	182.00'	0.028 af	**34.75'W x 38.04'L x 3.50'H Field A** 0.106 af Overall - 0.037 af Embedded = 0.069 af x 40.0% Voids
#2A	182.50'	0.037 af	**ADS_StormTech SC-740** x 35 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap Row Length Adjustment= +0.44' x 6.45 sf x 7 rows
		0.065 af	Total Available Storage

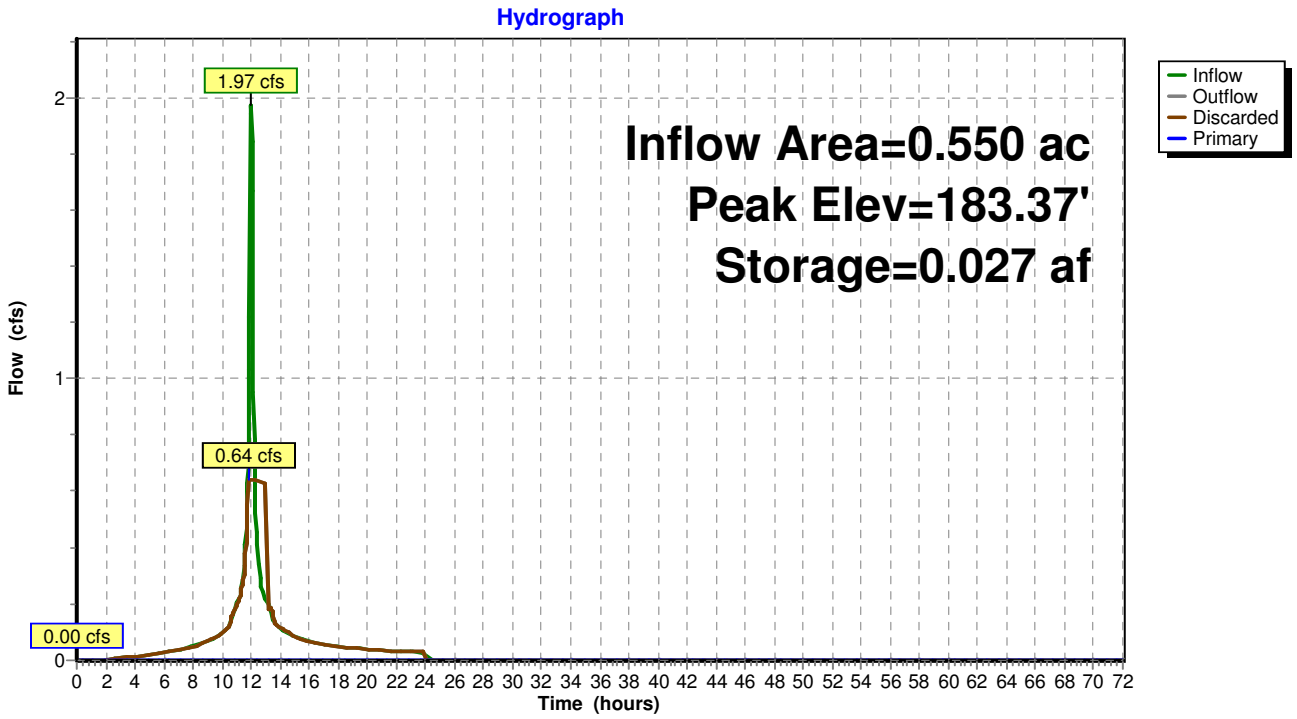
Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	182.00'	**21.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.10'
#2	Primary	184.50'	**6.0" Round Culvert** L= 17.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 184.50' / 184.30' S= 0.0118 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.64 cfs @ 11.80 hrs HW=182.11' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.64 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=182.00' TW=0.00' (Dynamic Tailwater)
2=Culvert (Controls 0.00 cfs)

Pond 1.2 P:


Hydrograph
Inflow Area=0.550 ac
Peak Elev=183.37'
Storage=0.027 af
1.97 cfs
0.64 cfs
0.00 cfs
Inflow
Outflow
Discarded
Primary
Flow (cfs)
Time (hours)
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72
0
1
2

Stage-Area-Storage for Pond 1.2 P:

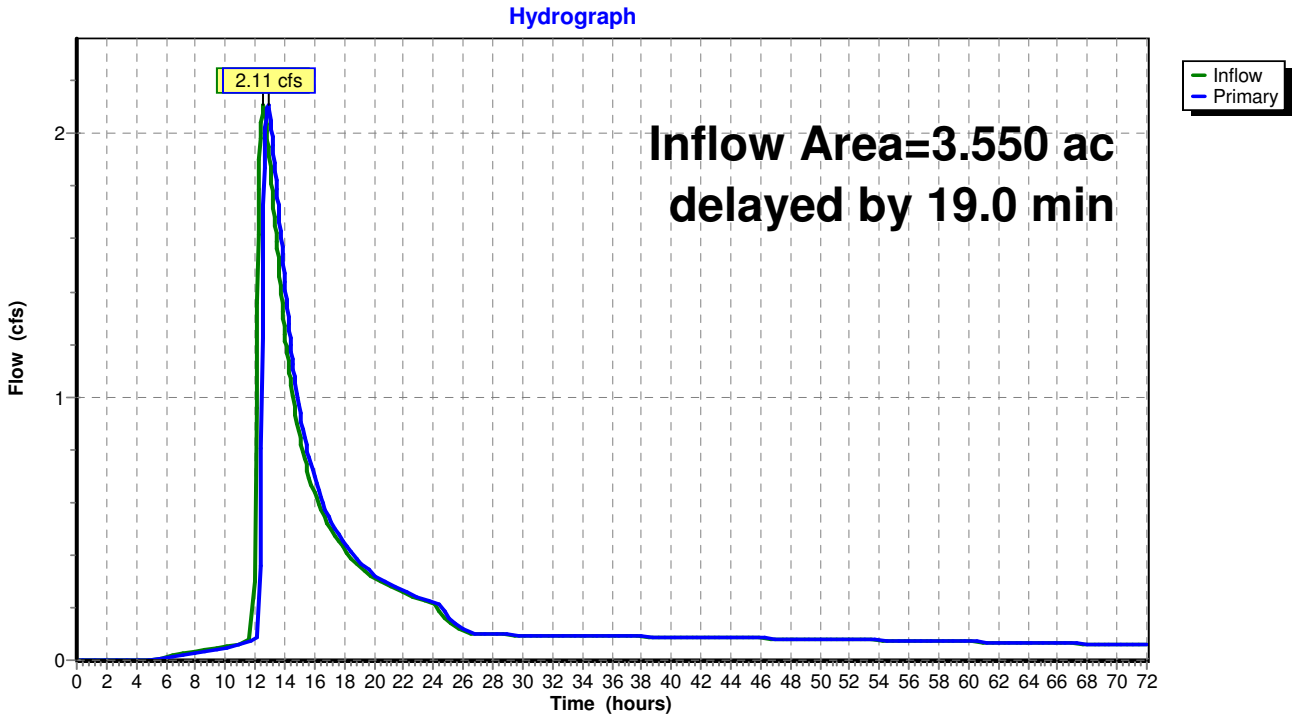
Elevation (feet)	Horizontal (acres)	Storage (acre-feet)
182.00	**0.030**	0.000
182.05	0.030	0.001
182.10	0.030	0.001
182.15	0.030	0.002
182.20	0.030	0.002
182.25	0.030	0.003
182.30	0.030	0.004
182.35	0.030	0.004
182.40	0.030	0.005
182.45	0.030	0.005
182.50	0.030	0.006
182.55	0.030	0.007
182.60	0.030	0.009
182.65	0.030	0.010
182.70	0.030	0.011
182.75	0.030	0.012
182.80	0.030	0.014
182.85	0.030	0.015
182.90	0.030	0.016
182.95	0.030	0.017
183.00	0.030	0.018
183.05	0.030	0.020
183.10	0.030	0.021
183.15	0.030	0.022
183.20	0.030	0.023
183.25	0.030	0.024
183.30	0.030	0.026
183.35	0.030	0.027
183.40	0.030	0.028
183.45	0.030	0.029
183.50	0.030	0.030
183.55	0.030	0.032
183.60	0.030	0.033
183.65	0.030	0.034
183.70	0.030	0.035
183.75	0.030	0.036
183.80	0.030	0.037
183.85	0.030	0.038
183.90	0.030	0.039
183.95	0.030	0.040
184.00	0.030	0.041
184.05	0.030	0.043
184.10	0.030	0.044
184.15	0.030	0.045
184.20	0.030	0.046
184.25	0.030	0.047
184.30	0.030	0.048
184.35	0.030	0.049
184.40	0.030	0.050
184.45	0.030	0.050
184.50	0.030	0.051
184.55	0.030	0.052
184.60	0.030	0.053
184.65	0.030	0.054
184.70	0.030	0.055
184.75	0.030	0.056
184.80	0.030	0.056
184.85	0.030	0.057
184.90	0.030	0.058
184.95	0.030	0.058
185.00	0.030	0.059
185.05	0.030	0.059
185.10	0.030	0.060
185.15	0.030	0.061
185.20	0.030	0.061
185.25	0.030	0.062
185.30	0.030	0.062
185.35	0.030	0.063
185.40	0.030	0.064
185.45	0.030	0.064
185.50	0.030	**0.065**

Summary for Link 1.1R: (See Subcatchment 1.1 TC for Time of Concentration Calculation)

Inflow Area = 3.550 ac, 66.20% Impervious, Inflow Depth > 3.39" for 10-yr event
Inflow = 2.11 cfs @ 12.55 hrs, Volume= 1.002 af
Primary = 2.11 cfs @ 12.87 hrs, Volume= 1.000 af, Atten= 0%, Lag= 19.0 min

Primary outflow = Inflow delayed by 19.0 min, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 1.1R: (See Subcatchment 1.1 TC for Time of Concentration Calculation)



Summary for Subcatchment 1.0S:

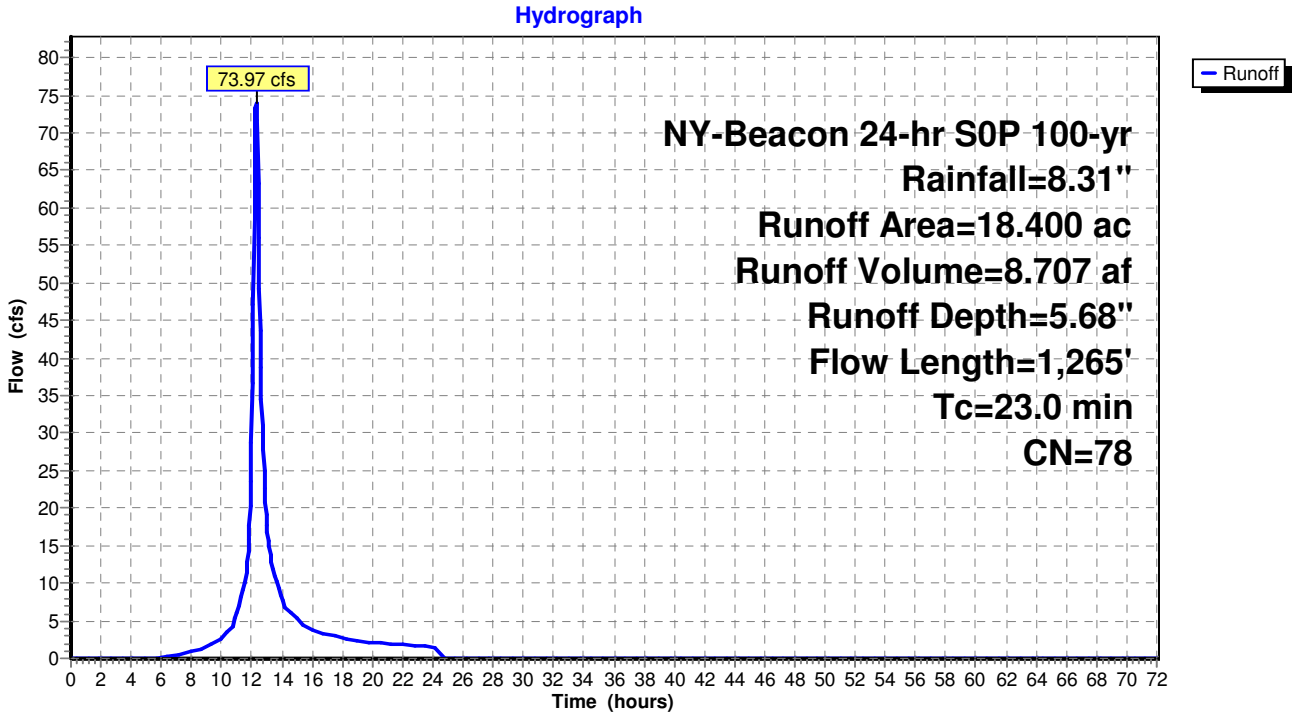
Runoff = 73.97 cfs @ 12.28 hrs, Volume= 8.707 af, Depth= 5.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Beacon 24-hr S0P 100-yr Rainfall=8.31"

Area (ac)	CN	Description
11.100	77	Woods, Good, HSG D
5.800	78	Meadow, non-grazed, HSG D
1.000	80	>75% Grass cover, Good, HSG D
0.500	98	Paved parking, HSG D
18.400	78	Weighted Average
17.900		97.28% Pervious Area
0.500		2.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	100	0.0800	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.16"
4.7	345	0.0600	1.22		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.4	170	0.0800	1.98		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.1	280	0.0900	1.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.2	235	0.0500	3.35		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.1	55	0.0450	11.17	13.70	**Pipe Channel, SDI 14A TO DI 14** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
0.1	80	0.0410	14.58	45.81	**Pipe Channel, DI 14 TO ES 13** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Corrugated PE, smooth interior
23.0	1,265	Total			

Subcatchment 1.0S:



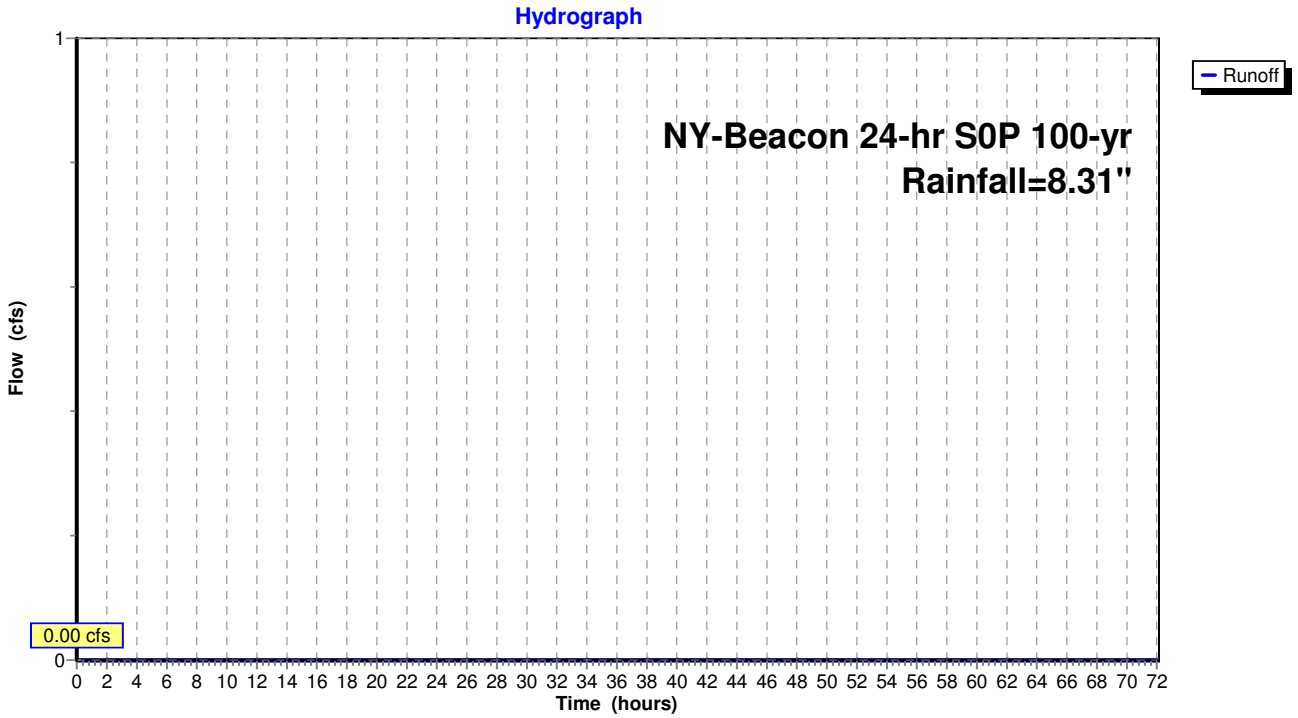
Summary for Subcatchment 1.1 TC:

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Beacon 24-hr S0P 100-yr Rainfall=8.31"

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.4	100	0.0300	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.16"
0.6	30	0.0300	0.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
19.0	130	Total			

Subcatchment 1.1 TC:



Summary for Subcatchment 1.1S:

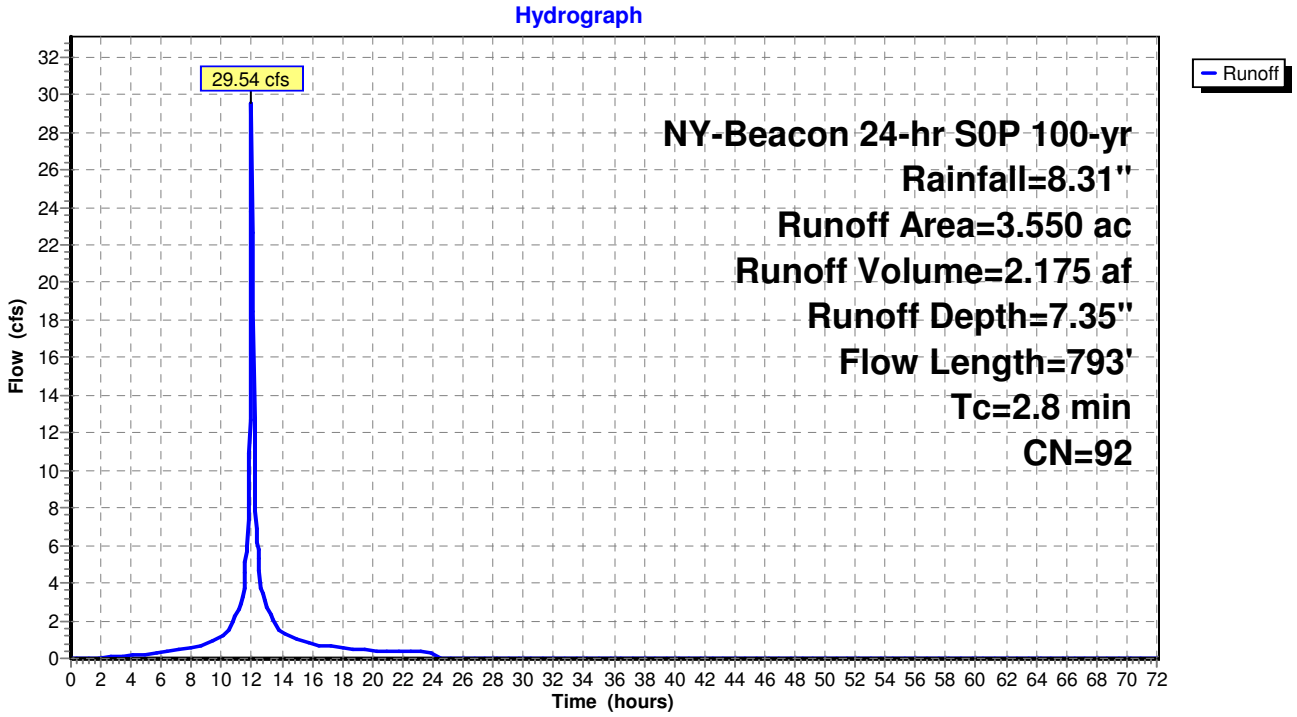
Runoff = 29.54 cfs @ 12.00 hrs, Volume= 2.175 af, Depth= 7.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Beacon 24-hr S0P 100-yr Rainfall=8.31"

Area (ac)	CN	Description
2.350	98	Paved parking, HSG D
1.200	80	>75% Grass cover, Good, HSG D
3.550	92	Weighted Average
1.200		33.80% Pervious Area
2.350		66.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	100	0.0600	2.12		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.7	200	0.0500	4.54		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	35	0.0120	4.97	3.90	**Pipe Channel, CB 6 TO CB 5** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.5	183	0.0130	6.00	7.37	**Pipe Channel, CB 5 TO CB 4** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
0.4	136	0.0100	5.94	10.50	**Pipe Channel, CB 4 TO CB 3** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
0.2	63	0.0100	5.94	10.50	**Pipe Channel, CB 3 TO CB 2** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
0.1	76	0.0360	11.28	19.93	**Pipe Channel, CB 2 TO ES 1** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
2.8	793	Total			

Subcatchment 1.1S:



Summary for Subcatchment 1.2S:

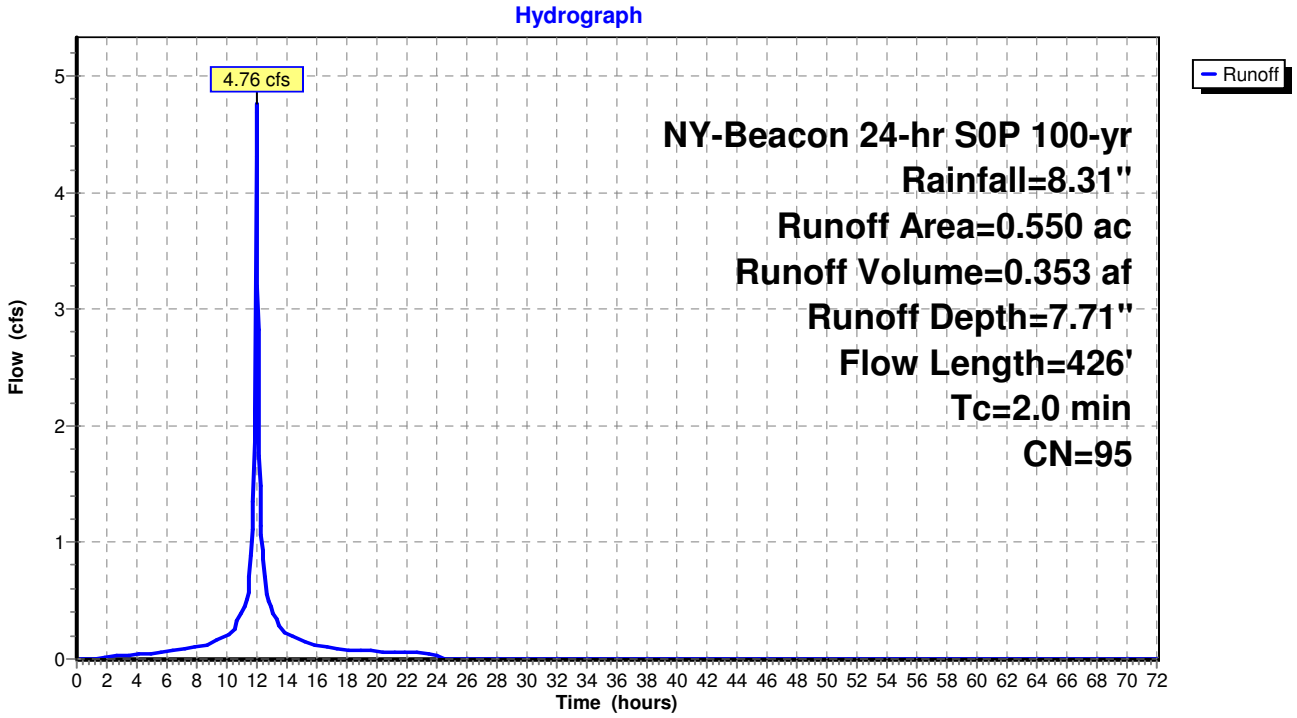
Runoff = 4.76 cfs @ 11.99 hrs, Volume= 0.353 af, Depth= 7.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Beacon 24-hr S0P 100-yr Rainfall=8.31"

Area (ac)	CN	Description
0.450	98	Paved parking, HSG D
0.100	80	>75% Grass cover, Good, HSG D
0.550	95	Weighted Average
0.100		18.18% Pervious Area
0.450		81.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	100	0.0600	2.12		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.16"
0.4	120	0.0600	4.97		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	160	0.0350	3.80		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	46	0.0300	7.86	6.17	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
2.0	426	Total			

Subcatchment 1.2S:

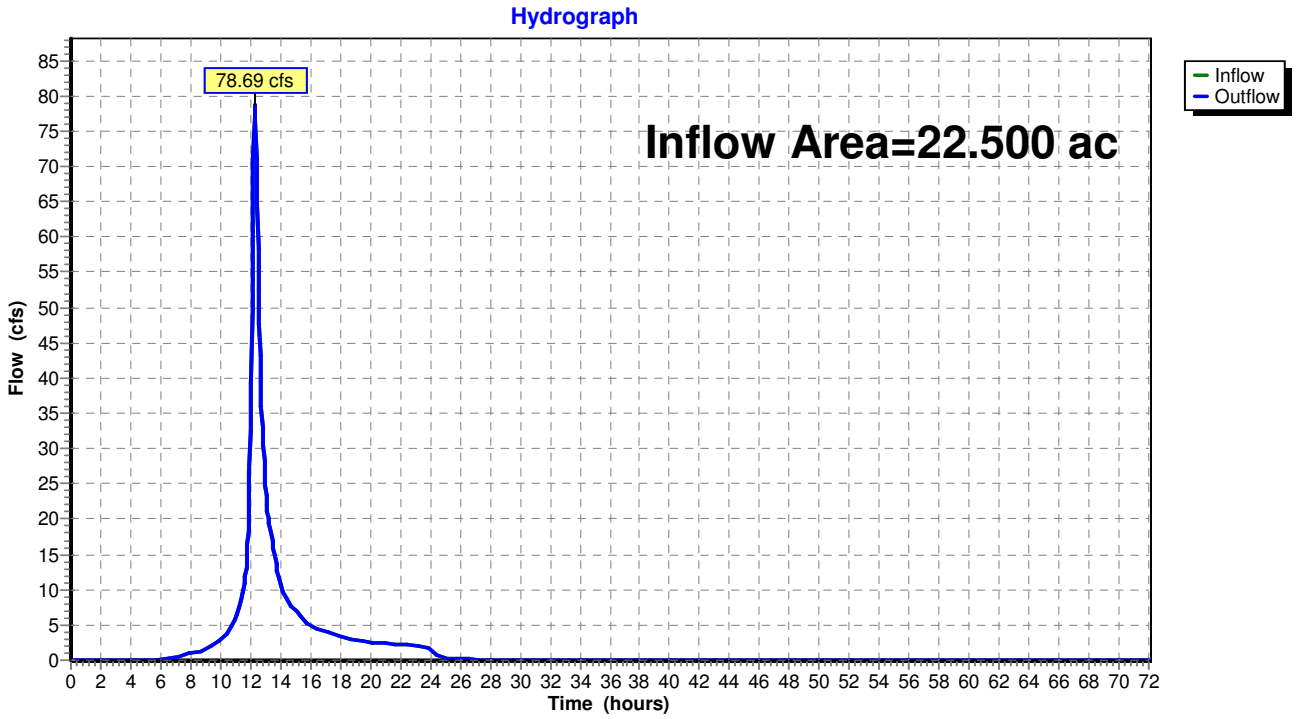


Summary for Reach Design Line:

Inflow Area = 22.500 ac, 14.67% Impervious, Inflow Depth > 5.75" for 100-yr event
Inflow = 78.69 cfs @ 12.30 hrs, Volume= 10.788 af
Outflow = 78.69 cfs @ 12.30 hrs, Volume= 10.788 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Reach Design Line:



Summary for Pond 1.1 P:

Inflow Area = 3.550 ac, 66.20% Impervious, Inflow Depth = 7.35" for 100-yr event
Inflow = 29.54 cfs @ 12.00 hrs, Volume= 2.175 af
Outflow = 8.92 cfs @ 12.22 hrs, Volume= 2.049 af, Atten= 70%, Lag= 13.5 min
Primary = 8.92 cfs @ 12.22 hrs, Volume= 2.049 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Starting Elev= 180.00' Surf.Area= 7,640 sf Storage= 10,715 cf
Peak Elev= 184.11' @ 12.22 hrs Surf.Area= 17,710 sf Storage= 54,193 cf (43,478 cf above start)
Flood Elev= 184.50' Surf.Area= 19,225 sf Storage= 60,459 cf (49,744 cf above start)

Plug-Flow detention time= 545.5 min calculated for 1.803 af (83% of inflow)
Center-of-Mass det. time= 406.2 min (1,172.2 - 766.0)

Volume	Invert	Avail.Storage	Storage Description
#1	175.00'	2,050 cf	**Forebay (Prismatic)** Listed below (Recalc)
#2	175.00'	67,360 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		69,410 cf	Total Available Storage

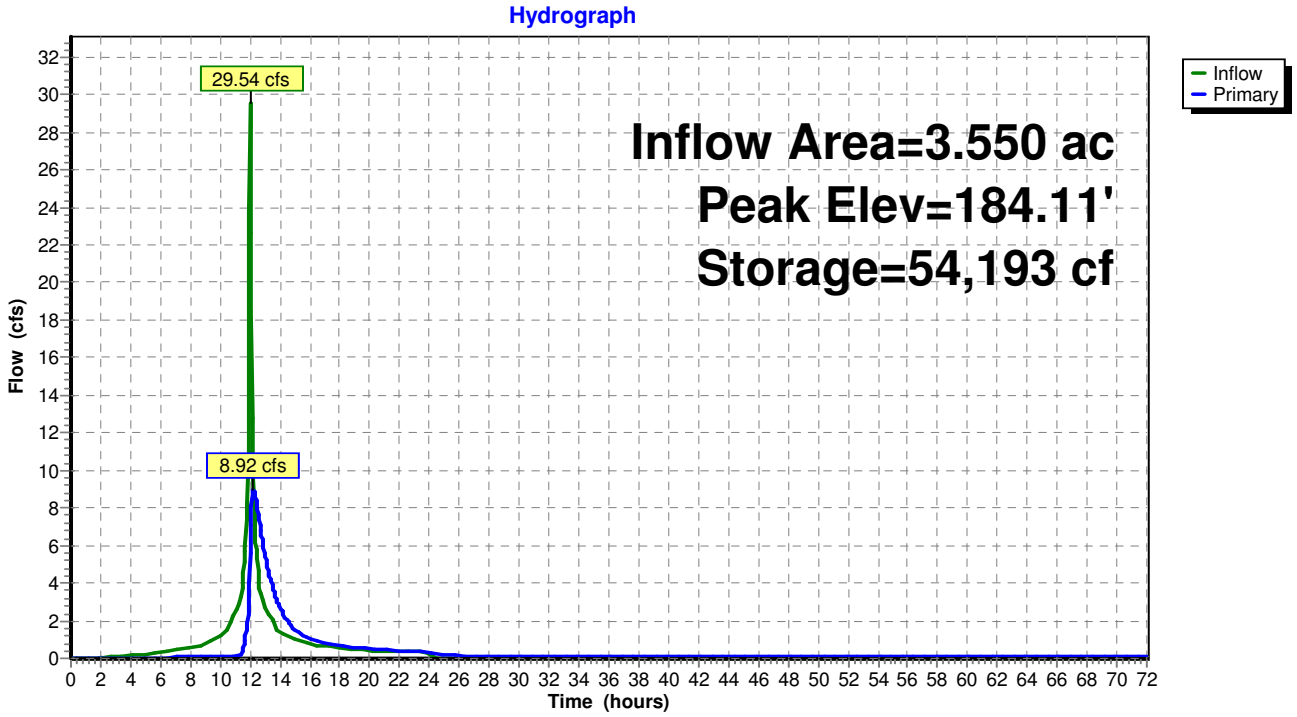
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
175.00	5	0	0
177.00	110	115	115
179.00	450	560	675
180.00	2,300	1,375	2,050

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
175.00	500	0	0
177.00	1,180	1,680	1,680
179.00	2,090	3,270	4,950
180.00	5,340	3,715	8,665
182.00	10,730	16,070	24,735
184.00	14,970	25,700	50,435
185.00	18,880	16,925	67,360

Device	Routing	Invert	Outlet Devices
#1	Primary	179.00'	**24.0" Round Culvert** L= 37.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 179.00' / 178.50' S= 0.0135 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	180.00'	**1.6" Vert. Orifice/Grate** C= 0.600
#3	Device 1	182.20'	**1.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=8.89 cfs @ 12.22 hrs HW=184.11' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Passes 8.89 cfs of 30.66 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 0.14 cfs @ 9.68 fps)
└**3=Broad-Crested Rectangular Weir** (Weir Controls 8.75 cfs @ 4.59 fps)

Pond 1.1 P:


Hydrograph
Inflow Area=3.550 ac
Peak Elev=184.11'
Storage=54,193 cf
29.54 cfs
8.92 cfs
Inflow
Primary
Flow (cfs)
Time (hours)
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72

Stage-Area-Storage for Pond 1.1 P:

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
175.00	0	180.20	11,837
175.10	52	180.30	12,438
175.20	109	180.40	13,067
175.30	169	180.50	13,722
175.40	233	180.60	14,404
175.50	302	180.70	15,113
175.60	374	180.80	15,849
175.70	450	180.90	16,612
175.80	530	181.00	17,403
175.90	613	181.10	18,219
176.00	701	181.20	19,063
176.10	793	181.30	19,934
176.20	889	181.40	20,832
176.30	988	181.50	21,757
176.40	1,092	181.60	22,709
176.50	1,199	181.70	23,687
176.60	1,310	181.80	24,693
176.70	1,426	181.90	25,725
176.80	1,545	182.00	26,785
176.90	1,668	182.10	27,869
177.00	1,795	182.20	28,973
177.10	1,927	182.30	30,099
177.20	2,065	182.40	31,247
177.30	2,210	182.50	32,415
177.40	2,361	182.60	33,605
177.50	2,518	182.70	34,815
177.60	2,681	182.80	36,047
177.70	2,851	182.90	37,301
177.80	3,027	183.00	38,575
177.90	3,209	183.10	39,871
178.00	3,398	183.20	41,187
178.10	3,592	183.30	42,525
178.20	3,793	183.40	43,885
178.30	4,000	183.50	45,265
178.40	4,214	183.60	46,667
178.50	4,433	183.70	48,089
178.60	4,659	183.80	49,533
178.70	4,891	183.90	50,999
178.80	5,130	184.00	52,485
178.90	5,374	184.10	54,002
179.00	5,625	184.20	55,557
179.10	5,904	184.30	57,152
179.20	6,235	184.40	58,786
179.30	6,617	184.50	60,459
179.40	7,049	184.60	62,171
179.50	7,533	184.70	63,922
179.60	8,067	184.80	65,712
179.70	8,652	184.90	67,542
179.80	9,289	185.00	**69,410**
179.90	9,977		
180.00	10,715		
180.10	11,262		

Summary for Pond 1.2 FS:

Inflow Area = 0.550 ac, 81.82% Impervious, Inflow Depth = 7.71" for 100-yr event
Inflow = 4.76 cfs @ 11.99 hrs, Volume= 0.353 af
Outflow = 4.76 cfs @ 11.99 hrs, Volume= 0.353 af, Atten= 0%, Lag= 0.0 min
Primary = 2.09 cfs @ 11.98 hrs, Volume= 0.324 af
Secondary = 2.67 cfs @ 11.99 hrs, Volume= 0.030 af

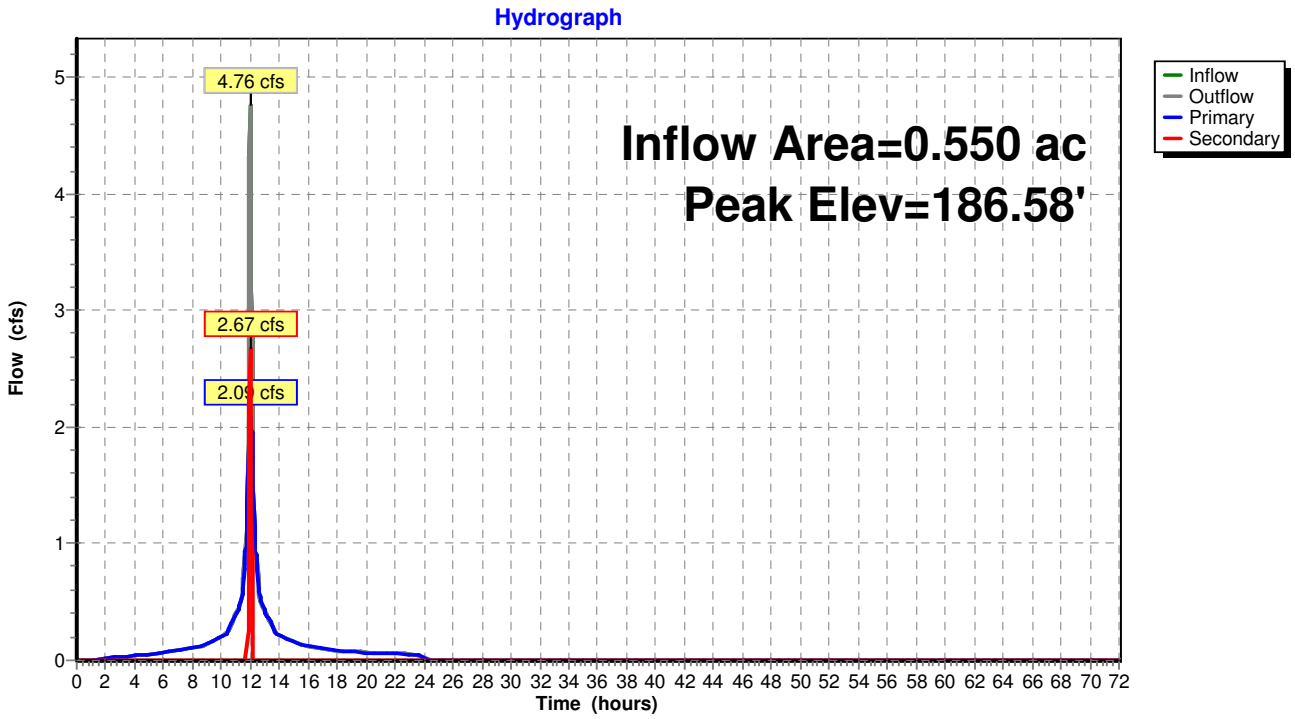
Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 186.58' @ 11.98 hrs
Flood Elev= 187.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	184.70'	**8.0" Round Culvert** L= 12.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 184.70' / 184.50' S= 0.0167 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Secondary	184.70'	**12.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 184.70' / 184.00' S= 0.0233 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	186.20'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=2.08 cfs @ 11.98 hrs HW=186.56' TW=183.38' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 2.08 cfs @ 5.95 fps)

Secondary OutFlow Max=2.49 cfs @ 11.99 hrs HW=186.56' TW=0.00' (Dynamic Tailwater)
└**2=Culvert** (Passes 2.49 cfs of 4.41 cfs potential flow)
└**3=Broad-Crested Rectangular Weir** (Weir Controls 2.49 cfs @ 1.73 fps)

Pond 1.2 FS:


Hydrograph
Inflow Area=0.550 ac
Peak Elev=186.58'
4.76 cfs
2.67 cfs
2.09 cfs
Inflow
Outflow
Primary
Secondary
Flow (cfs)
Time (hours)
0 1 2 3 4 5
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72

Stage-Area-Storage for Pond 1.2 FS:

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
184.70	**0**	185.74	0	186.78	0
184.72	0	185.76	0	186.80	0
184.74	0	185.78	0	186.82	0
184.76	0	185.80	0	186.84	0
184.78	0	185.82	0	186.86	0
184.80	0	185.84	0	186.88	0
184.82	0	185.86	0	186.90	0
184.84	0	185.88	0	186.92	0
184.86	0	185.90	0	186.94	0
184.88	0	185.92	0	186.96	0
184.90	0	185.94	0	186.98	0
184.92	0	185.96	0	187.00	0
184.94	0	185.98	0	187.02	0
184.96	0	186.00	0	187.04	0
184.98	0	186.02	0	187.06	0
185.00	0	186.04	0	187.08	0
185.02	0	186.06	0	187.10	0
185.04	0	186.08	0	187.12	0
185.06	0	186.10	0	187.14	0
185.08	0	186.12	0	187.16	0
185.10	0	186.14	0	187.18	0
185.12	0	186.16	0	187.20	0
185.14	0	186.18	0	187.22	0
185.16	0	186.20	0	187.24	0
185.18	0	186.22	0	187.26	0
185.20	0	186.24	0	187.28	0
185.22	0	186.26	0	187.30	0
185.24	0	186.28	0	187.32	0
185.26	0	186.30	0	187.34	0
185.28	0	186.32	0	187.36	0
185.30	0	186.34	0	187.38	0
185.32	0	186.36	0	187.40	0
185.34	0	186.38	0	187.42	0
185.36	0	186.40	0	187.44	0
185.38	0	186.42	0	187.46	0
185.40	0	186.44	0	187.48	0
185.42	0	186.46	0	187.50	0
185.44	0	186.48	0	187.52	0
185.46	0	186.50	0	187.54	0
185.48	0	186.52	0	187.56	0
185.50	0	186.54	0	187.58	0
185.52	0	186.56	0	187.60	0
185.54	0	186.58	0	187.62	0
185.56	0	186.60	0	187.64	0
185.58	0	186.62	0	187.66	0
185.60	0	186.64	0	187.68	0
185.62	0	186.66	0	187.70	0
185.64	0	186.68	0		
185.66	0	186.70	0		
185.68	0	186.72	0		
185.70	0	186.74	0		
185.72	0	186.76	0		

Summary for Pond 1.2 P:

Inflow Area = 0.550 ac, 81.82% Impervious, Inflow Depth = 7.06" for 100-yr event
Inflow = 2.09 cfs @ 11.98 hrs, Volume= 0.324 af
Outflow = 0.82 cfs @ 12.46 hrs, Volume= 0.324 af, Atten= 61%, Lag= 28.5 min
Discarded = 0.64 cfs @ 11.55 hrs, Volume= 0.319 af
Primary = 0.17 cfs @ 12.46 hrs, Volume= 0.004 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 184.77' @ 12.46 hrs Surf.Area= 0.030 ac Storage= 0.056 af

Plug-Flow detention time= 18.7 min calculated for 0.323 af (100% of inflow)
Center-of-Mass det. time= 18.7 min (774.4 - 755.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	182.00'	0.028 af	**34.75'W x 38.04'L x 3.50'H Field A** 0.106 af Overall - 0.037 af Embedded = 0.069 af x 40.0% Voids
#2A	182.50'	0.037 af	**ADS_StormTech SC-740** x 35 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap Row Length Adjustment= +0.44' x 6.45 sf x 7 rows
		0.065 af	Total Available Storage

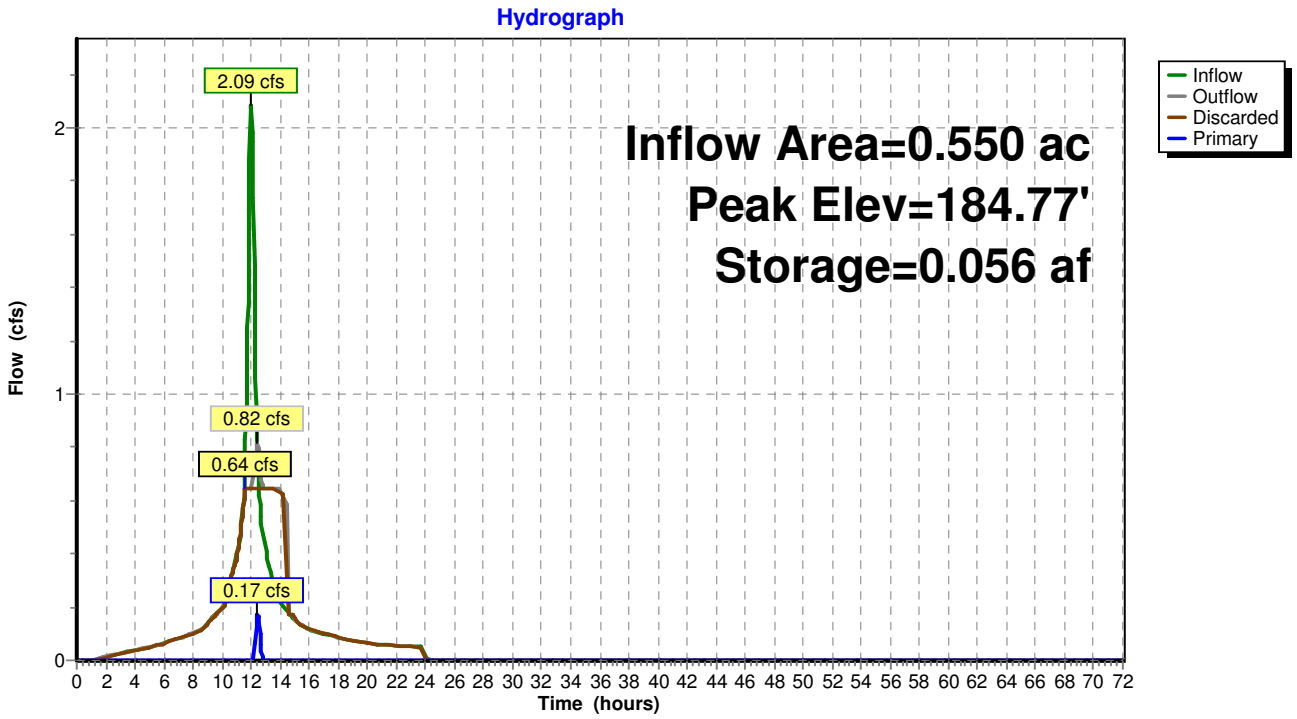
Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	182.00'	**21.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.10'
#2	Primary	184.50'	**6.0" Round Culvert** L= 17.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 184.50' / 184.30' S= 0.0118 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.64 cfs @ 11.55 hrs HW=182.12' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.64 cfs)

Primary OutFlow Max=0.17 cfs @ 12.46 hrs HW=184.77' TW=0.00' (Dynamic Tailwater)
↑—**2=Culvert** (Barrel Controls 0.17 cfs @ 2.34 fps)

Pond 1.2 P:


Hydrograph
Inflow Area=0.550 ac
Peak Elev=184.77'
Storage=0.056 af
2.09 cfs
0.82 cfs
0.64 cfs
0.17 cfs
Inflow
Outflow
Discarded
Primary
Flow (cfs)
Time (hours)
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72
0
1
2

Stage-Area-Storage for Pond 1.2 P:

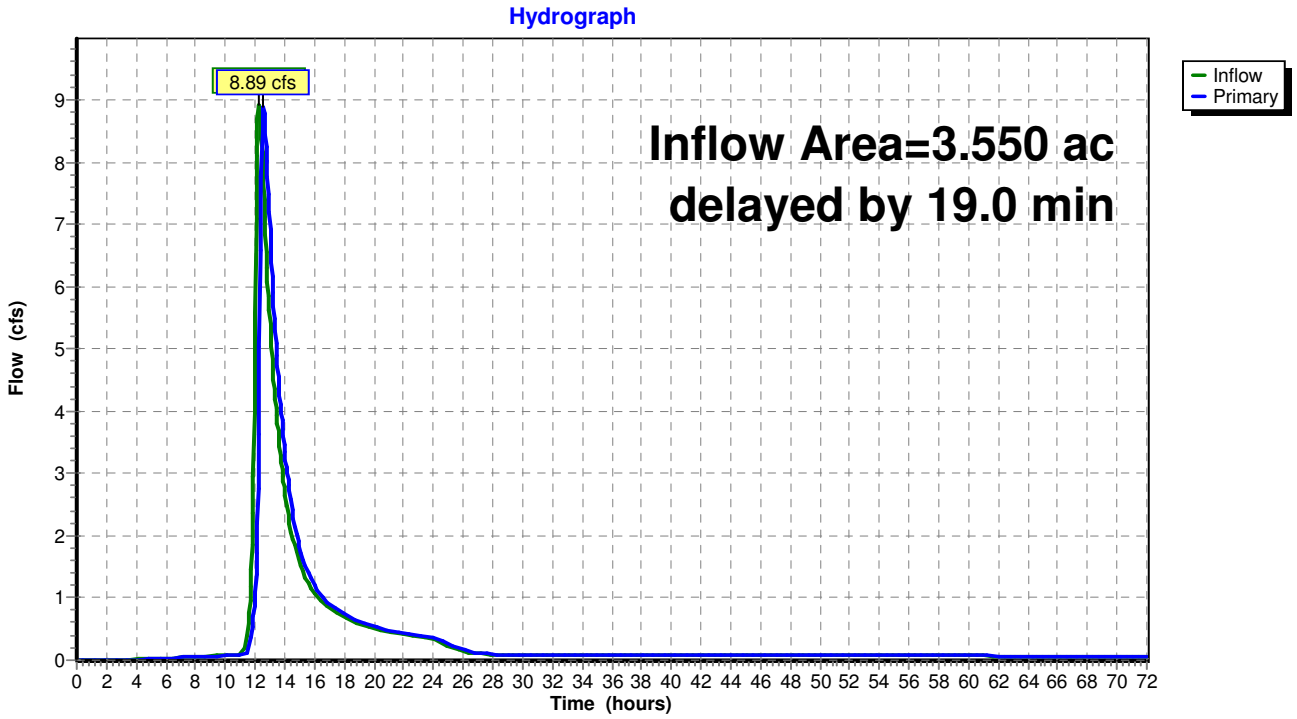
Elevation (feet)	Horizontal (acres)	Storage (acre-feet)
182.00	**0.030**	0.000
182.05	0.030	0.001
182.10	0.030	0.001
182.15	0.030	0.002
182.20	0.030	0.002
182.25	0.030	0.003
182.30	0.030	0.004
182.35	0.030	0.004
182.40	0.030	0.005
182.45	0.030	0.005
182.50	0.030	0.006
182.55	0.030	0.007
182.60	0.030	0.009
182.65	0.030	0.010
182.70	0.030	0.011
182.75	0.030	0.012
182.80	0.030	0.014
182.85	0.030	0.015
182.90	0.030	0.016
182.95	0.030	0.017
183.00	0.030	0.018
183.05	0.030	0.020
183.10	0.030	0.021
183.15	0.030	0.022
183.20	0.030	0.023
183.25	0.030	0.024
183.30	0.030	0.026
183.35	0.030	0.027
183.40	0.030	0.028
183.45	0.030	0.029
183.50	0.030	0.030
183.55	0.030	0.032
183.60	0.030	0.033
183.65	0.030	0.034
183.70	0.030	0.035
183.75	0.030	0.036
183.80	0.030	0.037
183.85	0.030	0.038
183.90	0.030	0.039
183.95	0.030	0.040
184.00	0.030	0.041
184.05	0.030	0.043
184.10	0.030	0.044
184.15	0.030	0.045
184.20	0.030	0.046
184.25	0.030	0.047
184.30	0.030	0.048
184.35	0.030	0.049
184.40	0.030	0.050
184.45	0.030	0.050
184.50	0.030	0.051
184.55	0.030	0.052
184.60	0.030	0.053
184.65	0.030	0.054
184.70	0.030	0.055
184.75	0.030	0.056
184.80	0.030	0.056
184.85	0.030	0.057
184.90	0.030	0.058
184.95	0.030	0.058
185.00	0.030	0.059
185.05	0.030	0.059
185.10	0.030	0.060
185.15	0.030	0.061
185.20	0.030	0.061
185.25	0.030	0.062
185.30	0.030	0.062
185.35	0.030	0.063
185.40	0.030	0.064
185.45	0.030	0.064
185.50	0.030	**0.065**

Summary for Link 1.1R: (See Subcatchment 1.1 TC for Time of Concentration Calculation)

Inflow Area = 3.550 ac, 66.20% Impervious, Inflow Depth > 6.92" for 100-yr event
Inflow = 8.92 cfs @ 12.22 hrs, Volume= 2.049 af
Primary = 8.89 cfs @ 12.55 hrs, Volume= 2.047 af, Atten= 0%, Lag= 19.4 min

Primary outflow = Inflow delayed by 19.0 min, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 1.1R: (See Subcatchment 1.1 TC for Time of Concentration Calculation)



APPENDIX D

Project and Owner information

Site Data:

Beacon Views
City of Beacon
Dutchess County, New York

Owner Information:

Highlands @ Beacon, LLC
2847 Church Street
Pine Plains, New York 12567

Applicant Information:

Beacon Views, LLC
500 River Avenue
Wakefield, New Jersey 08701

Party Responsible for Implementation of the Stormwater Pollution Prevention Plan (Including Maintenance During and After Construction):

Beacon Views, LLC
500 River Avenue
Wakefield, New Jersey 08701

Qualified Professional Responsible for Inspection of the Stormwater Pollution Prevention Plan:

Inspector to be determined at time of construction

APPENDIX E

NYSDEC SPDES for Construction Activities Construction Site Log Book

APPENDIX F
CONSTRUCTION SITE INSPECTION AND MAINTENANCE LOG BOOK

STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM FOR CONSTRUCTION ACTIVITIES

SAMPLE CONSTRUCTION SITE LOG BOOK

Table of Contents

I. Pre-Construction Meeting Documents
   a. Preamble to Site Assessment and Inspections
   b. Pre-Construction Site Assessment Checklist

II. Construction Duration Inspections
   a. Directions
   b. Modification to the SWPPP

I. **PRE-CONSTRUCTION MEETING DOCUMENTS**

Project Name _____

Permit No. _____ **Date of Authorization** _____

Name of Operator _____

Prime Contractor _____

a. **Preamble to Site Assessment and Inspections**

The Following Information To Be Read By All Person's Involved in The Construction of Stormwater Related Activities:

The Operator agrees to have a qualified inspector[1] conduct an assessment of the site prior to the commencement of construction[2] and certify in this inspection report that the appropriate erosion and sediment controls described in the SWPPP have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction.

Prior to the commencement of construction, the Operator shall certify in this site logbook that the SWPPP has been prepared in accordance with the State's standards and meets all Federal, State and local erosion and sediment control requirements. A preconstruction meeting should be held to review all of the SWPPP requirements with construction personnel.

When construction starts, site inspections shall be conducted by the qualified inspector at least every 7 calendar days. The Operator shall maintain a record of all inspection reports in this site logbook. The site logbook shall be maintained on site and be made available to the permitting authorities upon request.

Prior to filing the Notice of Termination or the end of permit term, the Operator shall have a qualified inspector perform a final site inspection. The qualified inspector shall certify that the site has undergone final stabilization[3] using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed. In addition, the Operator must identify and certify that all permanent structures described in the SWPPP have been constructed and provide the owner(s) with an operation and maintenance plan that ensures the structure(s) continuously functions as designed.

1 Refer to "Qualified Inspector" inspection requirements in the current SPDES General Permit for Stormwater Discharges from Construction Activity for complete list of inspection requirements.
2 "Commencement of construction" means the initial removal of vegetation and disturbance of soils associated with clearing, grading or excavating activities or other construction activities.
3 "Final stabilization" means that all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

b. Pre-construction Site Assessment Checklist
(NOTE: Provide comments below as necessary)

1. Notice of Intent, SWPPP, and Contractors Certification:

Yes No NA

[ ] [ ] [ ] Has a Notice of Intent been filed with the NYS Department of Conservation?
[ ] [ ] [ ] Is the SWPPP on-site? Where?_____
[ ] [ ] [ ] Is the Plan current? What is the latest revision date?_____
[ ] [ ] [ ] Is a copy of the NOI (with brief description) onsite? Where?_____
[ ] [ ] [ ] Have all contractors involved with stormwater related activities signed a contractor's certification?

2. Resource Protection

Yes No NA

[ ] [ ] [ ] Are construction limits clearly flagged or fenced?
[ ] [ ] [ ] Important trees and associated rooting zones, on-site septic system absorption fields, existing vegetated areas suitable for filter strips, especially in perimeter areas, have been flagged for protection.
[ ] [ ] [ ] Creek crossings installed prior to land-disturbing activity, including clearing and blasting.

3. Surface Water Protection

Yes No NA

[ ] [ ] [ ] Clean stormwater runoff has been diverted from areas to be disturbed.
[ ] [ ] [ ] Bodies of water located either on site or in the vicinity of the site have been identified and protected.
[ ] [ ] [ ] Appropriate practices to protect on-site or downstream surface water are installed.
[ ] [ ] [ ] Are clearing and grading operations divided into areas <5 acres?

4. Stabilized Construction Access

Yes No NA

[ ] [ ] [ ] A temporary construction entrance to capture mud and debris from construction vehicles before they enter the public highway has been installed.
[ ] [ ] [ ] Other access areas (entrances, construction routes, equipment parking areas) are stabilized immediately as work takes place with gravel or other cover.
[ ] [ ] [ ] Sediment tracked onto public streets is removed or cleaned on a regular basis.

5. Sediment Controls

Yes No NA

[ ] [ ] [ ] Silt fence material and installation comply with the standard drawing and specifications.
[ ] [ ] [ ] Silt fences are installed at appropriate spacing intervals
[ ] [ ] [ ] Sediment/detention basin was installed as first land disturbing activity.
[ ] [ ] [ ] Sediment traps and barriers are installed.

6. Pollution Prevention for Waste and Hazardous Materials

Yes No NA

[ ] [ ] [ ] The Operator or designated representative has been assigned to implement the spill prevention avoidance and response plan.
[ ] [ ] [ ] The plan is contained in the SWPPP on page _____
[ ] [ ] [ ] Appropriate materials to control spills are onsite. Where? _____

II. CONSTRUCTION DURATION INSPECTIONS

a. Directions:

Inspection Forms will be filled out during the entire construction phase of the project.

Required Elements:

1) On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14-day period;

2) Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization;

3) Indicate all disturbed site areas that have not undergone active site work during the previous 14-day period;

4) Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of sediment storage volume (for example, 10 percent, 20 percent, 50 percent);

5) Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and containment systems (sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water; and

6) Immediately report to the Operator any deficiencies that are identified with the implementation of the SWPPP.

SITE PLAN/SKETCH

Inspector (print name)	**Date of Inspection**
Qualified Inspector (print name)	**Qualified Inspector Signature**

The above signed acknowledges that, to the best of his/her knowledge, all information provided on the forms is accurate and complete.

Maintaining Water Quality

Yes No NA
[ ] [ ] [ ] Is there an increase in turbidity causing a substantial visible contrast to natural conditions at the outfalls?
[ ] [ ] [ ] Is there residue from oil and floating substances, visible oil film, or globules or grease at the outfalls?
[ ] [ ] [ ] All disturbance is within the limits of the approved plans.
[ ] [ ] [ ] Have receiving lake/bay, stream, and/or wetland been impacted by silt from project?

Housekeeping

1. General Site Conditions

Yes No NA
[ ] [ ] [ ] Is construction site litter, debris and spoils appropriately managed?
[ ] [ ] [ ] Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
[ ] [ ] [ ] Is construction impacting the adjacent property?
[ ] [ ] [ ] Is dust adequately controlled?

2. Temporary Stream Crossing

Yes No NA
[ ] [ ] [ ] Maximum diameter pipes necessary to span creek without dredging are installed.
[ ] [ ] [ ] Installed non-woven geotextile fabric beneath approaches.
[ ] [ ] [ ] Is fill composed of aggregate (no earth or soil)?
[ ] [ ] [ ] Rock on approaches is clean enough to remove mud from vehicles & prevent sediment from entering stream during high flow.

3. Stabilized Construction Access

Yes No NA
[ ] [ ] [ ] Stone is clean enough to effectively remove mud from vehicles.
[ ] [ ] [ ] Installed per standards and specifications?
[ ] [ ] [ ] Does all traffic use the stabilized entrance to enter and leave site?
[ ] [ ] [ ] Is adequate drainage provided to prevent ponding at entrance?

Runoff Control Practices

1. Excavation Dewatering

Yes No NA
[ ] [ ] [ ] Upstream and downstream berms (sandbags, inflatable dams, etc.) are installed per plan.
[ ] [ ] [ ] Clean water from upstream pool is being pumped to the downstream pool.
[ ] [ ] [ ] Sediment laden water from work area is being discharged to a silt-trapping device.
[ ] [ ] [ ] Constructed upstream berm with one-foot minimum freeboard.

Runoff Control Practices (continued)

2. Flow Spreader

Yes No NA

[ ] [ ] [ ] Installed per plan.
[ ] [ ] [ ] Constructed on undisturbed soil, not on fill, receiving only clear, non-sediment laden flow.
[ ] [ ] [ ] Flow sheets out of level spreader without erosion on downstream edge.

3. Interceptor Dikes and Swales

Yes No NA

[ ] [ ] [ ] Installed per plan with minimum side slopes 2H:1V or flatter.
[ ] [ ] [ ] Stabilized by geotextile fabric, seed, or mulch with no erosion occurring.
[ ] [ ] [ ] Sediment-laden runoff directed to sediment trapping structure

4. Stone Check Dam

Yes No NA

[ ] [ ] [ ] Is channel stable? (flow is not eroding soil underneath or around the structure).
[ ] [ ] [ ] Check is in good condition (rocks in place and no permanent pools behind the structure).
[ ] [ ] [ ] Has accumulated sediment been removed?.

5. Rock Outlet Protection

Yes No NA

[ ] [ ] [ ] Installed per plan.
[ ] [ ] [ ] Installed concurrently with pipe installation.

Soil Stabilization

1. Topsoil and Spoil Stockpiles

Yes No NA

[ ] [ ] [ ] Stockpiles are stabilized with vegetation and/or mulch.
[ ] [ ] [ ] Sediment control is installed at the toe of the slope.

2. Revegetation

Yes No NA

[ ] [ ] [ ] Temporary seedings and mulch have been applied to idle areas.
[ ] [ ] [ ] 4 inches minimum of topsoil has been applied under permanent seedings

Sediment Control Practices

1. Silt Fence and Linear Barriers

Yes No NA

[ ] [ ] [ ] Installed on Contour, 10 feet from toe of slope (not across conveyance channels).
[ ] [ ] [ ] Joints constructed by wrapping the two ends together for continuous support.
[ ] [ ] [ ] Fabric buried 6 inches minimum.
[ ] [ ] [ ] Posts are stable, fabric is tight and without rips or frayed areas.
Sediment accumulation is ___% of design capacity.

Sediment Control Practices (continued)

2. Storm Drain Inlet Protection (Use for Stone & Block; Filter Fabric; Curb; or, Excavated; Filter Sock or Manufactured practices)

Yes No NA

[ ] [ ] [ ] Installed concrete blocks lengthwise so open ends face outward, not upward.
[ ] [ ] [ ] Placed wire screen between No. 3 crushed stone and concrete blocks.
[ ] [ ] [ ] Drainage area is 1acre or less.
[ ] [ ] [ ] Excavated area is 900 cubic feet.
[ ] [ ] [ ] Excavated side slopes should be 2:1.
[ ] [ ] [ ] 2" x 4" frame is constructed and structurally sound.
[ ] [ ] [ ] Posts 3-foot maximum spacing between posts.
[ ] [ ] [ ] Fabric is embedded 1 to 1.5 feet below ground and secured to frame/posts with staples at max 8-inch spacing.
[ ] [ ] [ ] Posts are stable, fabric is tight and without rips or frayed areas.
[ ] [ ] [ ] Manufactured insert fabric is free of tears and punctures.
[ ] [ ] [ ] Filter Sock is not torn or flattened and fill material is contained within the mesh sock.

Sediment accumulation ___% of design capacity.

3. Temporary Sediment Trap

Yes No NA

[ ] [ ] [ ] Outlet structure is constructed per the approved plan or drawing.
[ ] [ ] [ ] Geotextile fabric has been placed beneath rock fill.
[ ] [ ] [ ] Sediment trap slopes and disturbed areas are stabilized.

Sediment accumulation is ___% of design capacity.

4. Temporary Sediment Basin

Yes No NA

[ ] [ ] [ ] Basin and outlet structure constructed per the approved plan.
[ ] [ ] [ ] Basin side slopes are stabilized with seed/mulch.
[ ] [ ] [ ] Drainage structure flushed and basin surface restored upon removal of sediment basin facility.
[ ] [ ] [ ] Sediment basin dewatering pool is dewatering at appropriate rate.

Sediment accumulation is ___% of design capacity.

Note: Not all erosion and sediment control practices are included in this listing. Add additional pages to this list as required by site specific design. All practices shall be maintained in accordance with their respective standards.

Construction inspection checklists for post-development stormwater management practices can be found in Appendix F of the New York Stormwater Management Design Manual.

CONSTRUCTION DURATION INSPECTIONS

b. Modifications to the SWPPP (To be completed as described below)

The Operator shall amend the SWPPP whenever:

1. There is a significant change in design, construction, operation, or maintenance which may have a significant effect on the potential for the discharge of pollutants to the waters of the United States and which has not otherwise been addressed in the SWPPP; or
2. The SWPPP proves to be ineffective in:
   a. Eliminating or significantly minimizing pollutants from sources identified in the SWPPP and as required by this permit; or
   b. Achieving the general objectives of controlling pollutants in stormwater discharges from permitted construction activity; and
3. Additionally, the SWPPP shall be amended to identify any new contractor or subcontractor that will implement any measure of the SWPPP.

Modification & Reason:

APPENDIX F

NYSDEC Stormwater Design Manual Chapter 5 Analysis

Table Key: • = Practice Used in Accordance with Chapter 5 Requirements
o = Practice Not Used
- = Practice is Not Applicable

NYSDEC Chapter 5 Requirements	Subcatchments		Remarks
	1.1	1.2	
Chapter 5, Section 5.1: Preservation if Natural Features and Conservation Design			
Practices			
Preservation of Undisturbed Areas	•	•	See Note #2
Preservation of Buffers	-	-	
Reduction of Clearing & Grading	•	•	See Note #4
Locating Development in Less Sensitive Areas	•	•	See Note #4
Open Space Design	-	-	
Soil Restoration	•	•	See Note #5
Chapter 5, Section 5.2: Reduction of Impervious Cover			
Practices			
Roadway Reduction	•	-	See Note #1
Sidewalk Reduction	•	•	
Driveway Reduction	•	•	See Note #1
Cul-de-sac Reduction	-	-	
Building Footprint Reduction	•	•	See Note #3
Parking Reduction	•	•	See Note #4
Conservation of Natural Areas	•	•	See Note #2
Sheetflow to Riparian Buffers or Filter Strips	-	-	
Vegetated Swale	•	•	
Tree Planting / Tree Pit	-	-	
Disconnection of Rooftop Runoff	-	-	
Stream Daylighting	-	-	
Rain Gardens	-	-	
Green Roofs	-	-	
Stormwater Planters	-	-	
Rain Barrels / Cisterns	-	-	
Porous Pavement	-	-	

Notes:

1. The proposed driveways and road have been designed to provide a minimum width for safe ingress and egress for the development.
2. Although no formal calculations have been provided, the subject project has provided conservation of natural areas to the maximum extent practical.
3. The proposed buildings are multi-story, thus minimize the building footprints.
4. The reduction in clearing and grading, as well as the driveway and parking areas foot print reduction will be enforced with the approval of the project SWPPP. Notes on the project plans, establish that any changes in the project plans would require an amended approval from the necessary regulatory agencies
5. Soil restoration requirements per NYSDEC stantards shown on project plans.

APPENDIX G

NYSDEC Stormwater Management Practice Construction and Maintenance Inspection Checklist

Stormwater/Wetland Pond Construction Inspection Checklist

Project:
Location:
Site Status:

Date:

Time:

Inspector:

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
Pre-Construction/Materials and Equipment		
Pre-construction meeting		
Pipe and appurtenances on-site prior to construction and dimensions checked		
1. Material (including protective coating, if specified)		
2. Diameter		
3. Dimensions of metal riser or pre-cast concrete outlet structure		
4. Required dimensions between water control structures (orifices, weirs, etc.) are in accordance with approved plans		
5. Barrel stub for prefabricated pipe structures at proper angle for design barrel slope		
6. Number and dimensions of prefabricated anti-seep collars		
7. Watertight connectors and gaskets		
8. Outlet drain valve		
Project benchmark near pond site		
Equipment for temporary de-watering		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
2. Subgrade Preparation		
Area beneath embankment stripped of all vegetation, topsoil, and organic matter		
3. Pipe Spillway Installation		
Method of installation detailed on plans		
A. Bed preparation		
Installation trench excavated with specified side slopes		
Stable, uniform, dry subgrade of relatively impervious material (If subgrade is wet, contractor shall have defined steps before proceeding with installation)		
Invert at proper elevation and grade		
B. Pipe placement		
Metal / plastic pipe		
1. Watertight connectors and gaskets properly installed		
2. Anti-seep collars properly spaced and having watertight connections to pipe		
3. Backfill placed and tamped by hand under “haunches” of pipe		
4. Remaining backfill placed in max. 8 inch lifts using small power tamping equipment until 2 feet cover over pipe is reached		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
3. Pipe Spillway Installation		
Concrete pipe		
1. Pipe set on blocks or concrete slab for pouring of low cradle		
2. Pipe installed with rubber gasket joints with no spalling in gasket interface area		
3. Excavation for lower half of anti-seep collar(s) with reinforcing steel set		
4. Entire area where anti-seep collar(s) will come in contact with pipe coated with mastic or other approved waterproof sealant		
5. Low cradle and bottom half of anti-seep collar installed as monolithic pour and of an approved mix		
6. Upper half of anti-seep collar(s) formed with reinforcing steel set		
7. Concrete for collar of an approved mix and vibrated into place (protected from freezing while curing, if necessary)		
8. Forms stripped and collar inspected for honeycomb prior to backfilling. Parge if necessary.		
C. Backfilling		
Fill placed in maximum 8 inch lifts		
Backfill taken minimum 2 feet above top of anti-seep collar elevation before traversing with heavy equipment		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
4. Riser / Outlet Structure Installation		
Riser located within embankment		
A. Metal riser		
Riser base excavated or formed on stable subgrade to design dimensions		
Set on blocks to design elevations and plumbed		
Reinforcing bars placed at right angles and projecting into sides of riser		
Concrete poured so as to fill inside of riser to invert of barrel		
B. Pre-cast concrete structure		
Dry and stable subgrade		
Riser base set to design elevation		
If more than one section, no spalling in gasket interface area; gasket or approved caulking material placed securely		
Watertight and structurally sound collar or gasket joint where structure connects to pipe spillway		
C. Poured concrete structure		
Footing excavated or formed on stable subgrade, to design dimensions with reinforcing steel set		
Structure formed to design dimensions, with reinforcing steel set as per plan		
Concrete of an approved mix and vibrated into place (protected from freezing while curing, if necessary)		
Forms stripped & inspected for “honeycomb” prior to backfilling; parge if necessary		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
5. Embankment Construction		
Fill material		
Compaction		
Embankment		
1. Fill placed in specified lifts and compacted with appropriate equipment		
2. Constructed to design cross-section, side slopes and top width		
3. Constructed to design elevation plus allowance for settlement		
6. Impounded Area Construction		
Excavated / graded to design contours and side slopes		
Inlet pipes have adequate outfall protection		
Forebay(s)		
Pond benches		
7. Earth Emergency Spillway Construction		
Spillway located in cut or structurally stabilized with riprap, gabions, concrete, etc.		
Excavated to proper cross-section, side slopes and bottom width		
Entrance channel, crest, and exit channel constructed to design grades and elevations		

CONSTRUCTION SEQUENCE	SATISFACTORY / UNSATISFACTORY	COMMENTS
8. Outlet Protection		
A. End section		
Securely in place and properly backfilled		
B. Endwall		
Footing excavated or formed on stable subgrade, to design dimensions and reinforcing steel set, if specified		
Endwall formed to design dimensions with reinforcing steel set as per plan		
Concrete of an approved mix and vibrated into place (protected from freezing, if necessary)		
Forms stripped and structure inspected for "honeycomb" prior to backfilling; parge if necessary		
C. Riprap apron / channel		
Apron / channel excavated to design cross-section with proper transition to existing ground		
Filter fabric in place		
Stone sized as per plan and uniformly place at the thickness specified		
9. Vegetative Stabilization		
Approved seed mixture or sod		
Proper surface preparation and required soil amendments		
Excelsior mat or other stabilization, as per plan		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
10. Miscellaneous		
Drain for ponds having a permanent pool		
Trash rack / anti-vortex device secured to outlet structure		
Trash protection for low flow pipes, orifices, etc.		
Fencing (when required)		
Access road		
Set aside for clean-out maintenance		
11. Stormwater Wetlands		
Adequate water balance		
Variety of depth zones present		
Approved pondscaping plan in place Reinforcement budget for additional plantings		
Plants and materials ordered 6 months prior to construction		
Construction planned to allow for adequate planting and establishment of plant community (April-June planting window)		
Wetland buffer area preserved to maximum extent possible		

Comments:

Actions to be Taken:

Infiltration Trench Construction Inspection Checklist

Project:
Location:
Site Status:

Date:

Time:

Inspector:

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
1. Pre-Construction		
Pre-construction meeting		
Runoff diverted		
Soil permeability tested		
Groundwater / bedrock sufficient at depth		
2. Excavation		
Size and location		
Side slopes stable		
Excavation does not compact subsoils		
3. Filter Fabric Placement		
Fabric specifications		
Placed on bottom, sides, and top		

CONSTRUCTION SEQUENCE	SATISFACTORY / UNSATISFACTORY	COMMENTS
4. Aggregate Material		
Size as specified		
Clean / washed material		
Placed properly		
5. Observation Well		
Pipe size		
Removable cap / footplate		
Initial depth =_____feet		
6. Final Inspection		
Pretreatment facility in place		
Contributing watershed stabilized prior to flow diversion		
Outlet		

Comments:

Actions to be Taken:

Stormwater Pond/Wetland Operation, Maintenance and Management Inspection Checklist

Project _____
Location: _____
Site Status: _____

Date: _____
Time: _____

Inspector: _____

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
1. Embankment and emergency spillway (Annual, After Major Storms)		
1. Vegetation and ground cover adequate		
2. Embankment erosion		
3. Animal burrows		
4. Unauthorized planting		
5. Cracking, bulging, or sliding of dam		
a. Upstream face		
b. Downstream face		
c. At or beyond toe		
downstream		
upstream		
d. Emergency spillway		
6.Pond, toe & chimney drains clear and functioning		
7.Seeps/leaks on downstream face		
8.Slope protection or riprap failure		
9. Vertical/horizontal alignment of top of dam “As-Built”		

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
10. Emergency spillway clear of obstructions and debris		
11. Other (specify)		
2. Riser and principal spillway (Annual)		
Type: Reinforced concrete _____ Corrugated pipe _____ Masonry _____ 1. Low flow orifice obstructed		
2. Low flow trash rack. a. Debris removal necessary		
b. Corrosion control		
3. Weir trash rack maintenance a. Debris removal necessary		
b. corrosion control		
4. Excessive sediment accumulation insider riser		
5. Concrete/masonry condition riser and barrels a. cracks or displacement		
b. Minor spalling (<1")		
c. Major spalling (rebars exposed)		
d. Joint failures		
e. Water tightness		
6. Metal pipe condition		
7. Control valve a. Operational/exercised		
b. Chained and locked		
8. Pond drain valve a. Operational/exercised		
b. Chained and locked		
9. Outfall channels functioning		
10. Other (specify)		

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
3. Permanent Pool (Wet Ponds) (monthly)		
1. Undesirable vegetative growth		
2. Floating or floatable debris removal required		
3. Visible pollution		
4. Shoreline problem		
5. Other (specify)		
4. Sediment Forebays		
1.Sedimentation noted		
2. Sediment cleanout when depth < 50% design depth		
5. Dry Pond Areas		
1. Vegetation adequate		
2. Undesirable vegetative growth		
3. Undesirable woody vegetation		
4. Low flow channels clear of obstructions		
5. Standing water or wet spots		
6. Sediment and / or trash accumulation		
7. Other (specify)		
6. Condition of Outfalls (Annual , After Major Storms)		
1. Riprap failures		
2. Slope erosion		
3. Storm drain pipes		
4.Endwalls / Headwalls		
5. Other (specify)		
7. Other (Monthly)		
1. Encroachment on pond, wetland or easement area		

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
2. Complaints from residents		
3.Aesthetics a. Grass growing required		
b. Graffiti removal needed		
c. Other (specify)		
4. Conditions of maintenance access routes.		
5. Signs of hydrocarbon build-up		
6. Any public hazards (specify)		
8. Wetland Vegetation (Annual)		
1. Vegetation healthy and growing Wetland maintaining 50% surface area coverage of wetland plants after the second growing season. (If unsatisfactory, reinforcement plantings needed)		
2. Dominant wetland plants: Survival of desired wetland plant species Distribution according to landscaping plan?		
3. Evidence of invasive species		
4. Maintenance of adequate water depths for desired wetland plant species		
5. Harvesting of emergent plantings needed		
6. Have sediment accumulations reduced pool volume significantly or are plants “choked” with sediment		
7. Eutrophication level of the wetland.		
8. Other (specify)		

Comments:

Actions to be Taken:

Infiltration Trench Operation, Maintenance, and Management Inspection Checklist

Project:
Location:
Site Status:

Date:

Time:

Inspector:

MAINTENANCE ITEM	SATISFACTORY / UNSATISFACTORY	COMMENTS
1. Debris Cleanout (Monthly)		
Trench surface clear of debris		
Inflow pipes clear of debris		
Overflow spillway clear of debris		
Inlet area clear of debris		
2. Sediment Traps or Forebays (Annual)		
Obviously trapping sediment		
Greater than 50% of storage volume remaining		
3. Dewatering (Monthly)		
Trench dewaters between storms		
4. Sediment Cleanout of Trench (Annual)		
No evidence of sedimentation in trench		
Sediment accumulation doesn't yet require cleanout		
5. Inlets (Annual)		

MAINTENANCE ITEM	SATISFACTORY / UNSATISFACTORY	COMMENTS
Good condition		
No evidence of erosion		
6. Outlet/Overflow Spillway (Annual)		
Good condition, no need for repair		
No evidence of erosion		
7. Aggregate Repairs (Annual)		
Surface of aggregate clean		
Top layer of stone does not need replacement		
Trench does not need rehabilitation		

Comments:

Actions to be Taken:

APPENDIX H

Hydrodynamic Separator Sizing and Maintenance Manual

State of New Jersey

PHILIP D. MURPHY
Governor

SHEILA Y. OLIVER
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Mail Code – 401-02B
Division of Water Quality
Bureau of Nonpoint Pollution Control
P.O. Box 420 – 401 E. State St.
Trenton, NJ 08625-0420
Phone: (609) 633-7021 / Fax: (609) 777-0432
http://www.state.nj.us/dep/dwq/bnpc_home.htm

CATHERINE R. McCABE
Acting Commissioner

March 27, 2018

Graham Bryant, M.Sc., P.E.
President
Hydroworks, LLC
136 Central Avenue
Clark, NJ 07066

Re: MTD Lab Certification
HydroStorm Hydrodynamic Separator by Hydroworks, LLC
Online Installation

TSS Removal Rate 50%

Dear Mr. Bryant:

The Stormwater Management rules under N.J.A.C. 7:8-5.5(b) and 5.7 (c) allow the use of manufactured treatment devices (MTDs) for compliance with the design and performance standards at N.J.A.C. 7:8-5 if the pollutant removal rates have been verified by the New Jersey Corporation for Advanced Technology (NJCAT) and have been certified by the New Jersey Department of Environmental Protection (NJDEP). Hydroworks, LLC has requested an MTD Laboratory Certification for the Hydroworks HydroStorm Hydrodynamic Separator.

The project falls under the "Procedure for Obtaining Verification of a Stormwater Manufactured Treatment Device from New Jersey Corporation for Advance Technology" dated January 25, 2013. The applicable protocol is the "New Jersey Laboratory Testing Protocol to Assess Total Suspended Solids Removal by a Hydrodynamic Sedimentation Manufactured Treatment Device" dated January 25, 2013.

NJCAT verification documents submitted to the NJDEP indicate that the requirements of the aforementioned protocol have been met or exceeded. The NJCAT letter also included a recommended certification TSS removal rate and the required maintenance plan. The NJCAT Verification Report with the Verification Appendix (dated February 2018) for this device is published online at http://www.njcat.org/verification-process/technology-verification-database.html.

The NJDEP certifies the use of the HydroStorm by Hydroworks, LLC at a TSS removal rate of 50% when designed, operated, and maintained in accordance with the information provided in the Verification Appendix and the following conditions:

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1. The maximum treatment flow rate (MTFR) for the manufactured treatment device (MTD) is calculated using the New Jersey Water Quality Design Storm (1.25 inches in 2 hrs) in N.J.A.C. 7:8-5.5.

2. The HydroStorm shall be installed using the same configuration reviewed by NJCAT and shall be sized in accordance with the criteria specified in item 6 below.

3. This HydroStorm cannot be used in series with another MTD or a media filter (such as a sand filter) to achieve an enhanced removal rate for total suspended solids (TSS) removal under N.J.A.C. 7:8-5.5.

4. Additional design criteria for MTDs can be found in Chapter 9.6 of the New Jersey Stormwater Best Management Practices (NJ Stormwater BMP) Manual, which can be found online at www.njstormwater.org.

5. The maintenance plan for a site using this device shall incorporate, at a minimum, the maintenance requirements for the Hydrostorm. A copy of the maintenance plan is attached to this certification. However, it is recommended to review the maintenance website at http://www.hydroworks.com/hydrostormo&m.pdf for any changes to the maintenance requirements.

6. Sizing Requirement:

   The example below demonstrates the sizing procedure for the Hydrostorm:

   Example: A 0.25-acre impervious site is to be treated to 50% TSS removal using a HydroStorm. The impervious site runoff (Q) based on the New Jersey Water Quality Design Storm was determined to be 0.79 cfs.

   Maximum Treatment Flow Rate (MTFR) Evaluation:

   The site runoff (Q) was based on the following:
   time of concentration = 10 minutes
   i = 3.2 in/hr (page 5-8, Fig. 5-3 of the NJ Stormwater BMP Manual)
   c = 0.99 (runoff coefficient for impervious)
   Q = ciA = 0.99 x 3.2 x 0.25 = 0.79 cfs

   Given the site runoff is 0.79 cfs and based on Table 1 below, the HydroStorm Model HS4 with a MTFR of 0.88 cfs could be used for this site to remove 50% of the TSS from the impervious area without exceeding the MTFR.

   The sizing table corresponding to the available system models is noted below. Additional specifications regarding each model can be found in the Verification Appendix under Table A-1.

Table 1 HydroStorm Sizing Information

HydroStorm Model	NJDEP 50% TSS Maximum Treatment Flow Rate (cfs)	Treatment Area (ft^2)	Hydraulic Loading Rate (gpm/ft^2)	50% Maximum Sediment Storage (ft^3)
HS3	0.50	7.1	31.4	3.6
HS4	0.88	12.6	31.4	6.3
HS5	1.37	19.6	31.4	9.8
HS6	1.98	28.3	31.4	14.2
HS7	2.69	38.5	31.4	19.3
HS8	3.52	50.3	31.4	25.2
HS9	4.45	63.6	31.4	31.8
HS10	5.49	78.5	31.4	39.3
HS11	6.65	95.0	31.4	47.5
HS12	7.91	113.0	31.4	56.5

A detailed maintenance plan is mandatory for any project with a Stormwater BMP subject to the Stormwater Management Rules, N.J.A.C. 7:8. The plan must include all of the items identified in the Stormwater Management Rules, N.J.A.C. 7:8-5.8. Such items include, but are not limited to, the list of inspection and maintenance equipment and tools, specific corrective and preventative maintenance tasks, indication of problems in the system, and training of maintenance personnel. Additional information can be found in Chapter 8: Maintenance and Retrofit of Stormwater Management Measures.

If you have any questions regarding the above information, please contact Brian Salvo or Nick Grotts of my office at (609) 633-7021.

Sincerely,

James J. Murphy, Chief
Bureau of Nonpoint Pollution Control

Attachment: Maintenance Plan

cc: Chron File
Richard Magee, NJCAT
Vince Mazzei, NJDEP - DLUR
Ravi Patraju, NJDEP - BES
Gabriel Mahon, NJDEP - BNPC
Brian Salvo, NJDEP – BNPC
Nick Grotts, NJDEP – BNPC

Hydroworks® HydroStorm

Operations & Maintenance Manual

Version 1.0

Please call Hydroworks at 888-290-7900 or email us at support@hydroworks.com if you have any questions regarding the Inspection Checklist. Please fax a copy of the completed checklist to Hydroworks at 888-783-7271 for our records.

Introduction

The HydroStorm is a state of the art hydrodynamic separator. Hydrodynamic separators remove solids, debris and lighter than water (oil, trash, floating debris) pollutants from stormwater. Hydrodynamic separators and other water quality measures are mandated by regulatory agencies (Town/City, State, Federal Government) to protect storm water quality from pollution generated by urban development (traffic, people) as part of new development permitting requirements.

As storm water treatment structures fill up with pollutants they become less and less effective in removing new pollution. Therefore, it is important that storm water treatment structures be maintained on a regular basis to ensure that they are operating at optimum performance. The HydroStorm is no different in this regard and this manual has been assembled to provide the owner/operator with the necessary information to inspect and coordinate maintenance of their HydroStorm.

Hydroworks® HydroStorm Operation

The Hydroworks HydroStorm (HS) separator is a unique hydrodynamic by-pass separator. It incorporates a protected submerged pretreatment zone to collect larger solids, a treatment tank to remove finer solids, and a dual set of weirs to create a high flow bypass. High flows are conveyed directly to the outlet and do not enter the treatment area, however, the submerged pretreatment area still allows removal of coarse solids during high flows.

Under normal or low flows, water enters an inlet area with a horizontal grate. The area underneath the grate is submerged with openings to the main treatment area of the separator. Coarse solids fall through the grate and are either trapped in the pretreatment area or conveyed into the main treatment area depending on the flow rate. Fines are transported into the main treatment area. Openings and weirs in the pretreatment area allow entry of water and solids into the main treatment area and cause water to rotate in the main treatment area creating a vortex motion. Water in the main treatment area is forced to rise along the walls of the separator to discharge from the treatment area to the downstream pipe.

The vortex motion forces solids and floatables to the middle of the inner chamber. Floatables are trapped since the inlet to the treatment area is submerged. The design maximizes the retention of settled solids since solids are forced to the center of the inner chamber by the vortex motion of water while water must flow up the walls of the separator to discharge into the downstream pipe.

A set of high flow weirs near the outlet pipe create a high flow bypass over both the pretreatment area and main treatment chamber. The rate of flow into the treatment area is regulated by the number and size of openings into the treatment chamber and the height of by-pass weirs. High flows flow over the weirs directly to the outlet pipe preventing the scour and resuspension of any fines collected in the treatment chamber.

A central access tube is located in the structure to provide access for cleaning. The arrangement of the inlet area and bypass weirs near the outlet pipe facilitate the use of multiple inlet pipes.

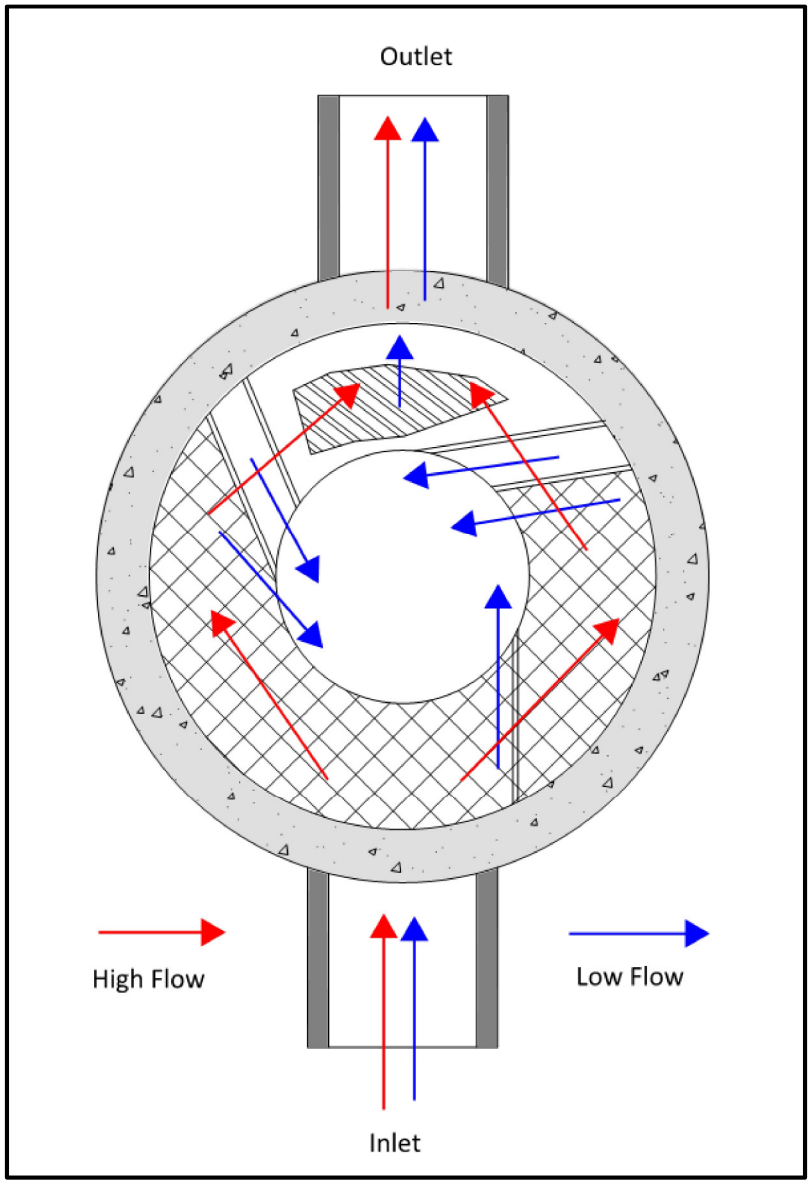


Figure 1. Hydroworks HydroStorm Operation – Plan View

Figure 2 is a profile view of the HydroStorm separator showing the flow patterns for low and high flows.

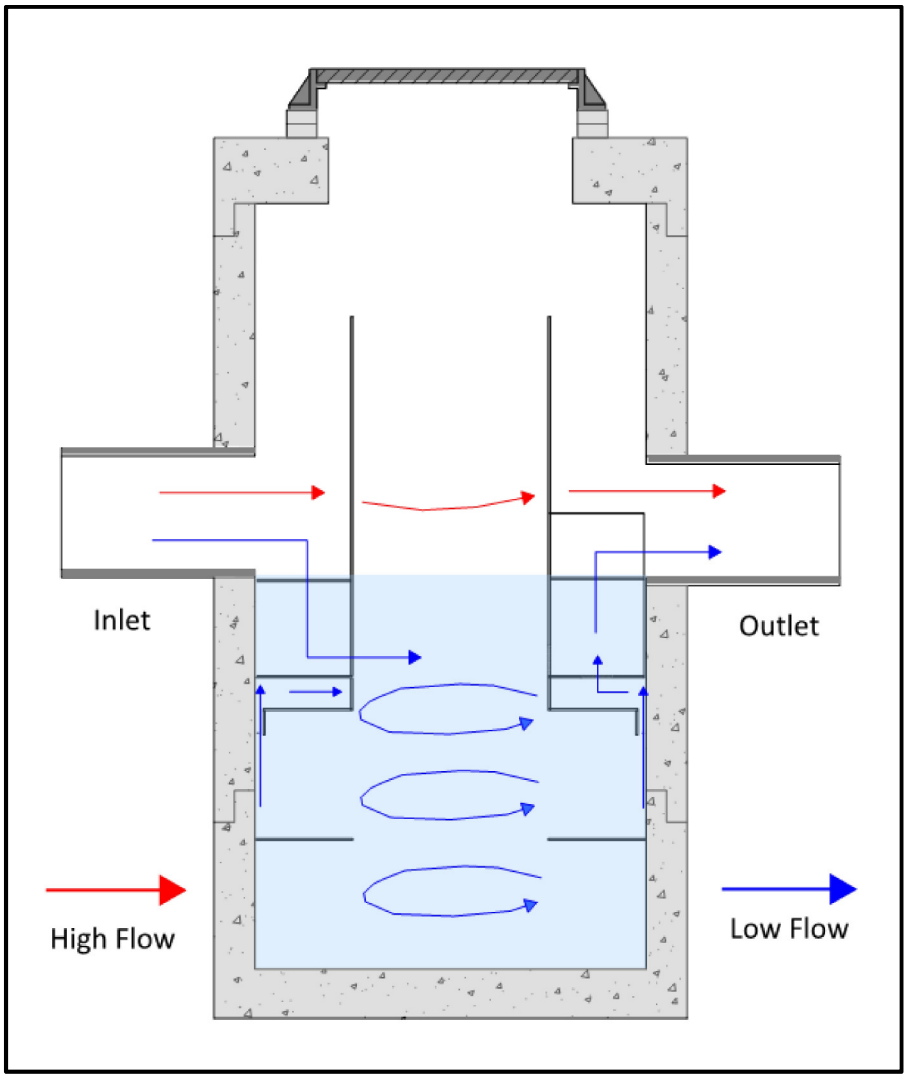


Figure 2. Hydroworks HydroStorm Operation – Profile View

The HS 4i is an inlet version of the HS 4 separator. There is a catch-basin grate on top of the HS 4i. A funnel sits sits underneath the grate on the frame and directs the water to the inlet side of the separator to ensure all lows flows are properly treated. The whole funnel is removed for inspection and cleaning.

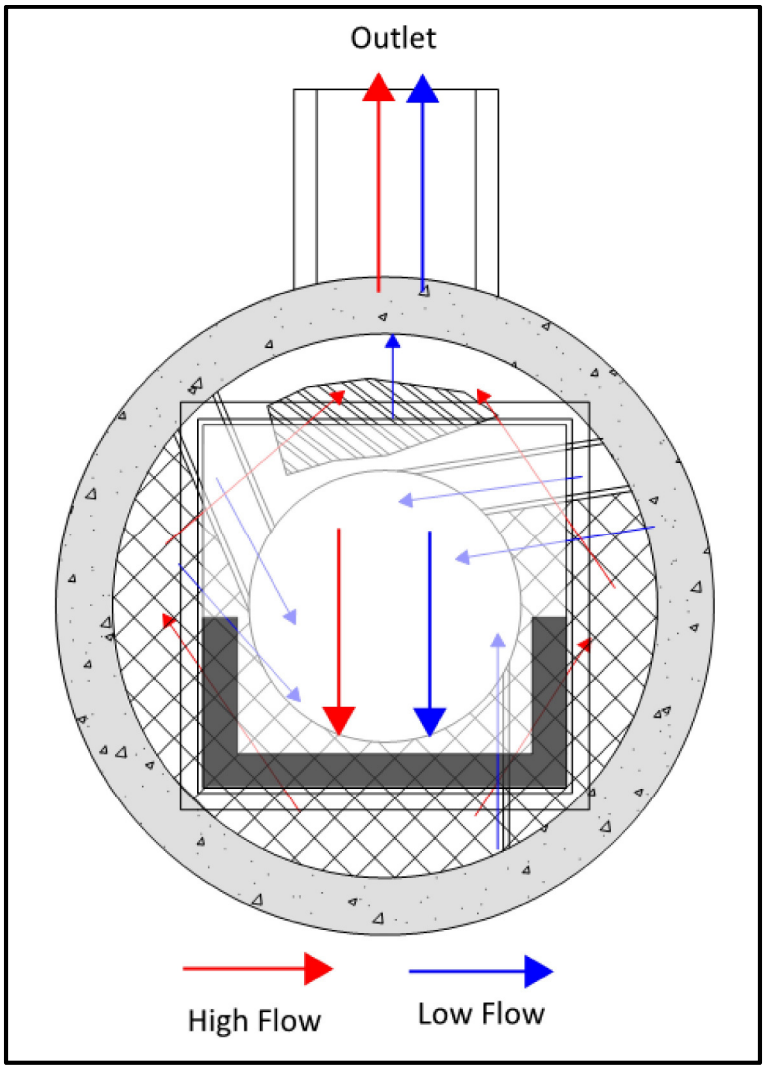


Figure 3. Hydroworks HS 4i Funnel

Inspection

Procedure

Floatables

A visual inspection can be conducted for floatables by removing the covers and looking down into the center access tube of the separator. Separators with an inlet grate (HS 4i or custom separator) will have a plastic funnel located under the grate that must be removed from the frame prior to inspection or maintenance. If you are missing a funnel please contact Hydroworks at the numbers provided at the end of this document.

TSS/Sediment

Inspection for TSS build-up can be conducted using a Sludge Judge®, Core Pro®, AccuSludge® or equivalent sampling device that allows the measurement of the depth of TSS/sediment in the unit. These devices typically have a ball valve at the bottom of the tube that allows water and TSS to flow into the tube when lowering the tube into the unit. Once the unit touches the bottom of the device, it is quickly pulled upward such that the water and TSS in the tube forces the ball valve closed allowing the user to see a full core of water/TSS in the unit. The unit should be inspected for TSS through each of the access covers. Several readings (2 or 3) should be made at each access cover to ensure that an accurate TSS depth measurement is recorded.

Frequency

Construction Period

The HydroStorm separator should be inspected every four weeks and after every large storm (over 0.5" (12.5 mm) of rain) during the construction period.

Post-Construction Period

The Hydroworks HydroStorm separator should be inspected during the first year of operation for normal stabilized sites (grassed or paved areas). If the unit is subject to oil spills or runoff from unstabilized (storage piles, exposed soils) areas the HydroStorm separator should be inspected more frequently (4 times per year). The initial annual inspection will indicate the required future frequency of inspection and maintenance if the unit was maintained after the construction period.

Reporting

Reports should be prepared as part of each inspection and include the following information:

1. Date of inspection
2. GPS coordinates of Hydroworks unit
3. Time since last rainfall
4. Date of last inspection
5. Installation deficiencies (missing parts, incorrect installation of parts)
6. Structural deficiencies (concrete cracks, broken parts)
7. Operational deficiencies (leaks, blockages)
8. Presence of oil sheen or depth of oil layer
9. Estimate of depth/volume of floatables (trash, leaves) captured
10. Sediment depth measured
11. Recommendations for any repairs and/or maintenance for the unit
12. Estimation of time before maintenance is required if not required at time of inspection

A sample inspection checklist is provided at the end of this manual.

Maintenance

Procedure

The Hydroworks HydroStorm unit is typically maintained using a vacuum truck. There are numerous companies that can maintain the HydroStorm separator. Maintenance with a vacuum truck involves removing all of the water and sediment together. The water is then separated from the sediment on the truck or at the disposal facility.

A central access opening (24” or greater) is provided to the gain access to the lower treatment tank of the unit. This is the primary location to maintain by vacuum truck. The pretreatment area can also be vacuumed and/or flushed into the lower treatment tank of the separator for cleaning via the central access once the water level is lowered below the pretreatment floor.

In instances where a vacuum truck is not available other maintenance methods (i.e. clamshell bucket) can be used, but they will be less effective. If a clamshell bucket is used the water must be decanted prior to cleaning since the sediment is under water and typically fine in nature. Disposal of the water will depend on local requirements. Disposal options for the decanted water may include:

1. Discharge into a nearby sanitary sewer manhole
2. Discharge into a nearby LID practice (grassed swale, bioretention)
3. Discharge through a filter bag into a downstream storm drain connection

The local municipality should be consulted for the allowable disposal options for both water and sediments prior to any maintenance operation. Once the water is decanted the sediment can be removed with the clamshell bucket.

Disposal of the contents of the separator depend on local requirements. Maintenance of a Hydroworks HydroStorm unit will typically take 1 to 2 hours based on a vacuum truck and longer for other cleaning methods (i.e. clamshell bucket).

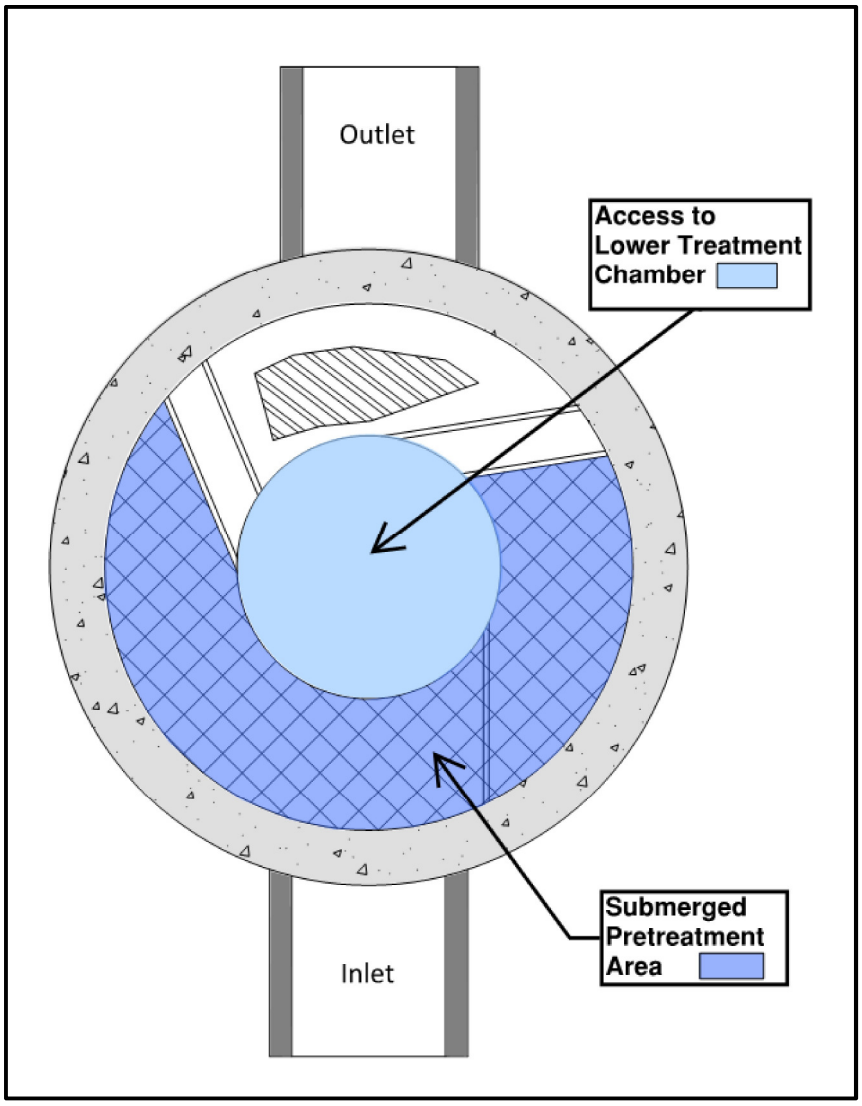


Figure 3. Maintenance Access

Frequency

Construction Period

A HydroStorm separator can fill with construction sediment quickly during the construction period. The HydroStorm must be maintained during the construction period when the depth of TSS/sediment reaches 24” (600 mm). It must also be maintained during the construction period if there is an appreciable depth of oil in the unit (more than a sheen) or if floatables other than oil cover over 50% of the area of the separator

The HydroStorm separator should be maintained at the end of the construction period, prior to operation for the post-construction period.

Post-Construction Period

The HydroStorm was independently tested by Alden Research Laboratory in 2017. A HydroStorm HS 4 was tested for scour with a 50% sediment depth of 0.5 ft. Therefore, maintenance for sediment accumulation is required if the depth of sediment is 1 ft or greater in separators with standard water (sump) depths (Table 1).

There will be designs with increased sediment storage based on specifications or site-specific criteria. A measurement of the total water depth in the separator through the central access tube should be taken and compared to water depth given in Table 1. The standard water depth from Table 1 should be subtracted from the measured water depth and the resulting extra depth should be added to the 1 ft to determine the site-specific sediment maintenance depth for that separator.

For example, if the measured water depth in the HS-7 is 7 feet, then the sediment maintenance depth for that HS-7 is 2 ft (= 1 + 7 – 6) and the separator does not need to be cleaned for sediment accumulation until the measure sediment depth is 2 ft.

The HydroStorm separator must also be maintained if there is an appreciable depth of oil in the unit (more than a sheen) or if floatables other than oil cover over 50% of the water surface of the separator.

Table 1 Standard Dimensions for Hydroworks HydroStorm Models

Model	Diameter (ft)	Total Water Depth (ft)	Sediment Maintenance Depth for Table 1 Total Water Depth(ft)
HS-3	3	3	1
HS-4	4	4	1
HS-5	5	4	1
HS-6	6	4	1
HS-7	7	6	1
HS-8	8	7	1
HS-9	9	7.5	1
HS-10	10	8	1
HS-11	11	9	1
HS-12	12	9.5	1

HYDROSTORM INSPECTION SHEET

Date _____
Date of Last Inspection _____

Site _____
City _____
State _____
Owner _____

GPS Coordinates _____

Date of last rainfall _____

Site Characteristics	**Yes**	**No**
Soil erosion evident	☐	☐
Exposed material storage on site	☐	☐
Large exposure to leaf litter (lots of trees)	☐	☐
High traffic (vehicle) area	☐	☐

HydroStorm	**Yes**	**No**
Obstructions in the inlet or outlet	☐ *	☐
Missing internal components	☐ **	☐
Improperly installed inlet or outlet pipes	☐ ***	☐
Internal component damage (cracked, broken, loose pieces)	☐ **	☐
Floating debris in the separator (oil, leaves, trash)	☐	☐
Large debris visible in the separator	☐ *	☐
Concrete cracks/deficiencies	☐ ***	☐
Exposed rebar	☐ **	☐
Water seepage (water level not at outlet pipe invert)	☐ ***	☐

Water level depth below outlet pipe invert _____"

Routine Measurements

Floating debris depth	**< 0.5" (13mm)**	☐	**>0.5" 13mm)**	☐ *
Floating debris coverage	**< 50% of surface area**	☐	**> 50% surface area**	☐ *
Sludge depth	**< 12" (300mm)**	☐	**> 12" (300mm)**	☐ *

* Maintenance required
** Repairs required
*** Further investigation is required

Hydroworks

Other Comments:



Hydroworks® HydroStorm

One Year Limited Warranty

Hydroworks, LLC warrants, to the purchaser and subsequent owner(s) during the warranty period subject to the terms and conditions hereof, the Hydroworks HydroStorm to be free from defects in material and workmanship under normal use and service, when properly installed, used, inspected and maintained in accordance with Hydroworks written instructions, for the period of the warranty. The standard warranty period is 1 year.

The warranty period begins once the separator has been manufactured and is available for delivery. Any components determined to be defective, either by failure or by inspection, in material and workmanship will be repaired, replaced or remanufactured at Hydroworks' option provided, however, that by doing so Hydroworks, LLC will not be obligated to replace an entire insert or concrete section, or the complete unit. This warranty does not cover shipping charges, damages, labor, any costs incurred to obtain access to the unit, any costs to repair/replace any surface treatment/cover after repair/replacement, or other charges that may occur due to product failure, repair or replacement.

This warranty does not apply to any material that has been disassembled or modified without prior approval of Hydroworks, LLC, that has been subjected to misuse, misapplication, neglect, alteration, accident or act of God, or that has not been installed, inspected, operated or maintained in accordance with Hydroworks, LLC instructions and is in lieu of all other warranties expressed or implied. Hydroworks, LLC does not authorize any representative or other person to expand or otherwise modify this limited warranty.

The owner shall provide Hydroworks, LLC with written notice of any alleged defect in material or workmanship including a detailed description of the alleged defect upon discovery of the defect. Hydroworks, LLC should be contacted at 136 Central Ave., Clark, NJ 07066 or any other address as supplied by Hydroworks, LLC. (888-290-7900).

This limited warranty is exclusive. There are no other warranties, express or implied, or merchantability or fitness for a particular purpose and none shall be created whether under the uniform commercial code, custom or usage in the industry or the course of dealings between the parties. Hydroworks, LLC will replace any goods that are defective under this warranty as the sole and exclusive remedy for breach of this warranty.

Subject to the foregoing, all conditions, warranties, terms, undertakings or liabilities (including liability as to negligence), expressed or implied, and howsoever arising, as to the condition, suitability, fitness, safety, or title to the Hydroworks HydroStorm are hereby negated and excluded and Hydroworks, LLC gives and makes no such representation, warranty or undertaking except as expressly set forth herein. Under no circumstances shall Hydroworks, LLC be liable to the Purchaser or to any third party for product liability claims; claims arising from the design, shipment, or installation of the HydroStorm, or the cost of other goods or services related to the purchase and installation of the HydroStorm. For this Limited Warranty to apply, the HydroStorm must be installed in accordance with all site conditions required by state and local codes; all other applicable laws; and Hydroworks' written installation instructions.

Hydroworks, LLC expressly disclaims liability for special, consequential or incidental damages (even if it has been advised of the possibility of the same) or breach of expressed or implied warranty. Hydroworks, LLC shall not be liable for penalties or liquidated damages, including loss of production and profits; labor and materials; overhead costs; or other loss or expense incurred by the purchaser or any third party. Specifically excluded from limited warranty coverage are damages to the HydroStorm arising from ordinary wear and tear; alteration, accident, misuse, abuse or neglect; improper maintenance, failure of the product due to improper installation of the concrete sections or improper sizing; or any other event not caused by Hydroworks, LLC. This limited warranty represents Hydroworks' sole liability to the purchaser for claims related to the HydroStorm, whether the claim is based upon contract, tort, or other legal basis.

APPENDIX I

NYSDEC Full Environmental Assessment Form

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the applicant or project sponsor to verify that the information contained in Part 1is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project: Beacon Views Townhouses		
Project Location (describe, and attach a general location map): 100 Conklin Street, Beacon, NY 12508		
Brief Description of Proposed Action (include purpose or need): Application for Site Development Plan approval proposing the development of 40 townhomes subdivided into individual townhouse lots, and supporting improvements including a road, stormwater management facilities and public utility connections.		
Name of Applicant/Sponsor: Beacon Views, LLC	Telephone: 718-258-9027 E-Mail: ctadult@aol.com	
Address: 500 River Avenue, Suite 145		
City/PO: Lakewood	State: NJ	Zip Code: 08701
Project Contact (if not same as sponsor; give name and title/role): Greg Kamedulski	Telephone: 203-313-9412 E-Mail: gkamedulsky@gmail.com	
Address: 500 River Avenue, Suite 145		
City/PO: Lakewood	State: NJ	Zip Code: 08701
Property Owner (if not same as sponsor): Highlands at Beacon LLC	Telephone: 917-539-7132 E-Mail: ctadult@aol.com	
Address: 2847 Church Street		
City/PO: Pine Plains	State: NY	Zip Code: 12567

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)

Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Counsel, Town Board, or Village Board of Trustees ☐Yes ☑No		
b. City, Town or Village Planning Board or Commission ☑Yes ☐No	City of Beacon Planning Board - Site Plan Approval & Subdivision Approval	8/27/19
c. City, Town or Village Zoning Board of Appeals ☐Yes ☑No		
d. Other local agencies ☐Yes ☑No		
e. County agencies ☑Yes ☐No	Dutchess County Planning Dutchess County Department of Health	10/1/19
f. Regional agencies ☐Yes ☑No		
g. State agencies ☑Yes ☐No	NYSDEC GP-0-20-001 Stormwater General Permit	10/1/19
h. Federal agencies ☑Yes ☐No	ACOE Wetland General Permit	10/1/19

i. Coastal Resources.

i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☐Yes ☑No

ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☑Yes ☐No

iii. Is the project site within a Coastal Erosion Hazard Area? ☐Yes ☑No

C. Planning and Zoning

C.1. Planning and zoning actions.

Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? ☐Yes ☑No

- **If Yes,** complete sections C, F and G.
- **If No,** proceed to question C.2 and complete all remaining sections and questions in Part 1

C.2. Adopted land use plans.

a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located? ☑Yes ☐No

If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located? ☐Yes ☑No

b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway; Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) ☐Yes ☑No

If Yes, identify the plan(s):

_____

_____

_____

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? ☐Yes ☑No

If Yes, identify the plan(s):

_____

_____

_____

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☑ Yes ☐ No
If Yes, what is the zoning classification(s) including any applicable overlay district?
RD-5 - Designed Residence District

b. Is the use permitted or allowed by a special or conditional use permit? ☑ Yes ☐ No

c. Is a zoning change requested as part of the proposed action? ☐ Yes ☑ No
If Yes,
i. What is the proposed new zoning for the site? _____

C.4. Existing community services.

a. In what school district is the project site located? Beacon City Schools

b. What police or other public protection forces serve the project site?
City of Beacon Police

c. Which fire protection and emergency medical services serve the project site?
City of Beacon Fire Department

d. What parks serve the project site?
City of Beacon Parks and Recreation, Memorial Park

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Residential

b. a. Total acreage of the site of the proposed action? 8.6 acres
b. Total acreage to be physically disturbed? 4.26 onsite, 1.44 addl for offsite access and utility improvements acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 8.6 acres

c. Is the proposed action an expansion of an existing project or use? ☐ Yes ☑ No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % _____ Units: _____

d. Is the proposed action a subdivision, or does it include a subdivision? ☑ Yes ☐ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)
Residential, Creation of townhouse lots.
ii. Is a cluster/conservation layout proposed? ☐ Yes ☑ No
iii. Number of lots proposed? 42 (40 Townhouses/2 Common)
iv. Minimum and maximum proposed lot sizes? Minimum 1,800 Maximum 3.2 ac

e. Will the proposed action be constructed in multiple phases? ☐ Yes ☑ No
i. If No, anticipated period of construction: 24 months
ii. If Yes:
- Total number of phases anticipated _____
- Anticipated commencement date of phase 1 (including demolition) _____ month _____ year
- Anticipated completion date of final phase _____ month _____year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

f. Does the project include new residential uses? ☑ Yes ☐ No

If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase	40			
At completion of all phases	40			

g. Does the proposed action include new non-residential construction (including expansions)? ☐ Yes ☑ No

If Yes,

i. Total number of structures _____

ii. Dimensions (in feet) of largest proposed structure: _____height; _____width; and _____ length

iii. Approximate extent of building space to be heated or cooled: _____ square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ☑ Yes ☐ No

If Yes,

i. Purpose of the impoundment: Stormwater Management

ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☑ Other specify: Stormwater runoff

iii. If other than water, identify the type of impounded/contained liquids and their source.

_____

iv. Approximate size of the proposed impoundment. Volume: 0.5 million gallons; surface area: 0.4 acres

v. Dimensions of the proposed dam or impounding structure: 5'-6" height; 390' length

vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete): Earth Fill

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? (Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite) ☐ Yes ☑ No

If Yes:

i .What is the purpose of the excavation or dredging? _____

ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?

- Volume (specify tons or cubic yards): _____
- Over what duration of time? _____

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them.

_____

_____

iv. Will there be onsite dewatering or processing of excavated materials? ☐ Yes ☐ No

If yes, describe. _____

_____

v. What is the total area to be dredged or excavated? _____acres

vi. What is the maximum area to be worked at any one time? _____ acres

vii. What would be the maximum depth of excavation or dredging? _____ feet

viii. Will the excavation require blasting? ☐ Yes ☐ No

ix. Summarize site reclamation goals and plan: _____

_____

_____

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ☑ Yes ☐ No

If Yes:

i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): Federal flagged wetland PF01E

_____

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:
The proposed project would fill the existing wetland by approximately 13,880.

iii. Will the proposed action cause or result in disturbance to bottom sediments? ☑ Yes ☐ No
If Yes, describe: In order to limit disturbance into the wetland, retaining walls will be installed.

iv. Will the proposed action cause or result in the destruction or removal of aquatic vegetation? ☑ Yes ☐ No
If Yes:

- acres of aquatic vegetation proposed to be removed: .22 ac±
- expected acreage of aquatic vegetation remaining after project completion: 2.33 ac±
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access): Site grading.
- proposed method of plant removal: Excavation
- if chemical/herbicide treatment will be used, specify product(s): None

v. Describe any proposed reclamation/mitigation following disturbance:
1 to 1 creation of wetlands

c. Will the proposed action use, or create a new demand for water? ☑ Yes ☐ No
If Yes:

i. Total anticipated water usage/demand per day: 13,200 (max day) gallons/day

ii. Will the proposed action obtain water from an existing public water supply? ☑ Yes ☐ No
If Yes:

- Name of district or service area: City of Beacon
- Does the existing public water supply have capacity to serve the proposal? ☑ Yes ☐ No
- Is the project site in the existing district? ☑ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☑ No
- Do existing lines serve the project site? ☑ Yes ☐ No

iii. Will line extension within an existing district be necessary to supply the project? ☐ Yes ☑ No
If Yes:

- Describe extensions or capacity expansions proposed to serve this project:
- Source(s) of supply for the district:

iv. Is a new water supply district or service area proposed to be formed to serve the project site? ☐ Yes ☐ No
If, Yes:

- Applicant/sponsor for new district:
- Date application submitted or anticipated:
- Proposed source(s) of supply for new district:

v. If a public water supply will not be used, describe plans to provide water supply for the project:

vi. If water supply will be from wells (public or private), what is the maximum pumping capacity: _____ gallons/minute.

d. Will the proposed action generate liquid wastes? ☑ Yes ☐ No
If Yes:

i. Total anticipated liquid waste generation per day: 13,200 (max day) gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each):
Sanitary wastewater

iii. Will the proposed action use any existing public wastewater treatment facilities? ☑ Yes ☐ No
If Yes:

- Name of wastewater treatment plant to be used: City of Beacon
- Name of district: City of Beacon
- Does the existing wastewater treatment plant have capacity to serve the project? ☑ Yes ☐ No
- Is the project site in the existing district? ☑ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☑ No

- Do existing sewer lines serve the project site? ☑ Yes ☐ No
- Will a line extension within an existing district be necessary to serve the project? ☐ Yes ☑ No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? ☐ Yes ☑ No

If Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- What is the receiving water for the wastewater discharge? _____

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge or describe subsurface disposal plans):

_____

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? ☑ Yes ☐ No

If Yes:

i. How much impervious surface will the project create in relation to total size of project parcel?

_____ Square feet or 2.26 acres (impervious surface)

_____ Square feet or 8.6 acres (parcel size)

ii. Describe types of new point sources. Roadway catch basins, roof drain connections, cut off swales

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?

Onsite stormwater management facilities

- If to surface waters, identify receiving water bodies or wetlands: Onsite wetland
- Will stormwater runoff flow to adjacent properties? ☑ Yes ☐ No

iv. Does the proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? ☑ Yes ☐ No

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? ☑ Yes ☐ No

If Yes, identify:

i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)

Heavy equipment during construction.

ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)

None.

iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

Natural gas boilers for each residential unit.

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? ☐ Yes ☑ No

If Yes:

i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) ☐ Yes ☐ No

ii. In addition to emissions as calculated in the application, the project will generate:

- _____Tons/year (short tons) of Carbon Dioxide (CO_2)
- _____Tons/year (short tons) of Nitrous Oxide (N_2O)
- _____Tons/year (short tons) of Perfluorocarbons (PFCs)
- _____Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- _____Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- _____Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? ☐Yes ☑No

If Yes:

i. Estimate methane generation in tons/year (metric): _____

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____

_____

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? ☐Yes ☑No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):

_____

_____

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? ☐Yes ☑No

If Yes:

i. When is the peak traffic expected (Check all that apply): ☐ Morning ☐ Evening ☐Weekend ☐ Randomly between hours of _____ to _____.

ii. For commercial activities only, projected number of truck trips/day and type (e.g., semi trailers and dump trucks): _____

_____

iii. Parking spaces: Existing 0 Proposed _____ Net increase/decrease _____

iv. Does the proposed action include any shared use parking? ☐Yes ☐No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe:

_____

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☐Yes ☐No

vii Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? ☐Yes ☐No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? ☐Yes ☐No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? ☐Yes ☐No

N/A

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: _____

_____

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other):

_____

iii. Will the proposed action require a new, or an upgrade, to an existing substation? ☐Yes ☐No

l. Hours of operation. Answer all items which apply.

i. During Construction:

- Monday - Friday: 7 am - 5 pm
- Saturday: _____
- Sunday: _____
- Holidays: _____

ii. During Operations:

- Monday - Friday: _____
- Saturday: _____
- Sunday: _____
- Holidays: _____

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☑ Yes ☐ No

If yes:

i. Provide details including sources, time of day and duration:

Typical noise associated with excavation and general construction during business hours.

ii. Will the proposed action remove existing natural barriers that could act as a noise barrier or screen? ☑ Yes ☐ No

Describe: Limited tree clearing for improvements. New landscape screening will be installed.

n. Will the proposed action have outdoor lighting? ☑ Yes ☐ No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

Roadway pole mounted lights at 18' high with house side shields.

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? ☑ Yes ☐ No

Describe: Limited tree clearing for improvements. New landscape screening will be installed.

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☐ Yes ☑ No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: _____

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☐ Yes ☑ No

If Yes:

i. Product(s) to be stored _____

ii. Volume(s) _____ per unit time _____ (e.g., month, year)

iii. Generally, describe the proposed storage facilities: _____

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? ☐ Yes ☐ No

N/A

If Yes:

i. Describe proposed treatment(s):

ii. Will the proposed action use Integrated Pest Management Practices? ☐ Yes ☐ No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☐ Yes ☐ No

N/A

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: _____ tons per _____ (unit of time)
- Operation : _____ tons per _____ (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction: _____
- Operation: _____

iii. Proposed disposal methods/facilities for solid waste generated on-site:

- Construction: _____
- Operation: _____

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will the proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No

If Yes: provide name and location of facility: _____

If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility:

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

☐ Urban ☑ Industrial ☑ Commercial ☑ Residential (suburban) ☐ Rural (non-farm)
☐ Forest ☐ Agriculture ☐ Aquatic ☐ Other (specify): _____

ii. If mix of uses, generally describe:

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces		2.1 ac±	
• Forested	6.0 ac±	2.6 ac±	
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)			
• Agricultural (includes active orchards, field, greenhouse etc.)			
• Surface water features (lakes, ponds, streams, rivers, etc.)			
• Wetlands (freshwater or tidal)	2.6 ac±	2.3 ac±	
• Non-vegetated (bare rock, earth or fill)			
• Other Describe: Slope, Lawn and Landscape Areas		1.6 ac±	

c. Is the project site presently used by members of the community for public recreation? ☐ Yes ☑ No

i. If Yes: explain: _____

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? ☑ Yes ☐ No

If Yes,

i. Identify Facilities:

Beacon High School, Roundbout Middle School, Wingate at Beacon, Hedgewood Home for Adults, and Highland Meadows Senior Housing.

e. Does the project site contain an existing dam? ☐ Yes ☑ No

If Yes:

i. Dimensions of the dam and impoundment:

- Dam height: _____ feet
- Dam length: _____ feet
- Surface area: _____ acres
- Volume impounded: _____ gallons OR acre-feet

ii. Dam's existing hazard classification: _____

iii. Provide date and summarize results of last inspection:

_____

_____

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Has the facility been formally closed? ☐ Yes ☐ No

- If yes, cite sources/documentation: _____

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:

_____

_____

iii. Describe any development constraints due to the prior solid waste activities: _____

_____

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:

_____

_____

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☐ Yes ☑ No

If Yes:

i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☐ Yes ☐ No

☐ Yes – Spills Incidents database Provide DEC ID number(s): _____

☐ Yes – Environmental Site Remediation database Provide DEC ID number(s): _____

☐ Neither database

ii. If site has been subject of RCRA corrective activities, describe control measures:_____

_____

_____

iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☐ Yes ☑ No

If yes, provide DEC ID number(s): _____

iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):

_____

_____

v. Is the project site subject to an institutional control limiting property uses? ☐ Yes ☐ No

- If yes, DEC site ID number: _____
- Describe the type of institutional control (e.g., deed restriction or easement): _____
- Describe any use limitations: _____
- Describe any engineering controls: _____
- Will the project affect the institutional or engineering controls in place? ☐ Yes ☐ No
- Explain: _____

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? 6.5 feet average feet

b. Are there bedrock outcroppings on the project site? ☐ Yes ☑ No
If Yes, what proportion of the site is comprised of bedrock outcroppings? _____ %

c. Predominant soil type(s) present on project site:

Bernardston Silt (BeB) (BeC)	52 %
Canandaigua Silt (Ca)	29 %
Nassau Cardigan Complex (NwC)	19 %

d. What is the average depth to the water table on the project site? Average: 2 feet average feet

e. Drainage status of project site soils:
☑ Well Drained: 66 % of site
☐ Moderately Well Drained: _____ % of site
☑ Poorly Drained 34 % of site

f. Approximate proportion of proposed action site with slopes:
☑ 0-10%: 50 % of site
☑ 10-15%: 15 % of site
☑ 15% or greater: 35 % of site

g. Are there any unique geologic features on the project site? ☐ Yes ☑ No
If Yes, describe: _____

h. Surface water features.
i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? ☑ Yes ☐ No
ii. Do any wetlands or other waterbodies adjoin the project site? ☑ Yes ☐ No
If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.
iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? ☑ Yes ☐ No
iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name _____ Classification _____
- Lakes or Ponds: Name _____ Classification _____
- Wetlands: Name Federal Wetland PF01E Approximate Size 2.55 ac onsite
- Wetland No. (if regulated by DEC) _____

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☐ Yes ☑ No
If yes, name of impaired water body/bodies and basis for listing as impaired: _____

i. Is the project site in a designated Floodway? ☐ Yes ☑ No

j. Is the project site in the 100-year Floodplain? ☐ Yes ☑ No

k. Is the project site in the 500-year Floodplain? ☐ Yes ☑ No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☐ Yes ☑ No
If Yes:
i. Name of aquifer: _____

m. Identify the predominant wildlife species that occupy or use the project site:
Whitetail Deer, Gray Squirrel
Racoon

n. Does the project site contain a designated significant natural community? ☐ Yes ☑ No
If Yes:
i. Describe the habitat/community (composition, function, and basis for designation): _____
ii. Source(s) of description or evaluation: _____
iii. Extent of community/habitat:
- Currently: _____ acres
- Following completion of project as proposed: _____ acres
- Gain or loss (indicate + or -): _____ acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☑ Yes ☐ No
If Yes:
i. Species and listing (endangered or threatened):
Indiana Bat

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☐ Yes ☑ No
If Yes:
i. Species and listing: _____

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☐ Yes ☑ No
If yes, give a brief description of how the proposed action may affect that use: _____

E.3. Designated Public Resources On or Near Project Site

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐ Yes ☑ No
If Yes, provide county plus district name/number: _____

b. Are agricultural lands consisting of highly productive soils present? ☐ Yes ☑ No
i. If Yes: acreage(s) on project site? _____
ii. Source(s) of soil rating(s): _____

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐ Yes ☑ No
If Yes:
i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature
ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐ Yes ☑ No
If Yes:
i. CEA name: _____
ii. Basis for designation: _____
iii. Designating agency and date: _____

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places? ☑ Yes ☐ No

If Yes:

i. Nature of historic/archaeological resource: ☐ Archaeological Site ☑ Historic Building or District

ii. Name: Matteawan State Hospital

iii. Brief description of attributes on which listing is based:
Area of social history, health and medicine and institutional architecture

f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory? ☑ Yes ☐ No

g. Have additional archaeological or historic site(s) or resources been identified on the project site? ☐ Yes ☑ No

If Yes:

i. Describe possible resource(s): _____

ii. Basis for identification: _____

h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? ☑ Yes ☐ No

If Yes:

i. Identify resource: Hudson Highlands Scenic Area

ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): Hudson River Valley Scenic Area of Statewide Significance

iii. Distance between project and resource: 2.4 miles.

i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? ☐ Yes ☑ No

If Yes:

i. Identify the name of the river and its designation: _____

ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666? ☐ Yes ☐ No

F. Additional Information

Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

I certify that the information provided is true to the best of my knowledge.

Applicant/Sponsor Name Jeffrey J. Contelmo, P.E. Date 6/30/20

Insite Engineering, Surveying & Landscape Architecture, P.C.

Signature _____ Title Senior Principal Engineer

PRINT FORM



Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.



B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	Yes
C.2.b. [Special Planning District]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.iii [Within 2,000' of DEC Remediation Site]	No
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	Yes
E.2.h.ii [Surface Water Features]	Yes
E.2.h.iii [Surface Water Features]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
E.2.h.iv [Surface Water Features - Wetlands Name]	Federal Waters
E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	No
E.2.k. [500 Year Floodplain]	No
E.2.l. [Aquifers]	No
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	Yes

E.2.o. [Endangered or Threatened Species - Name]	Indiana Bat
E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National or State Register of Historic Places or State Eligible Sites]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.3.f. [Archeological Sites]	Yes
E.3.i. [Designated River Corridor]	No

APPENDIX J

Pipe Sizing Calculations

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

DRAINAGE SYSTEM CALCULATIONS
Design Storm: 100-Year

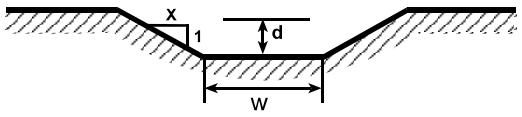
PROJECT: **Beacon Views**
JOB NUMBER: **19131.100**
BY: EJP DATE: 12-29-2020
CHK: ZMP

STRUCTURE		IMPERVIOUS AREA			PERVIOUS AREA			CA	TIME OF CONC. (min.)			I	Q (cfs)		PIPE DESIGN				
FROM	TO	A (ac.)	C	CA	A (ac.)	C	CA		INLET	PIPE	TOTAL		DESIGN	CAP.	V(ft/s)	n	s (%)	L (ft)	DIA (in)
DI 7	CB 6	**0.20**	0.9	0.18	**0.02**	0.3	0.01	0.19	**6**	-	6	**9.2**	1.7	5.9	6.5	**0.012**	**2.3**	**97**	**12**
CB 6	CB 5	**0.16**	0.9	0.14	**0.02**	0.3	0.01	0.34	**6**	-	6	**9.2**	3.1	4.2	5.9	**0.012**	**1.2**	**35**	**12**
CB 5	CB 4	**0.10**	0.9	0.09	**0.06**	0.3	0.02	0.47	**6**	-	6	**9.2**	4.3	8.0	6.6	**0.012**	**1.3**	**183**	**15**
CB 4	CB 3	**0.40**	0.9	0.36	**0.10**	0.3	0.03	0.92	**6**	-	6	**9.2**	8.5	11.4	7.1	**0.012**	**1.0**	**136**	**18**
CB 3	CB 2	**0.15**	0.9	0.14	**0.06**	0.3	0.02	2.01	**6**	-	6	**9.2**	18.5	47.1	14.1	**0.012**	**3.7**	**63**	**24**
CB 2	ES 1	**0.11**	0.9	0.10	**0.00**	0.3	0.00	2.20	**6**	-	6	**9.2**	20.2	46.5	14.3	**0.012**	**3.6**	**76**	**24**
CB 5A	CB 5	**0.02**	0.9	0.02	**0.00**	0.3	0.00	0.02	**6**	-	6	**9.2**	0.2	5.0	3.1	**0.012**	**1.7**	**18**	**12**
CB 4A	CB 4	**0.07**	0.9	0.06	**0.00**	0.3	0.00	0.06	**6**	-	6	**9.2**	0.6	5.3	4.4	**0.012**	**1.9**	**26**	**12**
CB 2A	CB 2	**0.10**	0.9	0.09	**0.00**	0.3	0.00	0.09	**6**	-	6	**9.2**	0.8	5.5	5.0	**0.012**	**2.0**	**25**	**12**
CB 3C	CB 3B	**0.48**	0.9	0.43	**0.22**	0.3	0.07	0.50	**6**	-	6	**9.2**	4.6	7.3	6.3	**0.012**	**1.1**	**151**	**15**
CB 3B	CB 3A	**0.20**	0.9	0.18	**0.02**	0.3	0.01	0.69	**6**	-	6	**9.2**	6.3	7.0	6.5	**0.012**	**1.0**	**68**	**15**
CB 3A	CB 3	**0.23**	0.9	0.21	**0.10**	0.3	0.03	0.93	**6**	-	6	**9.2**	8.6	11.9	7.4	**0.012**	**1.1**	**115**	**18**
SDI 22	ES 21	**0.00**	0.9	0.00	**2.20**	0.3	0.66	0.66	**15**	-	15	**6.4**	4.2	14.0	10.0	**0.012**	**4.0**	**52**	**15**
SDI 12	SDI 11	**0.00**	0.9	0.00	**1.60**	0.3	0.48	0.48	**15**	-	15	**6.4**	3.1	11.7	12.6	**0.012**	**9.2**	**22**	**12**
SDI 11	DMH 10	**0.00**	0.9	0.00	**2.70**	0.3	0.81	1.29	**15**	-	15	**6.4**	8.3	16.9	13.7	**0.012**	**5.8**	**57**	**15**
DMH 10	DMH 9	**0.00**	0.9	0.00	**0.00**	0.3	0.00	1.29	**15**	-	15	**6.4**	8.3	11.9	10.5	**0.012**	**2.9**	**110**	**15**
DMH 9	ES 8	**0.00**	0.9	0.00	**0.00**	0.3	0.00	1.29	**15**	-	15	**6.4**	8.3	20.2	15.6	**0.012**	**8.3**	**60**	**15**
SDI 14A	DI 14	**0.00**	0.9	0.00	**0.50**	0.3	0.15	0.15	**6**	-	6	**9.2**	1.4	14.8	7.6	**0.012**	**4.5**	**55**	**15**
DI 14	ES 13	**0.00**	0.9	0.00	**0.05**	0.3	0.02	0.17	**6**	-	6	**9.2**	37.2	49.6	17.4	**0.012**	**4.1**	**80**	**24**
25 TOWNSEND	DI 14	**18" DIAMETER HDPE (TAKEN FROM 25 TOWNSEND STREET APPROVED PLANS)**																	
SDI 17	DMH 16	**0.00**	0.9	0.00	**0.40**	0.3	0.12	0.12	**15**	-	15	**6.4**	0.8	10.4	7.8	**0.012**	**7.3**	**45**	**12**
DMH 16	ES 15	**0.00**	0.9	0.00	**0.00**	0.3	0.00	0.12	**15**	-	15	**6.4**	1.1	5.0	5.1	**0.012**	**1.7**	**47**	**12**
CB 19	FS 1.1	**0.25**	0.9	0.23	**0.01**	0.3	0.00	0.23	**6**	-	6	**9.2**	2.1	6.8	7.7	**0.012**	**3.1**	**46**	**12**
FS 1.1	ES 18	**SIZED IN HYDROCAD**																	
FS 1.1	HDS 1.1	**SIZED IN HYDROCAD**																	
HDS 1.1	1.2P	**SIZED IN HYDROCAD**																	
1.2P	DMH 16	**SIZED IN HYDROCAD (0.29 CFS)**																	
ES 24	ES 23	**0.50**	0.9	0.45	**0.30**	0.3	0.09	0.54	**10**	-	10	**7.5**	4.1	7.3	6.1	**0.012**	**1.1**	**44**	**15**
OS 1.1P	ES 25	**SIZED IN HYDROCAD**																	
CB 28	CB 27	**0.07**	0.9	0.06	**0.00**	0.3	0.00	0.06	**6**	-	6	**9.2**	0.6	6.5	5.0	**0.012**	**2.8**	**18**	**12**
CB 27	ES 26	**0.07**	0.9	0.06	**0.00**	0.3	0.00	0.12	**6**	-	6	**9.2**	1.1	7.5	6.9	**0.012**	**3.8**	**136**	**12**
SDI 30	ES 29	**0.00**	0.9	0.00	**1.50**	0.3	0.45	0.45	**15**	-	15	**6.4**	2.9	7.5	9.0	**0.012**	**3.8**	**61**	**12**

APPENDIX K

Swale Sizing Calculations

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.



Appendix K
SWALE SIZING CALCULATIONS

Design Storm: 100-Year
Project: Beacon Views
Job #: 19131.100
Date: 7/28/2020
By: EJP
Sheet: 1 of 1

SMP ID	Swale Type	Q (cfs)	w (ft)	d (ft)	x	n	S (%)	A (ft^2)	W_p (ft)	R_h (ft)	V (ft/s)	Q (cfs)
		design flow	swale bottom width	depth of flow	swale side slope (x:1)	Manning's "n"	swale slope	swale area	wetted perimeter	hydraulic radius	swale velocity	swale capacity
A	Grass	0.8	1.00	0.3	2.00	0.035	2.00	0.40	2.16	0.18	1.9	**0.8**
A	Grass	0.8	1.00	0.1	2.00	0.035	20.00	0.18	1.63	0.11	4.4	**0.8**
B	Grass	8.3	1.00	0.8	2.00	0.035	2.00	2.27	4.78	0.48	3.7	**8.3**
B	Grass	8.3	1.00	0.5	2.00	0.035	13.00	1.14	3.43	0.33	7.3	**8.3**
C	Grass	3.1	1.00	0.5	2.00	0.035	2.00	1.09	3.37	0.32	2.8	**3.1**
C	Grass	3.1	1.00	0.4	2.00	0.035	10.00	0.61	2.59	0.23	5.1	**3.1**
D	Grass	5.2	1.00	0.7	2.00	0.035	2.00	1.60	4.04	0.40	3.3	**5.2**
D	Grass	5.2	1.00	0.5	2.00	0.035	5.00	1.14	3.44	0.33	4.6	**5.2**
E	Rip Rap	1.3	1.00	0.3	2.00	0.050	5.00	0.55	2.48	0.22	2.4	**1.3**
E	Rip Rap	1.3	1.00	0.2	2.00	0.050	20.00	0.34	2.03	0.17	4.0	**1.3**
F	Grass	3.0	1.00	0.6	2.00	0.035	1.00	1.39	3.77	0.37	2.2	**3.0**
F	Grass	3.0	1.00	0.5	2.00	0.035	2.00	1.06	3.33	0.32	2.8	**3.0**
G	Grass	1.5	1.00	0.4	2.00	0.035	1.00	0.83	2.97	0.28	1.8	**1.5**
G	Grass	1.5	1.00	0.4	2.00	0.035	2.00	0.64	2.65	0.24	2.3	**1.5**

Swale A is located behind Units 35-40 and is tributary to SDI 17
Swale B is located behind Units 27-34 and is tributary to SDI 14A
Swale C is located behind Units 21-26 and is tributary to SDI 12
Swale D is located behind Units 14-20 and is tributary to SDI 11
Swale E is located along between the western property line and proposed retaining wall and is tributary to SDI 22
Swale F is located along the entrance drive off Hastings Drive and is tributary to SDI 22
Swale G is located along the entrance drive off Hastings Drive and is tributary to SDI 30

APPENDIX L

Draft NYSDEC Notice of Intent

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

NYS Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

MS4 Stormwater Pollution Prevention Plan (SWPPP) Acceptance Form

for

Construction Activities Seeking Authorization Under SPDES General Permit

*(NOTE: Attach Completed Form to Notice Of Intent and Submit to Address Above)

I. Project Owner/Operator Information	
1. Owner/Operator Name:	BEACON VIEWS, LLC
2. Contact Person:	GREGORY KAMEDULSKI
3. Street Address:	500 RIVER AVENUE, SUITE 145
4. City/State/Zip:	LAKEWOOD, NEW JERSEY 08701
II. Project Site Information	
5. Project/Site Name:	BEACON VIEWS
6. Street Address:	100 CONKLIN STREET
7. City/State/Zip:	BEACON, NEW YORK 12508
III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information	
8. SWPPP Reviewed by:	
9. Title/Position:	
10. Date Final SWPPP Reviewed and Accepted:	
IV. Regulated MS4 Information	
11. Name of MS4:	
12. MS4 SPDES Permit Identification Number: NYR20A	
13. Contact Person:	
14. Street Address:	
15. City/State/Zip:	
16. Telephone Number:	

MS4 SWPPP Acceptance Form - continued

V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in question 5 has been reviewed and meets the substantive requirements in the SPDES General Permit For Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s). Note: The MS4, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name:

Title/Position:

Signature:

Date:

VI. Additional Information

(NYS DEC - MS4 SWPPP Acceptance Form - January 2015)

0644089821

NOTICE OF INTENT

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

NYR _____
(for DEC use only)

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-20-001

All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.

-IMPORTANT-

RETURN THIS FORM TO THE ADDRESS ABOVE

OWNER/OPERATOR MUST SIGN FORM

Owner/Operator Information

Owner/Operator (Company Name/Private Owner Name/Municipality Name)
BEACON VIEWS, LLC

Owner/Operator Contact Person Last Name (NOT CONSULTANT)
KAMEDULSKI

Owner/Operator Contact Person First Name
GREGORY

Owner/Operator Mailing Address
500 RIVER AVENUE, SUITE 145

City
LAKEWOOD

State
NJ

Zip
08701-____

Phone (Owner/Operator)
203-313-9412

Fax (Owner/Operator)
___-___-____

Email (Owner/Operator)
GKAMEDULSKI@GMAIL.COM

FED TAX ID
__-_____ (not required for individuals)

Project Site Information

Project/Site Name
BEACON VIEWS

Street Address (NOT P.O. BOX)
100 CONKLIN STREET

Side of Street
● **North** ○ **South** ○ **East** ○ **West**

City/Town/Village (THAT ISSUES BUILDING PERMIT)
BEACON

State: NY
Zip: 12508-
County: DUTCHESS
DEC Region: 3

Name of Nearest Cross Street
DESOTO AVENUE

Distance to Nearest Cross Street (Feet)
100

Project In Relation to Cross Street
○ **North** ○ **South** ○ **East** ● **West**

Tax Map Numbers
Section-Block-Parcel
6055-03-331123

Tax Map Numbers

1. Provide the Geographic Coordinates for the project site. To do this, go to the NYSDEC Stormwater Interactive Map on the DEC website at:

https://gisservices.dec.ny.gov/gis/stormwater/

Zoom into your Project Location such that you can accurately click on the centroid of your site. Once you have located the centroid of your project site, go to the bottom right hand corner of the map for the X, Y coordinates. Enter the coordinates into the boxes below. For problems with the interactive map use the help function.

X Coordinates (Easting)
-73.955
Ex. -73.749

Y Coordinates (Northing)
41.512
Ex. 42.652

2. What is the nature of this construction project?

● **New Construction**

○ **Redevelopment with increase in impervious area**

○ **Redevelopment with no increase in impervious area**

3. Select the predominant land use for both pre and post development conditions.
SELECT ONLY ONE CHOICE FOR EACH

Pre-Development Existing Land Use	Post-Development Future Land Use
● FOREST	○ SINGLE FAMILY HOME
○ PASTURE/OPEN LAND	● SINGLE FAMILY SUBDIVISION
○ CULTIVATED LAND	○ TOWN HOME RESIDENTIAL
○ SINGLE FAMILY HOME	○ MULTIFAMILY RESIDENTIAL
○ SINGLE FAMILY SUBDIVISION	○ INSTITUTIONAL/SCHOOL
○ TOWN HOME RESIDENTIAL	○ INDUSTRIAL
○ MULTIFAMILY RESIDENTIAL	○ COMMERCIAL
○ INSTITUTIONAL/SCHOOL	○ MUNICIPAL
○ INDUSTRIAL	○ ROAD/HIGHWAY
○ COMMERCIAL	○ RECREATIONAL/SPORTS FIELD
○ ROAD/HIGHWAY	○ BIKE PATH/TRAIL
○ RECREATIONAL/SPORTS FIELD	○ LINEAR UTILITY (water, sewer, gas, etc.)
○ BIKE PATH/TRAIL	○ PARKING LOT
○ LINEAR UTILITY	○ CLEARING/GRADING ONLY
○ PARKING LOT	○ DEMOLITION, NO REDEVELOPMENT
○ OTHER	○ WELL DRILLING ACTIVITY *(Oil, Gas, etc.)
	○ OTHER

Number of Lots: 42

***Note**: for gas well drilling, non-high volume hydraulic fractured wells only

4. In accordance with the larger common plan of development or sale, enter the total project site area; the total area to be disturbed; existing impervious area to be disturbed (for redevelopment activities); and the future impervious area constructed within the disturbed area. (Round to the nearest tenth of an acre.)

Total Site Area	Total Area To Be Disturbed	Existing Impervious Area To Be Disturbed	Future Impervious Area Within Disturbed Area
8.6	5.7	0.0	2.8

5. Do you plan to disturb more than 5 acres of soil at any one time? ○ **Yes** ● **No**

6. Indicate the percentage of each Hydrologic Soil Group(HSG) at the site.

A	B	C	D
0 %	0 %	0 %	100 %

7. Is this a phased project? ● **Yes** ○ **No**

8. Enter the planned start and end dates of the disturbance activities.

Start Date 08/01/2020 – **End Date** 12/01/2022

9. Identify the nearest surface waterbody(ies) to which construction site runoff will discharge.

Name

USACE WETLAND PF01E

9a. Type of waterbody identified in Question 9?

- ○ Wetland / State Jurisdiction On Site (Answer 9b)
- ○ Wetland / State Jurisdiction Off Site
- ● Wetland / Federal Jurisdiction On Site (Answer 9b)
- ○ Wetland / Federal Jurisdiction Off Site
- ○ Stream / Creek On Site
- ○ Stream / Creek Off Site
- ○ River On Site
- ○ River Off Site
- ○ Lake On Site
- ○ Lake Off Site
- ○ Other Type On Site
- ○ Other Type Off Site

9b. How was the wetland identified?

- ○ Regulatory Map
- ● Delineated by Consultant
- ○ Delineated by Army Corps of Engineers
- ○ Other (identify)

10. Has the surface waterbody(ies) in question 9 been identified as a 303(d) segment in Appendix E of GP-0-20-001? ○ **Yes** ● **No**

11. Is this project located in one of the Watersheds identified in Appendix C of GP-0-20-001? ○ **Yes** ● **No**

12. Is the project located in one of the watershed areas associated with AA and AA-S classified waters? ○ **Yes** ● **No**
If no, skip question 13.

13. Does this construction activity disturb land with no existing impervious cover and where the Soil Slope Phase is identified as an E or F on the USDA Soil Survey? ○ **Yes** ○ **No**
If Yes, what is the acreage to be disturbed?

14. Will the project disturb soils within a State regulated wetland or the protected 100 foot adjacent area? ○ **Yes** ● **No**

15. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)? ○ **Yes** ● **No** ○ **Unknown**

16. What is the name of the municipality/entity that owns the separate storm sewer system?

17. Does any runoff from the site enter a sewer classified as a Combined Sewer? ○ **Yes** ● **No** ○ **Unknown**

18. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law? ○ **Yes** ● **No**

19. Is this property owned by a state authority, state agency, federal government or local government? ○ **Yes** ● **No**

20. Is this a remediation project being done under a Department approved work plan? (i.e. CERCLA, RCRA, Voluntary Cleanup Agreement, etc.) ○ **Yes** ● **No**

21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)? ● **Yes** ○ **No**

22. Does this construction activity require the development of a SWPPP that includes the post-construction stormwater management practice component (i.e. Runoff Reduction, Water Quality and Quantity Control practices/techniques)? ● **Yes** ○ **No**
If No, skip questions 23 and 27-39.

23. Has the post-construction stormwater management practice component of the SWPPP been developed in conformance with the current NYS Stormwater Management Design Manual? ● **Yes** ○ **No**

24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:

- ● **Professional Engineer (P.E.)**
- ○ **Soil and Water Conservation District (SWCD)**
- ○ **Registered Landscape Architect (R.L.A)**
- ○ **Certified Professional in Erosion and Sediment Control (CPESC)**
- ○ **Owner/Operator**
- ○ **Other**

SWPPP Preparer
INSITE ENGINEERING

Contact Name (Last, Space, First)
CONTELMO, JEFFREY

Mailing Address
3 GARRETT PLACE

City
CARMEL

State NY Zip 10512-

Phone 845-225-9690 Fax ---

Email
JCONTELMO@INSITE-ENG.COM

SWPPP Preparer Certification

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-20-001. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

First Name JEFFREY **MI** J

Last Name CONTELMO, PE

Signature

Date / /

25. Has a construction sequence schedule for the planned management practices been prepared? ● Yes ○ No

26. Select **all** of the erosion and sediment control practices that will be employed on the project site:

Temporary Structural

- ● Check Dams
- ○ Construction Road Stabilization
- ● Dust Control
- ○ Earth Dike
- ● Level Spreader
- ○ Perimeter Dike/Swale
- ○ Pipe Slope Drain
- ○ Portable Sediment Tank
- ○ Rock Dam
- ● Sediment Basin
- ○ Sediment Traps
- ● Silt Fence
- ● Stabilized Construction Entrance
- ● Storm Drain Inlet Protection
- ○ Straw/Hay Bale Dike
- ○ Temporary Access Waterway Crossing
- ● Temporary Stormdrain Diversion
- ● Temporary Swale
- ○ Turbidity Curtain
- ○ Water bars

Biotechnical

- ○ Brush Matting
- ○ Wattling

Vegetative Measures

- ○ Brush Matting
- ○ Dune Stabilization
- ● Grassed Waterway
- ● Mulching
- ○ Protecting Vegetation
- ○ Recreation Area Improvement
- ● Seeding
- ○ Sodding
- ○ Straw/Hay Bale Dike
- ○ Streambank Protection
- ○ Temporary Swale
- ● Topsoiling
- ○ Vegetating Waterways

Permanent Structural

- ○ Debris Basin
- ○ Diversion
- ○ Grade Stabilization Structure
- ○ Land Grading
- ○ Lined Waterway (Rock)
- ○ Paved Channel (Concrete)
- ○ Paved Flume
- ● Retaining Wall
- ○ Riprap Slope Protection
- ● Rock Outlet Protection
- ○ Streambank Protection

Other

Post-construction Stormwater Management Practice (SMP) Requirements

Important: Completion of Questions 27-39 is not required if response to Question 22 is No.

27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.

- ○ **Preservation of Undisturbed Areas**
- ○ **Preservation of Buffers**
- ● **Reduction of Clearing and Grading**
- ○ **Locating Development in Less Sensitive Areas**
- ● **Roadway Reduction**
- ○ **Sidewalk Reduction**
- ○ **Driveway Reduction**
- ○ **Cul-de-sac Reduction**
- ● **Building Footprint Reduction**
- ● **Parking Reduction**

27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual (2010 version).

- ● All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).
- ○ Compacted areas were considered as impervious cover when calculating the **WQv Required**, and the compacted areas were assigned a post-construction Hydrologic Soil Group (HSG) designation that is one level less permeable than existing conditions for the hydrology analysis.

28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout).

Total WQv Required

		0	.	3	0	5

acre-feet

29. Identify the RR techniques (Area Reduction), RR techniques(Volume Reduction) and Standard SMPs with RRv Capacity in Table 1 (See Page 9) that were used to reduce the Total WQv Required(#28).

Also, provide in Table 1 the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

Note: Redevelopment projects shall use Tables 1 and 2 to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SMPs.

Table 1 - Runoff Reduction (RR) Techniques and Standard Stormwater Management Practices (SMPs)

	Total Contributing Area (acres)		Total Contributing Impervious Area (acres)
RR Techniques (Area Reduction)			
○ Conservation of Natural Areas (RR-1)		and/or	
○ Sheetflow to Riparian Buffers/Filters Strips (RR-2)		and/or	
○ Tree Planting/Tree Pit (RR-3)		and/or	
○ Disconnection of Rooftop Runoff (RR-4)		and/or	
RR Techniques (Volume Reduction)			
○ Vegetated Swale (RR-5)			
○ Rain Garden (RR-6)			
○ Stormwater Planter (RR-7)			
○ Rain Barrel/Cistern (RR-8)			
○ Porous Pavement (RR-9)			
○ Green Roof (RR-10)			
Standard SMPs with RRv Capacity			
○ Infiltration Trench (I-1)			
○ Infiltration Basin (I-2)			
○ Dry Well (I-3)			
● Underground Infiltration System (I-4)			0.45
○ Bioretention (F-5)			
○ Dry Swale (O-1)			
Standard SMPs			
○ Micropool Extended Detention (P-1)			
○ Wet Pond (P-2)			
○ Wet Extended Detention (P-3)			
○ Multiple Pond System (P-4)			
● Pocket Pond (P-5)			2.35
○ Surface Sand Filter (F-1)			
○ Underground Sand Filter (F-2)			
○ Perimeter Sand Filter (F-3)			
○ Organic Filter (F-4)			
○ Shallow Wetland (W-1)			
○ Extended Detention Wetland (W-2)			
○ Pond/Wetland System (W-3)			
○ Pocket Wetland (W-4)			
○ Wet Swale (O-2)			

Table 2 - Alternative SMPs (DO NOT INCLUDE PRACTICES BEING USED FOR PRETREATMENT ONLY)

Alternative SMP	Total Contributing Impervious Area(acres)
○ **Hydrodynamic**	
○ **Wet Vault**	
○ **Media Filter**	
○ **Other** [ ]	

Provide the name and manufacturer of the Alternative SMPs (i.e. proprietary practice(s)) being used for WQv treatment.

Name

Manufacturer

Note: Redevelopment projects which do not use RR techniques, shall use questions 28, 29, 33 and 33a to provide SMPs used, total WQv required and total WQv provided for the project.

30. Indicate the Total RRv provided by the RR techniques (Area/Volume Reduction) and Standard SMPs with RRv capacity identified in question 29.

Total RRv provided

0.082 **acre-feet**

31. Is the Total RRv provided (#30) greater than or equal to the total WQv required (#28).

○ **Yes** ● **No**

If Yes, go to question 36.
If No, go to question 32.

32. Provide the Minimum RRv required based on HSG.
[Minimum RRv Required = (P)(0.95)(Ai)/12, Ai=(S)(Aic)]

Minimum RRv Required

0.062 **acre-feet**

32a. Is the Total RRv provided (#30) greater than or equal to the Minimum RRv Required (#32)?

● **Yes** ○ **No**

If Yes, go to question 33.
Note: Use the space provided in question #39 to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). A detailed evaluation of the specific site limitations and justification for not reducing 100% of the WQv required (#28) must also be included in the SWPPP.
If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

33. Identify the Standard SMPs in Table 1 and, if applicable, the Alternative SMPs in Table 2 that were used to treat the remaining total WQv(=Total WQv Required in 28 - Total RRv Provided in 30).

Also, provide in Table 1 and 2 the total impervious area that contributes runoff to each practice selected.

Note: Use Tables 1 and 2 to identify the SMPs used on Redevelopment projects.

33a. Indicate the Total WQv provided (i.e. WQv treated) by the SMPs identified in question #33 and Standard SMPs with RRv Capacity identified in question 29.

WQv Provided

0.245 **acre-feet**

Note: For the standard SMPs with RRv capacity, the WQv provided by each practice = the WQv calculated using the contributing drainage area to the practice - RRv provided by the practice. (See Table 3.5 in Design Manual)

34. Provide the sum of the Total RRv provided (#30) and the WQv provided (#33a). 0.334

35. Is the sum of the RRv provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)? ● **Yes** ○ **No**

If Yes, go to question 36.
If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

36. Provide the total Channel Protection Storage Volume (CPv) required and provided or select waiver (36a), if applicable.

CPv Required

0.626 **acre-feet**

CPv Provided

0.626 **acre-feet**

36a. The need to provide channel protection has been waived because:

○ Site discharges directly to tidal waters or a fifth order or larger stream.

○ Reduction of the total CPv is achieved on site through runoff reduction techniques or infiltration systems.

37. Provide the Overbank Flood (Qp) and Extreme Flood (Qf) control criteria or select waiver (37a), if applicable.

Total Overbank Flood Control Criteria (Qp)

Pre-Development

39.7 **CFS**

Post-development

35.2 **CFS**

Total Extreme Flood Control Criteria (Qf)

Pre-Development

84.5 **CFS**

Post-development

78.7 **CFS**

37a. The need to meet the Qp and Qf criteria has been waived because:

- ○ Site discharges directly to tidal waters or a fifth order or larger stream.
- ○ Downstream analysis reveals that the Qp and Qf controls are not required

38. Has a long term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed? ● **Yes** ○ **No**

If Yes, Identify the entity responsible for the long term Operation and Maintenance

BEACON VIEWS, LLC

39. Use this space to summarize the specific site limitations and justification for not reducing 100% of WQv required(#28). (See question 32a) This space can also be used for other pertinent project information.

40. Identify other DEC permits, existing and new, that are required for this project/facility.

- ○ Air Pollution Control
- ○ Coastal Erosion
- ○ Hazardous Waste
- ○ Long Island Wells
- ○ Mined Land Reclamation
- ○ Solid Waste
- ○ Navigable Waters Protection / Article 15
- ○ Water Quality Certificate
- ○ Dam Safety
- ○ Water Supply
- ○ Freshwater Wetlands/Article 24
- ○ Tidal Wetlands
- ○ Wild, Scenic and Recreational Rivers
- ○ Stream Bed or Bank Protection / Article 15
- ○ Endangered or Threatened Species(Incidental Take Permit)
- ○ Individual SPDES
- ○ SPDES Multi-Sector GP [N][Y][R][ ][ ][ ][ ][ ][ ]
- ○ Other [ ]
- ● None

41. Does this project require a US Army Corps of Engineers Wetland Permit? ● **Yes** ○ **No**
If Yes, Indicate Size of Impact. [ ][ ][ ][ ][0].[3]

42. Is this project subject to the requirements of a regulated, traditional land use control MS4? ● **Yes** ○ **No**
(If No, skip question 43)

43. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI? ● **Yes** ○ **No**

44. If this NOI is being submitted for the purpose of continuing or transferring coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned. [N][Y][R][ ][ ][ ][ ][ ][ ]

Owner/Operator Certification

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I hereby certify that this document and the corresponding documents were prepared under my direction or supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) business days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction, and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

Print First Name

GREGORY

MI

Print Last Name

KAMEDULSKI

Owner/Operator Signature

Date

/ /

APPENDIX M

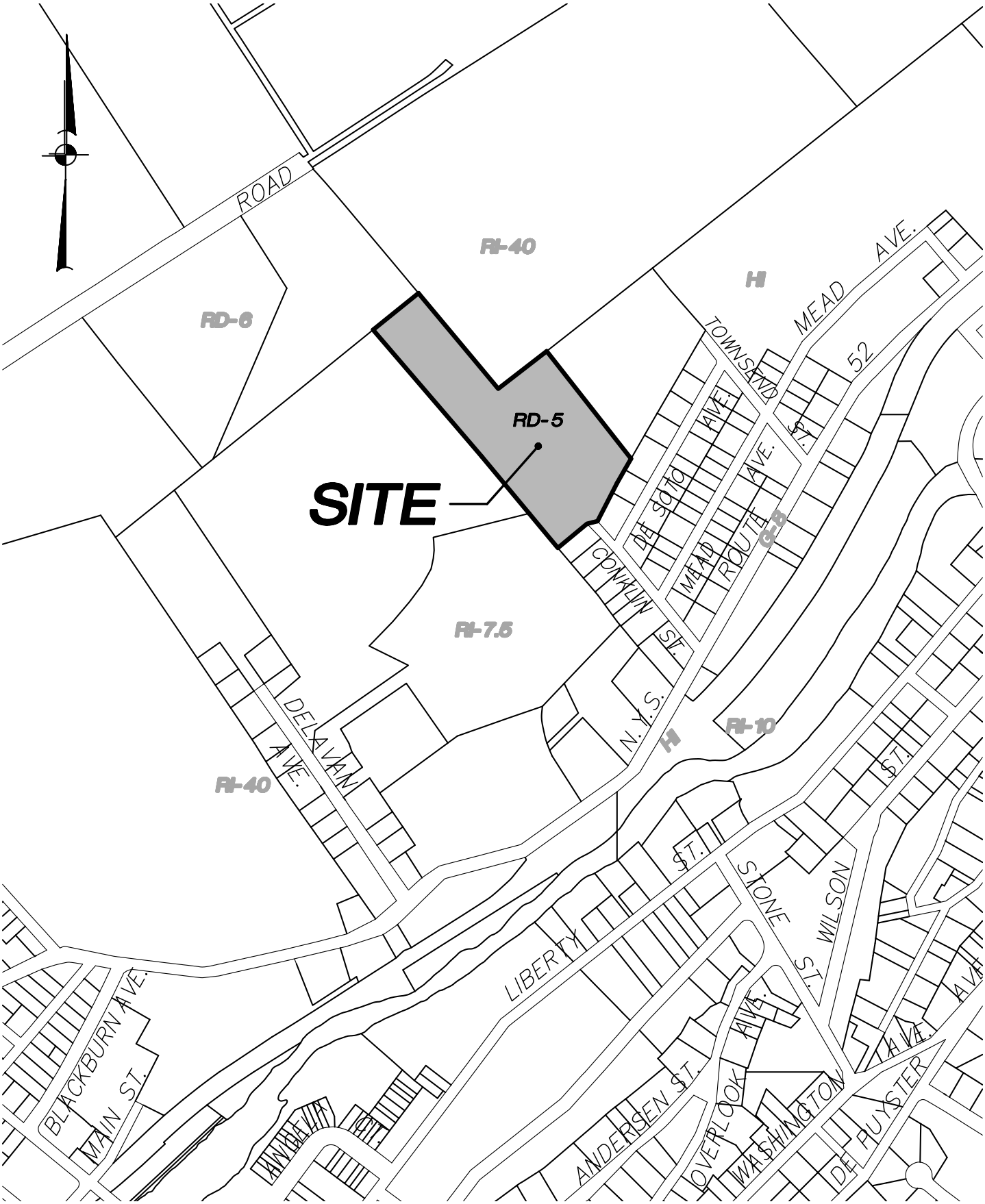
Temporary Sediment Trap Sizing Calculations

3,600 CF minimum of storage required for each acre of contributing area

Sediment Trap #	Contributing Area (Acres)	Minimum Volume Required (cf)	Volume Provided (cf)
1	3.6	12,960	18,258

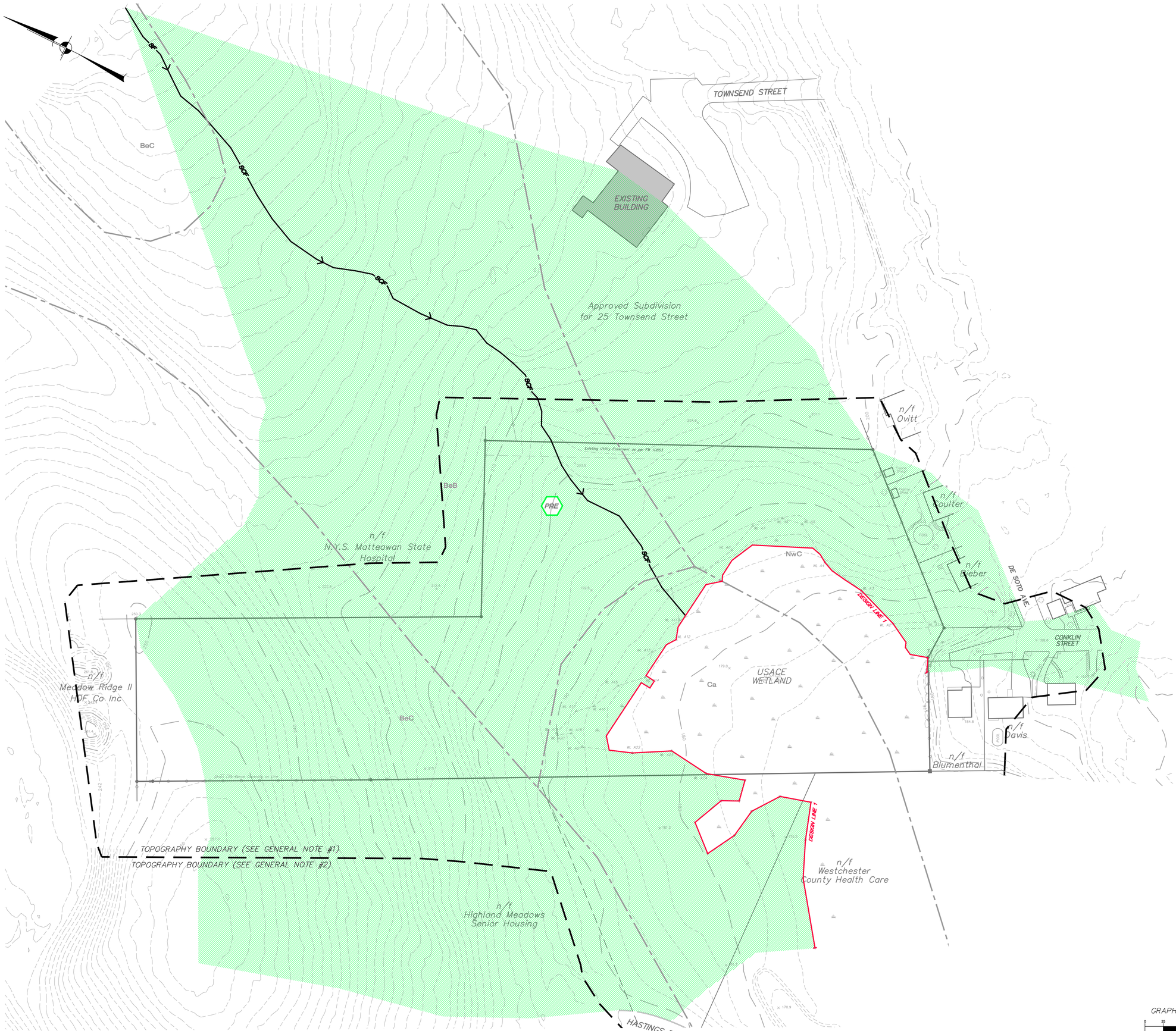
As shown in Appendix C of this report, there is 18,258 cf of storage provided between the bottom of the elevation of the temporary sediment trap (elevation 180.0) and the outlet weir elevation (elevation 182.2), which is greater than the minimum required storage volume of 12,960 cf.

FIGURES



PROJECT: BEACON VIEWS CITY OF BEACON, DUTCHESS COUNTY, NEW YORK	PREPARED BY: INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C. 3 Garrett Place • Carmel, New York 10512 Phone (845) 225-9690 • Fax (845) 225-9717 www.insite-eng.com	DATE: 8-26-19
		SCALE: 1" = 500'
		PROJECT NO.: 19131.100
DRAWING: LOCATION MAP		FIGURE: 1

Z:\E\19131100\Stormwater\Figures\Figure 1 - Location Map.dwg, 8/26/2019 7:56:56 AM, ependleton, 1:1



SOILS LEGEND

SOILS	DESCRIPTION	HYDROLOGICAL GROUP
BeB	Bernardston Silt Loam, 3% to 8% slope	C/D
BeC	Bernardston Silt Loam, 8% to 15% slope	C/D
Ca	Canandaigua Silt Loam, Nuetral Substratum	C/D
NwC	Nassau-Cardigan Complex, Rolling, Very Rocky	D
	NRCS Soil Boundary Line	

LEGEND

PRE	SUBCATCHMENT
SF	TIME OF CONCENTRATION SHEET FLOW
SCF	TIME OF CONCENTRATION SHALLOW CONCENTRATED FLOW
DESIGN LINE	DESIGN LINE
	SUBCATCHMENT CONTRIBUTING AREA

General Notes:

1. Topography shown hereon within the project site and topography boundary are based upon aerial photography dated April 14, 2003 and is photogrametrically compiled. Elevations shown hereon conform to the North American Vertical Datum of 1988 (N.A.V.D, 1988) as derived by GPS observation. The contour interval is 2'.
2. Topography shown hereon outside of the topography boundary are based upon Dutchess County 2' contour, GIS data.
3. Design Line 1 generally follows the wetland boundary on the project site. Portions of the Design Line were adjusted within the wetland to include all drainage areas in the post-development condition in the stormwater analysis.

GRAPHIC SCALE

0 25 50 100

(IN FEET)
1 inch = 50 ft.

NO.	DATE	REVISION	BY
2	6-30-20	REVISED PER PLANNING BOARD COMMENTS	EJP
1	5-26-20	REVISED PER PLANNING BOARD COMMENTS	EJP

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

PROJECT:
BEACON VIEWS
CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

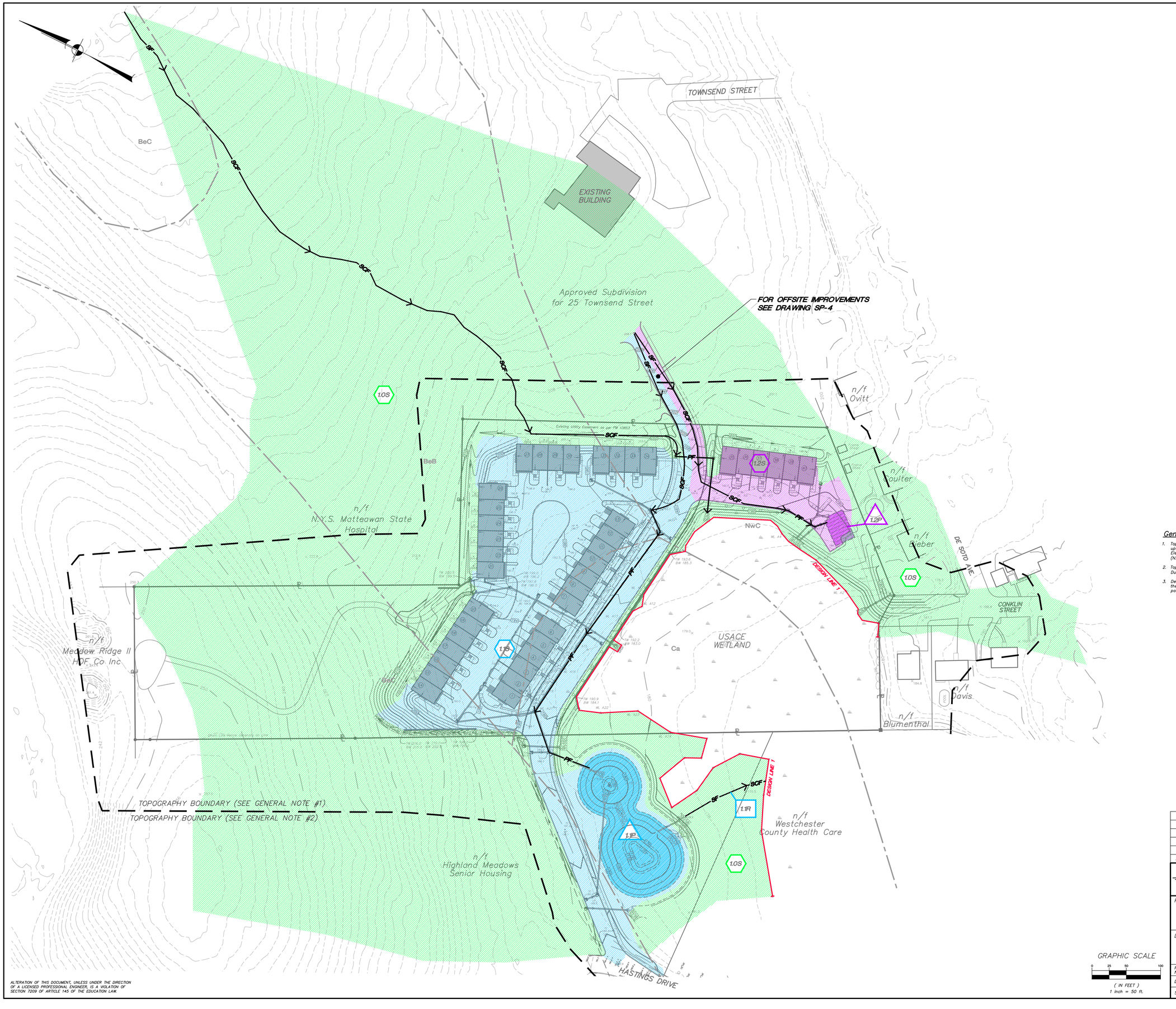
DRAWING:
PRE-DEVELOPMENT DRAINAGE MAP

PROJECT NUMBER	19131.100	PROJECT MANAGER	J.J.C.
DATE	8-26-19	DRAWN BY	E.J.P.
SCALE	1" = 50'	CHECKED BY	Z.M.P.

FIGURE NO. 2

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

Z:\E\19131100 Kohn\Stormwater\Figures\Figure 2 - Pre Development.dwg, 6/30/2020 6:09:22 AM, epsolfeton, 1:1



SOILS LEGEND

SOILS	DESCRIPTION	HYDROLOGICAL GROUP
BeB	Bernardston Silt Loam, 3% to 8% slope	C/D
BeC	Bernardston Silt Loam, 8% to 15% slope	C/D
Ca	Canandaigua Silt Loam, Nuetral Substratum	C/D
NwC	Nassau–Cardigan Complex, Rolling, Very Rocky	D
	NRCS Soil Boundary Line	

LEGEND

1.0S	SUBCATCHMENT
1.1P	STORMWATER MANAGEMENT PRACTICE
SF	TIME OF CONCENTRATION SHEET FLOW
SCF	TIME OF CONCENTRATION SHALLOW CONCENTRATED FLOW
PF	TIME OF CONCENTRATION PIPE FLOW
CF	TIME OF CONCENTRATION CHANNEL FLOW
DESIGN LINE	DESIGN LINE
	SUBCATCHMENT CONTRIBUTING AREA
	STORMWATER MANAGEMENT PRACTICE AREA

General Notes:

1. Topography shown hereon within the project site and topography boundary are based upon aerial photography dated April 14, 2003 and is photogrametrically compiled. Elevations shown hereon conform to the North American Vertical Datum of 1988 (N.A.V.D, 1988) as derived by GPS observation. The contour interval is 2'.
2. Topography shown hereon outside of the topography boundary are based upon Dutchess County 2' contour, GIS data.
3. Design Line 1 generally follows the wetland boundary on the project site. Portions of the Design Line were adjusted within the wetland to include all drainage areas in the post–development condition in the stormwater analysis.

GRAPHIC SCALE

0 25 50 100

(IN FEET)
1 inch = 50 ft.

NO.	DATE	REVISION	BY
5	11–30–21	REVISED PER PLANNING BOARD COMMENTS	EJP
4	7–28–20	REVISED PER PLANNING BOARD COMMENTS	EJP
3	6–30–20	REVISED PER PLANNING BOARD COMMENTS	EJP
2	5–26–20	REVISED PER PLANNING BOARD COMMENTS	EJP
1	4–28–20	RESUBMISSION TO PLANNING BOARD	EJP

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3 Garrett Place
Carmel, NY 10512
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(845) 225–9717 fax
www.insite–eng.com

PROJECT:
BEACON VIEWS
CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

DRAWING:
POST–DEVELOPMENT DRAINAGE MAP

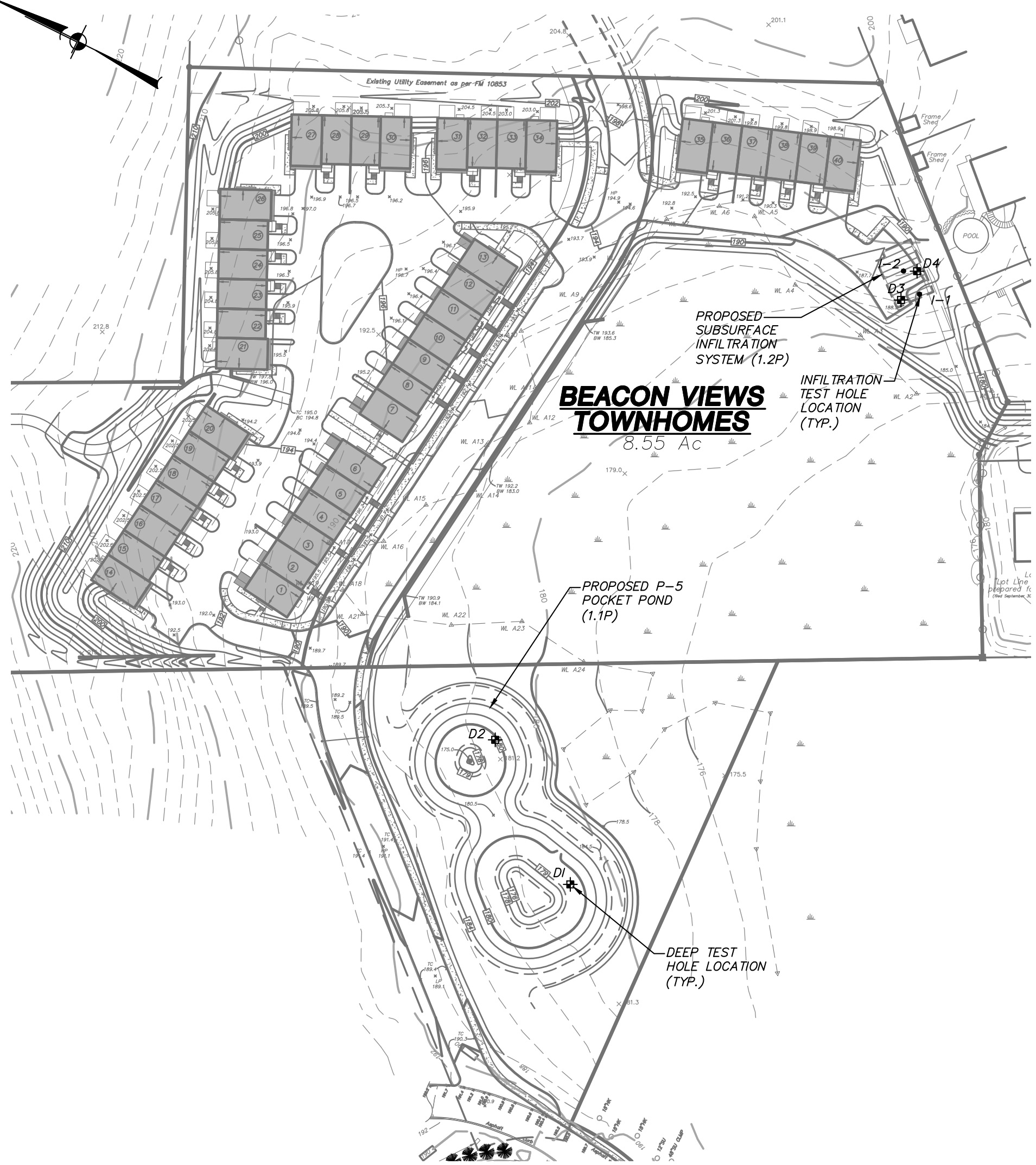
PROJECT NUMBER	19131.100	PROJECT MANAGER	J.J.C.
DATE	8–26–19	DRAWN BY	E.J.P.
SCALE	1" = 50'	CHECKED BY	Z.M.P.

FIGURE NO. 3

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

Z:\E\19131100 Kohn\Stormwater\Figures\Figure 3 - Post Development.dwg, 11/26/2021 9:58:36 AM, eprodlaton, 1:1

289



DEEP HOLE TEST RESULTS:
DEEP TESTS PERFORMED: 12–16–2019 (D–1, D–2, D–3) & 6–24–2020 (D–4)
DEEP TESTS WITNESSED BY:
EVAN PENDLETON (INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.) & CASSANDRA BIBBO AND SCOTT SICINA (LANC AND TULLY ENGINEERING AND SURVEYING, P.C.)

D–1:	0"–2"	TOPSOIL
	2"–64"+	BROWN SILTY LOAM
		GROUNDWATER @ 36". NO ROCK.
D–2:	0"–2"	TOPSOIL
	2"–48"+	BROWN SILTY LOAM
		GROUNDWATER @ 18". NO ROCK.
D–3:	0"–2"	TOPSOIL
	2"–84"+	BROWN LOAM
		GROUNDWATER @ 84". NO ROCK.
D–4:	0"–6"	TOPSOIL
	6"–48"	COMPACT BROWN LOAM
	48"–102"+	BROWN LOAM

INFILTRATION TEST RESULTS:
INFILTRATION TEST PERFORMED: 6–25–20
INFILTRATION TESTS PERFORMED BY: EVAN PENDLETON (INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.)
WITNESSED BY: STEVEN PADIN (LANC AND TULLY ENGINEERING AND SURVEYING, P.C.)

I–3:	60" IN./HR.
I–4:	21" IN./HR.

GRAPHIC SCALE
0 40 80 160
(IN FEET)
1 inch = 80 ft.

PROJECT: BEACON VIEWS
CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

DRAWING: TESTING PLAN

PREPARED BY:
INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place • Carmel, New York 10512
Phone (845) 225–9690 • Fax (845) 225–9717
www.insite–eng.com

DATE: 7–28–20
SCALE: 1" = 80'
PROJECT NO.: 19131.100
FIGURE: FIG – 4

Z:\E\19131100 Kahn\Stormwater\Figures\Figure 4 - Testing Plan.dwg, 7/27/2020 8:41:34 AM, ependleton, 1:1

TEAHAN & CONSTANTINO LLP

VINCENT L. TEAHAN
JAMES P. CONSTANTINO

EMIL D. CONSTANTINO*

RICHARD I. CANTOR
STEPHEN C.F. DIAMOND
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November 30, 2021

Chairperson and Members of the City of Beacon Planning Board
City of Beacon
City Hall
Beacon, New York 12508

RE: Beacon Views; Wetland Mitigation

Dear Chairperson and Members of the City of Beacon Planning Board:

At the Board's request, over the last several months the applicant has worked with their consultants to identify a viable location within the City of Beacon to provide wetland mitigation to offset the modest wetland disturbance proposed on the project site. A site has been identified along Hiddenbrook Drive in Beacon, and preliminary design has begun for wetland mitigation. The owners of the property have been engaged, and they are collaborating with the applicant on the details of prospective project. Please find the enclosed draft wetland mitigation easement agreement between the applicant and the owner of the property.

As previously discussed, and documented in the Wetland Evaluation and Impact Report, prepared by Michael Nowicki of Ecological Solutions, LLC, revised May 18, 2020, the functions and values of the existing wetland have been evaluated as described in §223-16a of the City of Beacon Code, and the proposed project was determined not to have significant impact on said functions and values. Wetland mitigation was prescribed in the report, which has since been increased in size to provide a 2:1 ratio of mitigation to the proposed wetland disturbance.

In addition to meeting the requirements for permitting the project with the Army Corps of Engineers, the proposed off-site wetland mitigation provides the following benefits to the City of Beacon:

- As indicated by the applicant's current wetland consultant, James A. Bates of Ecological Analysis, LLC, the proposed cumulative on and off-site mitigation will improve habitat and the local ecosystem within the city at a 2:1 ratio to the area of disturbance at the periphery of the existing wetland.
- Providing a portion of the proposed mitigation off-site allows the project site to be used more efficiently. To increase the mitigation area on the Beacon Views project site would necessitate changes to the layout which would severely hamper site circulation and the ability to provide the quantity of additional housing options for residents of the city. The current layout provides the city with a through street and multiple connections to the surrounding developments. It also provides 40 housing units, four of which are offered below market rate, to meet the growing housing needs of the city. Further, it accomplishes this without variances from the city zoning code.

We look forward to discussing our proposed wetland mitigation scenario with the Board, and if the proposed course of action is endorsed, detailed mitigation plans will be provided.

Very Truly Yours,

Richard I. Cantor, Esq.

Rev. 11-29-21

EASEMENT AND LICENSE AGREEMENT

THIS EASEMENT AGREEMENT (the "Agreement") is made and entered into as of January ___, 2022, between **JAMES VAN BUREN AND ERIN VAN BUREN, 171 HIDDENBROOKE DRIVE, BEACON, NEW YORK, 12508** ("Grantor") and **BEACON VIEWS LLC**, a New York limited liability company maintaining an office for the transaction of business at **c/o YK GROUP, 500 RIVER AVENUE, LAKEWOOD, NEW JERESEY 08071** ("Grantee").

W I T N E S S E T H:

A. Grantor is the owner of certain real property located in the City of Beacon, Dutchess County, New York more particularly described in **Schedule A** annexed hereto ("Grantor's Property").

B. Grantee is the contract vendee for certain real property located in the City of Beacon, Dutchess County, New York, more particularly described in **Schedule B** annexed hereto ("Grantee's Property").

C. Grantee is desirous of undertaking certain wetland mitigation on Grantor's Property in order for Grantee to satisfy development requirements imposed on Grantee's Property by the City of Beacon in connection with a land use application by Grantee for the development of a multi-family, residential project on Grantee's Property.

NOW, THEREFORE, in consideration of the premises and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

1. Grantor hereby grants to Grantee and its successors and assigns a permanent easement (the "Easement") over a portion of Grantor's Property more particularly described in **Schedule C** annexed hereto (the "Easement Area") for the purpose of mitigating the wetlands located in the Easement Area. The Easement Area also includes access over Grantor's Property in order to enable Grantee to undertake the mitigation provided for in this Agreement. This access shall be utilized by Grantee and its employees, agents, representatives, consultants and contractors in a manner that will minimize to the maximum extent reasonable interference with the use of Grantors Property as a residence for Grantor.

2. It is the intention of Grantor and Grantee to create an interest in Grantor's property for the benefit of Grantee's property which interest is intended to be assignable and not merely a personal right to Grantee. It is the intention of Grantor and Grantee that Grantor's property is a servient estate and Grantee's property is a dominant estate notwithstanding that Grantor's property and Grantee's property are not physically appurtenant. If the foregoing notwithstanding, it is determined by litigation and/or binding arbitration and or other binding dispute resolution procedure that this Agreement is not an enforceable easement, because Grantor's Property and Grantee's Property are not appurtenant, then, and in any such event, this Agreement is intended as an enforceable Easement in Gross or, in the alternative, an enforceable Irrevocable License. Whether an enforceable Easement, or an enforceable Easement in Gross, or an enforceable Irrevocable License, this Agreement may be amended as provided in Paragraph 4 following.

3. The mitigation to be provided by Grantee at Grantee's sole cost and expense in the Easement Area is described in **Schedule D** annexed hereto. The mitigation described in Schedule D has been approved by the City of Beacon Planning Board.

4. This Agreement may be amended by, and only by, a written agreement signed by Grantor and Grantee, and/or their successors and assigns, and shall be effective only when recorded in the Dutchess County Clerk's Office.

5. None of the terms and provisions of this agreement shall be deemed to create a partnership between Grantor and Grantee nor shall it cause Grantor and Grantee to be considered joint venturers or members of any joint enterprise. Each party shall be considered a separate owner, and no party shall have the right to act as agent for the other party, unless expressly authorized by separate written agreement signed by the party to be charged.

6. Nothing contained herein shall be deemed to be a gift or dedication of any portion of Grantor's property to the general public, or for any public use or purpose.

7. The failure of any party to insist upon strict performance of any of the terms, conditions or conditions hereof shall not be deemed to be a waiver of any rights or remedies which that party may have hereunder, at law or in equity and shall not be deemed a waiver of any subsequent breach or default in any of such terms, covenants or conditions. No waiver by any party of any default under this agreement shall be effective or binding on such party unless made in writing by

such party, signed by such party, and no such waiver shall be implied from any omission by a party to take action in respect to any such failure.

8. Grantee shall pay to Grantor upon the signing of this agreement the sum of FIVE THOUSAND ($5,000.00) DOLLARS. The additional sum of TWENTY-FIVE THOUSAND ($25,000.00) DOLLARS shall be paid by Grantee to Grantor at such time as Grantee obtains title to Grantee's property. This Easement shall not be in effect until payment in full is received by Grantor.

9. Grantee shall have such rights of access on Grantor's property as are reasonably required or convenient in order to enable Grantee to undertake the mitigation work provided in Schedule D.

10. The mitigation work described in Schedule D shall be commenced by Grantee after Grantee has closed and taken title to Grantee's property and Grantee has paid Grantor the aforesaid additional sum of TWENTY-FIVE THOUSAND ($25,000.00) DOLLARS.

11. Grantee shall maintain liability insurance insuring both Grantor and Grantee as set forth in **Schedule E** annexed hereto.

12. Grantee shall indemnify and hold harmless Grantor from any liability, claims, lawsuits or damages made against Grantor arising out of acts or omissions of Grantee and its contractors, subcontractors, and consultants, except such claims arising out of the acts or omissions of Grantor.

13. This Agreement shall be interpreted in accordance with the laws of the State of New York. Venue for any dispute arising from this Easement and License Agreement shall be in the New York State Supreme Court, Dutchess County.

14. In the event that Grantee does not undertake and complete the wetland mitigation work described in Schedule D annexed, Grantor agrees that the City of Beacon shall have the right, but not the obligation, to perform the work set forth in Schedule D annexed hereto.

15. Grantor shall not be responsible for undertaking or completing the wetland mitigation work described in Schedule D annexed hereto.

JAMES VAN BUREN

ERIN VAN BUREN

BEACON VIEWS LLC

BY: _____
NATHAN KAHN
Manager/Member

STATE OF NEW YORK)
)ss.:
COUNTY OF DUTCHESS)

On the ____ day of January, 2022, before me, the undersigned, personally appeared James Van Buren, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public

STATE OF NEW YORK)
)ss.:
COUNTY OF DUTCHESS)

On the ____ day of January, 2022, before me, the undersigned, personally appeared Erin Buren, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that she executed the same in her capacity, and that by her signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public

STATE OF NEW YORK)
)ss.:
COUNTY OF DUTCHESS)

On the ____ day of January, 2022, before me, the undersigned, personally appeared Nathan Kahn, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that she executed the same in her capacity, and that by her signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public

RECORD & RETURN TO:

SCHEDULE A

See Attached

TITLE NO. RichardSpecial

SCHEDULE A

ALL that certain plot, piece or parcel of land situate, lying and being in the City of Beacon, County of Dutchess and State of New York, as previously known as a portion of Parcel C on a certain map entitled, "Subdivision Plat prepared for Ursuline Provincialate of Lands situate in the City of Beacon and the Town of Fishkill, Dutchess County, New York", surveyed February 1, 1982 by Glennon J. Watson, New York State Licensed Land Surveyor and filed in and now known as Lot 2 as shown on a certain map entitled "Burke Subdivision etc..." surveyed by Steven J. Shaver Land Surveyor on September 21, 1997 and completed on October 22, 1997, last revised September 14, 1998 made by Steven J. Shaver, LS, situate in the City of Beacon, County of Dutchess, State of New York and formerly in the Town of Fishkill, County of Dutchess, State of New York as per Resolution Nos. 62 & 63 on May 4, 1998 by the City Council of the City of Beacon and filed in the Dutchess County Clerk's Office on September 25, 1998 as Map No. 10663.

TOGETHER with a Right of Way in favor of Parcel C as shown on a certain filed map entitled "Subdivision Plat prepared for Ursuline Provincialate of Lands situate in the City of Beacon and the Town of Fishkill, Dutchess County, New York, surveyed February 1, 1982 by Glennon J. Watson, New York State Licensed Land Surveyor" and filed in the Office of the Clerk of Dutchess County on the 15th day of June 1982 as Filed Map No. 6392 and described on a certain map entitled "Survey of Property designated as Parcel C as shown on Filed Map 6392, etc..." prepared by Steven J. Shaver, Land Surveyor on September 21, 1997 and completed on October 22, 1997.

ALSO together with Passing Areas as depicted and shown on a certain subdivision map entitled "Burke Subdivision" Plat, and filed in the Dutchess County Clerk's Office on September 25, 1998 as Map No. 10663.

For conveyancing only,
to be conveyed

Together with all right, title if intended and interest of, in and to any streets and road abutting the above described premises, to the center line thereof.

SCHEDULE B

See Attached

SCHEDULE B

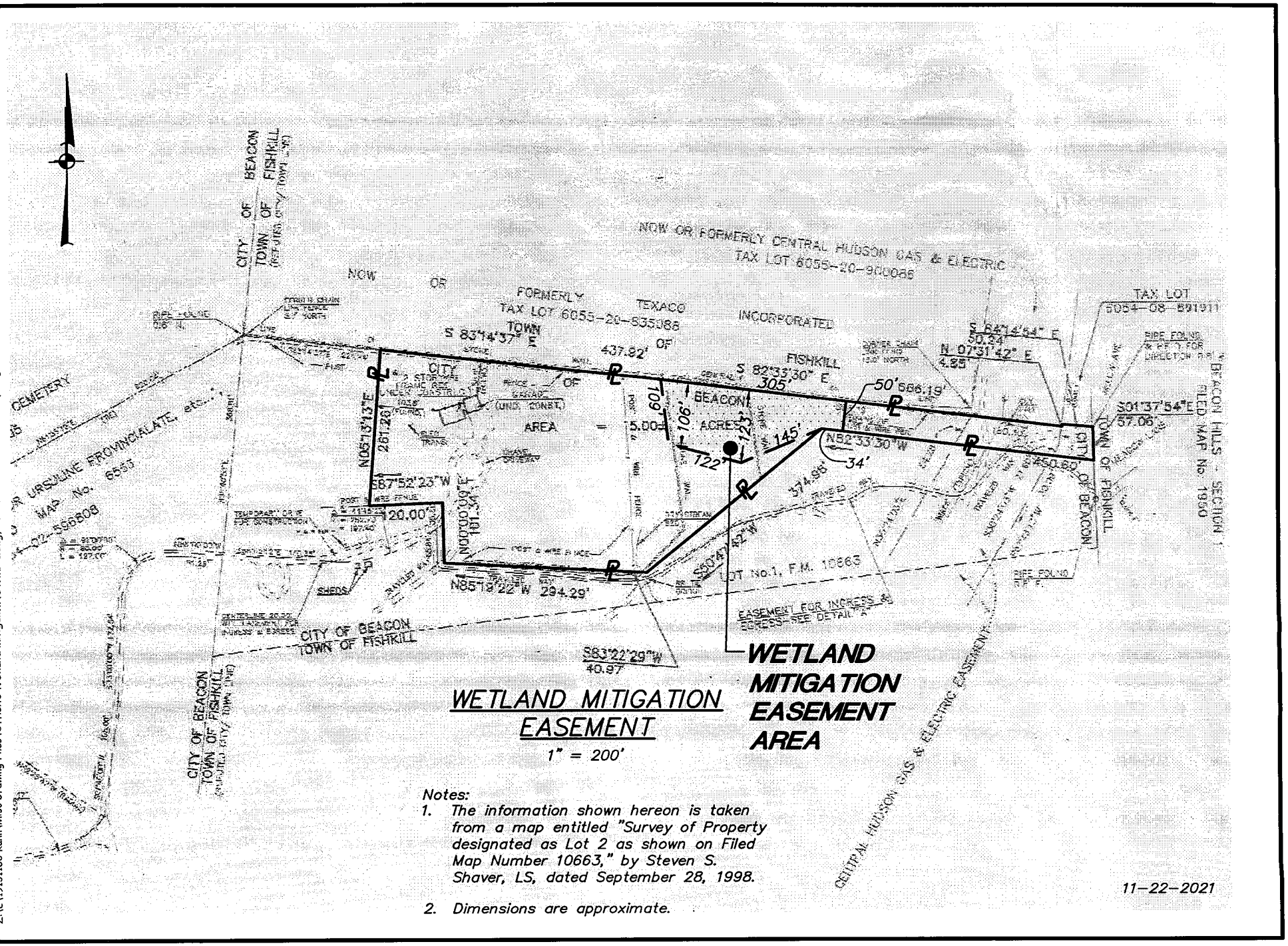
DESCRIPTION

All that certain parcel of land located in the City of Beacon, County of Dutchess and State of New York consisting of approximately 8.5 acres located on 100 Conklin Avenue and bearing Tax Grid No. 130200-6056-60-3331123-0000.

SCHEDULE C

Wetland Mitigation Easement Area

See Attached



WETLAND MITIGATION EASEMENT

1" = 200'

Notes:

1. *The information shown hereon is taken from a map entitled "Survey of Property designated as Lot 2 as shown on Filed Map Number 10663," by Steven S. Shaver, LS, dated September 28, 1998.*

2. *Dimensions are approximate.*

11-22-2021

SCHEDULE D

Mitigation Plan

See Attached

Mitigation Plan

The Wetland mitigation to be provided shall be selected to restore, enhance and preserve a well functioning wetland in the Easement Area in conformance with the United States Army Corp of Engineers Compensatory Mitigation Guidelines dated October 7, 2010. The wetland Mitigation is subject to approval by the City of Beacon Planning Board and is further subject to a five (5) year management and monitoring period by the United States Army Corp of Engineers to foster desired development of the mitigation area. Mitigation shall commence with excavation to create proper hydrology and planting with appropriate vegetation to create and support a healthy and well functioning wetland. Care will be taken to avoid introducing, to the maximum extent practicable, invasive species. During the five (5) year management and monitoring period, good wetland mitigation practices shall be utilized to support a healthy and well functioning wet land. The wetland mitigation shall be subject to such inspections by the United States Army Corp of Engineers as the United States Army Corp of Engineers deems appropriate.

Ecological Analysis LLC

633 Rt. 211 East, Suite 4, Box 4
Middletown, NY 10941
Office: (845) 495-0123 • Fax: (866) 688-0836

November 24, 2021

Mr. John Gunn, Chairman
City Of Beacon Planning Board
1 Municipal Plaza
Beacon, NY 12508

Dear Chairman Gunn and Members of the Planning Board,

I would like to introduce myself, as I have been retained as the new wetland consultant for the Beacon Views project. I have over 25 years wetland experience and have done some work for the City of Beacon within the last few years at the direction of your Consulting Engineer, John Russo, PE.

The applicant retained my firm over the summer to review the work that had been submitted to the Board to date, and to work on the wetland mitigation plans, both on-site and off-site, with their engineer, Jeffrey Contelmo, PE, of Insite Engineering (Insite). To that end I have reviewed the material that was submitted by the prior wetland consultant and concur with the work done to date. Per your Board's request, we have worked with the applicant and Insite to locate a new wetland mitigation site within the City of Beacon. As indicated in the enclosed draft Easement Agreement, we have found a viable site with an existing wetland, where we propose to do the balance of the mitigation. Our intention is to mitigate the proposed wetland disturbance at a 2:1 ratio which, given the proposed 3,775 sf+- of mitigation on-site, will require an additional 27,000 sf+- off-site, which the proposed property can accommodate. It is our professional opinion that the combined wetland mitigation areas will provide an overall habitat and ecosystem benefit to the city of Beacon. We are currently working with Insite on the proposed grading and planting for the site.

Once the proposed off-site location has been approved by the Planning Board, we will develop a detailed wetland mitigation plan to submit to both the Planning Board, and the Army Corps of Engineers for review and approval.

We are happy to answer any questions that you or staff may have.

Respectfully,

James A. Bates
Managing Member
Ecological Analysis, LLC

John Clarke Planning and Design jclarkeplandesign@gmail.com
25 Beech Street, Rhinebeck NY 12572 845.797.4152

To: John Gunn, Chair, and the City of Beacon Planning Board
Date: December 9, 2021
Re: **Beacon Views Townhouses Site Plan and Subdivision**

I reviewed a November 30, 2021 response letter from Insite Engineering, November 30, 2021 letter from Teahan & Constantino, November 24, 2021 letter from Ecological Analysis, November 29, 2021 draft wetland easement, and a 20-sheet Site Plan set by Insite Engineering, with sheets 1-17 dated November 30, 2021 and sheets 18-20 dated July 28, 2020.

Proposal
The applicant is proposing to subdivide and develop an 8.6-acre site with 40 for-sale townhouse units. The parcel is in the RD-5 zoning district. The applicant is requesting a conservation subdivision under Section 223-12 J, which allows the Board to modify lot sizes, setbacks, building separations, streets, and other requirements in order to help preserve natural features in the site.

Comments and Recommendations
The applicant should be prepared to update the Board on the following issues:

1. Status of access through the 25 Townsend Street site.

2. Use of the Highland Meadows easement parcel for access and stormwater management, as well as an agreement for proposed off-site improvements.

3. The proposed wetland mitigation plan and the search process for finding an alternative mitigation site. The proposed site is on a 5-acre, single-family house lot near the mountainside in the farthest eastern corner of the City. The applicant should provide evidence that this site will provide overall ecological benefits to the watershed, including wildlife diversity and more valuable habitats.

4. What the plan would look like if all the wetland mitigation was possible on the Beacon Views property.

5. The estimated time frame for Army Corps approval and advancing the project.

If you have any questions or need additional information, please feel free to contact me.

John Clarke, Beacon Planning Consultant

c: Dave Buckley, Building Inspector
Jennifer L. Gray, Esq., City Attorney
Arthur R. Tully, P.E., City Engineer
John Russo, P.E., City Engineer
Jeffrey Contelmo, P.E., Project Engineer
Aryeh Siegel, Project Architect

LANC & TULLY

ENGINEERING AND SURVEYING, P.C.

John J. O'Rourke, P.E., Principal
David E. Higgins, P.E., Principal
John Queenan, P.E., Principal
Rodney C. Knowlton, L.S., Principal
Jerry A. Woods, L.S., Principal
John D. Russo, P.E., Principal
John Lanc, P.E., L.S.
Arthur R. Tully, P.E.

December 10, 2021

Mr. John Gunn
Beacon Planning Board Chair
City of Beacon
1 Municipal Plaza
Beacon, NY 12508

RE: Beacon Views
City of Beacon
Special Use & Site Plan Application

Dear Mr. Gunn:

Our office has received the following in regard to the Beacon Views project, located adjacent to the 25 Townsend project and The Highland Meadows Senior Housing parcel:

- Response correspondence from INSITE Engineering & Surveying, dated November 30, 2021.
- Correspondence from Teahan & Constantino, LLP, dated November 30, 2021, along with the Easement and License Agreement, dated November 29, 2021, as attached to the correspondence.
- Correspondence from Ecological Analysis dated November 24, 2021.
- Report titled "Stormwater Pollution Prevention Plan prepared for Beacon Views", dated November 30, 2021, as prepared by INSITE Engineering.
- Plan set titled "Beacon Views", with the latest revision date of November 30, 2021, and consisting of Sheets 1 of 20 through 20, as prepared by INSITE Engineering and Surveying.

Based on our review of the above materials, we would like to offer the following comments:

General Comments:

1. The applicant shall update the Planning Board as to their proposed intentions for wetlands mitigation required as part of the project. Previously the applicant was intending to construct the wetland mitigation area within another municipality, at which time the Planning Board stated that the wetlands being removed are within the City of Beacon, mitigation must be conducted within the city. Since that time, the applicant has located an area on the Van Buren parcel, located off Hiddenbrooke Drive, in which they would like to construct the proposed mitigation area.

   The Planning Board should consider as to whether the location of the offsite proposed wetland mitigation is appropriate, or if it would be better served to have the mitigation remain on the project site. We would recommend that the applicant provide mapping of the existing wetlands in the area where the mitigation is proposed.

2. Once the Planning Board has accepted a mitigation area for the wetlands, wetland mitigation plans and report shall be prepared and submitted to the Army Corp. of Engineers and Beacon Planning Board for review and approval. The applicant shall provide copies of all correspondences between the applicant and Army Corp. of Engineers to the Planning Board and City Engineer's office once submission has been made to the Army Corp.

3. The submitted "Easement and License Agreement" for the proposed wetlands mitigation area on the Van Buren parcel should be reviewed by the Planning Board's attorney. It should be pointed out that Comment No. 14 on page 3 of the agreement states "*In the event that Grantee does not undertake and complete the wetland mitigation work described in Schedule D annexed Grantor agrees that the City of Beacon shall have the right, but no obligation, to perform the work set forth in Schedule D annexed hereto.*" We would recommend that this be removed from the schedule, as the City of Beacon does not plan on building any wetlands and it is the responsibility of the applicant as part of their approval for the project if the project is approved. With this in mind, the Planning Board should consider as to when the wetlands would have to be constructed in relationship to the overall project so that it can be included within the resolution for the project if approved.

4. The applicant should submit a copy of the "Off Site Improvements Plan" (Sheet 8 of 20) to Highland Meadows for their review and acceptance of the proposed improvements across their parcel. A letter from Highland Meadows should be submitted to the Planning Board noting their comments and/or acceptance of the plan as currently depicted on the plan. ***The applicant acknowledges this and continues to seek agreement with the owner of the Highland Meadows property.*** The required agreement between both parties shall be made part of the resolution of approval if the project is approved.

5. The proposed water and sewer system will need to be reviewed and approved by the Dutchess County Department of Health (DCDOH). All correspondences to and from the DCDOH shall be copied to the Planning Board and City Engineer's office.

Preliminary Subdivision Plat Comments:

1. Plat shall show all metes and bounds for all proposed parcel boundary lines and easements. ***The applicant has stated "The final plat will include bearings and distances for the proposed property lines".***

2. Descriptions shall be prepared for easements and the road right-of-way and provided to the Planning Board Attorney and City Engineer for review. ***The applicant has stated "Written descriptions will be provided with the final plat".***

Details (Sheet 17 of 20):

1. The Hydrodynamic Separator shall be revised so that the detail is legible, and tables and text do not cross over one another blocking pertinent information related to the detail.

This completes our review at this time. Further comments may be forth coming based upon future submissions. **A written response letter addressing each of the above comments should be provided with the next submission.** If you have any questions, or require any additional information, please do not hesitate to contact our office.

Very truly,

LANC & TULLY, P.C.

John Russo, P.E.

cc: John Clarke, Planner
Jennifer Gray, Esq.
David Buckley, Building Inspector

City of Beacon Planning Board Agenda
12/14/2021

Title:

Public hearing on application for Special Use Permit and Site Plan Approval, accessory apartment, 1080 Wolcott Avenue, submitted by Catrinel Bartolomeu & Bruno Maddox

ATTACHMENTS

1080 Wolcott Cover Letter.pdf

1080 Wolcott Site Plan.pdf

1080 Wolcott Building Elevations.pdf

Engineer Review Letter.pdf

Planner Review Letter.pdf

DUNN& SGROMO ENGINEERS, PLLC

5800 HERITAGE LANDING DRIVE, EAST SYRACUSE, NEW YORK 13057
Telephone (315) 449-4940 Facsimile (315) 449-4941

October 26, 2021

John Russo, P.E.
Lanc & Tully, P.C.
P. O. Box 687
Goshen, NY 10924

Re: 1080 Wolcott Avenue – Accessory Apartment
File No.: 1298.001

Dear Mr. Russo:

We are in receipt of your July 7, 2021 review letter, and the following are our responses to your comments:

General Comments:

Issue #1. No response.

Issue #2: The location of the existing water and sewer services that service the existing residence shall be shown on the plans, along with where the services connect to the main lines within the road. The plans shall also include the location of the sewer and water mains within the road, along with their respective sizes.

Response: We have contacted the City and Water Department Supervisor, and are awaiting confirmation of existing water location. The plan contemplates installation of a new service size to provide for both structures. Currently, the property is served by an onsite septic system which will be replaced by a new sanitary sewer service connected to the sanitary manhole located at the intersection of Wolcott Avenue and Stratford Avenue.

Issue #3: The proposed water and sewer services to service the proposed apartment shall be shown on the plans.

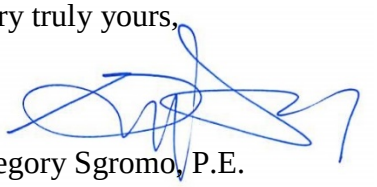
Response: The water and sewer services are shown on the Utility Plan, Sheet C-1.

Issue #4: *Construction details for the proposed water and sewer services shall be provided on the plans and shall include trench details, connection details for connections to mains, road restoration and pavement details, sidewalk restoration details, etc.*

Response: The water and sewer services are shown on the Water and Sanitary Sewer Details, Sheet C-2.

Please do not hesitate to contact this office if you have any questions, comments, or require additional information.

Very truly yours,



Gregory Sgromo, P.E.

GS/lb

cc: Jon Moss, R.A., LEED – Berg & Moss Architects, P.C.

BARN CONVERSION

1080 WOLCOTT AVENUE
BEACON, NEW YORK 12508

ACCESSORY BUILDING - VARIANCE APPLICATION
06.22.2021

GENERAL NOTES

LOCATION:	1080 WOLCOTT AVENUE, BEACON, NY 12508
TAX MAP:	130200-5954-34-659817-0000
DEED REFERENCE:	BOOK: 22020, PAGE: 30
OWNER OF RECORD:	CATRINEL AND BRUNO BARTOLOMEU 1080 WOLCOTT AVE BEACON NY 12508
APPLICANT:	CATRINEL AND BRUNO BARTOLOMEU 1080 WOLCOTT AVE BEACON NY 12508
ZONING DISTRICT:	R1-40: RESIDENTIAL; HISTORIC DISTRICT AND LANDMARK ZONING OVERLAY
PROPOSED USE:	BARN CONVERSION
NARRATIVE:	CONVERSION OF AN EXISTING BARN NON-SPRINKLERED. CURRENTLY ZONED AS RESIDENTIAL, NO CHANGE TO ZONING. PROPOSED USE OF BARN TO BE APARTMENT SPACE FOR OWNER'S FAMILY.
HOURS OF OPERATION:	N/A - RESIDENTIAL USE

DRAWING LIST

● NEW ISSUE ■ REVISED ISSUE ○ ISSUED WITH NO CHANGES

Sheet No.	Rev.	Drawing Title	Issue 1 - 06.22.2021	Issue Date 2	Issue Date 3
Z-000.00	1	COVER SHEET	•		
Z-001.00	1	SITE PLAN	•		
Z-002.00	1	PLANS	•		

TAX MAP



ZONING ANALYSIS - ACCESSORY BUILDING

	REQUIRED BY ORDINANCE	PROPOSED
ZONING DISTRICT	R1-40: RESIDENTIAL; HISTORIC DISTRICT AND LANDMARK ZONING OVERLAY	
USE GROUPS EXISTING ON SITE	RESIDENTIAL	
USE GROUPS PROPOSED ON SITE	RESIDENTIAL - ACCESSORY BUILDING CONVERSION	
BUILDING FOOTPRINT	N/A	955 SF - NO CHANGE
MAX LOT COVERAGE	N/A	NO CHANGE
SETBACK REGULATIONS (SEC. 223-17E)		
FRONT YARD SETBACK: SIDE YARD SETBACK: REAR YARD SETBACK:	NOT PERMITTED IN FRONT YARD 25 FT MIN 25 FT MIN	N/A EXISTING - 76'-3", 52'-5" EXISTING, NON-COMPLIANT - 2'-2 1/2"
MAX CUMULATIVE SQUARE FOOTAGE FOR ALL ACCESSORY BUILDINGS:	1,625 SF	EXISTING, NON-COMPLIANT - 371 SF (GARAGE) + 1,720 SF (BARN) = 2,091 SF > 1,625 SF
MAX SQUARE FOOTAGE PERMITTED FOR EACH ACCESSORY BUILDING:	40% OF PRINCIPAL BUILDING	3,709.2 SF (PRINCIPAL BUILDING) X 40% = 1,484 SF ALLOWABLE
MAX NUMBER OF SHEDS PERMITTED:	2	NO CHANGE - 2 EXISTING ACCESSORY BUILDINGS
SETBACK REGULATIONS (SEC. 223-24.1)		
FLOOR AREA REQUIREMENTS FOR AN ACCESSORY APARTMENT IN AN ACCESSORY BUILDING:	300 SF MIN 600 SF MAX	1,320 SF FOR PROPOSED APARTMENT

VARIANCE SUMMARY:

1. REAR YARD SETBACK ACCESSORY BUILDING (SEC. 223-17E): REAR YARD SETBACK (24.4' VARIANCE REQ'D)
2. PERMITTED ACCESSORY BLDG SF (SEC. 223-17): TOTAL SF OF BARN = 1,720 SF
3. CUMULATIVE ACCESSORY BLDGS AREA (SEC. 223-17): TOTAL SF OF CUMULATIVE BLDGS = 2,091 SF
4. FLOOR AREA REQS FOR ACCESSORY APT/ (SEC. 223-24.1): TOTAL SF OF PROPOSED APT. = 1,320 SF
5. 2ND FL. OF ACCESSORY B'D'G SHALL BE STORAGE (SEC. 223-14E(3)(e)): PROPOSED RESIDENTIAL USE

ZONING ANALYSIS

	REQUIRED BY ORDINANCE	PROPOSED
ZONING DISTRICT	R1-40: RESIDENTIAL; HISTORIC DISTRICT AND LANDMARK ZONING OVERLAY	
LOT AREA	1.599 ACRES (69,654.9 SF)	
STREET FRONTAGE	203 FT ALONG WOLCOTT AVENUE	
USE GROUPS EXISTING ON SITE	RESIDENTIAL	
USE GROUPS PROPOSED ON SITE	RESIDENTIAL ACCESSORY BUILDING	
BUILDING FOOTPRINT	N/A	3,709.2 SF - NO CHANGE
MAX LOT COVERAGE	15%	NO CHANGE
YARD REGULATIONS (SEC. 223-17C)		
MINIMUM LOT AREA: MINIMUM LOT WIDTH: MINIMUM LOT DEPTH:	40,000 SF 150 FT 150 FT	NO CHANGE +/- 419' - COMPLIES +/- 203' - COMPLIES
SETBACK REGULATIONS (SEC. 223-17C)		
FRONT YARD SETBACK: SIDE YARD SETBACK: REAR YARD SETBACK:	40 FT MIN 25 FT MIN 50 FT MIN	NO CHANGE - COMPLIES NO CHANGE- COMPLIES NO CHANGE - 49.4' VARIANCE REQ'D
HEIGHT REGULATIONS (SEC. 223-17C)		
MAX HEIGHT (STORIES):	2.5 STORIES / MAX 35 FT	NO CHANGE
LANDSCAPE REGULATIONS	N/A	-
PARKING REGULATIONS (SEC. 223-26)		
SPACES REQUIRED: ACCESSIBLE SPACES:	2 SPACES FOR EACH DWELLING -	NO CHANGE



SITE PLAN 01
1" = 20'-0"

OWNER'S CERTIFICATION

THE UNDERSIGNED, OWNER OF THE PROPERTY SHOWN HEREON, STATES THAT HE IS FAMILIAR WITH THIS MAP, ITS CONTENTS, LEGENDS AND DATA AND HEREBY CONSENTS TO ALL SAID TERMS AND CONDITIONS AS STATED HEREON.

OWNER _____ DATE _____

PLANNING BOARD APPROVAL

RECOMMENDED FOR APPROVAL BY THE CITY OF BEACON PLANNING BOARD ON THE **22nd** DAY OF **December**, 2020. SUBJECT TO ALL REQUIREMENTS AND CONDITIONS OF SAID RESOLUTION. ANY CHANGES, ERASURES, MODIFICATIONS OF REVISIIONS TO THE PLAT AS APPROVED SHALL VOID THIS APPROVAL.

CHAIRMAN _____ DATE _____

Berg+Moss Architects
BMA

Architect:

BERG + MOSS ARCHITECTS PC
473 MAIN STREET No. 1
BEACON, NY 12508
T: 845 831 1318
INFO@BERGMOSS.COM

Consultant:

NAME
ADDRESS
PHONE
EMAIL

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NEW UTILITY POLE FOR CONNECTION TO EXISTING BARN

EXISTING GARAGE
371 SF

Overhead Wires

PROPERTY LINE

Gate

Garden

MIN 25' - 0"
ACCESSORY BLDG SETBACK

SIDEYARD SETBACK

REAR YARD SETBACK

52' - 5"

Concrete Walk

Cellar Ent.

Asphalt Drive

Garage BELOW

EXISTING BARN
2 STORY W/ BASEMENT
1,720 TOTAL SF
FOOTPRINT 1,060 SF

Deck

Electric Meter

Lamp

PROPOSED PATIO

n/f
LI

S 51°01'14" W 161.93'

EXISTING PRINCIPAL BUILDING
3,709.2 SF

Porch

FM7820
L5

airs

Hot Tub

Electric Connection

FM7820
L4

SIDEYARD SETBACK

28' - 4 1/2"

MIN 25' - 0"
ACCESSORY BLDG SETBACK

MIN 25' - 0"
ACCESSORY BLDG SETBACK

n/f
JGLAS

ENLARGED SITE PLAN 01
1/8" = 1'-0"

Berg+Moss Architects
BMA
BERG + MOSS ARCHITECTS PC
473 MAIN STREET No. 1
BEACON, NY 12508
T: 845 831 1318
INFO@BERGMOSS.COM

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NO.	REVISION/SUBMISSION NAME	DATE
1	VARIANCE APPLICATION	06.22.2021

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1080 WOLCOTT AVE.
BEACON, NEW YORK 12508

KEY PLAN

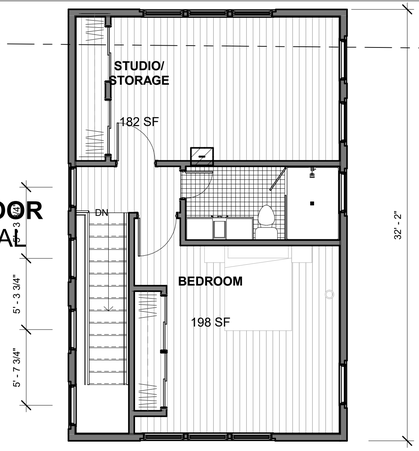
PROJECT NORTH

DRAWING TITLE
SITE PLAN

DRAWING NO.
Z-001.00

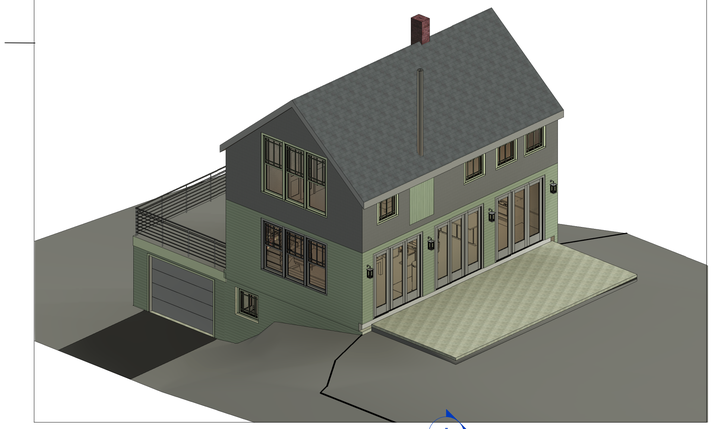
SEAL & SIGNATURE

DATE: 11.19.12
SCALE: 1/8" = 1'-0"
DWG BY: Author
CHK BY: Checker



SECOND FLOOR
660 SF TOTAL

Second Floor 03
3/16" = 1'-0"



AXONOMETRIC DIAGRAM 04





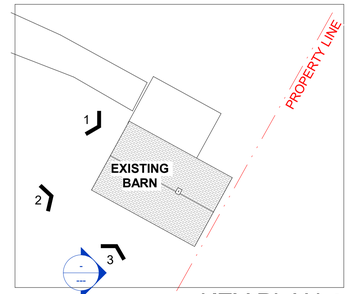


EXISTING PHOTOS AND KEY PLAN



P-1: GREY TO MATCH HISTORIC PAINT ON MAIN HOUSE

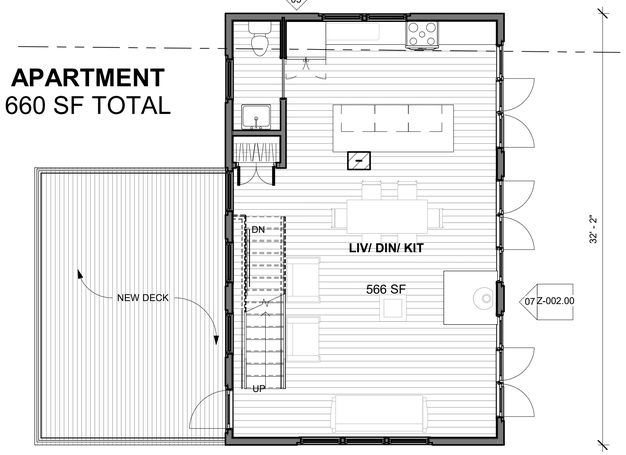
P-2 GREEN TO MATCH HISTORIC PAINT ON MAIN HOUSE



KEY PLAN 09
1" = 20'-0"

Z-002.00
05

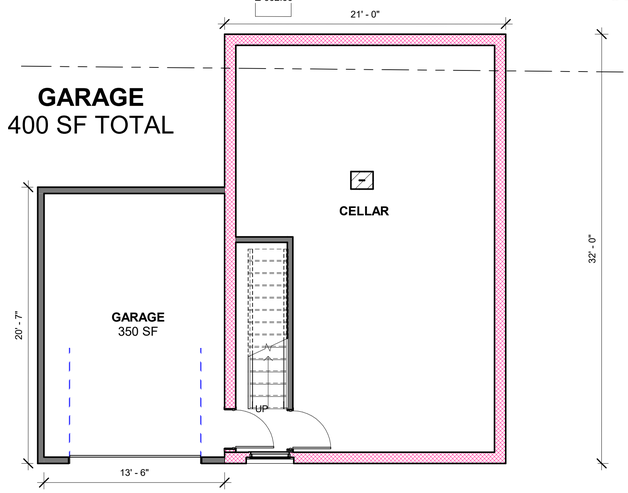
APARTMENT
660 SF TOTAL



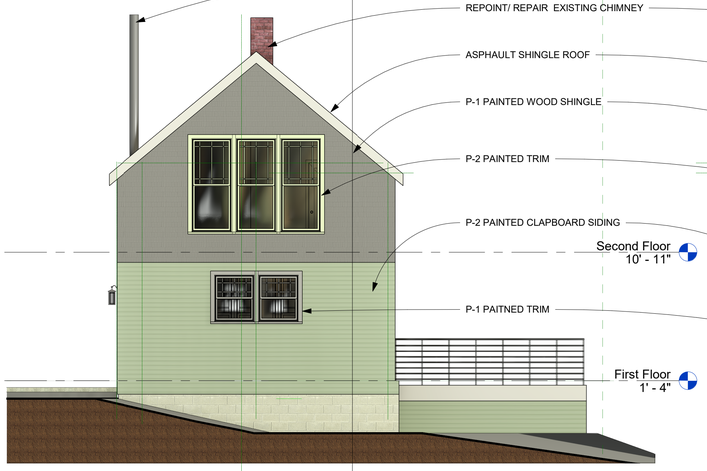
First Floor 02
3/16" = 1'-0"

08
Z-002.00

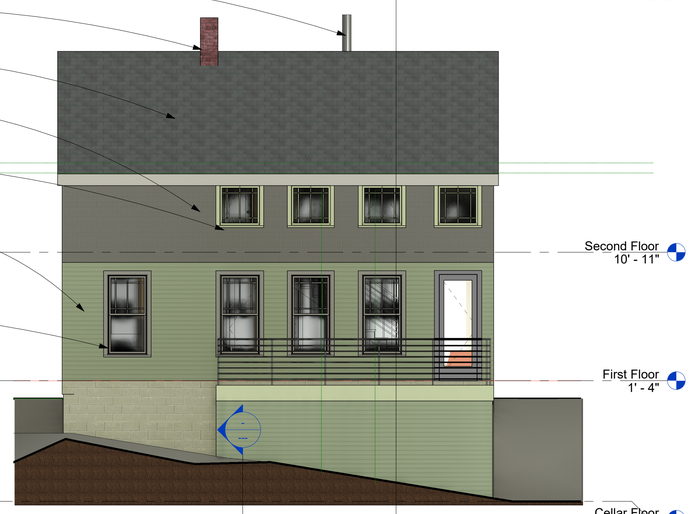
GARAGE
400 SF TOTAL



Cellar 01
3/16" = 1'-0"



EAST ELEVATION 05
3/16" = 1'-0"



NORTH ELEVATION 06
3/16" = 1'-0"



SOUTH ELEVATION 07
3/16" = 1'-0"



WEST ELEVATION 08
3/16" = 1'-0"

BERG + MOSS ARCHITECTS PC
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NO.	REVISION/SUBMISSION NAME	DATE
1	VARIANCE APPLICATION	06.22.2021

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1080 WOLCOTT AVE.
BEACON, NEW YORK 12508

KEY PLAN

PROJECT NORTH

DRAWING TITLE
PLANS

DRAWING NO.
Z-002.00

SEAL & SIGNATURE

DATE: 11.19.12
SCALE: As Indicated
DWG BY: Author
CHK BY: Checker

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NORTH

LEGEND

	EXISTING	PROPOSED
PROPERTY LINE	℄	℄
UNDERGROUND ELECTRIC /COMMUNICATION	E	UE/C
GAS		G
CLEAN OUT		○
POWER POLE	⌀	
STREET LIGHT	✳	●–
HYDRANT	HYD	
WATER LINE	W	W
SANITARY LINE	S	S
STORM LINE	D	D
CATCH BASIN	■	CB
SANITARY MANHOLE	Ⓢ	SMH
SIDEWALK		
TRANSFORMER		

GENERAL NOTES:

1. BASED ON SURVEY PREFORMED BY OICLE LAND SURVEYING, PC 2020
2. TOPOGRAPHY CREATED BY LIDAR TAKEN FROM GIS CLEARINGHOUSE
3. SIZE AND MATERIAL OF EXISTING WATER AND SEWER MAINS LOCATED ON WOLCOTT AVE. TO BE VERIFIED PRIOR TO ANY WORK BEING PERFORMED

1 **SITE PLAN**
SCALE:1"=20'

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)

NOT FOR CONSTRUCTION

THIS PLAN HAS NOT RECEIVED FINAL APPROVAL OF AL REVIEWING AGENCIES. THIS PLAN IS SUBJECT TO REVISION UNTIL ALL APPROVALS ARE OBTAINED AND SHOULD NOT BE USED FOR CONSTRUCTION PURPOSES.

DUNN & SGROMO ENGINEERS
5800 HERITAGE LANDING DRIVE
EAST SYRACUSE, NEW YORK 13057
T: (315)449-4940 F: (315)449-4941

STATE OF NEW YORK · GREGORY SGROMO · 073202 · LICENSED PROFESSIONAL ENGINEER

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NO.	DATE	REVISION	BY
1	10.26.2021	LANC & TRACY COMMENTS	MGS

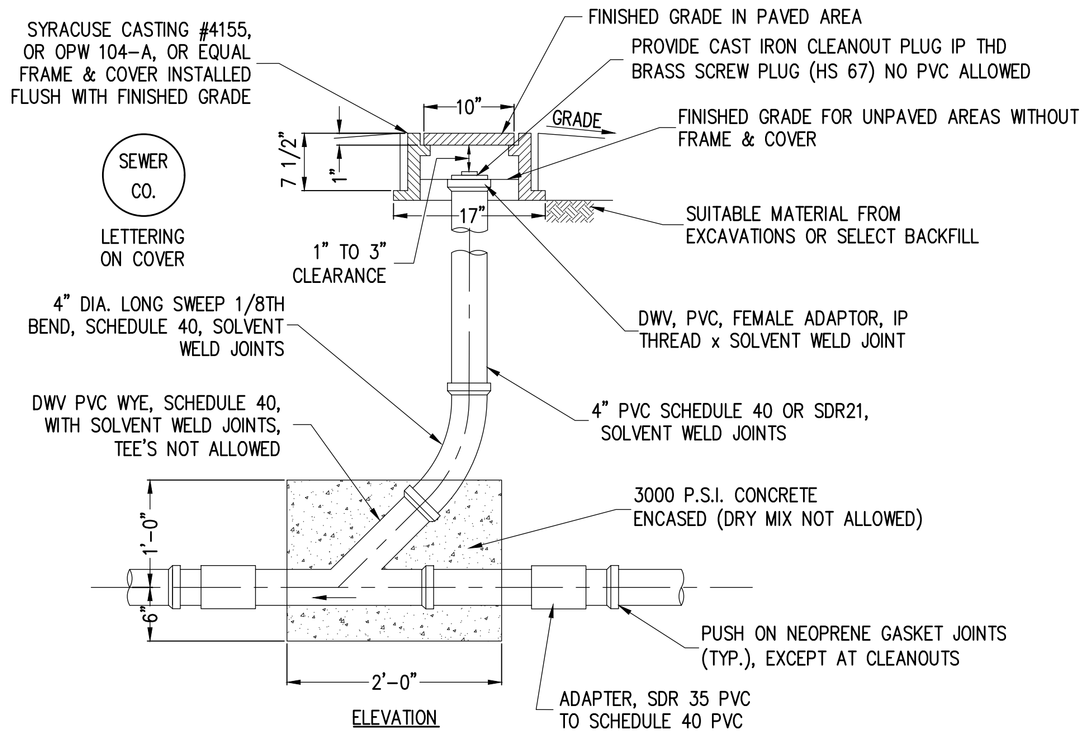
CITY OF BEACON
DUTCHESS COUNTY, NEW YORK

1080 WOLCOTT AVENUE

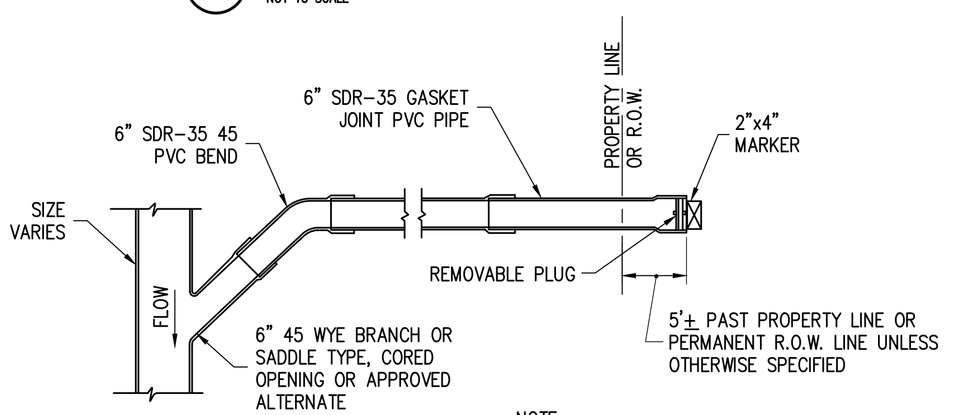
UTILITY PLAN

SCALE: AS NOTED	FILE NO.: 1298.001
DESIGNED BY: MGS	DATE: 08.05.2021
DRAWN BY: MGS	DWG. NO: C-1
CHECKED BY: GS	

Q:\CADD Files\PROJECTS\Bartolomeu & Maddox - 1298\001 - 1080 Wolcott Avenue\Working Drawings\BASE.dwg, 10/26/2021 2:06:31 PM

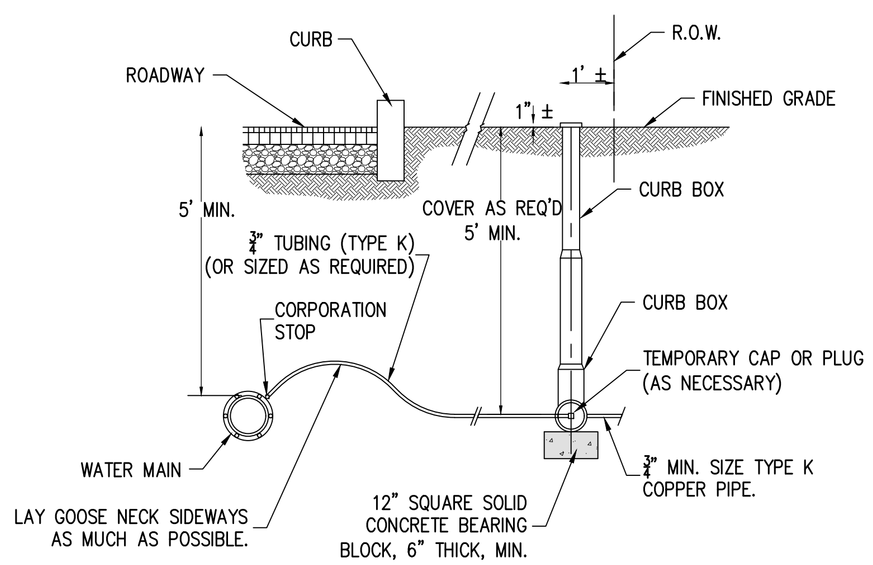


1 DETAIL: SANITARY CLEANOUT
NOT TO SCALE

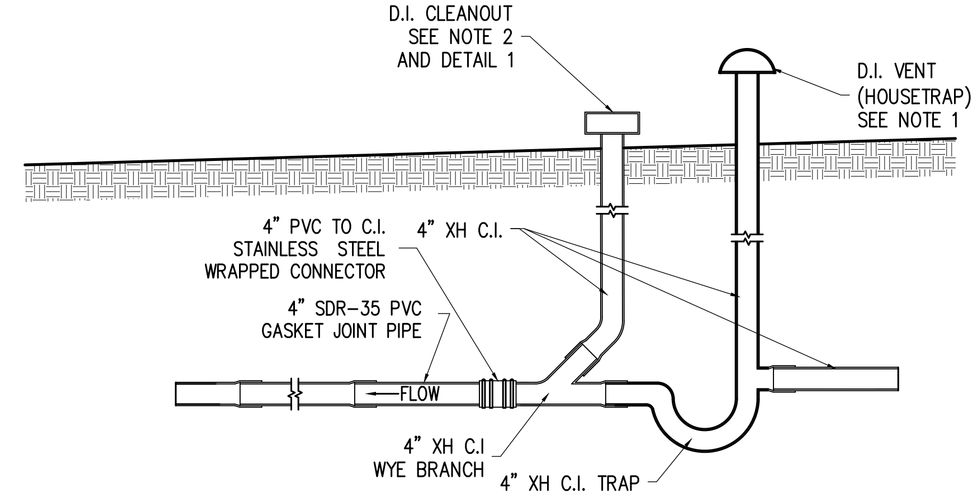


NOTE:
END OF HOUSE LATERAL SHALL BE LOCATED BY STATION AND OFFSET FROM MAIN LINE SEWER. DEPTH OF 2"x4" MARKER TO EXTEND FROM INVERT TO 3' ABOVE FINISH GRADE (MINIMUM).

2 DETAILS: STANDARD HOUSE LATERAL - PVC
SCALE: 1/2" = 1'-0"

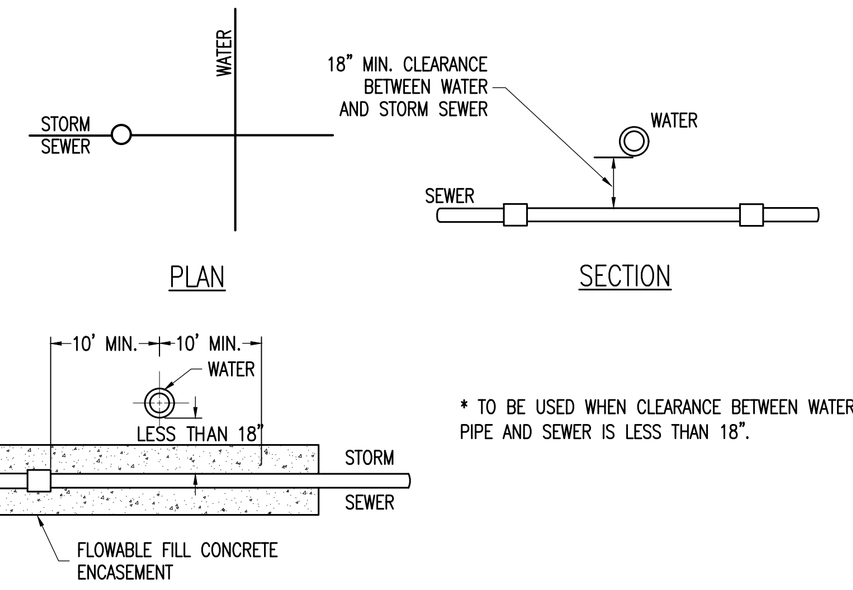


3 DETAIL: TYPICAL HOUSE SERVICE INSTALLATION
SCALE: 1/2"=1'-0"



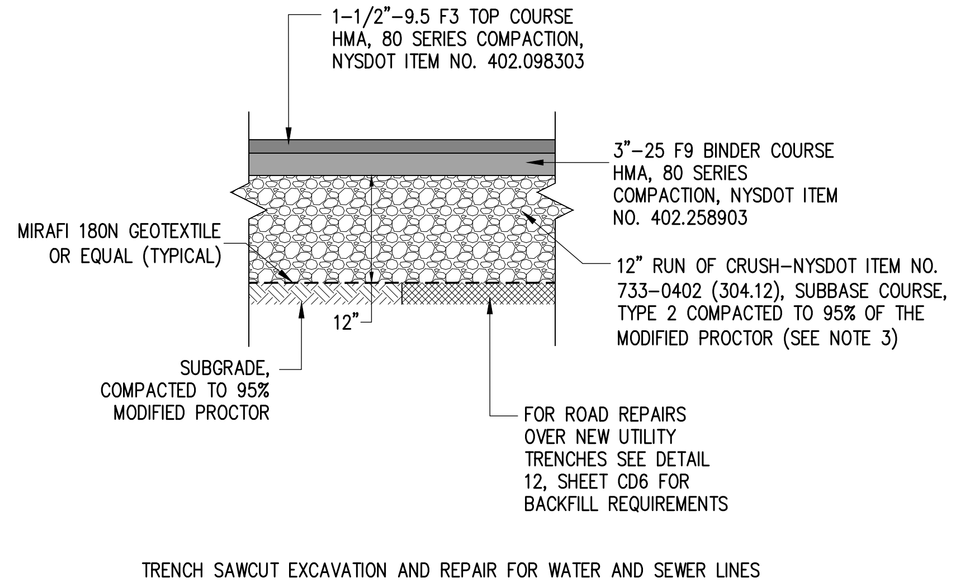
NOTES:
1. EACH LATERAL MUST HAVE A HOUSE TRAP NEAR THE PROPERTY LINE OR AS SHOWN ON THE CONTRACT PLANS.
2. SEWER CLEANOUT SHALL BE INSTALLED BETWEEN EACH HOUSE TRAP AND THE SEWER MAIN.
3. TRAP AND CLEANOUT MATERIAL SHALL COMPLY WITH TOWN CODE.

4 DETAIL: STANDARD LATERAL/CLEANOUT/TRAP & CONNECTION
NOT TO SCALE



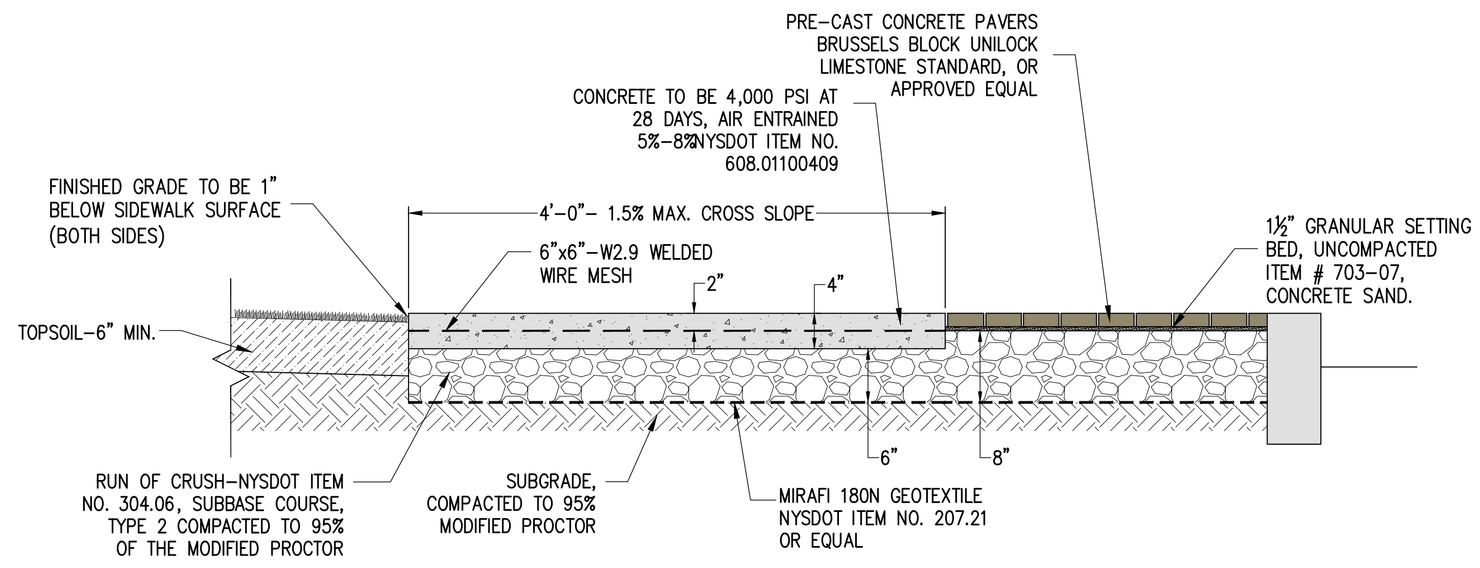
* TO BE USED WHEN CLEARANCE BETWEEN WATER PIPE AND SEWER IS LESS THAN 18".

5 DETAIL: STORM SEWER ENCASEMENT
SCALE: 1/2" = 1'-0"

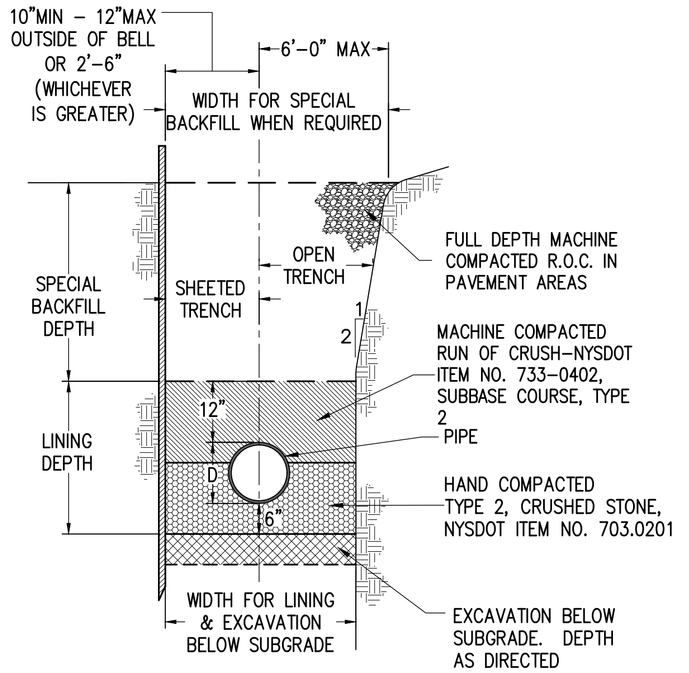


TRENCH SAWCUT EXCAVATION AND REPAIR FOR WATER AND SEWER LINES

6 DETAIL: ASPHALT ROAD REPAIR
SCALE: 1"=1'



7 DETAIL: SIDEWALK SECTION AND GRNITE CURB
SCALE: 1-1/2"=1'-0"



8 DETAIL: TRENCHING AND LINING
NOT TO SCALE

NOTES:

1. THIS DETAIL APPLIES TO ALL UTILITIES.
2. ALL BACKFILL MATERIAL REQUIRED WILL BE AS FOLLOWS:
   - A. UNDER PAVEMENTS-SPECIAL BACKFILL SHALL BE RUN OF CRUSH NYSDOT ITEM NO. 733.0402, SUBBASE COURSE, TYPE 2 AS SPECIFED IN TABLE 733-04A, OF THE NYSDOT STANDARD SPECIFICATIONS.
   - B. UNDER LAWNS AND OTHER IMPROVED AREAS-SPECIAL BACKFILL SHALL BE GENERAL FILL, INERT MATERIAL FREE FROM ORGANIC MATTER, RUBBISH, DEBRIS, AND ROCKS GREATER THAN 6" IN DIAMETER.
   - C. LINING MATERIAL-6" BELOW PIPE AND BOTTOM ⅔ OF PIPE, SHALL BE CRUSHED STONE, NYSDOT ITEM NO. 703.0201, TYPE 2 AS SPECIFIED IN TABLE 703-4 OF THE NYSDOT STANDARD SPECIFICATIONS.
   - D. LINING MATERIAL-TOP ⅓ OF PIPE AND 12" ABOVE PIPE, SHALL BE RUN OF CRUSH NYSDOT ITEM NO. 733.0402, SUBBASE COURSE, TYPE 2 AS SPECIFED IN TABLE 733-04A, OF THE 2016 NYSDOT STANDARD SPECIFICATIONS.
   - E. EXCAVATION BELOW SUBGRADE-BACKFILL SHALL BE CRUSHED STONE, NYSDOT ITEM NO. 703.0201, TYPE 2 AS SPECIFIED IN TABLE 703-4 OF THE NYSDOT STANDARD SPECIFICATIONS.
3. MINIMUM COMPACTION REQUIREMENTS WILL BE AS FOLLOWS:
   - A. FILL UNDER PIPELINES AND PIPE BEDDING-8" (MAX.) LIFTS COMPACTED TO 95% IN ACCORDANCE WITH ASTM D1557.
   - B. PIPE SIDE FILLS AND TOP 4' OF BACKFILL UNDER PAVEMENTS-8" (MAX.) LIFTS COMPACTED TO 93% IN ACCORDANCE WITH ASTM D1557.
   - C. BACKFILL BELOW 4' UNDER PAVEMENT-18" (MAX.) LIFTS COMPACTED TO 90% IN ACCORDANCE WITH ASTM D1557.
   - D. BACKFILL UNDER LAWNS, GARDENS, AND CULTIVATED FIELDS-24" (MAX.) LIFTS COMPACTED TO 90% IN ACCORDANCE WITH ASTM D698.

NOT FOR CONSTRUCTION

THIS PLAN HAS NOT RECEIVED FINAL APPROVAL OF ALL REVIEWING AGENCIES. THIS PLAN IS SUBJECT TO REVISION UNTIL ALL APPROVALS ARE OBTAINED AND SHOULD NOT BE USED FOR CONSTRUCTION PURPOSES.

DUNN & SGROMO ENGINEERS
5800 HERITAGE LANDING DRIVE
EAST SYRACUSE, NEW YORK 13057
T: (315)449-4940 F: (315)449-4941

STATE OF NEW YORK GREGORY SGROMO 073282 LICENSED PROFESSIONAL ENGINEER

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON, UNLESS ACTING UNDER A LICENSED, REGISTERED ENGINEER, TO ALTER AN ITEM ON THIS DOCUMENT IN ANY WAY.
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NO.	DATE	REVISION	BY
1	10.26.2021	LANC & TULLY COMMENTS	MGS

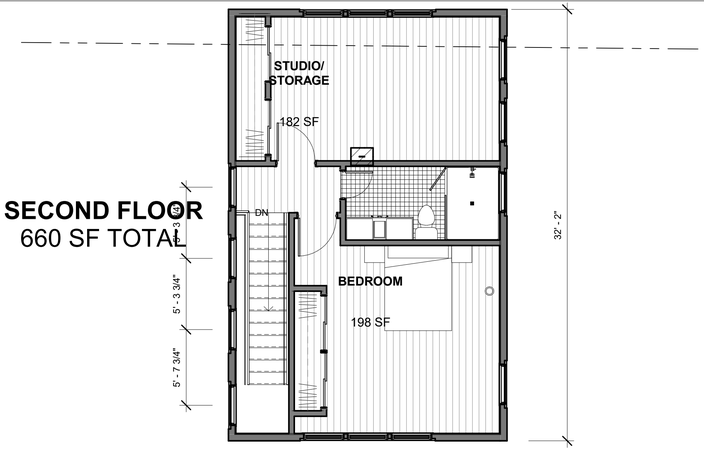
CITY OF BEACON
DUTCHESS COUNTY, NEW YORK

1080 WOLCOTT AVENUE

WATER AND SANITARY DETAILS

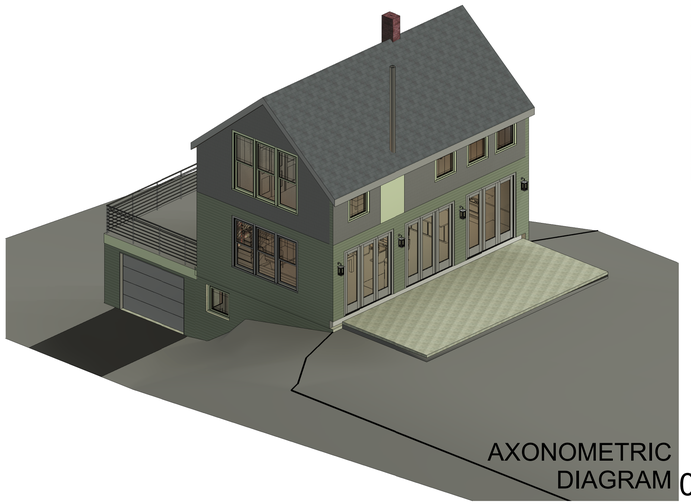
SCALE: AS NOTED	FILE NO.: 1298.001
DESIGNED BY: KLL	DATE: 09.09.2021
DRAWN BY: KLL	DWG. NO: C-2
CHECKED BY: GS	

Q:\CADD Files\PROJECTS\Bartolomeu & Maddox - 1298\001 - 1080 Wolcott Avenue\Working Drawings\BASE.dwg, 10/26/2021 2:04:49 PM



SECOND FLOOR
660 SF TOTAL

Second Floor 03



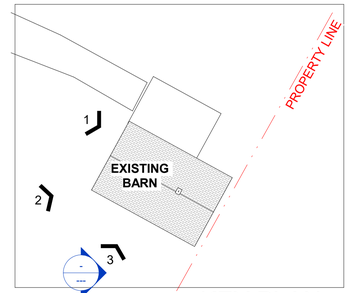
AXONOMETRIC DIAGRAM 04



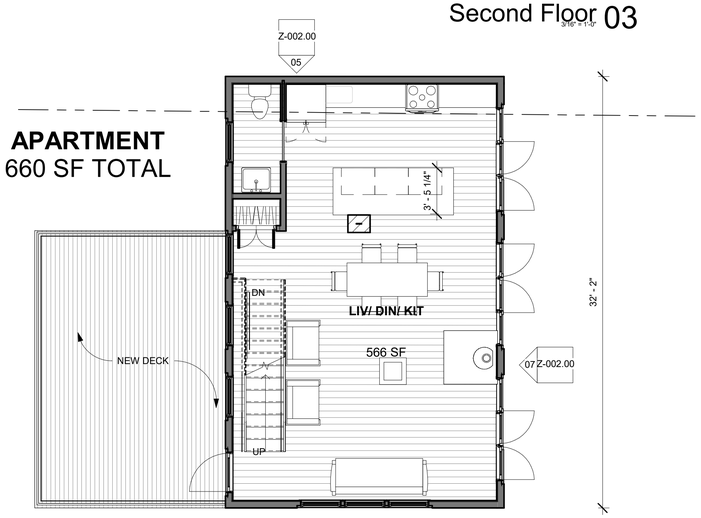




EXISTING PHOTOS AND KEY PLAN

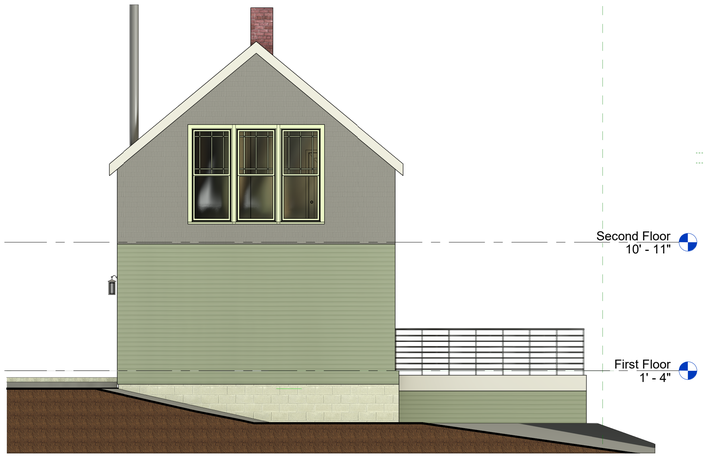


KEY PLAN 09



APARTMENT
660 SF TOTAL

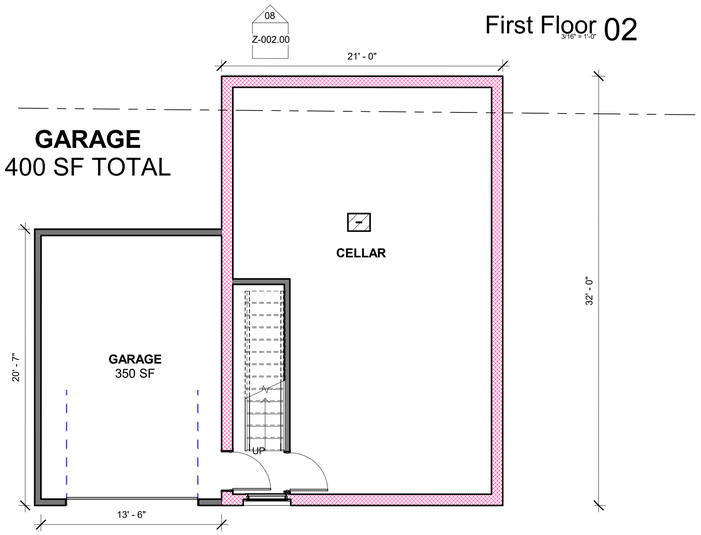
First Floor 02



EAST ELEVATION 05



NORTH ELEVATION 06



GARAGE
400 SF TOTAL

Cellar 01



SOUTH ELEVATION 07



WEST ELEVATION 08

Berg+Moss Architects
BMA
BERG + MOSS ARCHITECTS PC
473 MAIN STREET No. 1
BEACON, NY 12508
T: 845 831 1318
INFO@BERGMOSS.COM

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NO.	REVISION/SUBMISSION NAME	DATE
1	VARIANCE APPLICATION	06.22.2021

THESE CAD FILES MAY NOT BE USED, DUPLICATED, MODIFIED OR CHANGED IN ANY MANNER WITHOUT THE WRITTEN CONSENT OF BERG + MOSS ARCHITECTS PC. THE USER AND ITS AGENTS WILL BE LIABLE FOR ANY UNAUTHORIZED USE, DUPLICATION, MODIFICATION OR CHANGE.

1080 WOLCOTT AVE.
BEACON, NEW YORK 12508

KEY PLAN

PROJECT NORTH

DRAWING TITLE
PLANS

DRAWING NO.
Z-002.00

SEAL & SIGNATURE

DATE: 11.19.12
SCALE: As Indicated
DWG BY: Author
CHK BY: Checker

LANC & TULLY
ENGINEERING AND SURVEYING, P.C.

John J. O'Rourke, P.E., Principal
David E. Higgins, P.E., Principal
John Queenan, P.E., Principal
Rodney C. Knowlton, L.S., Principal
Jerry A. Woods, L.S., Principal
John D. Russo, P.E., Principal
John Lanc, P.E., L.S.
Arthur R. Tully, P.E.

December 3, 2021

Mr. John Gunn
Beacon Planning Board Chair
City of Beacon
1 Municipal Plaza
Beacon, NY 12508

RE: 1080 Wolcott Avenue
Accessory Apartment
Tax No. 5954-34-659817
City of Beacon

Dear Mr. Gunn:

My office has received the following in regard to the above application:

- Correspondence dated October 26, 2021 from Dunn & Sgromo Engineers, PLLC.
- Plans titled "Barn Conversion – 1080 Wolcott Avenue", consisting of 3 sheets dated June 22, 2021, as prepared by Berg & Moss Architects.
- Utility and Utility Detail plans titled "1080 Wolcott Avenue", dated October 26, 2021, as prepared by Dunn & Sgromo Engineers.

The proposed project is located in the R1-40 Zone and entails the proposed conversion of an existing 2-story barn to allow for a 1,320 square foot accessory apartment. Based upon our review of the submitted documents and plans, we offer the following comments:

General Comments:

1. The Zoning Analysis – Accessory Building table on Sheet 1 states a "Proposed Building Footprint" of 955 SF, whereas the plan notes the existing footprint to be 1,060 SF for the existing barn that is to be converted. The table should be corrected accordingly.

2. The location of the existing water and sewer services that service the existing residence shall be shown on the plans, along with where the services connect to the main lines within the road. The plans shall also include the location of the sewer and water mains within the road, along with their respective sizes. ***The applicant's consultant has noted that they are awaiting confirmation of the existing water service location from the City of Beacon Water and Sewer Department.*** As the applicant's consultant notes that a new water service will be installed to provide for both structures, the applicant shall include additional information and details as to the abandoning of the existing water service once its location is known.

3. The location of the proposed 1" water service, as shown on Sheet C-1, currently shows the proposed water service to run through an existing lamp pole along Wolcott Avenue. The water service shall be shifted so as to avoid lamp poles, utility poles, and other utilities.

4. Given the length of the proposed sewer service for the site, the significant change in grade between the proposed tie-in location in Wolcott Avenue and that of the existing residence, and the number of utilities to be crossed in Wolcott Avenue, a profile of the sewer line shall be provided on the plans showing all pipe slopes, bends, fittings, crossings, etc.

5. Sheet C-1 shall include rim elevations of utility structures, along with invert pipe elevations of existing pipes, along with the proposed invert elevation for the proposed 4" sanitary sewer service.

6. As the existing septic system that services the site is to be abandoned, the plan shall include additional information as to how the system will be abandoned, such as the septic tank either being removed or filled, etc.

7. As the applicant will be trenching across Wolcott Avenue, which is a NYSDOT owned road, the applicant will need to seek a road opening permit from NYSDOT for the proposed work with the states right-of-way.

8. The "Typical House Service Installation" detail on Sheet C-2 shall be revised to reflect the 1" water service as proposed on the utility plan.

9. The "Standard House Lateral – PVC" detail on Sheet C-2 shall be revised to reflect a 4" sewer lateral as proposed on the utility plan.

10. The "Asphalt Road Repair" detail on Sheet C-2 is referring to "Detail 12 on SheetCD6". Either this detail shall be added to the sheet, or the existing detail revised so as not to reference a sheet that has not been submitted. This detail shall also be adjusted to reflect a total of 7" minimum of asphalt.

11. The trenching detail shall note the use of NYSDOT Item No. 304.12 for backfilling of the trench within the road right-of-way.

12. Detail Sheet C-2 shall have an additional detail added for the re-setting of granite curbing, as this is the curbing that runs along Wolcott Avenue in the area of the project.

This completes our review at this time. Further comments may be provided based on future submissions. **A written response letter addressing each of the above comments should be provided with the next submission.** If you have any questions, or require any additional information, please do not hesitate to contact our office.

Very truly,
LANC & TULLY, P.C.

John Russo, P.E.

cc: John Clarke, Planner
Jennifer Gray, Esq.
David Buckley, Building Inspector

John Clarke Planning and Design jclarkeplandesign@gmail.com
845.797.4152

To: John Gunn, Chair, and the City of Beacon Planning Board
Date: December 9, 2021
Re: **1080 Wolcott Avenue, Site Plan and Special Permit for Accessory Apartment**

I have reviewed the October 26, 2021 response letter to the City Engineer's comments from Dunn & Sgromo Engineers, 3-sheet Site Plan set with Sheet 01 dated June 22, 2021 and the next two sheets dated November 19, 2012(?), and 2 Utility Plan sheets from Dunn & Sgromo dated October 26, 2021. Since the applicant did not respond to the points in my previous July 8, 2021 memo, many of the comments below have been repeated.

Proposal

The applicant is proposing the renovation of an existing barn to create an accessory apartment. The 1.599-acre parcel is in the R1-40 zoning district, in the Historic District and Landmark Overlay (HDLO) zone, and within the City's Local Waterfront Revitalization Program (LWRP) boundary.

Comments and Recommendations

1. An accessory apartment on an existing lot is a Type II action under SEQRA, so no EAF is necessary.

2. Since the buildings are not visible from the street, additional photos of the three structures would be helpful, as well as a brief historical description of the three buildings and confirmation that the barn is considered a contributing historic building. The parcel is in the HDLO, so the exterior design of the barn must meet the standards in Chapter 134, Historic Preservation, and may need to retain important character-defining features, such as the existing siding. Any approval will require a Certificate of Appropriateness.

3. The applicant should update the Board on the status of the variance requests.

4. For the Zoning Analysis table, the parking requirement is two spaces for the main house and one space for the accessory apartment. Three total spaces should be designated.

5. The plans should include a note confirming that the proposal will comply with the specific accessory apartment provision in Section 223-24.1 that the property owner will occupy one of the dwelling units on the lot.

6. Since the barn is directly on the property line, windows on that side of the building should be avoided or limited in size to only what is necessary.

7. The plans should include specifications for the exterior lighting fixtures that demonstrate consistency with the requirements in Section 223-14B.

8. Since the proposal is within the City's LWRP boundary, the applicant should provide a Coastal Assessment Form and a brief consistency statement for the proposal. The Planning Board will need to issue an LWRP Consistency Determination as part of the review process.

If you have any questions or need additional information, please feel free to contact me.

John Clarke, Beacon Planning Consultant

c: Dave Buckley, Building Inspector
Jennifer L. Gray, Esq., City Attorney
Arthur R. Tully, P.E., City Engineer
John Russo, P.E., City Engineer
Chris Berg, Berg + Moss Architects

City of Beacon Planning Board Agenda
12/14/2021

Title:

Continue review of application for Subdivision Approval, 6-unit apartment building to individual units, Ferry Landing Project, submitted by WRJG, LLC

ATTACHMENTS

Ferry Landing Supplemental with Exhibit A and Site Plan.pdf

Planner Review Letter.pdf

CUDDY +FEDER LLP

445 Hamilton Avenue, 14th Floor
White Plains, New York 10601
T 914 761 1300
F 914 761 5372
cuddyfeder.com

Taylor M. Palmer, Esq.
tpalmer@cuddyfeder.com

October 26, 2021

BY HAND DELIVERY
AND E-MAIL
Hon. John Gunn
And Members of the Planning Board
City of Beacon
1 Municipal Plaza
Beacon, New York 12508

Re: Application for Amended Site Plan Approval & Subdivision Approval for
Six (6) Townhouse Units – Supplemental Submission
Premises: Beekman Street & Ferry Landing, Beacon, New York
Tax Parcel ID: (5654-33-556840)

Dear Chairman Gunn and Members of the Planning Board:

On behalf of WRJG, LLC (the "Applicant"), the owner of the above referenced Premises, we respectfully submit this letter and the referenced enclosures in furtherance of the pending Amended Site Plan Approval and Subdivision Approval Application to subdivide the approved six (6) townhouses into individual townhouse lots (the "Project" or "Amended Application"). This letter and its referenced enclosures formally respond to comments contained in the Memoranda prepared by the City's Engineering Consultant, Lanc & Tully, P.C., dated October 7, 2021 (the "Engineering Comments Memorandum") and the City's Planning Consultant, John Clarke Planning and Design, dated October 8, 2021 (the "Planning Comments Memorandum").

RESPONSES TO COMMENTS:

To assist this Board in its review, Hudson Land Design Professional Engineering, P.C. ("HLD") prepared the enclosed Response to Comments dated October 26, 2021 (the "HLD Response to Comments Memorandum"), providing annotated responses to the applicable comments outlined in the Engineering Comments Memorandum and the Planning Comments Memoranda. *See* **Exhibit A** – HLD Response to Comments Memorandum. As is noted in HLD's Response to Comments Memorandum, a cost estimate will be provided in a future submission and or as a condition to an approval of the Project. At this time, we understand that there are no additional comments from the City Planner regarding the Amended Application.

INDEX OF ENCLOSURES:

In support of this Application, please find enclosed five (5) copies of the instant letter with the following documents:

Exhibit A: Response to Comments Memorandum and Engineer's Report prepared by Hudson Land Design Professional Engineering, P.C. dated October 26, 2021, providing responses to the Engineering and Planning Comments Memoranda.

In further support of this Application, we respectfully submit copies of the site plan sheets entitled "Cover Sheet", "Sewer Utility Plan", and "Sewer Construction Details" as well as the preliminary subdivision plat entitled "Preliminary Plat" prepared by Hudson Land Design Professional Engineering, P.C., dated September 28, 2021, revised October 26, 2021. As detailed therein, the revised preliminary subdivision plat now shows the metes and bounds for the proposed six (6) individual townhouse lots.

Additionally, we respectfully enclose redlined copies of the originally approved Site Plan set that was prepared by Ferry Landing at Beacon, LTD, dated March 20, 2019 (the "Approved Site Plan") that was signed by the City, which have now been revised by Hudson Land Design Professional Engineering, P.C. markup/revision dated October 26, 2021 highlighting (or bubbling) the sections of the Approved Site Plan that have been amended in connection with the proposed sewer design.

We look forward to appearing at this Board's regular meeting on November 9th for the public hearing to on the Project, at which time the Applicant respectfully requests the Planning Board reaffirm that the Amended Application remains consistent with the policies established in the City's Local Waterfront Revitalization Plan and the prior SEQR Negative Declaration, and that this Board consider approving the instant application to subdivide the approved six (6) townhouses into individual townhouse lots.

In the meantime, should this Board or City Staff have any questions or comments with regard to the foregoing, please do not hesitate to contact me.

Very truly yours,

Taylor M. Palmer
Enclosures

Cc: Jennifer L. Gray, Esq.
David Buckley, Building Inspector
John Clarke Planning and Design
Lanc & Tully, P.C.
Michael A. Bodendorf, P.E. – Hudson Land Design Professional Engineering, P.C.
Allison Fausner, Esq.

Exhibit A

HUDSON LAND DESIGN

Civil & Environmental Engineering Consultants
174 Main Street, Beacon, New York 12508 (Main Office and Mailing Address)
13 Chambers Street, Newburgh, NY 12550 (Satellite Office)
Phone: 845-440-6926 Fax: 845-440-6637
www.HudsonLandDesign.com

October 26, 2021

Hon. John Gunn, Chairman
City of Beacon Planning Board
1 Municipal Plaza
Beacon, NY 12508

Re: Ferry Landing at Beacon, Amended Site Plan and Subdivision Approval
Ferry Street and Beekman Street
Tax parcel: 5654-33-556840, ±0.56 ac.
City of Beacon, NY

Dear Chairman Gunn and Members of the Planning Board:

On behalf of the Applicant for the above referenced project, Hudson Land Design (HLD) has revised the plan set in response to John Clarke Planning and Design's October 8, 2021 comment memorandum, and Lanc & Tully's October 7, 2021 comment letter. Below is a point-by-point response to the comments received.

John Clarke Planning and Design October 8, 2021 Comment Memorandum

1. Comment noted. Metes and bounds are now shown on the subdivision plat.
2. Comment noted.

Lanc & Tully October 7, 2021 Comment Letter

General Comments:

1. Comment noted. HLD has given the Dutchess County Department of Behavioral and Community Health (DCDBCH) a heads up that we will be submitting for their review in the near future.
2. A cost estimate will be prepared and provided in a future submission prior to final approval.
3. We do not have digital files of the approved site plan. Therefore, the original approved drawings have been red-lined with notes referring to the amended site plan set for a revised sewer design. A title sheet has been added to the amended site plan set that includes a sheet index of the approved site plan set. Reference notes have also been added to the amended set.
4. An preliminary engineer's sewer report is provided in this submission.

Preliminary Plat:

1. The notes on the plat have been updated to read “subdivision”.
2. The survey reference notes have been updated to include the survey dates and revisions.

Utility Plan (Sheet 1 of 2):

1. The sewer main has been shifted to the west away from the electrical box.
2. The lateral for unit No. 3 has been shifted away from the electric box. The sewer lateral locations are now shown per survey as-built as the project is currently under construction.
3. Rigid board polystyrene insultation is proposed over the first 75 feet of sewer main where sufficient frost depth is not met. The sewer main trench detail has been revised to include insulation protection.
4. The sewer line has been shifted to the west to allow for additional room for maintenance and repairs. The sewer line is now less than 10’ away from the existing water main. HLD spoke with Jim Upright of the DCDBCH to discuss moving the sewer closer to the water main. He recommended that we request a waiver from their department and upgrade the sewer main to SDR 26 PVC. The plans and detail have been updated to reflect this change and pipe material.

Sewer Details (Sheet 2 of 2):

1. The sewer trench detail has been updated to indicate 8” SDR 26 PVC.

Five (5) copies of an engineer’s report, a full set of revised amended site plans, red-lined original approved site plans and revised subdivision plat are provided with this submission for review. We look forward to discussing this project at your next available planning board agenda. Should you have any questions, please feel free to contact me at 845-440-6926.

Sincerely,



Michael A. Bodendorf, P.E.
Principal

cc: WRJG, LLC
Taylor M. Palmer, Esq.
Allison Fausner, Esq.
Daniel G. Koehler, P.E. (HLD file)

Preliminary Sewer Engineer's Report: for Ferry Landing at Beacon

Prepared for:
WRJG, LLC
1158 North Avenue, 2nd Floor
Beacon, NY 12508

October 26, 2021

Prepared by:
Hudson Land Design Professional Engineering, P.C.
174 Main Street
Beacon, NY 12508 (Main Office and Mailing Address)
13 Chambers Street
Newburgh, NY (Satellite Office)

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2.0 PROJECT DESCRIPTION 1

3.0 ESTIMATED WATER & WASTEWATER QUANTITIES 2

4.0 SEWAGE CONVEYANCE 2

APPENDICES

Appendix A: HD-1 Application (To be Provided)

Appendix B: Proof of Negative Declaration, and Conditional Final Approval (To be Provided)

Appendix C: Cut Sheets

1.0 PROJECT LOCATION

The Ferry Landing at Beacon project sits on approximately 0.56 acres of land at the intersection of Ferry Street and Beekman Street in the City of Beacon, Dutchess County, New York. The property is identified as parcel number 5654-33-556840 on the City of Beacon Tax Maps.

2.0 PROJECT DESCRIPTION

The project consists of the construction of a 6-unit townhome development. The project received site plan approval from the City of Beacon planning board on August 18, 2018 for condominiums. The approved sewer collection system consisted of an 8" common sewer lateral located on the property that collects individual 4" laterals from each unit. The current owner is proposing townhomes with fee-simple lots. Therefore, to avoid the need for easements across private property, it is proposed to extend the City sewer main along the frontage of the property to provide connection to each lot. This report focuses on sewer collection only. No modifications are proposed to the approved water supply system.

Wastewater generated by the project will be disposed of by means of a new sewer main that will convey wastewater flows to the existing City of Beacon sewer collection system.

This report summarizes all data and information necessary for the design of the sewer infrastructure that will serve the project.

The project has been designed in accordance with the following:

- New York State Department of Health (NYSDOH) Standards for Individual Water Supply and Individual Sewage Treatment Systems Appendix 75-A
- Dutchess County Department of Behavioral & Community Health (DCDBCH) Water and Wastewater Systems Design and Construction Standards
- New York State Department of Environmental Conservation (NYSDEC) "Design Standards for Wastewater Treatment Works" for Intermediate Sized Sewage Facilities.
- Recommended Standards For Wastewater Facilities (Ten States Standards)

3.0 ESTIMATED WATER & WASTEWATER QUANTITIES

Water and wastewater quantities for the project are based on the following:

Flow Component	# of Units	Flow Rate per Unit - gallons per day (gpd)	Total Component Flow (gpd)
Residential Bedrooms	12	110	1,320

3.1 Existing City Sewer Infrastructure

The City's Water and Sewer Superintendent has stated that the existing sewer systems have sufficient capacity for the proposed project. The plant has capacity for up to 6 million gallons/day (MGD) and is currently operating at 3.2 MGD to 3.5 MGD. The project will flow into an existing 8" stub to the site. The 8" stub is connected to a sewer manhole in Beekman Street, where it continues into the MTA property where an 18" gravity trunk line conveys flow to the West Main Street sewer pump station. The pump station pumps sewer to a gravity sewer north interceptor manhole located at Beekman Street and the DIA entrance. The sewer flows via gravity through a new 24" line to the sewer treatment plant. The City has made several upgrades to the north interceptor gravity line over the last several years and continue to do so. The latest upgrades have been to gravity line from DIA to the plant and are currently working on a new West Main Street pump station and force main to the manhole at the DIA entrance.

4.0 SEWAGE CONVEYANCE

The project is expected to generate 1,320 gallons of wastewater per day. Per conversations with the City of Beacon Sewer Superintendent, the City's existing sewer infrastructure and sewer treatment plant have sufficient capacity to handle the anticipated increase in daily sewage load. An extension of the City's sewer main is proposed to collect the sewage generated by the project and convey it to the City's sewer collection system.

Approximately 5 lf of 8" SDR 26 PVC sewer main will be extended from the existing 8" SDR 35 stub to a proposed sewer manhole. Then approximately 101 LF of SDR 26 PVC sewer main will be extended along Beekman Street to a proposed 6" sewer cleanout within a non-standard sewer manhole located just beyond the end of the building. The new extended sewer main will convey the sewage to the City's municipal main. SDR 26 PVC is being used because due to the site constraints. The sewer main along the front of the building will be located approximately seven (7) feet away from the existing City water main. The Applicant is applying for a waiver from the DCDBCH to allow 7 feet of separation between the water main and sewer main where 10 feet minimum is required. Pressure rated sewer pipe (SDR 26) is proposed to mitigate this condition.

4.1 Testing and Certification

The new sewer main from the new manhole to the proposed cleanout will be tested for exfiltration prior to being placed into service. The sewer line shall pass the low-pressure air test in accordance with ASTM C-828. The new sewer manhole shall pass the vacuum test per ASTM C-1244. The licensed professional supervising construction shall certify to construction compliance in writing to the City of Beacon and the DCDBCH prior to the main being placed into service and dedication to the City.

APPENDIX A

HD-1 Application

APPENDIX B

Proof of Negative Declaration, and Conditional Final Approval

Appendix C

Cut Sheets

JM Eagle™

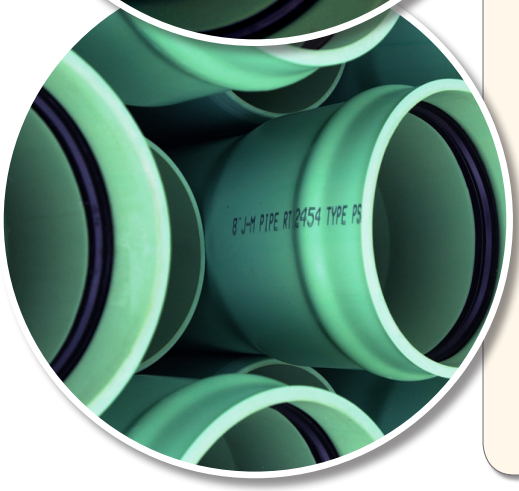
Building essentials for a better tomorrow™

GRAVITY SEWER

MEETS ASTM D3034 AND F679.







APPLICATIONS

JM Eagle's Ring-Tite PVC Gravity Sewer pipe is suitable for conveying domestic sanitary sewage, as well as certain industrial wastes.

DESCRIPTION

JM Eagle's Gravity Sewer pipe ASTM D3034 is available in SDR 35 and SDR 26 in 4- to 15-inch diameters and ASTM F679 is available in PS 46 and PS 115 in 18- to 48-inch diameters. It comes in 14- and 20-foot lengths.

The pipe can be directed to most existing sewer equipment. It can also be connected to IPS cast- or ductile-iron fittings with the appropriate adapters and/or transition gaskets.

JM Eagle Gravity Sewer pipe comes with Ring-Tite joints with locked-in gaskets. Joints meet or exceed ASTM D3212 for joint tightness, including a 22-inch Hg vacuum and a 25-foot head pressure test.

BENEFITS

JM Eagle's Ring-Tite Gravity Sewer pipe features an improved design for reserve strength and stiffness to increase load-bearing capacity, maximizing sewer system capacity at a reasonable cost.

- It is unaffected by the fluids found in ordinary domestic sewage; sewer gasses and the sulfuring acid generated by the completion of the hydrogen sulfide cycle; and corrosive soils both alkaline and acidic.
- Maintains performance against tuberculation, corrosion and external galvanic soil conditions without lining wrapping, coating or cathodic protection.
- It resists abrasion, gouging and scouring far better than most common piping materials.
- Its interiors stay smooth over long years of service while maximizing system capacity, allowing for savings in pumping costs, as well as savings on the size of the pipe required.
- The light weight of the pipe reduces manpower required for installation.
- It can be field-cut with a power saw or ordinary handsaw and be beveled without the use of expensive or complicated machinery.
- Gasketed tee and wye saddles for tapping into previously installed PVC sewer lines eliminate the need for field solvent welding.

Revised 5/14/2012. This information may have been updated. Please download the latest version at www.jmeagle.com/onesheets.

JM Eagle™

Building essentials for a better tomorrow™

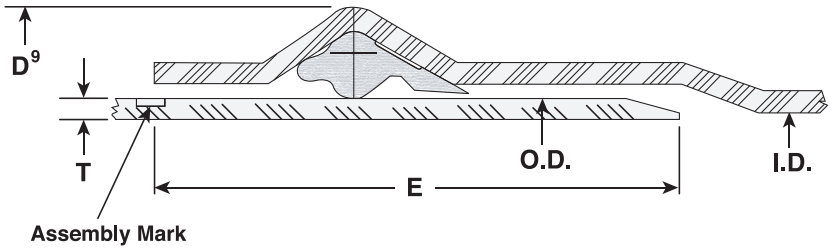
GRAVITY SEWER

SUBMITTAL AND DATA SHEET

JM EAGLE'S RING-TITE JOINT OFFERS ADDITIONAL BENEFITS.

- Seated in a deep groove, the flexible elastomeric Rieber gasket provides a tight seal that protects the line from shock, vibration and earth movement, and compensates for expansion and contraction of the pipe lengths.
- Quick and easy to assemble with a simple push, there's no field mixing or application of cement.
- The joint remains tight under normal operating conditions.

PIPE SIZE (IN)	AVERAGE O.D.(IN)	NOM. I.D. (IN)	MIN. T. (IN)	MIN. E (IN)	APPROX. D^9 (IN)	APPROX. WEIGHT (LBS/FT)
SDR 35 (PS46) ASTM D3034						
4	4.215	3.975	0.120	3.50	4.695	1.05
6	6.275	5.915	0.180	4.25	6.995	2.36
8	8.400	7.920	0.240	4.75	9.360	4.24
10	10.500	9.900	0.300	6.00	11.700	6.64
12	12.500	11.780	0.360	6.25	13.940	9.50
15	15.300	14.426	0.437	7.25	17.048	14.19
SDR 26 (PS115) ASTM D3034						
4	4.215	3.891	0.162	3.50	4.863	1.40
6	6.275	5.793	0.241	4.25	7.239	3.11
8	8.400	7.754	0.323	4.75	9.692	5.63
10	10.500	9.692	0.404	6.00	12.116	8.84
12	12.500	11.538	0.481	6.25	14.424	12.56
15	15.300	14.124	0.588	7.25	17.652	18.90
PS46, ASTM F679						
18	18.701	17.629	0.499	8.00	20.845	21.43
21	22.047	20.783	0.588	9.50	24.575	29.88
24	24.803	23.381	0.661	9.60	27.647	38.96
27	27.953	26.351	0.745	10.10	31.157	49.47
30 CIOD	32.000	30.194	0.853	16.75	35.612	64.18
36 CIOD	38.300	36.042	1.021	19.02	42.816	93.00
42 CIOD	44.500	41.948	1.187	22.43	49.604	—
48 CIOD	50.800	47.888	1.355	24.78	56.624	—
PS115, ASTM F679						
18	18.701	17.261	0.671	8.00	21.581	28.49
21	22.047	20.349	0.791	9.50	25.443	—
24	24.803	22.891	0.889	9.60	28.627	—
27	27.953	25.799	1.002	10.10	32.261	—
30 CIOD	32.000	29.070	1.148	16.75	36.348	—
36 CIOD	38.300	35.464	1.373	19.02	45.438	—
42 CIOD	44.500	41.072	1.596	22.43	51.356	—
48 CIOD	50.800	46.886	1.822	24.78	58.628	—



I.D. : Inside Dameter

O.D. : Outside Diameter

T. : Wall Thickness

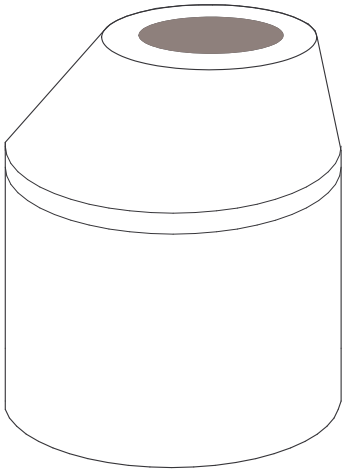
D^9 : Bell Outside Diameter

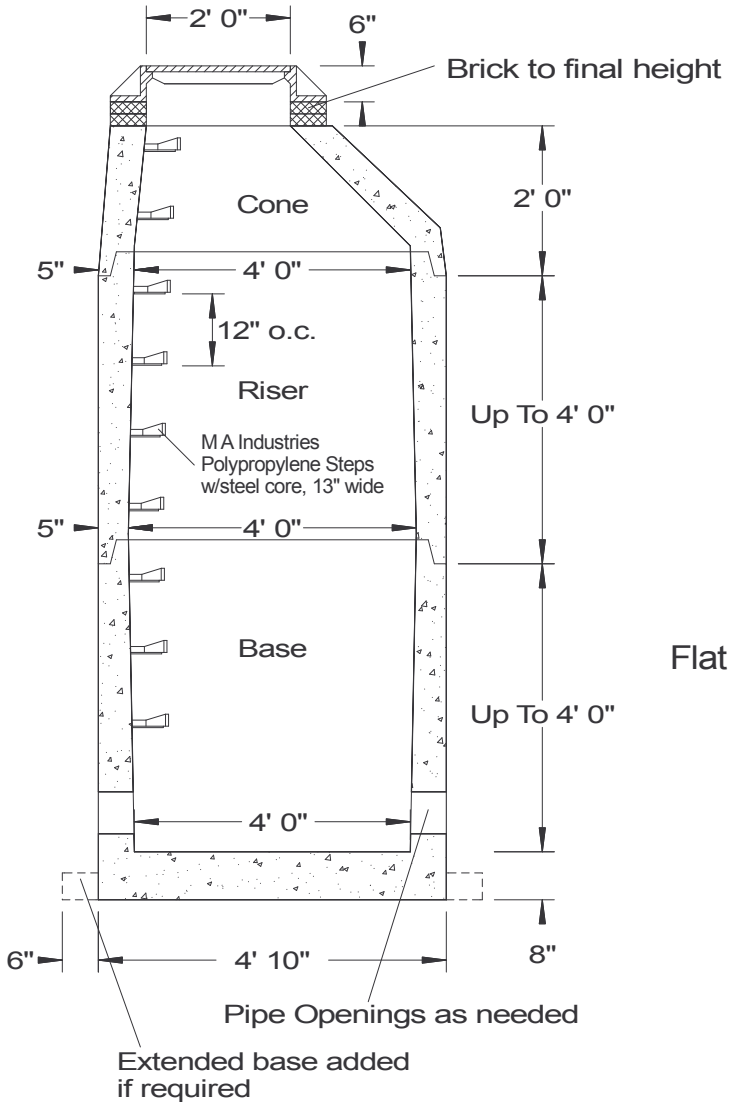
E : Distance between Assembly Mark to the end of spigot.

Product Standard:	ASTM 3034 (4"–15") ASTM F679 (18"–48")
Pipe Compound:	ASTM D1784 Cells Class 12454 or 12364
Gasket:	ASTM F477
Integral Bell Joint:	ASTM D3212
Pipe Stiffness:	ASTM D2412 F/ΔY = 46 PSI or 115 PSI
Pipe Length:	14 or 20 feet laying length
Installation:	ASTM D 2321 JM Eagle™ Installation Guide

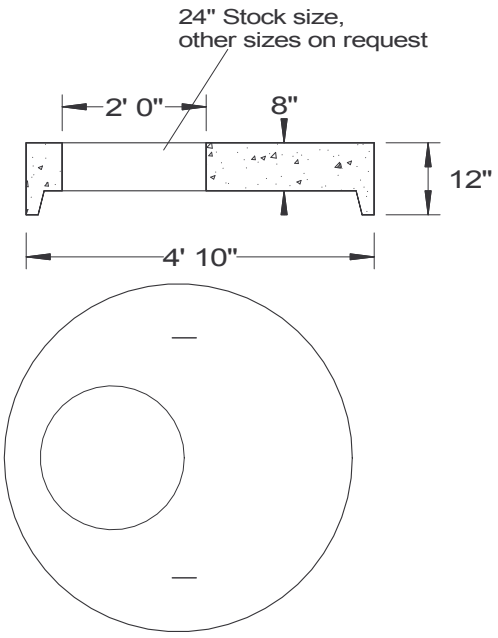
Revised 5/14/2012. This information may have been updated. Please download the latest version at www.jmeagle.com/onesheets.

Weights: 8" Base = 1,800 lbs
Walls = 850 lbs/lf
24" Cone Section = 1,800 lbs
8" Flat Cover = 1,450 lbs





Flat Cover



SPECIFICATIONS

Concrete Min. Strength: 4,000 psi at 28 days
Reinforcement: ASTM C478 / 3x12 - W3 x W2.1
Air Entrainment: 6%
Construction Joint: Butyl Rubber Sealant
Pipe Connections: Rubber Boots available
Volume: 94 gallons / vertical foot
Load Rating: H20 + 30% / ASTM C857

PRECAST MANHOLES
4' ID BASE, RISER & TOP

Woodard's Concrete Products, Inc.
629 Lybolt Road, Bullville, NY 10915
(845) 361-3471 / Fax 361-1050

Page 2J 2/3/05

Site Plans

ORIGINAL SITE PLAN APPROVAL REFERENCE NOTES:

1. REFERENCE IS HEREBY MADE TO AN APPROVED SITE PLAN SET ENTITLED "FERRY LANDING AT BEACON" CONSISTING OF NINE (9) SHEETS, PREPARED BY MICHAEL D. WOLFE ARCHITECT, DATED MARCH 20, 2019, LAST REVISED NOVEMBER 1, 2019. THE SITE PLANS WERE APPROVED BY THE CITY OF BEACON PLANNING BOARD PER RESOLUTION DATED AUGUST 13, 2019, AND SIGNED BY THE PLANNING BOARD CHAIRMAN ON DECEMBER 10, 2019.
2. THIS SET OF PLANS SUPERCEDES PROPOSED SEWER COLLECTION DESIGN ONLY AS SHOWN ON THE APPROVED PLAN SET.
3. ALL OTHER SITE DEVELOPMENT DESIGN FOR THE PROJECT ARE PER THE APPROVED DRAWINGS.
4. HUDSON LAND DESIGN TAKES NO RESPONSIBILITY FOR ERRORS, OMISSIONS, ETC.OF THE ORIGINAL APPROVED SITE PLANS.

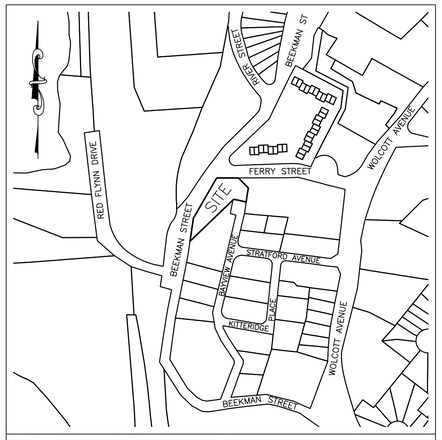
SITE PLAN REFERENCE NOTES:

1. BOUNDARY AND TOPOGRAPHY SHOWN ON THIS PLAN ARE PER A SURVEY ENTITLED "BOUNDARY & TOPOGRAPHICAL SURVEY OF LOOT NO. 2 MAP OF SUBDIVISION FOR ARMAND NINNE, FILED MAP NO. 8612" DATED JULY 25, 2002, PREPARED BY PETER R. HUSTIS, NYS LS NO. 49205.
2. ADDITIONAL SURVEY INFORMATION AND AMENDED TOPOGRAPHY COMPILED FROM A MAP ENTITLED "SURVEY OF LOT 2 FIELD MAP NO. 8613" DATED NOVEMBER 25, 2017, LAST REVISED ON JANUARY 20, 2018, PREPARED BY JOHN J. POST JR., NYS LS NO. 50643.
3. EXISTING UTILITY INFORMATION SHOWN PER THE APPROVED SITE PLAN.

APPLICATION FOR AMENDED SITE PLAN APPROVAL

FERRY LANDING AT BEACON

BEEKMAN AND FERRY STREET
CITY OF BEACON, DUTCHESS COUNTY, NEW YORK
TAX ID: 5954-33-556840
LOT AREA: ±0.56 ACRES
L - ZONING DISTRICT



SITE LOCATION MAP SCALE: 1" = 300'

PROJECT INFORMATION:	
PARCEL OWNER:	NINNIE ARMAND, PO BOX 328, BEACON NY 12508
PROJECT APPLICANT:	WRJG, LLC, 1158 NORTH AVE SECOND FLOOR, BEACON, NY 12508
PROJECT ENGINEER:	HUDSON LAND DESIGN P.C., 174 MAIN STREET, BEACON NY 12508
PARCEL LOCATION:	BEEKMAN STREET, BEACON NY 12508
TAX PARCEL ID:	5954-33-556840
PARCEL AREA:	±0.56-ACRES
WATER SUPPLY:	PUBLIC
SEWAGE DISPOSAL:	PUBLIC

EXISTING UNDERGROUND UTILITY NOTES:

1. CONTRACTOR SHALL DIG TEST PITS TO VERIFY LOCATION, SIZE AND PIPE MATERIAL OF EXISTING UNDERGROUND UTILITIES. IF ANY EXISTING UTILITIES ARE NOT IN THE LOCATION WHERE THEY ARE SHOWN ON THE PLAN, IT SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION IMMEDIATELY.

GENERAL CONSTRUCTION NOTES:

1. ALL OTHER UTILITIES (TELEPHONE, ELECTRIC, GAS, CABLE, ETC.) SHALL BE INCORPORATED PRIOR TO CONSTRUCTION. ALL SUCH UTILITY DESIGNS SHALL BE DEVELOPED IN COOPERATION WITH THE RESPECTIVE UTILITY COMPANIES.
2. THE CONTRACTOR SHALL PERFORM A UTILITIES CALL-OUT PRIOR TO CONSTRUCTION TO VERIFY ALL UNDERGROUND UTILITY LOCATIONS BY CONTACTING UFPO @ 1-800-962-7962.
3. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS AND INVERTS OF ALL CATCH BASINS & STORM SEWER LINES, SANITARY MANHOLES & SEWER LINES, WATERLINES AND OTHER UNDERGROUND UTILITY LINES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOT ASSUME THAT ALL LOCATIONS AS SHOWN ON THE PLAN ARE CORRECT. INVESTIGATIVE TEST PITS MAY BE REQUIRED TO VERIFY LOCATIONS.
4. PIPE CONNECTIONS TO ALL CATCH BASINS SHALL BE MADE WATERTIGHT, WITH PARTICULAR ATTENTION BEING PAID TO CONNECTIONS LOCATED WITHIN 10 FEET OF SEWER MAINS (AND SERVICE LATERALS).

ORIGINAL APPROVED SITE PLAN DRAWING INDEX (BY OTHERS):

SHEET 1 OF 9: SITE INFORMATION PLAN
SHEET 2 OF 9: EXISTING SITE CONDITIONS
SHEET 3 OF 9: SITE DEVELOPMENT PLAN
SHEET 4 OF 9: SITE GRADING PLAN
SHEET 5 OF 9: SITE UTILITIES PLAN
SHEET 6 OF 9: UTILITY PROFILE PLAN
SHEET 7 OF 9: SIGHT DISTANCE PLAN
SHEET 8 OF 9: SITE DETAILS PLAN
SHEET 9 OF 9: SITE DETAILS PLAN

AMENDED SITE PLAN DRAWING INDEX:

SHEET 1 OF 3: COVER SHEET
SHEET 2 OF 3: SEWER UTILITY PLAN
SHEET 3 OF 3: CONSTRUCTION DETAILS

DCDOH APPROVAL BLOCK

RECOMMENDED FOR APPROVAL BY:

_____

DATE: _____

PROJECT: _____

_____

_____

_____
SUPERVISING PUBLIC HEALTH ENGINEER

APPROVED BY RESOLUTION OF THE PLANNING BOARD OF THE CITY OF BEACON, NEW YORK, ON THE

_____ DAY OF _____, 20_____, SUBJECT TO ALL REQUIREMENTS AND CONDITIONS OF SAID RESOLUTION. ANY CHANGE, ERASURE, MODIFICATION OR REVISION OF THIS PLAT, AS APPROVED, SHALL VOID THIS APPROVAL.

SIGNED THIS _____ DAY OF _____, 20____, BY

_____ CHAIRMAN

_____ SECRETARY

IN ABSENCE OF THE CHAIRMAN OR SECRETARY, THE ACTING CHAIRMAN OR ACTING SECRETARY RESPECTIVELY MAY SIGN IN THIS PLACE.

DRAWN BY: MAB				CHECKED BY: DGK			
REVISIONS:				REVISIONS:			
NO.	DATE	DESCRIPTION	BY	NO.	DATE	DESCRIPTION	BY
1	10/26/21	ADDED SHEET	MAB				

STATE OF NEW YORK · GEORGE A. BOSSERT · 084466 · LICENSED PROFESSIONAL ENGINEER

SEAL

HUDSON LAND DESIGN
PROFESSIONAL ENGINEERING P.C.
174 MAIN ST., BEACON, NEW YORK 12508
13 CHAMBERS ST., NEWBURGH, NEW YORK 12550
PH: 845-440-6926
F: 845-440-6637

COVER SHEET

FERRY LANDING AT BEACON

BEEKMAN & FERRY STREET
CITY OF BEACON
DUTCHESS COUNTY, NEW YORK
TAX ID: 5954-33-556840

JOB #:	2021:042
DATE:	9/28/2021
SCALE:	AS NOTED
TITLE:	CV-1
SHEET:	1 OF 3

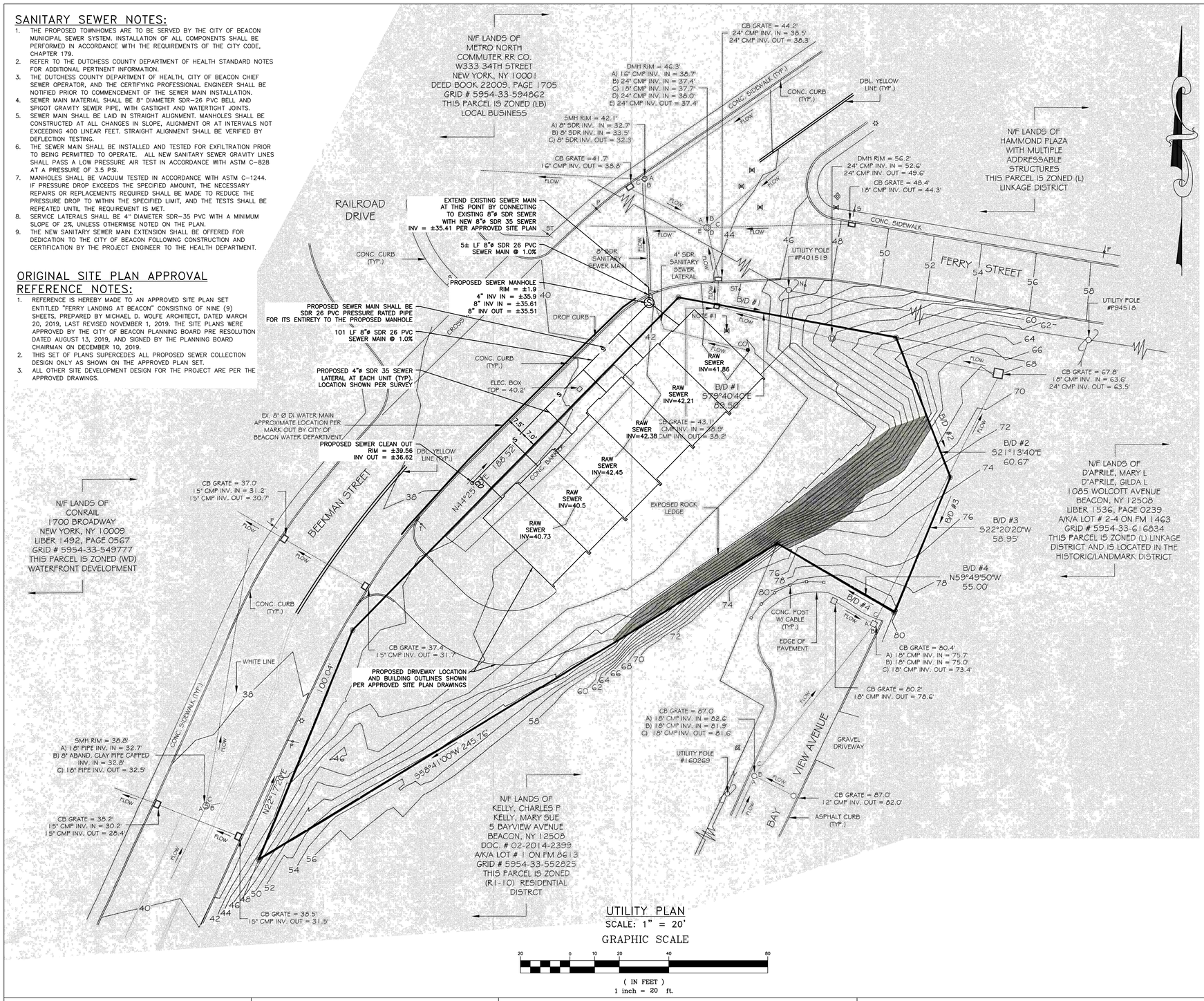
UNAUTHORIZED ALTERATIONS OR ADDITIONS TO THIS DRAWING IS A VIOLATION OF SECTION 7209.2 OF THE NEW YORK EDUCATION LAW

SANITARY SEWER NOTES:

1. THE PROPOSED TOWNHOMES ARE TO BE SERVED BY THE CITY OF BEACON MUNICIPAL SEWER SYSTEM. INSTALLATION OF ALL COMPONENTS SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY CODE, CHAPTER 179.
2. REFER TO THE DUTCHESS COUNTY DEPARTMENT OF HEALTH STANDARD NOTES FOR ADDITIONAL PERTINENT INFORMATION.
3. THE DUTCHESS COUNTY DEPARTMENT OF HEALTH, CITY OF BEACON CHIEF SEWER OPERATOR, AND THE CERTIFYING PROFESSIONAL ENGINEER SHALL BE NOTIFIED PRIOR TO COMMENCEMENT OF THE SEWER MAIN INSTALLATION.
4. SEWER MAIN MATERIAL SHALL BE 8" DIAMETER SDR-26 PVC BELL AND SPIGOT GRAVITY SEWER PIPE, WITH GASTIGHT AND WATERTIGHT JOINTS.
5. SEWER MAIN SHALL BE LAID IN STRAIGHT ALIGNMENT. MANHOLES SHALL BE CONSTRUCTED AT ALL CHANGES IN SLOPE, ALIGNMENT OR AT INTERVALS NOT EXCEEDING 400 LINEAR FEET. STRAIGHT ALIGNMENT SHALL BE VERIFIED BY DEFLECTION TESTING.
6. THE SEWER MAIN SHALL BE INSTALLED AND TESTED FOR EXFILTRATION PRIOR TO BEING PERMITTED TO OPERATE. ALL NEW SANITARY SEWER GRAVITY LINES SHALL PASS A LOW PRESSURE AIR TEST IN ACCORDANCE WITH ASTM C-828 AT A PRESSURE OF 3.5 PSI.
7. MANHOLES SHALL BE VACUUM TESTED IN ACCORDANCE WITH ASTM C-1244. IF PRESSURE DROP EXCEEDS THE SPECIFIED AMOUNT, THE NECESSARY REPAIRS OR REPLACEMENTS REQUIRED SHALL BE MADE TO REDUCE THE PRESSURE DROP TO WITHIN THE SPECIFIED LIMIT, AND THE TESTS SHALL BE REPEATED UNTIL THE REQUIREMENT IS MET.
8. SERVICE LATERALS SHALL BE 4" DIAMETER SDR-35 PVC WITH A MINIMUM SLOPE OF 2%, UNLESS OTHERWISE NOTED ON THE PLAN.
9. THE NEW SANITARY SEWER MAIN EXTENSION SHALL BE OFFERED FOR DEDICATION TO THE CITY OF BEACON FOLLOWING CONSTRUCTION AND CERTIFICATION BY THE PROJECT ENGINEER TO THE HEALTH DEPARTMENT.

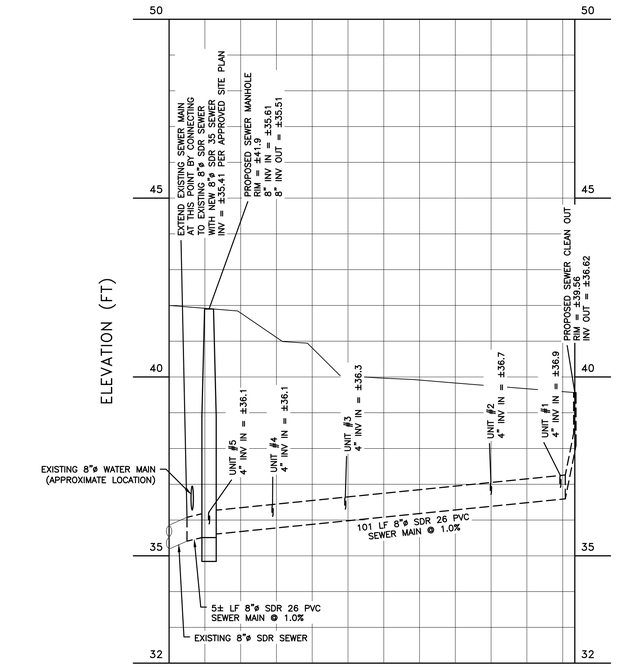
ORIGINAL SITE PLAN APPROVAL REFERENCE NOTES:

1. REFERENCE IS HEREBY MADE TO AN APPROVED SITE PLAN SET ENTITLED "FERRY LANDING AT BEACON" CONSISTING OF NINE (9) SHEETS, PREPARED BY MICHAEL D. WOLFE ARCHITECT, DATED MARCH 20, 2019, LAST REVISED NOVEMBER 1, 2019. THE SITE PLANS WERE APPROVED BY THE CITY OF BEACON PLANNING BOARD PRE RESOLUTION DATED AUGUST 13, 2019, AND SIGNED BY THE PLANNING BOARD CHAIRMAN ON DECEMBER 10, 2019.
2. THIS SET OF PLANS SUPERCEDES ALL PROPOSED SEWER COLLECTION DESIGN ONLY AS SHOWN ON THE APPROVED PLAN SET.
3. ALL OTHER SITE DEVELOPMENT DESIGN FOR THE PROJECT ARE PER THE APPROVED DRAWINGS.



UTILITY PLAN

SCALE: 1" = 20'



PROPOSE SEWER MAIN PROFILE PLAN

SCALE: HORIZONTAL 1" = 20'
VERTICAL 1" = 2"

APPROVED BY RESOLUTION OF THE PLANNING BOARD OF THE CITY OF BEACON, NEW YORK, ON THE _____ DAY OF _____, 20_____, SUBJECT TO ALL REQUIREMENTS AND CONDITIONS OF SAID RESOLUTION. ANY CHANGE, ERASURE, MODIFICATION OR REVISION OF THIS PLAT, AS APPROVED, SHALL VOID THIS APPROVAL.

SIGNED THIS _____ DAY OF _____, 20____, BY

_____ CHAIRMAN

_____ SECRETARY

IN ABSENCE OF THE CHAIRMAN OR SECRETARY, THE ACTING CHAIRMAN OR ACTING SECRETARY RESPECTIVELY MAY SIGN IN THIS PLACE.

DRAWN BY: MAB				CHECKED BY: DGK			
REVISIONS:				REVISIONS:			
NO.	DATE	DESCRIPTION	BY	NO.	DATE	DESCRIPTION	BY
1	10/26/21	PER PLANNING BOARD COMMENTS	MAB				

STATE OF NEW YORK · MICHAEL A. BOSCOPE · LICENSED PROFESSIONAL ENGINEER · 084466

SEAL

HUDSON LAND DESIGN
HUDSON LAND DESIGN PROFESSIONAL ENGINEERING P.C.
174 MAIN ST., BEACON, NEW YORK 12508
13 CHAMBERS ST., NEWBURGH, NEW YORK 12550
PH: 845-440-6926
F: 845-440-6637

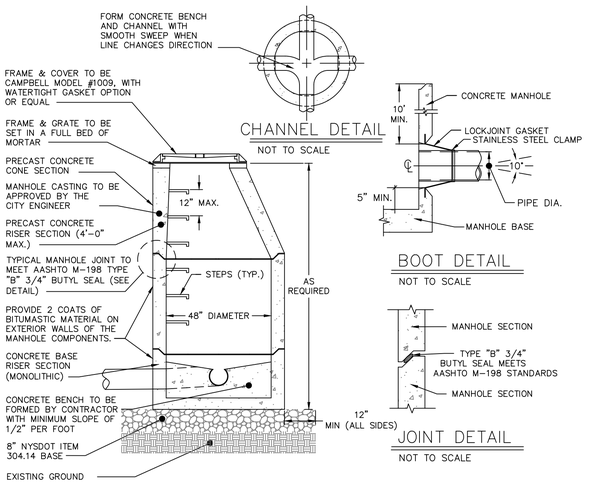
SEWER UTILITY PLAN

FERRY LANDING AT BEACON

BEEKMAN & FERRY STREET
CITY OF BEACON
DUTCHESS COUNTY, NEW YORK
TAX ID: 5954-33-556840

JOB #:	2021:042
DATE:	9/28/2021
SCALE:	1" = 20'
TITLE:	UT-1
SHEET:	2 OF 3

UNAUTHORIZED ALTERATIONS OR ADDITIONS TO THIS DRAWING IS A VIOLATION OF SECTION 7209.2 OF THE NEW YORK EDUCATION LAW



NOTES:

1. PIPE CONNECTION TO BE STANDARD "LOCKJOINT" BOOT 5" OFF BASE OF MANHOLE (SEE DETAIL).
2. CONCRETE STRENGTH OF MANHOLE COMPONENTS TO BE 4000 PSI @ 28 DAYS IN ACCORDANCE WITH ASTM C-478-86.
3. STEEL REINFORCEMENT OF MANHOLE COMPONENTS TO MEET ASTM A615-A497 REQUIREMENTS.
4. LOADING OF MANHOLE COMPONENTS TO MEET H-20 REQUIREMENTS.
5. CONCRETE USED IN MANHOLE COMPONENTS TO CONTAIN 6% AIR ENTRAINMENT.
6. 4' MAXIMUM FROM MANHOLE TO PIPE JOINT.

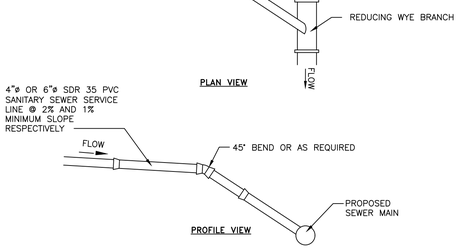
MANHOLE NOTES:

1. USE ONLY WET-CAST UNITS. DRY-CAST NOT ACCEPTABLE.
2. MANUFACTURER TO VERIFY REQUIRED "T" DIMENSION ASSOCIATED WITH DEPTH OF INDIVIDUAL MANHOLES.

TABLE

OUTLET SEWER PIPE SIZE	"D" DIA MIN	"T" WALL THICKNESS MIN
8" THRU 21"	4'-0"	5"
24" THRU 30"	5'-0"	6"

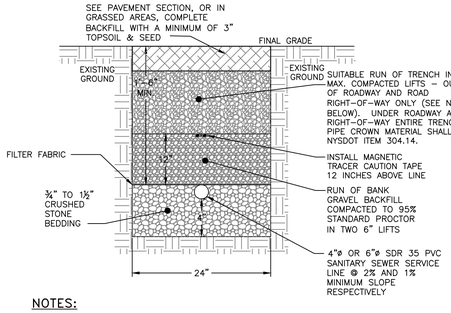
PRE-CAST CONCRETE SANITARY MANHOLE DETAIL
NOT TO SCALE



NOTES:

1. EXCAVATION AND TRENCHING SHALL MEET ALL OSHA REQUIREMENTS.
2. SUITABLE RUN OF TRENCH SHALL NOT INCLUDE FROZEN MATERIALS, DEBRIS, ORGANIC MATERIALS, LARGE STONES OR OTHER UNSUITABLE MATERIALS. IF THE RUN OF TRENCH MATERIAL IS FOUND TO BE UNSUITABLE, A SUITABLE BACKFILL MATERIAL SHALL BE IMPORTED AND USED.

SANITARY SEWER SERVICE CONNECTION DETAIL
NOT TO SCALE



NOTES:

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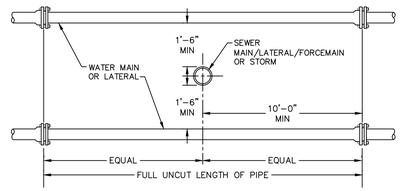
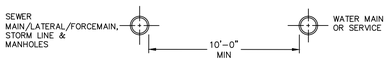
2. SUITABLE RUN OF TRENCH SHALL NOT INCLUDE FROZEN MATERIALS, DEBRIS, ORGANIC MATERIALS, LARGE STONES OR OTHER UNSUITABLE MATERIALS. IF THE RUN OF TRENCH MATERIAL IS FOUND TO BE UNSUITABLE, A SUITABLE BACKFILL MATERIAL SHALL BE IMPORTED AND USED.

SANITARY SEWER SERVICE LINE TRENCH DETAIL
NOT TO SCALE



VERTICAL SEPARATION

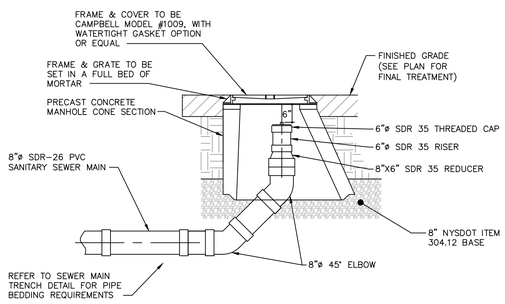


HORIZONTAL SEPARATION

NOTE:

1. NO DEVIATION IN THE SEPARATION REQUIREMENTS WILL BE PERMITTED WITHOUT THE EXPRESS APPROVAL OF THE DUTCHESS COUNTY DEPARTMENT OF HEALTH AND THE CITY OF BEACON. CONCRETE ENCASEMENT OF WATERLINE, OFFSETTING OF WATERLINE OR PRESSURE RATE SEWER PIPE SHALL BE REQUIRED WHERE SEPARATION DISTANCES CANNOT BE MAINTAINED.

WATER LINE SEPARATION DETAIL
NOT TO SCALE



SEWER MAIN CLEAN OUT DETAIL
NOT TO SCALE

STANDARD NOTES FOR CENTRAL SEWER PROJECTS (NO WATER)

THE DESIGN, CONSTRUCTION AND INSTALLATION SHALL BE IN ACCORDANCE WITH THIS PLAN AND GENERALLY ACCEPTED STANDARDS IN EFFECT AT THE TIME OF CONSTRUCTION WHICH INCLUDE:

"NEW YORK STATE DESIGN STANDARDS FOR INTERMEDIATE SIZED WASTEWATER TREATMENT SYSTEMS", NYSDEC

"RECOMMENDED STANDARDS FOR SEWAGE TREATMENT WORKS, (TEN STATES)."

"NEW YORK STATE DEPARTMENT OF HEALTH AND DUTCHESS COUNTY ENVIRONMENTAL HEALTH SERVICES DIVISION POLICIES, PROCEDURES AND STANDARDS."

"DUTCHESS COUNTY AND NEW YORK STATE SANITARY CODES."

"DUTCHESS COUNTY ENVIRONMENTAL HEALTH SERVICES DIVISION CERTIFICATE OF APPROVAL LETTER."

THIS PLAN IS APPROVED AS MEETING THE APPROPRIATE AND APPLIED TECHNICAL STANDARDS, GUIDELINES, POLICIES AND PROCEDURES FOR ARRANGEMENT OF SEWAGE DISPOSAL.

UPON COMPLETION OF THE FACILITIES, THE FINISHED WORKS SHALL BE INSPECTED, TESTED, AND CERTIFIED COMPLETE TO THE DC EHSD BY THE NEW YORK STATE REGISTERED DESIGN PROFESSIONAL SUPERVISING CONSTRUCTION. NO PART OF THE FACILITIES SHALL BE PLACED INTO SERVICE UNTIL ACCEPTED BY THE DC EHSD.

APPROVAL OF ANY PLAN(S) OR AMENDMENT THERETO SHALL BE VALID FOR A PERIOD OF 5 YEARS FROM THE DATE OF APPROVAL. FOLLOWING THE EXPIRATION OF SAID APPROVAL, THE PLAN(S) SHALL BE RE-SUBMITTED TO THE COMMISSIONER OF HEALTH FOR CONSIDERATION FOR RE-APPROVAL. RE-SUBMISSION OR REVISED SUBMISSION OF PLANS AND/OR ASSOCIATED DOCUMENTS SHALL BE SUBJECT TO COMPLIANCE WITH THE TECHNICAL STANDARDS, GUIDELINES, POLICIES AND PROCEDURES IN EFFECT AT THE TIME OF THE RE-SUBMISSION.

THE DC EHSD SHALL BE NOTIFIED SIXTY DAYS PRIOR TO ANY CHANGE IN USE; USE CHANGES MAY REQUIRE RE-APPROVAL BY THE DC EHSD.

ALL REQUIRED EROSION & SEDIMENT CONTROL AND STORMWATER POLLUTION PREVENTION WATER QUALITY & QUANTITY CONTROL STRUCTURES, PERMANENT AND TEMPORARY, ARE SHOWN ON THE PLANS.

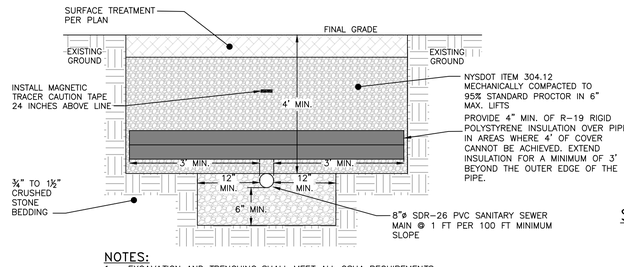
NO BUILDINGS ARE TO BE OCCUPIED AND THE NEW WASTEWATER COLLECTION SYSTEM SHALL NOT BE PLACED INTO SERVICE UNTIL, A "CERTIFICATE OF CONSTRUCTION COMPLIANCE" IS ISSUED UNDER SECTION 19.7 OF ARTICLE 19 OF THE DUTCHESS COUNTY SANITARY CODE.

NO CELLAR, FOOTING, FLOOR, GARAGE, COOLER OR ROOF DRAINS SHALL BE DISCHARGED INTO THE SEWAGE COLLECTION SYSTEM.

ALL BUILDINGS SHALL BE CONSTRUCTED AT AN ELEVATION HIGH ENOUGH TO ENSURE GRAVITY FLOW TO THE SEWAGE COLLECTION SYSTEM.

ALL SERVICE LINES ARE THE RESPONSIBILITY OF THE OWNER UP TO THE PROPERTY LINE. THE SEWER COMPANY SHALL BE RESPONSIBLE FOR ALL VALVES AND PIPES WHICH ARE NOT ON THE OWNER'S PROPERTY.

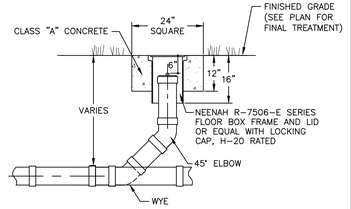
THE UNDERSIGNED OWNERS OF THE PROPERTY HEREON STATE THAT THEY ARE FAMILIAR WITH THIS MAP, ITS CONTENTS AND ITS LEGENDS AND HEREBY CONSENT TO ALL SAID TERMS AND CONDITIONS AS STATED HEREON.



NOTES:

1. EXCAVATION AND TRENCHING SHALL MEET ALL OSHA REQUIREMENTS.
2. SEWER MAIN MATERIAL SHALL BE 8" DIAMETER SDR-26 PVC BELL AND SPIGOT GRAVITY SEWER PIPE, WITH GASTIGHT AND WATERTIGHT JOINTS.
3. RIGID PIPE INSULATION TO BE PROVIDED AT PROPOSED SEWER CLEAN OUT FOR FIRST 75 FEET OF SEWER MAIN UNTIL 4' OF COVER IS PROVIDED.

SANITARY SEWER MAIN TRENCH WITH PIPE INSULATION DETAIL
NOT TO SCALE



SEWER SERVICE LATERAL CLEAN OUT DETAIL
NOT TO SCALE

DRAWN BY: MAB				CHECKED BY: DGK			
REVISIONS:				REVISIONS:			
NO.	DATE	DESCRIPTION	BY	NO.	DATE	DESCRIPTION	BY
1	10/26/21	PER PLANNING BOARD COMMENTS	MAB				

SEAL

HUDSON LAND DESIGN
PROFESSIONAL ENGINEERING P.C.
174 MAIN ST., BEACON, NEW YORK 12508
13 CHAMBERS ST., NEWBURGH, NEW YORK 12550
PH: 845-440-6926
F: 845-440-6637

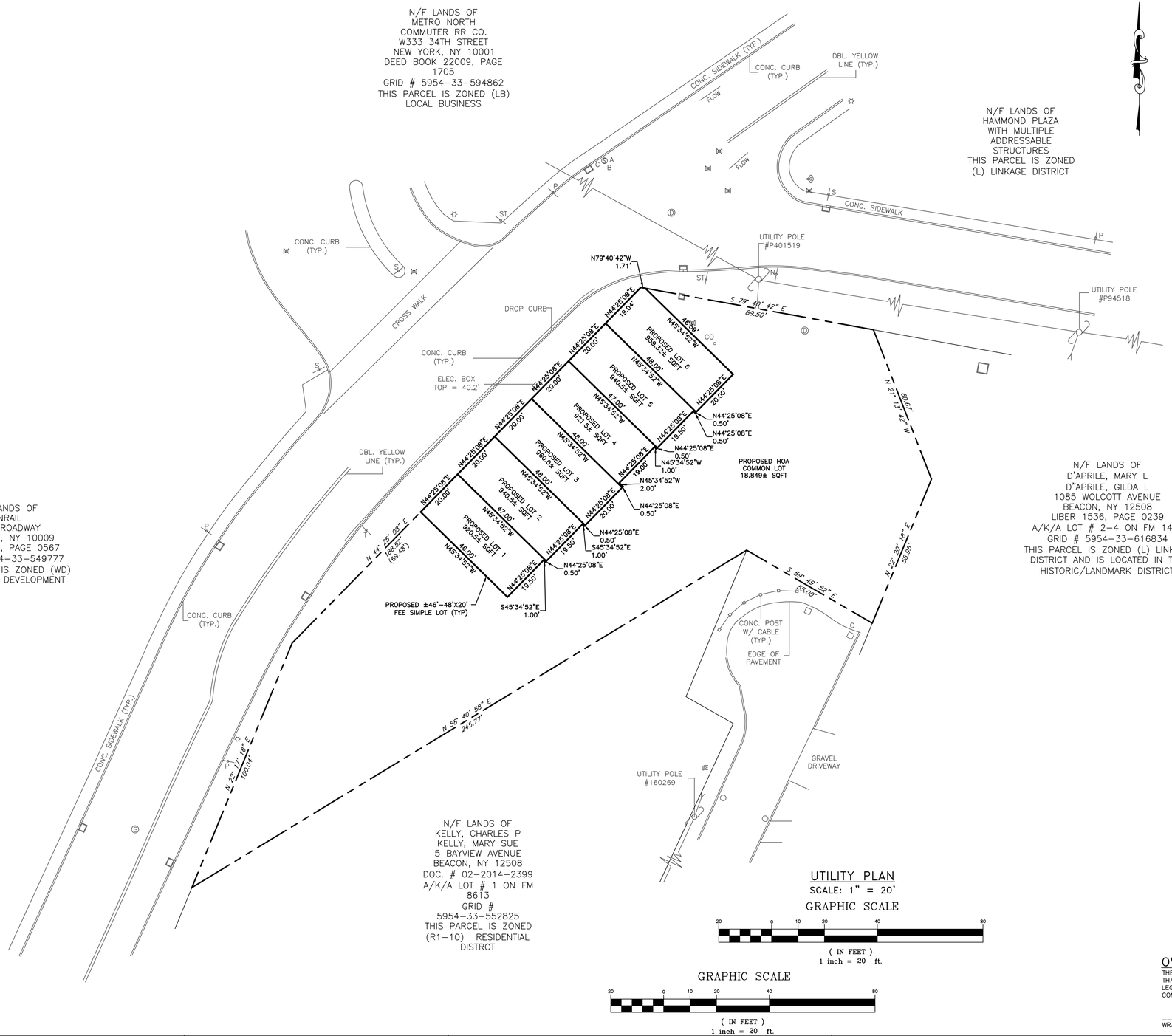
SEWER CONSTRUCTION DETAILS

FERRY LANDING AT BEACON

BEEKAMN & FERRY STREET
CITY OF BEACON
DUTCHESS COUNTY, NEW YORK
TAX ID: 5954-33-556840

JOB #:	2021:042
DATE:	9/28/2021
SCALE:	AS SHOWN
TITLE:	CD-1
SHEET:	3 OF 3

UNAUTHORIZED ALTERATIONS OR ADDITIONS TO THIS DRAWING IS A VIOLATION OF SECTION 7209.2 OF THE NEW YORK EDUCATION LAW



UTILITY PLAN

SCALE: 1" = 20'

GRAPHIC SCALE

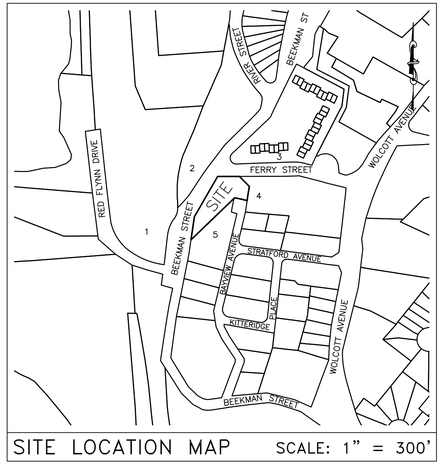
20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.



SITE LOCATION MAP

SCALE: 1" = 300'

SUBDIVISION PLAT REFERENCE NOTES:

1. REFERENCE IS HEREBY MADE TO A SITE PLAN APPROVAL DRAWING ENTITLED "FERRY LANDING AT BEACON", PREPARED BY MICHAEL T. WOLFE, RA, DATED MARCH 20, 2019, LAST REVISED NOVEMBER 1, 2019.
2. BOUNDARY AND TOPOGRAPHY SHOWN ON THIS PLAT ARE PER A SURVEY ENTITLED "BOUNDARY & TOPOGRAPHICAL SURVEY OF LOOT NO. 2 MAP OF SUBDIVISON FOR ARMAND NINNE, FILED MAP NO. 8612" DATED JULY 25, 2002, PREPARED BY PETER R. HUSTIS, NYS LS NO. 49205.
3. ADDITIONAL SURVEY INFORMATION AND AMENDED TOPOGRAPHY COMPILED FROM A MAP ENTITLED "SURVEY OF LOT 2 FIELD MAP NO. 8613" DATED NOVEMBER 25, 2017, LAST REVISED ON JANUARY 20, 2018, PREPARED BY JOHN J. POST JR.. NYS LS NO. 50643.

PROJECT INFORMATION:

PARCEL OWNER:	NINNIE ARMAND, PO BOX 328, BEACON NY 12508
PROJECT APPLICANT:	WRJG, LLC, 1158 NORTH AVE SECOND FLOOR, BEACON, NY 12508
PROJECT ENGINEER:	HUDSON LAND DESIGN P.C., 174 MAIN STREET, BEACON NY 12508
PARCEL LOCATION:	BEEKMAN STREET, BEACON NY 12508
TAX PARCEL ID:	5954-33-556840
PARCEL AREA:	±0.56-ACRES
WATER SUPPLY:	PUBLIC
SEWAGE DISPOSAL:	PUBLIC
ZONING DISTRICT:	L – LINKAGE

LIST OF PROPERTY ADJOINERS:

1.	5954-33-549777; METRO NORTH COMMUTER RR CO, 333 34TH ST W 9 FL. NEW YORK, NY 10001
2.	5954-33-594862; METRO NORTH COMMUTER RR CO, 333 34TH ST W 9 FL. NEW YORK, NY 10001
3.	NO PARCEL NUMBER; HAMMOND PLAZA CONDOMINIUMS, FM 4261 BEACON, NY 12508
4.	5954-33-616834; ALEXANDER, SCOTT HUGO, 310 E 81ST ST NEW YORK NY 10028
5.	5954-33-552825; KELLY, CHARLES P. & KELLY, MARY SUE 5 BAYVIEW AVE BEACON, NY 12508

DCDOH STANDARD NOTE:

FOR PERMISSION TO FILE

THIS PLAN DOES NOT CONSTITUTE A REALTY SUBDIVISION AS DEFINED BY ARTICLE XI, TITLE II, SECTION 1115 OF THE PUBLIC HEALTH LAW OF THE STATE OF NEW YORK, AND ARTICLE XI OF THE DUTCHESS COUNTY SANITARY CODE. PERMISSION IS HEREBY GRANTED FOR THE FILING OF THIS MAP WITH THE CLERK OF DUTCHESS COUNTY. APPROVAL FOR ARRANGEMENTS FOR WATER SUPPLY AND/OR SEWAGE DISPOSAL IS NEITHER SOUGHT NOR GRANTED.

_____ _____
AUTHORIZED REPRESENTATIVE OF THE COMMISSIONER OF HEALTH DATE

APPROVED BY RESOLUTION OF THE PLANNING BOARD OF THE CITY OF BEACON, NEW YORK, ON THE _____ DAY OF _____, 20_____, SUBJECT TO ALL REQUIREMENTS AND CONDITIONS OF SAID RESOLUTION. ANY CHANGE, ERASURE, MODIFICATION OR REVISION OF THIS PLAT, AS APPROVED, SHALL VOID THIS APPROVAL.

SIGNED THIS _____ DAY OF _____, 20_____, BY

_____ CHAIRMAN

_____ SECRETARY

IN ABSENCE OF THE CHAIRMAN OR SECRETARY, THE ACTING CHAIRMAN OR ACTING SECRETARY RESPECTIVELY MAY SIGN IN THIS PLACE.

OWNER'S CONSENT:

THE UNDERSIGNED OWNER OF THE PROPERTY HEREON STATES THAT HE IS FAMILIAR WITH THIS MAP, ITS CONTENTS AND ITS LEGENDS AND HEREBY CONSENTS TO ALL SAID TERMS AND CONDITIONS AS STATED HEREON.

_____ _____
WRJG, LLC DATE

DRAWN BY: MAB				CHECKED BY: DGK			
REVISIONS:				REVISIONS:			
NO.	DATE	DESCRIPTION	BY	NO.	DATE	DESCRIPTION	BY
1	10/26/21	PER PLANNING BOARD COMMENTS	MAB				

I HEREBY CERTIFY THAT THE SURVEY SHOWN HEREON IS BASED ON AN ACTUAL FIELD SURVEY COMPLETED ON NOVEMBER 5, 2020.

BY:_____

SURVEYOR'S CERTIFICATION

SEAL

HUDSON LAND DESIGN
HUDSON LAND DESIGN
PROFESSIONAL ENGINEERING P.C.
174 MAIN ST., BEACON, NEW YORK 12508
13 CHAMBERS ST., NEWBURGH, NEW YORK 12550
PH: 845-440-6926
F: 845-440-6637

PRELIMINARY PLAT

FERRY LANDING AT BEACON

BEEKMAN & FERRY STREET
CITY OF BEACON
DUTCHESS COUNTY, NEW YORK
TAX ID: 5954-33-556840

JOB #:	2021:042
DATE:	9/28/2021
SCALE:	1" = 20'
TITLE:	PLAT
SHEET:	1 OF 1

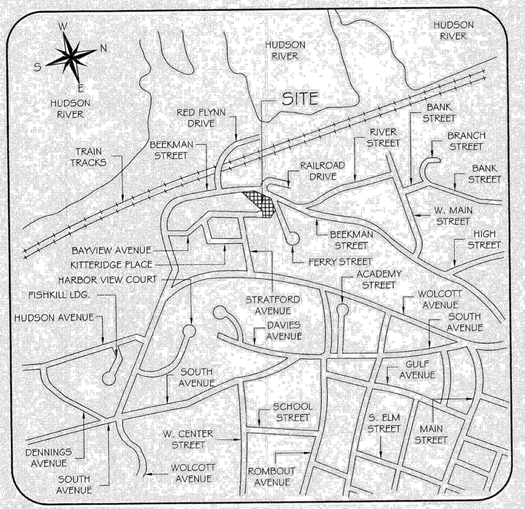
UNAUTHORIZED ALTERATIONS OR ADDITIONS TO THIS DRAWING IS A VIOLATION OF SECTION 7209.2 OF THE NEW YORK EDUCATION LAW

GENERAL PARCEL INFORMATION

PARCEL GRID IDENTIFICATION #	5954-33-556840
PARCEL INFORMATION:	LIBER 1704 PAGE 0883 A/K/A LOT # 2 ON FM # 8613
MUNICIPALITY:	CITY OF BEACON
PARCEL LOCATION:	BEEKMAN & FERRY STREET
CURRENT OWNER:	NINNIE, ARMAND PO BOX 328 BEACON, NY 12508
PARCEL DETAILS:	SIZE: 0.56 ACRES = 24,491 SF SCHOOL DISTRICT: BEACON CITY LAND USE: VACANT ZONING DISTRICT: LINKAGE DISRICT (L) FLOOD INFORMATION: NO PORTION OF THE PROPERTY IS SUBJECT TO WETLANDS, FLOODING, OR STORMWATER OVERFLOWS

PLAN LEGEND

- SITE PROPERTY LINE
- ADJOINING PROPERTY LINE
- 50 EXISTING CONTOUR LINE
- EXISTING STREET LIGHT
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING DRAINAGE MANHOLE
- EXISTING STOP SIGN
- EXISTING NO OUTLET SIGN
- ST EXISTING STREET SIGN
- P EXISTING PARKING SIGN
- R EXISTING TRAIN SIGN
- EXISTING SEWER MAN HOLE
- EXISTING UTILITY POLE
- EXISTING OH WIRE
- PROPOSED POST LIGHT
- 50 PROPOSED CONTOUR LINE
- + LP (43.5) PROPOSED LOW POINT SPOT ELEVATION
- S4 PROPOSED 4" Ø SDR SEWER SERVICE
- DS PROPOSED DOWN SPOUT
- W1 PROPOSED 1" Ø WATER SERVICE
- W2V PROPOSED CURB VALVE
- CO PROPOSED SEWER / DRAIN CLEAN OUT
- S8 PROPOSED 8" Ø SDR SEWER MAIN
- RD8 PROPOSED 8" Ø ROOF DRAIN MAIN
- TR PROPOSED ELECTRICAL TRANSFORMER
- E PROPOSED ELECTRIC SERVICE
- T PROPOSED TELEPHONE SERVICE
- TV PROPOSED CABLE TV SERVICE



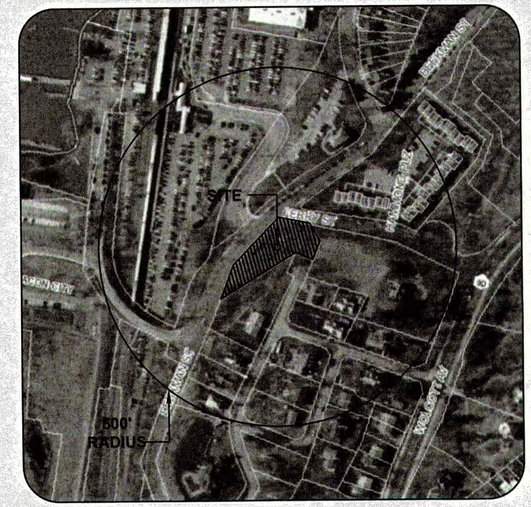
LOCATION MAP
SCALE: 1" = 600' ±

DRAWING INDEX

DRAWING	DRAWING TITLE
1 OF 9	SITE INFORMATION PLAN
2 OF 9	EXISTING SITE CONDITIONS
3 OF 9	SITE DEVELOPMENT PLAN
4 OF 9	SITE GRADING PLAN
5 OF 9	SITE UTILITIES PLAN
6 OF 9	UTILITY PROFILE PLAN
7 OF 9	SIGHT DISTANCE PLAN
8 OF 9	SITE DETAILS PLAN
9 OF 9	SITE DETAILS PLAN
1 OF 1	BUILDING ELEVATIONS
1 OF 1	BUILDING RENDERINGS
1 OF 1	AXONOMETRIC DIAGRAM

AMENDED SITE PLAN NOTES:

1. A PORTION OF THIS PLAN HAS BEEN AMENDED BY HUDSON LAND DESIGN PROFESSIONAL ENGINEERING, P.C. WITH RESPECT TO SEWER COLLECTION ONLY. ALL REVISED WORK IS SURROUNDED BY A REVISION CLOUD TO INDICATE REFERRAL TO THE AMENDED SITE PLAN SET.
2. REFER TO AMENDED SITE PLANS DATED SEPTEMBER 28, 2021, LAST REVISED 10/26/21 FOR AMENDED SITE PLAN WORK.
3. ALL OTHER NON-SEWER WORK SHALL BE IN ACCORDANCE WITH THIS PLAN.



AERIAL OF SURROUNDING BUILDINGS
SCALE: 1" = 200' ±

GENERAL PROJECT INFORMATION

PROJECT APPLICANT:	FERRY LANDING AT BEACON, LTD. POST OFFICE BOX 294 BEACON, NY 12508
PROPOSED USE:	ATTACHED DWELLING UNITS IN ACCORDANCE WITH SECTION 223-41.21 A. (2) OF THE CITY OF BEACON ZONING CODE
NUMBER OF UNITS:	SIX (6) SINGLE FAMILY RESIDENTIAL UNITS
FRONT SETBACK:	MINIMUM 0', MAXIMUM 20'
CORNER BUILDINGS:	ASSUME FRONTAGE ON BOTH STREETS & FRONT SETBACKS APPLY TO BOTH
SIDE SETBACKS:	MINIMUM 0', MAXIMUM 30'
REAR SETBACKS:	MINIMUM 25'
BUILDING HEIGHT:	3 STORIES
LOT AREA & LOT WIDTH:	NO MINIMUM
LOT DEPTH:	MINIMUM 75'
FLOOR AREA RATIO:	NO MINIMUM
LANDSCAPED AREA:	MINIMUM REQUIRED: 15% OF LOT AREA = 3,674 SF LANDSCAPED AREA PROVIDED: 22% OF LOT AREA = 5,459 SF ADDITIONAL LANDSCAPED AREA ADJOINING SITE = 1,948 SF TOTAL AREA OF LANDSCAPING PROVIDED = 7,407 SF
OFF STREET PARKING:	MINIMUM REQUIRED: 6 SPACES PARKING PROVIDED: ~~X~~ 6 INTERIOR SPACES / 6 EXTERIOR SPACES
BUILDING FOOTPRINT:	0.11 ACRES = 4,754 SF
PAVEMENT AREA:	0.18 ACRES = 7,450 SF ON SITE 0.03 ACRES = 1,682 SF ADJOINING SITE 0.21 ACRES = 9,132 SF TOTAL AREA
AREA OF DISTURBANCE:	0.41 ACRES = 17,934 SF ON SITE 0.08 ACRES = 3,307 SF ADJOINING SITE 0.49 ACRES = 21,241 SF TOTAL AREA

APPROVED BY RESOLUTION OF THE BEACON PLANNING BOARD
ON THE 13th DAY OF AUGUST, 2019
SUBJECT TO ALL CONDITIONS AS STATED THEREIN

CHAIRMAN, CITY PLANNING BOARD

12/10/2019
DATE

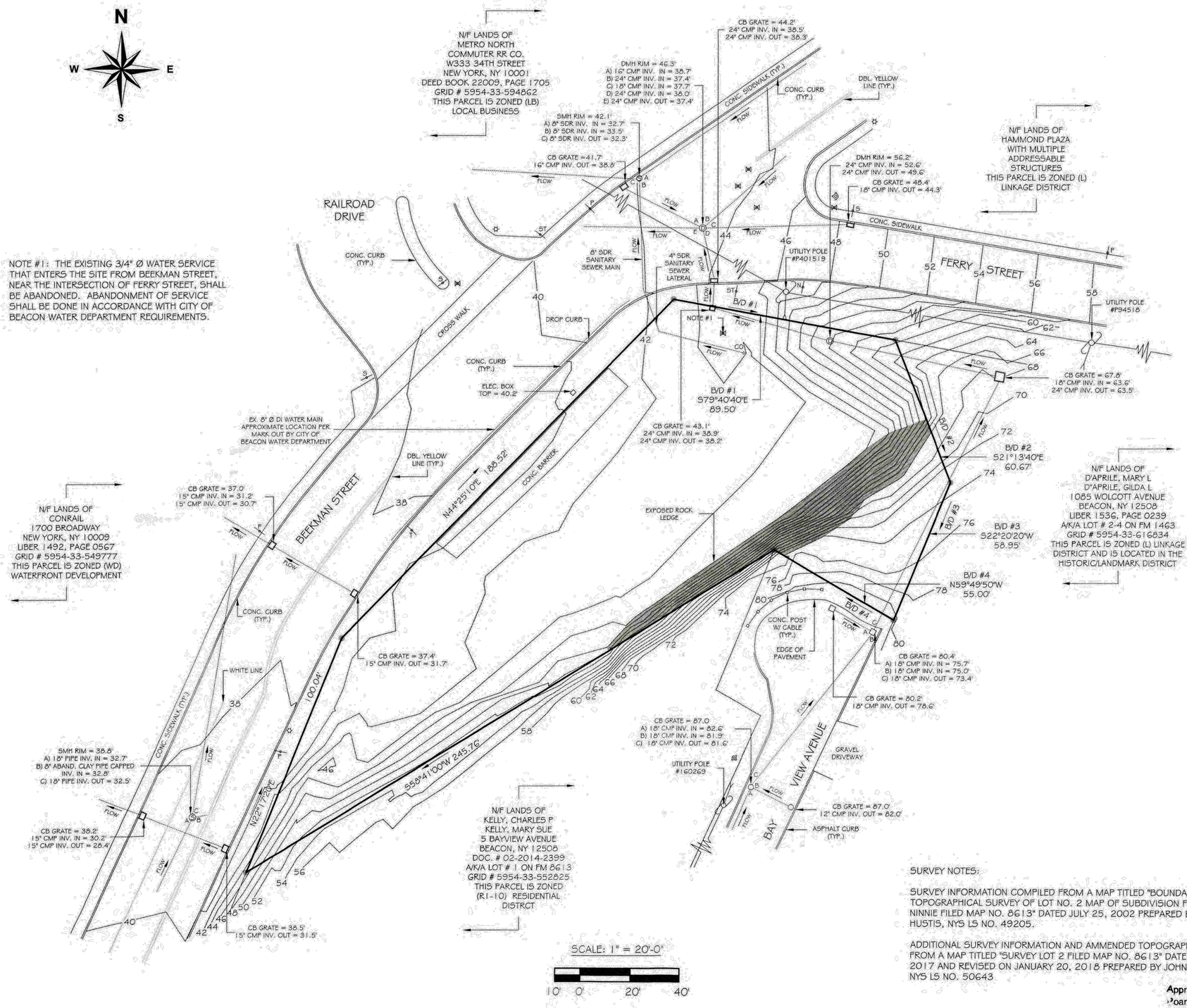
REVISION & DATE
NOVEMBER 1, 2019

REGISTERED ARCHITECT
THOMAS W. SCHIAVONE
No. 026190
STATE OF NEW YORK

FERRY LANDING AT BEACON, LTD
DEVELOPERS · DESIGNERS · BUILDERS
POST OFFICE BOX 294
BEACON, NY 12508

SITE INFORMATION PLAN
FOR
FERRY LANDING AT BEACON
BEEKMAN AND FERRY STREET
BEACON, NY 12508

DATED: MARCH 20, 2019
SCALE: NONE
DRAWING:
1 OF 9



SURVEY NOTES:

SURVEY INFORMATION COMPILED FROM A MAP TITLED "BOUNDARY & TOPOGRAPHICAL SURVEY OF LOT NO. 2 MAP OF SUBDIVISION FOR ARMAND NINNIE FILED MAP NO. 8613" DATED JULY 25, 2002 PREPARED BY PETER R. HUSTIS, NYS LS NO. 49205.

ADDITIONAL SURVEY INFORMATION AND AMMENDED TOPOGRAPHY COMPILED FROM A MAP TITLED "SURVEY LOT 2 FILED MAP NO. 8613" DATED NOVEMBER 25, 2017 AND REVISED ON JANUARY 20, 2018 PREPARED BY JOHN J. POST, JR., NYS LS NO. 50643

Approved by Resolution of the Beacon Planning Board on 8-13-19 subject to all conditions as stated therein.

Planning Board Chairman — 12/16/2019 Date

AMENDED SITE PLAN - NO CHANGES THIS SHEET

REVISION & DATE

REGISTERED ARCHITECT T. WOLFE 022170 STATE OF NEW YORK UNIVERSITY OF THE STATE

FERRY LANDING AT BEACON, LTD

DEVELOPERS · DESIGNERS · BUILDERS

POST OFFICE BOX 294

BEACON, NY 12508

EXISTING SITE CONDITIONS

FOR

FERRY LANDING AT BEACON

BEEKMAN AND FERRY STREET

BEACON, NY 12508

DATED: MARCH 20, 2019

SCALE: 1" = 20'-0"

DRAWING:

2 OF 9

AREA AND DIMENSIONAL STANDARDS TABLE IN ACCORDANCE WITH SECTION 223-41.21D(10) AND FIGURE 21-1:LINKAGE ZONE STANDARDS

LOT STANDARDS			
	MIN.	MAX.	PROPOSED
LOT AREA	---	---	24,491 SF
LOT WIDTH	---	---	VARIES
LOT DEPTH	75'	---	VARIES > 75'
F.A.R.	---	---	---
FRONT SETBACK	0'	20'	VARIES < 20'
SIDE SETBACK	0'	30'	VARIES < 30'
REAR SETBACK	25'	---	VARIES > 25'
LANDSCAPED AREA	15%	---	23 %
FRONTAGE OCCUPANCY	---	---	---
PEDESTRIAN CLEARWAY	5'	---	5'

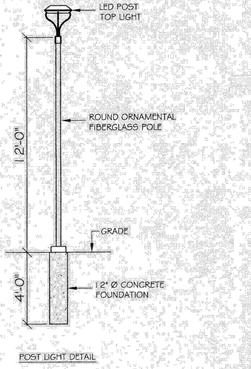
BUILDING HEIGHTS			
	MIN.	MAX.	PROPOSED
# OF STORIES	2	4*	4*
BUILDING HEIGHT (FT)	---	48'	45'±

* 4 STORY BUILDING HEIGHT PERMITTED WITH 15' STEPBACK OVER THIRD STORY

FRONTAGE TYPE		
	ALLOWED	PROPOSED
FORECOURT	YES	---
PORCH	YES	---
LIGHTWELL	YES	---
STOOP	YES	YES

SITE LIGHTING NOTES:

1. ALL POST LIGHTS TO BE MODEL # USPTSL50WRL AS MANUFACTURED BY USAVELED, LLC. WITH 100-277 VOLT AC 50W LED LAMP WITH DUSK TO DAWN PHOTOCONTROL. POST LIGHT PROVIDES "DARK SKY DESIGN".
2. ALL BUILDING MOUNTED EXTERIOR LIGHTING (L1) TO BE MODEL # 1224TT AS MANUFACTURED BY HINKLEY LIGHTING INC. WITH 120 VOLT AC 35W LED LAMP.



POST LIGHT DETAIL

N.T.S



MIST 1224TT	
TITANIUM	
WIDTH:	4.8"
HEIGHT:	22.0"
WEIGHT:	5.0 LBS
MATERIAL:	ALUMINUM
GLASS:	CLEAR ACRYLIC OUTSIDE CYLINDER & SEEDY GLASS INSIDE PANEL
BACKPLATE WIDTH:	4.8"
SOCKET:	1-35W GU-10
DARK SKY:	YES
EXTENSION:	4.0"
TTO:	11.0"
CERTIFICATION:	C-US WET RATED
VOLTAGE:	120V
UPC:	640065122459

BUILDING MOUNTED LIGHT DETAIL

N.T.S.

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W E

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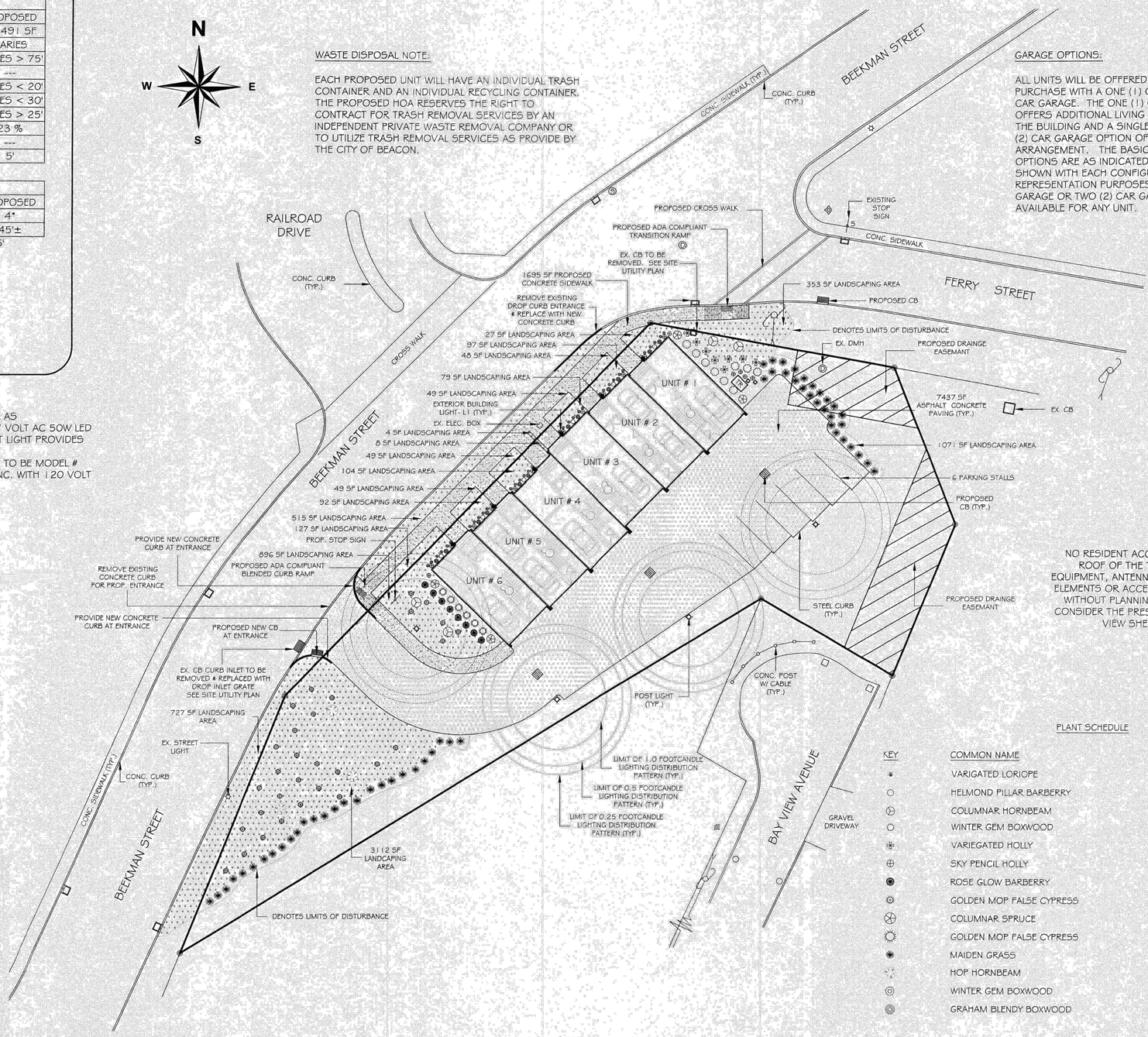
WASTE DISPOSAL NOTE:

EACH PROPOSED UNIT WILL HAVE AN INDIVIDUAL TRASH CONTAINER AND AN INDIVIDUAL RECYCLING CONTAINER. THE PROPOSED HOA RESERVES THE RIGHT TO CONTRACT FOR TRASH REMOVAL SERVICES BY AN INDEPENDENT PRIVATE WASTE REMOVAL COMPANY OR TO UTILIZE TRASH REMOVAL SERVICES AS PROVIDE BY THE CITY OF BEACON.

GARAGE OPTIONS:

ALL UNITS WILL BE OFFERED WITH AN OPTION TO PURCHASE WITH A ONE (1) CAR GARAGE OR A TWO (2) CAR GARAGE. THE ONE (1) CAR GARAGE OPTION OFFERS ADDITIONAL LIVING SPACE IN THE FRONT OF THE BUILDING AND A SINGLE REAR GARAGE. THE TWO (2) CAR GARAGE OPTION OFFERS A TANDEM GARAGE ARRANGEMENT. THE BASIC DESIGN FOR THESE TWO OPTIONS ARE AS INDICATED ON THIS PLAN. THE UNITS SHOWN WITH EACH CONFIGURATION ARE FOR REPRESENTATION PURPOSES ONLY. THE ONE (1) CAR GARAGE OR TWO (2) CAR GARAGE OPTION WILL BE AVAILABLE FOR ANY UNIT.



SCALE: 1" = 20'-0"

10' 0' 20' 40'

NO RESIDENT ACCESS SHALL BE PERMITTED ON THE ROOF OF THE THIRD STORY. NO MECHANICAL EQUIPMENT, ANTENNAS, CHIMNEYS OR SIMILAR ROOFTOP ELEMENTS OR ACCESSORY STRUCTURES ARE PERMITTED WITHOUT PLANNING BOARD APPROVAL WHICH SHALL CONSIDER THE PRESERVATION AND PROTECTION OF THE VIEW SHED FROM BAYVIEW AVENUE.

PLANT SCHEDULE

KEY	COMMON NAME	SIZE	QUANTITY
	VARIGATED LORIOPE	1 GAL	1441
	HELMOND PILLAR BARBERRY	36" HEIGHT B&B	6
	COLUMNAR HORNBEAM	8' HEIGHT B&B	4
	WINTER GEM BOXWOOD	24"-30" B&B	9
	VARIEGATED HOLLY	3 GAL	8
	SKY PENCIL HOLLY	36" HEIGHT B&B	18
	ROSE GLOW BARBERRY	5 GAL	8
	GOLDEN MOP FALSE CYPRESS	5 GAL	30
	COLUMNAR SPRUCE	8'-10' HEIGHT B&B	2
	GOLDEN MOP FALSE CYPRESS	24'-30" B&B	6
	MAIDEN GRASS	5 GAL	54
	HOP HORNBEAM	8' HEIGHT B&B	3
	WINTER GEM BOXWOOD	3 GALLON	36
	GRAHAM BLENDY BOXWOOD	36" HEIGHT B&B	12

AMENDED SITE PLAN - NO CHANGES THIS SHEET

Approved by resolution of the Beacon Planning Board on 8-12-19 subject to all conditions as stated therein.

Planning Board Chairman 12/10/2019 Date

REVISION & DATE

NOVEMBER 1, 2019

REGISTERED ARCHITECT T. WOLFE NEW YORK

FERRY LANDING AT BEACON, LTD

DEVELOPERS · DESIGNERS · BUILDERS

POST OFFICE BOX 294

BEACON, NY 12508

SITE DEVELOPMENT PLAN

FOR

FERRY LANDING AT BEACON

BEEKMAN AND FERRY STREET

BEACON, NY 12508

DATED: MARCH 20, 2019

SCALE: 1" = 20'-0"

DRAWING:

3 OF 9

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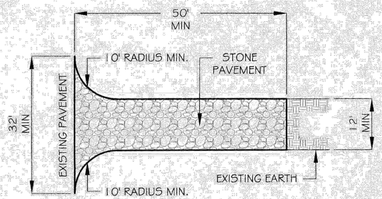
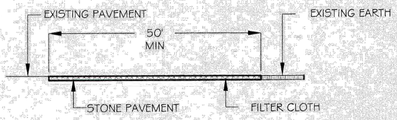


PLAN VIEW



SECTION

STABILIZED CONSTRUCTION ENTRANCE

N.T.S.

installation Details:

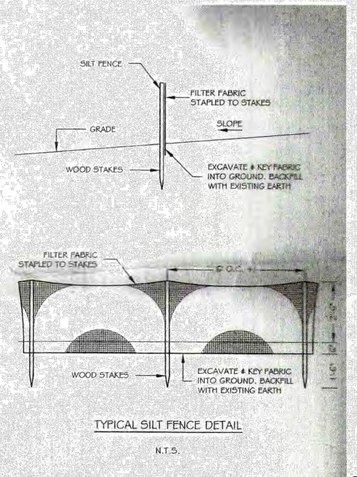
1. Grade entrance by removing sod down to firm subgrade.
2. Place filter cloth over the entrance subgrade. Min. width = 12', Min. length = 50'.
3. Construct aggregate pad with positive drainage a minimum of 6" thick using 2" stone or reclaimed or recycled concrete equivalent.

SITE GRADING NOTES:

EARTHWORK COMPUTATION ESTIMATE: APPROXIMATELY 394 CY OF MATERIAL TO BE REMOVED FROM THE SITE.

SCALE: 1" = 20'-0"

10' 0' 20' 40'



TYPICAL SILT FENCE DETAIL

N.T.S.

AMENDED SITE PLAN - NO CHANGES THIS SHEET

Approved by resolution of the Beacon Planning Board on 8-13-19 subject to all conditions as stated therein.

12/10/2019
Date

Planning Board Chairman

REVISION & DATE

MICHAEL T. WOLFE REGISTERED ARCHITECT NEW YORK STATE

FERRY LANDING AT BEACON, LTD

DEVELOPERS · DESIGNERS · BUILDERS
POST OFFICE BOX 294
BEACON, NY 12508

SITE GRADING PLAN

FOR

FERRY LANDING AT BEACON

BEEKMAN AND FERRY STREET
BEACON, NY 12508

DATED: MARCH 20, 2019

SCALE: 1" = 20'-0"

DRAWING:

4 OF 9

N

W E

SITE UTILITIES NOTES

1. ALL CATCH BASINS TO BE PRECAST CONCRETE MODEL CB-30x48 OR MODEL CB-30x30 MANUFACTURED BY WOODARD'S CONCRETE PRODUCTS, INC. 629 LYBOLT ROAD, BULLVILLE, NY 10915 OR EQUAL

2. ALL CAST IRON FRAMES AND GRATES TO BE MANUFACTURED BY CAMBELL FOUNDRY OR EQUAL, AS SUPPLIED BY WOODARD'S CONCRETE PRODUCTS, INC. 629 LYBOLT ROAD, BULLVILLE, NY 10915 OR EQUAL

3. DROP INLET CAST IRON FRAME AND FLAT GRATE TO BE MODEL GRATE-30x30x4 OR MODEL GRATE-30x48 BICYCLE TYPE WITH A HEAVY DUTY, H20 LOAD RATING.

4. CURB INLET CAST IRON FRAME AND GRATE TO BE MODEL-CI 30x48 BICYCLE TYPE WITH A HEAVY DUTY, H20 LOAD RATING.

5. THE EXISTING 8"Ø SEWER SERVICE THAT EXTENDS INTO THE SITE FROM THE SEWER MANHOLE LOCATED ON THE NORTH SIDE OF BEEKMAN STREET SERVICES THIS PARCEL ONLY. THIS IS A PRIVATE SERVICE AND SHALL BE OWNED AND MAINTAINED BY THE PROPOSED HOME OWNERS ASSOCIATION.

6. ALL WATER SERVICES TO BE 1"Ø TYPE K (SOFT) COPPER WATER TUBING

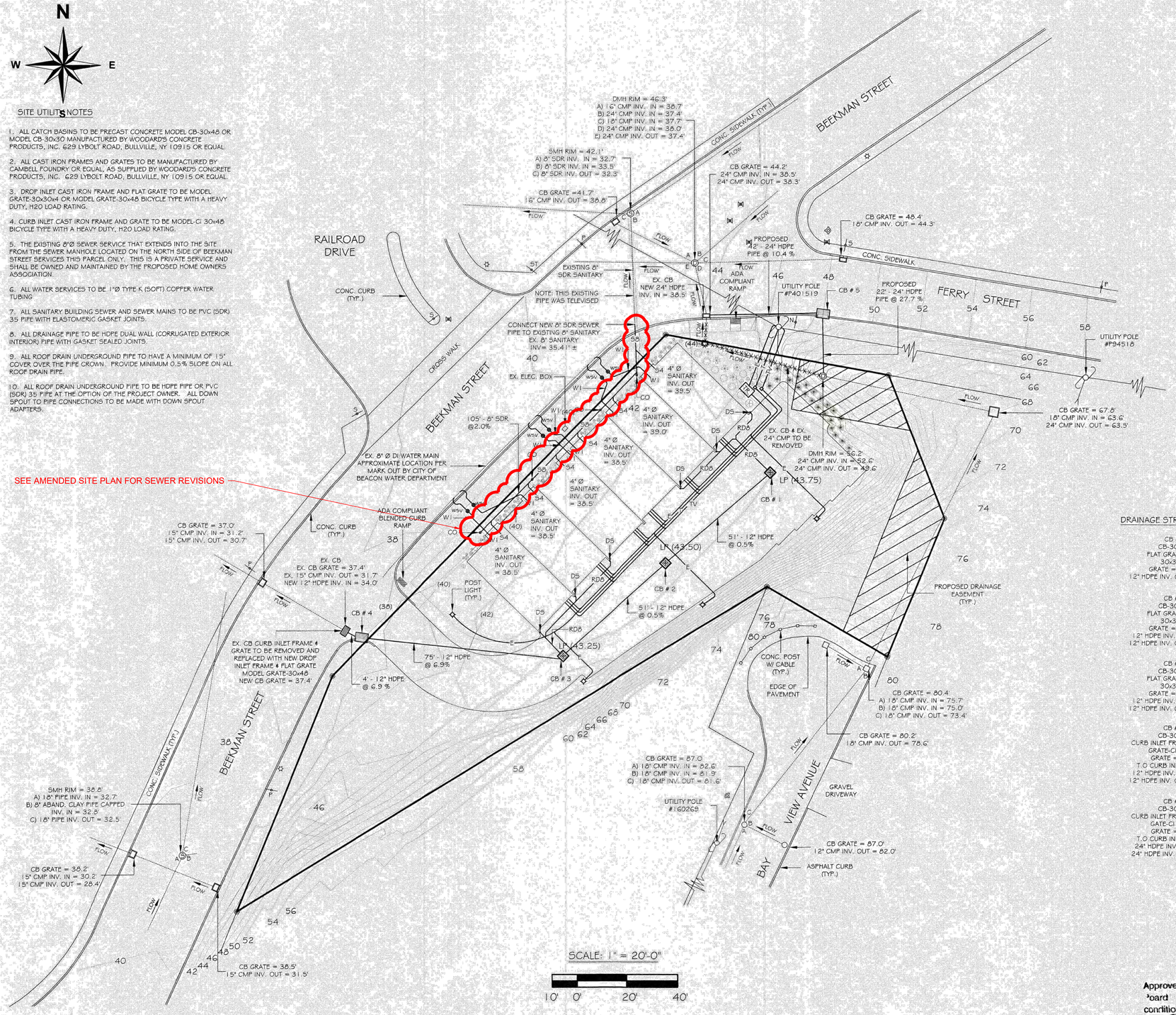
7. ALL SANITARY BUILDING SEWER AND SEWER MAINS TO BE PVC (SDR) 35 PIPE WITH ELASTOMERIC GASKET JOINTS.

8. ALL DRAINAGE PIPE TO BE HDPE DUAL WALL (CORRUGATED EXTERIOR INTERIOR) PIPE WITH GASKET SEALED JOINTS.

9. ALL ROOF DRAIN UNDERGROUND PIPE TO HAVE A MINIMUM OF 15" COVER OVER THE PIPE CROWN. PROVIDE MINIMUM 0.5% SLOPE ON ALL ROOF DRAIN PIPE.

10. ALL ROOF DRAIN UNDERGROUND PIPE TO BE HDPE PIPE OR PVC (SDR) 35 PIPE AT THE OPTION OF THE PROJECT OWNER. ALL DOWN SPOUT TO PIPE CONNECTIONS TO BE MADE WITH DOWN SPOUT ADAPTERS.

SEE AMENDED SITE PLAN FOR SEWER REVISIONS



SCALE: 1" = 20'-0"

10' 0' 20' 40'

DRAINAGE STRUCTURE LIST

CB # 1
CB-30x30
FLAT GRATE INLET
30x30x4
GRATE = 43.75'
12" HDPE INV. OUT = 40.67'

CB # 2
CB-30x30
FLAT GRATE INLET
30x30x4
GRATE = 43.50'
12" HDPE INV. IN = 40.35'
12" HDPE INV. OUT = 40.25'

CB # 3
CB-30x30
FLAT GRATE INLET
30x30x4
GRATE = 43.25'
12" HDPE INV. IN = 39.95'
12" HDPE INV. OUT = 39.85'

CB # 4
CB-30x48
CURB INLET FRAME & GRATE
GRATE-CI 30x48
GRATE = 38.0'
T.O CURB INLET = 38.5'
12" HDPE INV. IN = 34.68'
12" HDPE INV. OUT = 34.28'

CB # 5
CB-30x48
CURB INLET FRAME & GRATE
GATE-CI 30x48
GRATE = 48.0'
T.O CURB INLET = 48.5'
24" HDPE INV. IN = 43.5'
24" HDPE INV. OUT = 43.4'

Approved by resolution of the Beacon Planning Board on 8-12-19 subject to all conditions as stated therein.

12/10/2019
Planning Board Chairman — Date

REVISION & DATE

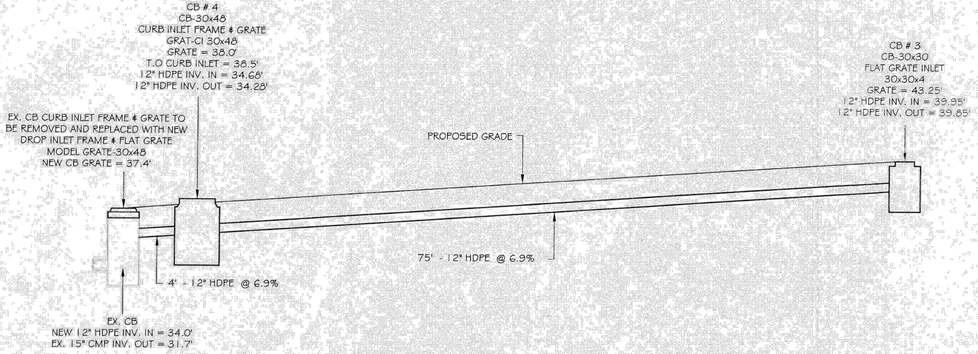
REGISTERED ARCHITECT — SCOTT T. WOLFE — STATE OF NEW YORK — UNIVERSITY OF THE STATE OF NEW YORK

FERRY LANDING AT BEACON, LTD
DEVELOPERS · DESIGNERS · BUILDERS
POST OFFICE BOX 294
BEACON, NY 12508

SITE UTILITY PLAN
FOR
FERRY LANDING AT BEACON
BEEKMAN AND FERRY STREET
BEACON, NY 12508

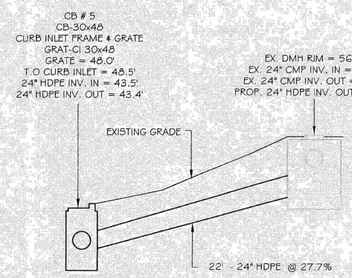
DATED: MARCH 20, 2019
SCALE: 1" = 20'-0"
DRAWING:
5 OF 9

REVISION & DATE



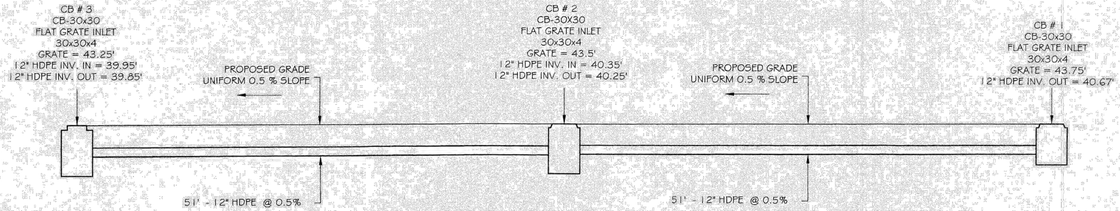
STORM DRAIN PROFILE AT CB#3 TO EX. CB

SCALE: 1/8" = 1'-0"



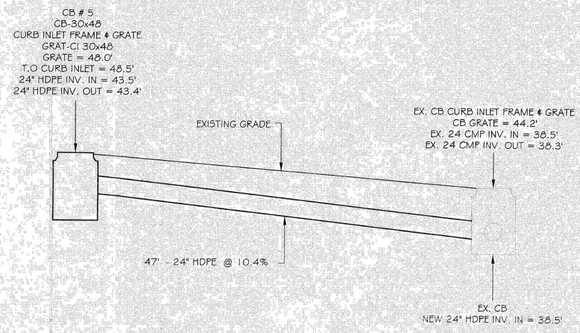
STORM DRAIN PROFILE AT EX. MH TO CB # 5

SCALE: 1/8" = 1'-0"



STORM DRAIN PROFILE AT CB#1 TO CB#3

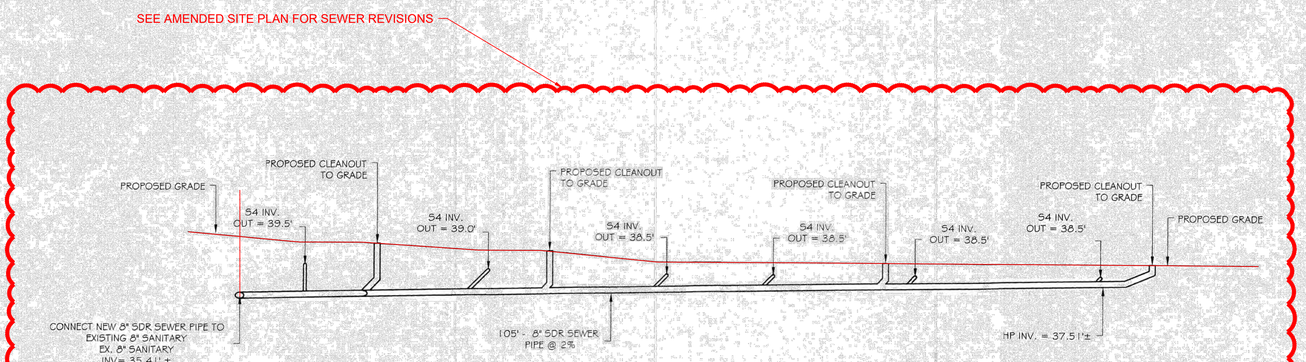
SCALE: 1/8" = 1'-0"



STORM DRAIN PROFILE AT CB # 5 TO EX. CB

SCALE: 1/8" = 1'-0"

SEE AMENDED SITE PLAN FOR SEWER REVISIONS



SANITARY SEWER PROFILE

SCALE: 1/8" = 1'-0"

Approved by resolution of the Beacon Planning Board on 9-13-19 subject to all conditions as stated therein.

Planning Board Chairman — 12/12/2019 Date

FERRY LANDING AT BEACON, LTD

DEVELOPERS · DESIGNERS · BUILDERS

POST OFFICE BOX 294

BEACON, NY 12508

UTILITY PROFILE PLAN

FOR

FERRY LANDING AT BEACON

BEEKMAN AND FERRY STREET

BEACON, NY 12508

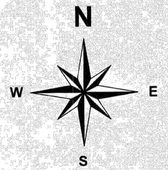
DATED: MARCH 20, 2019

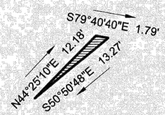
SCALE: 1/8" = 1'-0"

DRAWING:

6 OF 9

REVISION & DATE
NOVEMBER 1, 2019





DETAIL OF PROPOSED SIGHT DISTANCE EASEMENT TO BE GRANTED TO CITY OF BEACON CONTAINING 9.04± SF

SCALE: 1" = 10' - 0"

SIGHT DISTANCE TABLE			
	REQUIRED	PROVIDED	NOTE
SLSD RIGHT	335'	335'±	(A)
SSD	200'	500'+	(B)
TSD	245'	500'+	(C)
SLSD LEFT	290'	303'±	(D)

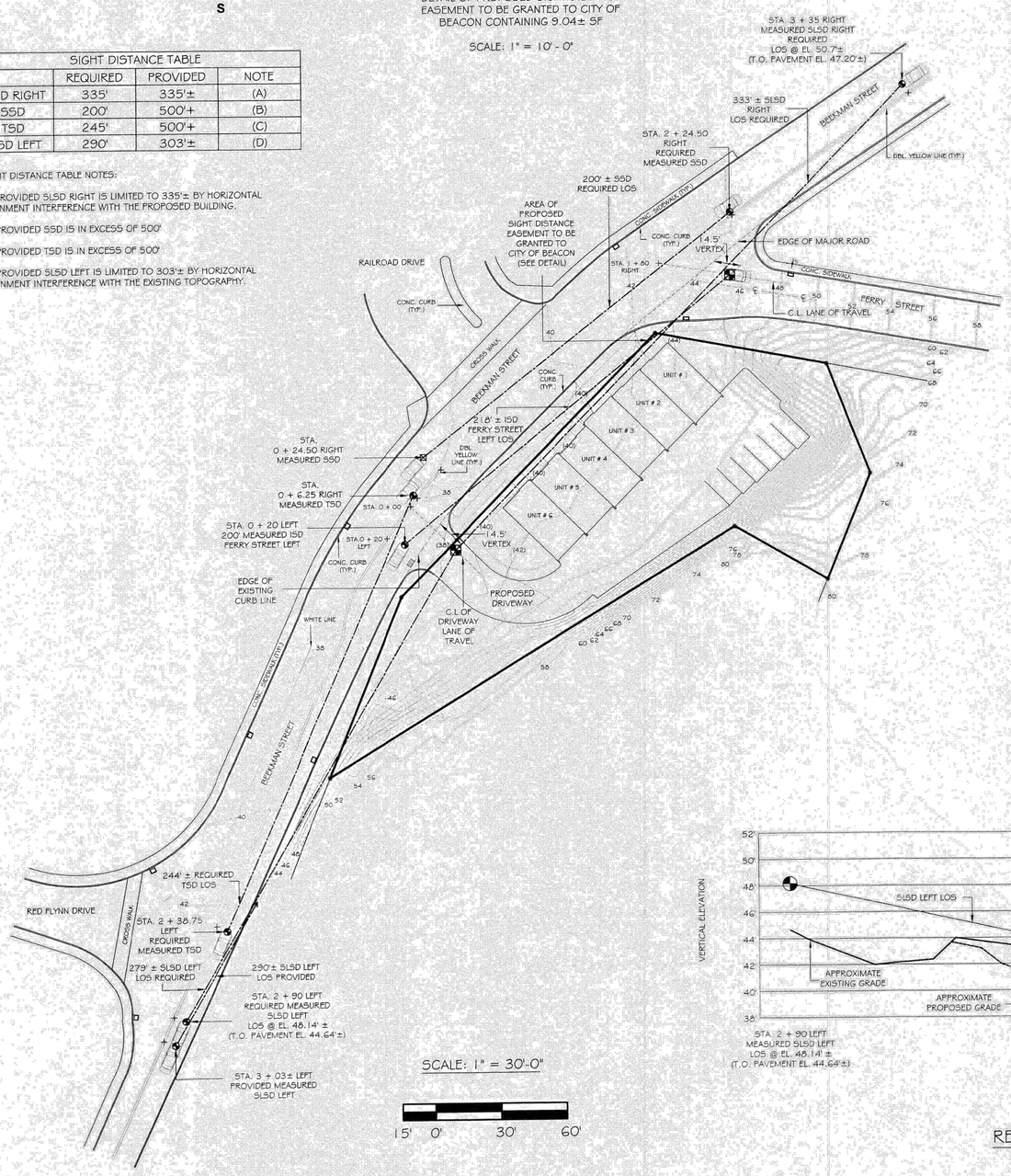
SIGHT DISTANCE TABLE NOTES:

(A) PROVIDED SLSD RIGHT IS LIMITED TO 335'± BY HORIZONTAL ALIGNMENT INTERFERENCE WITH THE PROPOSED BUILDING.

(B) PROVIDED SSD IS IN EXCESS OF 500'

(C) PROVIDED TSD IS IN EXCESS OF 500'

(D) PROVIDED SLSD LEFT IS LIMITED TO 303'± BY HORIZONTAL ALIGNMENT INTERFERENCE WITH THE EXISTING TOPOGRAPHY.



SCALE: 1" = 30'-0"

15' 0' 30' 60'

FERRY STREET INTERSECTION SIGHT DISTANCE NOTES

1. THIS PLAN PROVIDES UNOBSRUCTED INTERSECTION SIGHT DISTANCE (ISD) > 200' LEFT (SOUTH) FOR VEHICLES DEPARTING FERRY STREET.

2. INTERSECTION SIGHT DISTANCE (ISD) IS MEASURED AT 42" ABOVE ROAD PAVEMENT SURFACE (DRIVER EYE ELEVATION).

3. THIS PLAN DELINEATES THE PROPOSED SIGHT DISTANCE EASEMENT (CONTAINING 9.04 ± SF) TO BE GRANTED TO THE CITY OF BEACON FOR THE PURPOSE OF PROVIDING AND MAINTAINING UNOBSTRUCTED SIGHT DISTANCE TO THE LEFT (SOUTH) FOR VEHICULAR EGRESS FROM FERRY STREET ON AND ACROSS THE EASEMENT AREA.

DRIVEWAY SIGHT DISTANCE NOTES

1. DRIVEWAY SITE DISTANCE REQUIREMENTS IN CONFORMANCE WITH THE STANDARDS CONTAINED IN THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION PUBLICATION TITLED " POLICY AND STANDARDS FOR ENTRANCES TO STATE HIGHWAYS" DATED JANUARY 15, 2015 AND THE AASHTO PUBLICATION TITLED "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS" DATED 2011.

2. DRIVEWAY SIGHT DISTANCE DESIGN BASED ON THE FOLLOWING:

A) 30 MPH DESIGN SPEED FOR SOUTHBOUND TRAFFIC AND 25 MPH DESIGN SPEED FOR NORTHBOUND TRAFFIC ON MAJOR ROAD WITH NO ADJUSTMENT FACTORS FOR SIGHT DISTANCES BASED ON APPROACH GRADE.
B) DRIVEWAY INTERSECTION WITH NO TRAFFIC CONTROL ON THE MAJOR ROAD AND STOP CONTROL ON THE DRIVEWAY.
C) 335' STOP LINE SIGHT DISTANCE (SLSD) FOR LEFT TURN FROM STOP - 1 LANE CROSSED.
D) 290' STOP LINE SIGHT DISTANCE (SLSD) FOR RIGHT TURN FROM STOP - 1 LANE ENTERED.
E) 200' STOPPING SIGHT DISTANCE (SSD) ON MAJOR ROAD.
F) 245' TURNING SIGHT DISTANCE (TSD) SITE DISTANCE FOR LEFT TURN FROM MAJOR ROAD - 1 LANE CROSSED.

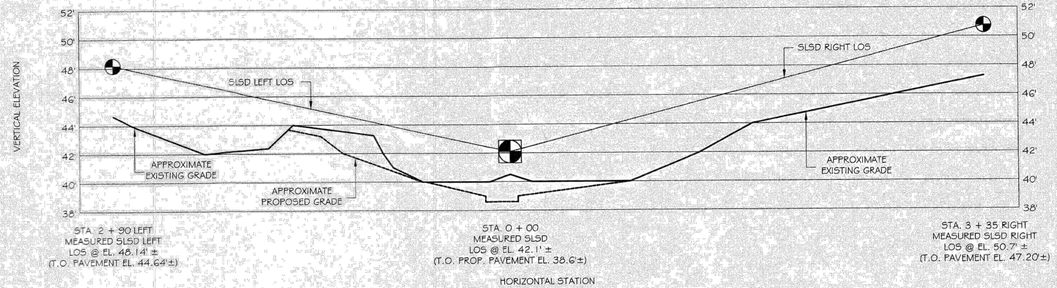
3. STOP LINE SIGHT DISTANCE (SLSD) AND TURNING SIGHT DISTANCE (TSD) ARE MEASURED AT 42" ABOVE DRIVEWAY SURFACE AND ROAD PAVEMENT SURFACE (DRIVER EYE ELEVATION).

4. STOPPING SIGHT DISTANCE (SSD) IS MEASURED FROM 42" ABOVE ROAD PAVEMENT SURFACE (DRIVER EYE ELEVATION) TO 24" ABOVE ROAD PAVEMENT SURFACE (BRAKE LIGHT ELEVATION).

5. A SIGHT DISTANCE EASEMENT FOR THE PURPOSE OF PROVIDING AND MAINTAINING UNOBSTRUCTED SIGHT DISTANCE FOR VEHICULAR EGRESS FROM THE PROPOSED DRIVEWAY ON AND ACROSS THE COMMON AREA WILL BE PROVIDED.

SIGHT DISTANCE SYMBOLS

- DRIVER LOCATION AT 42" ABOVE DRIVEWAY SURFACE ELEVATION AT STOP
- DRIVER LOCATION AT 42" ABOVE ROAD SURFACE ELEVATION
- BRAKE LIGHT LOCATION AT 24" ABOVE ROAD SURFACE ELEVATION
- LOS LINE OF SIGHT
- SLSD STOP LINE SIGHT DISTANCE
- SSD STOP SIGHT DISTANCE
- TSD INTERSECTION SIGHT DISTANCE
- ISD TURNING SIGHT DISTANCE



REQUIRED STOP LINE SIGHT DISTANCE PROFILE

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'

AMENDED SITE PLAN - NO CHANGES THIS SHEET

Approved by resolution of the Beacon Planning Board on 8-13-19 subject to all conditions as stated therein.

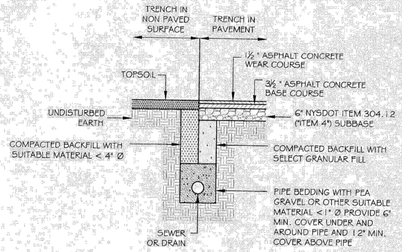
Planning Board Chairman — Date 8/16/2019

REGISTERED ARCHITECT
MICHAEL T. WOLFE
STATE OF NEW YORK
No. 021570

FERRY LANDING AT BEACON, LTD
DEVELOPERS · DESIGNERS · BUILDERS
POST OFFICE BOX 294
BEACON, NY 12508

SIGHT DISTANCE PLAN
FOR
FERRY LANDING AT BEACON
BEEKMAN AND FERRY STREET
BEACON, NY 12508

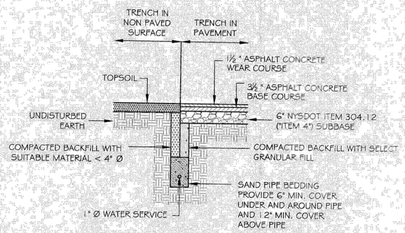
DATED: MARCH 20, 2019
SCALE: 1" = 30'-0"
DRAWING:
7 OF 9



TYPICAL SEWER / DRAIN TRENCH

N.T.S

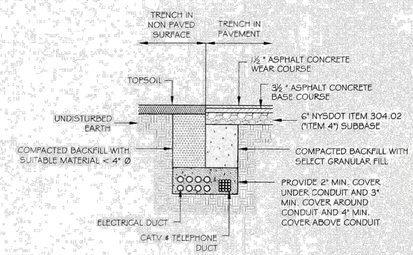
NOTE: ALL BACKFILL MATERIAL USED IN THE CTIY OF BEACON ROAD RIGHT OF WAY TO BE NYSDOT ITEM NO. 304.12. ALL BACKFILL MATERIAL SHALL BE BACKFILLED IN 8" MAXIMUM LIFTS AND COMPACTED TO AT LEAST 95 % PROCTOR.



TYPICAL WATER SERVICE TRENCH

N.T.S

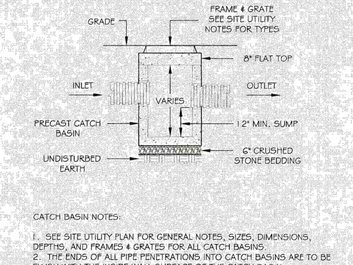
NOTE: ALL BACKFILL MATERIAL USED IN THE CTIY OF BEACON ROAD RIGHT OF WAY TO BE NYSDOT ITEM NO. 304.12. ALL BACKFILL MATERIAL SHALL BE BACKFILLED IN 8" MAXIMUM LIFTS AND COMPACTED TO AT LEAST 95 % PROCTOR.



ALL UNDERGROUND CONDUIT INSTALLATIONS INCLUDING COVER REQUIREMENTS, GROUNDING, AND PROTECTION FROM DAMAGE SHALL BE IN ACCORDANCE WITH THE NEC, CENTRAL HUDSON SPECIFICATIONS & REQUIREMENTS, AND ANY OTHER UTILITY COMPANY REQUIREMENTS.

TYPICAL UTILITY TRENCH

N.T.S



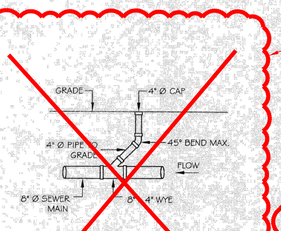
CATCH BASIN NOTES:

1. SEE SITE UTILITY PLAN FOR GENERAL NOTES, SIZES, DIMENSIONS, DEPTHS, AND FRAMES & GRATES FOR ALL CATCH BASINS.
2. THE ENDS OF ALL PIPE PENETRATIONS INTO CATCH BASINS ARE TO BE FLUSH WITH THE INSIDE WALL SURFACE OF THE CATCH BASIN.
3. PARGE AROUND INTERIOR AND EXTERIOR OF ALL PIPE PENETRATIONS.
4. PLACE CATCH BASIN ON MIN. 6" CRUSHED STONE BEDDING.
5. PROVIDE MINIMUM OF 12" SUMP AT BOTTOM OF ALL CATCH BASINS.
6. PROVIDE MINIMUM DROP OF 0.1' BETWEEN INLET AND OUTLET INVERT UNLESS OTHERWISE NOTED ON PLAN.

CATCH BASIN DETAIL

N.T.S

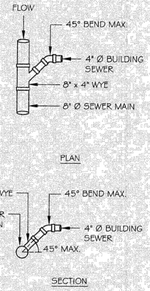
SEE AMENDED SITE PLAN FOR SEWER REVISIONS



NOTE: ALL SANITARY BUILDING SEWER ~~AND SEWER MAINS~~ TO BE PVC (SDR) 35 PIPE WITH ELASTOMERIC GASKET JOINTS

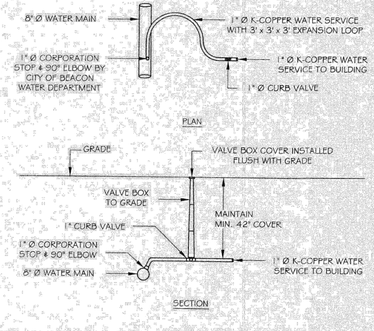
TYPICAL SEWER CLEAN OUT DETAIL

N.T.S



TYPICAL SEWER SERVICE DETAIL

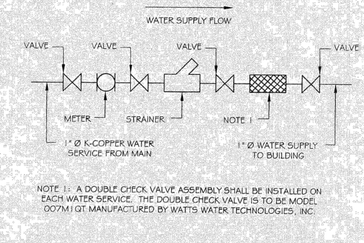
N.T.S



NOTE: ALL SERVICE BRASS INCLUDING CORPORATION VALVES, CURB VALVES, AND CURB BOXES TO BE MANUFACTURED BY MUELLER WATER PRODUCTS, INC. ALL CORPORATION VALVES AND CURB VALVES INLET/OUTLET CONNECTIONS TO BE COMPRESSION CONNECTIONS

TYPICAL WATER SERVICE DETAIL

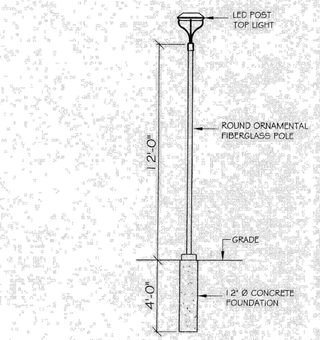
N.T.S



NOTE 1: A DOUBLE CHECK VALVE ASSEMBLY SHALL BE INSTALLED ON EACH WATER SERVICE. THE DOUBLE CHECK VALVE IS TO BE MODEL 007M1 QT MANUFACTURED BY WATTS WATER TECHNOLOGIES, INC.

TYPICAL WATER SERVICE CHECK VALVE DETAIL

N.T.S

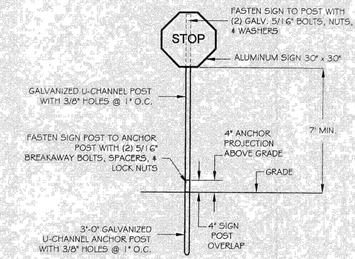


SITE LIGHTING NOTES:

ALL POST LIGHTS TO BE MODEL # USPTSL1SOWRL AS MANUFACTURED BY USAVELED, LLC. WITH 100-277 VOLT AC 50W LED LAMP WITH DUSK TO DAWN PHOTOCONTROL. POST LIGHT PROVIDES "DARK SKY DESIGN".

TYPICAL POST LIGHT DETAIL

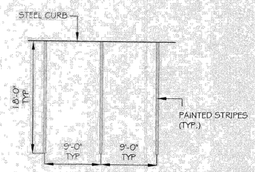
N.T.S



STOP SIGN TO BE TYPE R1-1 STOP SIGN IN CONFORMANCE WITH THE 2009 EDITION OF THE FHWA MUTCD FOR STREETS AND HIGHWAYS

STOP SIGN DETAIL

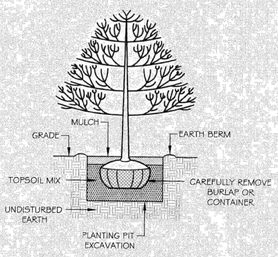
N.T.S



PARKING LOT STRIPING NOTE:
ALL PARKING STRIPES TO BE 4" PAINTED WHITE STRIPES

TYPICAL PARKING STRIPING DETAIL

N.T.S



GENERAL PLANTING NOTES:

1. TRIM OR PRUNE ANY DAMAGED, DISEASED, BROKEN OR WEAK BRANCHES IMMEDIATELY AFTER PLANTING.
2. PLANTING PIT EXCAVATION TO BE 2X WIDTH OF ROOT BALL IN SOIL AND 3X WIDTH OF ROOT BALL IN ROCK.
3. MAINTAIN TOP OF ROOT BALL FLUSH WITH SOIL SURFACE OR 1"-2" ABOVE SOIL SURFACE. DO NOT COVER TOP OF ROOT BALL WITH SOIL.
4. TOPSOIL MIX TO BE 2 PARTS TOPSOIL TO ONE PART ORGANIC MULCH.
5. WATER PLANTS THOROUGHLY AFTER INSTALLATION.
6. PLANTS IN CONTAINERS - REMOVE CONTAINER AND LOOSEN ROOTS OF POT BOUND PLANTS BY GENTLY SCORING OR PULLING ROOTS.
7. STAKE TREES ONLY IF NECESSARY. STAKING IS NOT REQUIRED IF INSTALLED STAKING MUST BE REMOVED NO LATER THAN ONE YEAR AFTER PLANTING.

TREE & SHRUB PLANTING DETAIL
B&B OR CONTAINER PLANTING

Approved by resolution of the Beacon Planning Board on 8-13-19 subject to all conditions as stated therein.

Planning Board Chairman

12/10/2019
Date

REVISION & DATE



FERRY LANDING AT BEACON, LTD

DEVELOPERS · DESIGNERS · BUILDERS

POST OFFICE BOX 294

BEACON, NY 12508

SITE DETAILS PLAN

FOR

FERRY LANDING AT BEACON

BEEKMAN AND FERRY STREET

BEACON, NY 12508

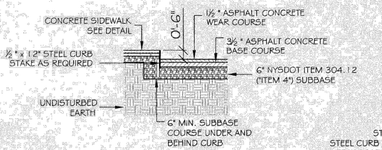
DATED: MARCH 20, 2019

SCALE: NOT TO SCALE

DRAWING:

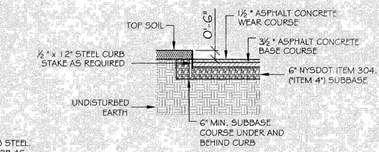
8 OF 9

REVISION & DATE



CURB ABUTTING SIDEWALK

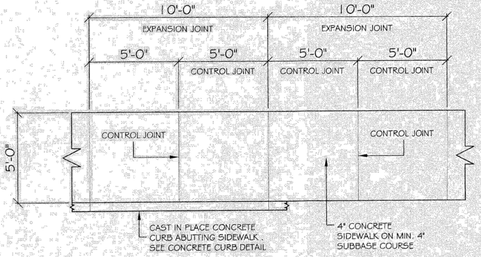
STEEL CURB NOTE:
STEEL CURB TO BE GRADE A588 STEEL. TEMPORARILY STAKE STEEL CURB AS REQUIRED TO SUPPORT CURB PRIOR TO PAVING AND BACK FILLING.



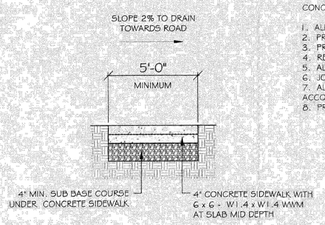
CURB ABUTTING LANDSCAPING

STEEL CURB DETAIL

NOT TO SCALE



TYPICAL CONCRETE SIDEWALK PLAN



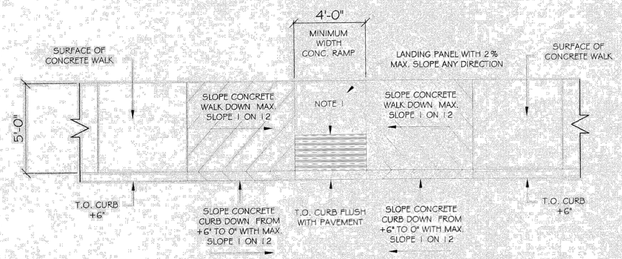
TYPICAL CONCRETE SIDEWALK SECTION

CONCRETE SIDEWALK NOTES:

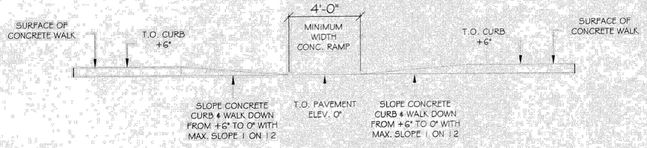
1. ALL CONCRETE SIDEWALKS TO BE 4,000 PSI CAST IN PLACE CONCRETE.
2. PROVIDE HAND TOOLED TRANSVERSE CONTROL JOINTS WITH 1/4" RADIUS EDGES AT 5'-0" O.C. INTERVALS MAX.
3. PROVIDE PRE MOLDED EXPANSION JOINTS WITH HAND TOOLED EDGES @ 10'-0" O.C. MAX.
4. REINFORCING FOR CONCRETE TO BE 6 x 6 - W1.4 x 1.4 WWM INSTALLED AT SLAB MID DEPTH
5. ALL EXPOSED CONCRETE SURFACE TO HAVE BROOM TEXTURE FINISH.
6. JOINTS WILL NOT BE SAWCUT.
7. ALL EXPOSED CONCRETE SURFACE TO BE TREATED WITH SUREBOND (OR EQUAL) SIDEWALK SEALER IN ACCORDANCE WITH MANUFACTURES INSTRUCTIONS.
8. PROVIDE HAND TOOLED 1/4" RADIUS EDGES AT PERIMETER OF ALL SIDEWALKS

TYPICAL CONCRETE SIDEWALK DETAIL

NOT TO SCALE



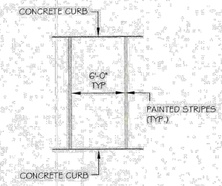
CONCRETE SIDEWALK TRANSITION RAMP PLAN



CONCRETE SIDEWALK TRANSITION RAMP ELEVATION

ADA COMPLIANT CONCRETE SIDEWALK TRANSITION RAMP DETAIL

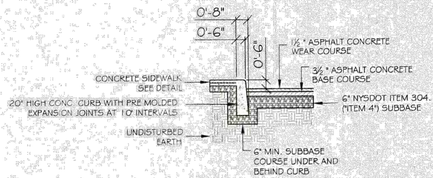
NOT TO SCALE



CROSS WALK STRIPING NOTE:
ALL CROSS WALK STRIPES TO BE MIN. 6" WIDE PAINTED WHITE STRIPES. ALL PAINTED STRIPES TO EXTEND FROM CURB TO CURB.

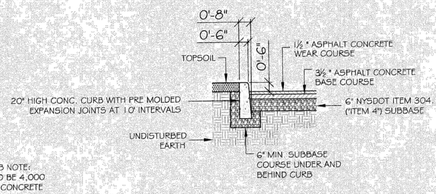
CROSS WALK DETAIL

NOT TO SCALE



CURB ABUTTING SIDEWALK

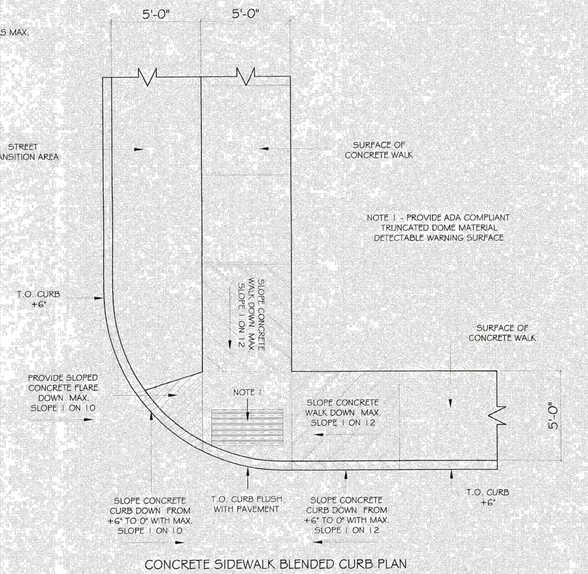
CONCRETE CURB NOTE:
CONCRETE CURB TO BE 4,000 PSI CAST IN PLACE CONCRETE



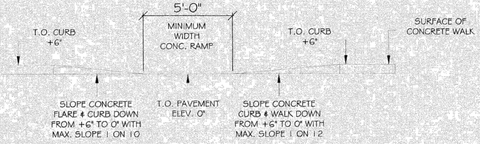
CURB ABUTTING LANDSCAPING

CAST IN PLACE CONCRETE CURB DETAIL

NOT TO SCALE



CONCRETE SIDEWALK BLENDED CURB PLAN



CONCRETE SIDEWALK BLENDED CURB ELEVATION

ADA COMPLIANT CONCRETE SIDEWALK BLENDED CURB DETAIL

NOT TO SCALE

AMENDED SITE PLAN - NO CHANGES THIS SHEET

Approved by resolution of the Beacon Planning Board on 8-13-19 subject to all conditions as stated therein.

Planning Board Chairman 12/10/2019 Date

MICHAEL T. WOLFE
LICENSED ARCHITECT
NEW YORK

FERRY LANDING AT BEACON, LTD

DEVELOPERS · DESIGNERS · BUILDERS

POST OFFICE BOX 294

BEACON, NY 12508

SITE DETAILS PLAN

FOR

FERRY LANDING AT BEACON

BEEKMAN AND FERRY STREET

BEACON, NY 12508

DATED: MARCH 20, 2019

SCALE: NONE

DRAWING:

9 OF 9

John Clarke Planning and Design jclarkeplandesign@gmail.com
845.797.4152

To: John Gunn, Chair, and the City of Beacon Planning Board
Date: December 9, 2021
Re: **Ferry Landing at Beacon, Amended Site Plan and Subdivision**

No new documents were provided, so I will update my comments from last month for the drawings submitted on October 26, 2021.

Proposal

The applicant is proposing to amend a previously approved Site Plan for six residential units on 0.56 acres in the Linkage zoning district and the Coastal Management Zone and also subdivide the townhouses into six individual lots with a separate common lot.

Comments and Recommendations

I have no additional comments on the proposed amendments or subdivision plans and have no objections to an approval vote on the application.

If you have any questions or need additional information, please feel free to contact me.

John Clarke, Beacon Planning Consultant

c: Dave Buckley, Building Inspector
Jennifer L. Gray, Esq., City Attorney
Arthur R. Tully, P.E., City Engineer
John Russo, P.E., City Engineer
Taylor Palmer, Esq., Project Attorney
Michael Bodendorf, P.E., Project Engineer

City of Beacon Planning Board Agenda
12/14/2021

Title:

Continue review of application for Site Plan Approval, hotel and event space, 1113 Wolcott Avenue, submitted by Prophecy Theater, LLC

ATTACHMENTS

1113 Wolcott Cover Letter.pdf

1113 Wolcott Exhibit D - Site Plan Application.pdf

1113 Wolcott Exhibit E - Full Environmental Assessment Form.pdf

1113 Wolcott Exhibit F - Coastal Assessment Form, LWRP Consistency Statement.pdf

1113 Wolcott Exhibit G - Traffic & Parking Study.pdf

1113 Wolcott Exhibit H - Architect Response Letter.pdf

1113 Wolcott Exhibit I - Engineer Response Letter.pdf

1113 Wolcott Exhibit J - Inflow & Infiltration Study.pdf

1113 Wolcott Exhibit K - Engineer Drainage Report.pdf

1113 Wolcott Revised Site Plans.pdf

1113 Wolcott Exhibit A - Images of the Premises.pdf

1113 Wolcott Exhibit B - Statement of Use Request for Interpretation.pdf

1113 Wolcott Exhibit C - Building Inspector's Determination.pdf

Engineer Review Letter.pdf

Planner Review Letter.pdf

CUDDY +FEDER LLP

445 Hamilton Avenue, 14th Floor
White Plains, New York 10601
T 914 761 1300
F 914 761 5372
cuddyfeder.com

Taylor M. Palmer, Esq.
tpalmer@cuddyfeder.com

November 30, 2021

VIA E-MAIL
AND HAND DELIVERY
Hon. John Gunn
And Members of the Planning Board
City of Beacon
1 Municipal Plaza
Beacon, New York 12508

Re: Supplemental Submission – Application for Site Plan and Special Use Permit Approval
Premises: 1113 Wolcott Avenue, Beacon, New York 12508
Tax Parcel IDs: (5054-26-6511901)

Dear Chairman Gunn and Members of the Planning Board:

On behalf of Prophecy Theater, LLC (the "Applicant"), the owner of the above-referenced Premises, we respectfully submit this letter and the referenced enclosures in furtherance of the Applicant's pending Applications for Site Plan Approval and Special Permit Approval (collectively, the "Applications").

As you know, our office was recently retained to represent the Applicant in connection with the Applications. Since the Applicant last appeared before this Board at its October 13, 2021 meeting Agenda, the Applicant met with the Building Department, the Planning Board Attorney and Planning Board Planning Consultant to review the proposal, which included a request for determination regarding the proposed uses. In response to the comments at the Board's prior meetings, and following the October 22, 2021 meeting with City Staff, the Applicant made adjustments to the proposal and the pending application. Accordingly, the supplemental submission is provided in response to the comments raised by the Board at its October 13th meeting, and in response to the comments contained in the memoranda preprepared by the City's Engineering Consultant, Lanc & Tully, dated September 10, 2021 and October 7, 2021 (the "Engineering Comments Memoranda");[1] and the City's Planning Consultant, John Clarke Planning and Design, dated September 9, 2021 and October 8, 2021 (the "Planning Comments Memoranda").[2]

[1] Note: The City Engineer's October 7, 2021 Comments Memorandum does not present any new comments for the Applicant, but instead requests verification that the engineering comments made in the September 10, 2021 Comments Memorandum are addressed in the Applicant's updated plans and enclosed response letter.

[2] Note: The City Planner's October 8, 2021 Comments Memorandum only contains comments related to the Applicant's proposed use(s); it does not present any new architectural comments for the Applicant.

THE ADAPTIVE RE-USE PROPOSAL:

As this Board is aware, the Premises consist of a through lot that has frontages along Wolcott Avenue and Beekman Street. *See* **Exhibit A** – Images of the Premises and Surrounding Area. The Premises are presently improved with a historic church, rectory and cemetery. As is detailed in the Applicant's prior submissions to the Planning Board, the Applicant's Revised Application consists of the following:

(1) expanding the rectory into a 2½-story, thirty (30) room hotel with thirty-one (31) off-street parking spaces provided on-site;

(2) renovating the church into an accessory use space that includes a conference center and dining facilities (café/restaurant/bar); and

(3) restoring the cemetery to open it as a public park, which will include a walking path from Beekman Street to Wolcott Avenue.

The hotel lodging is proposed to be available 24/7, 365 days per year, and the dining facilities will be situated in the rear of the existing historic church. The dining facilities will serve as a reception for guests of the hotel and offer breakfast, lunch and dinner to the hotel guests, as well as members of the public. In addition, it will operate as a bar for hotel guests and for accessory conference center programming and events. The dining facilities are expected to operate approximately seven (7) days a week in support of the hotel operations and guests. The conference center accessory use will operate less intensely and frequently, utilizing the former church building for various cultural, educational, or professional programs, including weddings, conferences, art exhibitions, performances, lectures, seminars and workshops.

PROPOSED ACCESSORY USES – CONFERENCE CENTER/EVENT SPACE & CAFÉ:

In direct response to the concerns raised by this Board and its Consultants at the October 13th meeting and in a subsequent meeting with City Staff on October 22, 2021, the Applicant adjusted the scope of the proposed accessory uses. Following the Applicant's October 22nd meeting with the City's Building Inspector and this Board's Planning Consultant and Attorney, the Applicant submitted a formal Statement of Use request for a determination from the Building Inspector detailing the Project's proposed uses. *See* **Exhibit B** – Applicant's Statement of Use Request for Interpretation to the Building Inspector dated November 12, 2021.

As detailed therein, and in contrast to the programmatic scope previously before this Board in the

prior proposal (the "Original Application"), the Applicant is now proposing a reduced scope of programs from that that envisioned in the Original Application. While the Applicant previously contemplated a maximum capacity of 420 people for occasional larger weekend events, the expected maximum capacity for the occasional weekend programming for the hotel conference center is a *maximum* of 350 people. Notwithstanding the maximum capacity noted here, we understand that these occasional larger weekend programs are typically expected to have fewer people, ranging between 125-200 people. Along the same line, instead of the Original Application that included hosting events seven (7) days a week, the refined programing proposes that conference center programming would likely be limited to larger events held only on weekends with smaller functions, such as seminars, workshops or retreats on weekdays with a range between 50 to 200 attendees, but on fewer days of the week (i.e., generally Wednesday-Friday).[3]

On November 30, 2021, the Building Inspector issued a Determination that the proposed conference center/event space accessory uses contemplated in this refined application are permitted uses on the Premises, subject to special permit review. *See* **Exhibit C** – Building Inspector's Statement of Use Determination.[4]

The above-referenced project updates are reflected in the enclosed, updated Site Plan and Special Permit Application Form, as well as in the updated Full Environmental Assessment Form ("Full EAF"). *See* **Exhibit D** – Updated Application for Site Plan Approval and Special Use Permit Form; **Exhibit E** – Full EAF.

STATE ENVIRONMENTAL QUALITY REVIEW ("SEQRA") & LWRP CONSISTENCY DETERMINATION:

In connection with the above-referenced Applications, the Applicant respectfully requests to appear at the Planning Board's December 14, 2021 regular meeting Agenda to further discuss the Project and initiate the environmental review process pursuant to SEQRA. As indicated above, a Full EAF is annexed hereto as **Exhibit E**.

---

[3] Note: We understand, for example, that there could very well be a retreat or seminar that rents out the entire hotel and occupies the accessory conference center space for the duration of their stay. So, there is the potential that one week the conference center is not used at all; another week it is used Thursday or Friday; and another where it's utilized by the hotel guests for their entire stay (possibly Monday-Sunday).

[4] *See* CITY OF BEACON ZONING CODE § 223-24.7.B(6) (permitting hotels and hotel-related accessory uses and structures pursuant to a special permit issued by the Planning Board).

Additionally, as this Board is also aware, the Premises is located within the City of Beacon's Waterfront Revitalization Management Area, and as such the Application requires the preparation of a Local Waterfront Revitalization Plan ("LWRP") consistency statement. As is more fully detailed in **Exhibit F** (Coastal Assessment Form & LWRP Consistency Statement), the Project is consistent with LWRP Policies 5, 13, 14, 23, 23A, 25, 33, 37, 38, and 41. Accordingly, for the reasons set forth herein, the Applicant requests that the Planning Board issue a determination that the amended Project is consistent with the policies established in the City's LWRP.

TRAFFIC IMPACT AND PARKING STUDY:

In further support of the Application, the Applicant's traffic consultant, Colliers Engineering & Design, prepared the Traffic Impact and Parking Study dated November 30, 2021 (the "Parking Study"). As is more fully detailed in the Traffic Study enclosed as **Exhibit G**, the Project is not anticipated to have a significant impact on traffic conditions in the vicinity of the Project. Additionally, while the Project proposes 31 parking spaces to accommodate the hotel use, there is sufficient public parking in the vicinity to accommodate the excess parking demand associated with the conference center/event and café dining area spaces. As further detailed in the Traffic Study, a combination of public parking lots and other potential mitigation measures, such as valet parking that can be provided for events and dissemination of parking and public transportation information will permit sufficient parking for the Premises.

The required parking for the Project is 31 spaces for the hotel, 22 for the café, and 88 spaces for the event space. The café is a non-simultaneous use, meaning that it will be fully accessory to the events and not generate any traffic on its own. Accordingly, the total required parking for the Project is 119 spaces, amounting for the hotel and event space. When events are not being held, the required parking spaces would be 53, representing the required spaces for the hotel and café.

As is detailed in the Parking Summary on the enclosed site plans and is provided in Zoning Code Section 223-26(B), there is an exception to the off-street parking requirements for existing buildings constructed prior to April 20, 1964. The existing nonconforming use of the building as a church and a rectory required 69 spaces, and pursuant to the above-referenced Zoning Code section, the 86 parking spaces would constitute just under a twenty-five percent (25%) increase from the 1964 parking requirement. The Applicant looks forward to reviewing the shared parking analysis and associated details with the Planning Board and Building Department pursuant to Zoning Codes Sections 223-26(C)(6), 223-26(A)(2) & 223-26(B).

ADDITIONAL RESPONSES TO COMMENTS MEMORANDA:

To assist this Board in its review, the Applicant respectfully submits the following memoranda prepared by its Consultants providing annotated responses to the applicable comments noted in the Engineering Comments Memoranda and the Planning Comments Memoranda.

- Response to Comments Memorandum prepared by Aryeh J. Seigel Architect dated November 30, 2021, providing responses to the Planning Comments Memoranda (the "Architect Response to Comments Memorandum"). *See* **Exhibit H** – Architect Response to Comments Memorandum; and

- Response to Comments Memorandum prepared by Hudson Land Design Professional Engineering, P.C. ("HLD") dated November 30, 2021 (the "HLD Response to Comments Memorandum"). *See* **Exhibit I** – HLD Response to Comments Memorandum.

UPDATED SITE PLAN SET & ENGINEERING REPORTS:

In support of this supplemental submission and in response to the comments contained in the City Planning and Engineering Comments Memoranda, we respectfully submit revised site plans and renderings entitled "Special Use Permit Application", prepared by Hudson Land Design Professional Engineering, P.C. and Aryeh Siegal, Architect, dated June 29, 2021, last revised November 30, 2021, numbered and titled as follows:

- Sheet 1 of 12 Site Plan;
- Sheet 2 of 12 Full Site Plan;
- Sheet 3 of 12 Existing Conditions & Demolition Plan;
- Sheet 4 of 12 Landscape Plan & Planting Schedule;
- Sheet 5 of 12 Hotel Building Plans & Elevations;
- Sheet 6 of 12 Conference Center Plans;
- Sheet 7 of 12 Conference Center Elevations;
- Sheet 8 of 12 Grading & Utility Plans;
- Sheet 9 of 12 Erosion and Sediment Control Plan;
- Sheet 10 of 12 Site and ES&C Construction Details;
- Sheet 11 of 12 Stormwater Construction Details; and

- Sheet 12 of 12 Water & Sewer Construction Details.

Additionally, in further response to the comments contained within the Engineering Comments Memoranda, the Applicant respectfully submits an Inflow & Infiltration Study dated November 30, 2021 and Engineer Drainage Report dated November 30, 2021 prepared by Hudson Land Design Professional Engineering, P.C. *See* **Exhibits J & K.**

INDEX OF ENCLOSURES:

In support of this supplemental submission, please find enclosed five (5) sets of the instant letter with the following materials:

Exhibit A: Images of the Premises and Surrounding Area;

Exhibit B: Applicant's Statement of Use Request for Interpretation to the Building Inspector dated November 12, 2021;

Exhibit C: Building Inspector's Statement of Use Determination dated November 30, 2021;

Exhibit D: Updated Application for Site Plan Approval and Special Use Permit Form;

Exhibit E: Updated Full Environmental Assessment Form;

Exhibit F: Coastal Assessment Form, LWRP Consistency Statement;

Exhibit G: Traffic and Parking Study prepared by Colliers Engineering & Design CT P.C., dated November 30, 2021.

Exhibit H: Response to Comments Memorandum prepared by Aryeh J. Seigel Architect dated November 30, 2021, providing responses to the Planning Comments Memoranda;

Exhibit I: Response to Comments Memorandum prepared by Hudson Land Design Professional Engineering, P.C. dated November 30, 2021, providing responses to the Engineering Comments Memoranda;

Exhibit J: Inflow & Infiltration Study prepared by Hudson Land Design Professional Engineering, P.C. dated November 30, 2021; and

Exhibit K: Engineer Drainage Report prepared by Hudson Land Design Professional Engineering, P.C. dated November 30, 2021.

We look forward to appearing at the Planning Board's December 14th regular meeting to continue the review of the Project and to initiate the environmental review process. In the meantime, should the Planning Board or City Staff have any questions or comments with regard to the foregoing, please do not hesitate to contact me.

Very truly yours,

Taylor M. Palmer

Enclosures

cc: Jennifer L. Gray, Esq.
John Clarke Planning and Design
Lanc & Tully, P.C.
Aryeh J. Seigel Architect
Michael A. Bodendorf, P.E. – Hudson Land Design Professional Engineering, P.C.
Colliers Engineering & Design CT, P.C.
Allison Fausner, Esq.

APPLICATION FOR SITE PLAN APPROVAL

Submit to Planning Board Secretary, One Municipal Plaza, Suite One, Beacon, New York 12508

IDENTIFICATION OF APPLICANT

Name: Prophecy Theater, LLC

Address: 369 Main Street, Unit 493

Beacon, NY 12508

Signature: [signature]

Date: November 30, 2021

Phone: 215-913-3199

(For Official Use Only)

	Date	Initials
Application & Fee Rec'd		
Initial Review		
Public Hearing		
Conditional Approval		
Final Approval		

IDENTIFICATION OF REPRESENTATIVE / DESIGN PRFESSIONAL

Name: Taylor M. Palmer, Esq., Cuddy & Feder LLP

Address: 300 Westage Business Center, Suite 380

Fishkill, NY 12524

Phone: 914-761-1300

Fax: 914-761-5372

Email address: tpalmer@cuddyfeder.com

IDENTIFICATION OF SUBJECT PROPERTY:

Property Address: 1113 Wolcott Avenue

Tax Map Designation: Section 5954 Block 26 Lot(s) 651901

Land Area: 2.28 Acres

Zoning District(s) R1-40 & Historic District and Landmark Overlay (HDLO) Zone

DESCRIPTION OF PROPOSED DEVELOPMENT:

Proposed Use: Hotel & Accessory Uses

Gross Non-Residential Floor Space: Existing 7,458 sf Proposed 13,257sf

TOTAL: 20,715 sf

Dwelling Units (by type): Existing 1 Single Family Residence (to be removed) Proposed 0

TOTAL: 0

ITEMS TO ACCOMPANY THIS APPLICATION

a. One electronic and five (5) **folded** paper copies of a site location sketch showing the location of the subject property and the proposed development with respect to neighboring properties and developments.
b. One electronic and five (5) **folded** paper copies of the proposed site development plan, consisting of sheets, showing the required information as set forth on the back of this form and other such information as deemed necessary by the City Council or the Planning Board to determine and provide for the property enforcement of the Zoning Ordinance.
c. One electronic and five (5) **folded** paper copies of additional sketches, renderings or other information.
d. An application fee, payable to the City of Beacon, computed per the attached fee schedule.
e. An initial escrow amount, payable to the City of Beacon, as set forth in the attached fee schedule.

INFORMATION TO BE SHOWN ON SITE LOCATION SKETCH

a. Property lines, zoning district boundaries and special district boundaries affecting all adjoining streets and properties, including properties located on the opposite sides of adjoining streets.
b. Any reservations, easements or other areas of public or special use which affect the subject property.
c. Section, block and lot numbers written on the subject property and all adjoining properties, including the names of the record owners of such adjoining properties.

INFORMATION TO BE SHOWN ON THE SITE DEVELOPMENT PLAN

a. Title of development, date and revision dates if any, north point, scale, name and address of record owner of property, and of the licensed engineer, architect, landscape architect, or surveyor preparing the site plan.
b. Existing and proposed contours at a maximum vertical interval of two (2) feet.
c. Location and identification of natural features including rock outcrops, wooded areas, single trees with a caliper of six (6) or more inches measured four (4) feet above existing grade, water bodies, water courses, wetlands, soil types, etc.
d. Location and dimensions of all existing and proposed buildings, retaining walls, fences, septic fields, etc.
e. Finished floor level elevations and heights of all existing and proposed buildings.
f. Location, design, elevations, and pavement and curbing specifications, including pavement markings, of all existing and proposed sidewalks, and parking and truck loading areas, including access and egress drives thereto.
g. Existing pavement and elevations of abutting streets, and proposed modifications.
h. Location, type and design of all existing and proposed storm drainage facilities, including computation of present and estimated future runoff of the entire tributary watershed, at a maximum density permitted under existing zoning, based on a 100 year storm.
i. Location and design of all existing and proposed water supply and sewage disposal facilities.
j. Location of all existing and proposed power and telephone lines and equipment, including that located within the adjoining street right-of-way. All such lines and equipment must be installed underground.
k. Estimate of earth work, including type and quantities of material to be imported to or removed from the site.
l. Detailed landscape plan, including the type, size, and location of materials to be used.
m. Location, size, type, power, direction, shielding, and hours of operation of all existing and proposed lighting facilities.
n. Location, size, type, and design of all existing and proposed business and directional signs.
o. Written dimensions shall be used wherever possible.
p. Signature and seal of licensed professional preparing the plan shall appear on each sheet.
q. Statement of approval, in blank, as follows:

Approved by Resolution of the Beacon Planning Board
on the _____ day of _____, 20_____
subject to all conditions as stated therein

_____ _____
Chairman, City Planning Board **Date**

APPLICATION FEES

Site Plan	**Residential $500 + $250 per dwelling unit** **Commercial $500 + $250 per 1,000 s.f.**
Special Use Permit	**Residential $500 + $250 per dwelling unit** **Commercial $500 + $250 per 1,000 s.f.**
Subdivision	**$ 750 for 2-4 lots + $100 per lot** **$1,000 for 5 or more lots + $300 per lot**
Zoning Board of Appeals	**Use Variance $500** **Area Variance $250** **Interpretation $250**

ESCROW FEES

ALL SUBDIVISIONS, AND RESIDENTIAL SITE PLAN AND SUP APPLICATIONS

No. of Lots or Dwelling Units	Initial Deposit	Depleted to	Replenishment
1-5 (including lot-line realignment)	$ 2,500	$ 1,000	Current bills + $1,000
6-15	$ 7,500	$ 2,500	Current bills + $1,000
Over 15	$ 15,000	$ 5,000	Current bills + $5,000

NON-RESIDENTIAL SITE PLAN AND SUP APPLICATIONS

	Initial Deposit	Depleted to	Replenishment
Existing Buildings/Change of Use with no site development	$ 1,500	$ 1,000	Current bills + $500
Up to 3,000 s.f. gross floor area	$ 2,500	$ 1,000	Current bills + $1,000
3,000 to 10,000 s.f. gross floor area	$ 2,500 + $0.50 per sq.ft. over 3,000	$ 2,500	Current bills + $2,500
Over 10,000 s.f. gross floor area	$ 7,500 + $0.50 per sq.ft. over 10,000	$ 2,500	Current bills + $2,500

ZONING

* *if required by Chairman*	Initial Deposit	Depleted to	Replenishment
Use Variance*	$ 1,000	$500	Current bills + $500
Area Variance*	$ 1,000	$500	Current bills + $500
Interpretation*	$ 1,000	$500	Current bills + $500

ARCHITECTURAL REVIEW OR CERTIFICATE OF APPROPRIATENESS ***(if not currently before PB)***

* *if required by Chairman*	Initial Deposit	Depleted to	Replenishment
Single Family House*	$500	$250	Current bills + $250
All others*	$500	$250	Current bills + $250

APPLICATION PROCESSING RESTRICTION LAW

Affidavit of Property Owner

Property Owner: Prophecy Theater, LLC

If owned by a corporation, partnership or organization, please list names of persons holding over 5% interest.
Gavin Hecker, Lauren Walling, Joshua Friedman

List all properties in the City of Beacon that you hold a 5% interest in:
1113 Wolcott Avenue - Tax ID: 5954-26-651901

Applicant Address: 369 Main Street, Unit 493, Beacon, NY 12508

Project Address: 1113 Wolcott Avenue, Beacon, NY 12508

Project Tax Grid # 5954-26-651901

Type of Application Site Plan and Special Use Permit Approval for Hotel & Accessory Uses

Please note that the property owner is the applicant. "Applicant" is defined as any individual who owns at least five percent (5%) interest in a corporation or partnership or other business.

I, Gavin Hecker, the undersigned owner of the above referenced property, hereby affirm that I have reviewed my records and verify that the following information is true.

1. No violations are pending for ANY parcel owned by me situated within the City of Beacon X
2. Violations are pending on a parcel or parcels owned by me situated within the City of Beacon ____
3. ALL tax payments due to the City of Beacon are current X
4. Tax delinquencies exist on a parcel or parcels owned by me within the City of Beacon ____
5. Special Assessments are outstanding on a parcel or parcels owned by me in the City of Beacon ____
6. ALL Special Assessments due to the City of Beacon on any parcel owned by me are current X

Gavin Hecker

Signature of Owner

Prophecy Theater, LLC
By Gavin Hecker, Managing Member

Title if owner is corporation

Office Use Only:	NO	YES	Initial
Applicant has violations pending for ANY parcel owned within the City of Beacon (Building Dept.)	___	___	_____
ALL taxes are current for properties in the City of Beacon are current (Tax Dept.)	___	___	_____
ALL Special Assessments, i.e. water, sewer, fines, etc. are current (Water Billing)	___	___	_____

CITY OF BEACON
SITE PLAN SPECIFICATION FORM

Name of Application: 1113 Wolcott Avenue Application for Site Plan and Special Use Approval for Hotel & Accessory Uses

PLEASE INDICATE WHETHER THE SITE PLAN DRAWINGS SHOW THE SUBJECT INFORMATION BY PLACING A CHECK MARK IN THE APPROPRIATE BOXES BELOW.		
	YES	**NO**
The site plan shall be clearly marked "Site Plan", it shall be prepared by a legally certified individual of firm, such as a Registered Architect or Professional Engineer, and it shall contain the following information:	X	
LEGAL DATA		
Name and address of the owner of record.	X	
Name and address of the applicant (if other than the owner).	X	
Name and address of person, firm or organization preparing the plan.	X	
Date, north arrow, and written and graphic scale.	X	
NATURAL FEATURES		
Existing contours with intervals of two (2) feet, referred to a datum satisfactory to the Planning Board.	X	
Approximate boundaries of any areas subject to flooding or stormwater overflows.		
Location of existing watercourses, wetlands, wooded areas, rock outcrops, isolated trees with a diameter of eight (8) inches or more measured three (3) feet above the base of the trunk, and any other significant existing natural features.	X X	
EXISTING STRUCTURES, UTILITIES, ETC.		
Outlines of all structures and the location of all uses not requiring structures. Paved areas, sidewalks, and vehicular access between the site and public streets.	X	
Locations, dimensions, grades, and flow direction of any existing sewers, culverts, water lines, as well as other underground and above ground utilities within and adjacent to the property.	X	
Other existing development, including fences, retaining walls, landscaping, and screening.	x	
Sufficient description or information to define precisely the boundaries of the property.	X	
The owners of all adjoining lands as shown on the latest tax records.	X	
The locations, names, and existing widths of adjacent streets and curb lines.	X	
Location, width, and purpose of all existing and proposed easements, setbacks, reservations, and areas dedicated to private or public use within or adjacent to the properties.	X	

PROPOSED DEVELOPMENT	YES	NO
The location, use and design of proposed buildings or structural improvements.	X	
The location and design of all uses not requiring structures, such as outdoor storage (if permitted), and off-street parking and unloading areas.	X	
Any proposed division of buildings into units of separate occupancy.	X	
The location, direction, power, and time of use for any proposed outdoor lighting.	X	
The location and plans for any outdoor signs.	X	
The location, arrangement, size(s) and materials of proposed means of ingress and egress, including sidewalks, driveways, or other paved areas.	X	
Proposed screening and other landscaping including a planting plan and schedule prepared by a qualified individual or firm.	X	
The location, sizes and connection of all proposed water lines, valves, and hydrants and all storm drainage and sewer lines, culverts, drains, etc.	X	
Proposed easements, deed restrictions, or covenants and a notation of any areas to be dedicated to the City.		X
Any contemplated public improvements on or adjoining the property.		X
Any proposed new grades, indicating clearly how such grades will meet existing grades of adjacent properties or the street.	X	
Elevations of all proposed principal or accessory structures.	X	
Any proposed fences or retaining walls.	X	
MISCELLANEOUS		
A location map showing the applicant's entire property and adjacent properties and streets, at a convenient scale.	X	
Erosion and sedimentation control measures.	X	
A schedule indicating how the proposal complies with all pertinent zoning standards, including parking and loading requirements.	X	
An indication of proposed hours of operation.	X	
If the site plan only indicates a first stage, a supplementary plan shall indicate ultimate development.		X

For all items marked "NO" above, please explain below why the required information has not been provided:

** See Attached Project Narrative **

Applicant/Sponsor Name: Prophecy Theater, LLC

Signature: Davin Ideker

Date: November 30, 2021

FOR OFFICE USE ONLY
Application #

CITY OF BEACON
1 Municipal Plaza, Beacon, NY
Telephone (845) 838-5000 • http://cityofbeacon.org/
Prpophecy Theater, LLC

INDIVIDUAL DISCLOSURE FORM

(This form must accompany every land use application and every application for a building permit or certificate of occupancy submitted by any person(s))

Disclosure of the names and addresses of all persons) filing a land-use application with the City is required pursuant to Section 223-62 of the City Code of the City of Beacon. Applicants shall submit supplemental sheets for any additional information that does not fit within the below sections, identifying the Section being supplemented.

SECTION A

Name of Applicant: Prophecy Theater, LLC

Address of Applicant: 369 Main Street, Unit 493, Beacon, NY 12508

Telephone Contact Information: 215-913-3199

SECTION B. List all owners of record of the subject property or any part thereof.

Name	Residence or Business Address	Telephone Number	Date and Manner title was acquired	Date and place where the deed or document of conveyance was recorded or filed.
Prophecy Theater, LLC	369 Main Street, Unit 493 Beacon, NY 12508	215-913-3199	Deed dated 8/3/21	Recorded 8/17/21 Dutchess County Clerk's Office

SECTION B. Is any owner of record an officer, elected or appointed, or employee of the City of Beacon or related, by marriage or otherwise, to a City Council member, planning board member, zoning board of appeals member or employee of the City of Beacon ?

☐ **YES** ☒ **NO**

If yes, list every Board, Department, Office, agency or other position with the City of Beacon with which a party has a position, unpaid or paid, or relationship and identify the agency, title, and date of hire.

Agency	Title	Date of Hire, Date Elected, or Date Appointed	Position or Nature of Relationship

SECTION C. If the applicant is a contract vendee, a duplicate original or photocopy of the full and complete contract of purchase, including all riders, modification and amendments thereto, shall be submitted with the application.

N/A

SECTION D. Have the present owners entered into a contract for the sale of all or any part of the subject property and, if in the affirmative, please provide a duplicate original or photocopy of the fully and complete contract of sale, including all riders, modifications and amendments thereto.

☐ **YES** ☒ **NO**

I, Gavin Hecker being first duly sworn, according to law, deposes and says that the statements made herein are true, accurate, and complete.

(Print) Prophecy Theater, LLC
By Gavin Hecker, Managing Member

(Signature) Gavin Hecker

FOR OFFICE USE ONLY
Application #

CITY OF BEACON
1 Municipal Plaza, Beacon, NY
Telephone (845) 838-5000 • http://cityofbeacon.org/

ENTITY DISCLOSURE FORM

(This form must accompany every land use application and every application for a building permit or certificate of occupancy submitted by any entity)

Disclosure of the names and addresses of all persons or entities owning any interest or controlling position of any Limited Liability Company, Partnership, Limited Partnership, Joint Venture, Corporation or other business entity (hereinafter referred to as the "Entity") filing a land-use application with the City is required pursuant to Section 223-61.4 of the City Code of the City of Beacon. If any Member of the Entity is not a natural person, then the names and addresses as well as all other information sought herein must be supplied about the non-natural person member of that Entity, including names, addresses and Formation filing documents. Applicants shall submit supplemental sheets for any additional information that does not fit within the below sections, identifying the Section being supplemented.

SECTION A.

IF AFFIANT IS A PARTNERSHIP, JOINT VENTURE OR OTHER BUSINESS ENTITY, EXCEPT A CORPORATION:

Name of Entity	Address of Entity
Place where such business entity was created	Official Registrar's or Clerk's office where the documents and papers creating entity were filed
Date such business entity or partnership was created	Telephone Contact Information

IF AFFIANT IS A CORPORATION:

Name of Entity Prophecy Theater, LLC	Telephone Contact Information 215-913-3199
Principal Place of Business of Entity New York	Place and Date of incorporation New York, January 26, 2021
Method of Incorporation LLC	Official place where the documents and papers of incorporation were filed NYS Department of State

SECTION B. List all persons, officers, limited or general partners, directors, members, shareholders, managers, and any others with any interest, mortgage, encumbrance or other interest (recorded or unrecorded) in or with the above referenced

Entity. List all persons to whom corporate stock has been pledged, mortgaged or encumbered and with whom any agreement has been made to pledge, mortgage or encumber said stock. Use a supplemental sheet to list additional persons.

Name	Resident Address	Resident Telephone Number	Nature and Extent of Interest
Gavin Hecker		215-913-3199	31.25%
Lauren Walling			31.25%
Joshua Friedman			31.25%

SECTION C. List all owners of record of the subject property or any part thereof.

Name	Residence or Business Address	Telephone Number	Date and Manner title was acquired	Date and place where the deed or document of conveyance was recorded or filed.
Prophecy Theater, LLC	369 Main Street, Unit 493 Beacon, NY 12508	215-913-3199	Deed dated 8/3/21	Recorded 8/17/21 Dutchess County Clerk's Office

SECTION D. Is any owner, of record or otherwise, an officer, director, stockholder, agent or employee of any person listed in Section B-C?

☐ **YES** ☒ **NO**

Name	**Employer**	**Position**

SECTION E. Is any party identified in Sections A- C an officer, elected or appointed, or employee of the City of Beacon or related, by marriage or otherwise, to a City Council member, planning board member, zoning board of appeals member or employee of the City of Beacon ?

☐ **YES** ☒ **NO**

If yes, list every Board, Department, Office, agency or other position with the City of Beacon with which a party has a position, unpaid or paid, or relationship and identify the agency, title, and date of hire.

Agency	**Title**	**Date of Hire, Date Elected, or Date Appointed**	**Position or Nature of Relationship**

SECTION F. Was any person referred to in Sections A-D known by any other name within five (5) years preceding the date of the application?

☐ **YES** ☒ **NO**

Current Name	**Other Names**

SECTION G. List the names and addresses of each person, business entity, partnership and corporation in the chain of title of the subject premises for the five (5) years next preceding the date of the application.

Name	**Address**
Prophecy Theater, LLC	369 Main Street, Unit 493, Beacon, NY 12508
Reformed Church of Beacon by Classis of Mid Hudson of the General Synod of the Reformed Church of America	c/o Stated Clerk 25 School Hill Road High Falls, NY

SECTION H. If the applicant is not a record owner of the subject property, describe the applicant's interest in the subject property and the relationship the applicant has to the record owner(s) of the subject property.

N/A

SECTION I. If the applicant is a contract vendee, a duplicate original or photocopy of the full and complete contract of purchase, including all riders, modification and amendments thereto, shall be submitted with the application. Any sensitive or confidential information may be redacted from the contract prior to production.

SECTION J.

1. Where the record owner or contract vendee is a corporation, the following additional information shall be submitted**:**

Name of the Corporation Prophecy Theater, LLC	Telephone Contact Information 215-913-3199
Principal Business Address 369 Main Street, Unit 493, Beacon, NY 12508	Place and Date of Incorporation New York, January 26, 2021
Method of Incorporation LLC	Official place where the documents and papers of incorporation were filed NYS Department of State

2. Please provide the following information for every incorporator, officer, director and shareholder of the corporation.

Name	**Residence or business address**	**Telephone number**
Gavin Hecker	369 Main Street, Unit 493 Beacon, NY 12508	215-913-3199

3. Have any shares of the stock of the corporation or of any stockholder been pledged, mortgaged or encumbered?

☐ **YES** ☒ **NO**

If so, please list the name and address of each person having, holding, owning or claiming any such interest.

Name	**Address**

SECTION K. Have the present owners entered into a contract for the sale of all or any part of the subject property and, if in the affirmative, please provide a duplicate original or photocopy of the fully and complete contract of sale, including all riders, modifications and amendments thereto.

☐ **YES** ☒ **NO**

I, Gavin Hecker being first duly sworn, according to law, deposes and says that I am (Title) Managing Member, an active and qualified member of the Prophecy Theater, LLC, a business duly authorized by law to do business in the State of New York, and that the statements made herein are true, accurate, and complete.

Prophecy Theater, LLC
(Print) By Gavin Hecker, Managing Member

(Signature) Gavin Hecker

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the applicant or project sponsor to verify that the information contained in Part 1is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project: 1113 Wolcott Avenue - Application for Site Plan and Special Permit Approval		
Project Location (describe, and attach a general location map): 1113 Wolcott Avenue, Beacon NY 12508		
Brief Description of Proposed Action (include purpose or need): Application for Site Plan and Special Permit Approval proposing to redevelop the Premises, which includes an existing church, rectory and cemetery. The proposal calls for the rectory to be renovated with a proposed addition to allow for the construction of a 30 room, 2-1/2 story hotel building with an adjacent parking lot for 30 vehicles. The existing church building will be preserved with minimal changes to the exterior, and internally modified to serve as an accessory venue consisting of a conference center and cafe equipped to serve a maximum occupancy of 350. The existing cemetery will be preserved and restored as a public park, which will include a walking path from Beekman Street to Wolcott Avenue.		
Name of Applicant/Sponsor: Prophecy Theater, LLC - Gavin Hecker, President	Telephone: 215-913-3199 E-Mail: gavinhecker@gmail.com	
Address: 36 South Brett Street		
City/PO: Beacon	State: New York	Zip Code: 12508
Project Contact (if not same as sponsor; give name and title/role):	Telephone: E-Mail:	
Address:		
City/PO: Beacon	State:	Zip Code:
Property Owner (if not same as sponsor):	Telephone: E-Mail:	
Address:		
City/PO:	State:	Zip Code:

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)

Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Counsel, Town Board, or Village Board of Trustees ☐Yes ☑No		
b. City, Town or Village Planning Board or Commission ☑Yes ☐No	Site Plan & Special Use Approval LWRP Consistency & Certificate of App. - Planning Board	June 2021, Amended November 2021
c. City, Town or Village Zoning Board of Appeals ☐Yes ☑No		
d. Other local agencies ☐Yes ☑No	Interpretation & Building Permit - Building Department	November 2021
e. County agencies ☐Yes ☑No		
f. Regional agencies ☐Yes ☑No		
g. State agencies ☑Yes ☐No	SHPO	June 2021
h. Federal agencies ☐Yes ☑No		

i. Coastal Resources.

i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☑Yes ☐No

ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☑Yes ☐No

iii. Is the project site within a Coastal Erosion Hazard Area? ☐Yes ☑No

C. Planning and Zoning

C.1. Planning and zoning actions.

Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? ☐Yes ☑No

- **If Yes,** complete sections C, F and G.
- **If No,** proceed to question C.2 and complete all remaining sections and questions in Part 1

C.2. Adopted land use plans.

a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located? ☑Yes ☐No

If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located? ☑Yes ☐No

b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway; Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) ☐Yes ☑No

If Yes, identify the plan(s):

_____

_____

_____

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? ☐Yes ☑No

If Yes, identify the plan(s):

_____

_____

_____

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☑ Yes ☐ No
If Yes, what is the zoning classification(s) including any applicable overlay district?
R1-40-One Family, Historic District and Landmark Overlay Zone

b. Is the use permitted or allowed by a special or conditional use permit? ☑ Yes ☐ No

c. Is a zoning change requested as part of the proposed action? ☐ Yes ☑ No
If Yes,
i. What is the proposed new zoning for the site? _____

C.4. Existing community services.

a. In what school district is the project site located? Beacon City School District

b. What police or other public protection forces serve the project site?
City of Beacon Police Department

c. Which fire protection and emergency medical services serve the project site?
City of Beacon Fire Department

d. What parks serve the project site?
Scenic Hudson Long Dock Park, Pete and Toshi Seeger Riverfront Park, Polhill Park

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Commercial and recreational

b. a. Total acreage of the site of the proposed action? 2.28 acres
b. Total acreage to be physically disturbed? 0.96 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 2.28 acres

c. Is the proposed action an expansion of an existing project or use? ☐ Yes ☑ No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % _____ Units: _____

d. Is the proposed action a subdivision, or does it include a subdivision? ☐ Yes ☑ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)
_____
ii. Is a cluster/conservation layout proposed? ☐ Yes ☐ No
iii. Number of lots proposed? _____
iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will the proposed action be constructed in multiple phases? ☐ Yes ☑ No
i. If No, anticipated period of construction: 18 months
ii. If Yes:
- Total number of phases anticipated _____
- Anticipated commencement date of phase 1 (including demolition) _____ month _____ year
- Anticipated completion date of final phase _____ month _____year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

f. Does the project include new residential uses? ☐ Yes ☑ No

If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase				
At completion of all phases				

g. Does the proposed action include new non-residential construction (including expansions)? ☑ Yes ☐ No

If Yes,

i. Total number of structures 1

ii. Dimensions (in feet) of largest proposed structure: 35 height; 48 width; and 84 length

iii. Approximate extent of building space to be heated or cooled: 12,000 square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ☐ Yes ☑ No

If Yes,

i. Purpose of the impoundment: _____

ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☐ Other specify:

_____

iii. If other than water, identify the type of impounded/contained liquids and their source.

_____

iv. Approximate size of the proposed impoundment. Volume: _____ million gallons; surface area: _____ acres

v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length

vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete):

_____

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? (Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite) ☐ Yes ☑ No

If Yes:

i .What is the purpose of the excavation or dredging? _____

ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?

- Volume (specify tons or cubic yards): _____
- Over what duration of time? _____

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them.

_____

_____

iv. Will there be onsite dewatering or processing of excavated materials? ☐ Yes ☐ No

If yes, describe. _____

_____

v. What is the total area to be dredged or excavated? _____ acres

vi. What is the maximum area to be worked at any one time? _____ acres

vii. What would be the maximum depth of excavation or dredging? _____ feet

viii. Will the excavation require blasting? ☐ Yes ☐ No

ix. Summarize site reclamation goals and plan: _____

_____

_____

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ☐ Yes ☑ No

If Yes:

i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): _____

_____

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:

_____

_____

_____

_____

iii. Will the proposed action cause or result in disturbance to bottom sediments? ☐Yes ☐No

If Yes, describe: _____

iv. Will the proposed action cause or result in the destruction or removal of aquatic vegetation? ☐Yes ☐No

If Yes:

- acres of aquatic vegetation proposed to be removed: _____
- expected acreage of aquatic vegetation remaining after project completion: _____
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access): _____

_____

- proposed method of plant removal: _____
- if chemical/herbicide treatment will be used, specify product(s): _____

v. Describe any proposed reclamation/mitigation following disturbance: _____

_____

c. Will the proposed action use, or create a new demand for water? ☑Yes ☐No

If Yes:

i. Total anticipated water usage/demand per day: 8,200 gallons/day

ii. Will the proposed action obtain water from an existing public water supply? ☑Yes ☐No

If Yes: Proposed water usage is based upon (30 hotel rooms X 110 gpd per room) + (350 venue seats X 5 gpd X 0.8) + (125 cafe seats X 35 gpd X 0.8) = 8,200 gpd [*Per DCDBCH loading rates*]

- Name of district or service area: City of Beacon Water District
- Does the existing public water supply have capacity to serve the proposal? ☑Yes ☐No
- Is the project site in the existing district? ☑Yes ☐No
- Is expansion of the district needed? ☐Yes ☑No
- Do existing lines serve the project site? ☑Yes ☐No

iii. Will line extension within an existing district be necessary to supply the project? ☐Yes ☑No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____

_____

- Source(s) of supply for the district: _____

iv. Is a new water supply district or service area proposed to be formed to serve the project site? ☐Yes ☑No

If, Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- Proposed source(s) of supply for new district: _____

v. If a public water supply will not be used, describe plans to provide water supply for the project: _____

_____

vi. If water supply will be from wells (public or private), what is the maximum pumping capacity: _____ gallons/minute.

d. Will the proposed action generate liquid wastes? ☑Yes ☐No

If Yes:

i. Total anticipated liquid waste generation per day: 8,200 gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each): _____

Sanitary wastewater, laundry, food preparation/cleaning wastewater

_____

iii. Will the proposed action use any existing public wastewater treatment facilities? ☑Yes ☐No

If Yes:

- Name of wastewater treatment plant to be used: City of Beacon Wastewater Treatment Facility
- Name of district: City of Beacon Sewer
- Does the existing wastewater treatment plant have capacity to serve the project? ☑Yes ☐No
- Is the project site in the existing district? ☑Yes ☐No
- Is expansion of the district needed? ☐Yes ☑No

- Do existing sewer lines serve the project site? ☑ Yes ☐ No
- Will a line extension within an existing district be necessary to serve the project? ☐ Yes ☑ No

  If Yes:
  - Describe extensions or capacity expansions proposed to serve this project: _____

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? ☐ Yes ☑ No

If Yes:
- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- What is the receiving water for the wastewater discharge? _____

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge or describe subsurface disposal plans):

N/A

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____

None

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? ☐ Yes ☑ No

If Yes:

i. How much impervious surface will the project create in relation to total size of project parcel?

_____ Square feet or _____ acres (impervious surface)

_____ Square feet or _____ acres (parcel size)

ii. Describe types of new point sources. _____

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?

Stormwater currently flows toward adjacent properties to the west, and will continue to flow toward the west. An on site underground detention/infiltration system is proposed to mitigate runoff from additional impervious surfaces where currently there is no stormwater control.

- If to surface waters, identify receiving water bodies or wetlands: _____
- Will stormwater runoff flow to adjacent properties? ☑ Yes ☐ No

iv. Does the proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? ☑ Yes ☐ No

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? ☐ Yes ☑ No

If Yes, identify:

i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)

ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)

iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? ☐ Yes ☑ No

If Yes:

i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) ☐ Yes ☐ No

ii. In addition to emissions as calculated in the application, the project will generate:
- _____Tons/year (short tons) of Carbon Dioxide (CO_2)
- _____Tons/year (short tons) of Nitrous Oxide (N_2O)
- _____Tons/year (short tons) of Perfluorocarbons (PFCs)
- _____Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- _____Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- _____Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? ☐Yes ☑No

If Yes:

i. Estimate methane generation in tons/year (metric): _____

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? ☐Yes ☑No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? ☑Yes ☐No

If Yes:

i. When is the peak traffic expected (Check all that apply): ☑ Morning ☑ Evening ☑Weekend ☑ Randomly between hours of 7 am to 11 pm.

ii. For commercial activities only, projected number of truck trips/day and type (e.g., semi trailers and dump trucks): 2 truck trips per day using box delivery trucks

iii. Parking spaces: Existing 18-20 Proposed 31 Net increase/decrease +11

iv. Does the proposed action include any shared use parking? ☐Yes ☑No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe: None

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☑Yes ☐No

vii Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? ☑Yes ☐No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? ☑Yes ☐No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? ☑Yes ☐No

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: 450 kWh for the hotel and 400 kWh for the venue

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other): Central Hudson Gas and Electric

iii. Will the proposed action require a new, or an upgrade, to an existing substation? ☐Yes ☑No

l. Hours of operation. Answer all items which apply.

i. During Construction:

- Monday - Friday: 8 am to 7 pm
- Saturday: 8 am to 6 pm
- Sunday: 9 am to 5 pm
- Holidays: Emergency only

ii. During Operations:

- Monday - Friday: 8 am to 11 pm
- Saturday: 8 am to 11 pm
- Sunday: 8 am to 11 pm
- Holidays: 8 am to 11 pm

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☑ Yes ☐ No

If yes:

i. Provide details including sources, time of day and duration:

Construction equipment on site during demolition and construction operations (8 am to 7 pm). During operation, the church building will continue to be used as it has in the past as a place of public assembly for music, school, food and other community events. Noise ordinances will be followed.

ii. Will the proposed action remove existing natural barriers that could act as a noise barrier or screen? ☑ Yes ☐ No

Describe: If the City permits, the existing cemetery will be cleaned up by removal of vegetation and some trees.

n. Will the proposed action have outdoor lighting? ☑ Yes ☐ No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

Most site lighting will be building mounted; however, parking lighting will be LED dark sky compliant on 18' high poles.

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? ☑ Yes ☐ No

Describe: See D2.m.ii.

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☐ Yes ☑ No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures:

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☐ Yes ☑ No

If Yes:

i. Product(s) to be stored _____

ii. Volume(s) _____ per unit time _____ (e.g., month, year)

iii. Generally, describe the proposed storage facilities:_____

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? ☐ Yes ☑ No

If Yes:

i. Describe proposed treatment(s):

ii. Will the proposed action use Integrated Pest Management Practices? ☐ Yes ☐ No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☑ Yes ☐ No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: 50 tons per year (unit of time)
- Operation : 400 tons per year (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction: Demolition and construction waste will be recycled as applicable.
- Operation: Solid waste will be separated from recycled materials

iii. Proposed disposal methods/facilities for solid waste generated on-site:

- Construction: Local sanitation company
- Operation: Local sanitation company

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will the proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No

If Yes: provide name and location of facility: _____

If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility:

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

☑ Urban ☐ Industrial ☐ Commercial ☑ Residential (suburban) ☐ Rural (non-farm)
☐ Forest ☐ Agriculture ☐ Aquatic ☐ Other (specify): _____

ii. If mix of uses, generally describe:

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	0.53 ac.	0.59 ac.	+0.06 ac.
• Forested	0.89 ac.	0.89 ac.	0
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	0.32 ac	0.32 ac.	0
• Agricultural (includes active orchards, field, greenhouse etc.)	0	0	0
• Surface water features (lakes, ponds, streams, rivers, etc.)	0	0	0
• Wetlands (freshwater or tidal)	0	0	0
• Non-vegetated (bare rock, earth or fill)	0	0	0
• Other Describe: Lawn/Landscaped areas	0.54 ac.	0.48 ac.	-0.06 ac.

c. Is the project site presently used by members of the community for public recreation? ☑ Yes ☐ No

i. If Yes: explain: The existing church is rented out to the public for events. This will continue after the project is completed.

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? ☑ Yes ☐ No

If Yes,

i. Identify Facilities:

South Avenue Elementary School, Rose Hill Manor Day School

e. Does the project site contain an existing dam? ☐ Yes ☑ No

If Yes:

i. Dimensions of the dam and impoundment:

- Dam height: _____ feet
- Dam length: _____ feet
- Surface area: _____ acres
- Volume impounded: _____ gallons OR acre-feet

ii. Dam's existing hazard classification: _____

iii. Provide date and summarize results of last inspection:

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Has the facility been formally closed? ☐ Yes ☐ No

- If yes, cite sources/documentation: _____

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:

iii. Describe any development constraints due to the prior solid waste activities: _____

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☐ Yes ☑ No

If Yes:

i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☐ Yes ☐ No

☐ Yes – Spills Incidents database — Provide DEC ID number(s): _____

☐ Yes – Environmental Site Remediation database — Provide DEC ID number(s): _____

☐ Neither database

ii. If site has been subject of RCRA corrective activities, describe control measures: _____

iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☑ Yes ☐ No

If yes, provide DEC ID number(s): V00299, V00096, C314112, V00293, 314069, 546031

iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):

V00299 - remediation complete % Site Management Plan in place; V00096 & C314112 remediation complete & Site Management Plan in place; V00293 remediation complete; 314069 has been redeveloped; 546031 ongoing

v. Is the project site subject to an institutional control limiting property uses? ☐ Yes ☑ No

- If yes, DEC site ID number: _____
- Describe the type of institutional control (e.g., deed restriction or easement): _____
- Describe any use limitations: _____
- Describe any engineering controls: _____
- Will the project affect the institutional or engineering controls in place? ☐ Yes ☐ No
- Explain: _____

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? 5.0 (average) feet

b. Are there bedrock outcroppings on the project site? ☑ Yes ☐ No
If Yes, what proportion of the site is comprised of bedrock outcroppings? <5 %

c. Predominant soil type(s) present on project site:

Nassau-Cardigan complex, rolling	60.6 %
Udorthents, smoothed	39.4 %
	%

d. What is the average depth to the water table on the project site? Average: 7 (average) feet

e. Drainage status of project site soils:
☑ Well Drained: 100 % of site
☐ Moderately Well Drained: _____% of site
☐ Poorly Drained _____% of site

f. Approximate proportion of proposed action site with slopes:
☑ 0-10%: 48.2 % of site
☑ 10-15%: 29.5 % of site
☑ 15% or greater: 22.3 % of site

g. Are there any unique geologic features on the project site? ☐ Yes ☑ No
If Yes, describe: _____

h. Surface water features.

i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? ☐ Yes ☑ No

ii. Do any wetlands or other waterbodies adjoin the project site? ☐ Yes ☑ No

If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.

iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? ☐ Yes ☑ No

iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name _____ Classification _____
- Lakes or Ponds: Name _____ Classification _____
- Wetlands: Name _____ Approximate Size _____
- Wetland No. (if regulated by DEC) _____

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☐ Yes ☑ No

If yes, name of impaired water body/bodies and basis for listing as impaired: _____

i. Is the project site in a designated Floodway? ☐ Yes ☑ No

j. Is the project site in the 100-year Floodplain? ☐ Yes ☑ No

k. Is the project site in the 500-year Floodplain? ☐ Yes ☑ No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☐ Yes ☑ No
If Yes:

i. Name of aquifer: _____

m. Identify the predominant wildlife species that occupy or use the project site:

White Tail Deer	Native Birds	
Gray Squirrel	Chipmunk	
Racoon	Skunk	

n. Does the project site contain a designated significant natural community? ☐ Yes ☑ No

If Yes:

i. Describe the habitat/community (composition, function, and basis for designation): _____

ii. Source(s) of description or evaluation: _____

iii. Extent of community/habitat:

- Currently: _____ acres
- Following completion of project as proposed: _____ acres
- Gain or loss (indicate + or -): _____ acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☑ Yes ☐ No

If Yes:

i. Species and listing (endangered or threatened): Atlantic Sturgeon, Shortnose Sturgeon, Indiana Bat

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☐ Yes ☑ No

If Yes:

i. Species and listing: _____

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☐ Yes ☑ No

If yes, give a brief description of how the proposed action may affect that use: _____

E.3. Designated Public Resources On or Near Project Site

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐ Yes ☑ No

If Yes, provide county plus district name/number: _____

b. Are agricultural lands consisting of highly productive soils present? ☐ Yes ☑ No

i. If Yes: acreage(s) on project site? _____

ii. Source(s) of soil rating(s): _____

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐ Yes ☑ No

If Yes:

i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature

ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐ Yes ☑ No

If Yes:

i. CEA name: _____

ii. Basis for designation: _____

iii. Designating agency and date: _____

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places? ☑ Yes ☐ No

If Yes:

i. Nature of historic/archaeological resource: ☑ Archaeological Site ☑ Historic Building or District

ii. Name: Reformed Dutch Church of Fishkill Landing

iii. Brief description of attributes on which listing is based:

Reformed Dutch Church is on the National Register of Historic Places. There is a cemetery located behind the church that dates back to the early 1800's.

f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory? ☑ Yes ☐ No

g. Have additional archaeological or historic site(s) or resources been identified on the project site? ☐ Yes ☑ No

If Yes:

i. Describe possible resource(s): _____

ii. Basis for identification: _____

h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? ☑ Yes ☐ No

If Yes:

i. Identify resource: Hudson Highlands State Park (+/- 6.5 miles)

ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): Long Dock Park;Madame Brett Park; Fishkill Ridge; Mount Beacon; Beacon Point Park

iii. Distance between project and resource: 0.2 - 1.0 miles.

i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? ☐ Yes ☑ No

If Yes:

i. Identify the name of the river and its designation: _____

ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666? ☐ Yes ☐ No

F. Additional Information

Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

I certify that the information provided is true to the best of my knowledge.

Applicant/Sponsor Name Prophecy Theater, LLC (Gavin Hecker) Date 11/30/2021

Signature Gavin Hecker Title Member/Owner/Manager

PRINT FORM



Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.



B.i.i [Coastal or Waterfront Area]	Yes
B.i.ii [Local Waterfront Revitalization Area]	Yes
C.2.b. [Special Planning District]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.iii [Within 2,000' of DEC Remediation Site]	Yes
E.1.h.iii [Within 2,000' of DEC Remediation Site - DEC ID]	V00299, V00096, C314112, V00293, 314069, 546031
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	No
E.2.h.ii [Surface Water Features]	No
E.2.h.iii [Surface Water Features]	No
E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	No
E.2.k. [500 Year Floodplain]	No
E.2.l. [Aquifers]	No
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	Yes

E.2.o. [Endangered or Threatened Species - Name]	Atlantic Sturgeon, Shortnose Sturgeon, Indiana Bat
E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National or State Register of Historic Places or State Eligible Sites]	Yes - Digital mapping data for archaeological site boundaries are not available. Refer to EAF Workbook.
E.3.e.ii [National or State Register of Historic Places or State Eligible Sites - Name]	Reformed Dutch Church of Fishkill Landing
E.3.f. [Archeological Sites]	Yes
E.3.i. [Designated River Corridor]	No

NEW YORK STATE DEPARTMENT OF STATE
COASTAL MANAGEMENT PROGRAM

Coastal Assessment Form

A. INSTRUCTIONS (Please print or type all answers)

1. State agencies shall complete this CAF for proposed actions which are subject to Part 600 of Title 19 of the NYCRR. This assessment is intended to supplement other information used by a state agency in making a determination of significance pursuant to the State Environmental Quality Review Act (see 6 NYCRR, Part 617). If it is determined that a proposed action will not have a significant effect on the environment, this assessment is intended to assist a state agency in complying with the certification requirements of 19 NYCRR Section 600.4.

2. If any question in Section C on this form is answered "yes", then the proposed action may affect the achievement of the coastal policies contained in Article 42 of the Executive Law. Thus, the action should be analyzed in more detail and, if necessary, modified prior to either (a) making a certification of consistency pursuant to 19 NYCRR Part 600 or, (b) making the findings required under SEQR, 6 NYCRR, Section 617.11, if the action is one for which an environmental impact statement is being prepared. If an action cannot be certified as consistent with the coastal policies, it shall not be undertaken.

3. Before answering the questions in Section C, the preparer of this form should review the coastal policies contained in 19 NYCRR Section 600.5. A proposed action should be evaluated as to its significant beneficial and adverse effects upon the coastal area.

B. DESCRIPTION OF PROPOSED ACTION

1. Type of state agency action (check appropriate response):

(a) Directly undertaken (e.g. capital construction, planning activity, agency regulation, land transaction) ____
(b) Financial assistance (e.g. grant, loan, subsidy) ____
(c) Permit, license, certification _X_

2. Describe nature and extent of action: _____

Application for Site Plan and Special Use Permit Approval for Hotel and Accessory Uses.

3. Location of action:

Dutchess	Beacon	1113 Wolcott Avenue SBL: 5954-26-651901
County	City, Town or Village	Street or Site Description

4. If an application for the proposed action has been filed with the state agency, the following information shall be provided:

(a) Name of applicant: Prophecy Theater, LLC

(b) Mailing address: 36 South Brett Street, Beacon, NY 12508

(c) Telephone Number: Area Code (215) 913-3199

(d) State agency application number: N/A

5. Will the action be directly undertaken, require funding, or approval by a federal agency?

Yes _____ No _X_ If yes, which federal agency?_____

C. COASTAL ASSESSMENT (Check either "YES" or "NO" for each of the following questions)

	YES	NO
1. Will the proposed activity be located in, or contiguous to, or have a significant effect upon any of the resource areas identified on the coastal area map:		
(a) Significant fish or wildlife habitats?	__	X
(b) Scenic resources of statewide significance?	__	X
(c) Important agricultural lands?	__	X
2. Will the proposed activity have a significant effect upon:		
(a) Commercial or recreational use of fish and wildlife resources?	__	X
(b) Scenic quality of the coastal environment?	__	X
(c) Development of future, or existing water dependent uses?	__	X
(d) Operation of the State's major ports?	__	X
(e) Land and water uses within the State's small harbors?	__	X
(f) Existing or potential public recreation opportunities?	__	X
(g) Structures, sites or districts of historic, archeological or cultural significance to the State or nation?	__	X

3. Will the proposed activity involve or result in any of the following:

(a) Physical alteration of two (2) acres or more of land along the shoreline, land under water or coastal waters?	___	X
(b) Physical alteration of five (5) acres or more of land located elsewhere in the coastal area?	___	X
(c) Expansion of existing public services of infrastructure in undeveloped or low density areas of the coastal area?	___	X
(d) Energy facility not subject to Article VII or VIII of the Public Service Law?	___	X
(e) Mining, excavation, filling or dredging in coastal waters?	___	X
(f) Reduction of existing or potential public access to or along the shore?	___	X
(g) Sale or change in use of state-owned lands located on the shoreline or under water?		
(h) Development within a designated flood or erosion hazard area?	___	X
(i) Development on a beach, dune, barrier island or other natural feature that provides protection against flooding or erosion?	___	X

4. Will the proposed action be located in or have a significant effect* upon an area included in an approved Local Waterfront Revitalization Program? ..... X ___

D. SUBMISSION REQUIREMENTS

* The Action will not have a significant effect upon an area in an approved LWRP.

If any question in Section C is answered "Yes", AND either of the following two conditions is met:

Section B.1(a) or B.1(b) is checked; or
Section B.1(c) is checked AND B.5 is answered "Yes",

THEN a copy of this completed Coastal Assessment Form shall be submitted to:

New York State Department of State
Office of Coastal, Local Government and Community Sustainability
One Commerce Plaza
99 Washington Avenue, Suite 1010
Albany, New York 12231-0001

If assistance or further information is needed to complete this form, please call the Department of State at (518) 474-6000.

E. REMARKS OR ADDITIONAL INFORMATION

See attached LWRP Consistency Statement.

Preparer's Name: Taylor M. Palmer, Esq., Cuddy & Feder LLP
(Please print)

Title: Attorney for the Applicant Agency: Cuddy & Feder LLP

Telephone Number: (914) 761-1300 Date: November 30, 2021

Local Waterfront Revitalization Plan
Consistency Statement

1113 Wolcott Avenue, Beacon, NY (Parcel ID: 5054-26-651901):

The 2.28-acre Wolcott Avenue property (the "Property") is presently improved with a church, rectory, and cemetery. The Property consists of a through lot fronting on Wolcott Avenue and Beekman Street as detailed in the below map taken from the Dutchess County Tax Parcel Viewer (*Image 1* below). The Property is classified in the R1-40 and the Historic District and Landmark Overlay Zoning Districts and is located within the City of Beacon's Waterfront Revitalization Management Area, as is more fully shown in the below map (*Image 2* below) that is excerpted from the City's Local Waterfront Revitalization Plan ("LWRP"). The Harbor Management Area encompasses ". . . both surface waters and the lands adjacent to the surface waters that can influence what takes place on the surface waters and whose use may be influenced by what takes place on the surface waters."

Image 1 – Tax Parcel Viewer Image of the Property:



Image 2 – Harbor Management Area Boundary:



Note: The yellow circle shows the approximate location of the Property within the Harbor Management Area Boundary.

This LWRP Consistency Statement analyzes the manner in which the Application for Site Plan Approval and Special Permit Approval for a hotel and accessory conference center/event space and dining facilities (the "Project") is consistent with the LWRP coastal policies related to viewsheds and environmental protection.[1] This LWRP Consistency Statement is submitted by the Applicant in furtherance of the environmental review of the project and the SEQRA documentation submitted by the Applicant.

THE PROPOSED HOTEL & ACCESSORY USES ARE CONSISTENT WITH THE POLICIES SET FORTH IN THE LWRP:

The proposed Site Plan and Special Permit Application to develop a hotel and accessory uses is consistent with the Policies in the City's LWRP for the following reasons:[2]

[1] *See* City of Beacon Zoning Code §§ 220-5, 220-6 (reviewing agencies must ensure actions impacting this coastal area are consistent with the City's LWRP).

[2] The following LWRP Policies are inapplicable to the Project: Policy 1 (Revitalization of Waterfront Areas); Policy 2 (Facilitation of Water-Dependent Uses); Policy 6 (Expedite Permit Procedures); Policy 7 (Restoration of Coastal Habitats); Policy 8 (Prevent Pollution in the Coastal Area); Policy 9 (Increase Access to Coastal Resources); Policy 10 (Develop Commercial Fishing); Policy 11 (Buildings in the Coastal Area);

POLICY 5 *Encourage the location of development in areas where public services and facilities essential to such development are adequate, except when such development has special functional requirements or other characteristics which necessitates its location in other coastal areas.*

The explanation of Policy 5 in the LWRP states that public services shall be improved to support development in the Waterfront Revitalization Area. The Project will not place undue pressure on the public water distribution and sanitary sewer system.

POLICY 13 *The construction or reconstruction of erosion protection structures shall be undertaken only if they have a reasonable probability of controlling erosion for at least thirty years as demonstrated in design and construction standards and/or assured maintenance or replacement programs.*

There will be no measurable increase in erosion or flooding generated by the Project. Stormwater control will be managed through best management practices.

POLICY 14 *Activities and development, including the construction or reconstruction of erosion protection structures, shall be undertaken so that there will be no measurable increase in erosion or flooding at the site of such activities or development or at other locations.*

No erosion protection structures are required, and there will be no measurable increase in erosion or flood as a result of the Project. The Project will not result in any increased risk to surrounding properties. Proper drainage and land restoration practices will be followed.

Policy 23 and 23A *Protect, restore and enhance historic resources; encourage the restoration and adaptive re-use of large historic buildings such as the mills on Fishkill Creek.*

The Property contains a historic church previously owned and operated by the Reformed Church of Beacon. This historic structure will be preserved with minimal changes to the exterior, and adaptively re-used as an accessory conference center/event space with associated dining facilities.

POLICY 25 *Protect, restore and enhance natural and manmade resources which are not identified as being of state-wide significance, but which contribute to the scenic quality of the coastal area.*

The explanation of Policy 25 in the LWRP states that "the scenic qualities of Beacon results from the combination of clustered buildings (many historic) and wooded hillsides against the backdrop of the Hudson Highlands. The height, bulk, scale of future building will be important factors in maintaining the character of the City, as will the preservation of the wooded hillsides that intersperse the developed areas."

The relevant viewshed articulated in the LWRP is the viewshed located at the intersection of Beacon Street and Route 9D (Wolcott Avenue), as shown in *Image 3* below. The LWRP describes

---

Policy 15 (Excavation and Dredging Limitations); Policy 16 (Publicly Funded Erosion Prevention Measures); Policy 17 (Non-Structural Flooding Measures); Policy 18 (Major Actions in the Coastal Area); Policy 19 (Public Access to Coastal Resources); Policy 20 (Public Access to Water's Edge); Policy 21 (Encouragement of Water-Based Recreation); Policy 22 (Provision of Water-Related Recreation); Policy 27 (Siting Energy Facilities); Policy 28 (Ice Management Practices); Policy 30 (Discharge of Pollutants into Coastal Waters); Policy 31 (Modifying Water Quality Standards); Policy 32 (Alternative Sanitary Waste Systems); Policy 34 (Watercraft Discharges); Policy 35 (Dredging); Policy 36 (Hazardous Material Shipment); Policy 39 (Transport/Storage/Treatment/Disposal of Solid Wastes); Policy 40 (Discharges from Electric Generating and Industrial Facilities); Policy 42 (Significant Deterioration Land Classification); Policy 43 (Acid Rain Prevention); Policy 44 (Wetland Protection).

the viewpoint as follows: "the view from Route 9D and Beacon Street is dominated by the Reform Church and rectory in the foreground to the southwest, leaving an open view to the west and northwest. The middle ground is bisected by Beekman Street. The Beacon Waterfront Park and railroad tracks and the old ferry pier are dominant. In the background is a panoramic view to the northwest dominated by the Beacon Bridge and the mountain beyond."

Image 3: Google Street View of Intersection of Beacon Street and Route 9D:



<u>Note</u>: as this view of Wolcott Avenue, looking from the intersection with Beacon Street illustrates, the new proposed Project will *not* be visible from the origin of the pertinent viewshed because of the development of the West End Lofts project.

This described viewshed is located to the northeast of the Property. The proposed Project will have no impact on the relevant viewshed. The three (3)-story West End Lofts dominate the viewshed and prevents most of the visibility of the Property. The church, which will house the accessory uses, is set back from Wolcott Avenue and is not visible from the Beacon/Wolcott intersection. To the extent the front of the rectory building is visible, the Project does not propose any alterations to that portion of the building. Instead, the Applicant is proposing two and a half story (2.5) rear addition to the rectory for the hotel. The West Ends Lofts will prevent any visibility of the rectory addition from the intersection. As a result, the proposed Project and any future improvement will be sufficiently screened and have no impact on the public viewshed.

In addition, the Project is consistent with Policy 25 in that the minimal planned disturbance of approximately 0.96 acres, the lack of impact on natural resources, and the proposed and existing landscaping as described herein will minimize any impact on the natural resources of the area, helping to preserve the scenic quality of this area.

POLICY 33 *Best management practices will be used to ensure the control of stormwater runoff and combined sewer overflows draining into coastal waters.*

Best management practices will be used to ensure the control of stormwater runoff. An onsite underground detention/infiltration system is proposed to mitigate runoff from additional impervious surfaces where currently there is no stormwater control.

POLICY 37 *Best management practices will be utilized to minimize the nonpoint discharge of excess nutrients, nonpoint discharge of excess nutrients, organics and eroded soils into coastal waters.*

Best management practices will be utilized to minimize the nonpoint discharge of excess nutrients, organics, and eroded soils into coastal waters.

POLICY 38 *The quality and quantity of surface water and groundwater supplies will be conserved and protected particularly where such waters constitute the primary or sole source of water supply.*

There will be no bulk storage of petroleum or chemicals on-site. The Project does not include or require wastewater discharged to groundwater, and is not located within 100 feet of potable drinking water or irrigation sources. The Project will be connected to the existing public water distribution system.

POLICY 41 *Land use or development in the coastal area will not cause national or state air quality standards to be violated.*

The Project will not lead to any violation of the National and State Air Quality Standards, and will comply with the State Implementation Plan.

CONCLUSION:

Accordingly, for the reasons set forth herein, the Applicant requests that this Board consider finding that the Site Plan and Special Permit Application is consistent with the Policies in the City's LWRP.

Colliers
Engineering
& Design

Traffic & Parking Study

November 30, 2021

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Dutchess County, New York

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Colliers Engineering & Design

I. Introduction

A. Project Description and Location

(Figure No. 1)

This report has been prepared to evaluate the potential traffic and parking related impacts associated with the proposed redevelopment of the property located at 1113 Wolcott Avenue (NYS Route 9D) in the City of Beacon, Dutchess County, New York (the "Project"). The former rectory building and church, which was most recently occupied by the Reformed Church of Beacon, are proposed to be redeveloped as a 30-room hotel contained in an expanded rectory building along with accessory conference center and dining facility (café/restaurant/bar) uses within the church building. In addition, the existing cemetery located behind (west of) the church and rectory building will be restored to be opened as a public park including a walking path from Beekman Street to Wolcott avenue.

The hotel will operate 365 days per year, and the dining facilities will be situated in the rear of the existing church. The dining facilities will serve as a reception for guests of the hotel and offer breakfast, lunch and dinner to the hotel guests, as well as members of the public. In addition, it will operate as a bar for hotel guests and for accessory conference center programming and events. The dining facilities are expected to operate seven (7) days a week in support of the hotel operations and guests.

The conference center accessory use will operate less, utilizing the former church building for various cultural, educational, or professional programs, including weddings, conferences, art exhibitions, performances, lectures, seminars and workshops. The expected maximum capacity for the occasional weekend programming for the hotel conference center is a maximum of 350 people, however these larger programs which will occur on weekends, will typically have fewer people, ranging between 125-200 people. Furthermore, smaller functions, such as seminars, workshops or retreats with attendance ranging between 50 to 200 people will occur on weekdays generally Wednesday – Friday.

As shown on Figure No. 1, access to the development is proposed via an existing access connection from Wolcott Avenue that will provide access to the main parking area. A total of 31 off-street parking spaces will be provided primarily for use by hotel guests and employees. The existing secondary access driveway immediately south of the church is also proposed to remain for deliveries and emergency access.

B. Scope of Study

This study has been prepared to identify current and future traffic operating and parking conditions on the surrounding roadway network and to assess the potential traffic and parking impacts of the proposed development.

All available traffic count data for the study area intersections were obtained from previous reports prepared by our office. These data were supplemented with new traffic counts collected by representatives of Colliers Engineering & Design CT, P.C. These data were also compared to count data obtained from the New York State Department of Transportation (NYSDOT). Together these data were utilized to establish the Year 2021 Existing Traffic Volumes representing existing traffic conditions in the vicinity of the site. In addition, observations of the existing parking conditions in the vicinity of the Project were also conducted.

The 2021 Existing Traffic Volumes were then projected to a 2024 Design Year to take into account background traffic growth. In addition, traffic for other specific potential or approved developments in the area were estimated and then added to the Projected Traffic Volumes to obtain the 2024 No-Build Traffic Volumes.

Estimates were then made of the potential traffic that the proposed development would generate during each of the peak hours (see Section III-C for further discussion). The resulting site generated traffic volumes were then added to the roadway system and combined with the 2024 No-Build Traffic Volumes resulting in the 2024 Build Traffic Volumes.

The Existing, No-Build and Build Traffic Volumes were then compared to roadway capacities based on the procedures from the Highway Capacity Manual to determine existing and future Levels of Service and operating conditions. Recommendations for improvements were made where necessary to serve the existing and/or future traffic volumes.

In addition to the traffic analysis, the anticipated parking demand of the Project was computed based on the City Code requirements as well industry standard data. The anticipated demand was compared to the observed available parking in the vicinity of the Project site. Recommendations to accommodate the anticipated parking demands for the Project were identified.

II. Introduction

A. Project Description and Location

As shown on Figure No. 1, the proposed residential development will be accessed from Wolcott Avenue via a driveway connection. The following is a brief description of the roadways located within the study area. In addition, Section III-F provides a further description of the existing geometrics, traffic control and a summary of the existing and future Levels of Service and any recommended improvements for each of the study area intersections. Appendix "D" contains copies of the capacity analyses which indicate the existing geometrics (including lane widths) and other characteristics for each of the individual intersections studied.

1. Wolcott Avenue (NYS Route 9D)

Wolcott Avenue (NYS Route 9D) is a classified as a urban minor arterial roadway, which traverses in a generally north south direction throughout the City of Beacon. In the immediate vicinity of the Project, Wolcott Avenue consists of one lane in each direction with a center turn lane. There is no on-street parking along the roadway, but sidewalks are provided on both sides of the roadway. Within the study area Wolcott Avenue has signalized intersection with Verplanck Avenue, Beekman Street, Main Street and South Avenue. The posted speed limit within the City limits is 30 MPH.

2. Main Street

Main Street is a two-lane City roadway classified as an urban Major Collector roadway that generally traverses in an east/west direction beginning at its signalized intersection with Wolcott Avenue. On-street parking and separate sidewalks are provided along both sides of the roadway.

3. Beekman Street

Beekman Street is a two-lane City roadway classified as an urban Major Collector roadway that originates at a signalized intersection with Wolcott Avenue north of the Project site. The roadway serves as a main access connection between Wolcott Avenue and the Beacon Metro North Train Station. Sidewalks are provided along the roadway on alternating sides of the roadway throughout its entire length. On-street parking is also provided along the east side of the roadway between Wolcott Avenue and River Street and then on the west side of the roadway between River Street and Railroad Avenue.

B. 2021 Existing Traffic Volumes

(Figures No. 2. and 3)

Manual traffic counts were collected by representatives of Colliers Engineering & Design CT, P.C. on Friday September 24, 2021 and Saturday September 25, 2021 to collect data for the Friday PM and Saturday Peak Hours to determine the existing traffic volume conditions at the study area intersections during the anticipated peak operation of the Project. These traffic counts were then compared to traffic volume data from previous traffic studies conducted by our office and to traffic volume data available from the New York State Department of Transportation (NYSDOT) for the Wolcott Avenue corridor. Based on this information, the 2021 Existing Traffic Volumes were established for the Friday PM Peak Hour and Saturday Peak Hour at the following study area intersections.

- Wolcott Avenue and Verplanck Avenue
- Wolcott Avenue and Beekman Street/W. Church Street
- Wolcott Avenue and Main Street/City Hall
- Wolcott Avenue and Beacon Street/West End Lofts
- Wolcott Avenue and South Avenue

Based upon a review of the traffic counts, the peak hours were generally identified as follows:

- Friday PM Peak Hour 4:30 PM – 5:30 PM
- Saturday Peak Hour 1:00 PM – 2:00 PM

The resulting 2021 Existing Traffic Volumes are shown on Figures No. 2 and 3 for the Friday PM Peak Hour and Saturday Peak Hour, respectively.

It should be noted that based on observations of the existing parking conditions in the vicinity of the Site, parking at the Beacon Metro-North Train Station is significantly under utilized when compared with historic levels of parking at the train station. This is discussed further in Section IV of this report. These lower levels of parking utilization at the train station are likely due to the ongoing impacts of the COVID-19 pandemic. As a result of these of these lower parking levels of train station parking and based on a review of the available historical traffic volume data for the study area, it was determined that the traffic volumes from the train station along Beekman Street and along Wolcott Avenue between Beekman Street and the Interstate 84 ramps are lower than historically experienced during the Friday PM Peak Hour. To account for this, these volumes have been adjusted by approximately 60 vehicles exiting Beekman Street and traveling north on Route 9D to ensure the traffic volumes at the intersections of Wolcott Avenue at Beekman Street and Wolcott Avenue at Verplanck Avenue are representative of peak conditions pre-COVID.

III. Evaluation of Future Traffic Conditions

A. 2024 No-Build Traffic Volumes

(Figure No. 4 through 9)

The 2021 Existing Traffic Volumes were increased by a growth factor of 2% per year to account for general background growth resulting in the 2024 Projected Traffic Volumes which are shown on Figures No. 4 and 5 for each of the Peak Hours. In addition, traffic from other specific potential and/or approved developments in the area including the potential 364 Main Street project, the Craig House development and the recently approved 416-420 Main Street project were identified. The resulting traffic volumes associated with these other developments are shown on Figures No. 6 and 7 for each of the peak hours. These volumes were added to the 2024 Projected Traffic Volumes resulting in the Year 2024 No-Build Traffic Volumes which are shown on Figures No. 8 and 9 for the Friday PM Peak Hour and Saturday Peak Hour, respectively.

B. Site Generated Traffic Volumes

(Table No. 1)

Estimates of the amount of traffic to be generated by the Project during each of the peak hours under Typical Conditions (no event) were developed based on information published by the Institute of Transportation Engineers (ITE) as contained in the report entitled ***Trip Generation, 11th Edition, 2021***, based on Land Use Category – 310 – Hotel and Land Use Category – 932 – High-Turnover (Sit Down) Restaurant. Table No. 1 summarizes the trip generation rates and corresponding site generated traffic volumes for the Friday PM Peak Hour and Saturday Peak Hour under these Typical Conditions. As noted previously, the café will be an accessory use to the Hotel and will provide breakfast, lunch and dinner options for hotel guests, therefore it is anticipated that a significant portion of the café generated traffic will actually come from the Hotel, reducing the overall traffic generation for the development. Therefore, an internal trip credit of 25% has been applied to the Café use traffic generation estimates under typical conditions to account for this.

Similarly, traffic generation estimates were developed for the event conditions for each of the peak hours. The event conditions estimates were developed for the Friday PM and Saturday Peak Hour Entry Periods as well as the Friday PM and Saturday Peak Hour Exit Periods. During events it is anticipated that the Café use will be a non-simultaneous use, meaning that the café area will be fully accessory to the events and therefore will not generate any traffic of its own. It is anticipated that the Hotel will be fully occupied during events and as much as 100% of hotel guests will also be attending the events, although for the purposes of providing a somewhat conservative traffic analysis it has been assumed that only 50% of the Hotel traffic generation will be attributable to the events. The same Hotel traffic generated as indicated under the Typical conditions has been assumed for the event conditions periods, although it is unlikely that the peak hour of Hotel generation will actually overlap with the event periods.

ITE does not provide data comparable to the proposed event space that will accommodate various cultural, educational, or professional programs, including weddings, conferences, art exhibitions, performances, lectures, seminars and workshops. Therefore, it was necessary to establish traffic generation estimates for the event space based on the anticipated attendance. As previously indicated, the maximum anticipated attendance for the larger weekend events is 350 people. Typical vehicle occupancy for the anticipated event types can vary significantly depending on the specific event. However, the for the purposes of the analysis a 2.75 persons per vehicle car occupancy has been utilized, which is at the low end of the anticipated vehicle occupancy for the events. Applying this to the anticipated maximum attendance of 350 persons for the larger weekend events results in the anticipated peak entering and exiting traffic volumes as summarized in Table No. 1. It has been assumed that all traffic will either enter or exit during a one-hour period.

It is also anticipated that a portion of the event attendees for the larger weekend events will arrive via other modes of transportation. This includes attendees attracted from the local area and therefore would be likely to arrive by non-vehicular transportation. 25% of the event attendees will be attracted from the local area and therefore would be likely to arrive by non-vehicular transportation. The Project also anticipates promoting the use of public transportation including use of Metro-North trains to the Beacon train station, which is within walking distance to the Project site. In addition, the Project will also promote the use of Dutchess County Buses, including the Poughkeepsie Transit Hub to Beacon bus route, the Beacon to Hopewell Junction bus route and the Beacon Free Loop bus, each of which have designated stops along Main Street and pass the Project site on Route 9D. Based on this, the anticipated event traffic generation has been reduced by 25% during each of the peak hours. Finally, in order to account for drop-off/pick-up trips during the entry and exit hours it has been assumed that 20% of the total entering or exiting traffic will be drop-off or pick-up trips and therefore will both enter and exit during the peak entry and peak exit periods. The resulting event conditions “new trips” accounting for these credits are summarized in Table No. 1.

C. Arrival/Departure Distribution

(Figures No. 10 through 13)

It was necessary to establish arrival and departure distributions to assign the site generated traffic volumes to the surrounding roadway network. Based on a review of the Existing Traffic Volumes and the expected travel patterns on the surrounding roadway network, the distributions were identified. Separate distributions were developed for the Hotel and the Café/Event space since it is anticipated there will be slight variations on the arrival and departure distributions for each portion of the development including the fact that the onsite parking is anticipated to only accommodate the Hotel use.

The resulting anticipated arrival and departure distributions for the Hotel use are shown on Figures No. 10 and 11, respectively. Similarly Figures No. 12 and 13 provide the arrival and departure distributions for the Café/Event Space.

Note that for the purposes of the analysis, it has been assumed that all traffic will enter and exit the Site access driveway location, however as discussed further in Section IV of this report, only 31 parking spaces will be provided on the Project site for the use of Hotel guests only. Therefore, additional café guests or event attendees will be required to utilize off-site parking and therefore will not actually enter the Site unless dropping off and/or picking up.

D. 2024 Build Conditions Traffic Volumes

(Figures No. 14 through 25)

The site generated traffic volumes were assigned to the roadway network based on the arrival and departure distributions referenced above. The resulting typical conditions site generated traffic volumes for each of the study area intersections are shown on Figures No. 14 and 15 for each of the peak hours, respectively. The site generated traffic volumes for the Friday PM Event Entry Period and Friday PM Event Exit Period are identified on Figures No. 16 and 17 while the site generated traffic volumes for the Saturday Event Entry and Event Exit Period are identified on Figures No. 18 and 19. The site generated traffic volumes were then added to the 2024 No-Build Traffic Volumes to obtain the 2024 Build Traffic Volumes. The resulting Year 2024 Build Traffic Volumes are shown on Figures No. 20 through 25.

E. Description of Analysis Procedures

(Appendix C)

It was necessary to perform capacity analyses in order to determine existing and future traffic operating conditions at the study area intersections. The following is a brief description of the analysis method utilized in this report:

Signalized Intersection Capacity Analysis

The capacity analysis for a signalized intersection was performed in accordance with the procedures described in the Highway Capacity Manual, 6th Edition, dated 2016, published by the Transportation Research Board. The terminology used in identifying traffic flow conditions is Levels of Service. A Level of Service "A" represents the best condition and a Level of Service "F" represents the worst condition. A Level of Service "C" is generally used as a design standard while a Level of Service "D" is acceptable during peak periods. A Level of Service "E" represents an operation near capacity. In order to identify an intersection's Level of Service, the average amount of vehicle delay is computed for each approach to the intersection as well as for the overall intersection.

Unsignalized Intersection Capacity Analysis

The unsignalized intersection capacity analysis method utilized in this report was also performed in accordance with the procedures described in the Highway Capacity Manual, 6th Edition, dated 2016. The procedure is based on total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line. The average total delay for any particular critical movement is a function of the service rate or capacity of the approach and the degree of saturation. In order to identify the Level of Service, the average amount of vehicle delay is computed for each critical movement to the intersection.

Additional information concerning signalized and unsignalized Levels of Service can be found in Appendix "C" of this report.

F. Results of Analysis

(Table No. 2)

Capacity analyses which take into consideration appropriate truck percentages, pedestrian activity, roadway grades and other factors were performed at the study area intersections utilizing the procedures described above to determine the Levels of Service and average vehicle delays. Summarized below are a description of the existing geometrics, traffic control and a summary of the existing and future Levels of Service as well as any recommended improvements.

Table No. 2 summarizes the results of the capacity analysis for the 2021 Existing, 2024 No-Build and 2024 Build Conditions. Appendix "D" contains copies of the capacity analysis which also indicate the existing geometrics (including lane widths) and other characteristics for each of the individual intersections studied.

1. Wolcott Avenue and Verplanck Avenue

Wolcott Avenue and Verplanck Avenue intersect at a "T"-shaped signalized intersection. The northbound Wolcott Avenue approach consists of a single through lane. The southbound Wolcott Avenue approach consists a through lane and separate left turn lane with approximately 340 ft. of storage distance. The westbound Verplanck Avenue approach consists of an 85 ft. long separate left turn lane and a separate right turn lane. The intersection also has signalized pedestrian actuated crossings of the northbound and westbound approaches.

Capacity analysis was conducted for this intersection utilizing the 2021 Existing Traffic Volumes. The analysis results indicate that the intersection is currently operating at an overall Level of Service "C" during the Friday PM Peak Hours while an overall Level of Service "B" is experienced during the Saturday Peak Hour.

The capacity analysis was recomputed using the 2024 No-Build Traffic volumes. These results indicate that the intersection is expected to experience an overall Level of Service "C " during each of the peak hours under future conditions without the project. Under the future build conditions, both Typical and Event conditions, similar overall Levels of Service are anticipated to be experienced.

2. Wolcott Avenue and Beekman Street/W. Church Street

Wolcott Avenue intersects with Beekman Street and W. Church Street at a full movement signalized intersection. The northbound and southbound approaches each consist of a separate left turn lane in each direction with a shared through/right turn lane. The Beekman Street eastbound approach consists of a shared left turn/through lane and an approximately 95 ft. long separate right turn lane. The westbound W. Church Street approach consists of a single lane for all movements. The intersection also has signalized pedestrian actuated crossings of the southbound, eastbound and westbound approaches. There is no pedestrian crossing on the northbound Wolcott Avenue approach.

Capacity analysis was conducted for this intersection utilizing the 2021 Existing Traffic Volumes. The analysis results indicate that the intersection is currently operating at an overall Level of Service "F" during the Friday PM Peak Hour while an overall Level of Service "A" is currently experienced during the Saturday Peak Hour. It should be noted that during the Friday PM Peak hour all intersection movements/lane groups currently operate at a Level of Service "C" or better with the exception of the eastbound left/through lane. This is a result of the traffic exiting the Beacon Metro-North train station during the Friday PM Peak Hour destined to the north on Route 9D towards the Interstate 84 interchange. Similar levels of service are expected to be experienced under future conditions during each of the peak hours both with and without the Project.

While the Project generated traffic is not anticipated to result in significant impacts to the operation of this intersection during either of the peak hours analyzed, potential traffic signal phasing and timing improvements have been identified for the Friday PM Peak Hour to address the significant delays experienced by traffic exiting Beekman Street onto Route 9D northbound. In order to address these delays splitting the phasing for the eastbound and westbound approaches could be considered, which will reduce conflicts between eastbound and westbound traffic. Together with associated traffic signal timing modifications, the eastbound delays would be significantly reduced, and the overall intersection would be expected to experience a Level of Service "E" during the Friday PM Peak hour under both the Project typical and event conditions. This modification to the traffic signal should be considered regardless of the Project.

3. **Wolcott Avenue and Main Street/City Hall Driveway**

Wolcott Avenue intersects Main Street and the City Hall Driveway at a full movement signalized intersection. The northbound and southbound approaches each consist of a separate left turn lane with a shared through/right turn lane. The Main Street westbound approach consists of a shared left turn/through lane and an approximately 65 ft. long separate right turn lane. The eastbound City Hall driveway approach consists of a single lane for all movements. The intersection also has signalized pedestrian actuated crossings of the northbound, eastbound and westbound approaches. There is no pedestrian crossing on the southbound Wolcott Avenue approach.

Capacity analysis was conducted for this intersection utilizing the 2021 Existing Traffic Volumes. The analysis results indicate that the intersection is currently operating at an overall Level of Service "B" during the Friday PM Peak Hours and Saturday Peak Hours. The analysis was recomputed using the 2024 No-Build and Build Traffic volumes, which indicates that similar levels of service will be maintained under all conditions both with and without the Project.

4. **Wolcott Avenue and Beacon Street/West End Lofts Driveway**

   Beacon Street intersects Wolcott Avenue at a full movement unsignalized intersection with Beacon Street aligning opposite the driveway to the West End Lofts development. The northbound and southbound Wolcott Avenue approaches each consist of one travel lane in each direction with a center two-way left turn lane provided. Beacon Street and the West End Lofts Driveway each provide a single lane for all movements and there is a pedestrian crossing of each of these approaches. There is no dedicated pedestrian crossing of Wolcott Avenue at this location.

   Capacity analysis was conducted for this intersection utilizing the 2021 Existing Traffic Volumes. The analysis results indicate that the intersection is currently operating at a Level of Service "C" or better on all approaches during the Friday PM and Saturday Peak Horus.

   The capacity analysis was recomputed using the 2024 No-Build and Build Traffic volumes. These results indicate that the intersection is expected to experience similar Levels of Service to existing conditions with some small increases in delay (less than 4 seconds per vehicle) as a result of the project generated traffic.

5. **Wolcott Avenue and Site Access**

   As previously indicated, the Site is proposed to be access via the existing curb cut location to Wolcott Avenue which forms an unsignalized "T"-shaped intersection. The northbound and southbound Wolcott Avenue approaches each consist of one travel lane in each direction with a center two-way left turn lane provided.

   Capacity analysis was conducted for this intersection utilizing the 2024 Build Traffic volumes. These results indicate that the intersection is expected to experience Levels of Service "B" or better during each of the peak hours. It should be noted that any modifications to the existing access configuration either at the main access location or at the delivery/emergency access location will require a Highway Work Permit to be obtained from the NYSDOT.

6. **Wolcott Avenue and South Avenue**

   Wolcott Avenue and South Avenue intersect at a full movement signalized intersection. Each of the approaches to the intersection consist of a single lane in each direction. There is a striped pedestrian crosswalk on each of the four intersection approaches but there are no pedestrian actuated signals for these crosswalks.

   Capacity analysis was conducted for this intersection utilizing the 2021 Existing Traffic Volumes. The analysis results indicate that the intersection is currently operating at an overall Level of Service "C" during both the Friday PM and Saturday Peak Hours.

   The capacity analysis was recomputed using the 2024 No-Build and Build Traffic volumes. These results indicate that the intersection is expected to continue to experience an overall Level of Service "C" during each of the peak hours under all scenarios, with minimal increases in delay (less than 1.0 seconds per vehicle) resulting from the project generated traffic.

IV. Parking Evaluation

A. Project Related Code Parking Requirements

The City of Beacon Zoning Code's (the "Zoning Code") Schedule Off-Street Parking Requirements (§223-26.F) indicates the required number of off-street parking spaces to be provided for the Project. Based the Zoning Code, Table No. 2 below provides a summary of the code parking requirements and minimum number of required parking spaces for the Project.

Table No. 2 – City of Beacon Code Required Parking

Proposed Use	Size	City of Beacon Code Requirement	Required Spaces
Hotel	30 Rooms 1 Employee	1 Space/Room +1 Space/Employee	31 Spaces
Café	66 Patrons (954 Sq. Ft @ 15 sf/Patron)	1 Space/3 Patrons	22 Spaces[1]
Event Space	350 Seats	1 Space/4 seats	88 Spaces
		Total Required Parking Spaces	**119 Spaces[1]**

Notes:

1. The Café' and the Event Space, which are both contained in the Church building, are non-simultaneous uses, therefore the Total Required Parking Spaces includes those required for the Hotel and the Event Space, since the Event Space represents the more conservative total of require parking spaces for the Church building uses. When events are not occurring the City Code would require 53 parking spaces for the Project.

As indicated in the above table the Project would require a total of 119 parking spaces. As noted above, the Café use is proposed to be a non-simultaneous use with the Event Space. Therefore, the calculation of total required parking spaces for the Project is based on the critical event periods during which times the Café will be used as a complimentary space to the Event space, but no additional persons outside of those attending the events will be permitted in the Café during these times. As previously indicated, the Project proposes to provide 31 off-street parking spaces to accommodate the parking needs for the proposed Hotel use. Therefore, all additional parking for the proposed Café use and event related parking would be required to be accommodated by on-street and off-street public parking in the area.

It is also anticipated that the uses within the proposed development would permit for some amount of "Shared Parking" resulting from hotel guests frequenting the Café and also the events held in the Church building. It is anticipated that as many as 100% of the hotel guest could be attending an event. Depending on the hotel occupancy and type of event this could potentially reduce the parking requirements for the event to 58 parking spaces and the total parking requirement for the Site to 89 parking spaces, including 1 hotel employee parking space.

Furthermore, as previously discussed, it is also anticipated that a portion of the event attendees for the larger weekend events will arrive via other modes of transportation. This includes attendees attracted from the local area and therefore would be likely to arrive by non-vehicular transportation. The Project also anticipates promoting the use of public transportation including use of Metro-North trains to the Beacon train station, which is within walking distance to the Project site. In addition, the Project will also promote the use of Dutchess County Buses, including the Poughkeepsie Transit Hub to Beacon bus route, the Beacon to Hopewell Junction bus route and the Beacon Free Loop bus, each of which have designated stops along Main Street and pass the Project site on Route 9D. Based on this, it is anticipated that the overall parking demand of the project during these event conditions could be reduced by as much as 25%. This would further reduce the parking requirement or the largest events to 44 parking spaces and the overall parking requirement for the Project to 75 parking spaces.

B. Review of Off-Site Parking Locations

The Project proposes to provide 31 off-street parking spaces on the Site primarily for the use of Hotel guests and employees as required by the City of Beacon code for that use. While as indicated above, there is expected to be some amount of "shared parking" between the Hotel and café/event space under both typical and event conditions, under both scenarios there will be a need for additional parking to be accommodated by off-site public parking in the vicinity of the Project.

The closest public parking in the area include the below listed locations in order of proximity to the Project:

- **Tomkins Firehouse Parking Lot** – 70± Parking Spaces
  This lot is currently unstriped and therefore the number of parking spaces is an estimate
- **City of Beacon Municipal Plaza (City Hall) Parking Lots** – 100± Parking Spaces
- **Beekman Street Metro North on-street parking between Railroad Drive and Wolcott Avenue** - 70± on-street metered parking spaces
  This parking is operated by LAZ parking, parking can be paid electronically via LAZgo Parking App.
- **Cross Lot** – 18 Parking Spaces (24 Hour Free Parking – City Lot)
- **Cliff Lot** – 19 Parking Spaces (24 Hour Free Parking – City Lot)
- **Beacon Center Lot** – 92 Parking Spaces (24 Hour Free Parking – City Lot)
- **Beacon Metro North Train Station Parking lots metered parking spaces**
  This parking is operated by LAZ parking, parking can be paid electronically via LAZgo Parking App.

The Tomkins Firehouse and City of Beacon Municipal Plaza parking lots have each recently been signed as available for public parking and are within 500 and 1,000 ft. respectively of the Project Site making these the most accessible public parking for the project. As previously noted, a walkway connection to Beekman Street is proposed to be provided through the Site as part of the Project. This will provide more convenient access to the Beekman Street on-street metered parking spaces of which the nearest spaces will be within the 350 ft. of the Hotel and Café/Event spaces with the more remote spaces approximately 1,200 ft. from these buildings. This will also provide more convenient access to parking available at the Beacon Metro north station, however these metered spaces are more remote, in excess of 2,000 ft. from the Project site and less likely

to be utilized. The Cross Street lot, Cliff Lot and Beacon Center Lot are all located within 1,500 – 1,900 ft. from the Project site. In total there are approximately 369 total parking spaces within 2,000 ft. walking distance of the Project site which can be utilized to accommodate the parking needs of the Project under the event conditions. There is also on-street public parking along Main Street within this distance from the Project, but this parking is known to have limited availability and therefore has been discounted from the parking analysis.

Observations of each of the parking areas noted above were conducted by representatives of Colliers Engineer & Design on Friday September 24, 2021, Saturday September 25, 2021, Friday November 5, 2021 and Saturday November 6, 2021 in order asses the availability of parking in each of these location during the anticipated peak event periods. The following was observed for each of the of the parking locations identified above:

- **Tomkins Firehouse Parking Lot**
  - This parking lot was observed to be significantly underutilized during all time periods with 5 vehicles or less parked at any one time. This is likely due to its location further from the Main Street business district and the fact that it was only recently signed for public parking.
- **City of Beacon Municipal Plaza (City Hall) Parking Lots**
  - This parking lot was observed to be significantly underutilized outside of Beacon City Hall business hours less than 15 vehicles parked at any one time not including municipal vehicles.
- **Beekman Street Metro North on-street parking between Railroad Drive and Wolcott Avenue**
  - This parking was observed to be significantly underutilized during all time periods. It is noted that a review of historical aerial photography indicates a higher utilization of this parking on Weekdays prior to the COVID-19 pandemic, however it is anticipated that this parking would be mostly free on nights and weekends.
- **Cross Lot**
  - This parking was observed to be nearly fully occupied during all time periods. It is unlikely that this parking area could be relied upon for parking for the proposed project.
- **Cliff Lot**
  - This parking was observed to be nearly fully occupied during all time periods. It is unlikely that this parking area could be relied upon for parking for the proposed project.
- **Beacon Center Lot**
  - This parking was observed to be in excess of 75% utilized during most time periods but there is more of a likelihood of parking availability in this lot than the other public parking in this vicinity. While somewhat remote from the Project site in some cases event attendees may utilize this parking to visit locations on Main Street prior to of after the events.

- **Beacon Metro North Train Station Parking lots metered parking spaces**
  - This parking was found to be generally underutilized during all time periods observed with significant availability on weeknights and weekends. It is noted that a review of historical aerial photography indicates a higher utilization of this parking on Weekdays prior to the COVID-19 pandemic, however it is anticipated that this parking would remain mostly free on nights and weekends if parking utilization at the train station returns to pre-pandemic levels.

The Tomkins Firehouse Parking Lot and City of Beacon Municipal Plaza parking lot which are nearest the Project each appear to have sufficient availability to accommodate the excess parking demand of the Project while still leaving additional available parking for other public uses as well. It should be noted that all proposed events are limited timeframe events that will utilize these parking spaces during the events only and these parking spaces would be available during all other times of the day.

C. Parking Recommendations

As noted above, it is the opinion of Colliers Engineering & Design that there is sufficient public parking in the vicinity of the Project to accommodate the excess parking demand associated with the events, there are several parking mitigation measures that could be implemented in order to reduce the parking demands of the Project and/or reduce the parking impacts in the surrounding area, which are identified below.

Dissemination of Parking Information

Prophecy Theater, LLC as owners of the Project should disseminate parking information to event attendees to identify appropriate available parking areas. This can be done via the facility's website, distribution of information upon purchase of event tickets (as applicable), e-mails to event attendees and information disseminated by event organizers. Day-of, on-site signage and/or distribution of flyers identifying parking locations for event attendees to be distributed by attendants at the on-site parking lot could also be utilized. This information should direct event attendees to any of the various parking locations identified above.

In addition, by providing attendees with appropriate parking areas it can help to mitigate the possibility of attendees utilizing other undesirable parking locations including the nearby residential properties directly north and south of the Project as well as those on the east side of Route 9D opposite the Project site.

Dissemination of Public Transportation Information

Similar to the above, the Project owners should also disseminate and encourage the use of public transportation by event attendees in order to reduce the overall parking demand of the Project, as well as the Project traffic generation. This can include information on available metro-north train schedules, Duchess County bus schedules and any other relevant public transportation information.

Provision of Valet Parking

For certain events, such as weddings, it may be possible and desirable to provide valet parking on the Project site utilizing the on-site parking facilities or nearby off-site parking locations. For certain events it may even be possible to accommodate all event and hotel parking on the Project Site with valet parking by using tandem parking and other areas that may not otherwise be available for parking under typical parking conditions. This could be done by utilizing outside valet parking services for those specific events for which valet parking may be possible. This could be a service provided by the Project Owners and offered to event coordinators as appropriate. This should be considered for all reasonably appropriate events in order to further limit the need for the use of off-site public parking for event attendee parking.

V. Summary and Conclusion

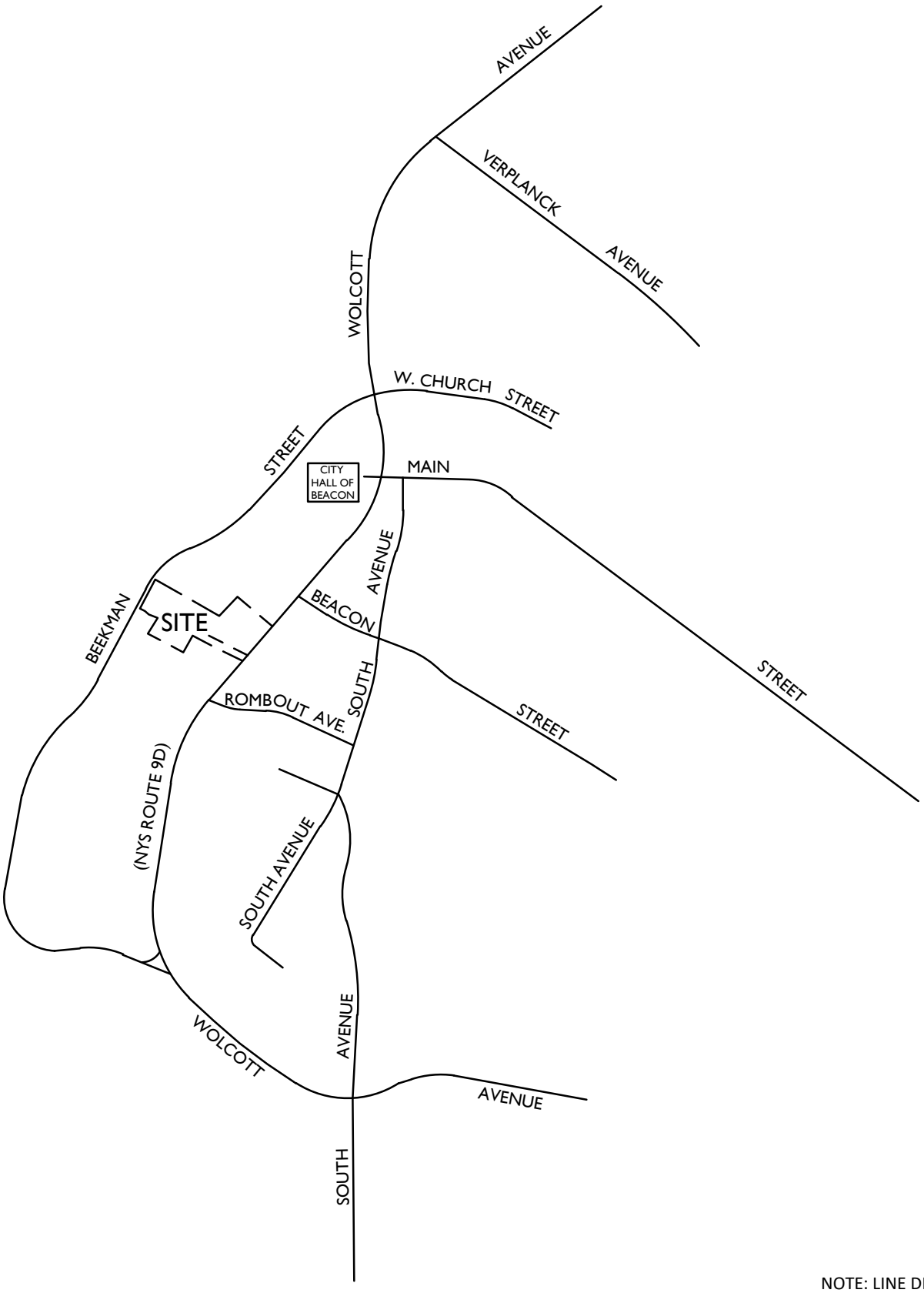
As summarized here-in the Project is not anticipated to have a significant impact on traffic conditions in the vicinity of the Project site. Recommendations for traffic signal phasing and timing modifications at the intersection of Wolcott Avenue (Route 9D) and Beekman Street should be explored regardless of the proposed Project in order to reduce delays on the eastbound Beekman Street approach. These modifications would require the review and approval of the NYSDOT who owns and maintains the traffic signal at that location.

As previously noted, any modifications to the existing Site access driveways will also require review and approval by the NYSDOT and a Highway Work Permit will need to be obtained for those modifications.

The above parking analysis indicates that the Project will provide the required parking for the proposed Hotel use, but all additional parking for the café/event space will need to be accommodated by public parking in the vicinity of the Project. As noted above there is sufficient available parking in the vicinity of the Site to accommodate the Project parking needs, however several recommendations should be implemented to reduce the use of public parking in the area to the greatest extend possible.

Appendix

Appendix A | Traffic Figures



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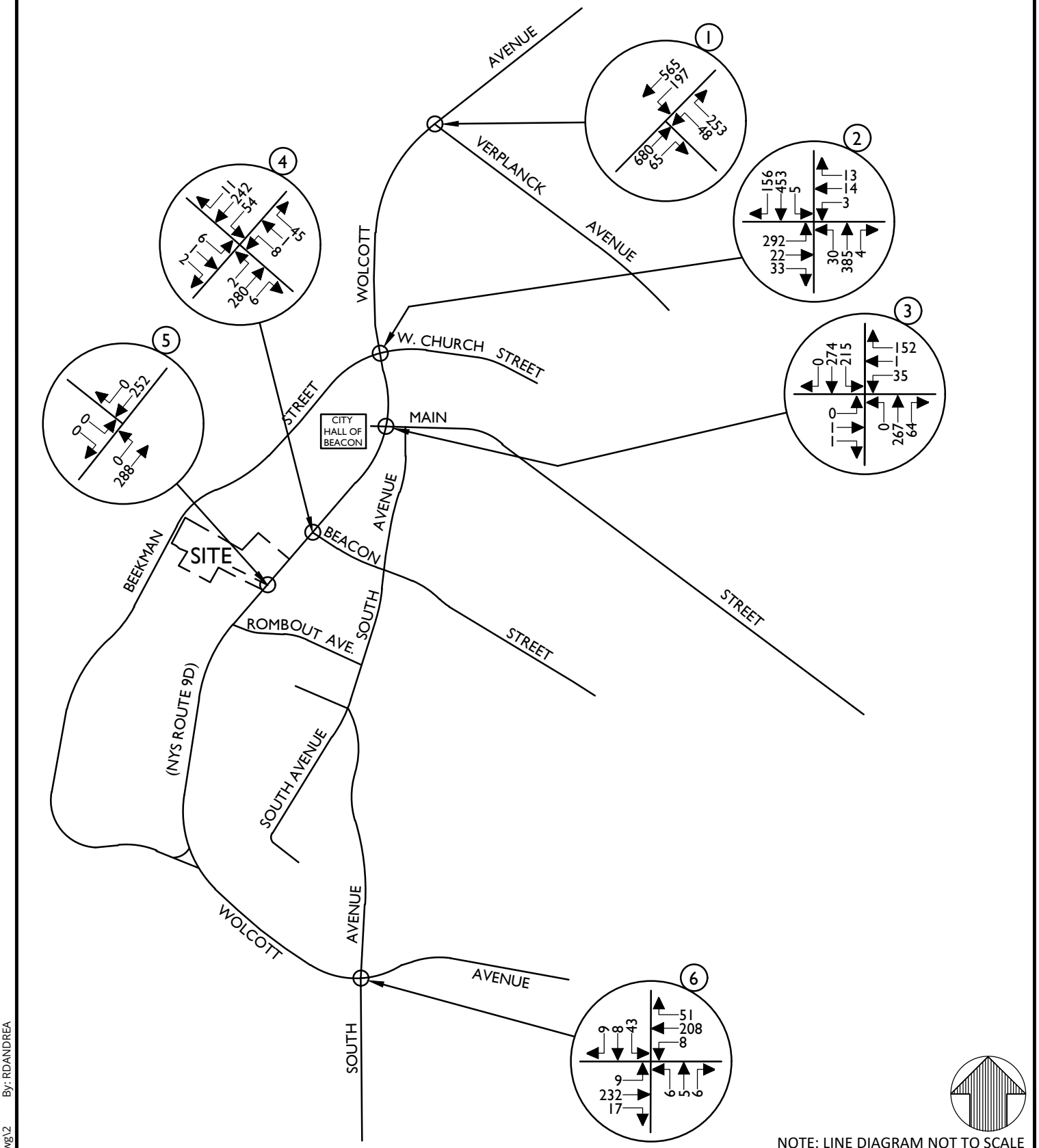

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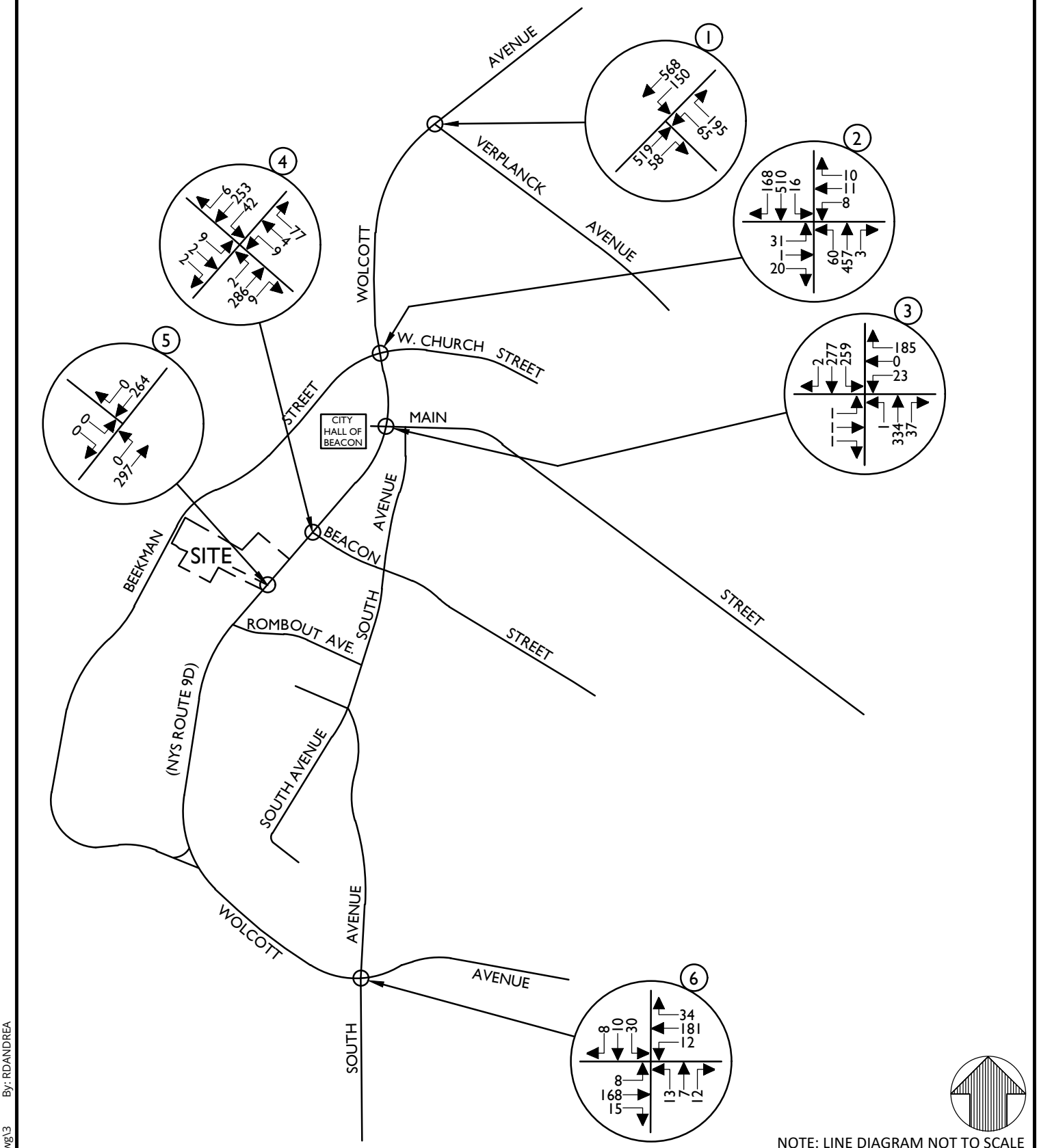

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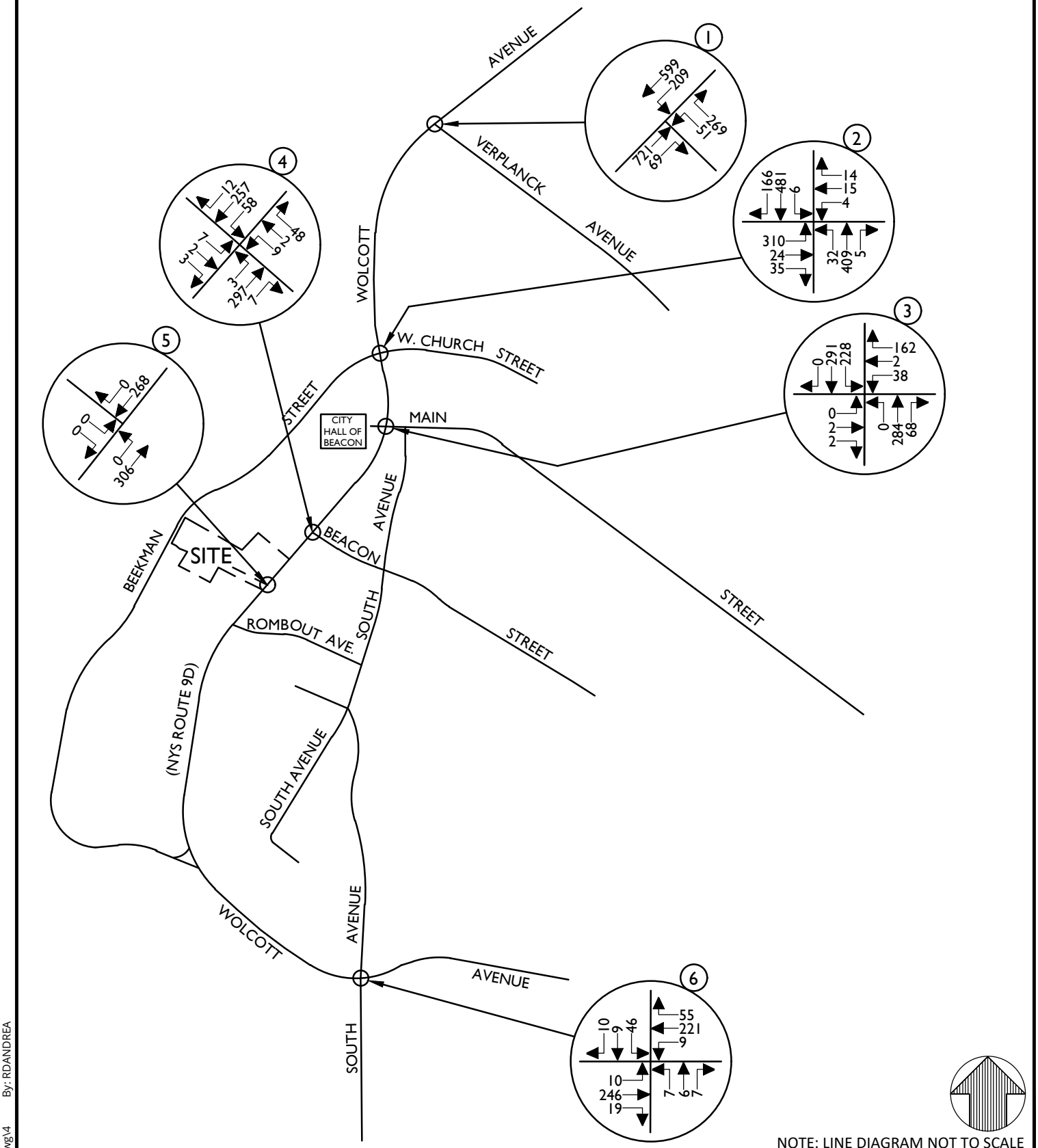

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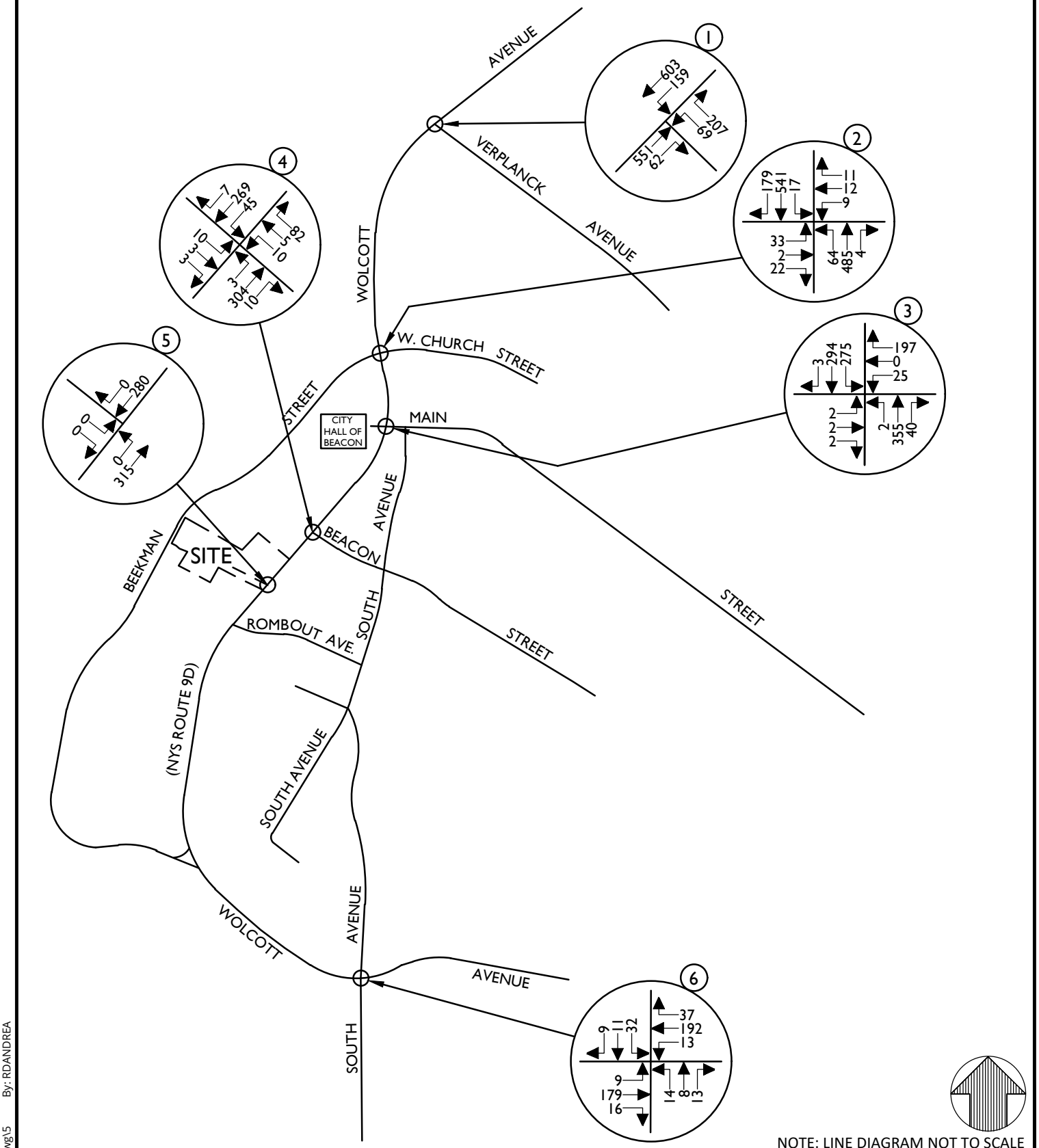

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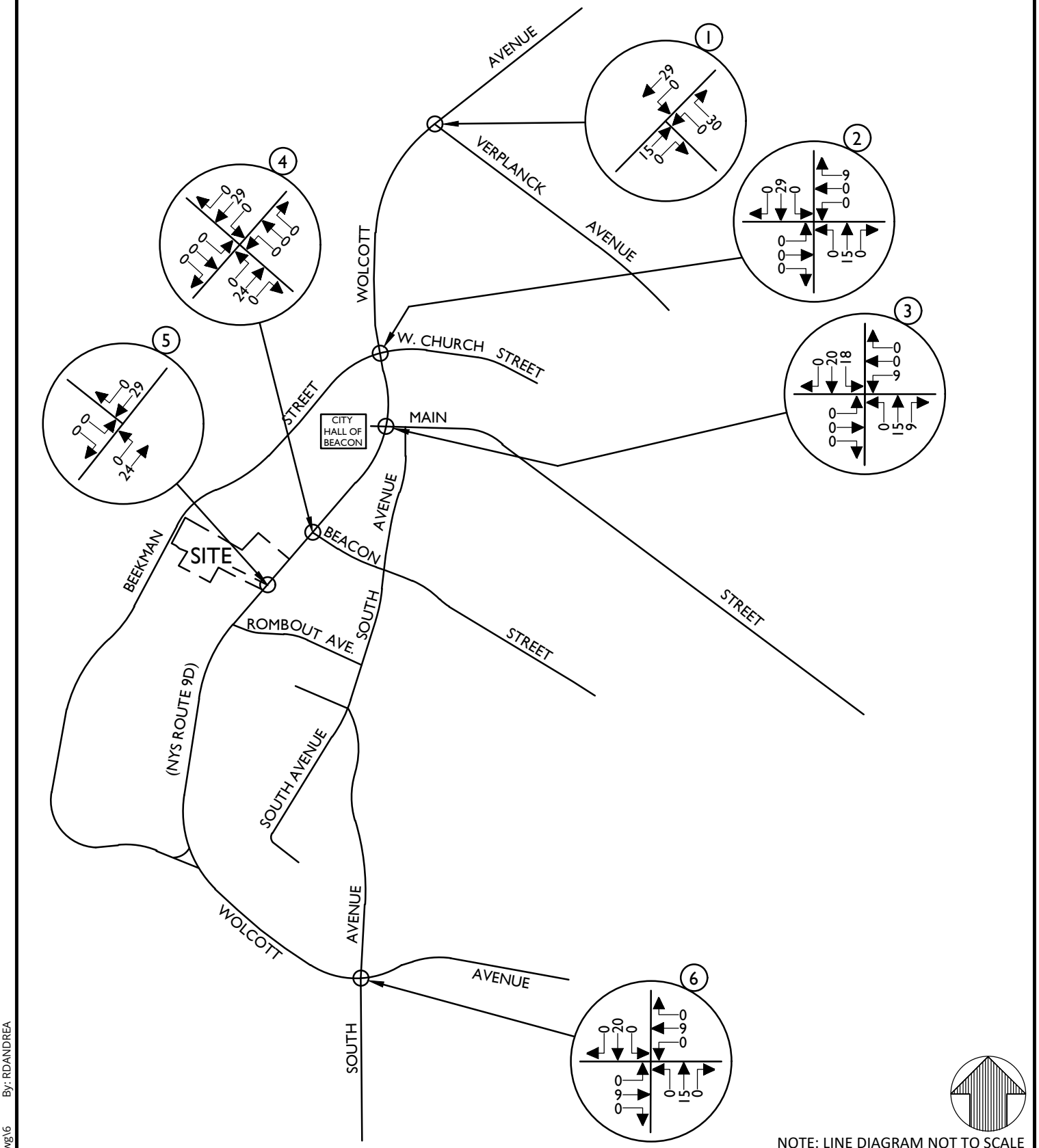

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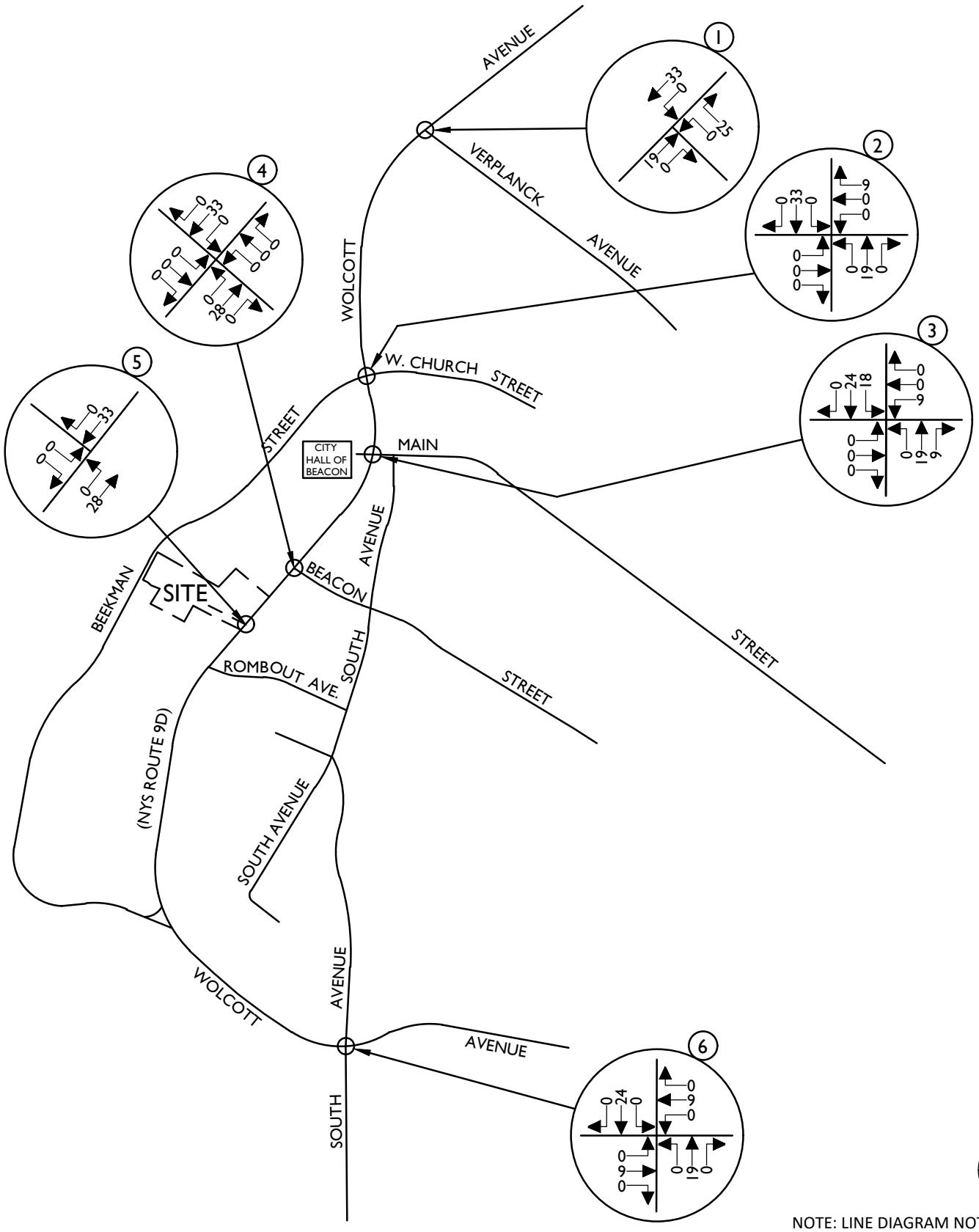

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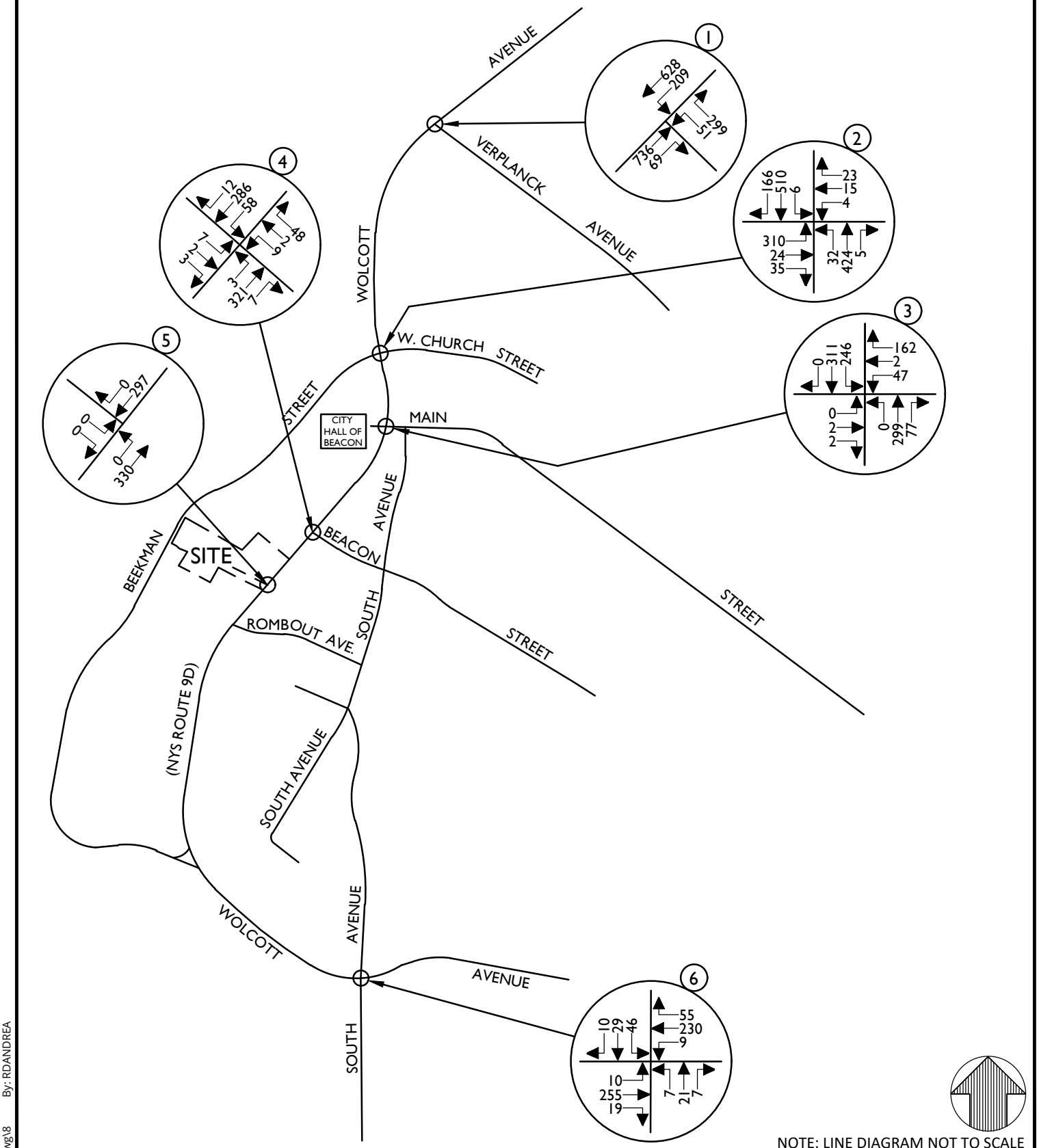

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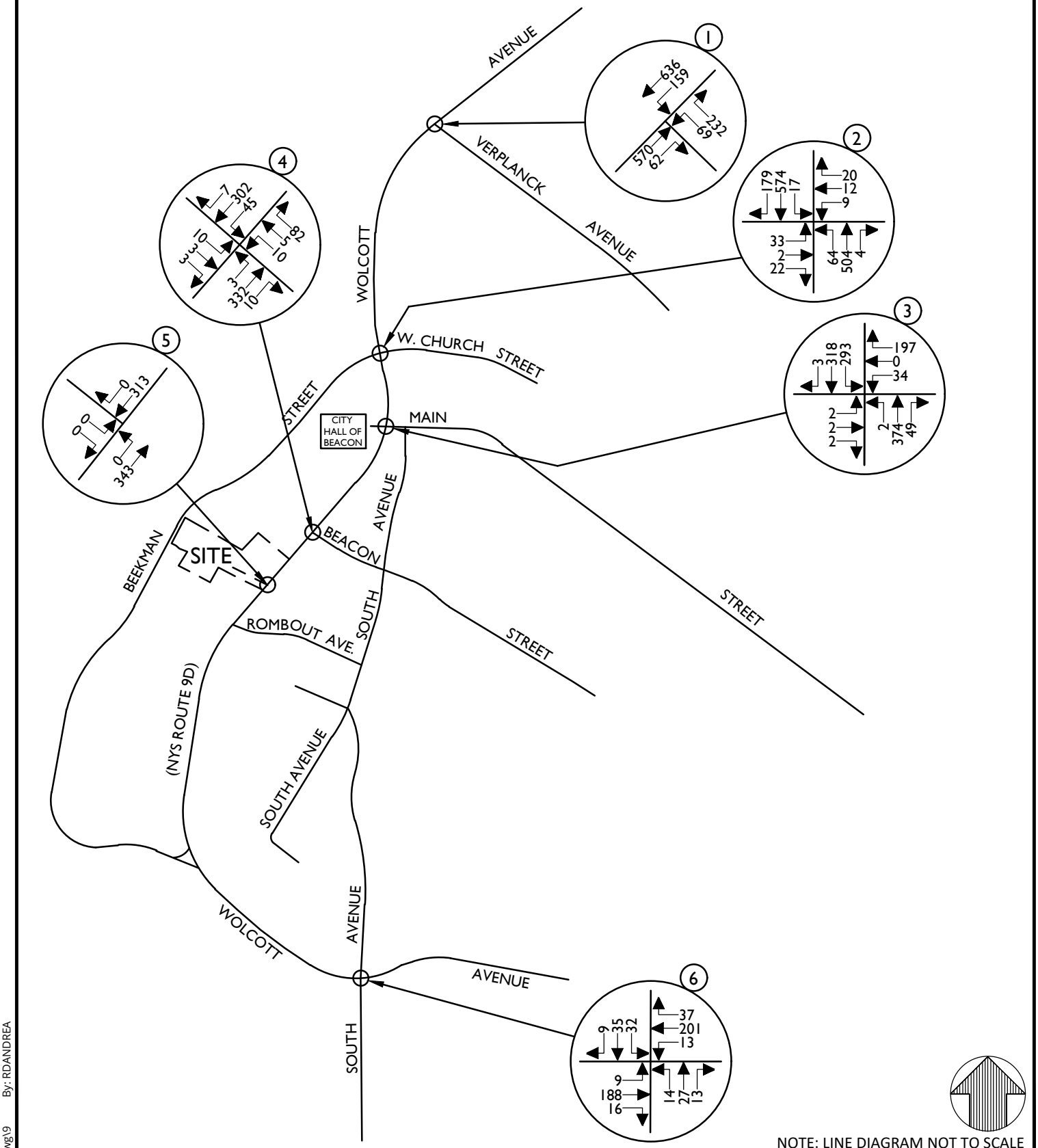

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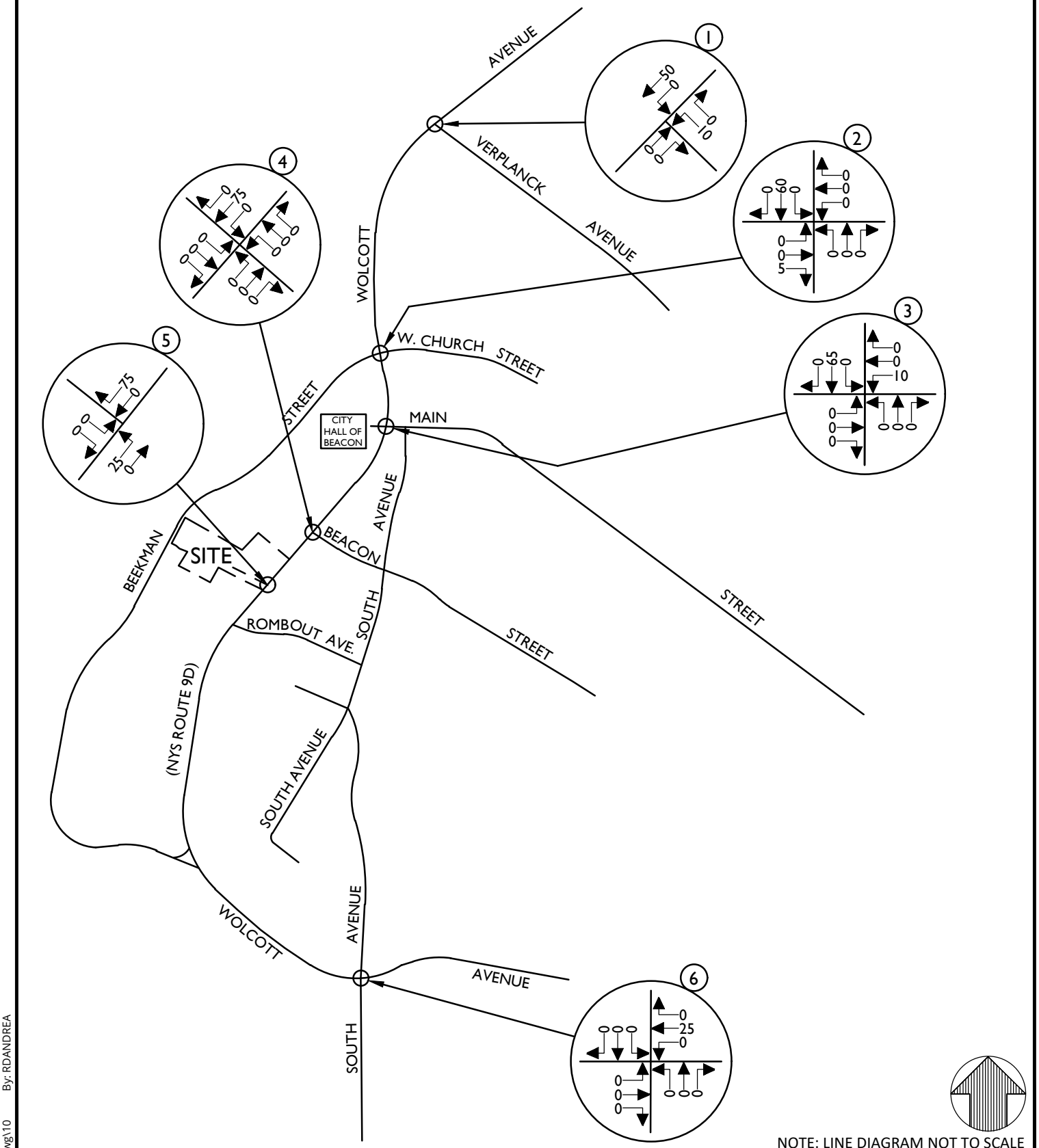

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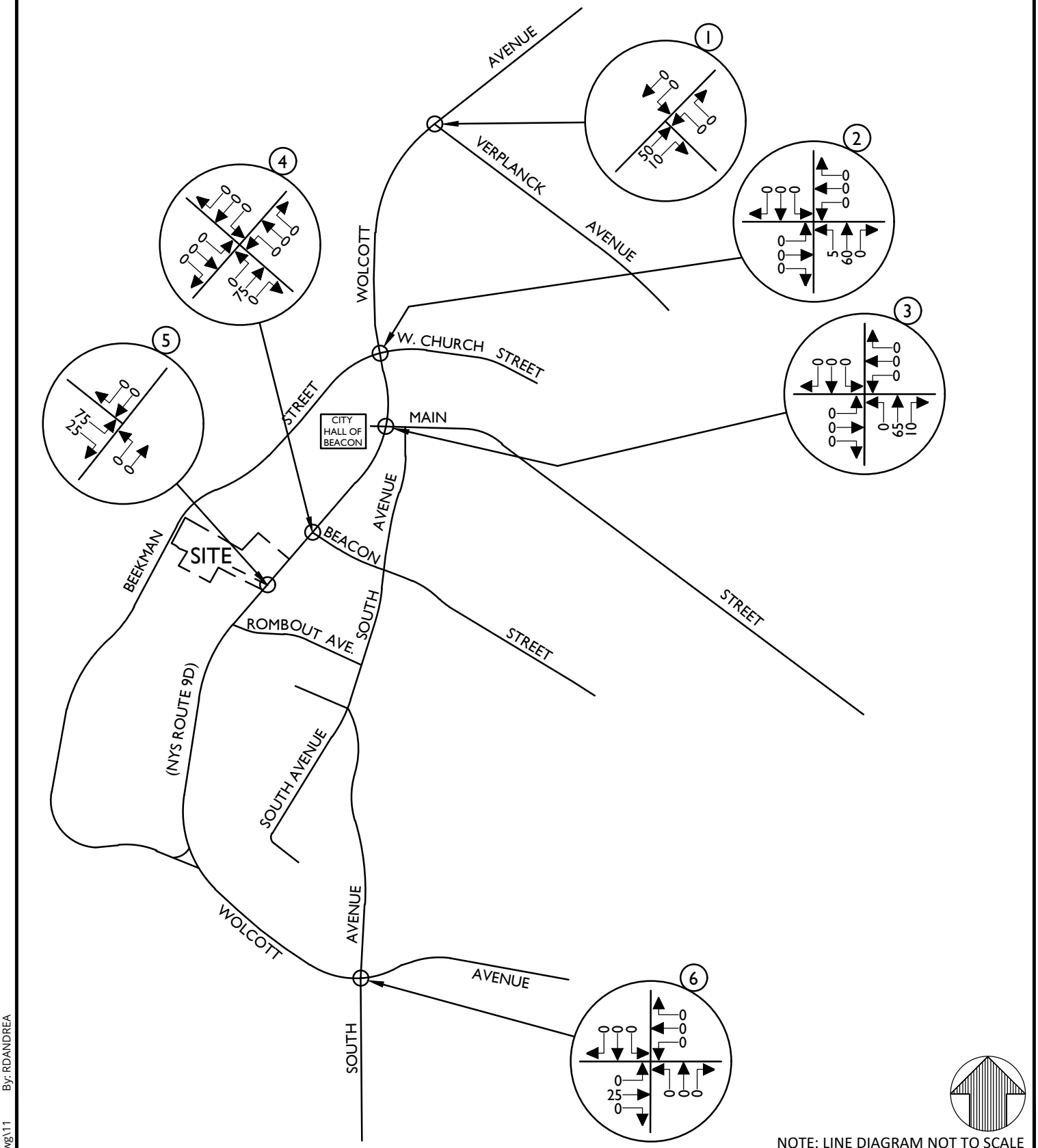

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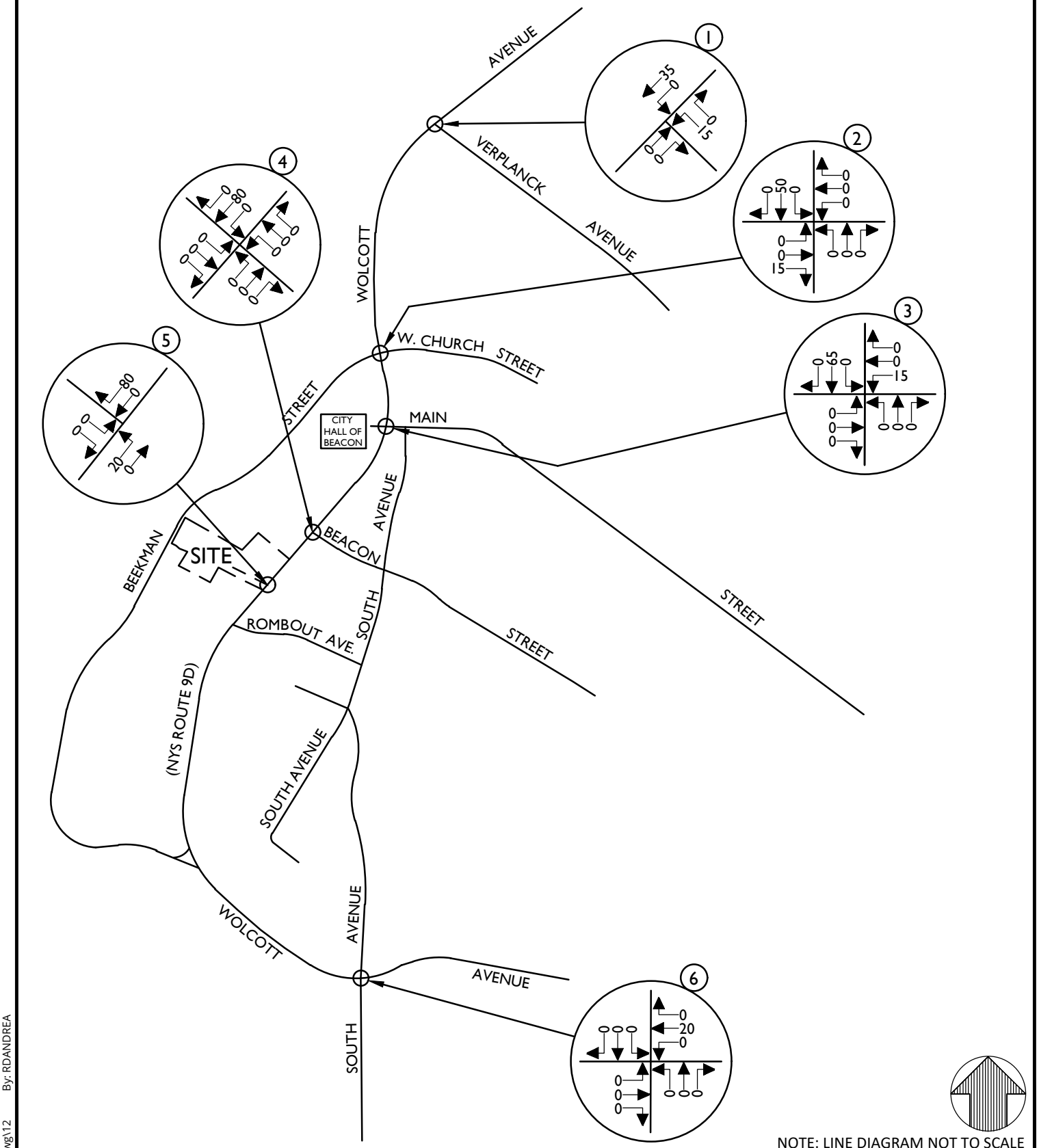
PROJECT NUMBER:	DRAWING NAME:
21004333A	211119RGD_FIGURE

SHEET TITLE:
HOTEL DEPARTURE DISTRIBUTION
(EXPRESSED AS A %)

SHEET NUMBER:
11

\AcPublish_22372\211119RGD_FIGURE.dwg\11 By: RDANDREA



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PROJECT NUMBER:	DRAWING NAME:
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SHEET TITLE:
CAFE/EVENT
ARRIVAL DISTRIBUTION
(EXPRESSED AS A %)

SHEET NUMBER: 12

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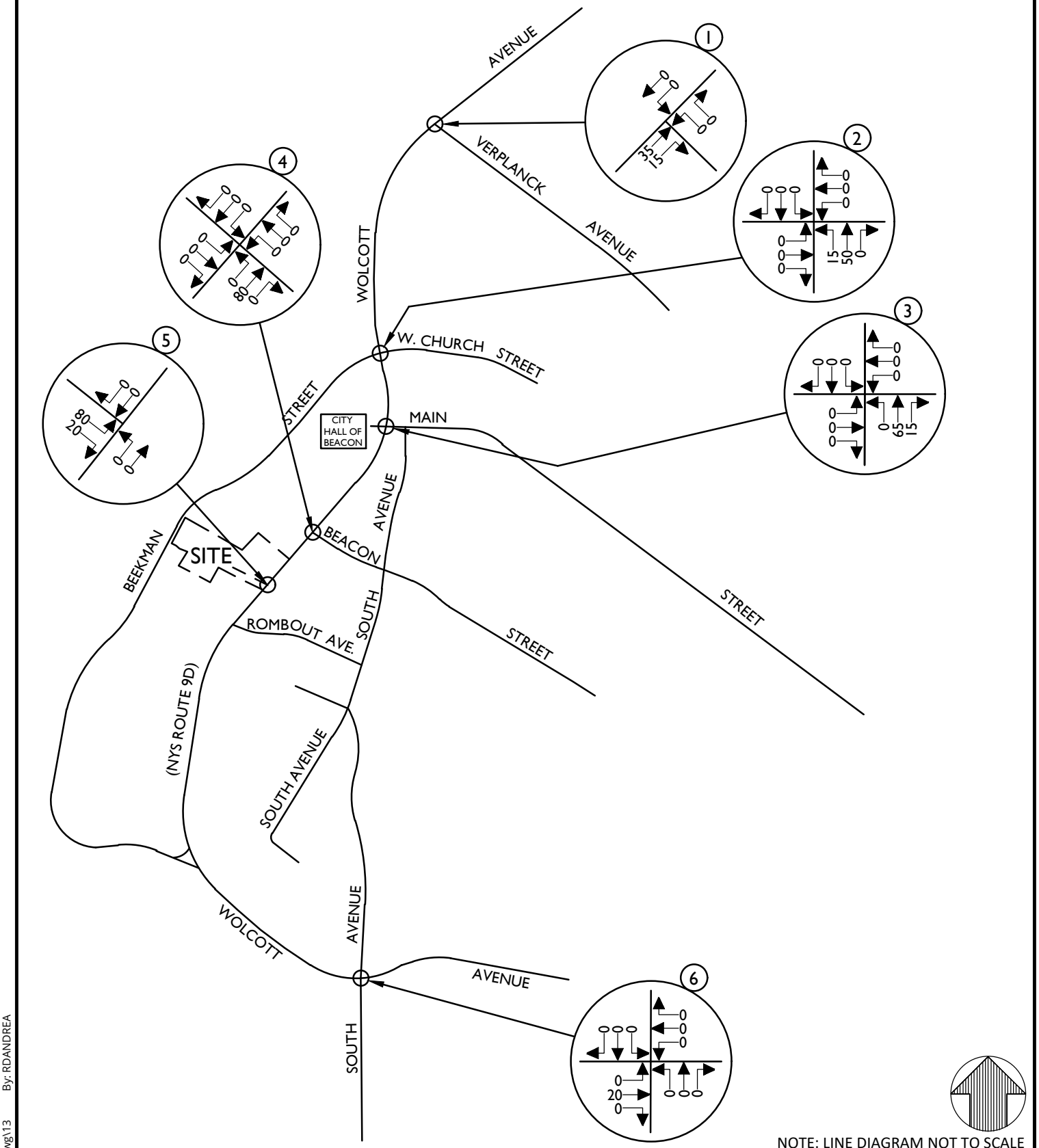

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PROJECT NUMBER:	DRAWING NAME:
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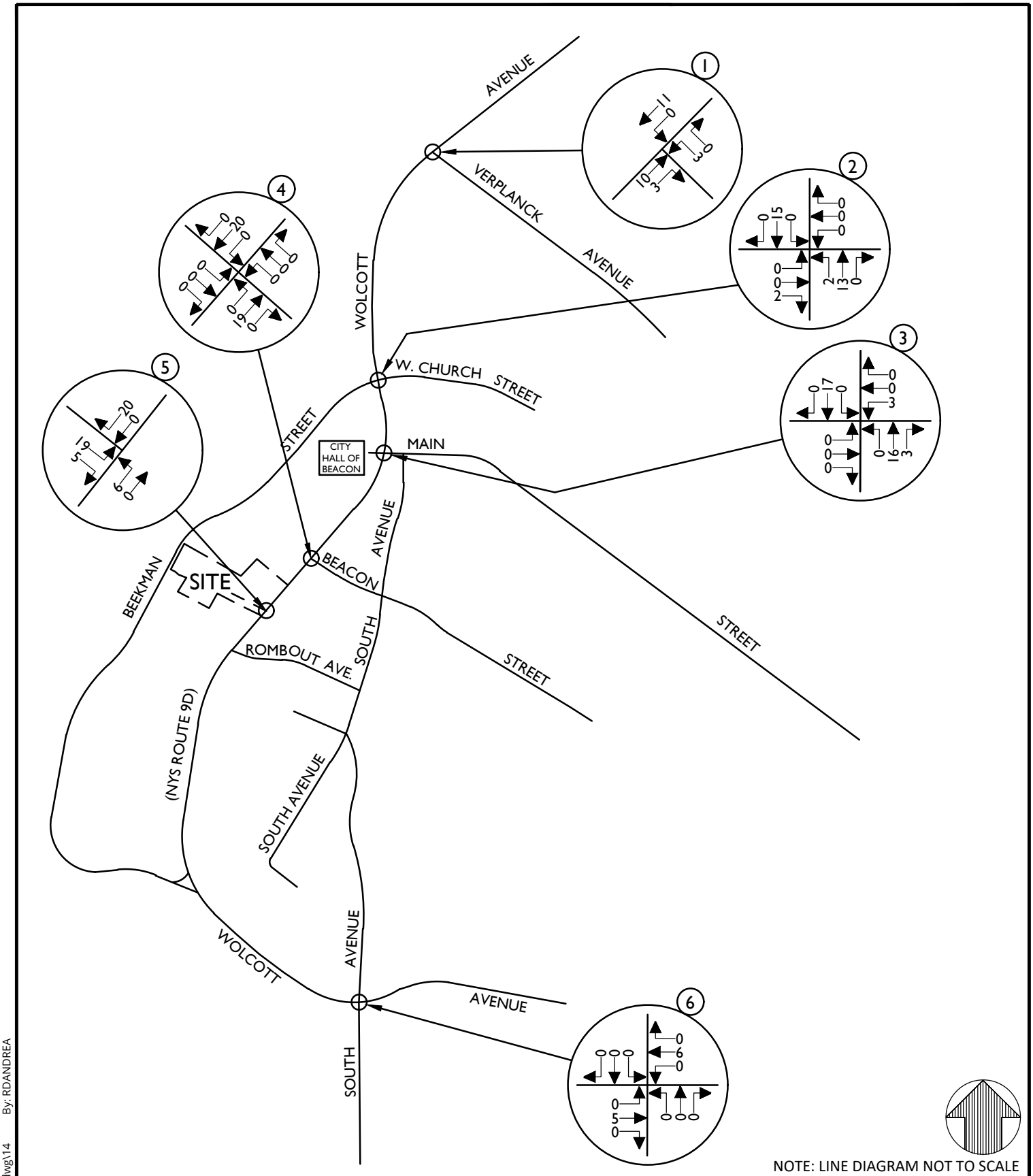
SHEET TITLE:
CAFE/EVENT
DEPARTURE DISTRIBUTION
(EXPRESSED AS A %)

SHEET NUMBER:
13

\AcPublish_22372\211119RGD_FIGURE.dwg\13 By: RDANDREA



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PROJECT NUMBER:	DRAWING NAME:
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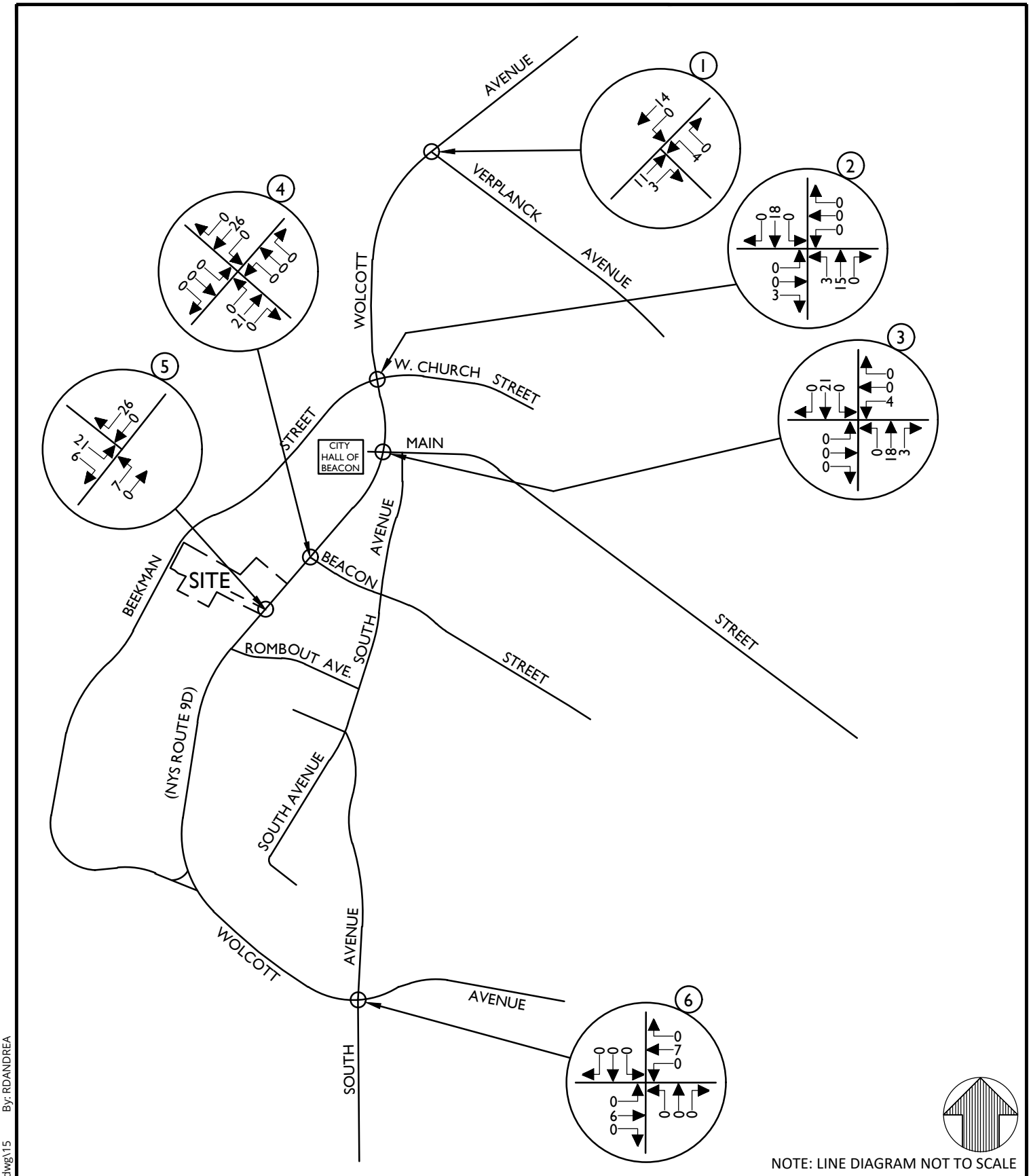
SHEET TITLE:
TYPICAL CONDITIONS
SITE GENERATED TRAFFIC VOLUMES
FRIDAY PM PEAK HOUR

SHEET NUMBER:
14

\AcPublish_22372\211119RGD_FIGURE.dwg\14 By: RDANDREA



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PROJECT NUMBER:	DRAWING NAME:
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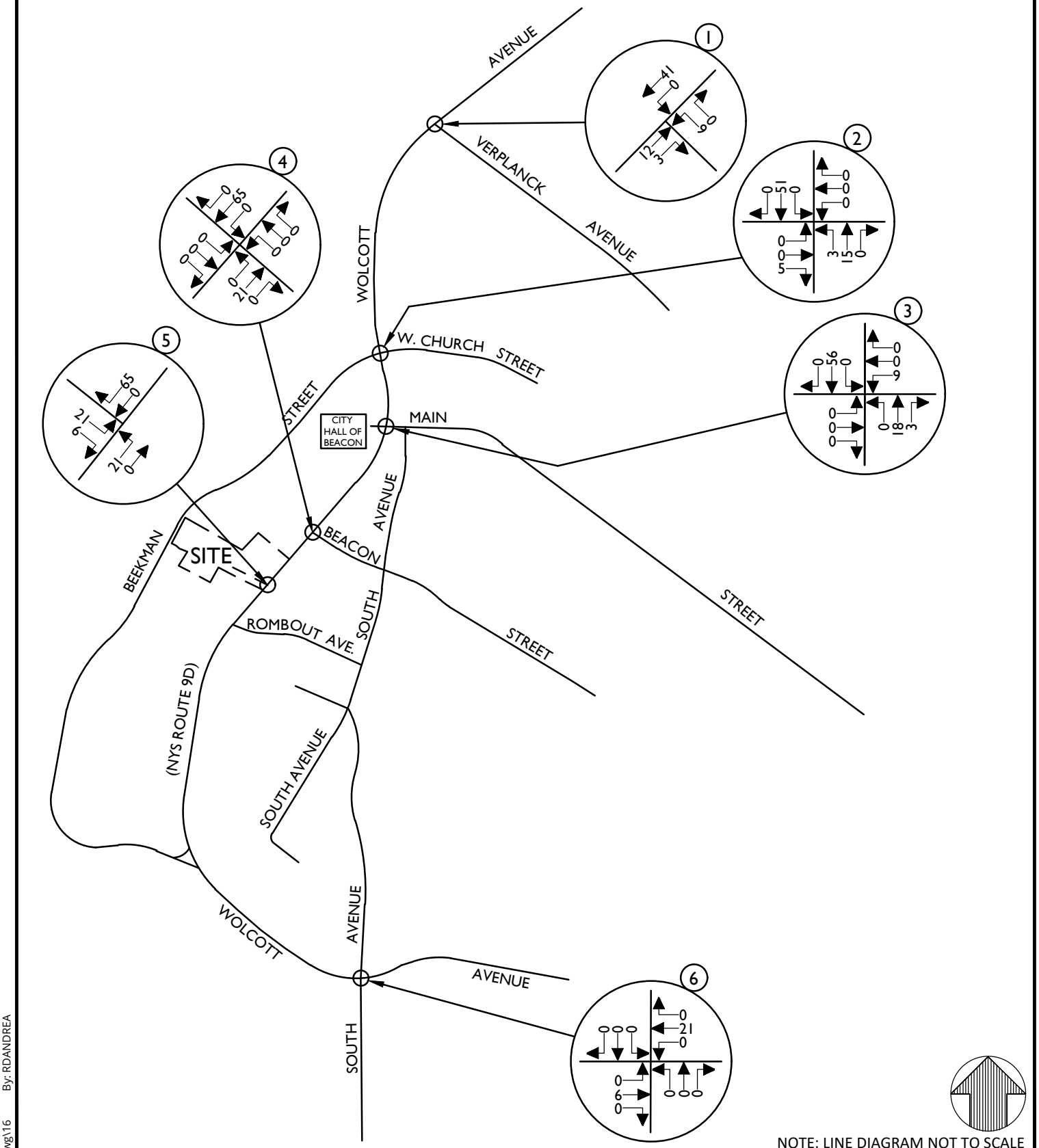
SHEET TITLE:
TYPICAL CONDITIONS
SITE GENERATED TRAFFIC VOLUMES
SATURDAY PEAK HOUR

SHEET NUMBER: 15

\AcPublish_22372\211119RGD_FIGURE.dwg\15 By: RDANDREA



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PROJECT NUMBER:	DRAWING NAME:
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SHEET TITLE:
EVENT ENTRY
SITE GENERATED TRAFFIC VOLUMES
FRIDAY PM PEAK HOUR

SHEET NUMBER: 16

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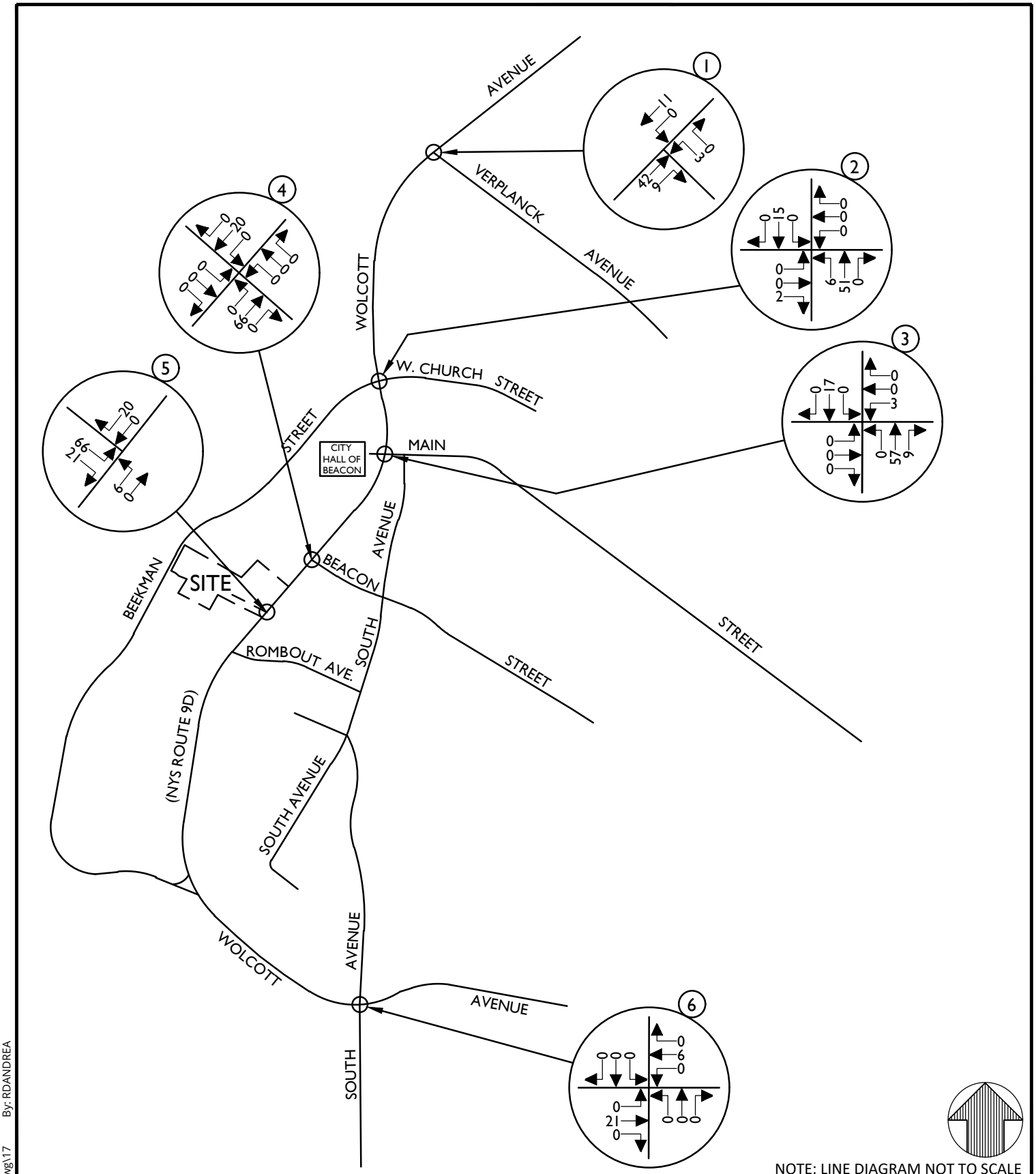

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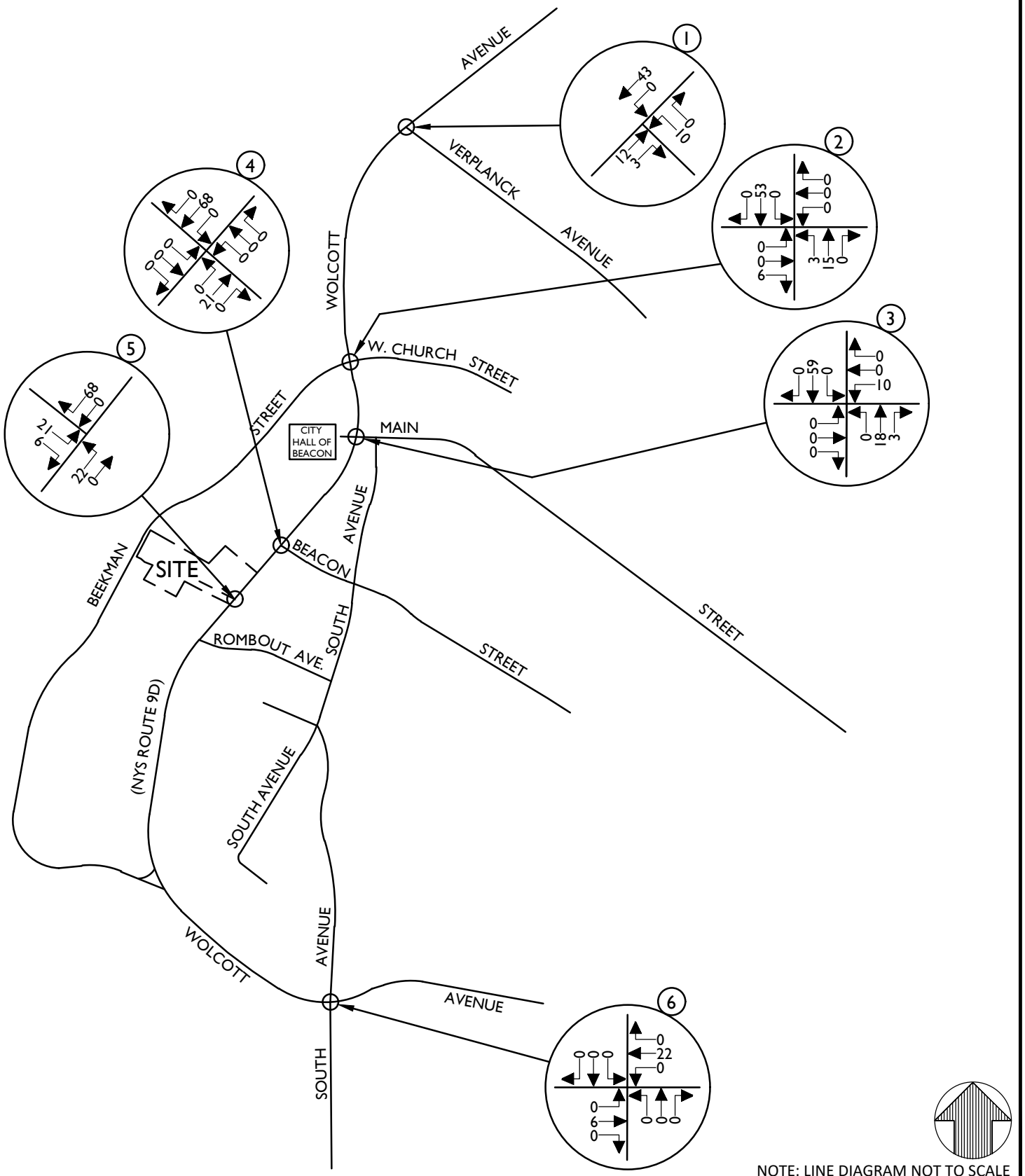
SHEET TITLE:
EVENT EXIT
SITE GENERATED TRAFFIC VOLUMES
FRIDAY PM PEAK HOUR

SHEET NUMBER: 17

\AcPublish_22372\211119RGD_FIGURE.dwg\17 By: RDANDREA



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PROJECT NUMBER:	DRAWING NAME:
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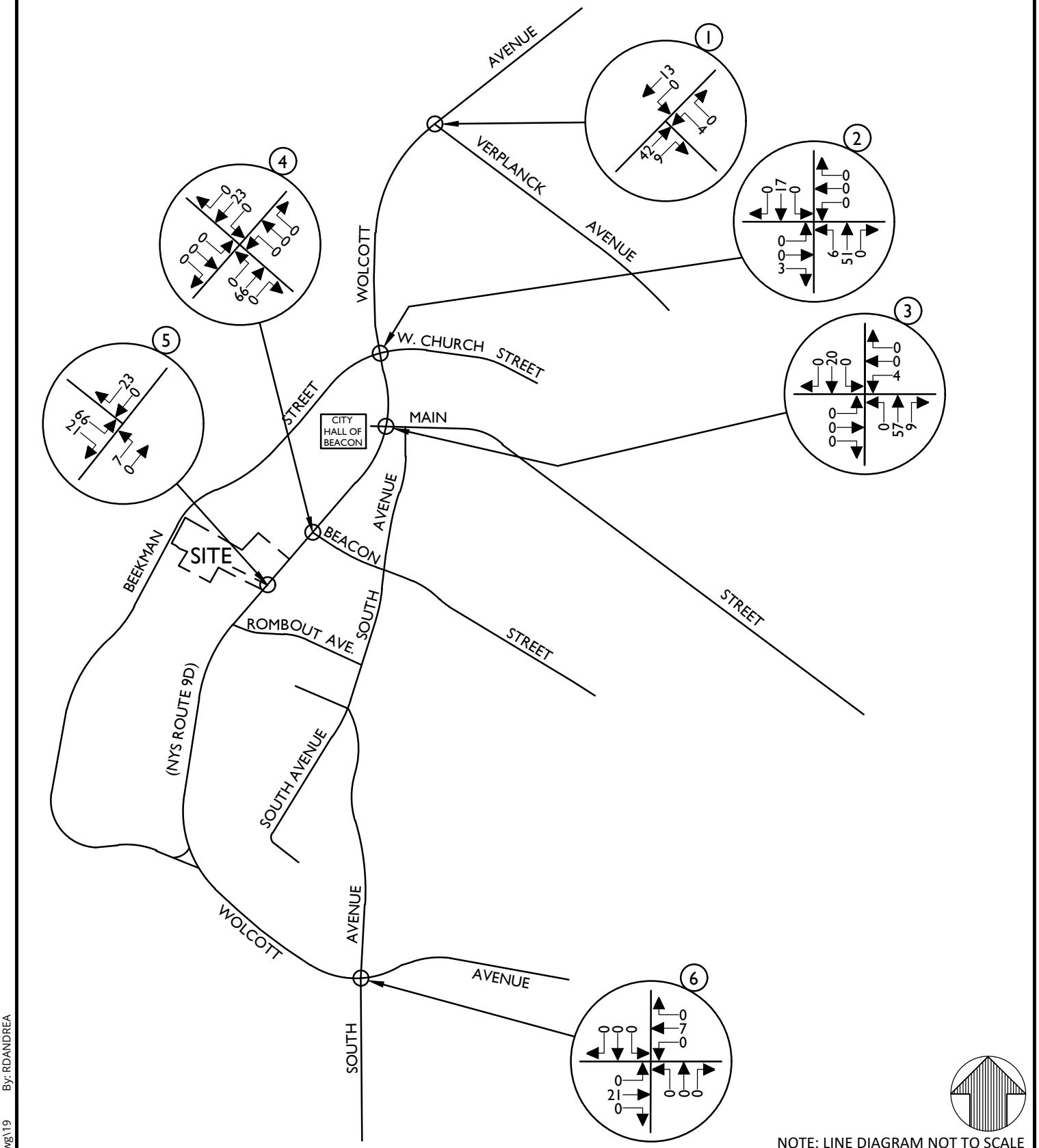
SHEET TITLE:
EVENT ENTRY
SITE GENERATED TRAFFIC VOLUMES
SATURDAY PEAK HOUR

SHEET NUMBER: 18

\AcPublish_22372\211119RGD_FIGURE.dwg\18 By: RDANDREA



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PROJECT NUMBER:	DRAWING NAME:
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SHEET TITLE:
EVENT EXIT
SITE GENERATED TRAFFIC VOLUMES
SATURDAY PEAK HOUR

SHEET NUMBER: 19

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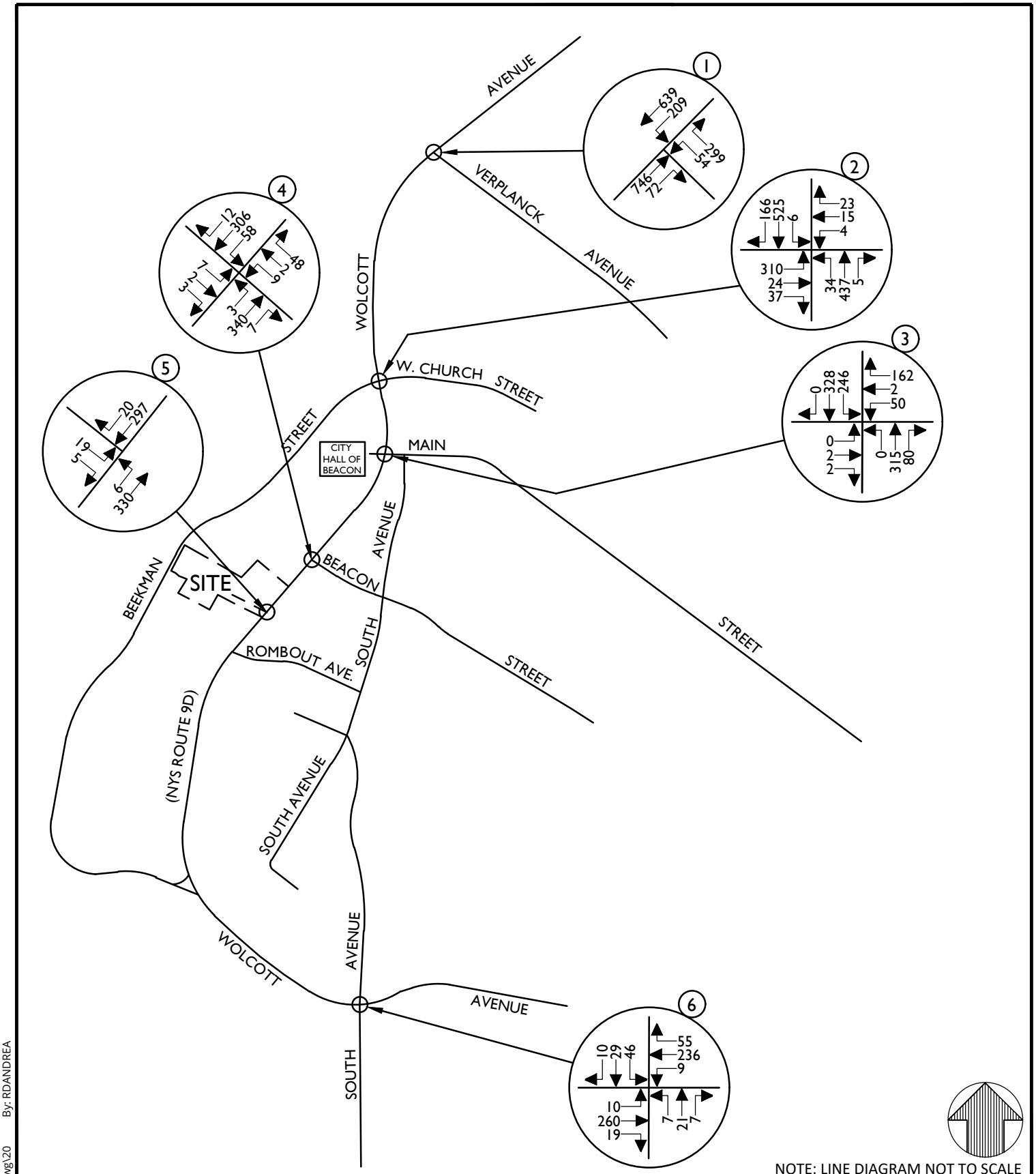

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PROJECT NUMBER:	DRAWING NAME:
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SHEET TITLE:
TYPICAL CONDITIONS
2024 BUILD TRAFFIC VOLUMES
FRIDAY PM PEAK HOUR

SHEET NUMBER:
20

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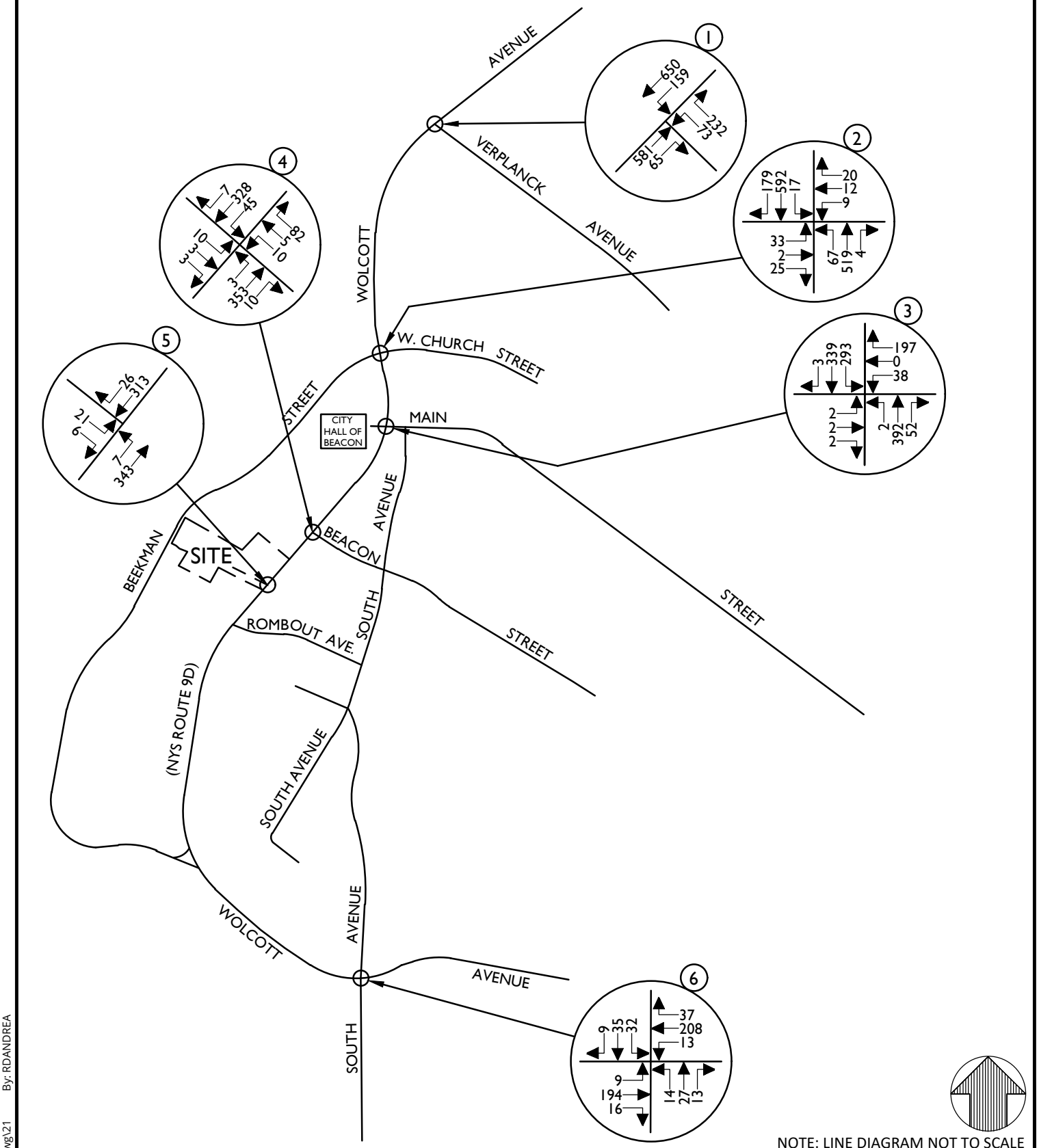

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PROJECT NUMBER:	DRAWING NAME:
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SHEET TITLE:
TYPICAL CONDITIONS
2024 BUILD TRAFFIC VOLUMES
SATURDAY PEAK HOUR

SHEET NUMBER: 21

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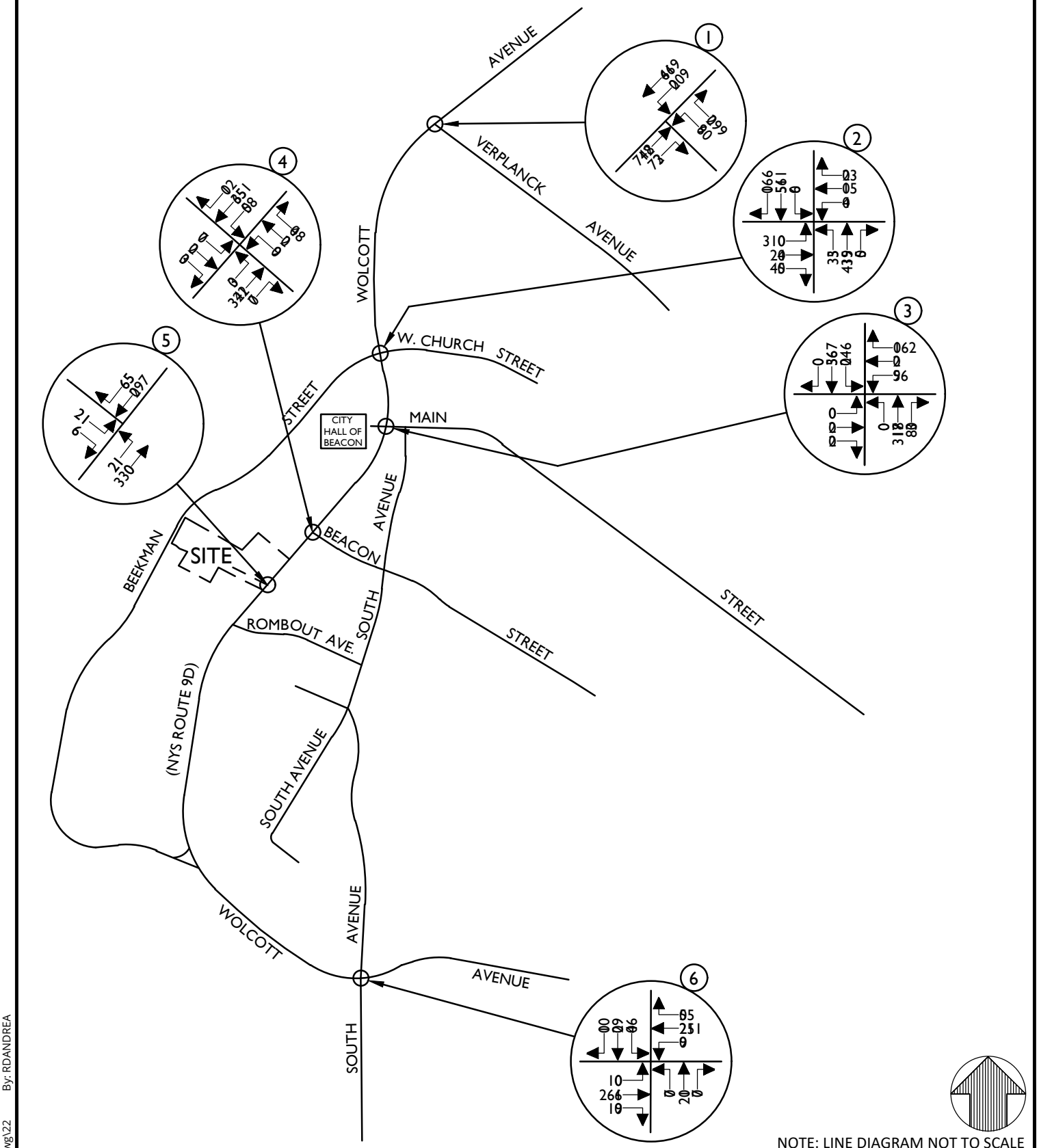

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PROJECT NUMBER:	DRAWING NAME:
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SHEET TITLE:
EVENT ENTRY
2024 BUILD TRAFFIC VOLUMES
FRIDAY PM PEAK HOUR

SHEET NUMBER: 22

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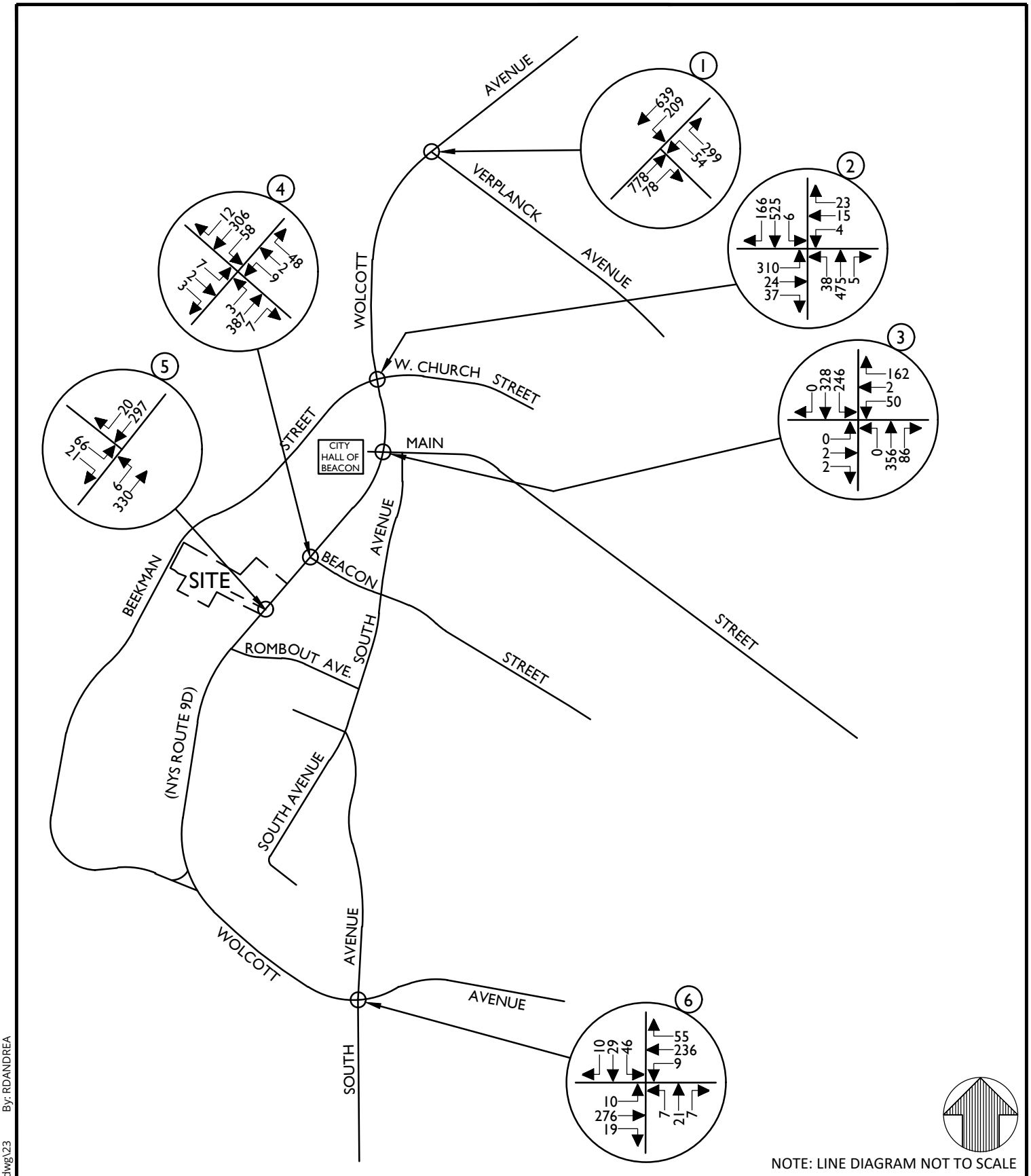

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PROJECT NUMBER:	DRAWING NAME:
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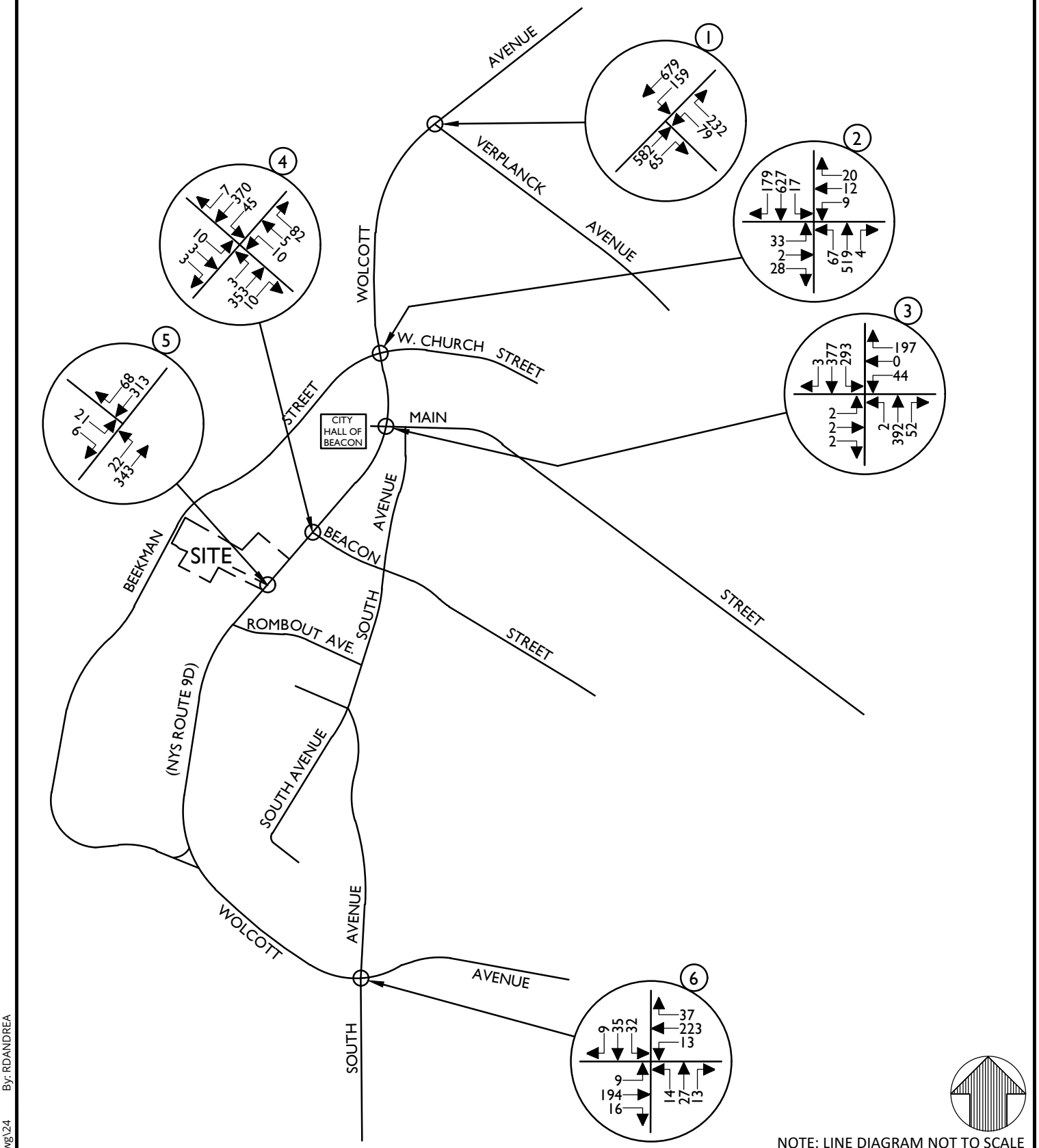
SHEET TITLE:
EVENT EXIT
2024 BUILD TRAFFIC VOLUMES
FRIDAY PM PEAK HOUR

SHEET NUMBER: 23

\AcPublish_22372\211119RGD_FIGURE.dwg\23 By: RDANDREA



NOTE: LINE DIAGRAM NOT TO SCALE

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PROPHECY THEATER

1113 WOLCOTT AVENUE
(NYS ROUTE 9D)
CITY OF BEACON
DUTCHESS COUNTY
NEW YORK

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ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
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TRAFFIC IMPACT STUDY

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	10/5/21	R.H.	P.J.G.

PROJECT NUMBER:	DRAWING NAME:
21004333A	211119RGD_FIGURE

SHEET TITLE:
EVENT ENTRY
2024 BUILD TRAFFIC VOLUMES
SATURDAY PEAK HOUR

SHEET NUMBER: 24

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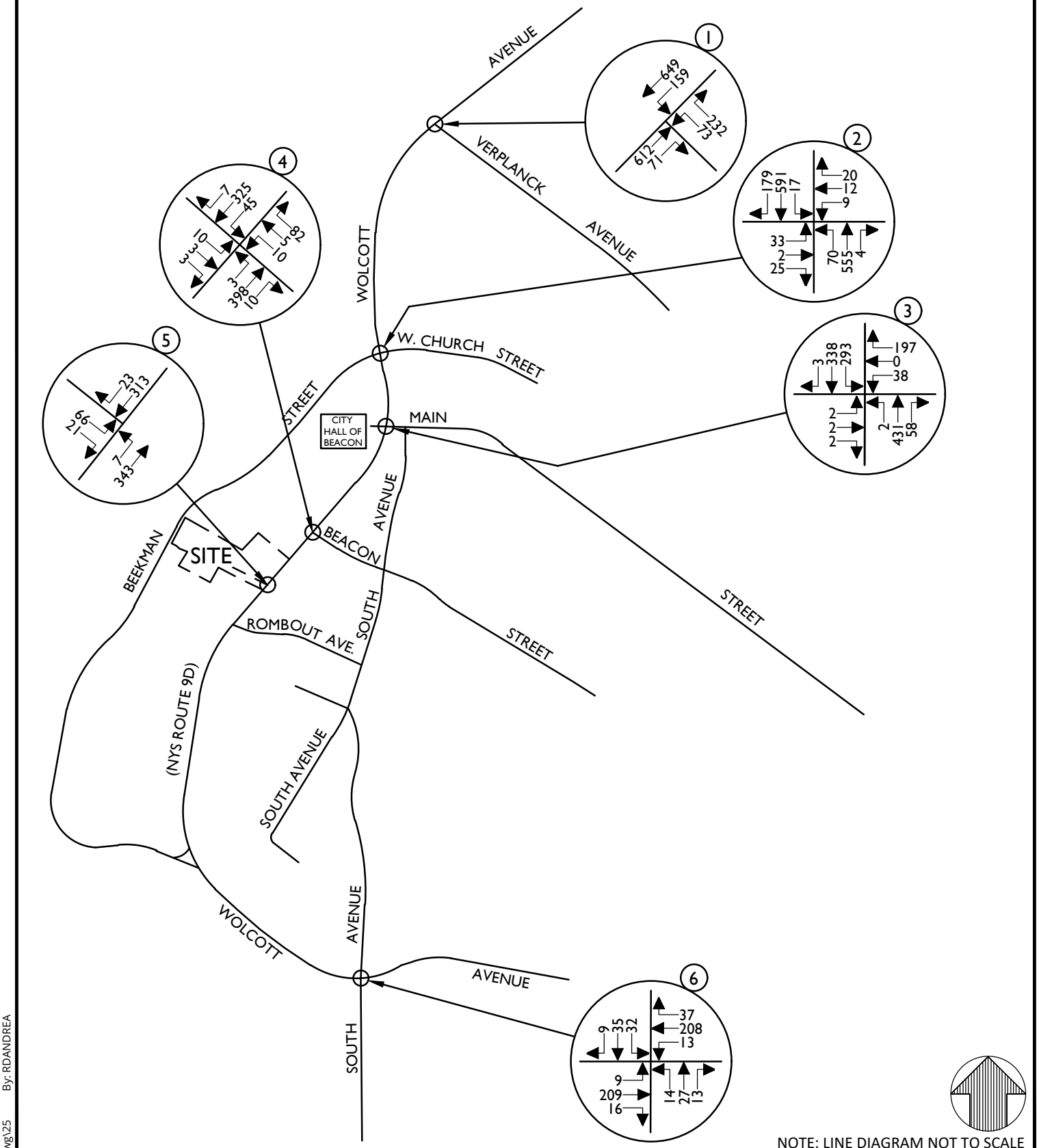

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21004333A	211119RGD_FIGURE

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EVENT EXIT
2024 BUILD TRAFFIC VOLUMES
SATURDAY PEAK HOUR

SHEET NUMBER: 25

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Appendix

Appendix B | Tables

Table No. 1
Hourly Trip Generation Rates (HTGR) and
Anticipated Site Generated Traffic Volumes

1113 Wolcott Avenue City of Beacon, New York	Entry			Exit			Total Trips
	HTGR[1]	Volume	New Trips[2]	HTGR1	HTGR[1]	New Trips[2]	
Typical Conditions							
Weekday Peak PM Hour							
Hotel (30 Rooms)	0.37	11	9	0.40	12	8	17
Café (125 Seats)	0.12	15	12	0.10	12	9	21
Total	-	**26**	**21**	-	**24**	**17**	**38**
Saturday Midday Peak Hour							
Hotel (30 Rooms)	0.60	18	14	0.50	15	12	26
Café (125 Seats)	0.12	15	12	0.10	12	9	21
Total	-	**33**	**26**	-	**27**	**21**	**47**
Event Conditions							
Weekday Peak Event Entry Hour							
Hotel (30 Rooms)	0.37	11	6	0.40	12	8	14
Event (350 Persons)	1.02	127	90	0.20	25	15	105
Total	-	**138**	**96**	-	**37**	**23**	**119**
Weekday Peak Event Exit Hour							
Hotel (30 Rooms)	0.37	11	6	0.40	12	8	14
Event (350 Persons)	0.20	25	14	1.02	127	91	105
Total	-	**36**	**20**	-	**139**	**99**	**119**
Saturday Peak Event Entry Hour							
Hotel (30 Rooms)	0.50	15	8	0.40	12	6	14
Event (350 Persons)	1.02	127	88	0.20	25	13	101
Total	-	**142**	**96**	-	**37**	**19**	**115**
Saturday Peak Event Exit Hour							
Hotel (30 Rooms)	0.50	15	8	0.40	12	6	14
Event (350 Persons)	0.20	25	12	1.02	127	89	101
Total	-	**40**	**20**	-	**139**	**95**	**115**

NOTES:

1) The Hotel and Café Hourly Trip Generation Rates (HTGR) are based on data published by the Institute of Transportation Engineers (ITE) as contained in the Trip Generation Handbook, 10TH Edition, 2017. ITE Land Use Code - 310 - Hotel and Land Use - 932 - High-Turnover (Sit-Down) Restaurant. The Event traffic generation is based on a 4 Persons per Vehicle car occupancy ratio for the maximum of 300 guests. It is assumed that all guests will enter in a one hour period prior to the event and exit in a one hour period following the event.

Table No. 2
Level of Service Summary Table
Friday PM Peak Hour

				2021 Existing			2024 No-Build			2024 Build Typical Conditions			2024 Build Event Entry Conditions			2024 Build Event Exit Conditions		
				v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay
1	**NYS Route 9D & Verplanck Avenue**	**Signalized**																
	Verplanck Avenue	WB	L	0.14	D	39.6	0.16	D	40.8	0.16	D	39.9	0.18	D	40.2	0.16	D	39.9
			R	0.53	D	36.4	0.64	D	41.1	0.63	D	39.6	0.63	D	39.6	0.63	D	39.6
		WB Approach			*D*	*36.9*		*D*	*41.0*		*D*	*39.6*		*D*	*39.7*		*D*	*39.6*
	NYS Route 9D	NB	TR	0.83	C	30.8	0.88	D	35.2	0.91	D	38.5	0.93	D	38.8	0.95	D	45.3
		NB Approach			*C*	*30.8*		*D*	*35.2*		*D*	*38.5*		*D*	*38.8*		*D*	*45.3*
	NYS Route 9D	SB	L	0.54	C	25.3	0.63	C	31.9	0.66	C	34.6	0.66	D	35.1	0.72	D	45.2
			T	0.46	A	8.8	0.51	A	9.3	0.52	A	9.6	0.55	A	10.0	0.52	A	9.6
		SB Approach			*B*	*13.0*		*B*	*14.9*		*B*	*15.8*		*B*	*16.0*		*B*	*18.4*
		Overall			**C**	**24.4**		**C**	**27.7**		**C**	**29.1**		**C**	**29.2**		**C**	**33.2**
2	**NYS Route 9D & Beekman Street/W. Church Street**	**Unsignalized**																
	Beekman Street	EB	LT	2.17	F	573.4	2.33	F	647.2	2.33	F	648.2	2.34	F	659.2	2.34	F	650.6
			R	0.08	B	17.1	0.08	B	17.2	0.09	B	17.3	0.10	B	17.4	0.09	B	17.4
		EB Approach			*F*	*520.9*		*F*	*587.9*		*F*	*585.5*		*F*	*582.1*		*F*	*587.6*
	W. Church Street	WB	LTR	0.09	B	18.4	0.12	B	18.5	0.12	B	18.5	0.12	B	18.6	0.12	B	18.6
		WB Approach			*B*	*18.4*		*B*	*18.5*		*B*	*18.5*		*B*	*18.6*		*B*	*18.6*
	NYS Route 9D	NB	L	0.16	B	17.1	0.21	B	19.0	0.23	B	19.6	0.28	C	21.0	0.26	B	19.8
			TR	0.54	B	19	0.60	C	20.2	0.61	C	20.6	0.62	C	20.7	0.67	C	22
		NB Approach			*B*	*18.9*		*C*	*20.1*		*C*	*20.5*		*C*	*20.7*		*C*	*21.9*
	NYS Route 9D	SB	L	0.01	B	14.4	0.02	B	14.7	0.02	B	14.8	0.02	B	14.9	0.02	B	15.3
			TR	0.83	C	31.3	0.92	D	40.6	0.94	D	44.0	0.99	D	53.5	0.94	D	44.4
		SB Approach			*C*	*31.2*		*D*	*40.4*		*D*	*43.7*		*D*	*53.2*		*D*	*44.2*
		Overall			**F**	**172.5**		**F**	**191.1**		**F**	**189.6**		**F**	**190.0**		**F**	**186.0**
	<u>With Signal Timing & Phasing Modifications</u>																	
	Beekman Street	EB	LT	-	-	-	-	-	-	1.23	F	152.5	1.27	F	170.7	1.24	F	141.8
			R	-	-	-	-	-	-	0.15	C	22.1	0.17	C	23.3	0.15	C	22.2
		EB Approach		-	-	-	-	-	-		*F*	*139.8*		*F*	*155.0*		*F*	*141.8*
	W. Church Street	WB	LTR	-	-	-	-	-	-	0.83	E	59.6	0.84	E	61.4	0.83	E	60.0
		WB Approach		-	-	-	-	-	-		*E*	*59.6*		*E*	*61.4*		*E*	*60.0*
	NYS Route 9D	NB	L	-	-	-	-	-	-	0.20	B	16.1	0.22	B	16.7	0.22	B	16.2
			TR	-	-	-	-	-	-	0.61	B	15.1	0.59	B	14.8	0.66	B	16.1
		NB Approach		-	-	-	-	-	-		*B*	*15.2*		*B*	*14.9*		*B*	*16.1*
	NYS Route 9D	SB	L	-	-	-	-	-	-	0.02	B	12.2	0.02	B	11.9	0.02	B	12.6
			TR	-	-	-	-	-	-	0.93	C	33.4	0.94	D	36.3	0.93	C	33.7
		SB Approach		-	-	-	-	-	-		*C*	*33.2*		*D*	*36.1*		*C*	*33.5*
		Overall		**-**	**-**	**-**	**-**	**-**	**-**		**E**	**58.5**		**E**	**63.5**		**E**	**58.3**
3	**NYS Route 9D & Main Street/City Hall**	**Signalized**																
	City Hall	EB	LTR	0.02	C	23.7	0.03	C	23.7	0.03	C	23.7	0.03	C	23.7	0.03	C	23.7
		EB Approach			*C*	*23.7*		*C*	*23.7*		*C*	*23.7*		*C*	*23.7*		*C*	*23.7*
	Main Street	WB	LT	0.13	C	24.5	0.18	C	24.8	0.19	C	24.9	0.22	C	25.1	0.19	C	24.9
			R	0.56	C	24.2	0.59	C	24.5	0.59	C	24.5	0.59	C	24.5	0.59	C	24.5
		WB Approach			*C*	*24.2*		*C*	*24.6*		*C*	*24.6*		*C*	*24.6*		*C*	*24.6*
	NYS Route 9D	NB	L	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0
			TR	0.41	A	8.8	0.47	A	9.5	0.49	A	9.8	0.49	A	9.8	0.55	B	10.6
		NB Approach			*A*	*8.8*		*A*	*9.5*		*A*	*9.8*		*A*	*9.8*		*B*	*10.6*
	NYS Route 9D	SB	L	0.38	B	10.8	0.47	B	13.0	0.48	B	13.7	0.49	B	13.8	0.52	B	15.7
			TR	0.30	A	7.7	0.34	A	8.1	0.36	A	8.2	0.40	A	8.7	0.36	A	8.2
		SB Approach			*A*	*9.0*		*B*	*10.2*		*B*	*10.6*		*B*	*10.7*		*B*	*11.4*
		Overall			**B**	**11.6**		**B**	**12.5**		**B**	**12.7**		**B**	**12.8**		**B**	**13.3**

Table No. 2
Level of Service Summary Table
Friday PM Peak Hour

				2021 Existing			2024 No-Build			2024 Build Typical Conditions			2024 Build Event Entry Conditions			2024 Build Event Exit Conditions		
				v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay
4	**NYS Route 9D & Beacon Street/West End Lofts**	**Unsignalized**																
	West End Lofts	EB	LTR	0.04	C	17.9	0.06	C	20.4	0.07	C	21.9	0.07	C	23.3	0.07	C	23.9
	Beacon Street	WB	LTR	0.15	B	12.5	0.18	B	13.8	0.19	B	14.3	0.19	B	14.7	0.21	C	15.4
	NYS Route 9D	NB	LTR	0.00	A	7.8	0.00	A	7.9	0.00	A	8.0	0.00	A	8.1	0.00	A	8.0
	NYS Route 9D	SB	LTR	0.52	A	8.3	0.06	A	8.5	0.06	A	8.6	0.06	A	8.6	0.06	A	8.9
5	**NYS Route 9D & Site Access**	**Unsignalized**																
		EB	LR	-	-	-	-	-	-	0.05	B	12.0	0.06	B	12.5	0.17	B	13.0
		NB	LT	-	-	-	-	-	-	0.01	A	8.0	0.02	A	8.2	0.01	A	8.0
6	**NYS Route 9D & South Avenue**	**Signalized**																
	NYS Route 9D	EB	LTR	0.33	C	23.4	0.37	C	24.0	0.37	C	24.1	0.37	C	24.1	0.39	C	24.5
	NYS Route 9D	WB	LTR	0.37	C	24.1	0.41	C	24.8	0.42	C	24.9	0.44	C	25.4	0.42	C	25.0
	South Avenue	NB	LTR	0.03	B	19.1	0.05	B	19.4	0.05	B	19.4	0.05	B	19.4	0.05	B	19.4
	South Avenue	SB	LTR	0.11	C	20.1	0.15	C	20.6	0.15	C	20.6	0.15	C	20.6	0.15	C	20.6
		Overall			**C**	**23.2**		**C**	**23.7**		**C**	**23.8**		**C**	**24.0**		**C**	**24.0**

NOTES:

1) THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND VEHICLE DELAY IN SECONDS, C [16.2], FOR EACH KEY APPROACH OF THE UNSIGNALIZED INTERSECTIONS AS WELL AS FOR EACH APPROACH AND THE OVERALL INTERSECTION FOR THE SIGNALIZED INTERSECTIONS. SEE APPENDIX "C" FOR A DESCRIPTION OF THE LEVELS OF SERVICE.

Table No. 2
Level of Service Summary Table
Saturday Peak Hour

				2021 Existing			2024 No-Build			2024 Build Typical Conditions			2024 Build Event Entry Conditions			2024 Build Event Exit Conditions		
				v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay
1	**NYS Route 9D & Verplanck Avenue**	**Signalized**																
	Verplanck Avenue	WB	L	0.20	D	40.4	0.21	D	40.6	0.22	D	40.8	0.24	D	41.1	0.22	D	40.8
			R	0.41	C	33.3	0.49	D	35.2	0.49	D	35.2	0.49	D	35.2	0.49	D	35.2
		WB Approach			*D*	*35.1*		*D*	*36.4*		*D*	*36.5*		*D*	*36.7*		*D*	*36.5*
	NYS Route 9D	NB	TR	0.64	C	22.6	0.70	C	24.6	0.72	C	25.2	0.72	C	25.3	0.76	C	27.0
		NB Approach			*C*	*22.6*		*C*	*24.6*		*C*	*25.2*		*C*	*25.3*		*C*	*27.0*
	NYS Route 9D	SB	L	0.31	B	13.3	0.36	B	15.7	0.37	B	16.4	0.37	B	16.4	0.39	B	18.3
			T	0.47	A	8.8	0.52	A	9.6	0.53	A	9.7	0.56	B	10.1	0.53	A	9.7
		SB Approach			*A*	*9.7*		*B*	*10.8*		*B*	*11.0*		*B*	*11.3*		*B*	*11.4*
		Overall			**B**	**18.7**		**C**	**20.3**		**C**	**20.7**		**C**	**20.7**		**C**	**21.6**
2	**NYS Route 9D & Beekman Street/W. Church Street**	**Unsignalized**																
	Beekman Street	EB	LT	0.17	C	25.0	0.19	C	25.1	0.18	C	25.0	0.19	C	25.1	0.19	C	25.1
			R	0.22	C	25.4	0.24	C	25.5	0.27	C	25.8	0.30	C	26.0	0.27	C	25.8
		EB Approach			*C*	*25.2*		*C*	*25.2*		*C*	*25.3*		*C*	*25.5*		*C*	*25.4*
	W. Church Street	WB	LTR	0.17	C	24.9	0.24	C	25.3	0.24	C	25.3	0.24	C	25.3	0.24	C	25.4
		WB Approach			*C*	*24.9*		*C*	*25.3*		*C*	*25.3*		*C*	*25.3*		*C*	*25.4*
	NYS Route 9D	NB	L	0.14	A	5.9	0.17	A	7.1	0.18	A	7.4	0.19	A	8.1	0.19	A	7.5
			TR	0.40	A	6.0	0.44	A	6.5	0.45	A	6.6	0.45	A	6.6	0.48	A	6.9
		NB Approach			*A*	*6.0*		*A*	*6.5*		*A*	*6.7*		*A*	*6.8*		*A*	*7.0*
	NYS Route 9D	SB	L	0.03	A	4.3	0.03	A	4.5	0.03	A	4.6	0.03	A	4.6	0.03	A	4.7
			TR	0.66	B	10.6	0.74	B	12.6	0.76	B	13.2	0.79	B	14.5	0.76	B	13.3
		SB Approach			*B*	*10.4*		*B*	*12.4*		*B*	*13.1*		*B*	*14.3*		*B*	*13.1*
		Overall			**A**	**9.8**		**B**	**11.2**		**B**	**11.6**		**B**	**12.4**		**B**	**11.6**
3	**NYS Route 9D & Main Street/City Hall**	**Signalized**																
	City Hall	EB	LTR	0.01	C	23.6	0.03	C	23.7	0.03	C	23.7	0.03	C	23.7	0.03	C	23.7
		EB Approach			*C*	*23.6*		*C*	*23.7*		*C*	*23.7*		*C*	*23.7*		*C*	*23.7*
	Main Street	WB	LT	0.09	C	24.1	0.13	C	24.3	0.14	C	24.4	0.16	C	24.6	0.14	C	24.4
			R	0.66	C	25.5	0.70	C	26.2	0.70	C	26.1	0.70	C	26.1	0.70	C	26.1
		WB Approach			*C*	*25.4*		*C*	*25.9*		*C*	*25.9*		*C*	*25.9*		*C*	*25.9*
	NYS Route 9D	NB	L	0.00	A	6.4	0.00	A	6.9	0.00	A	7.1	0.00	A	7.6	0.00	A	7.1
			TR	0.40	A	8.7	0.46	A	9.4	0.49	A	9.7	0.49	A	9.7	0.54	B	10.4
		NB Approach			*A*	*8.7*		*A*	*9.4*		*A*	*9.7*		*A*	*9.7*		*B*	*10.4*
	NYS Route 9D	SB	L	0.44	B	11.4	0.53	B	13.9	0.55	B	14.7	0.55	B	14.7	0.58	B	16.6
			TR	0.29	A	7.7	0.33	A	8.1	0.35	A	8.3	0.39	A	8.6	0.35	A	8.2
		SB Approach			*A*	*9.5*		*B*	*10.9*		*B*	*11.2*		*B*	*11.3*		*B*	*12.1*
		Overall			**B**	**12.2**		**B**	**13.2**		**B**	**13.4**		**B**	**13.4**		**B**	**13.9**
4	**NYS Route 9D & Beacon Street/West End Lofts**	**Unsignalized**																
	West End Lofts	EB	LTR	0.07	C	18.4	0.11	C	21.5	0.12	C	23.3	0.13	C	24.8	0.13	D	25.0
	Beacon Street	WB	LTR	0.17	B	12.1	0.21	B	13.3	0.21	B	13.7	0.21	B	13.9	0.23	B	14.5
	NYS Route 9D	NB	LTR	0.00	A	7.8	0.00	A	7.9	0.00	A	8.0	0.00	A	8.1	0.00	A	8.0
	NYS Route 9D	SB	LTR	0.04	A	8.1	0.04	A	8.3	0.04	A	8.3	0.04	A	8.3	0.05	A	8.5

Table No. 2
Level of Service Summary Table
Saturday Peak Hour

				2021 Existing			2024 No-Build			2024 Build Typical Conditions			2024 Build Event Entry Conditions			2024 Build Event Exit Conditions		
				v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay
5	**NYS Route 9D &**	**Unsignalized**																
	Site Access	EB	LR	-	-	-	-	-	-	0.06	B	12.3	0.06	B	12.7	0.18	B	13.3
		NB	LT	-	-	-	-	-	-	0.01	A	8.1	0.02	A	8.2	0.01	A	8.0
6	**NYS Route 9D &**	**Signalized**																
	South Avenue																	
	NYS Route 9D	EB	LTR	0.27	C	22.4	0.30	C	22.9	0.31	C	23.1	0.31	C	23.1	0.33	C	23.4
	NYS Route 9D	WB	LTR	0.31	C	23.0	0.34	C	23.5	0.35	C	23.7	0.37	C	24.0	0.35	C	23.7
	South Avenue	NB	LTR	0.08	B	19.7	0.12	C	20.2	0.12	C	20.2	0.12	C	20.2	0.12	C	20.2
	South Avenue	SB	LTR	0.08	B	19.7	0.13	C	20.3	0.13	C	20.3	0.13	C	20.3	0.13	C	20.3
		Overall			**C**	**22.1**		**C**	**22.5**		**C**	**22.6**		**C**	**22.8**		**C**	**22.7**

NOTES:

1) THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND VEHICLE DELAY IN SECONDS, C [16.2], FOR EACH KEY APPROACH OF THE UNSIGNALIZED INTERSECTIONS AS WELL AS FOR EACH APPROACH AND THE OVERALL INTERSECTION FOR THE SIGNALIZED INTERSECTIONS. SEE APPENDIX "C" FOR A DESCRIPTION OF THE LEVELS OF SERVICE.

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Appendix

Appendix C | Level of Service Standards

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Level of Service Standards

Level of Service for Signalized Intersections

Level of Service (LOS) can be characterized for the entire intersection, each intersection approach, and each lane group. Control delay alone is used to characterize LOS for the entire intersection or an approach. Control delay and volume-to-capacity (v/c) ratio are used to characterize LOS for a lane group. Delay quantifies the increase in travel time due to traffic signal control. It is also a measure of driver discomfort and fuel consumption. The volume-to-capacity ratio quantifies the degree to which a phase's capacity is utilized by a lane group.

- **LOS A** describes operations with a control delay of 10 s/veh or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.
- **LOS B** describes operations with control delay between 10 and 20 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.
- **LOS C** describes operations with control delay between 20 and 35 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate.
- **LOS D** describes operations with control delay between 35 and 55 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long.
- **LOS E** describes operations with control delay between 55 and 80 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long.
- **LOS F** describes operations with control delay exceeding 80 s/veh or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long.

A lane group can incur a delay less than 80 s/veh when the volume-to-capacity ratio exceeds 1.0. This condition typically occurs when the cycle length is short, the signal progression is favorable, or both. As a result, both the delay and volume-to-capacity ratio are considered when lane group LOS is established. A ratio of 1.0 or more indicates that cycle capacity is fully utilized and represents failure from a capacity perspective (just as delay in excess of 80 s/veh represents failure from a delay perspective).

The Level of Service Criteria for signalized intersections are given in Exhibit 19-8 from the *Highway Capacity Manual, 6th Edition* published by the Transportation Research Board.

Exhibit 19-8 LOS by Volume-to-Capacity Ratio

Control Delay (s/veh)	v/c ≤ 1.0	v/c ≥ 1.0
≤10	A	F
>10-20	B	F
>20-35	C	F
>35-55	D	F
>55-80	E	F
>80	F	F

For approach-based and intersection wide assessments, LOS is defined solely by control delay.

Level of Service Criteria
For Two-Way Stop-Controlled (TWSC) Unsignalized Intersections

Level of Service (LOS) for a two-way stop-controlled (TWSC) intersection is determined by the computed or measured control delay. For motor vehicles, LOS is determined for each minor-street movement (or shared movement) as well as major-street left turns. LOS is not defined for the intersection as a whole or for major-street approaches.

The Level of Service Criteria for TWSC unsignalized intersections are given in Exhibit 20-2 from the Highway Capacity Manual, 6th Edition published by the Transportation Research Board.

Exhibit 20-2 LOS by Volume-to-Capacity Ratio

Control Delay (s/veh)	v/c ≤ 1.0	v/c ≥ 1.0
0-10	A	F
>10-15	B	F
>15-25	C	F
>25-35	D	F
>35-50	E	F
>50	F	F

The LOS criteria apply to each lane on a given approach and to each approach on the minor street.
LOS is not calculated for major-street approaches or for the intersection as a whole.

As Exhibit 20-2 notes, LOS F is assigned to the movement if the volume-to-capacity ratio for the movement exceeds 1.0, regardless of the control delay.

The Level of Service Criteria for unsignalized intersections are somewhat different from the criteria for signalized intersections.

Level of Service Criteria
For All-Way Stop-Controlled (AWSC) Unsignalized Intersections

The Levels of Service (LOS) for all-way stop-controlled (AWSC) intersections are given in Exhibit 21-8. As the exhibit notes, LOS F is assigned if the volume-to-capacity (v/c) ratio of a lane exceeds 1.0, regardless of the control delay. For assessment of LOS at the approach and intersection levels, LOS is based solely on control delay.

The Level of Service Criteria for AWSC unsignalized intersections are given in Exhibit 21-8 from the *Highway* Capacity *Manual, 6th Edition* published by the Transportation Research Board.

Exhibit 21-8 LOS by Volume-to-Capacity Ratio

Control Delay (s/veh)	v/c ≤ 1.0	v/c ≥ 1.0
0-10	A	F
>10-15	B	F
>15-25	C	F
>25-35	D	F
>35-50	E	F
>50	F	F

For approaches and intersection wide assessment, LOS is defined solely by control delay.

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Appendix

Appendix D | Capacity Analysis



Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	48	253	680	65	197	565
Future Volume (vph)	48	253	680	65	197	565
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	5%		3%			-1%
Storage Length (ft)	85	0		0	340	
Storage Lanes	1	1		0	1	
Taper Length (ft)	86				86	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.988			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1725	1544	1813	0	1778	1872
Flt Permitted	0.950				0.129	
Satd. Flow (perm)	1725	1544	1813	0	241	1872
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	30		30			30
Link Distance (ft)	427		462			529
Travel Time (s)	9.7		10.5			12.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	52	275	739	71	214	614
Shared Lane Traffic (%)						
Lane Group Flow (vph)	52	275	810	0	214	614
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			
Headway Factor	1.03	1.03	1.02	1.02	0.99	0.99
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	pm+ov	NA		pm+pt	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8			6	
Minimum Split (s)	21.0	9.0	15.0		9.0	15.0
Total Split (s)	30.0	20.0	70.0		20.0	90.0
Total Split (%)	25.0%	16.7%	58.3%		16.7%	75.0%
Maximum Green (s)	25.0	15.0	65.0		15.0	85.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Walk Time (s)	5.0		5.0			
Flash Dont Walk (s)	11.0		11.0			
Pedestrian Calls (#/hr)	0		0			
v/c Ratio	0.14	0.47	0.82		0.59	0.46
Control Delay	40.2	31.9	31.6		16.7	9.0

Lane Group	NWL	NWR	NET	NER	SWL	SWT
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	40.2	31.9	31.6		16.7	9.0
Queue Length 50th (ft)	33	160	499		49	184
Queue Length 95th (ft)	69	243	694		117	254
Internal Link Dist (ft)	347		382			449
Turn Bay Length (ft)	85				340	
Base Capacity (vph)	359	579	982		362	1326
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.14	0.47	0.82		0.59	0.46

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NET and 6:SWTL, Start of Green	
Natural Cycle: 70	
Control Type: Pretimed	

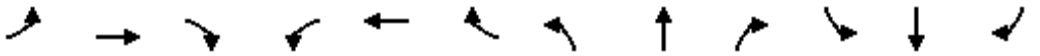
Splits and Phases: 1: NYS Route 9D & Verplanck Avenue



Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (veh/h)	48	253	680	65	197	565
Future Volume (veh/h)	48	253	680	65	197	565
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1816	1816	1835	1872	1872	1872
Adj Flow Rate, veh/h	52	275	739	71	214	614
Adj No. of Lanes	1	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	360	515	893	86	397	1326
Arrive On Green	0.21	0.21	0.54	0.54	0.13	0.71
Sat Flow, veh/h	1730	1544	1648	158	1783	1872
Grp Volume(v), veh/h	52	275	0	810	214	614
Grp Sat Flow(s),veh/h/ln	1730	1544	0	1807	1783	1872
Q Serve(g_s), s	2.9	17.3	0.0	44.7	5.2	17.1
Cycle Q Clear(g_c), s	2.9	17.3	0.0	44.7	5.2	17.1
Prop In Lane	1.00	1.00		0.09	1.00	
Lane Grp Cap(c), veh/h	360	515	0	979	397	1326
V/C Ratio(X)	0.14	0.53	0.00	0.83	0.54	0.46
Avail Cap(c_a), veh/h	360	515	0	979	397	1326
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.8	32.4	0.0	22.8	20.1	7.6
Incr Delay (d2), s/veh	0.8	3.9	0.0	8.0	5.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	8.0	0.0	24.2	4.6	9.1
LnGrp Delay(d),s/veh	39.6	36.4	0.0	30.8	25.3	8.8
LnGrp LOS	D	D		C	C	A
Approach Vol, veh/h	327		810			828
Approach Delay, s/veh	36.9		30.8			13.0
Approach LOS	D		C			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	20.0	70.0				90.0		30.0
Change Period (Y+Rc), s	5.0	5.0				5.0		5.0
Max Green Setting (Gmax), s	15.0	65.0				85.0		25.0
Max Q Clear Time (g_c+I1), s	0.0	0.0				0.0		0.0
Green Ext Time (p_c), s	0.0	0.0				0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	24.4
HCM 2010 LOS	C



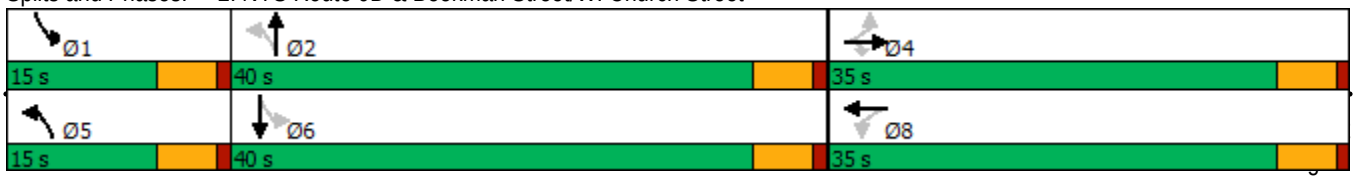
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	292	22	33	3	14	13	30	385	4	5	453	156
Future Volume (vph)	292	22	33	3	14	13	30	385	4	5	453	156
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-10%			-6%			3%	
Storage Length (ft)	0		95	0		0	75		0	75		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			86			86		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.98		0.98			1.00			0.99	
Frt			0.850		0.941			0.998			0.962	
Flt Protected		0.956			0.995		0.950			0.950		
Satd. Flow (prot)	0	1761	1599	0	1764	0	1805	1915	0	1778	1770	0
Flt Permitted		0.718			0.969		0.174			0.388		
Satd. Flow (perm)	0	1322	1562	0	1717	0	331	1915	0	726	1770	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			85		14			1			23	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		584			328			388			335	
Travel Time (s)		13.3			7.5			8.8			7.6	
Confl. Peds. (#/hr)			2			13			1			6
Confl. Bikes (#/hr)						1			1			1
Peak Hour Factor	0.71	0.71	0.71	0.92	0.92	0.92	0.84	0.84	0.84	0.98	0.98	0.98
Heavy Vehicles (%)	2%	4%	0%	0%	7%	0%	3%	2%	0%	0%	1%	1%
Adj. Flow (vph)	411	31	46	3	15	14	36	458	5	5	462	159
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	442	46	0	32	0	36	463	0	5	621	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.01	1.01	1.01	0.94	0.94	0.94	0.96	0.96	0.96	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	2	1	2		2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83	83	20	83		83	6		83	6	
Trailing Detector (ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Position(ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Size(ft)	20	43	43	20	43		43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40	40		40		40			40		
Detector 2 Size(ft)		43	43		43		43			43		
Detector 2 Type		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex			Cl+Ex		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0	0.0		0.0		0.0			0.0		
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	16.0		4.0	16.0	
Minimum Split (s)	20.0	20.0	20.0	21.0	21.0		9.0	21.0		9.0	21.0	
Total Split (s)	35.0	35.0	35.0	35.0	35.0		15.0	40.0		15.0	40.0	
Total Split (%)	38.9%	38.9%	38.9%	38.9%	38.9%		16.7%	44.4%		16.7%	44.4%	
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0		10.0	35.0		10.0	35.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Max		None	Max	
Walk Time (s)				5.0	5.0							
Flash Dont Walk (s)				11.0	11.0							
Pedestrian Calls (#/hr)				0	0							
v/c Ratio		0.91	0.07		0.05		0.13	0.50		0.01	0.81	
Control Delay		52.8	1.6		13.6		10.5	17.2		9.6	31.2	
Queue Delay		0.0	0.0		0.0		0.0	2.5		0.0	0.0	
Total Delay		52.8	1.6		13.6		10.5	19.8		9.6	31.2	
Queue Length 50th (ft)		233	0		6		9	144		1	290	
Queue Length 95th (ft)		#284	0		26		21	260		6	#500	
Internal Link Dist (ft)		504			248			308			255	
Turn Bay Length (ft)			95				75			75		
Base Capacity (vph)		484	626		638		348	931		489	770	
Starvation Cap Reductn		0	0		0		0	336		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.91	0.07		0.05		0.10	0.78		0.01	0.81	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 82.3
Natural Cycle: 80
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: NYS Route 9D & Beekman Street/W. Church Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	292	22	33	3	14	13	30	385	4	5	453	156
Future Volume (veh/h)	292	22	33	3	14	13	30	385	4	5	453	156
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1842	1881	1995	1932	1995	1900	1919	1957	1872	1853	1872
Adj Flow Rate, veh/h	411	31	46	3	15	14	36	458	5	5	462	159
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.71	0.71	0.71	0.92	0.92	0.92	0.84	0.84	0.84	0.98	0.98	0.98
Percent Heavy Veh, %	2	4	0	0	7	0	3	2	0	0	1	1
Cap, veh/h	196	8	582	48	180	140	228	848	9	349	557	192
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.03	0.45	0.45	0.01	0.43	0.43
Sat Flow, veh/h	305	23	1594	0	492	383	1810	1894	21	1782	1308	450
Grp Volume(v), veh/h	442	0	46	32	0	0	36	0	463	5	0	621
Grp Sat Flow(s),veh/h/ln	328	0	1594	875	0	0	1810	0	1915	1782	0	1758
Q Serve(g_s), s	0.0	0.0	1.6	0.0	0.0	0.0	0.9	0.0	14.5	0.1	0.0	25.8
Cycle Q Clear(g_c), s	30.0	0.0	1.6	30.0	0.0	0.0	0.9	0.0	14.5	0.1	0.0	25.8
Prop In Lane	0.93		1.00	0.09		0.44	1.00		0.01	1.00		0.26
Lane Grp Cap(c), veh/h	204	0	582	367	0	0	228	0	857	349	0	748
V/C Ratio(X)	2.17	0.00	0.08	0.09	0.00	0.00	0.16	0.00	0.54	0.01	0.00	0.83
Avail Cap(c_a), veh/h	204	0	582	367	0	0	399	0	857	557	0	748
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.3	0.0	17.1	18.3	0.0	0.0	16.8	0.0	16.6	14.3	0.0	21.0
Incr Delay (d2), s/veh	541.0	0.0	0.1	0.1	0.0	0.0	0.3	0.0	2.4	0.0	0.0	10.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	35.2	0.0	0.7	0.5	0.0	0.0	0.5	0.0	8.2	0.1	0.0	14.6
LnGrp Delay(d),s/veh	573.4	0.0	17.1	18.4	0.0	0.0	17.1	0.0	19.0	14.4	0.0	31.3
LnGrp LOS	F		B	B			B		B	B		C
Approach Vol, veh/h		488			32			499			626	
Approach Delay, s/veh		520.9			18.4			18.9			31.2	
Approach LOS		F			B			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.4	41.8		35.0	7.2	40.0		35.0
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	10.0	35.0		30.0	10.0	35.0		30.0
Max Q Clear Time (g_c+I1), s	2.1	16.5		32.0	2.9	27.8		32.0
Green Ext Time (p_c), s	0.0	1.1		0.0	0.0	1.2		0.0

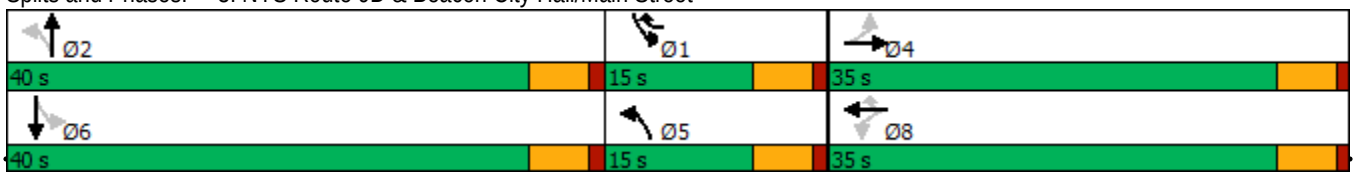
Intersection Summary		
HCM 2010 Ctrl Delay		172.5
HCM 2010 LOS		F

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1	1	35	1	152	0	267	64	215	274	0
Future Volume (vph)	0	1	1	35	1	152	0	267	64	215	274	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-8%			-3%			3%	
Storage Length (ft)	0		0	0		70	65		0	120		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			86			86		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98				0.96		0.98				
Frt		0.932				0.850		0.971				
Flt Protected					0.954					0.950		
Satd. Flow (prot)	0	1722	0	0	1885	1647	1928	1798	0	1743	1853	0
Flt Permitted										0.475		
Satd. Flow (perm)	0	1722	0	0	1976	1587	1928	1798	0	872	1853	0
Right Turn on Red			Yes			No			No			Yes
Satd. Flow (RTOR)		2										
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		133			350			693			388	
Travel Time (s)		3.0			8.0			15.8			8.8	
Confl. Peds. (#/hr)			9			15			21			12
Confl. Bikes (#/hr)			1						1			
Peak Hour Factor	0.60	0.60	0.60	0.91	0.91	0.91	0.79	0.79	0.79	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	2%	5%	2%	1%	0%
Adj. Flow (vph)	0	2	2	38	1	167	0	338	81	244	311	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	0	39	167	0	419	0	244	311	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.01	1.01	1.01	0.95	0.95	0.95	0.98	0.98	0.98	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83		20	83	83	83	6		83	6	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Size(ft)	20	43		20	43	43	43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40			40	40	40			40		
Detector 2 Size(ft)		43			43	43	43			43		
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0	0.0	0.0			0.0		
Turn Type		NA		Perm	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8	1	5	2		1	6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		8.0	8.0	4.0	4.0	31.0		4.0	35.0	
Minimum Split (s)	21.0	21.0		21.0	21.0	9.0	9.0	36.0		9.0	40.0	
Total Split (s)	35.0	35.0		35.0	35.0	15.0	15.0	40.0		15.0	40.0	
Total Split (%)	38.9%	38.9%		38.9%	38.9%	16.7%	16.7%	44.4%		16.7%	44.4%	
Maximum Green (s)	30.0	30.0		30.0	30.0	10.0	10.0	35.0		10.0	35.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag						Lag	Lag	Lead		Lag	Lead	
Lead-Lag Optimize?						Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		None	Max	
Walk Time (s)	5.0	5.0						5.0				
Flash Dont Walk (s)	11.0	11.0						11.0				
Pedestrian Calls (#/hr)	0	0						0				
v/c Ratio		0.02			0.14	0.49		0.39		0.28	0.19	
Control Delay		22.0			26.7	23.7		9.5		3.4	2.1	
Queue Delay		0.0			0.0	0.0		0.0		0.0	0.0	
Total Delay		22.0			26.7	23.7		9.5		3.4	2.1	
Queue Length 50th (ft)		1			11	50		53		0	0	
Queue Length 95th (ft)		6			40	95		145		45	56	
Internal Link Dist (ft)		53			270			613			308	
Turn Bay Length (ft)						70				120		
Base Capacity (vph)		876			1005	359		1067		887	1651	
Starvation Cap Reductn		0			0	0		0		0	177	
Spillback Cap Reductn		0			0	0		0		0	0	
Storage Cap Reductn		0			0	0		0		0	0	
Reduced v/c Ratio		0.00			0.04	0.47		0.39		0.28	0.21	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 59.8	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	

Splits and Phases: 3: NYS Route 9D & Beacon City Hall/Main Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1	1	35	1	152	0	267	64	215	274	0
Future Volume (veh/h)	0	1	1	35	1	152	0	267	64	215	274	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	0.96		0.94	1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1890	1890	1890	1976	1976	1937	1928	1880	1928	1835	1853	1872
Adj Flow Rate, veh/h	0	2	2	38	1	167	0	338	81	244	311	0
Adj No. of Lanes	0	1	0	0	1	1	1	1	0	1	1	0
Peak Hour Factor	0.60	0.60	0.60	0.91	0.91	0.91	0.79	0.79	0.79	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	2	0	2	5	2	1	0
Cap, veh/h	0	106	106	290	6	301	762	824	198	640	1051	0
Arrive On Green	0.00	0.13	0.13	0.13	0.13	0.13	0.00	0.57	0.57	0.06	0.57	0.00
Sat Flow, veh/h	0	841	841	1389	50	1551	1837	1454	348	1747	1853	0
Grp Volume(v), veh/h	0	0	4	39	0	167	0	0	419	244	311	0
Grp Sat Flow(s),veh/h/ln	0	0	1681	1439	0	1551	1837	0	1802	1747	1853	0
Q Serve(g_s), s	0.0	0.0	0.1	1.4	0.0	1.8	0.0	0.0	8.1	0.0	5.4	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.1	1.5	0.0	1.8	0.0	0.0	8.1	0.0	5.4	0.0
Prop In Lane	0.00		0.50	0.97		1.00	1.00		0.19	1.00		0.00
Lane Grp Cap(c), veh/h	0	0	212	297	0	301	762	0	1022	640	1051	0
V/C Ratio(X)	0.00	0.00	0.02	0.13	0.00	0.56	0.00	0.00	0.41	0.38	0.30	0.00
Avail Cap(c_a), veh/h	0	0	817	818	0	859	943	0	1022	812	1051	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	23.6	24.3	0.0	22.6	0.0	0.0	7.5	10.4	7.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	1.6	0.0	0.0	1.2	0.4	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.1	0.6	0.0	2.6	0.0	0.0	4.3	2.8	3.0	0.0
LnGrp Delay(d),s/veh	0.0	0.0	23.7	24.5	0.0	24.2	0.0	0.0	8.8	10.8	7.7	0.0
LnGrp LOS			C	C		C			A	B	A	
Approach Vol, veh/h		4			206			419			555	
Approach Delay, s/veh		23.7			24.2			8.8			9.0	
Approach LOS		C			C			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.9	40.0		12.8	8.9	40.0		12.8
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	10.0	35.0		30.0	10.0	35.0		30.0
Max Q Clear Time (g_c+I1), s	2.0	10.1		2.1	0.0	7.4		3.8
Green Ext Time (p_c), s	0.7	1.1		0.0	0.0	0.7		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	11.6
HCM 2010 LOS	B

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	6	1	2	8	1	45	2	280	6	54	242	11
Future Volume (vph)	6	1	2	8	1	45	2	280	6	54	242	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-3%			-4%			4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.973			0.888			0.997			0.995	
Flt Protected		0.966			0.993						0.991	
Satd. Flow (prot)	0	1786	0	0	1701	0	0	1843	0	0	1801	0
Flt Permitted		0.966			0.993						0.991	
Satd. Flow (perm)	0	1786	0	0	1701	0	0	1843	0	0	1801	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		162			281			312			693	
Travel Time (s)		3.7			6.4			7.1			15.8	
Confl. Peds. (#/hr)			2			4			3			2
Confl. Bikes (#/hr)			2									
Peak Hour Factor	0.81	0.81	0.81	0.66	0.66	0.66	0.69	0.69	0.69	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	5%	0%	2%	2%	0%
Adj. Flow (vph)	7	1	2	12	2	68	3	406	9	59	263	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	10	0	0	82	0	0	418	0	0	334	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	0.98	0.98	0.98	0.97	0.97	0.97	1.03	1.03	1.03
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

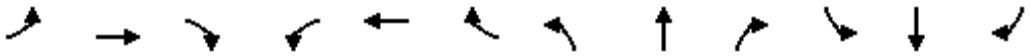
Intersection	
Int Delay, s/veh	2.1

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	1	2	8	1	45	2	280	6	54	242	11
Future Vol, veh/h	6	1	2	8	1	45	2	280	6	54	242	11
Conflicting Peds, #/hr	0	0	2	0	0	4	0	0	3	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-3	-	-	-4	-	-	4	-
Peak Hour Factor	81	81	81	66	66	66	69	69	69	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	5	0	2	2	0
Mvmt Flow	7	1	2	12	2	68	3	406	9	59	263	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	845	813	273	811	815	418	277	0	0	418	0	0
Stage 1	389	389	-	420	420	-	-	-	-	-	-	-
Stage 2	456	424	-	391	395	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	6.5	5.9	5.9	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	5.5	4.9	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	5.5	4.9	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	285	315	771	344	360	662	1298	-	-	1141	-	-
Stage 1	639	612	-	660	636	-	-	-	-	-	-	-
Stage 2	588	590	-	680	649	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	241	294	768	324	336	658	1296	-	-	1138	-	-
Mov Cap-2 Maneuver	241	294	-	324	336	-	-	-	-	-	-	-
Stage 1	636	573	-	657	633	-	-	-	-	-	-	-
Stage 2	522	587	-	634	608	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	17.9	12.5	0.1	1.5
HCM LOS	C	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1296	-	-	562	291	1138	-	-
HCM Lane V/C Ratio	0.002	-	-	0.146	0.038	0.052	-	-
HCM Control Delay (s)	7.8	0	-	12.5	17.9	8.3	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.1	0.2	-	-

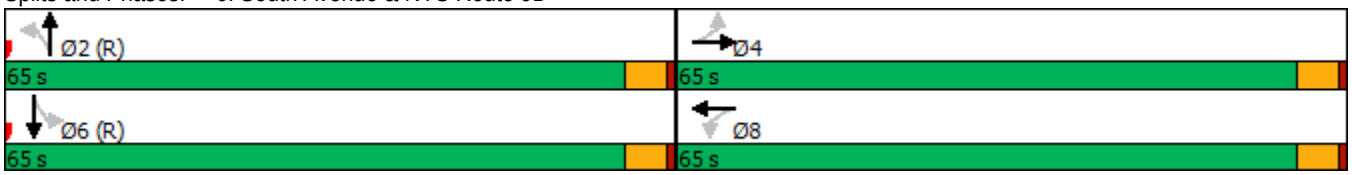


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	232	17	8	208	51	6	5	6	43	8	9
Future Volume (vph)	9	232	17	8	208	51	6	5	6	43	8	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		6%			-6%			-1%			3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								0.99			0.99	
Frt		0.991			0.974			0.953			0.980	
Flt Protected		0.998			0.998			0.983			0.965	
Satd. Flow (prot)	0	1823	0	0	1838	0	0	1789	0	0	1707	0
Flt Permitted		0.986			0.988			0.943			0.816	
Satd. Flow (perm)	0	1801	0	0	1820	0	0	1703	0	0	1443	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			12			7			9	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		241			516			194			303	
Travel Time (s)		5.5			11.7			4.4			6.9	
Confl. Peds. (#/hr)							6					6
Peak Hour Factor	0.90	0.90	0.90	0.83	0.83	0.83	0.85	0.85	0.85	0.79	0.79	0.79
Heavy Vehicles (%)	0%	0%	0%	12%	4%	0%	0%	0%	0%	2%	12%	0%
Adj. Flow (vph)	10	258	19	10	251	61	7	6	7	54	10	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	287	0	0	322	0	0	20	0	0	75	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	0.96	0.96	0.96	0.99	0.99	0.99	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	21.0	21.0		21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	65.0	65.0		65.0	65.0		65.0	65.0		65.0	65.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	60.0	60.0		60.0	60.0		60.0	60.0		60.0	60.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.34			0.38			0.03			0.11	
Control Delay		23.5			23.6			14.4			18.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		23.5			23.6			14.4			18.0	
Queue Length 50th (ft)		149			167			6			31	
Queue Length 95th (ft)		220			218			20			53	
Internal Link Dist (ft)		161			436			114			223	
Turn Bay Length (ft)												
Base Capacity (vph)		833			846			789			670	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.34			0.38			0.03			0.11	

Intersection Summary	
Area Type:	Other
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 45	
Control Type: Pretimed	

Splits and Phases: 6: South Avenue & NYS Route 9D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	232	17	8	208	51	6	5	6	43	8	9
Future Volume (veh/h)	9	232	17	8	208	51	6	5	6	43	8	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1843	1843	1843	1957	1891	1957	1910	1910	1910	1872	1816	1872
Adj Flow Rate, veh/h	10	258	19	10	251	61	7	6	7	54	10	11
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.90	0.90	0.90	0.83	0.83	0.83	0.85	0.85	0.85	0.79	0.79	0.79
Percent Heavy Veh, %	0	0	0	12	4	0	0	0	0	2	12	0
Cap, veh/h	40	766	55	39	669	159	281	242	262	515	96	97
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	25	1659	119	22	1449	344	528	525	567	1013	207	210
Grp Volume(v), veh/h	287	0	0	322	0	0	20	0	0	75	0	0
Grp Sat Flow(s),veh/h/ln	1803	0	0	1815	0	0	1620	0	0	1430	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.0	0.0
Cycle Q Clear(g_c), s	13.1	0.0	0.0	14.9	0.0	0.0	0.8	0.0	0.0	3.7	0.0	0.0
Prop In Lane	0.03		0.07	0.03		0.19	0.35		0.35	0.72		0.15
Lane Grp Cap(c), veh/h	861	0	0	866	0	0	785	0	0	708	0	0
V/C Ratio(X)	0.33	0.00	0.00	0.37	0.00	0.00	0.03	0.00	0.00	0.11	0.00	0.00
Avail Cap(c_a), veh/h	861	0	0	866	0	0	785	0	0	708	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.4	0.0	0.0	22.9	0.0	0.0	19.1	0.0	0.0	19.8	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	0.0	1.2	0.0	0.0	0.1	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	0.0	0.0	7.8	0.0	0.0	0.4	0.0	0.0	1.6	0.0	0.0
LnGrp Delay(d),s/veh	23.4	0.0	0.0	24.1	0.0	0.0	19.1	0.0	0.0	20.1	0.0	0.0
LnGrp LOS	C			C			B			C		
Approach Vol, veh/h		287			322			20			75	
Approach Delay, s/veh		23.4			24.1			19.1			20.1	
Approach LOS		C			C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		65.0		65.0		65.0		65.0
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s		60.0		60.0		60.0		60.0
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	23.2
HCM 2010 LOS	C



Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	65	195	519	58	150	568
Future Volume (vph)	65	195	519	58	150	568
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	5%		3%			-1%
Storage Length (ft)	85	0		0	340	
Storage Lanes	1	1		0	1	
Taper Length (ft)	86				86	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.986			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1725	1544	1809	0	1778	1872
Flt Permitted	0.950				0.248	
Satd. Flow (perm)	1725	1544	1809	0	464	1872
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	30		30			30
Link Distance (ft)	427		462			529
Travel Time (s)	9.7		10.5			12.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	71	212	564	63	163	617
Shared Lane Traffic (%)						
Lane Group Flow (vph)	71	212	627	0	163	617
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			
Headway Factor	1.03	1.03	1.02	1.02	0.99	0.99
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	pm+ov	NA		pm+pt	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8			6	
Minimum Split (s)	21.0	9.0	15.0		9.0	15.0
Total Split (s)	30.0	20.0	70.0		20.0	90.0
Total Split (%)	25.0%	16.7%	58.3%		16.7%	75.0%
Maximum Green (s)	25.0	15.0	65.0		15.0	85.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Walk Time (s)	5.0		5.0			
Flash Dont Walk (s)	11.0		11.0			
Pedestrian Calls (#/hr)	0		0			
v/c Ratio	0.20	0.37	0.64		0.33	0.47
Control Delay	41.0	29.5	23.1		7.5	9.0

Lane Group	NWL	NWR	NET	NER	SWL	SWT
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	41.0	29.5	23.1		7.5	9.0
Queue Length 50th (ft)	46	118	327		36	186
Queue Length 95th (ft)	88	185	454		59	256
Internal Link Dist (ft)	347		382			449
Turn Bay Length (ft)	85				340	
Base Capacity (vph)	359	579	979		492	1326
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.20	0.37	0.64		0.33	0.47

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NET and 6:SWTL, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	

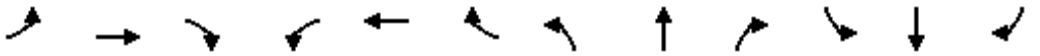
Splits and Phases: 1: NYS Route 9D & Verplanck Avenue



Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (veh/h)	65	195	519	58	150	568
Future Volume (veh/h)	65	195	519	58	150	568
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1816	1816	1835	1872	1872	1872
Adj Flow Rate, veh/h	71	212	564	63	163	617
Adj No. of Lanes	1	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	360	515	878	98	520	1326
Arrive On Green	0.21	0.21	0.54	0.54	0.13	0.71
Sat Flow, veh/h	1730	1544	1622	181	1783	1872
Grp Volume(v), veh/h	71	212	0	627	163	617
Grp Sat Flow(s),veh/h/ln	1730	1544	0	1803	1783	1872
Q Serve(g_s), s	4.1	12.7	0.0	29.3	3.8	17.2
Cycle Q Clear(g_c), s	4.1	12.7	0.0	29.3	3.8	17.2
Prop In Lane	1.00	1.00		0.10	1.00	
Lane Grp Cap(c), veh/h	360	515	0	977	520	1326
V/C Ratio(X)	0.20	0.41	0.00	0.64	0.31	0.47
Avail Cap(c_a), veh/h	360	515	0	977	520	1326
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.2	30.9	0.0	19.3	11.8	7.6
Incr Delay (d2), s/veh	1.2	2.4	0.0	3.2	1.6	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	5.8	0.0	15.3	2.0	9.2
LnGrp Delay(d),s/veh	40.4	33.3	0.0	22.6	13.3	8.8
LnGrp LOS	D	C		C	B	A
Approach Vol, veh/h	283		627			780
Approach Delay, s/veh	35.1		22.6			9.7
Approach LOS	D		C			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	20.0	70.0				90.0		30.0
Change Period (Y+Rc), s	5.0	5.0				5.0		5.0
Max Green Setting (Gmax), s	15.0	65.0				85.0		25.0
Max Q Clear Time (g_c+I1), s	0.0	0.0				0.0		0.0
Green Ext Time (p_c), s	0.0	0.0				0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	18.7
HCM 2010 LOS	B



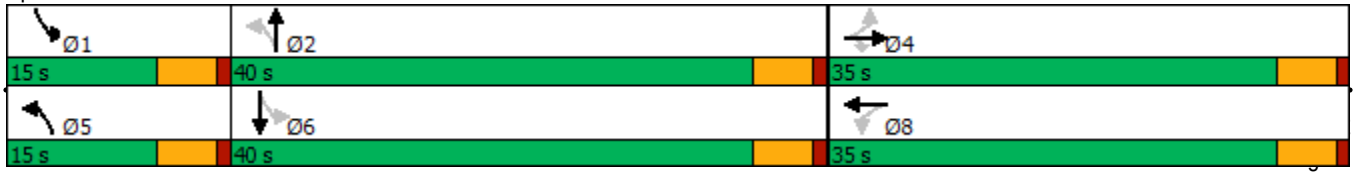
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	1	20	8	11	10	60	457	3	16	510	168
Future Volume (vph)	31	1	20	8	11	10	60	457	3	16	510	168
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-10%			-6%			3%	
Storage Length (ft)	0		95	0		0	75		0	75		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			86			86		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.96		0.99			1.00			0.99	
Frt			0.850		0.955			0.999			0.963	
Flt Protected		0.953			0.986		0.950			0.950		
Satd. Flow (prot)	0	1775	1599	0	1859	0	1771	1936	0	1778	1766	0
Flt Permitted		0.859			0.890		0.277			0.485		
Satd. Flow (perm)	0	1600	1533	0	1678	0	516	1936	0	908	1766	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			85		13						22	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		584			328			388			335	
Travel Time (s)		13.3			7.5			8.8			7.6	
Confl. Peds. (#/hr)			12			4			1			10
Confl. Bikes (#/hr)			3									
Peak Hour Factor	0.73	0.73	0.73	0.75	0.75	0.75	0.94	0.94	0.94	0.95	0.95	0.95
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	5%	1%	0%	0%	1%	2%
Adj. Flow (vph)	42	1	27	11	15	13	64	486	3	17	537	177
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	43	27	0	39	0	64	489	0	17	714	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.01	1.01	1.01	0.94	0.94	0.94	0.96	0.96	0.96	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	2	1	2		2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83	83	20	83		83	6		83	6	
Trailing Detector (ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Position(ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Size(ft)	20	43	43	20	43		43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40	40		40		40			40		
Detector 2 Size(ft)		43	43		43		43			43		
Detector 2 Type		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex			Cl+Ex		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0	0.0		0.0		0.0			0.0		
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	16.0		4.0	16.0	
Minimum Split (s)	20.0	20.0	20.0	21.0	21.0		9.0	21.0		9.0	21.0	
Total Split (s)	35.0	35.0	35.0	35.0	35.0		15.0	40.0		15.0	40.0	
Total Split (%)	38.9%	38.9%	38.9%	38.9%	38.9%		16.7%	44.4%		16.7%	44.4%	
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0		10.0	35.0		10.0	35.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Max		None	Max	
Walk Time (s)				5.0	5.0							
Flash Dont Walk (s)				11.0	11.0							
Pedestrian Calls (#/hr)				0	0							
v/c Ratio		0.21	0.10		0.17		0.12	0.32		0.02	0.56	
Control Delay		27.8	0.8		21.6		3.2	5.3		3.2	11.6	
Queue Delay		0.0	0.0		0.0		0.0	0.2		0.0	0.0	
Total Delay		27.8	0.8		21.6		3.2	5.5		3.2	11.6	
Queue Length 50th (ft)		16	0		9		5	52		1	185	
Queue Length 95th (ft)		34	0		27		15	182		6	#351	
Internal Link Dist (ft)		504			248			308			255	
Turn Bay Length (ft)			95				75			75		
Base Capacity (vph)		853	857		901		627	1543		852	1278	
Starvation Cap Reductn		0	0		0		0	452		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.05	0.03		0.04		0.10	0.45		0.02	0.56	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 58.4
Natural Cycle: 60
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

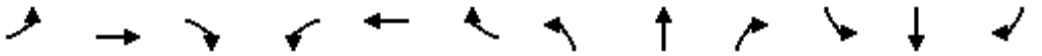
Splits and Phases: 2: NYS Route 9D & Beekman Street/W. Church Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	1	20	8	11	10	60	457	3	16	510	168
Future Volume (veh/h)	31	1	20	8	11	10	60	457	3	16	510	168
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.90	0.94		0.98	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1863	1881	1995	1995	1995	1864	1938	1957	1872	1848	1872
Adj Flow Rate, veh/h	42	1	27	11	15	13	64	486	3	17	537	177
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.73	0.73	0.73	0.75	0.75	0.75	0.94	0.94	0.94	0.95	0.95	0.95
Percent Heavy Veh, %	1	0	0	0	0	0	5	1	0	0	1	2
Cap, veh/h	242	4	121	107	71	49	457	1227	8	622	810	267
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	0.04	0.64	0.64	0.02	0.61	0.61
Sat Flow, veh/h	1396	52	1436	313	847	580	1775	1924	12	1782	1329	438
Grp Volume(v), veh/h	43	0	27	39	0	0	64	0	489	17	0	714
Grp Sat Flow(s),veh/h/ln	1447	0	1436	1739	0	0	1775	0	1936	1782	0	1767
Q Serve(g_s), s	0.3	0.0	1.0	0.0	0.0	0.0	0.7	0.0	7.0	0.2	0.0	15.2
Cycle Q Clear(g_c), s	1.4	0.0	1.0	1.1	0.0	0.0	0.7	0.0	7.0	0.2	0.0	15.2
Prop In Lane	0.98		1.00	0.28		0.33	1.00		0.01	1.00		0.25
Lane Grp Cap(c), veh/h	246	0	121	227	0	0	457	0	1234	622	0	1077
V/C Ratio(X)	0.17	0.00	0.22	0.17	0.00	0.00	0.14	0.00	0.40	0.03	0.00	0.66
Avail Cap(c_a), veh/h	841	0	750	961	0	0	687	0	1234	903	0	1077
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.7	0.0	24.5	24.6	0.0	0.0	5.8	0.0	5.0	4.3	0.0	7.3
Incr Delay (d2), s/veh	0.3	0.0	0.9	0.4	0.0	0.0	0.1	0.0	1.0	0.0	0.0	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.4	0.6	0.0	0.0	0.4	0.0	4.0	0.1	0.0	8.3
LnGrp Delay(d),s/veh	25.0	0.0	25.4	24.9	0.0	0.0	5.9	0.0	6.0	4.3	0.0	10.6
LnGrp LOS	C		C	C			A		A	A		B
Approach Vol, veh/h		70			39			553			731	
Approach Delay, s/veh		25.2			24.9			6.0			10.4	
Approach LOS		C			C			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.9	41.6		9.8	7.6	40.0		9.8
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	10.0	35.0		30.0	10.0	35.0		30.0
Max Q Clear Time (g_c+I1), s	2.2	9.0		3.4	2.7	17.2		3.1
Green Ext Time (p_c), s	0.0	1.3		0.3	0.1	2.1		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	9.8
HCM 2010 LOS	A

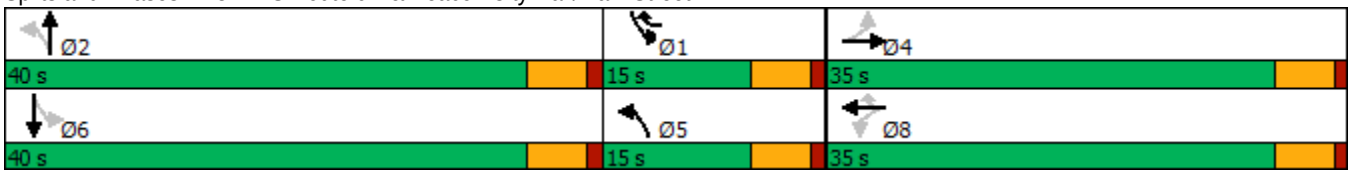


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	1	23	0	185	1	334	37	259	277	2
Future Volume (vph)	1	1	1	23	0	185	1	334	37	259	277	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-8%			-3%			3%	
Storage Length (ft)	0		0	0		70	65		0	120		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			86			86		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98				0.97		0.98			1.00	
Frt		0.955				0.850		0.985			0.999	
Flt Protected		0.984			0.950		0.950			0.950		
Satd. Flow (prot)	0	1742	0	0	1877	1663	1832	1829	0	1760	1851	0
Flt Permitted		0.920					0.575			0.455		
Satd. Flow (perm)	0	1629	0	0	1976	1619	1109	1829	0	843	1851	0
Right Turn on Red			Yes			No			No			Yes
Satd. Flow (RTOR)		1										
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		133			350			693			388	
Travel Time (s)		3.0			8.0			15.8			8.8	
Confl. Peds. (#/hr)			14			6			48			11
Peak Hour Factor	0.71	0.71	0.71	0.89	0.89	0.89	0.88	0.88	0.88	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	0%	2%	5%	1%	1%	0%
Adj. Flow (vph)	1	1	1	26	0	208	1	380	42	282	301	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3	0	0	26	208	1	422	0	282	303	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.01	1.01	1.01	0.95	0.95	0.95	0.98	0.98	0.98	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83		20	83	83	83	6		83	6	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Size(ft)	20	43		20	43	43	43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40			40	40	40			40		
Detector 2 Size(ft)		43			43	43	43			43		
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0	0.0	0.0			0.0		
Turn Type	Perm	NA		Perm	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8	1	5	2		1	6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		8.0	8.0	4.0	4.0	31.0		4.0	35.0	
Minimum Split (s)	21.0	21.0		21.0	21.0	9.0	9.0	36.0		9.0	40.0	
Total Split (s)	35.0	35.0		35.0	35.0	15.0	15.0	40.0		15.0	40.0	
Total Split (%)	38.9%	38.9%		38.9%	38.9%	16.7%	16.7%	44.4%		16.7%	44.4%	
Maximum Green (s)	30.0	30.0		30.0	30.0	10.0	10.0	35.0		10.0	35.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag						Lag	Lag	Lead		Lag	Lead	
Lead-Lag Optimize?						Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		None	Max	
Walk Time (s)	5.0	5.0						5.0				
Flash Dont Walk (s)	11.0	11.0						11.0				
Pedestrian Calls (#/hr)	0	0						0				
v/c Ratio		0.02			0.10	0.60	0.00	0.39		0.33	0.19	
Control Delay		24.0			26.5	26.9	3.0	9.4		3.9	4.4	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		24.0			26.5	26.9	3.0	9.4		3.9	4.4	
Queue Length 50th (ft)		1			8	65	0	53		0	0	
Queue Length 95th (ft)		6			30	115	1	165		50	117	
Internal Link Dist (ft)		53			270			613			308	
Turn Bay Length (ft)						70	65			120		
Base Capacity (vph)		825			1000	359	964	1080		854	1572	
Starvation Cap Reductn		0			0	0	0	0		0	79	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.00			0.03	0.58	0.00	0.39		0.33	0.20	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 60	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	

Splits and Phases: 3: NYS Route 9D & Beacon City Hall/Main Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	1	1	23	0	185	1	334	37	259	277	2
Future Volume (veh/h)	1	1	1	23	0	185	1	334	37	259	277	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.94	0.95		0.98	0.99		0.96	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1890	1890	1890	1976	1976	1956	1928	1885	1928	1853	1853	1872
Adj Flow Rate, veh/h	1	1	1	26	0	208	1	380	42	282	301	2
Adj No. of Lanes	0	1	0	0	1	1	1	1	0	1	1	0
Peak Hour Factor	0.71	0.71	0.71	0.89	0.89	0.89	0.88	0.88	0.88	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	1	0	2	5	1	1	0
Cap, veh/h	115	97	67	297	0	313	765	940	104	643	1041	7
Arrive On Green	0.13	0.13	0.13	0.13	0.00	0.13	0.06	0.57	0.57	0.06	0.57	0.57
Sat Flow, veh/h	291	763	527	1418	0	1624	1837	1660	183	1765	1839	12
Grp Volume(v), veh/h	3	0	0	26	0	208	1	0	422	282	0	303
Grp Sat Flow(s),veh/h/ln	1581	0	0	1418	0	1624	1837	0	1843	1765	0	1851
Q Serve(g_s), s	0.0	0.0	0.0	0.9	0.0	3.3	0.0	0.0	8.0	0.0	0.0	5.3
Cycle Q Clear(g_c), s	0.1	0.0	0.0	1.0	0.0	3.3	0.0	0.0	8.0	0.0	0.0	5.3
Prop In Lane	0.33		0.33	1.00		1.00	1.00		0.10	1.00		0.01
Lane Grp Cap(c), veh/h	279	0	0	297	0	313	765	0	1043	643	0	1048
V/C Ratio(X)	0.01	0.00	0.00	0.09	0.00	0.66	0.00	0.00	0.40	0.44	0.00	0.29
Avail Cap(c_a), veh/h	804	0	0	803	0	895	944	0	1043	815	0	1048
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.6	0.0	0.0	24.0	0.0	23.1	6.4	0.0	7.6	11.0	0.0	7.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	2.4	0.0	0.0	1.2	0.5	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.4	0.0	3.3	0.0	0.0	4.3	3.5	0.0	2.8
LnGrp Delay(d),s/veh	23.6	0.0	0.0	24.1	0.0	25.5	6.4	0.0	8.7	11.4	0.0	7.7
LnGrp LOS	C			C		C	A		A	B		A
Approach Vol, veh/h		3			234			423			585	
Approach Delay, s/veh		23.6			25.4			8.7			9.5	
Approach LOS		C			C			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.0	40.0		12.9	9.0	40.0		12.9
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	10.0	35.0		30.0	10.0	35.0		30.0
Max Q Clear Time (g_c+I1), s	2.0	10.0		2.1	2.0	7.3		5.3
Green Ext Time (p_c), s	0.9	1.1		0.0	0.0	0.7		1.3

Intersection Summary	
HCM 2010 Ctrl Delay	12.2
HCM 2010 LOS	B

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	9	2	2	9	4	77	2	286	9	42	253	6
Future Volume (vph)	9	2	2	9	4	77	2	286	9	42	253	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-3%			-4%			4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.981			0.885			0.996			0.997	
Flt Protected		0.966			0.995						0.993	
Satd. Flow (prot)	0	1680	0	0	1647	0	0	1852	0	0	1808	0
Flt Permitted		0.966			0.995						0.993	
Satd. Flow (perm)	0	1680	0	0	1647	0	0	1852	0	0	1808	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		162			281			312			693	
Travel Time (s)		3.7			6.4			7.1			15.8	
Confl. Peds. (#/hr)			4			19			2			3
Confl. Bikes (#/hr)												1
Peak Hour Factor	0.61	0.61	0.61	0.88	0.88	0.88	0.85	0.85	0.85	0.92	0.92	0.92
Heavy Vehicles (%)	0%	50%	0%	11%	25%	1%	0%	4%	11%	2%	2%	0%
Adj. Flow (vph)	15	3	3	10	5	88	2	336	11	46	275	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	21	0	0	103	0	0	349	0	0	328	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	0.98	0.98	0.98	0.97	0.97	0.97	1.03	1.03	1.03
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

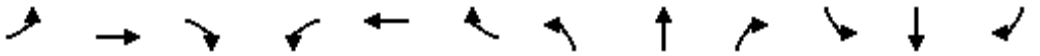
Intersection	
Int Delay, s/veh	2.5

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	2	2	9	4	77	2	286	9	42	253	6
Future Vol, veh/h	9	2	2	9	4	77	2	286	9	42	253	6
Conflicting Peds, #/hr	0	0	4	0	0	19	0	0	2	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-3	-	-	-4	-	-	4	-
Peak Hour Factor	61	61	61	88	88	88	85	85	85	92	92	92
Heavy Vehicles, %	0	50	0	11	25	1	0	4	11	2	2	0
Mvmt Flow	15	3	3	10	5	88	2	336	11	46	275	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	785	727	286	726	725	363	285	0	0	349	0	0
Stage 1	374	374	-	348	348	-	-	-	-	-	-	-
Stage 2	411	353	-	378	377	-	-	-	-	-	-	-
Critical Hdwy	7.1	7	6.2	6.61	6.15	5.91	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	6	-	5.61	5.15	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	6	-	5.61	5.15	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.45	3.3	3.599	4.225	3.309	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	313	298	758	371	367	705	1289	-	-	1210	-	-
Stage 1	651	542	-	689	631	-	-	-	-	-	-	-
Stage 2	622	554	-	666	615	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	256	283	754	351	348	693	1286	-	-	1208	-	-
Mov Cap-2 Maneuver	256	283	-	351	348	-	-	-	-	-	-	-
Stage 1	648	517	-	686	628	-	-	-	-	-	-	-
Stage 2	530	552	-	627	586	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	18.4	12.1	0.1	1.1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1286	-	-	607	290	1208	-	-
HCM Lane V/C Ratio	0.002	-	-	0.168	0.073	0.038	-	-
HCM Control Delay (s)	7.8	0	-	12.1	18.4	8.1	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	0.2	0.1	-	-

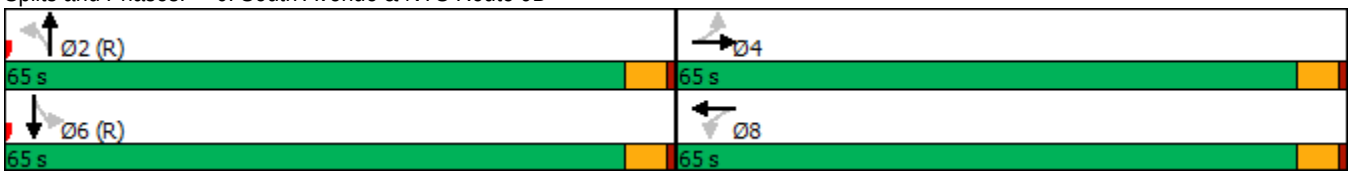


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	168	15	12	181	34	13	7	12	30	10	8
Future Volume (vph)	8	168	15	12	181	34	13	7	12	30	10	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		6%			-6%			-1%			3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								0.99			0.99	
Frt		0.990			0.980			0.950			0.977	
Flt Protected		0.998			0.997			0.980			0.970	
Satd. Flow (prot)	0	1821	0	0	1842	0	0	1778	0	0	1698	0
Flt Permitted		0.985			0.980			0.900			0.836	
Satd. Flow (perm)	0	1797	0	0	1810	0	0	1618	0	0	1463	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			9			22			10	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		241			516			194			303	
Travel Time (s)		5.5			11.7			4.4			6.9	
Confl. Peds. (#/hr)							6					6
Peak Hour Factor	0.82	0.82	0.82	0.85	0.85	0.85	0.55	0.55	0.55	0.82	0.82	0.82
Heavy Vehicles (%)	0%	0%	0%	12%	4%	0%	0%	0%	0%	2%	12%	0%
Adj. Flow (vph)	10	205	18	14	213	40	24	13	22	37	12	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	233	0	0	267	0	0	59	0	0	59	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	0.96	0.96	0.96	0.99	0.99	0.99	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	21.0	21.0		21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	65.0	65.0		65.0	65.0		65.0	65.0		65.0	65.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	60.0	60.0		60.0	60.0		60.0	60.0		60.0	60.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.28			0.32			0.08			0.09	
Control Delay		22.4			22.6			13.5			16.9	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		22.4			22.6			13.5			16.9	
Queue Length 50th (ft)		117			134			17			23	
Queue Length 95th (ft)		157			185			22			44	
Internal Link Dist (ft)		161			436			114			223	
Turn Bay Length (ft)												
Base Capacity (vph)		831			840			758			680	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.28			0.32			0.08			0.09	

Intersection Summary	
Area Type:	Other
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 45	
Control Type: Pretimed	

Splits and Phases: 6: South Avenue & NYS Route 9D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	168	15	12	181	34	13	7	12	30	10	8
Future Volume (veh/h)	8	168	15	12	181	34	13	7	12	30	10	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1843	1843	1843	1957	1885	1957	1910	1910	1910	1872	1805	1872
Adj Flow Rate, veh/h	10	205	18	14	213	40	24	13	22	37	12	10
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.82	0.82	0.82	0.85	0.85	0.85	0.55	0.55	0.55	0.82	0.82	0.82
Percent Heavy Veh, %	0	0	0	12	4	0	0	0	0	2	12	0
Cap, veh/h	45	749	64	51	687	125	320	178	273	452	145	113
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	35	1622	139	48	1488	271	610	385	591	883	315	244
Grp Volume(v), veh/h	233	0	0	267	0	0	59	0	0	59	0	0
Grp Sat Flow(s),veh/h/ln	1796	0	0	1807	0	0	1586	0	0	1442	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Cycle Q Clear(g_c), s	10.3	0.0	0.0	11.9	0.0	0.0	2.4	0.0	0.0	2.5	0.0	0.0
Prop In Lane	0.04		0.08	0.05		0.15	0.41		0.37	0.63		0.17
Lane Grp Cap(c), veh/h	858	0	0	863	0	0	771	0	0	711	0	0
V/C Ratio(X)	0.27	0.00	0.00	0.31	0.00	0.00	0.08	0.00	0.00	0.08	0.00	0.00
Avail Cap(c_a), veh/h	858	0	0	863	0	0	771	0	0	711	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.6	0.0	0.0	22.1	0.0	0.0	19.5	0.0	0.0	19.5	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.9	0.0	0.0	0.2	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	0.0	0.0	6.2	0.0	0.0	1.2	0.0	0.0	1.2	0.0	0.0
LnGrp Delay(d),s/veh	22.4	0.0	0.0	23.0	0.0	0.0	19.7	0.0	0.0	19.7	0.0	0.0
LnGrp LOS	C			C			B			B		
Approach Vol, veh/h		233			267			59			59	
Approach Delay, s/veh		22.4			23.0			19.7			19.7	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		65.0		65.0		65.0		65.0
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s		60.0		60.0		60.0		60.0
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	22.1
HCM 2010 LOS	C



Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	51	299	736	69	209	628
Future Volume (vph)	51	299	736	69	209	628
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	5%		3%			-1%
Storage Length (ft)	85	0		0	340	
Storage Lanes	1	1		0	1	
Taper Length (ft)	86				86	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.988			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1725	1544	1813	0	1778	1872
Flt Permitted	0.950				0.094	
Satd. Flow (perm)	1725	1544	1813	0	176	1872
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	30		30			30
Link Distance (ft)	427		462			529
Travel Time (s)	9.7		10.5			12.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	55	325	800	75	227	683
Shared Lane Traffic (%)						
Lane Group Flow (vph)	55	325	875	0	227	683
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			
Headway Factor	1.03	1.03	1.02	1.02	0.99	0.99
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	pm+ov	NA		pm+pt	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8			6	
Minimum Split (s)	21.0	9.0	15.0		9.0	15.0
Total Split (s)	30.0	20.0	72.0		20.0	92.0
Total Split (%)	24.6%	16.4%	59.0%		16.4%	75.4%
Maximum Green (s)	25.0	15.0	67.0		15.0	87.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Walk Time (s)	5.0		5.0			
Flash Dont Walk (s)	11.0		11.0			
Pedestrian Calls (#/hr)	0		0			
v/c Ratio	0.16	0.57	0.88		0.70	0.51
Control Delay	41.3	35.6	35.9		31.0	9.5

Lane Group	NWL	NWR	NET	NER	SWL	SWT
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	41.3	35.6	35.9		31.0	9.5
Queue Length 50th (ft)	36	203	576		82	217
Queue Length 95th (ft)	74	301	#864		#176	297
Internal Link Dist (ft)	347		382			449
Turn Bay Length (ft)	85				340	
Base Capacity (vph)	353	569	995		322	1334
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.16	0.57	0.88		0.70	0.51

Intersection Summary	
Area Type:	Other
Cycle Length: 122	
Actuated Cycle Length: 122	
Offset: 0 (0%), Referenced to phase 2:NET and 6:SWTL, Start of Green	
Natural Cycle: 80	
Control Type: Pretimed	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

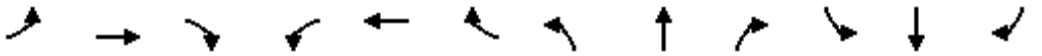
Splits and Phases: 1: NYS Route 9D & Verplanck Avenue



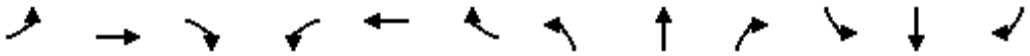
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (veh/h)	51	299	736	69	209	628
Future Volume (veh/h)	51	299	736	69	209	628
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1816	1816	1835	1872	1872	1872
Adj Flow Rate, veh/h	55	325	800	75	227	683
Adj No. of Lanes	1	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	354	506	908	85	358	1335
Arrive On Green	0.20	0.20	0.55	0.55	0.12	0.71
Sat Flow, veh/h	1730	1544	1653	155	1783	1872
Grp Volume(v), veh/h	55	325	0	875	227	683
Grp Sat Flow(s),veh/h/ln	1730	1544	0	1807	1783	1872
Q Serve(g_s), s	3.2	21.9	0.0	51.6	5.5	20.1
Cycle Q Clear(g_c), s	3.2	21.9	0.0	51.6	5.5	20.1
Prop In Lane	1.00	1.00		0.09	1.00	
Lane Grp Cap(c), veh/h	354	506	0	993	358	1335
V/C Ratio(X)	0.16	0.64	0.00	0.88	0.63	0.51
Avail Cap(c_a), veh/h	354	506	0	993	358	1335
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.8	34.9	0.0	24.0	23.6	7.9
Incr Delay (d2), s/veh	0.9	6.1	0.0	11.2	8.3	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	10.2	0.0	28.6	5.2	10.8
LnGrp Delay(d),s/veh	40.8	41.1	0.0	35.2	31.9	9.3
LnGrp LOS	D	D		D	C	A
Approach Vol, veh/h	380		875			910
Approach Delay, s/veh	41.0		35.2			14.9
Approach LOS	D		D			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	20.0	72.0				92.0		30.0
Change Period (Y+Rc), s	5.0	5.0				5.0		5.0
Max Green Setting (Gmax), s	15.0	67.0				87.0		25.0
Max Q Clear Time (g_c+I1), s	0.0	0.0				0.0		0.0
Green Ext Time (p_c), s	0.0	0.0				0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	27.7
HCM 2010 LOS	C



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	310	24	35	4	15	23	32	424	5	6	510	166
Future Volume (vph)	310	24	35	4	15	23	32	424	5	6	510	166
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-10%			-6%			3%	
Storage Length (ft)	0		95	0		0	75		0	75		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			86			86		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.98		0.97			1.00			0.99	
Frt			0.850		0.925			0.998			0.963	
Flt Protected		0.956			0.996		0.950			0.950		
Satd. Flow (prot)	0	1760	1599	0	1737	0	1805	1915	0	1778	1772	0
Flt Permitted		0.709			0.966		0.115			0.342		
Satd. Flow (perm)	0	1306	1562	0	1684	0	219	1915	0	640	1772	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			85		25			1			21	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		584			328			388			335	
Travel Time (s)		13.3			7.5			8.8			7.6	
Confl. Peds. (#/hr)			2			13			1			6
Confl. Bikes (#/hr)						1			1			1
Peak Hour Factor	0.71	0.71	0.71	0.92	0.92	0.92	0.84	0.84	0.84	0.98	0.98	0.98
Heavy Vehicles (%)	2%	4%	0%	0%	7%	0%	3%	2%	0%	0%	1%	1%
Adj. Flow (vph)	437	34	49	4	16	25	38	505	6	6	520	169
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	471	49	0	45	0	38	511	0	6	689	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.01	1.01	1.01	0.94	0.94	0.94	0.96	0.96	0.96	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	2	1	2		2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83	83	20	83		83	6		83	6	
Trailing Detector (ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Position(ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Size(ft)	20	43	43	20	43		43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40	40		40		40			40		
Detector 2 Size(ft)		43	43		43		43			43		
Detector 2 Type		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex			Cl+Ex		



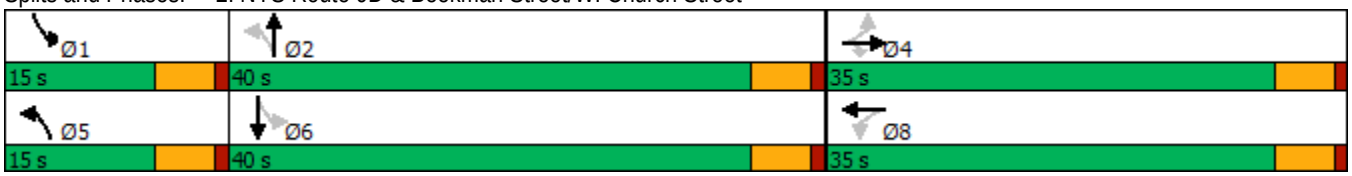
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0	0.0		0.0		0.0			0.0		
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	16.0		4.0	16.0	
Minimum Split (s)	20.0	20.0	20.0	21.0	21.0		9.0	21.0		9.0	21.0	
Total Split (s)	35.0	35.0	35.0	35.0	35.0		15.0	40.0		15.0	40.0	
Total Split (%)	38.9%	38.9%	38.9%	38.9%	38.9%		16.7%	44.4%		16.7%	44.4%	
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0		10.0	35.0		10.0	35.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Max		None	Max	
Walk Time (s)				5.0	5.0							
Flash Dont Walk (s)				11.0	11.0							
Pedestrian Calls (#/hr)				0	0							
v/c Ratio		0.99	0.08		0.07		0.16	0.55		0.02	0.90	
Control Delay		67.7	1.9		11.7		11.1	18.2		9.5	39.5	
Queue Delay		0.0	0.0		0.0		0.0	3.8		0.0	0.0	
Total Delay		67.7	1.9		11.7		11.1	22.0		9.5	39.5	
Queue Length 50th (ft)		~282	0		7		9	164		1	346	
Queue Length 95th (ft)		#318	1		30		22	293		7	#589	
Internal Link Dist (ft)		504			248			308			255	
Turn Bay Length (ft)			95				75			75		
Base Capacity (vph)		478	626		632		305	931		456	769	
Starvation Cap Reductn		0	0		0		0	325		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.99	0.08		0.07		0.12	0.84		0.01	0.90	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 82.3	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: NYS Route 9D & Beekman Street/W. Church Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	310	24	35	4	15	23	32	424	5	6	510	166
Future Volume (veh/h)	310	24	35	4	15	23	32	424	5	6	510	166
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1842	1881	1995	1947	1995	1900	1919	1957	1872	1853	1872
Adj Flow Rate, veh/h	437	34	49	4	16	25	38	505	6	6	520	169
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.71	0.71	0.71	0.92	0.92	0.92	0.84	0.84	0.84	0.98	0.98	0.98
Percent Heavy Veh, %	2	4	0	0	7	0	3	2	0	0	1	1
Cap, veh/h	193	8	581	48	144	180	181	846	10	317	565	184
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.03	0.45	0.45	0.01	0.43	0.43
Sat Flow, veh/h	299	23	1594	0	396	495	1810	1892	22	1782	1330	432
Grp Volume(v), veh/h	471	0	49	45	0	0	38	0	511	6	0	689
Grp Sat Flow(s),veh/h/ln	323	0	1594	890	0	0	1810	0	1915	1782	0	1762
Q Serve(g_s), s	0.0	0.0	1.7	0.0	0.0	0.0	1.0	0.0	16.6	0.2	0.0	30.4
Cycle Q Clear(g_c), s	30.0	0.0	1.7	30.0	0.0	0.0	1.0	0.0	16.6	0.2	0.0	30.4
Prop In Lane	0.93		1.00	0.09		0.56	1.00		0.01	1.00		0.25
Lane Grp Cap(c), veh/h	202	0	581	372	0	0	181	0	856	317	0	749
V/C Ratio(X)	2.33	0.00	0.08	0.12	0.00	0.00	0.21	0.00	0.60	0.02	0.00	0.92
Avail Cap(c_a), veh/h	202	0	581	372	0	0	350	0	856	523	0	749
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.4	0.0	17.2	18.4	0.0	0.0	18.5	0.0	17.2	14.7	0.0	22.3
Incr Delay (d2), s/veh	614.8	0.0	0.1	0.1	0.0	0.0	0.6	0.0	3.1	0.0	0.0	18.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	39.0	0.0	0.7	0.7	0.0	0.0	0.5	0.0	9.4	0.1	0.0	18.5
LnGrp Delay(d),s/veh	647.2	0.0	17.2	18.5	0.0	0.0	19.0	0.0	20.2	14.7	0.0	40.6
LnGrp LOS	F		B	B			B		C	B		D
Approach Vol, veh/h		520			45			549			695	
Approach Delay, s/veh		587.9			18.5			20.1			40.4	
Approach LOS		F			B			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.5	41.8		35.0	7.3	40.0		35.0
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	10.0	35.0		30.0	10.0	35.0		30.0
Max Q Clear Time (g_c+I1), s	2.2	18.6		32.0	3.0	32.4		32.0
Green Ext Time (p_c), s	0.0	1.2		0.0	0.0	0.7		0.0

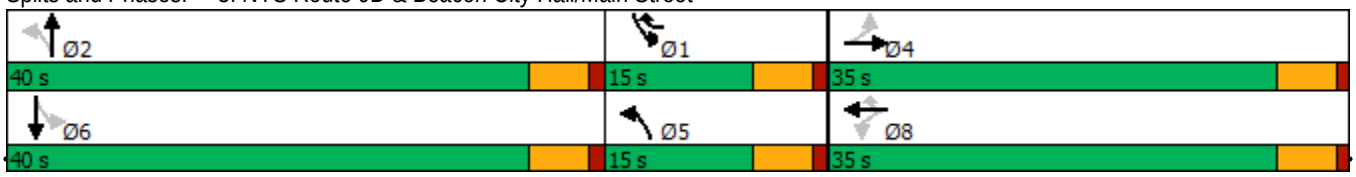
Intersection Summary		
HCM 2010 Ctrl Delay		191.1
HCM 2010 LOS		F

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	2	2	47	2	162	0	299	77	246	311	0
Future Volume (vph)	0	2	2	47	2	162	0	299	77	246	311	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-8%			-3%			3%	
Storage Length (ft)	0		0	0		70	65		0	120		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			86			86		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98				0.96		0.98				
Frt		0.932				0.850		0.969				
Flt Protected					0.954					0.950		
Satd. Flow (prot)	0	1722	0	0	1885	1647	1928	1792	0	1743	1853	0
Flt Permitted					0.785					0.423		
Satd. Flow (perm)	0	1722	0	0	1551	1587	1928	1792	0	776	1853	0
Right Turn on Red			Yes			No			No			Yes
Satd. Flow (RTOR)		3										
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		133			350			693			388	
Travel Time (s)		3.0			8.0			15.8			8.8	
Confl. Peds. (#/hr)			9			15			21			12
Confl. Bikes (#/hr)			1						1			
Peak Hour Factor	0.60	0.60	0.60	0.91	0.91	0.91	0.79	0.79	0.79	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	2%	5%	2%	1%	0%
Adj. Flow (vph)	0	3	3	52	2	178	0	378	97	280	353	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	6	0	0	54	178	0	475	0	280	353	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.01	1.01	1.01	0.95	0.95	0.95	0.98	0.98	0.98	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83		20	83	83	83	6		83	6	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Size(ft)	20	43		20	43	43	43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40			40	40	40			40		
Detector 2 Size(ft)		43			43	43	43			43		
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0	0.0	0.0			0.0		
Turn Type		NA		Perm	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8	1	5	2		1	6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		8.0	8.0	4.0	4.0	31.0		4.0	35.0	
Minimum Split (s)	21.0	21.0		21.0	21.0	9.0	9.0	36.0		9.0	40.0	
Total Split (s)	35.0	35.0		35.0	35.0	15.0	15.0	40.0		15.0	40.0	
Total Split (%)	38.9%	38.9%		38.9%	38.9%	16.7%	16.7%	44.4%		16.7%	44.4%	
Maximum Green (s)	30.0	30.0		30.0	30.0	10.0	10.0	35.0		10.0	35.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag						Lag	Lag	Lead		Lag	Lead	
Lead-Lag Optimize?						Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		None	Max	
Walk Time (s)	5.0	5.0						5.0				
Flash Dont Walk (s)	11.0	11.0						11.0				
Pedestrian Calls (#/hr)	0	0						0				
v/c Ratio		0.03			0.25	0.47		0.47		0.37	0.23	
Control Delay		21.5			29.8	22.1		11.9		5.5	3.0	
Queue Delay		0.0			0.0	0.0		0.0		0.0	0.2	
Total Delay		21.5			29.8	22.1		11.9		5.5	3.2	
Queue Length 50th (ft)		1			21	54		122		28	36	
Queue Length 95th (ft)		7			52	100		175		56	70	
Internal Link Dist (ft)		53			270			613			308	
Turn Bay Length (ft)						70				120		
Base Capacity (vph)		834			750	391		1011		781	1545	
Starvation Cap Reductn		0			0	0		0		0	560	
Spillback Cap Reductn		0			0	0		0		0	0	
Storage Cap Reductn		0			0	0		0		0	0	
Reduced v/c Ratio		0.01			0.07	0.46		0.47		0.36	0.36	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 63	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	

Splits and Phases: 3: NYS Route 9D & Beacon City Hall/Main Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2	2	47	2	162	0	299	77	246	311	0
Future Volume (veh/h)	0	2	2	47	2	162	0	299	77	246	311	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	0.97		0.94	1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1890	1890	1890	1976	1976	1937	1928	1879	1928	1835	1853	1872
Adj Flow Rate, veh/h	0	3	3	52	2	178	0	378	97	280	353	0
Adj No. of Lanes	0	1	0	0	1	1	1	1	0	1	1	0
Peak Hour Factor	0.60	0.60	0.60	0.91	0.91	0.91	0.79	0.79	0.79	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	2	0	2	5	2	1	0
Cap, veh/h	0	107	107	288	9	303	726	810	208	597	1049	0
Arrive On Green	0.00	0.13	0.13	0.13	0.13	0.13	0.00	0.57	0.57	0.06	0.57	0.00
Sat Flow, veh/h	0	841	841	1364	72	1551	1837	1430	367	1747	1853	0
Grp Volume(v), veh/h	0	0	6	54	0	178	0	0	475	280	353	0
Grp Sat Flow(s),veh/h/ln	0	0	1682	1436	0	1551	1837	0	1797	1747	1853	0
Q Serve(g_s), s	0.0	0.0	0.2	2.0	0.0	2.2	0.0	0.0	9.6	0.0	6.3	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.2	2.2	0.0	2.2	0.0	0.0	9.6	0.0	6.3	0.0
Prop In Lane	0.00		0.50	0.96		1.00	1.00		0.20	1.00		0.00
Lane Grp Cap(c), veh/h	0	0	214	297	0	303	726	0	1017	597	1049	0
V/C Ratio(X)	0.00	0.00	0.03	0.18	0.00	0.59	0.00	0.00	0.47	0.47	0.34	0.00
Avail Cap(c_a), veh/h	0	0	816	817	0	858	905	0	1017	767	1049	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	23.6	24.5	0.0	22.7	0.0	0.0	7.9	12.4	7.2	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.1	0.3	0.0	1.8	0.0	0.0	1.5	0.6	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.1	0.9	0.0	2.8	0.0	0.0	5.2	3.7	3.4	0.0
LnGrp Delay(d),s/veh	0.0	0.0	23.7	24.8	0.0	24.5	0.0	0.0	9.5	13.0	8.1	0.0
LnGrp LOS			C	C		C			A	B	A	
Approach Vol, veh/h		6			232			475			633	
Approach Delay, s/veh		23.7			24.6			9.5			10.2	
Approach LOS		C			C			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.0	40.0		12.9	9.0	40.0		12.9
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	10.0	35.0		30.0	10.0	35.0		30.0
Max Q Clear Time (g_c+I1), s	2.0	11.6		2.2	0.0	8.3		4.2
Green Ext Time (p_c), s	0.9	1.3		0.0	0.0	0.9		1.3

Intersection Summary	
HCM 2010 Ctrl Delay	12.5
HCM 2010 LOS	B

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	7	2	3	9	2	48	3	321	7	58	286	12
Future Volume (vph)	7	2	3	9	2	48	3	321	7	58	286	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-3%			-4%			4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.964			0.890			0.997			0.995	
Flt Protected		0.971			0.992						0.992	
Satd. Flow (prot)	0	1778	0	0	1703	0	0	1843	0	0	1803	0
Flt Permitted		0.971			0.992						0.992	
Satd. Flow (perm)	0	1778	0	0	1703	0	0	1843	0	0	1803	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		162			281			312			693	
Travel Time (s)		3.7			6.4			7.1			15.8	
Confl. Peds. (#/hr)			2			4			3			2
Confl. Bikes (#/hr)			2									
Peak Hour Factor	0.81	0.81	0.81	0.66	0.66	0.66	0.69	0.69	0.69	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	5%	0%	2%	2%	0%
Adj. Flow (vph)	9	2	4	14	3	73	4	465	10	63	311	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	15	0	0	90	0	0	479	0	0	387	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	0.98	0.98	0.98	0.97	0.97	0.97	1.03	1.03	1.03
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

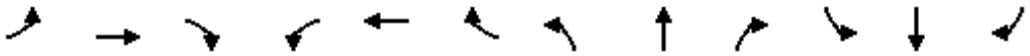
Intersection	
Int Delay, s/veh	2.2

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	2	3	9	2	48	3	321	7	58	286	12
Future Vol, veh/h	7	2	3	9	2	48	3	321	7	58	286	12
Conflicting Peds, #/hr	0	0	2	0	0	4	0	0	3	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-3	-	-	-4	-	-	4	-
Peak Hour Factor	81	81	81	66	66	66	69	69	69	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	5	0	2	2	0
Mvmt Flow	9	2	4	14	3	73	4	465	10	63	311	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	966	932	322	930	933	477	326	0	0	478	0	0
Stage 1	446	446	-	481	481	-	-	-	-	-	-	-
Stage 2	520	486	-	449	452	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	6.5	5.9	5.9	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	5.5	4.9	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	5.5	4.9	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	236	269	724	291	313	616	1245	-	-	1084	-	-
Stage 1	595	577	-	618	604	-	-	-	-	-	-	-
Stage 2	543	554	-	639	619	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	194	248	722	270	289	612	1243	-	-	1081	-	-
Mov Cap-2 Maneuver	194	248	-	270	289	-	-	-	-	-	-	-
Stage 1	591	535	-	614	600	-	-	-	-	-	-	-
Stage 2	473	551	-	587	574	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	20.4	13.8	0.1	1.4
HCM LOS	C	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1243	-	-	497	248	1081	-	-
HCM Lane V/C Ratio	0.003	-	-	0.18	0.06	0.058	-	-
HCM Control Delay (s)	7.9	0	-	13.8	20.4	8.5	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.7	0.2	0.2	-	-

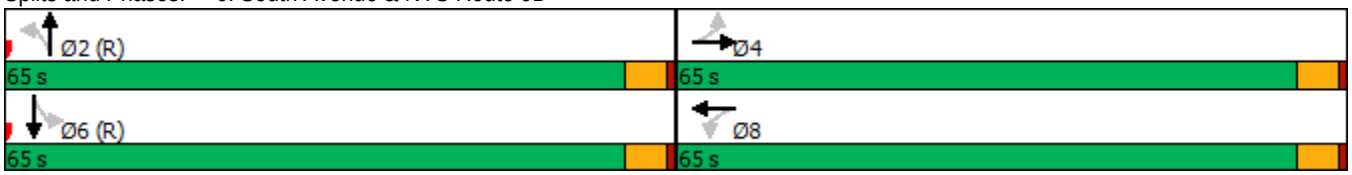


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	255	19	9	230	55	7	21	7	46	29	10
Future Volume (vph)	10	255	19	9	230	55	7	21	7	46	29	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		6%			-6%			-1%			3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00			0.99	
Frt		0.991			0.975			0.974			0.984	
Flt Protected		0.998			0.998			0.990			0.974	
Satd. Flow (prot)	0	1823	0	0	1840	0	0	1841	0	0	1696	0
Flt Permitted		0.984			0.987			0.961			0.842	
Satd. Flow (perm)	0	1797	0	0	1820	0	0	1781	0	0	1466	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			12			8			7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		241			516			194			303	
Travel Time (s)		5.5			11.7			4.4			6.9	
Confl. Peds. (#/hr)							6					6
Peak Hour Factor	0.90	0.90	0.90	0.83	0.83	0.83	0.85	0.85	0.85	0.79	0.79	0.79
Heavy Vehicles (%)	0%	0%	0%	12%	4%	0%	0%	0%	0%	2%	12%	0%
Adj. Flow (vph)	11	283	21	11	277	66	8	25	8	58	37	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	315	0	0	354	0	0	41	0	0	108	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	0.96	0.96	0.96	0.99	0.99	0.99	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	21.0	21.0		21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	65.0	65.0		65.0	65.0		65.0	65.0		65.0	65.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	60.0	60.0		60.0	60.0		60.0	60.0		60.0	60.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.38			0.42			0.05			0.16	
Control Delay		24.2			24.4			16.5			19.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		24.2			24.4			16.5			19.8	
Queue Length 50th (ft)		167			188			15			48	
Queue Length 95th (ft)		243			242			34			74	
Internal Link Dist (ft)		161			436			114			223	
Turn Bay Length (ft)												
Base Capacity (vph)		831			846			826			680	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.38			0.42			0.05			0.16	

Intersection Summary	
Area Type:	Other
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 45	
Control Type: Pretimed	

Splits and Phases: 6: South Avenue & NYS Route 9D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	255	19	9	230	55	7	21	7	46	29	10
Future Volume (veh/h)	10	255	19	9	230	55	7	21	7	46	29	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1843	1843	1843	1957	1891	1957	1910	1910	1910	1872	1779	1872
Adj Flow Rate, veh/h	11	283	21	11	277	66	8	25	8	58	37	13
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.90	0.90	0.90	0.83	0.83	0.83	0.85	0.85	0.85	0.79	0.79	0.79
Percent Heavy Veh, %	0	0	0	12	4	0	0	0	0	2	12	0
Cap, veh/h	41	764	55	39	670	156	167	511	156	394	244	82
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	26	1655	120	23	1453	338	289	1108	339	761	530	177
Grp Volume(v), veh/h	315	0	0	354	0	0	41	0	0	108	0	0
Grp Sat Flow(s),veh/h/ln	1801	0	0	1814	0	0	1736	0	0	1467	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0	0.0
Cycle Q Clear(g_c), s	14.6	0.0	0.0	16.8	0.0	0.0	1.6	0.0	0.0	5.2	0.0	0.0
Prop In Lane	0.03		0.07	0.03		0.19	0.20		0.20	0.54		0.12
Lane Grp Cap(c), veh/h	860	0	0	866	0	0	834	0	0	720	0	0
V/C Ratio(X)	0.37	0.00	0.00	0.41	0.00	0.00	0.05	0.00	0.00	0.15	0.00	0.00
Avail Cap(c_a), veh/h	860	0	0	866	0	0	834	0	0	720	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.8	0.0	0.0	23.4	0.0	0.0	19.3	0.0	0.0	20.2	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.0	0.0	1.4	0.0	0.0	0.1	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	0.0	0.0	8.8	0.0	0.0	0.8	0.0	0.0	2.3	0.0	0.0
LnGrp Delay(d),s/veh	24.0	0.0	0.0	24.8	0.0	0.0	19.4	0.0	0.0	20.6	0.0	0.0
LnGrp LOS	C			C			B			C		
Approach Vol, veh/h		315			354			41			108	
Approach Delay, s/veh		24.0			24.8			19.4			20.6	
Approach LOS		C			C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		65.0		65.0		65.0		65.0
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s		60.0		60.0		60.0		60.0
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	23.7
HCM 2010 LOS	C



Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	69	232	570	62	159	636
Future Volume (vph)	69	232	570	62	159	636
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	5%		3%			-1%
Storage Length (ft)	85	0		0	340	
Storage Lanes	1	1		0	1	
Taper Length (ft)	86				86	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.987			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1725	1544	1811	0	1778	1872
Flt Permitted	0.950				0.208	
Satd. Flow (perm)	1725	1544	1811	0	389	1872
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	30		30			30
Link Distance (ft)	427		462			529
Travel Time (s)	9.7		10.5			12.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	75	252	620	67	173	691
Shared Lane Traffic (%)						
Lane Group Flow (vph)	75	252	687	0	173	691
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			
Headway Factor	1.03	1.03	1.02	1.02	0.99	0.99
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	pm+ov	NA		pm+pt	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8			6	
Minimum Split (s)	21.0	9.0	15.0		9.0	15.0
Total Split (s)	30.0	20.0	70.0		20.0	90.0
Total Split (%)	25.0%	16.7%	58.3%		16.7%	75.0%
Maximum Green (s)	25.0	15.0	65.0		15.0	85.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Walk Time (s)	5.0		5.0			
Flash Dont Walk (s)	11.0		11.0			
Pedestrian Calls (#/hr)	0		0			
v/c Ratio	0.21	0.44	0.70		0.39	0.52
Control Delay	41.2	31.0	25.2		8.2	9.8

Lane Group	NWL	NWR	NET	NER	SWL	SWT
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	41.2	31.0	25.2		8.2	9.8
Queue Length 50th (ft)	49	144	377		39	221
Queue Length 95th (ft)	93	222	523		62	304
Internal Link Dist (ft)	347		382			449
Turn Bay Length (ft)	85				340	
Base Capacity (vph)	359	579	980		449	1326
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.21	0.44	0.70		0.39	0.52

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NET and 6:SWTL, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	

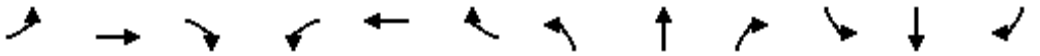
Splits and Phases: 1: NYS Route 9D & Verplanck Avenue



Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (veh/h)	69	232	570	62	159	636
Future Volume (veh/h)	69	232	570	62	159	636
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1816	1816	1835	1872	1872	1872
Adj Flow Rate, veh/h	75	252	620	67	173	691
Adj No. of Lanes	1	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	360	515	882	95	479	1326
Arrive On Green	0.21	0.21	0.54	0.54	0.13	0.71
Sat Flow, veh/h	1730	1544	1628	176	1783	1872
Grp Volume(v), veh/h	75	252	0	687	173	691
Grp Sat Flow(s),veh/h/ln	1730	1544	0	1804	1783	1872
Q Serve(g_s), s	4.3	15.6	0.0	33.8	4.1	20.5
Cycle Q Clear(g_c), s	4.3	15.6	0.0	33.8	4.1	20.5
Prop In Lane	1.00	1.00		0.10	1.00	
Lane Grp Cap(c), veh/h	360	515	0	977	479	1326
V/C Ratio(X)	0.21	0.49	0.00	0.70	0.36	0.52
Avail Cap(c_a), veh/h	360	515	0	977	479	1326
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.3	31.9	0.0	20.4	13.6	8.1
Incr Delay (d2), s/veh	1.3	3.3	0.0	4.2	2.1	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	7.1	0.0	17.9	2.5	10.9
LnGrp Delay(d),s/veh	40.6	35.2	0.0	24.6	15.7	9.6
LnGrp LOS	D	D		C	B	A
Approach Vol, veh/h	327		687			864
Approach Delay, s/veh	36.4		24.6			10.8
Approach LOS	D		C			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	20.0	70.0				90.0		30.0
Change Period (Y+Rc), s	5.0	5.0				5.0		5.0
Max Green Setting (Gmax), s	15.0	65.0				85.0		25.0
Max Q Clear Time (g_c+I1), s	0.0	0.0				0.0		0.0
Green Ext Time (p_c), s	0.0	0.0				0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	20.3
HCM 2010 LOS	C



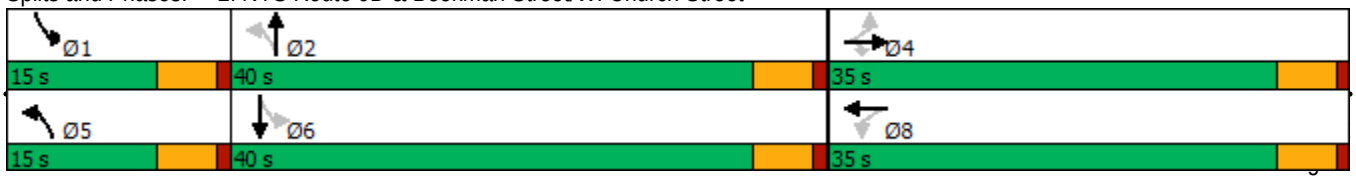
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	2	22	9	12	20	64	504	4	17	574	179
Future Volume (vph)	33	2	22	9	12	20	64	504	4	17	574	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-10%			-6%			3%	
Storage Length (ft)	0		95	0		0	75		0	75		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			86			86		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.96		0.98			1.00			0.99	
Frt			0.850		0.934			0.999			0.964	
Flt Protected		0.955			0.989		0.950			0.950		
Satd. Flow (prot)	0	1780	1599	0	1815	0	1771	1936	0	1778	1768	0
Flt Permitted		0.824			0.911		0.232			0.449		
Satd. Flow (perm)	0	1536	1533	0	1672	0	432	1936	0	840	1768	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			85		27						20	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		584			328			388			335	
Travel Time (s)		13.3			7.5			8.8			7.6	
Confl. Peds. (#/hr)			12			4			1			10
Confl. Bikes (#/hr)			3									
Peak Hour Factor	0.73	0.73	0.73	0.75	0.75	0.75	0.94	0.94	0.94	0.95	0.95	0.95
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	5%	1%	0%	0%	1%	2%
Adj. Flow (vph)	45	3	30	12	16	27	68	536	4	18	604	188
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	48	30	0	55	0	68	540	0	18	792	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.01	1.01	1.01	0.94	0.94	0.94	0.96	0.96	0.96	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	2	1	2		2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83	83	20	83		83	6		83	6	
Trailing Detector (ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Position(ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Size(ft)	20	43	43	20	43		43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40	40		40		40			40		
Detector 2 Size(ft)		43	43		43		43			43		
Detector 2 Type		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex			Cl+Ex		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0	0.0		0.0		0.0			0.0		
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	16.0		4.0	16.0	
Minimum Split (s)	20.0	20.0	20.0	21.0	21.0		9.0	21.0		9.0	21.0	
Total Split (s)	35.0	35.0	35.0	35.0	35.0		15.0	40.0		15.0	40.0	
Total Split (%)	38.9%	38.9%	38.9%	38.9%	38.9%		16.7%	44.4%		16.7%	44.4%	
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0		10.0	35.0		10.0	35.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Max		None	Max	
Walk Time (s)				5.0	5.0							
Flash Dont Walk (s)				11.0	11.0							
Pedestrian Calls (#/hr)				0	0							
v/c Ratio		0.24	0.11		0.23		0.14	0.35		0.03	0.62	
Control Delay		28.2	0.8		18.9		3.4	5.7		3.3	13.8	
Queue Delay		0.0	0.0		0.0		0.0	0.3		0.0	0.0	
Total Delay		28.2	0.8		18.9		3.4	6.0		3.3	13.8	
Queue Length 50th (ft)		17	0		10		6	61		2	225	
Queue Length 95th (ft)		37	0		30		16	211		6	#491	
Internal Link Dist (ft)		504			248			308			255	
Turn Bay Length (ft)			95				75			75		
Base Capacity (vph)		816	854		901		574	1540		809	1275	
Starvation Cap Reductn		0	0		0		0	434		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.06	0.04		0.06		0.12	0.49		0.02	0.62	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 58.6
Natural Cycle: 65
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

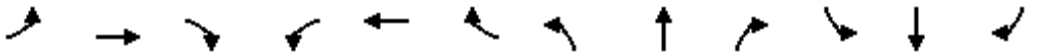
Splits and Phases: 2: NYS Route 9D & Beekman Street/W. Church Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	2	22	9	12	20	64	504	4	17	574	179
Future Volume (veh/h)	33	2	22	9	12	20	64	504	4	17	574	179
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.90	0.94		0.98	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1864	1881	1995	1995	1995	1864	1938	1957	1872	1849	1872
Adj Flow Rate, veh/h	45	3	30	12	16	27	68	536	4	18	604	188
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.73	0.73	0.73	0.75	0.75	0.75	0.94	0.94	0.94	0.95	0.95	0.95
Percent Heavy Veh, %	1	0	0	0	0	0	5	1	0	0	1	2
Cap, veh/h	239	12	126	97	56	74	402	1220	9	583	819	255
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.05	0.64	0.64	0.02	0.61	0.61
Sat Flow, veh/h	1350	139	1441	240	635	843	1775	1921	14	1782	1350	420
Grp Volume(v), veh/h	48	0	30	55	0	0	68	0	540	18	0	792
Grp Sat Flow(s),veh/h/ln	1489	0	1441	1718	0	0	1775	0	1935	1782	0	1770
Q Serve(g_s), s	0.0	0.0	1.1	0.0	0.0	0.0	0.8	0.0	8.2	0.2	0.0	18.4
Cycle Q Clear(g_c), s	1.5	0.0	1.1	1.6	0.0	0.0	0.8	0.0	8.2	0.2	0.0	18.4
Prop In Lane	0.94		1.00	0.22		0.49	1.00		0.01	1.00		0.24
Lane Grp Cap(c), veh/h	251	0	126	226	0	0	402	0	1229	583	0	1074
V/C Ratio(X)	0.19	0.00	0.24	0.24	0.00	0.00	0.17	0.00	0.44	0.03	0.00	0.74
Avail Cap(c_a), veh/h	838	0	749	947	0	0	628	0	1229	861	0	1074
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.7	0.0	24.5	24.8	0.0	0.0	6.9	0.0	5.3	4.5	0.0	8.1
Incr Delay (d2), s/veh	0.4	0.0	1.0	0.6	0.0	0.0	0.2	0.0	1.1	0.0	0.0	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.5	0.9	0.0	0.0	0.4	0.0	4.6	0.1	0.0	10.2
LnGrp Delay(d),s/veh	25.1	0.0	25.5	25.3	0.0	0.0	7.1	0.0	6.5	4.5	0.0	12.6
LnGrp LOS	C		C	C			A		A	A		B
Approach Vol, veh/h		78			55			608			810	
Approach Delay, s/veh		25.2			25.3			6.5			12.4	
Approach LOS		C			C			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.0	41.7		10.1	7.7	40.0		10.1
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	10.0	35.0		30.0	10.0	35.0		30.0
Max Q Clear Time (g_c+I1), s	2.2	10.2		3.5	2.8	20.4		3.6
Green Ext Time (p_c), s	0.0	1.4		0.3	0.1	2.3		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	11.2
HCM 2010 LOS	B

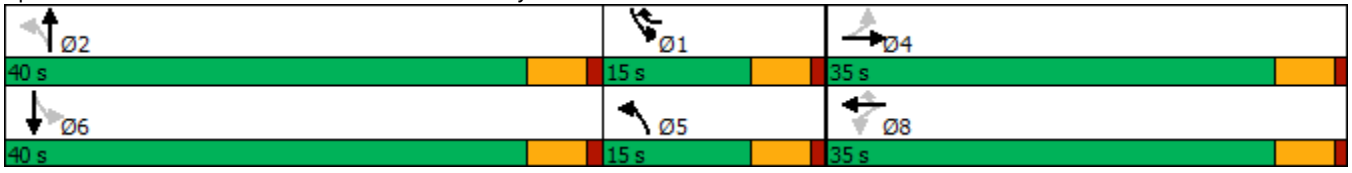


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	2	2	34	0	197	2	374	49	293	318	3
Future Volume (vph)	2	2	2	34	0	197	2	374	49	293	318	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-8%			-3%			3%	
Storage Length (ft)	0		0	0		70	65		0	120		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			86			86		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98				0.97		0.98			1.00	
Frt		0.955				0.850		0.983			0.999	
Flt Protected		0.984			0.950		0.950			0.950		
Satd. Flow (prot)	0	1742	0	0	1877	1663	1832	1819	0	1760	1851	0
Flt Permitted		0.874					0.552			0.408		
Satd. Flow (perm)	0	1547	0	0	1976	1619	1065	1819	0	756	1851	0
Right Turn on Red			Yes			No			No			Yes
Satd. Flow (RTOR)		3									1	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		133			350			693			388	
Travel Time (s)		3.0			8.0			15.8			8.8	
Confl. Peds. (#/hr)			14			6			48			11
Peak Hour Factor	0.71	0.71	0.71	0.89	0.89	0.89	0.88	0.88	0.88	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	0%	2%	5%	1%	1%	0%
Adj. Flow (vph)	3	3	3	38	0	221	2	425	56	318	346	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	0	0	38	221	2	481	0	318	349	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.01	1.01	1.01	0.95	0.95	0.95	0.98	0.98	0.98	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83		20	83	83	83	6		83	6	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Size(ft)	20	43		20	43	43	43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40			40	40	40			40		
Detector 2 Size(ft)		43			43	43	43			43		
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0	0.0	0.0			0.0		
Turn Type	Perm	NA		Perm	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8	1	5	2		1	6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		8.0	8.0	4.0	4.0	31.0		4.0	35.0	
Minimum Split (s)	21.0	21.0		21.0	21.0	9.0	9.0	36.0		9.0	40.0	
Total Split (s)	35.0	35.0		35.0	35.0	15.0	15.0	40.0		15.0	40.0	
Total Split (%)	38.9%	38.9%		38.9%	38.9%	16.7%	16.7%	44.4%		16.7%	44.4%	
Maximum Green (s)	30.0	30.0		30.0	30.0	10.0	10.0	35.0		10.0	35.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag						Lag	Lag	Lead		Lag	Lead	
Lead-Lag Optimize?						Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		None	Max	
Walk Time (s)	5.0	5.0						5.0				
Flash Dont Walk (s)	11.0	11.0						11.0				
Pedestrian Calls (#/hr)	0	0						0				
v/c Ratio		0.05			0.14	0.63	0.00	0.45		0.41	0.22	
Control Delay		23.0			26.6	27.8	3.0	10.3		5.3	4.7	
Queue Delay		0.0			0.0	0.0	0.0	0.0		3.6	0.0	
Total Delay		23.0			26.6	27.8	3.0	10.3		8.9	4.7	
Queue Length 50th (ft)		2			11	69	0	64		0	0	
Queue Length 95th (ft)		11			39	122	2	201		61	140	
Internal Link Dist (ft)		53			270			613			308	
Turn Bay Length (ft)						70	65			120		
Base Capacity (vph)		782			996	362	934	1070		793	1569	
Starvation Cap Reductn		0			0	0	0	0		376	74	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.01			0.04	0.61	0.00	0.45		0.76	0.23	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 60.2	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	

Splits and Phases: 3: NYS Route 9D & Beacon City Hall/Main Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	2	2	34	0	197	2	374	49	293	318	3
Future Volume (veh/h)	2	2	2	34	0	197	2	374	49	293	318	3
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.95		0.98	0.99		0.96	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1890	1890	1890	1976	1976	1956	1928	1884	1928	1853	1853	1872
Adj Flow Rate, veh/h	3	3	3	38	0	221	2	425	56	318	346	3
Adj No. of Lanes	0	1	0	0	1	1	1	1	0	1	1	0
Peak Hour Factor	0.71	0.71	0.71	0.89	0.89	0.89	0.88	0.88	0.88	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	1	0	2	5	1	1	0
Cap, veh/h	115	97	67	298	0	315	726	917	121	599	1037	9
Arrive On Green	0.13	0.13	0.13	0.13	0.00	0.13	0.06	0.57	0.57	0.06	0.57	0.57
Sat Flow, veh/h	290	761	526	1423	0	1624	1837	1622	214	1765	1834	16
Grp Volume(v), veh/h	9	0	0	38	0	221	2	0	481	318	0	349
Grp Sat Flow(s),veh/h/ln	1577	0	0	1423	0	1624	1837	0	1835	1765	0	1850
Q Serve(g_s), s	0.0	0.0	0.0	1.1	0.0	3.8	0.0	0.0	9.6	0.0	0.0	6.3
Cycle Q Clear(g_c), s	0.3	0.0	0.0	1.4	0.0	3.8	0.0	0.0	9.6	0.0	0.0	6.3
Prop In Lane	0.33		0.33	1.00		1.00	1.00		0.12	1.00		0.01
Lane Grp Cap(c), veh/h	279	0	0	298	0	315	726	0	1038	599	0	1046
V/C Ratio(X)	0.03	0.00	0.00	0.13	0.00	0.70	0.00	0.00	0.46	0.53	0.00	0.33
Avail Cap(c_a), veh/h	800	0	0	801	0	894	904	0	1038	770	0	1046
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.7	0.0	0.0	24.1	0.0	23.3	6.9	0.0	7.9	13.2	0.0	7.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	2.8	0.0	0.0	1.5	0.7	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.6	0.0	3.5	0.0	0.0	5.2	4.5	0.0	3.4
LnGrp Delay(d),s/veh	23.7	0.0	0.0	24.3	0.0	26.2	6.9	0.0	9.4	13.9	0.0	8.1
LnGrp LOS	C			C		C	A		A	B		A
Approach Vol, veh/h		9			259			483			667	
Approach Delay, s/veh		23.7			25.9			9.4			10.9	
Approach LOS		C			C			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.0	40.0		12.9	9.0	40.0		12.9
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	10.0	35.0		30.0	10.0	35.0		30.0
Max Q Clear Time (g_c+I1), s	2.0	11.6		2.3	2.0	8.3		5.8
Green Ext Time (p_c), s	1.0	1.3		0.0	0.0	0.8		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	13.2
HCM 2010 LOS	B

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	10	3	3	10	5	82	3	332	10	45	302	7
Future Volume (vph)	10	3	3	10	5	82	3	332	10	45	302	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-3%			-4%			4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.974			0.886			0.996			0.997	
Flt Protected		0.970			0.995						0.994	
Satd. Flow (prot)	0	1638	0	0	1646	0	0	1853	0	0	1810	0
Flt Permitted		0.970			0.995						0.994	
Satd. Flow (perm)	0	1638	0	0	1646	0	0	1853	0	0	1810	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		162			281			312			693	
Travel Time (s)		3.7			6.4			7.1			15.8	
Confl. Peds. (#/hr)			4			19			2			3
Confl. Bikes (#/hr)												1
Peak Hour Factor	0.61	0.61	0.61	0.88	0.88	0.88	0.85	0.85	0.85	0.92	0.92	0.92
Heavy Vehicles (%)	0%	50%	0%	11%	25%	1%	0%	4%	11%	2%	2%	0%
Adj. Flow (vph)	16	5	5	11	6	93	4	391	12	49	328	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	26	0	0	110	0	0	407	0	0	385	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	0.98	0.98	0.98	0.97	0.97	0.97	1.03	1.03	1.03
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

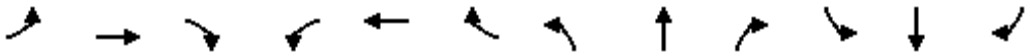
Intersection	
Int Delay, s/veh	2.7

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	3	3	10	5	82	3	332	10	45	302	7
Future Vol, veh/h	10	3	3	10	5	82	3	332	10	45	302	7
Conflicting Peds, #/hr	0	0	4	0	0	19	0	0	2	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-3	-	-	-4	-	-	4	-
Peak Hour Factor	61	61	61	88	88	88	85	85	85	92	92	92
Heavy Vehicles, %	0	50	0	11	25	1	0	4	11	2	2	0
Mvmt Flow	16	5	5	11	6	93	4	391	12	49	328	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	907	846	339	846	844	418	339	0	0	405	0	0
Stage 1	433	433	-	407	407	-	-	-	-	-	-	-
Stage 2	474	413	-	439	437	-	-	-	-	-	-	-
Critical Hdwy	7.1	7	6.2	6.61	6.15	5.91	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	6	-	5.61	5.15	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	6	-	5.61	5.15	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.45	3.3	3.599	4.225	3.309	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	259	252	708	314	318	660	1231	-	-	1154	-	-
Stage 1	605	508	-	646	599	-	-	-	-	-	-	-
Stage 2	575	519	-	624	583	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	205	237	704	292	299	648	1228	-	-	1152	-	-
Mov Cap-2 Maneuver	205	237	-	292	299	-	-	-	-	-	-	-
Stage 1	601	481	-	642	595	-	-	-	-	-	-	-
Stage 2	478	516	-	579	552	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	21.5	13.3	0.1	1.1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1228	-	-	546	244	1152	-	-
HCM Lane V/C Ratio	0.003	-	-	0.202	0.107	0.042	-	-
HCM Control Delay (s)	7.9	0	-	13.3	21.5	8.3	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.7	0.4	0.1	-	-

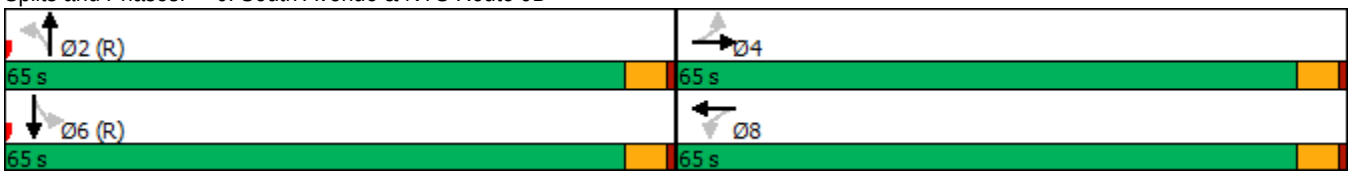


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	188	16	13	201	37	14	27	13	32	35	9
Future Volume (vph)	9	188	16	13	201	37	14	27	13	32	35	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		6%			-6%			-1%			3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								0.99			0.99	
Frt		0.990			0.980			0.967			0.984	
Flt Protected		0.998			0.997			0.987			0.979	
Satd. Flow (prot)	0	1821	0	0	1842	0	0	1822	0	0	1686	0
Flt Permitted		0.983			0.979			0.926			0.866	
Satd. Flow (perm)	0	1794	0	0	1809	0	0	1701	0	0	1491	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			9			17			7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		241			516			194			303	
Travel Time (s)		5.5			11.7			4.4			6.9	
Confl. Peds. (#/hr)							6					6
Peak Hour Factor	0.82	0.82	0.82	0.85	0.85	0.85	0.55	0.55	0.55	0.82	0.82	0.82
Heavy Vehicles (%)	0%	0%	0%	12%	4%	0%	0%	0%	0%	2%	12%	0%
Adj. Flow (vph)	11	229	20	15	236	44	25	49	24	39	43	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	260	0	0	295	0	0	98	0	0	93	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	0.96	0.96	0.96	0.99	0.99	0.99	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	21.0	21.0		21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	65.0	65.0		65.0	65.0		65.0	65.0		65.0	65.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	60.0	60.0		60.0	60.0		60.0	60.0		60.0	60.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.31			0.35			0.12			0.13	
Control Delay		23.0			23.2			16.9			19.2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		23.0			23.2			16.9			19.2	
Queue Length 50th (ft)		133			151			38			41	
Queue Length 95th (ft)		176			206			39			67	
Internal Link Dist (ft)		161			436			114			223	
Turn Bay Length (ft)												
Base Capacity (vph)		830			839			794			691	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.31			0.35			0.12			0.13	

Intersection Summary	
Area Type:	Other
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 45	
Control Type: Pretimed	

Splits and Phases: 6: South Avenue & NYS Route 9D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	188	16	13	201	37	14	27	13	32	35	9
Future Volume (veh/h)	9	188	16	13	201	37	14	27	13	32	35	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1843	1843	1843	1957	1885	1957	1910	1910	1910	1872	1759	1872
Adj Flow Rate, veh/h	11	229	20	15	236	44	25	49	24	39	43	11
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.82	0.82	0.82	0.85	0.85	0.85	0.55	0.55	0.55	0.82	0.82	0.82
Percent Heavy Veh, %	0	0	0	12	4	0	0	0	0	2	12	0
Cap, veh/h	44	749	64	50	689	124	212	409	190	312	333	81
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	34	1623	138	46	1492	270	384	887	412	590	721	176
Grp Volume(v), veh/h	260	0	0	295	0	0	98	0	0	93	0	0
Grp Sat Flow(s),veh/h/ln	1795	0	0	1808	0	0	1683	0	0	1487	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	11.7	0.0	0.0	13.4	0.0	0.0	4.0	0.0	0.0	4.0	0.0	0.0
Prop In Lane	0.04		0.08	0.05		0.15	0.26		0.24	0.42		0.12
Lane Grp Cap(c), veh/h	857	0	0	863	0	0	812	0	0	726	0	0
V/C Ratio(X)	0.30	0.00	0.00	0.34	0.00	0.00	0.12	0.00	0.00	0.13	0.00	0.00
Avail Cap(c_a), veh/h	857	0	0	863	0	0	812	0	0	726	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.0	0.0	0.0	22.5	0.0	0.0	19.9	0.0	0.0	19.9	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.0	1.1	0.0	0.0	0.3	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	0.0	0.0	7.1	0.0	0.0	2.1	0.0	0.0	2.0	0.0	0.0
LnGrp Delay(d),s/veh	22.9	0.0	0.0	23.5	0.0	0.0	20.2	0.0	0.0	20.3	0.0	0.0
LnGrp LOS	C			C			C			C		
Approach Vol, veh/h		260			295			98			93	
Approach Delay, s/veh		22.9			23.5			20.2			20.3	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		65.0		65.0		65.0		65.0
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s		60.0		60.0		60.0		60.0
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	22.5
HCM 2010 LOS	C



Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	54	299	746	72	209	639
Future Volume (vph)	54	299	746	72	209	639
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	5%		3%			-1%
Storage Length (ft)	85	0		0	340	
Storage Lanes	1	1		0	1	
Taper Length (ft)	86				86	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.988			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1725	1544	1813	0	1778	1872
Flt Permitted	0.950				0.078	
Satd. Flow (perm)	1725	1544	1813	0	146	1872
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	30		30			30
Link Distance (ft)	427		462			529
Travel Time (s)	9.7		10.5			12.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	325	811	78	227	695
Shared Lane Traffic (%)						
Lane Group Flow (vph)	59	325	889	0	227	695
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			
Headway Factor	1.03	1.03	1.02	1.02	0.99	0.99
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	pm+ov	NA		pm+pt	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8			6	
Minimum Split (s)	21.0	9.0	15.0		9.0	15.0
Total Split (s)	30.0	20.0	70.0		20.0	90.0
Total Split (%)	25.0%	16.7%	58.3%		16.7%	75.0%
Maximum Green (s)	25.0	15.0	65.0		15.0	85.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Walk Time (s)	5.0		5.0			
Flash Dont Walk (s)	11.0		11.0			
Pedestrian Calls (#/hr)	0		0			
v/c Ratio	0.16	0.56	0.91		0.74	0.52
Control Delay	40.4	34.3	39.1		38.3	9.9

Lane Group	NWL	NWR	NET	NER	SWL	SWT
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	40.4	34.3	39.1		38.3	9.9
Queue Length 50th (ft)	38	197	594		97	223
Queue Length 95th (ft)	76	293	#888		#209	307
Internal Link Dist (ft)	347		382			449
Turn Bay Length (ft)	85				340	
Base Capacity (vph)	359	579	982		307	1326
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.16	0.56	0.91		0.74	0.52

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NET and 6:SWTL, Start of Green	
Natural Cycle: 80	
Control Type: Pretimed	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

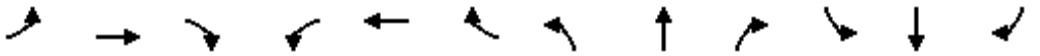
Splits and Phases: 1: NYS Route 9D & Verplanck Avenue



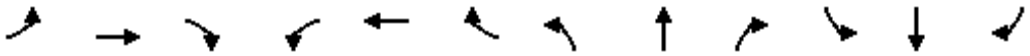
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (veh/h)	54	299	746	72	209	639
Future Volume (veh/h)	54	299	746	72	209	639
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1816	1816	1835	1872	1872	1872
Adj Flow Rate, veh/h	59	325	811	78	227	695
Adj No. of Lanes	1	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	360	515	893	86	344	1326
Arrive On Green	0.21	0.21	0.54	0.54	0.13	0.71
Sat Flow, veh/h	1730	1544	1648	159	1783	1872
Grp Volume(v), veh/h	59	325	0	889	227	695
Grp Sat Flow(s),veh/h/ln	1730	1544	0	1807	1783	1872
Q Serve(g_s), s	3.4	21.3	0.0	53.3	6.0	20.7
Cycle Q Clear(g_c), s	3.4	21.3	0.0	53.3	6.0	20.7
Prop In Lane	1.00	1.00		0.09	1.00	
Lane Grp Cap(c), veh/h	360	515	0	979	344	1326
V/C Ratio(X)	0.16	0.63	0.00	0.91	0.66	0.52
Avail Cap(c_a), veh/h	360	515	0	979	344	1326
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.9	33.8	0.0	24.8	25.1	8.1
Incr Delay (d2), s/veh	1.0	5.8	0.0	13.7	9.6	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	9.9	0.0	30.1	7.8	11.2
LnGrp Delay(d),s/veh	39.9	39.6	0.0	38.5	34.6	9.6
LnGrp LOS	D	D		D	C	A
Approach Vol, veh/h	384		889			922
Approach Delay, s/veh	39.6		38.5			15.8
Approach LOS	D		D			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	20.0	70.0				90.0		30.0
Change Period (Y+Rc), s	5.0	5.0				5.0		5.0
Max Green Setting (Gmax), s	15.0	65.0				85.0		25.0
Max Q Clear Time (g_c+I1), s	0.0	0.0				0.0		0.0
Green Ext Time (p_c), s	0.0	0.0				0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	29.1
HCM 2010 LOS	C



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	310	24	37	4	15	23	34	437	5	6	525	166
Future Volume (vph)	310	24	37	4	15	23	34	437	5	6	525	166
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-10%			-6%			3%	
Storage Length (ft)	0		95	0		0	75		0	75		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			86			86		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.98		0.97			1.00			0.99	
Frt			0.850		0.925			0.998			0.964	
Flt Protected		0.956			0.996		0.950			0.950		
Satd. Flow (prot)	0	1760	1599	0	1737	0	1805	1915	0	1778	1774	0
Flt Permitted		0.709			0.966		0.103			0.328		
Satd. Flow (perm)	0	1306	1562	0	1684	0	196	1915	0	614	1774	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			85		25			1			21	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		584			328			388			335	
Travel Time (s)		13.3			7.5			8.8			7.6	
Confl. Peds. (#/hr)			2			13			1			6
Confl. Bikes (#/hr)						1			1			1
Peak Hour Factor	0.71	0.71	0.71	0.92	0.92	0.92	0.84	0.84	0.84	0.98	0.98	0.98
Heavy Vehicles (%)	2%	4%	0%	0%	7%	0%	3%	2%	0%	0%	1%	1%
Adj. Flow (vph)	437	34	52	4	16	25	40	520	6	6	536	169
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	471	52	0	45	0	40	526	0	6	705	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.01	1.01	1.01	0.94	0.94	0.94	0.96	0.96	0.96	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	2	1	2		2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83	83	20	83		83	6		83	6	
Trailing Detector (ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Position(ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Size(ft)	20	43	43	20	43		43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40	40		40		40			40		
Detector 2 Size(ft)		43	43		43		43			43		
Detector 2 Type		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex			Cl+Ex		

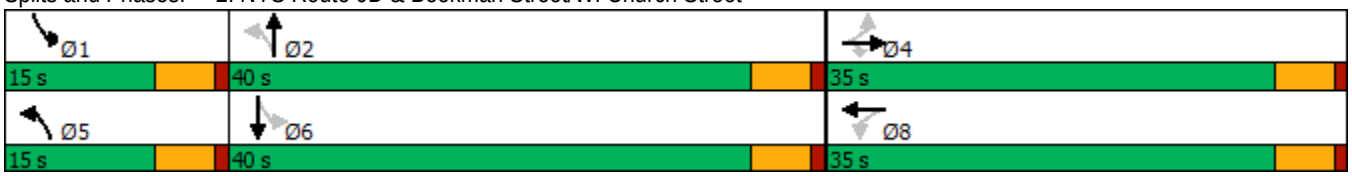


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0	0.0		0.0		0.0			0.0		
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	16.0		4.0	16.0	
Minimum Split (s)	20.0	20.0	20.0	21.0	21.0		9.0	21.0		9.0	21.0	
Total Split (s)	35.0	35.0	35.0	35.0	35.0		15.0	40.0		15.0	40.0	
Total Split (%)	38.9%	38.9%	38.9%	38.9%	38.9%		16.7%	44.4%		16.7%	44.4%	
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0		10.0	35.0		10.0	35.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Max		None	Max	
Walk Time (s)				5.0	5.0							
Flash Dont Walk (s)				11.0	11.0							
Pedestrian Calls (#/hr)				0	0							
v/c Ratio		0.99	0.08		0.07		0.17	0.56		0.02	0.92	
Control Delay		67.8	2.2		11.8		11.3	18.5		9.5	42.1	
Queue Delay		0.0	0.0		0.0		0.0	4.3		0.0	0.0	
Total Delay		67.8	2.2		11.8		11.3	22.8		9.5	42.1	
Queue Length 50th (ft)		~282	0		7		10	171		1	359	
Queue Length 95th (ft)		#319	2		30		22	304		7	#611	
Internal Link Dist (ft)		504			248			308			255	
Turn Bay Length (ft)			95				75			75		
Base Capacity (vph)		478	625		632		296	932		446	770	
Starvation Cap Reductn		0	0		0		0	321		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.99	0.08		0.07		0.14	0.86		0.01	0.92	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 82.4
Natural Cycle: 90
Control Type: Semi Act-Uncoord
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: NYS Route 9D & Beekman Street/W. Church Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	310	24	37	4	15	23	34	437	5	6	525	166
Future Volume (veh/h)	310	24	37	4	15	23	34	437	5	6	525	166
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1842	1881	1995	1947	1995	1900	1919	1957	1872	1853	1872
Adj Flow Rate, veh/h	437	34	52	4	16	25	40	520	6	6	536	169
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.71	0.71	0.71	0.92	0.92	0.92	0.84	0.84	0.84	0.98	0.98	0.98
Percent Heavy Veh, %	2	4	0	0	7	0	3	2	0	0	1	1
Cap, veh/h	193	8	581	48	144	180	172	847	10	308	570	180
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.03	0.45	0.45	0.01	0.42	0.42
Sat Flow, veh/h	299	23	1594	0	396	495	1810	1893	22	1782	1341	423
Grp Volume(v), veh/h	471	0	52	45	0	0	40	0	526	6	0	705
Grp Sat Flow(s),veh/h/ln	323	0	1594	890	0	0	1810	0	1915	1782	0	1764
Q Serve(g_s), s	0.0	0.0	1.8	0.0	0.0	0.0	1.0	0.0	17.2	0.2	0.0	31.6
Cycle Q Clear(g_c), s	30.0	0.0	1.8	30.0	0.0	0.0	1.0	0.0	17.2	0.2	0.0	31.6
Prop In Lane	0.93		1.00	0.09		0.56	1.00		0.01	1.00		0.24
Lane Grp Cap(c), veh/h	202	0	581	372	0	0	172	0	857	308	0	749
V/C Ratio(X)	2.33	0.00	0.09	0.12	0.00	0.00	0.23	0.00	0.61	0.02	0.00	0.94
Avail Cap(c_a), veh/h	202	0	581	372	0	0	339	0	857	513	0	749
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.5	0.0	17.2	18.4	0.0	0.0	18.9	0.0	17.3	14.8	0.0	22.7
Incr Delay (d2), s/veh	615.8	0.0	0.1	0.1	0.0	0.0	0.7	0.0	3.3	0.0	0.0	21.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	39.0	0.0	0.8	0.7	0.0	0.0	0.5	0.0	9.8	0.1	0.0	19.7
LnGrp Delay(d),s/veh	648.2	0.0	17.3	18.5	0.0	0.0	19.6	0.0	20.6	14.8	0.0	44.0
LnGrp LOS	F		B	B			B		C	B		D
Approach Vol, veh/h		523			45			566			711	
Approach Delay, s/veh		585.5			18.5			20.5			43.7	
Approach LOS		F			B			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.5	41.9		35.0	7.4	40.0		35.0
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	10.0	35.0		30.0	10.0	35.0		30.0
Max Q Clear Time (g_c+I1), s	2.2	19.2		32.0	3.0	33.6		32.0
Green Ext Time (p_c), s	0.0	1.3		0.0	0.0	0.4		0.0

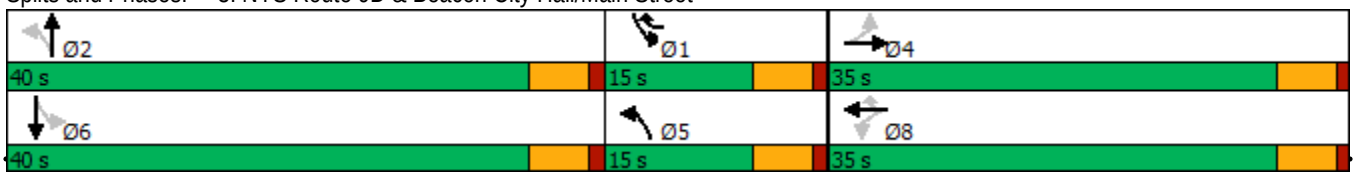
Intersection Summary		
HCM 2010 Ctrl Delay		189.6
HCM 2010 LOS		F

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	2	2	50	2	162	0	315	80	246	328	0
Future Volume (vph)	0	2	2	50	2	162	0	315	80	246	328	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-8%			-3%			3%	
Storage Length (ft)	0		0	0		70	65		0	120		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			86			86		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98				0.96		0.98				
Frt		0.932				0.850		0.970				
Flt Protected					0.954					0.950		
Satd. Flow (prot)	0	1722	0	0	1885	1647	1928	1794	0	1743	1853	0
Flt Permitted					0.771					0.404		
Satd. Flow (perm)	0	1722	0	0	1523	1587	1928	1794	0	741	1853	0
Right Turn on Red			Yes			No			No			Yes
Satd. Flow (RTOR)		3										
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		133			350			693			388	
Travel Time (s)		3.0			8.0			15.8			8.8	
Confl. Peds. (#/hr)			9			15			21			12
Confl. Bikes (#/hr)			1						1			
Peak Hour Factor	0.60	0.60	0.60	0.91	0.91	0.91	0.79	0.79	0.79	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	2%	5%	2%	1%	0%
Adj. Flow (vph)	0	3	3	55	2	178	0	399	101	280	373	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	6	0	0	57	178	0	500	0	280	373	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.01	1.01	1.01	0.95	0.95	0.95	0.98	0.98	0.98	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83		20	83	83	83	6		83	6	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Size(ft)	20	43		20	43	43	43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40			40	40	40			40		
Detector 2 Size(ft)		43			43	43	43			43		
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0	0.0	0.0			0.0		
Turn Type		NA		Perm	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8	1	5	2		1	6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		8.0	8.0	4.0	4.0	31.0		4.0	35.0	
Minimum Split (s)	21.0	21.0		21.0	21.0	9.0	9.0	36.0		9.0	40.0	
Total Split (s)	35.0	35.0		35.0	35.0	15.0	15.0	40.0		15.0	40.0	
Total Split (%)	38.9%	38.9%		38.9%	38.9%	16.7%	16.7%	44.4%		16.7%	44.4%	
Maximum Green (s)	30.0	30.0		30.0	30.0	10.0	10.0	35.0		10.0	35.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag						Lag	Lag	Lead		Lag	Lead	
Lead-Lag Optimize?						Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		None	Max	
Walk Time (s)	5.0	5.0						5.0				
Flash Dont Walk (s)	11.0	11.0						11.0				
Pedestrian Calls (#/hr)	0	0						0				
v/c Ratio		0.03			0.27	0.47		0.49		0.38	0.24	
Control Delay		21.5			30.1	22.0		12.3		5.9	3.1	
Queue Delay		0.0			0.0	0.0		0.0		0.0	0.2	
Total Delay		21.5			30.1	22.0		12.3		5.9	3.3	
Queue Length 50th (ft)		1			22	54		130		28	39	
Queue Length 95th (ft)		7			54	100		187		56	75	
Internal Link Dist (ft)		53			270			613			308	
Turn Bay Length (ft)						70				120		
Base Capacity (vph)		833			735	392		1011		758	1544	
Starvation Cap Reductn		0			0	0		0		0	551	
Spillback Cap Reductn		0			0	0		0		0	0	
Storage Cap Reductn		0			0	0		0		0	0	
Reduced v/c Ratio		0.01			0.08	0.45		0.49		0.37	0.38	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 63.1	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	

Splits and Phases: 3: NYS Route 9D & Beacon City Hall/Main Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2	2	50	2	162	0	315	80	246	328	0
Future Volume (veh/h)	0	2	2	50	2	162	0	315	80	246	328	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	0.97		0.94	1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1890	1890	1890	1976	1976	1937	1928	1880	1928	1835	1853	1872
Adj Flow Rate, veh/h	0	3	3	55	2	178	0	399	101	280	373	0
Adj No. of Lanes	0	1	0	0	1	1	1	1	0	1	1	0
Peak Hour Factor	0.60	0.60	0.60	0.91	0.91	0.91	0.79	0.79	0.79	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	2	0	2	5	2	1	0
Cap, veh/h	0	107	107	288	9	303	709	812	206	579	1049	0
Arrive On Green	0.00	0.13	0.13	0.13	0.13	0.13	0.00	0.57	0.57	0.06	0.57	0.00
Sat Flow, veh/h	0	841	841	1366	68	1551	1837	1435	363	1747	1853	0
Grp Volume(v), veh/h	0	0	6	57	0	178	0	0	500	280	373	0
Grp Sat Flow(s),veh/h/ln	0	0	1682	1434	0	1551	1837	0	1798	1747	1853	0
Q Serve(g_s), s	0.0	0.0	0.2	2.1	0.0	2.2	0.0	0.0	10.3	0.0	6.8	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.2	2.3	0.0	2.2	0.0	0.0	10.3	0.0	6.8	0.0
Prop In Lane	0.00		0.50	0.96		1.00	1.00		0.20	1.00		0.00
Lane Grp Cap(c), veh/h	0	0	214	297	0	303	709	0	1018	579	1049	0
V/C Ratio(X)	0.00	0.00	0.03	0.19	0.00	0.59	0.00	0.00	0.49	0.48	0.36	0.00
Avail Cap(c_a), veh/h	0	0	816	816	0	858	889	0	1018	749	1049	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	23.6	24.6	0.0	22.7	0.0	0.0	8.1	13.1	7.3	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.1	0.3	0.0	1.8	0.0	0.0	1.7	0.6	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.1	0.9	0.0	2.8	0.0	0.0	5.5	3.8	3.7	0.0
LnGrp Delay(d),s/veh	0.0	0.0	23.7	24.9	0.0	24.5	0.0	0.0	9.8	13.7	8.2	0.0
LnGrp LOS			C	C		C			A	B	A	
Approach Vol, veh/h		6			235			500			653	
Approach Delay, s/veh		23.7			24.6			9.8			10.6	
Approach LOS		C			C			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.0	40.0		12.9	9.0	40.0		12.9
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	10.0	35.0		30.0	10.0	35.0		30.0
Max Q Clear Time (g_c+I1), s	2.0	12.3		2.2	0.0	8.8		4.3
Green Ext Time (p_c), s	0.9	1.4		0.0	0.0	0.9		1.3

Intersection Summary	
HCM 2010 Ctrl Delay	12.7
HCM 2010 LOS	B

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	7	2	3	9	2	48	3	340	7	58	306	12
Future Volume (vph)	7	2	3	9	2	48	3	340	7	58	306	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-3%			-4%			4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.964			0.890			0.997			0.996	
Flt Protected		0.971			0.992						0.992	
Satd. Flow (prot)	0	1778	0	0	1703	0	0	1843	0	0	1805	0
Flt Permitted		0.971			0.992						0.992	
Satd. Flow (perm)	0	1778	0	0	1703	0	0	1843	0	0	1805	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		162			281			312			693	
Travel Time (s)		3.7			6.4			7.1			15.8	
Confl. Peds. (#/hr)			2			4			3			2
Confl. Bikes (#/hr)			2									
Peak Hour Factor	0.81	0.81	0.81	0.66	0.66	0.66	0.69	0.69	0.69	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	5%	0%	2%	2%	0%
Adj. Flow (vph)	9	2	4	14	3	73	4	493	10	63	333	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	15	0	0	90	0	0	507	0	0	409	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	0.98	0.98	0.98	0.97	0.97	0.97	1.03	1.03	1.03
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	2.1

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	7	2	3	9	2	48	3	340	7	58	306	12
Future Vol, veh/h	7	2	3	9	2	48	3	340	7	58	306	12
Conflicting Peds, #/hr	0	0	2	0	0	4	0	0	3	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-3	-	-	-4	-	-	4	-
Peak Hour Factor	81	81	81	66	66	66	69	69	69	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	5	0	2	2	0
Mvmt Flow	9	2	4	14	3	73	4	493	10	63	333	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1016	982	344	980	983	505	348	0	0	506	0	0
Stage 1	468	468	-	509	509	-	-	-	-	-	-	-
Stage 2	548	514	-	471	474	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	6.5	5.9	5.9	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	5.5	4.9	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	5.5	4.9	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	218	251	703	272	295	596	1222	-	-	1059	-	-
Stage 1	579	565	-	599	589	-	-	-	-	-	-	-
Stage 2	524	539	-	624	607	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	177	230	701	251	271	593	1220	-	-	1056	-	-
Mov Cap-2 Maneuver	177	230	-	251	271	-	-	-	-	-	-	-
Stage 1	575	522	-	595	585	-	-	-	-	-	-	-
Stage 2	454	535	-	571	561	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	21.9	14.3	0.1	1.3
HCM LOS	C	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1220	-	-	475	228	1056	-	-
HCM Lane V/C Ratio	0.004	-	-	0.188	0.065	0.06	-	-
HCM Control Delay (s)	8	0	-	14.3	21.9	8.6	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.7	0.2	0.2	-	-



Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	19	5	6	330	297	20
Future Volume (vph)	19	5	6	330	297	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.974				0.991	
Flt Protected	0.961			0.999		
Satd. Flow (prot)	1744	0	0	1861	1846	0
Flt Permitted	0.961			0.999		
Satd. Flow (perm)	1744	0	0	1861	1846	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	176			499	312	
Travel Time (s)	4.0			11.3	7.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	5	7	359	323	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	26	0	0	366	345	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

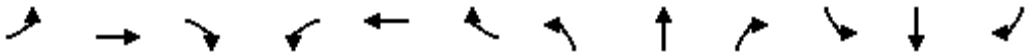
Intersection	
Int Delay, s/veh	0.5

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Vol, veh/h	19	5	6	330	297	20
Future Vol, veh/h	19	5	6	330	297	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	5	7	359	323	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	707	334	345	0	-	0
Stage 1	334	-	-	-	-	-
Stage 2	373	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	402	708	1214	-	-	-
Stage 1	725	-	-	-	-	-
Stage 2	696	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	399	708	1214	-	-	-
Mov Cap-2 Maneuver	505	-	-	-	-	-
Stage 1	720	-	-	-	-	-
Stage 2	696	-	-	-	-	-

Approach	SE	NE	SW
HCM Control Delay, s	12	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NEL	NET	SELn1	SWT	SWR
Capacity (veh/h)	1214	-	537	-	-
HCM Lane V/C Ratio	0.005	-	0.049	-	-
HCM Control Delay (s)	8	0	12	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

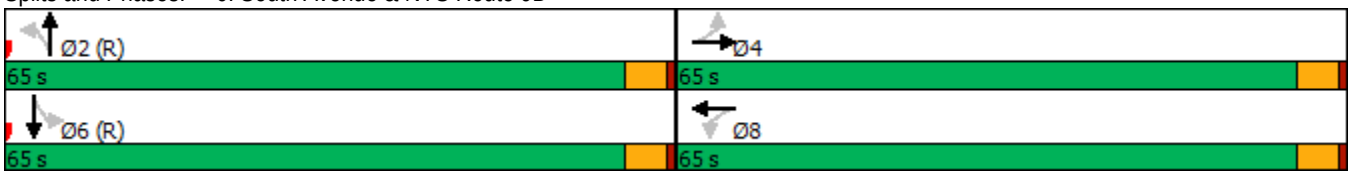


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	260	19	9	236	55	7	21	7	46	29	10
Future Volume (vph)	10	260	19	9	236	55	7	21	7	46	29	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		6%			-6%			-1%			3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00			0.99	
Frt		0.991			0.975			0.974			0.984	
Flt Protected		0.998			0.998			0.990			0.974	
Satd. Flow (prot)	0	1823	0	0	1840	0	0	1841	0	0	1696	0
Flt Permitted		0.985			0.987			0.961			0.842	
Satd. Flow (perm)	0	1799	0	0	1819	0	0	1781	0	0	1466	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			12			8			7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		241			516			194			303	
Travel Time (s)		5.5			11.7			4.4			6.9	
Confl. Peds. (#/hr)							6					6
Peak Hour Factor	0.90	0.90	0.90	0.83	0.83	0.83	0.85	0.85	0.85	0.79	0.79	0.79
Heavy Vehicles (%)	0%	0%	0%	12%	4%	0%	0%	0%	0%	2%	12%	0%
Adj. Flow (vph)	11	289	21	11	284	66	8	25	8	58	37	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	321	0	0	361	0	0	41	0	0	108	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	0.96	0.96	0.96	0.99	0.99	0.99	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	21.0	21.0		21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	65.0	65.0		65.0	65.0		65.0	65.0		65.0	65.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	60.0	60.0		60.0	60.0		60.0	60.0		60.0	60.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.39			0.43			0.05			0.16	
Control Delay		24.3			24.6			16.5			19.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		24.3			24.6			16.5			19.8	
Queue Length 50th (ft)		171			193			15			48	
Queue Length 95th (ft)		247			247			34			74	
Internal Link Dist (ft)		161			436			114			223	
Turn Bay Length (ft)												
Base Capacity (vph)		832			846			826			680	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.39			0.43			0.05			0.16	

Intersection Summary	
Area Type:	Other
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 45	
Control Type: Pretimed	

Splits and Phases: 6: South Avenue & NYS Route 9D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	260	19	9	236	55	7	21	7	46	29	10
Future Volume (veh/h)	10	260	19	9	236	55	7	21	7	46	29	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1843	1843	1843	1957	1891	1957	1910	1910	1910	1872	1779	1872
Adj Flow Rate, veh/h	11	289	21	11	284	66	8	25	8	58	37	13
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.90	0.90	0.90	0.83	0.83	0.83	0.85	0.85	0.85	0.79	0.79	0.79
Percent Heavy Veh, %	0	0	0	12	4	0	0	0	0	2	12	0
Cap, veh/h	40	765	54	39	674	153	167	511	156	394	244	82
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	25	1659	118	23	1461	332	289	1108	339	761	530	177
Grp Volume(v), veh/h	321	0	0	361	0	0	41	0	0	108	0	0
Grp Sat Flow(s),veh/h/ln	1802	0	0	1815	0	0	1736	0	0	1467	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0	0.0
Cycle Q Clear(g_c), s	15.0	0.0	0.0	17.2	0.0	0.0	1.6	0.0	0.0	5.2	0.0	0.0
Prop In Lane	0.03		0.07	0.03		0.18	0.20		0.20	0.54		0.12
Lane Grp Cap(c), veh/h	860	0	0	866	0	0	834	0	0	720	0	0
V/C Ratio(X)	0.37	0.00	0.00	0.42	0.00	0.00	0.05	0.00	0.00	0.15	0.00	0.00
Avail Cap(c_a), veh/h	860	0	0	866	0	0	834	0	0	720	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.9	0.0	0.0	23.5	0.0	0.0	19.3	0.0	0.0	20.2	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.0	0.0	1.5	0.0	0.0	0.1	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	0.0	0.0	9.0	0.0	0.0	0.8	0.0	0.0	2.3	0.0	0.0
LnGrp Delay(d),s/veh	24.1	0.0	0.0	24.9	0.0	0.0	19.4	0.0	0.0	20.6	0.0	0.0
LnGrp LOS	C			C			B			C		
Approach Vol, veh/h		321			361			41			108	
Approach Delay, s/veh		24.1			24.9			19.4			20.6	
Approach LOS		C			C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		65.0		65.0		65.0		65.0
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s		60.0		60.0		60.0		60.0
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	23.8
HCM 2010 LOS	C



Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	60	299	748	72	209	669
Future Volume (vph)	60	299	748	72	209	669
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	5%		3%			-1%
Storage Length (ft)	85	0		0	340	
Storage Lanes	1	1		0	1	
Taper Length (ft)	86				86	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.988			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1725	1544	1813	0	1778	1872
Flt Permitted	0.950				0.077	
Satd. Flow (perm)	1725	1544	1813	0	144	1872
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	30		30			30
Link Distance (ft)	427		462			529
Travel Time (s)	9.7		10.5			12.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	325	813	78	227	727
Shared Lane Traffic (%)						
Lane Group Flow (vph)	65	325	891	0	227	727
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			
Headway Factor	1.03	1.03	1.02	1.02	0.99	0.99
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	pm+ov	NA		pm+pt	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8			6	
Minimum Split (s)	21.0	9.0	15.0		9.0	15.0
Total Split (s)	30.0	20.0	70.0		20.0	90.0
Total Split (%)	25.0%	16.7%	58.3%		16.7%	75.0%
Maximum Green (s)	25.0	15.0	65.0		15.0	85.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Walk Time (s)	5.0		5.0			
Flash Dont Walk (s)	11.0		11.0			
Pedestrian Calls (#/hr)	0		0			
v/c Ratio	0.18	0.56	0.91		0.74	0.55
Control Delay	40.7	34.3	39.3		38.9	10.3

Lane Group	NWL	NWR	NET	NER	SWL	SWT
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	40.7	34.3	39.3		38.9	10.3
Queue Length 50th (ft)	42	197	597		99	240
Queue Length 95th (ft)	83	293	#891		#211	330
Internal Link Dist (ft)	347		382			449
Turn Bay Length (ft)	85				340	
Base Capacity (vph)	359	579	982		306	1326
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.18	0.56	0.91		0.74	0.55

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NET and 6:SWTL, Start of Green	
Natural Cycle: 80	
Control Type: Pretimed	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 1: NYS Route 9D & Verplanck Avenue

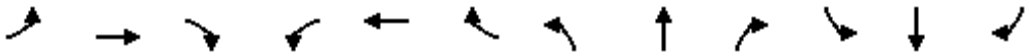


Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (veh/h)	60	299	748	72	209	669
Future Volume (veh/h)	60	299	748	72	209	669
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1816	1816	1835	1872	1872	1872
Adj Flow Rate, veh/h	65	325	813	78	227	727
Adj No. of Lanes	1	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	360	515	893	86	343	1326
Arrive On Green	0.21	0.21	0.54	0.54	0.13	0.71
Sat Flow, veh/h	1730	1544	1649	158	1783	1872
Grp Volume(v), veh/h	65	325	0	891	227	727
Grp Sat Flow(s),veh/h/ln	1730	1544	0	1807	1783	1872
Q Serve(g_s), s	3.7	21.3	0.0	53.5	6.1	22.2
Cycle Q Clear(g_c), s	3.7	21.3	0.0	53.5	6.1	22.2
Prop In Lane	1.00	1.00		0.09	1.00	
Lane Grp Cap(c), veh/h	360	515	0	979	343	1326
V/C Ratio(X)	0.18	0.63	0.00	0.91	0.66	0.55
Avail Cap(c_a), veh/h	360	515	0	979	343	1326
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.1	33.8	0.0	24.9	25.4	8.3
Incr Delay (d2), s/veh	1.1	5.8	0.0	13.9	9.7	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	9.9	0.0	30.3	7.9	11.9
LnGrp Delay(d),s/veh	40.2	39.6	0.0	38.8	35.1	10.0
LnGrp LOS	D	D		D	D	A
Approach Vol, veh/h	390		891			954
Approach Delay, s/veh	39.7		38.8			16.0
Approach LOS	D		D			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	20.0	70.0				90.0		30.0
Change Period (Y+Rc), s	5.0	5.0				5.0		5.0
Max Green Setting (Gmax), s	15.0	65.0				85.0		25.0
Max Q Clear Time (g_c+I1), s	0.0	0.0				0.0		0.0
Green Ext Time (p_c), s	0.0	0.0				0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	29.2
HCM 2010 LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	310	24	40	4	15	23	35	439	5	6	561	166
Future Volume (vph)	310	24	40	4	15	23	35	439	5	6	561	166
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-10%			-6%			3%	
Storage Length (ft)	0		95	0		0	75		0	75		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			86			86		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.98		0.97			1.00			0.99	
Frt			0.850		0.925			0.998			0.966	
Flt Protected		0.956			0.996		0.950			0.950		
Satd. Flow (prot)	0	1760	1599	0	1737	0	1805	1915	0	1778	1778	0
Flt Permitted		0.709			0.966		0.100			0.326		
Satd. Flow (perm)	0	1306	1562	0	1684	0	190	1915	0	610	1778	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			85		25			1			19	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		584			328			388			335	
Travel Time (s)		13.3			7.5			8.8			7.6	
Confl. Peds. (#/hr)			2			13			1			6
Confl. Bikes (#/hr)						1			1			1
Peak Hour Factor	0.71	0.71	0.71	0.92	0.92	0.92	0.84	0.84	0.84	0.98	0.98	0.98
Heavy Vehicles (%)	2%	4%	0%	0%	7%	0%	3%	2%	0%	0%	1%	1%
Adj. Flow (vph)	437	34	56	4	16	25	42	523	6	6	572	169
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	471	56	0	45	0	42	529	0	6	741	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.01	1.01	1.01	0.94	0.94	0.94	0.96	0.96	0.96	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	2	1	2		2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83	83	20	83		83	6		83	6	
Trailing Detector (ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Position(ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Size(ft)	20	43	43	20	43		43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40	40		40		40			40		
Detector 2 Size(ft)		43	43		43		43			43		
Detector 2 Type		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex			Cl+Ex		

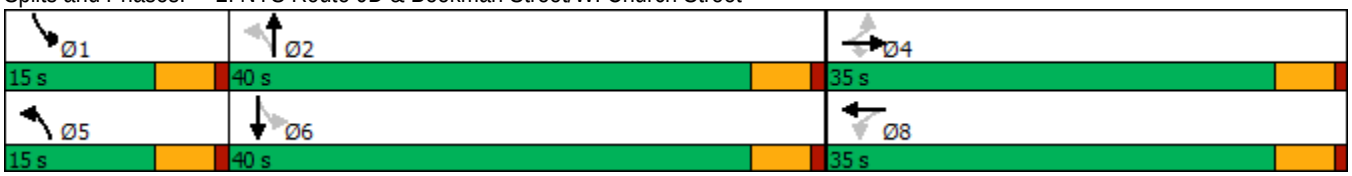


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0	0.0		0.0		0.0			0.0		
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	16.0		4.0	16.0	
Minimum Split (s)	20.0	20.0	20.0	21.0	21.0		9.0	21.0		9.0	21.0	
Total Split (s)	35.0	35.0	35.0	35.0	35.0		15.0	40.0		15.0	40.0	
Total Split (%)	38.9%	38.9%	38.9%	38.9%	38.9%		16.7%	44.4%		16.7%	44.4%	
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0		10.0	35.0		10.0	35.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Max		None	Max	
Walk Time (s)				5.0	5.0							
Flash Dont Walk (s)				11.0	11.0							
Pedestrian Calls (#/hr)				0	0							
v/c Ratio		0.99	0.09		0.07		0.19	0.57		0.02	0.96	
Control Delay		68.0	2.5		11.8		11.5	18.6		9.5	50.4	
Queue Delay		0.0	0.0		0.0		0.0	4.6		0.0	0.0	
Total Delay		68.0	2.5		11.8		11.5	23.1		9.5	50.4	
Queue Length 50th (ft)		~282	0		7		10	172		1	~406	
Queue Length 95th (ft)		#319	4		30		23	306		7	#658	
Internal Link Dist (ft)		504			248			308			255	
Turn Bay Length (ft)			95				75			75		
Base Capacity (vph)		477	625		632		293	932		444	769	
Starvation Cap Reductn		0	0		0		0	322		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.99	0.09		0.07		0.14	0.87		0.01	0.96	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 82.4
Natural Cycle: 90
Control Type: Semi Act-Uncoord
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: NYS Route 9D & Beekman Street/W. Church Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	310	24	40	4	15	23	35	439	5	6	561	166
Future Volume (veh/h)	310	24	40	4	15	23	35	439	5	6	561	166
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1842	1881	1995	1947	1995	1900	1919	1957	1872	1853	1872
Adj Flow Rate, veh/h	437	34	56	4	16	25	42	523	6	6	572	169
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.71	0.71	0.71	0.92	0.92	0.92	0.84	0.84	0.84	0.98	0.98	0.98
Percent Heavy Veh, %	2	4	0	0	7	0	3	2	0	0	1	1
Cap, veh/h	193	8	580	48	144	180	148	848	10	306	579	171
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.03	0.45	0.45	0.01	0.42	0.42
Sat Flow, veh/h	299	23	1594	0	396	495	1810	1893	22	1782	1365	403
Grp Volume(v), veh/h	471	0	56	45	0	0	42	0	529	6	0	741
Grp Sat Flow(s),veh/h/ln	323	0	1594	890	0	0	1810	0	1915	1782	0	1768
Q Serve(g_s), s	0.0	0.0	1.9	0.0	0.0	0.0	1.1	0.0	17.4	0.2	0.0	34.2
Cycle Q Clear(g_c), s	30.0	0.0	1.9	30.0	0.0	0.0	1.1	0.0	17.4	0.2	0.0	34.2
Prop In Lane	0.93		1.00	0.09		0.56	1.00		0.01	1.00		0.23
Lane Grp Cap(c), veh/h	202	0	580	371	0	0	148	0	858	306	0	750
V/C Ratio(X)	2.34	0.00	0.10	0.12	0.00	0.00	0.28	0.00	0.62	0.02	0.00	0.99
Avail Cap(c_a), veh/h	202	0	580	371	0	0	313	0	858	511	0	750
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.5	0.0	17.3	18.4	0.0	0.0	19.9	0.0	17.4	14.9	0.0	23.5
Incr Delay (d2), s/veh	616.7	0.0	0.1	0.1	0.0	0.0	1.0	0.0	3.3	0.0	0.0	29.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	39.1	0.0	0.9	0.7	0.0	0.0	0.6	0.0	9.9	0.1	0.0	22.9
LnGrp Delay(d),s/veh	649.2	0.0	17.4	18.6	0.0	0.0	21.0	0.0	20.7	14.9	0.0	53.5
LnGrp LOS	F		B	B			C		C	B		D
Approach Vol, veh/h		527			45			571			747	
Approach Delay, s/veh		582.1			18.6			20.7			53.2	
Approach LOS		F			B			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.5	42.0		35.0	7.5	40.0		35.0
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	10.0	35.0		30.0	10.0	35.0		30.0
Max Q Clear Time (g_c+I1), s	2.2	19.4		32.0	3.1	36.2		32.0
Green Ext Time (p_c), s	0.0	1.3		0.0	0.0	0.0		0.0

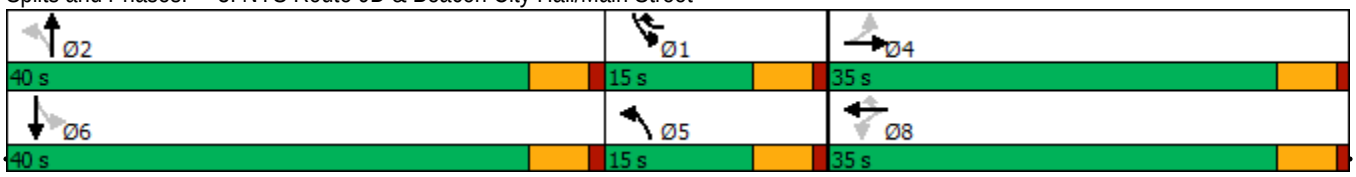
Intersection Summary		
HCM 2010 Ctrl Delay		190.0
HCM 2010 LOS		F

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	2	2	56	2	162	0	317	80	246	367	0
Future Volume (vph)	0	2	2	56	2	162	0	317	80	246	367	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-8%			-3%			3%	
Storage Length (ft)	0		0	0		70	65		0	120		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			86			86		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98				0.96		0.98				
Frt		0.932				0.850		0.970				
Flt Protected					0.954					0.950		
Satd. Flow (prot)	0	1722	0	0	1885	1647	1928	1794	0	1743	1853	0
Flt Permitted					0.743					0.402		
Satd. Flow (perm)	0	1722	0	0	1468	1587	1928	1794	0	738	1853	0
Right Turn on Red			Yes			No			No			Yes
Satd. Flow (RTOR)		3										
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		133			350			693			388	
Travel Time (s)		3.0			8.0			15.8			8.8	
Confl. Peds. (#/hr)			9			15			21			12
Confl. Bikes (#/hr)			1						1			
Peak Hour Factor	0.60	0.60	0.60	0.91	0.91	0.91	0.79	0.79	0.79	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	2%	5%	2%	1%	0%
Adj. Flow (vph)	0	3	3	62	2	178	0	401	101	280	417	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	6	0	0	64	178	0	502	0	280	417	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.01	1.01	1.01	0.95	0.95	0.95	0.98	0.98	0.98	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83		20	83	83	83	6		83	6	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Size(ft)	20	43		20	43	43	43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40			40	40	40			40		
Detector 2 Size(ft)		43			43	43	43			43		
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0	0.0	0.0			0.0		
Turn Type		NA		Perm	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8	1	5	2		1	6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		8.0	8.0	4.0	4.0	31.0		4.0	35.0	
Minimum Split (s)	21.0	21.0		21.0	21.0	9.0	9.0	36.0		9.0	40.0	
Total Split (s)	35.0	35.0		35.0	35.0	15.0	15.0	40.0		15.0	40.0	
Total Split (%)	38.9%	38.9%		38.9%	38.9%	16.7%	16.7%	44.4%		16.7%	44.4%	
Maximum Green (s)	30.0	30.0		30.0	30.0	10.0	10.0	35.0		10.0	35.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag						Lag	Lag	Lead		Lag	Lead	
Lead-Lag Optimize?						Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		None	Max	
Walk Time (s)	5.0	5.0						5.0				
Flash Dont Walk (s)	11.0	11.0						11.0				
Pedestrian Calls (#/hr)	0	0						0				
v/c Ratio		0.03			0.31	0.47		0.50		0.38	0.27	
Control Delay		21.2			30.8	21.8		12.6		6.1	3.4	
Queue Delay		0.0			0.0	0.0		0.0		0.0	0.2	
Total Delay		21.2			30.8	21.8		12.6		6.1	3.6	
Queue Length 50th (ft)		1			25	54		132		29	46	
Queue Length 95th (ft)		7			59	100		192		59	89	
Internal Link Dist (ft)		53			270			613			308	
Turn Bay Length (ft)						70				120		
Base Capacity (vph)		831			706	396		1008		753	1539	
Starvation Cap Reductn		0			0	0		0		0	530	
Spillback Cap Reductn		0			0	0		0		0	0	
Storage Cap Reductn		0			0	0		0		0	0	
Reduced v/c Ratio		0.01			0.09	0.45		0.50		0.37	0.41	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 63.3	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	

Splits and Phases: 3: NYS Route 9D & Beacon City Hall/Main Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2	2	56	2	162	0	317	80	246	367	0
Future Volume (veh/h)	0	2	2	56	2	162	0	317	80	246	367	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	0.97		0.94	1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1890	1890	1890	1976	1976	1937	1928	1880	1928	1835	1853	1872
Adj Flow Rate, veh/h	0	3	3	62	2	178	0	401	101	280	417	0
Adj No. of Lanes	0	1	0	0	1	1	1	1	0	1	1	0
Peak Hour Factor	0.60	0.60	0.60	0.91	0.91	0.91	0.79	0.79	0.79	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	2	0	2	5	2	1	0
Cap, veh/h	0	107	107	289	8	303	674	813	205	577	1048	0
Arrive On Green	0.00	0.13	0.13	0.13	0.13	0.13	0.00	0.57	0.57	0.06	0.57	0.00
Sat Flow, veh/h	0	841	841	1371	60	1551	1837	1437	362	1747	1853	0
Grp Volume(v), veh/h	0	0	6	64	0	178	0	0	502	280	417	0
Grp Sat Flow(s),veh/h/ln	0	0	1682	1431	0	1551	1837	0	1799	1747	1853	0
Q Serve(g_s), s	0.0	0.0	0.2	2.4	0.0	2.2	0.0	0.0	10.4	0.0	7.8	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.2	2.6	0.0	2.2	0.0	0.0	10.4	0.0	7.8	0.0
Prop In Lane	0.00		0.50	0.97		1.00	1.00		0.20	1.00		0.00
Lane Grp Cap(c), veh/h	0	0	214	297	0	303	674	0	1018	577	1048	0
V/C Ratio(X)	0.00	0.00	0.03	0.22	0.00	0.59	0.00	0.00	0.49	0.49	0.40	0.00
Avail Cap(c_a), veh/h	0	0	816	816	0	858	853	0	1018	748	1048	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	23.6	24.7	0.0	22.7	0.0	0.0	8.1	13.2	7.5	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.1	0.4	0.0	1.8	0.0	0.0	1.7	0.6	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.1	1.0	0.0	2.8	0.0	0.0	5.5	3.8	4.3	0.0
LnGrp Delay(d),s/veh	0.0	0.0	23.7	25.1	0.0	24.5	0.0	0.0	9.8	13.8	8.7	0.0
LnGrp LOS			C	C		C			A	B	A	
Approach Vol, veh/h		6			242			502			697	
Approach Delay, s/veh		23.7			24.6			9.8			10.7	
Approach LOS		C			C			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.0	40.0		12.9	9.0	40.0		12.9
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	10.0	35.0		30.0	10.0	35.0		30.0
Max Q Clear Time (g_c+I1), s	2.0	12.4		2.2	0.0	9.8		4.6
Green Ext Time (p_c), s	0.9	1.4		0.0	0.0	1.0		1.4

Intersection Summary	
HCM 2010 Ctrl Delay	12.8
HCM 2010 LOS	B

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	7	2	3	9	2	48	3	342	7	58	351	12
Future Volume (vph)	7	2	3	9	2	48	3	342	7	58	351	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-3%			-4%			4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.964			0.890			0.997			0.996	
Flt Protected		0.971			0.992						0.993	
Satd. Flow (prot)	0	1778	0	0	1703	0	0	1843	0	0	1806	0
Flt Permitted		0.971			0.992						0.993	
Satd. Flow (perm)	0	1778	0	0	1703	0	0	1843	0	0	1806	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		162			281			312			693	
Travel Time (s)		3.7			6.4			7.1			15.8	
Confl. Peds. (#/hr)			2			4			3			2
Confl. Bikes (#/hr)			2									
Peak Hour Factor	0.81	0.81	0.81	0.66	0.66	0.66	0.69	0.69	0.69	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	5%	0%	2%	2%	0%
Adj. Flow (vph)	9	2	4	14	3	73	4	496	10	63	382	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	15	0	0	90	0	0	510	0	0	458	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	0.98	0.98	0.98	0.97	0.97	0.97	1.03	1.03	1.03
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	2.1

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	7	2	3	9	2	48	3	342	7	58	351	12
Future Vol, veh/h	7	2	3	9	2	48	3	342	7	58	351	12
Conflicting Peds, #/hr	0	0	2	0	0	4	0	0	3	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-3	-	-	-4	-	-	4	-
Peak Hour Factor	81	81	81	66	66	66	69	69	69	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	5	0	2	2	0
Mvmt Flow	9	2	4	14	3	73	4	496	10	63	382	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1068	1034	393	1032	1035	508	397	0	0	509	0	0
Stage 1	517	517	-	512	512	-	-	-	-	-	-	-
Stage 2	551	517	-	520	523	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	6.5	5.9	5.9	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	5.5	4.9	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	5.5	4.9	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	201	234	660	253	278	593	1173	-	-	1056	-	-
Stage 1	545	537	-	597	588	-	-	-	-	-	-	-
Stage 2	522	537	-	592	582	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	163	214	658	233	254	590	1171	-	-	1053	-	-
Mov Cap-2 Maneuver	163	214	-	233	254	-	-	-	-	-	-	-
Stage 1	541	495	-	593	584	-	-	-	-	-	-	-
Stage 2	451	533	-	540	536	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	23.3	14.7	0.1	1.2
HCM LOS	C	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1171	-	-	461	211	1053	-	-
HCM Lane V/C Ratio	0.004	-	-	0.194	0.07	0.06	-	-
HCM Control Delay (s)	8.1	0	-	14.7	23.3	8.6	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.7	0.2	0.2	-	-



Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	21	6	21	330	297	65
Future Volume (vph)	21	6	21	330	297	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.968				0.976	
Flt Protected	0.963			0.997		
Satd. Flow (prot)	1736	0	0	1857	1818	0
Flt Permitted	0.963			0.997		
Satd. Flow (perm)	1736	0	0	1857	1818	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	176			499	312	
Travel Time (s)	4.0			11.3	7.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	23	7	23	359	323	71
Shared Lane Traffic (%)						
Lane Group Flow (vph)	30	0	0	382	394	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60			60
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

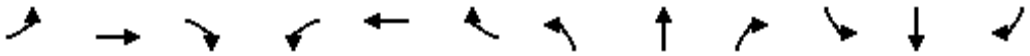
Intersection	
Int Delay, s/veh	0.7

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Vol, veh/h	21	6	21	330	297	65
Future Vol, veh/h	21	6	21	330	297	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	7	23	359	323	71

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	764	359	394	0	-	0
Stage 1	359	-	-	-	-	-
Stage 2	405	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	372	685	1165	-	-	-
Stage 1	707	-	-	-	-	-
Stage 2	673	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	363	685	1165	-	-	-
Mov Cap-2 Maneuver	476	-	-	-	-	-
Stage 1	689	-	-	-	-	-
Stage 2	673	-	-	-	-	-

Approach	SE	NE	SW
HCM Control Delay, s	12.5	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NEL	NET	SELn1	SWT	SWR
Capacity (veh/h)	1165	-	511	-	-
HCM Lane V/C Ratio	0.02	-	0.057	-	-
HCM Control Delay (s)	8.2	0	12.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

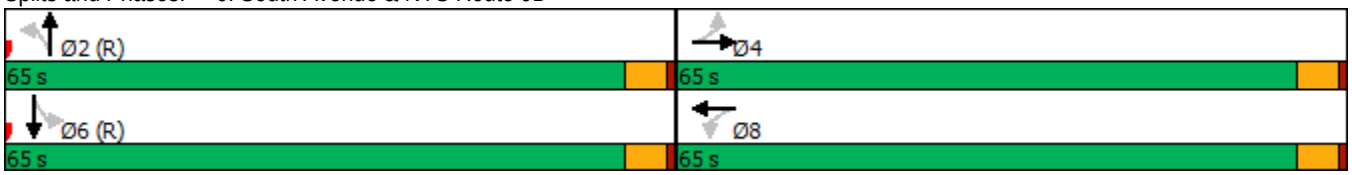


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	261	19	9	251	55	7	21	7	46	29	10
Future Volume (vph)	10	261	19	9	251	55	7	21	7	46	29	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		6%			-6%			-1%			3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00			0.99	
Frt		0.991			0.976			0.974			0.984	
Flt Protected		0.998			0.999			0.990			0.974	
Satd. Flow (prot)	0	1823	0	0	1843	0	0	1841	0	0	1696	0
Flt Permitted		0.984			0.988			0.961			0.842	
Satd. Flow (perm)	0	1797	0	0	1823	0	0	1781	0	0	1466	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			11			8			7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		241			516			194			303	
Travel Time (s)		5.5			11.7			4.4			6.9	
Confl. Peds. (#/hr)							6					6
Peak Hour Factor	0.90	0.90	0.90	0.83	0.83	0.83	0.85	0.85	0.85	0.79	0.79	0.79
Heavy Vehicles (%)	0%	0%	0%	12%	4%	0%	0%	0%	0%	2%	12%	0%
Adj. Flow (vph)	11	290	21	11	302	66	8	25	8	58	37	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	322	0	0	379	0	0	41	0	0	108	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	0.96	0.96	0.96	0.99	0.99	0.99	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	21.0	21.0		21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	65.0	65.0		65.0	65.0		65.0	65.0		65.0	65.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	60.0	60.0		60.0	60.0		60.0	60.0		60.0	60.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.39			0.45			0.05			0.16	
Control Delay		24.4			25.1			16.5			19.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		24.4			25.1			16.5			19.8	
Queue Length 50th (ft)		172			206			15			48	
Queue Length 95th (ft)		248			262			34			74	
Internal Link Dist (ft)		161			436			114			223	
Turn Bay Length (ft)												
Base Capacity (vph)		831			847			826			680	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.39			0.45			0.05			0.16	

Intersection Summary	
Area Type:	Other
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 45	
Control Type: Pretimed	

Splits and Phases: 6: South Avenue & NYS Route 9D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	261	19	9	251	55	7	21	7	46	29	10
Future Volume (veh/h)	10	261	19	9	251	55	7	21	7	46	29	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1843	1843	1843	1957	1890	1957	1910	1910	1910	1872	1779	1872
Adj Flow Rate, veh/h	11	290	21	11	302	66	8	25	8	58	37	13
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.90	0.90	0.90	0.83	0.83	0.83	0.85	0.85	0.85	0.79	0.79	0.79
Percent Heavy Veh, %	0	0	0	12	4	0	0	0	0	2	12	0
Cap, veh/h	40	765	54	38	683	146	167	511	156	394	244	82
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	25	1658	117	22	1480	317	289	1108	339	761	530	177
Grp Volume(v), veh/h	322	0	0	379	0	0	41	0	0	108	0	0
Grp Sat Flow(s),veh/h/ln	1801	0	0	1818	0	0	1736	0	0	1467	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0	0.0
Cycle Q Clear(g_c), s	15.0	0.0	0.0	18.2	0.0	0.0	1.6	0.0	0.0	5.2	0.0	0.0
Prop In Lane	0.03		0.07	0.03		0.17	0.20		0.20	0.54		0.12
Lane Grp Cap(c), veh/h	860	0	0	868	0	0	834	0	0	720	0	0
V/C Ratio(X)	0.37	0.00	0.00	0.44	0.00	0.00	0.05	0.00	0.00	0.15	0.00	0.00
Avail Cap(c_a), veh/h	860	0	0	868	0	0	834	0	0	720	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.9	0.0	0.0	23.8	0.0	0.0	19.3	0.0	0.0	20.2	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.0	0.0	1.6	0.0	0.0	0.1	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	0.0	0.0	9.5	0.0	0.0	0.8	0.0	0.0	2.3	0.0	0.0
LnGrp Delay(d),s/veh	24.1	0.0	0.0	25.4	0.0	0.0	19.4	0.0	0.0	20.6	0.0	0.0
LnGrp LOS	C			C			B			C		
Approach Vol, veh/h		322			379			41			108	
Approach Delay, s/veh		24.1			25.4			19.4			20.6	
Approach LOS		C			C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		65.0		65.0		65.0		65.0
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s		60.0		60.0		60.0		60.0
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0

Intersection Summary		
HCM 2010 Ctrl Delay		24.0
HCM 2010 LOS		C



Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	54	299	778	78	209	639
Future Volume (vph)	54	299	778	78	209	639
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	5%		3%			-1%
Storage Length (ft)	85	0		0	340	
Storage Lanes	1	1		0	1	
Taper Length (ft)	86				86	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.988			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1725	1544	1813	0	1778	1872
Flt Permitted	0.950				0.057	
Satd. Flow (perm)	1725	1544	1813	0	107	1872
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	30		30			30
Link Distance (ft)	427		462			529
Travel Time (s)	9.7		10.5			12.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	325	846	85	227	695
Shared Lane Traffic (%)						
Lane Group Flow (vph)	59	325	931	0	227	695
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			
Headway Factor	1.03	1.03	1.02	1.02	0.99	0.99
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	pm+ov	NA		pm+pt	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8			6	
Minimum Split (s)	21.0	9.0	15.0		9.0	15.0
Total Split (s)	30.0	20.0	70.0		20.0	90.0
Total Split (%)	25.0%	16.7%	58.3%		16.7%	75.0%
Maximum Green (s)	25.0	15.0	65.0		15.0	85.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Walk Time (s)	5.0		5.0			
Flash Dont Walk (s)	11.0		11.0			
Pedestrian Calls (#/hr)	0		0			
v/c Ratio	0.16	0.56	0.95		0.80	0.52
Control Delay	40.4	34.3	45.4		51.1	9.9

Lane Group	NWL	NWR	NET	NER	SWL	SWT
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	40.4	34.3	45.4		51.1	9.9
Queue Length 50th (ft)	38	197	651		119	223
Queue Length 95th (ft)	76	293	#957		#247	307
Internal Link Dist (ft)	347		382			449
Turn Bay Length (ft)	85				340	
Base Capacity (vph)	359	579	982		284	1326
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.16	0.56	0.95		0.80	0.52

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NET and 6:SWTL, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 1: NYS Route 9D & Verplanck Avenue

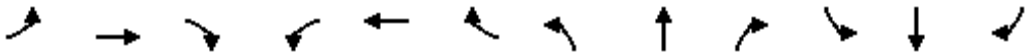


Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (veh/h)	54	299	778	78	209	639
Future Volume (veh/h)	54	299	778	78	209	639
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1816	1816	1835	1872	1872	1872
Adj Flow Rate, veh/h	59	325	846	85	227	695
Adj No. of Lanes	1	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	360	515	889	89	315	1326
Arrive On Green	0.21	0.21	0.54	0.54	0.13	0.71
Sat Flow, veh/h	1730	1544	1641	165	1783	1872
Grp Volume(v), veh/h	59	325	0	931	227	695
Grp Sat Flow(s),veh/h/ln	1730	1544	0	1806	1783	1872
Q Serve(g_s), s	3.4	21.3	0.0	58.5	8.2	20.7
Cycle Q Clear(g_c), s	3.4	21.3	0.0	58.5	8.2	20.7
Prop In Lane	1.00	1.00		0.09	1.00	
Lane Grp Cap(c), veh/h	360	515	0	978	315	1326
V/C Ratio(X)	0.16	0.63	0.00	0.95	0.72	0.52
Avail Cap(c_a), veh/h	360	515	0	978	315	1326
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.9	33.8	0.0	26.0	31.9	8.1
Incr Delay (d2), s/veh	1.0	5.8	0.0	19.3	13.3	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	9.9	0.0	34.2	8.3	11.2
LnGrp Delay(d),s/veh	39.9	39.6	0.0	45.3	45.2	9.6
LnGrp LOS	D	D		D	D	A
Approach Vol, veh/h	384		931			922
Approach Delay, s/veh	39.6		45.3			18.4
Approach LOS	D		D			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	20.0	70.0				90.0		30.0
Change Period (Y+Rc), s	5.0	5.0				5.0		5.0
Max Green Setting (Gmax), s	15.0	65.0				85.0		25.0
Max Q Clear Time (g_c+I1), s	0.0	0.0				0.0		0.0
Green Ext Time (p_c), s	0.0	0.0				0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	33.2
HCM 2010 LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	310	24	37	4	15	23	38	478	5	6	525	166
Future Volume (vph)	310	24	37	4	15	23	38	478	5	6	525	166
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-10%			-6%			3%	
Storage Length (ft)	0		95	0		0	75		0	75		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			86			86		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.98		0.97			1.00			0.99	
Frt			0.850		0.925			0.998			0.964	
Flt Protected		0.956			0.996		0.950			0.950		
Satd. Flow (prot)	0	1760	1599	0	1737	0	1805	1915	0	1778	1774	0
Flt Permitted		0.709			0.966		0.102			0.283		
Satd. Flow (perm)	0	1306	1562	0	1684	0	194	1915	0	530	1774	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			85		25			1			21	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		584			328			388			335	
Travel Time (s)		13.3			7.5			8.8			7.6	
Confl. Peds. (#/hr)			2			13			1			6
Confl. Bikes (#/hr)						1			1			1
Peak Hour Factor	0.71	0.71	0.71	0.92	0.92	0.92	0.84	0.84	0.84	0.98	0.98	0.98
Heavy Vehicles (%)	2%	4%	0%	0%	7%	0%	3%	2%	0%	0%	1%	1%
Adj. Flow (vph)	437	34	52	4	16	25	45	569	6	6	536	169
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	471	52	0	45	0	45	575	0	6	705	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.01	1.01	1.01	0.94	0.94	0.94	0.96	0.96	0.96	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	2	1	2		2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83	83	20	83		83	6		83	6	
Trailing Detector (ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Position(ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Size(ft)	20	43	43	20	43		43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40	40		40		40			40		
Detector 2 Size(ft)		43	43		43		43			43		
Detector 2 Type		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex			Cl+Ex		

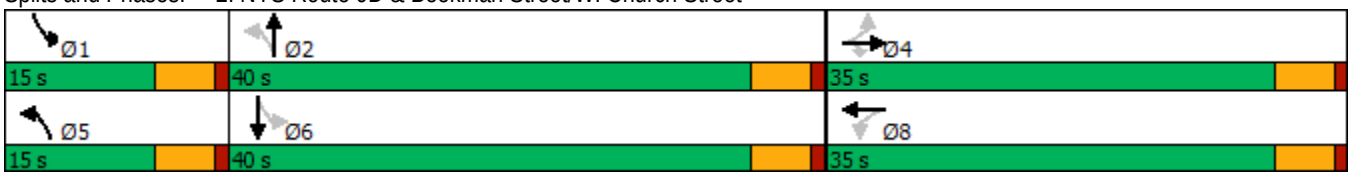


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0	0.0		0.0		0.0			0.0		
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	16.0		4.0	16.0	
Minimum Split (s)	20.0	20.0	20.0	21.0	21.0		9.0	21.0		9.0	21.0	
Total Split (s)	35.0	35.0	35.0	35.0	35.0		15.0	40.0		15.0	40.0	
Total Split (%)	38.9%	38.9%	38.9%	38.9%	38.9%		16.7%	44.4%		16.7%	44.4%	
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0		10.0	35.0		10.0	35.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Max		None	Max	
Walk Time (s)				5.0	5.0							
Flash Dont Walk (s)				11.0	11.0							
Pedestrian Calls (#/hr)				0	0							
v/c Ratio		0.99	0.08		0.07		0.19	0.62		0.02	0.92	
Control Delay		68.2	2.2		11.8		11.6	19.7		9.5	42.4	
Queue Delay		0.0	0.0		0.0		0.0	7.6		0.0	0.0	
Total Delay		68.2	2.2		11.8		11.6	27.3		9.5	42.4	
Queue Length 50th (ft)		~283	0		7		11	194		1	361	
Queue Length 95th (ft)		#319	2		30		24	341		7	#612	
Internal Link Dist (ft)		504			248			308			255	
Turn Bay Length (ft)			95				75			75		
Base Capacity (vph)		477	624		631		295	933		414	769	
Starvation Cap Reductn		0	0		0		0	311		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.99	0.08		0.07		0.15	0.92		0.01	0.92	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 82.5
Natural Cycle: 90
Control Type: Semi Act-Uncoord
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

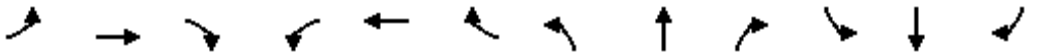
Splits and Phases: 2: NYS Route 9D & Beekman Street/W. Church Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	310	24	37	4	15	23	38	478	5	6	525	166
Future Volume (veh/h)	310	24	37	4	15	23	38	478	5	6	525	166
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1842	1881	1995	1947	1995	1900	1919	1957	1872	1853	1872
Adj Flow Rate, veh/h	437	34	52	4	16	25	45	569	6	6	536	169
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.71	0.71	0.71	0.92	0.92	0.92	0.84	0.84	0.84	0.98	0.98	0.98
Percent Heavy Veh, %	2	4	0	0	7	0	3	2	0	0	1	1
Cap, veh/h	193	8	579	47	144	180	174	850	9	276	568	179
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.03	0.45	0.45	0.01	0.42	0.42
Sat Flow, veh/h	299	23	1594	0	396	495	1810	1895	20	1782	1341	423
Grp Volume(v), veh/h	471	0	52	45	0	0	45	0	575	6	0	705
Grp Sat Flow(s),veh/h/ln	323	0	1594	890	0	0	1810	0	1915	1782	0	1764
Q Serve(g_s), s	0.0	0.0	1.8	0.0	0.0	0.0	1.1	0.0	19.5	0.2	0.0	31.7
Cycle Q Clear(g_c), s	30.0	0.0	1.8	30.0	0.0	0.0	1.1	0.0	19.5	0.2	0.0	31.7
Prop In Lane	0.93		1.00	0.09		0.56	1.00		0.01	1.00		0.24
Lane Grp Cap(c), veh/h	201	0	579	371	0	0	174	0	859	276	0	748
V/C Ratio(X)	2.34	0.00	0.09	0.12	0.00	0.00	0.26	0.00	0.67	0.02	0.00	0.94
Avail Cap(c_a), veh/h	201	0	579	371	0	0	337	0	859	481	0	748
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.5	0.0	17.3	18.5	0.0	0.0	19.0	0.0	17.9	15.3	0.0	22.8
Incr Delay (d2), s/veh	618.0	0.0	0.1	0.1	0.0	0.0	0.8	0.0	4.1	0.0	0.0	21.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	39.1	0.0	0.8	0.7	0.0	0.0	0.6	0.0	11.2	0.1	0.0	19.8
LnGrp Delay(d),s/veh	650.6	0.0	17.4	18.6	0.0	0.0	19.8	0.0	22.0	15.3	0.0	44.4
LnGrp LOS	F		B	B			B		C	B		D
Approach Vol, veh/h		523			45			620			711	
Approach Delay, s/veh		587.6			18.6			21.9			44.2	
Approach LOS		F			B			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.5	42.1		35.0	7.6	40.0		35.0
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	10.0	35.0		30.0	10.0	35.0		30.0
Max Q Clear Time (g_c+I1), s	2.2	21.5		32.0	3.1	33.7		32.0
Green Ext Time (p_c), s	0.0	1.4		0.0	0.1	0.4		0.0

Intersection Summary		
HCM 2010 Ctrl Delay		186.0
HCM 2010 LOS		F



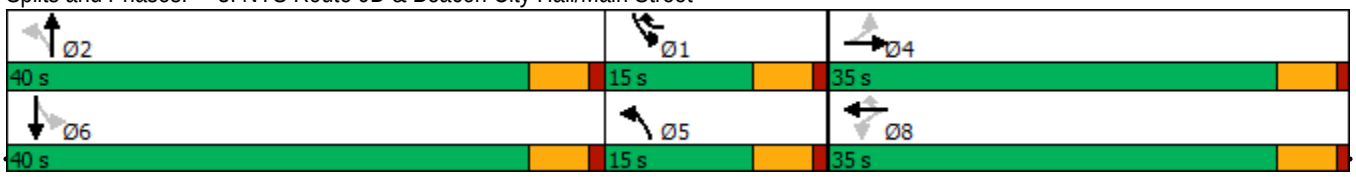
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	2	2	50	2	162	0	356	86	246	328	0
Future Volume (vph)	0	2	2	50	2	162	0	356	86	246	328	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-8%			-3%			3%	
Storage Length (ft)	0		0	0		70	65		0	120		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			86			86		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98				0.96		0.98				
Frt		0.932				0.850		0.971				
Flt Protected					0.954					0.950		
Satd. Flow (prot)	0	1722	0	0	1885	1647	1928	1797	0	1743	1853	0
Flt Permitted					0.771					0.360		
Satd. Flow (perm)	0	1722	0	0	1523	1587	1928	1797	0	661	1853	0
Right Turn on Red			Yes			No			No			Yes
Satd. Flow (RTOR)		3										
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		133			350			693			388	
Travel Time (s)		3.0			8.0			15.8			8.8	
Confl. Peds. (#/hr)			9			15			21			12
Confl. Bikes (#/hr)			1						1			
Peak Hour Factor	0.60	0.60	0.60	0.91	0.91	0.91	0.79	0.79	0.79	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	2%	5%	2%	1%	0%
Adj. Flow (vph)	0	3	3	55	2	178	0	451	109	280	373	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	6	0	0	57	178	0	560	0	280	373	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.01	1.01	1.01	0.95	0.95	0.95	0.98	0.98	0.98	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83		20	83	83	83	6		83	6	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Size(ft)	20	43		20	43	43	43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40			40	40	40			40		
Detector 2 Size(ft)		43			43	43	43			43		
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0	0.0	0.0			0.0		
Turn Type		NA		Perm	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8	1	5	2		1	6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		8.0	8.0	4.0	4.0	31.0		4.0	35.0	
Minimum Split (s)	21.0	21.0		21.0	21.0	9.0	9.0	36.0		9.0	40.0	
Total Split (s)	35.0	35.0		35.0	35.0	15.0	15.0	40.0		15.0	40.0	
Total Split (%)	38.9%	38.9%		38.9%	38.9%	16.7%	16.7%	44.4%		16.7%	44.4%	
Maximum Green (s)	30.0	30.0		30.0	30.0	10.0	10.0	35.0		10.0	35.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag						Lag	Lag	Lead		Lag	Lead	
Lead-Lag Optimize?						Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		None	Max	
Walk Time (s)	5.0	5.0						5.0				
Flash Dont Walk (s)	11.0	11.0						11.0				
Pedestrian Calls (#/hr)	0	0						0				
v/c Ratio		0.03			0.27	0.47		0.55		0.41	0.24	
Control Delay		21.5			30.1	22.0		13.3		6.8	3.1	
Queue Delay		0.0			0.0	0.0		0.0		0.0	0.2	
Total Delay		21.5			30.1	22.0		13.3		6.8	3.3	
Queue Length 50th (ft)		1			22	54		153		28	39	
Queue Length 95th (ft)		7			54	100		217		56	75	
Internal Link Dist (ft)		53			270			613			308	
Turn Bay Length (ft)						70				120		
Base Capacity (vph)		833			735	392		1013		706	1544	
Starvation Cap Reductn		0			0	0		0		0	551	
Spillback Cap Reductn		0			0	0		0		0	0	
Storage Cap Reductn		0			0	0		0		0	0	
Reduced v/c Ratio		0.01			0.08	0.45		0.55		0.40	0.38	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 63.1
Natural Cycle: 70
Control Type: Semi Act-Uncoord

Splits and Phases: 3: NYS Route 9D & Beacon City Hall/Main Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2	2	50	2	162	0	356	86	246	328	0
Future Volume (veh/h)	0	2	2	50	2	162	0	356	86	246	328	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	0.97		0.94	1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1890	1890	1890	1976	1976	1937	1928	1880	1928	1835	1853	1872
Adj Flow Rate, veh/h	0	3	3	55	2	178	0	451	109	280	373	0
Adj No. of Lanes	0	1	0	0	1	1	1	1	0	1	1	0
Peak Hour Factor	0.60	0.60	0.60	0.91	0.91	0.91	0.79	0.79	0.79	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	2	0	2	5	2	1	0
Cap, veh/h	0	107	107	288	9	303	709	821	198	536	1049	0
Arrive On Green	0.00	0.13	0.13	0.13	0.13	0.13	0.00	0.57	0.57	0.06	0.57	0.00
Sat Flow, veh/h	0	841	841	1366	68	1551	1837	1451	351	1747	1853	0
Grp Volume(v), veh/h	0	0	6	57	0	178	0	0	560	280	373	0
Grp Sat Flow(s),veh/h/ln	0	0	1682	1434	0	1551	1837	0	1801	1747	1853	0
Q Serve(g_s), s	0.0	0.0	0.2	2.1	0.0	2.2	0.0	0.0	12.1	0.0	6.8	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.2	2.3	0.0	2.2	0.0	0.0	12.1	0.0	6.8	0.0
Prop In Lane	0.00		0.50	0.96		1.00	1.00		0.19	1.00		0.00
Lane Grp Cap(c), veh/h	0	0	214	297	0	303	709	0	1020	536	1049	0
V/C Ratio(X)	0.00	0.00	0.03	0.19	0.00	0.59	0.00	0.00	0.55	0.52	0.36	0.00
Avail Cap(c_a), veh/h	0	0	816	816	0	858	889	0	1020	707	1049	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	23.6	24.6	0.0	22.7	0.0	0.0	8.5	14.9	7.3	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.1	0.3	0.0	1.8	0.0	0.0	2.1	0.8	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.1	0.9	0.0	2.8	0.0	0.0	6.5	4.2	3.7	0.0
LnGrp Delay(d),s/veh	0.0	0.0	23.7	24.9	0.0	24.5	0.0	0.0	10.6	15.7	8.2	0.0
LnGrp LOS			C	C		C			B	B	A	
Approach Vol, veh/h		6			235			560			653	
Approach Delay, s/veh		23.7			24.6			10.6			11.4	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.0	40.0		12.9	9.0	40.0		12.9
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	10.0	35.0		30.0	10.0	35.0		30.0
Max Q Clear Time (g_c+I1), s	2.0	14.1		2.2	0.0	8.8		4.3
Green Ext Time (p_c), s	0.9	1.5		0.0	0.0	0.9		1.3

Intersection Summary	
HCM 2010 Ctrl Delay	13.3
HCM 2010 LOS	B

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	7	2	3	9	2	48	3	387	7	58	306	12
Future Volume (vph)	7	2	3	9	2	48	3	387	7	58	306	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-3%			-4%			4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.964			0.890			0.998			0.996	
Flt Protected		0.971			0.992						0.992	
Satd. Flow (prot)	0	1778	0	0	1703	0	0	1844	0	0	1805	0
Flt Permitted		0.971			0.992						0.992	
Satd. Flow (perm)	0	1778	0	0	1703	0	0	1844	0	0	1805	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		162			281			312			693	
Travel Time (s)		3.7			6.4			7.1			15.8	
Confl. Peds. (#/hr)			2			4			3			2
Confl. Bikes (#/hr)			2									
Peak Hour Factor	0.81	0.81	0.81	0.66	0.66	0.66	0.69	0.69	0.69	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	5%	0%	2%	2%	0%
Adj. Flow (vph)	9	2	4	14	3	73	4	561	10	63	333	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	15	0	0	90	0	0	575	0	0	409	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	0.98	0.98	0.98	0.97	0.97	0.97	1.03	1.03	1.03
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	2.2

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	2	3	9	2	48	3	387	7	58	306	12
Future Vol, veh/h	7	2	3	9	2	48	3	387	7	58	306	12
Conflicting Peds, #/hr	0	0	2	0	0	4	0	0	3	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-3	-	-	-4	-	-	4	-
Peak Hour Factor	81	81	81	66	66	66	69	69	69	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	5	0	2	2	0
Mvmt Flow	9	2	4	14	3	73	4	561	10	63	333	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1084	1050	344	1048	1051	573	348	0	0	574	0	0
Stage 1	468	468	-	577	577	-	-	-	-	-	-	-
Stage 2	616	582	-	471	474	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	6.5	5.9	5.9	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	5.5	4.9	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	5.5	4.9	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	196	229	703	247	272	548	1222	-	-	999	-	-
Stage 1	579	565	-	557	556	-	-	-	-	-	-	-
Stage 2	481	502	-	624	607	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	157	209	701	227	249	545	1220	-	-	997	-	-
Mov Cap-2 Maneuver	157	209	-	227	249	-	-	-	-	-	-	-
Stage 1	575	520	-	553	552	-	-	-	-	-	-	-
Stage 2	411	498	-	569	558	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	23.9	15.4	0.1	1.4
HCM LOS	C	C		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1220	-	-	435	205	997	-	-
HCM Lane V/C Ratio	0.004	-	-	0.206	0.072	0.063	-	-
HCM Control Delay (s)	8	0	-	15.4	23.9	8.9	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.8	0.2	0.2	-	-



Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	66	21	6	330	297	20
Future Volume (vph)	66	21	6	330	297	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.967				0.991	
Flt Protected	0.963			0.999		
Satd. Flow (prot)	1735	0	0	1861	1846	0
Flt Permitted	0.963			0.999		
Satd. Flow (perm)	1735	0	0	1861	1846	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	176			499	312	
Travel Time (s)	4.0			11.3	7.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	23	7	359	323	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	95	0	0	366	345	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60			60
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

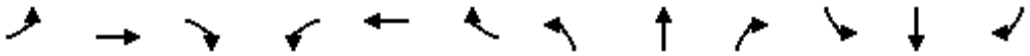
Intersection	
Int Delay, s/veh	1.6

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Vol, veh/h	66	21	6	330	297	20
Future Vol, veh/h	66	21	6	330	297	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	72	23	7	359	323	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	707	334	345	0	-	0
Stage 1	334	-	-	-	-	-
Stage 2	373	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	402	708	1214	-	-	-
Stage 1	725	-	-	-	-	-
Stage 2	696	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	399	708	1214	-	-	-
Mov Cap-2 Maneuver	505	-	-	-	-	-
Stage 1	720	-	-	-	-	-
Stage 2	696	-	-	-	-	-

Approach	SE	NE	SW
HCM Control Delay, s	13	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NEL	NET	SELn1	SWT	SWR
Capacity (veh/h)	1214	-	543	-	-
HCM Lane V/C Ratio	0.005	-	0.174	-	-
HCM Control Delay (s)	8	0	13	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

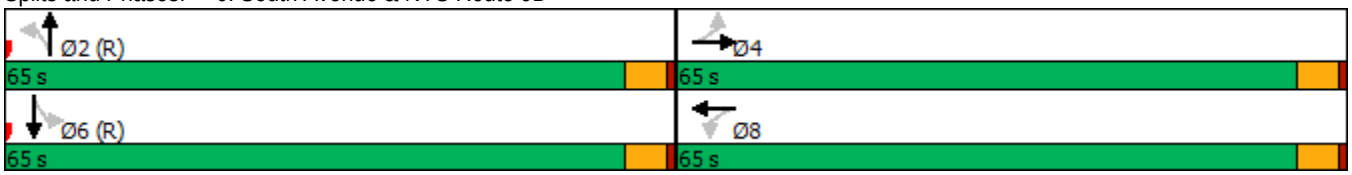


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	276	19	9	236	55	7	21	7	46	29	10
Future Volume (vph)	10	276	19	9	236	55	7	21	7	46	29	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		6%			-6%			-1%			3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00			0.99	
Frt		0.992			0.975			0.974			0.984	
Flt Protected		0.998			0.998			0.990			0.974	
Satd. Flow (prot)	0	1825	0	0	1840	0	0	1841	0	0	1696	0
Flt Permitted		0.985			0.987			0.961			0.842	
Satd. Flow (perm)	0	1801	0	0	1819	0	0	1781	0	0	1466	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			12			8			7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		241			516			194			303	
Travel Time (s)		5.5			11.7			4.4			6.9	
Confl. Peds. (#/hr)							6					6
Peak Hour Factor	0.90	0.90	0.90	0.83	0.83	0.83	0.85	0.85	0.85	0.79	0.79	0.79
Heavy Vehicles (%)	0%	0%	0%	12%	4%	0%	0%	0%	0%	2%	12%	0%
Adj. Flow (vph)	11	307	21	11	284	66	8	25	8	58	37	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	339	0	0	361	0	0	41	0	0	108	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	0.96	0.96	0.96	0.99	0.99	0.99	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	21.0	21.0		21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	65.0	65.0		65.0	65.0		65.0	65.0		65.0	65.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	60.0	60.0		60.0	60.0		60.0	60.0		60.0	60.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.41			0.43			0.05			0.16	
Control Delay		24.8			24.6			16.5			19.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		24.8			24.6			16.5			19.8	
Queue Length 50th (ft)		184			193			15			48	
Queue Length 95th (ft)		263			247			34			74	
Internal Link Dist (ft)		161			436			114			223	
Turn Bay Length (ft)												
Base Capacity (vph)		832			846			826			680	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.41			0.43			0.05			0.16	

Intersection Summary	
Area Type:	Other
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 45	
Control Type: Pretimed	

Splits and Phases: 6: South Avenue & NYS Route 9D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	276	19	9	236	55	7	21	7	46	29	10
Future Volume (veh/h)	10	276	19	9	236	55	7	21	7	46	29	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1843	1843	1843	1957	1891	1957	1910	1910	1910	1872	1779	1872
Adj Flow Rate, veh/h	11	307	21	11	284	66	8	25	8	58	37	13
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.90	0.90	0.90	0.83	0.83	0.83	0.85	0.85	0.85	0.79	0.79	0.79
Percent Heavy Veh, %	0	0	0	12	4	0	0	0	0	2	12	0
Cap, veh/h	40	770	52	39	674	153	167	511	156	394	244	82
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	24	1668	112	23	1460	332	289	1108	339	761	530	177
Grp Volume(v), veh/h	339	0	0	361	0	0	41	0	0	108	0	0
Grp Sat Flow(s),veh/h/ln	1804	0	0	1814	0	0	1736	0	0	1467	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0	0.0
Cycle Q Clear(g_c), s	16.0	0.0	0.0	17.2	0.0	0.0	1.6	0.0	0.0	5.2	0.0	0.0
Prop In Lane	0.03		0.06	0.03		0.18	0.20		0.20	0.54		0.12
Lane Grp Cap(c), veh/h	861	0	0	866	0	0	834	0	0	720	0	0
V/C Ratio(X)	0.39	0.00	0.00	0.42	0.00	0.00	0.05	0.00	0.00	0.15	0.00	0.00
Avail Cap(c_a), veh/h	861	0	0	866	0	0	834	0	0	720	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	23.2	0.0	0.0	23.5	0.0	0.0	19.3	0.0	0.0	20.2	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.0	0.0	1.5	0.0	0.0	0.1	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	0.0	0.0	9.0	0.0	0.0	0.8	0.0	0.0	2.3	0.0	0.0
LnGrp Delay(d),s/veh	24.5	0.0	0.0	25.0	0.0	0.0	19.4	0.0	0.0	20.6	0.0	0.0
LnGrp LOS	C			C			B			C		
Approach Vol, veh/h		339			361			41			108	
Approach Delay, s/veh		24.5			25.0			19.4			20.6	
Approach LOS		C			C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		65.0		65.0		65.0		65.0
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s		60.0		60.0		60.0		60.0
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	24.0
HCM 2010 LOS	C



Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	73	232	581	65	159	650
Future Volume (vph)	73	232	581	65	159	650
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	5%		3%			-1%
Storage Length (ft)	85	0		0	340	
Storage Lanes	1	1		0	1	
Taper Length (ft)	86				86	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.986			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1725	1544	1809	0	1778	1872
Flt Permitted	0.950				0.198	
Satd. Flow (perm)	1725	1544	1809	0	371	1872
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	30		30			30
Link Distance (ft)	427		462			529
Travel Time (s)	9.7		10.5			12.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	79	252	632	71	173	707
Shared Lane Traffic (%)						
Lane Group Flow (vph)	79	252	703	0	173	707
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			
Headway Factor	1.03	1.03	1.02	1.02	0.99	0.99
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	pm+ov	NA		pm+pt	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8			6	
Minimum Split (s)	21.0	9.0	15.0		9.0	15.0
Total Split (s)	30.0	20.0	70.0		20.0	90.0
Total Split (%)	25.0%	16.7%	58.3%		16.7%	75.0%
Maximum Green (s)	25.0	15.0	65.0		15.0	85.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Walk Time (s)	5.0		5.0			
Flash Dont Walk (s)	11.0		11.0			
Pedestrian Calls (#/hr)	0		0			
v/c Ratio	0.22	0.44	0.72		0.39	0.53
Control Delay	41.4	31.0	25.8		8.4	10.0

Lane Group	NWL	NWR	NET	NER	SWL	SWT
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	41.4	31.0	25.8		8.4	10.0
Queue Length 50th (ft)	51	144	391		39	229
Queue Length 95th (ft)	96	222	544		62	316
Internal Link Dist (ft)	347		382			449
Turn Bay Length (ft)	85				340	
Base Capacity (vph)	359	579	979		438	1326
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.22	0.44	0.72		0.39	0.53

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NET and 6:SWTL, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	

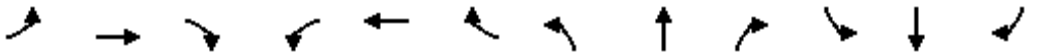
Splits and Phases: 1: NYS Route 9D & Verplanck Avenue



Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (veh/h)	73	232	581	65	159	650
Future Volume (veh/h)	73	232	581	65	159	650
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1816	1816	1835	1872	1872	1872
Adj Flow Rate, veh/h	79	252	632	71	173	707
Adj No. of Lanes	1	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	360	515	878	99	468	1326
Arrive On Green	0.21	0.21	0.54	0.54	0.13	0.71
Sat Flow, veh/h	1730	1544	1621	182	1783	1872
Grp Volume(v), veh/h	79	252	0	703	173	707
Grp Sat Flow(s),veh/h/ln	1730	1544	0	1803	1783	1872
Q Serve(g_s), s	4.5	15.6	0.0	35.2	4.1	21.2
Cycle Q Clear(g_c), s	4.5	15.6	0.0	35.2	4.1	21.2
Prop In Lane	1.00	1.00		0.10	1.00	
Lane Grp Cap(c), veh/h	360	515	0	976	468	1326
V/C Ratio(X)	0.22	0.49	0.00	0.72	0.37	0.53
Avail Cap(c_a), veh/h	360	515	0	976	468	1326
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.4	31.9	0.0	20.7	14.2	8.2
Incr Delay (d2), s/veh	1.4	3.3	0.0	4.6	2.2	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	7.1	0.0	18.6	2.6	11.4
LnGrp Delay(d),s/veh	40.8	35.2	0.0	25.2	16.4	9.7
LnGrp LOS	D	D		C	B	A
Approach Vol, veh/h	331		703			880
Approach Delay, s/veh	36.5		25.2			11.0
Approach LOS	D		C			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	20.0	70.0				90.0		30.0
Change Period (Y+Rc), s	5.0	5.0				5.0		5.0
Max Green Setting (Gmax), s	15.0	65.0				85.0		25.0
Max Q Clear Time (g_c+I1), s	0.0	0.0				0.0		0.0
Green Ext Time (p_c), s	0.0	0.0				0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	20.7
HCM 2010 LOS	C

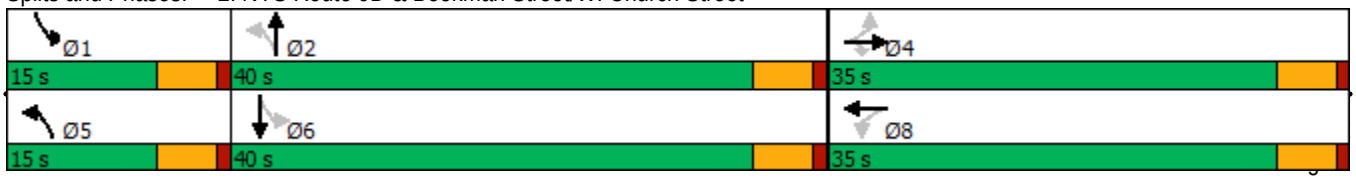


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	1	25	9	12	20	67	519	4	17	592	179
Future Volume (vph)	33	1	25	9	12	20	67	519	4	17	592	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-10%			-6%			3%	
Storage Length (ft)	0		95	0		0	75		0	75		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			86			86		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.96		0.98			1.00			0.99	
Frt			0.850		0.934			0.999			0.965	
Flt Protected		0.953			0.989		0.950			0.950		
Satd. Flow (prot)	0	1775	1599	0	1815	0	1771	1936	0	1778	1771	0
Flt Permitted		0.842			0.912		0.220			0.439		
Satd. Flow (perm)	0	1568	1533	0	1673	0	410	1936	0	822	1771	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			85		27						20	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		584			328			388			335	
Travel Time (s)		13.3			7.5			8.8			7.6	
Confl. Peds. (#/hr)			12			4			1			10
Confl. Bikes (#/hr)			3									
Peak Hour Factor	0.73	0.73	0.73	0.75	0.75	0.75	0.94	0.94	0.94	0.95	0.95	0.95
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	5%	1%	0%	0%	1%	2%
Adj. Flow (vph)	45	1	34	12	16	27	71	552	4	18	623	188
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	46	34	0	55	0	71	556	0	18	811	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.01	1.01	1.01	0.94	0.94	0.94	0.96	0.96	0.96	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	2	1	2		2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83	83	20	83		83	6		83	6	
Trailing Detector (ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Position(ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Size(ft)	20	43	43	20	43		43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40	40		40		40			40		
Detector 2 Size(ft)		43	43		43		43			43		
Detector 2 Type		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex			Cl+Ex		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0	0.0		0.0		0.0			0.0		
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	16.0		4.0	16.0	
Minimum Split (s)	20.0	20.0	20.0	21.0	21.0		9.0	21.0		9.0	21.0	
Total Split (s)	35.0	35.0	35.0	35.0	35.0		15.0	40.0		15.0	40.0	
Total Split (%)	38.9%	38.9%	38.9%	38.9%	38.9%		16.7%	44.4%		16.7%	44.4%	
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0		10.0	35.0		10.0	35.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Max		None	Max	
Walk Time (s)				5.0	5.0							
Flash Dont Walk (s)				11.0	11.0							
Pedestrian Calls (#/hr)				0	0							
v/c Ratio		0.22	0.12		0.23		0.15	0.36		0.03	0.64	
Control Delay		28.0	1.3		19.0		3.5	5.7		3.2	14.2	
Queue Delay		0.0	0.0		0.0		0.0	0.3		0.0	0.0	
Total Delay		28.0	1.3		19.0		3.5	6.0		3.2	14.2	
Queue Length 50th (ft)		17	0		10		6	63		2	236	
Queue Length 95th (ft)		35	0		30		17	219		6	#509	
Internal Link Dist (ft)		504			248			308			255	
Turn Bay Length (ft)			95				75			75		
Base Capacity (vph)		833	854		902		562	1541		798	1277	
Starvation Cap Reductn		0	0		0		0	429		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.06	0.04		0.06		0.13	0.50		0.02	0.64	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 58.6	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

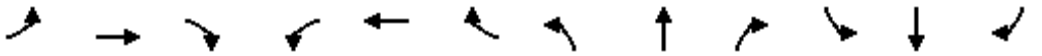
Splits and Phases: 2: NYS Route 9D & Beekman Street/W. Church Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	1	25	9	12	20	67	519	4	17	592	179
Future Volume (veh/h)	33	1	25	9	12	20	67	519	4	17	592	179
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.90	0.94		0.98	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1863	1881	1995	1995	1995	1864	1938	1957	1872	1849	1872
Adj Flow Rate, veh/h	45	1	34	12	16	27	71	552	4	18	623	188
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.73	0.73	0.73	0.75	0.75	0.75	0.94	0.94	0.94	0.95	0.95	0.95
Percent Heavy Veh, %	1	0	0	0	0	0	5	1	0	0	1	2
Cap, veh/h	248	4	126	97	56	74	391	1221	9	572	824	249
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.05	0.64	0.64	0.02	0.61	0.61
Sat Flow, veh/h	1426	48	1441	239	635	843	1775	1921	14	1782	1361	411
Grp Volume(v), veh/h	46	0	34	55	0	0	71	0	556	18	0	811
Grp Sat Flow(s),veh/h/ln	1474	0	1441	1717	0	0	1775	0	1935	1782	0	1772
Q Serve(g_s), s	0.0	0.0	1.3	0.0	0.0	0.0	0.8	0.0	8.5	0.2	0.0	19.2
Cycle Q Clear(g_c), s	1.4	0.0	1.3	1.6	0.0	0.0	0.8	0.0	8.5	0.2	0.0	19.2
Prop In Lane	0.98		1.00	0.22		0.49	1.00		0.01	1.00		0.23
Lane Grp Cap(c), veh/h	253	0	126	227	0	0	391	0	1230	572	0	1073
V/C Ratio(X)	0.18	0.00	0.27	0.24	0.00	0.00	0.18	0.00	0.45	0.03	0.00	0.76
Avail Cap(c_a), veh/h	831	0	748	946	0	0	614	0	1230	850	0	1073
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.7	0.0	24.6	24.8	0.0	0.0	7.2	0.0	5.4	4.6	0.0	8.3
Incr Delay (d2), s/veh	0.3	0.0	1.1	0.5	0.0	0.0	0.2	0.0	1.2	0.0	0.0	5.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.5	0.9	0.0	0.0	0.4	0.0	4.9	0.1	0.0	10.7
LnGrp Delay(d),s/veh	25.0	0.0	25.8	25.3	0.0	0.0	7.4	0.0	6.6	4.6	0.0	13.2
LnGrp LOS	C		C	C			A		A	A		B
Approach Vol, veh/h		80			55			627			829	
Approach Delay, s/veh		25.3			25.3			6.7			13.1	
Approach LOS		C			C			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.0	41.7		10.1	7.7	40.0		10.1
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	10.0	35.0		30.0	10.0	35.0		30.0
Max Q Clear Time (g_c+I1), s	2.2	10.5		3.4	2.8	21.2		3.6
Green Ext Time (p_c), s	0.0	1.5		0.4	0.1	2.3		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	11.6
HCM 2010 LOS	B

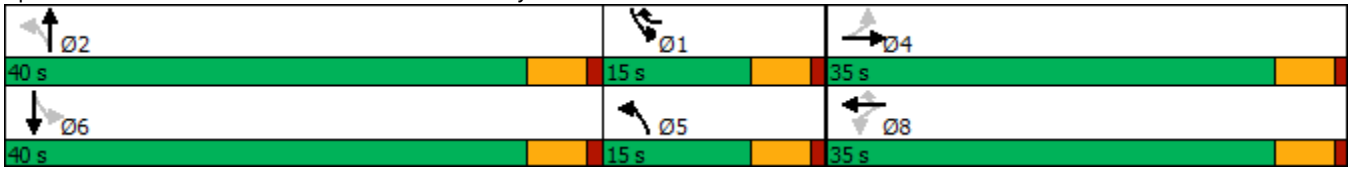


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	2	2	38	0	197	2	392	52	293	339	3
Future Volume (vph)	2	2	2	38	0	197	2	392	52	293	339	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-8%			-3%			3%	
Storage Length (ft)	0		0	0		70	65		0	120		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			86			86		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98				0.97		0.98			1.00	
Frt		0.955				0.850		0.982			0.999	
Flt Protected		0.984			0.950		0.950			0.950		
Satd. Flow (prot)	0	1742	0	0	1877	1663	1832	1817	0	1760	1851	0
Flt Permitted		0.872			0.833		0.531			0.383		
Satd. Flow (perm)	0	1544	0	0	1646	1619	1024	1817	0	710	1851	0
Right Turn on Red			Yes			No			No			Yes
Satd. Flow (RTOR)		3									1	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		133			350			693			388	
Travel Time (s)		3.0			8.0			15.8			8.8	
Confl. Peds. (#/hr)			14			6			48			11
Peak Hour Factor	0.71	0.71	0.71	0.89	0.89	0.89	0.88	0.88	0.88	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	0%	2%	5%	1%	1%	0%
Adj. Flow (vph)	3	3	3	43	0	221	2	445	59	318	368	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	0	0	43	221	2	504	0	318	371	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.01	1.01	1.01	0.95	0.95	0.95	0.98	0.98	0.98	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83		20	83	83	83	6		83	6	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Size(ft)	20	43		20	43	43	43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40			40	40	40			40		
Detector 2 Size(ft)		43			43	43	43			43		
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0	0.0	0.0			0.0		
Turn Type	Perm	NA		Perm	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8	1	5	2		1	6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		8.0	8.0	4.0	4.0	31.0		4.0	35.0	
Minimum Split (s)	21.0	21.0		21.0	21.0	9.0	9.0	36.0		9.0	40.0	
Total Split (s)	35.0	35.0		35.0	35.0	15.0	15.0	40.0		15.0	40.0	
Total Split (%)	38.9%	38.9%		38.9%	38.9%	16.7%	16.7%	44.4%		16.7%	44.4%	
Maximum Green (s)	30.0	30.0		30.0	30.0	10.0	10.0	35.0		10.0	35.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag						Lag	Lag	Lead		Lag	Lead	
Lead-Lag Optimize?						Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		None	Max	
Walk Time (s)	5.0	5.0						5.0				
Flash Dont Walk (s)	11.0	11.0						11.0				
Pedestrian Calls (#/hr)	0	0						0				
v/c Ratio		0.05			0.19	0.58	0.00	0.49		0.44	0.25	
Control Delay		23.3			28.9	25.0	3.5	12.1		7.1	5.5	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.2	
Total Delay		23.3			28.9	25.0	3.5	12.1		7.1	5.7	
Queue Length 50th (ft)		2			17	69	0	131		32	39	
Queue Length 95th (ft)		11			43	121	2	217		63	152	
Internal Link Dist (ft)		53			270			613			308	
Turn Bay Length (ft)						70	65			120		
Base Capacity (vph)		746			794	391	871	1023		730	1469	
Starvation Cap Reductn		0			0	0	0	0		0	460	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.01			0.05	0.57	0.00	0.49		0.44	0.37	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 63	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	

Splits and Phases: 3: NYS Route 9D & Beacon City Hall/Main Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	2	2	38	0	197	2	392	52	293	339	3
Future Volume (veh/h)	2	2	2	38	0	197	2	392	52	293	339	3
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.95		0.98	0.99		0.96	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1890	1890	1890	1976	1976	1956	1928	1884	1928	1853	1853	1872
Adj Flow Rate, veh/h	3	3	3	43	0	221	2	445	59	318	368	3
Adj No. of Lanes	0	1	0	0	1	1	1	1	0	1	1	0
Peak Hour Factor	0.71	0.71	0.71	0.89	0.89	0.89	0.88	0.88	0.88	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	1	0	2	5	1	1	0
Cap, veh/h	115	97	67	299	0	315	708	916	121	582	1038	8
Arrive On Green	0.13	0.13	0.13	0.13	0.00	0.13	0.06	0.57	0.57	0.06	0.57	0.57
Sat Flow, veh/h	290	761	526	1423	0	1624	1837	1620	215	1765	1835	15
Grp Volume(v), veh/h	9	0	0	43	0	221	2	0	504	318	0	371
Grp Sat Flow(s),veh/h/ln	1577	0	0	1423	0	1624	1837	0	1835	1765	0	1850
Q Serve(g_s), s	0.0	0.0	0.0	1.3	0.0	3.8	0.0	0.0	10.2	0.0	0.0	6.7
Cycle Q Clear(g_c), s	0.3	0.0	0.0	1.6	0.0	3.8	0.0	0.0	10.2	0.0	0.0	6.7
Prop In Lane	0.33		0.33	1.00		1.00	1.00		0.12	1.00		0.01
Lane Grp Cap(c), veh/h	279	0	0	299	0	315	708	0	1037	582	0	1046
V/C Ratio(X)	0.03	0.00	0.00	0.14	0.00	0.70	0.00	0.00	0.49	0.55	0.00	0.35
Avail Cap(c_a), veh/h	800	0	0	801	0	894	886	0	1037	754	0	1046
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.7	0.0	0.0	24.2	0.0	23.3	7.1	0.0	8.1	13.9	0.0	7.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	2.8	0.0	0.0	1.6	0.8	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.7	0.0	3.5	0.0	0.0	5.5	4.6	0.0	3.7
LnGrp Delay(d),s/veh	23.7	0.0	0.0	24.4	0.0	26.1	7.1	0.0	9.7	14.7	0.0	8.3
LnGrp LOS	C			C		C	A		A	B		A
Approach Vol, veh/h		9			264			506			689	
Approach Delay, s/veh		23.7			25.9			9.7			11.2	
Approach LOS		C			C			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.0	40.0		12.9	9.0	40.0		12.9
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	10.0	35.0		30.0	10.0	35.0		30.0
Max Q Clear Time (g_c+I1), s	2.0	12.2		2.3	2.0	8.7		5.8
Green Ext Time (p_c), s	1.0	1.3		0.0	0.0	0.9		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	13.4
HCM 2010 LOS	B

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	10	3	3	10	5	82	3	353	10	45	328	7
Future Volume (vph)	10	3	3	10	5	82	3	353	10	45	328	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-3%			-4%			4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.974			0.886			0.996			0.997	
Flt Protected		0.970			0.995						0.994	
Satd. Flow (prot)	0	1638	0	0	1646	0	0	1853	0	0	1810	0
Flt Permitted		0.970			0.995						0.994	
Satd. Flow (perm)	0	1638	0	0	1646	0	0	1853	0	0	1810	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		162			281			312			693	
Travel Time (s)		3.7			6.4			7.1			15.8	
Confl. Peds. (#/hr)			4			19			2			3
Confl. Bikes (#/hr)												1
Peak Hour Factor	0.61	0.61	0.61	0.88	0.88	0.88	0.85	0.85	0.85	0.92	0.92	0.92
Heavy Vehicles (%)	0%	50%	0%	11%	25%	1%	0%	4%	11%	2%	2%	0%
Adj. Flow (vph)	16	5	5	11	6	93	4	415	12	49	357	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	26	0	0	110	0	0	431	0	0	414	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	0.98	0.98	0.98	0.97	0.97	0.97	1.03	1.03	1.03
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	2.6

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	10	3	3	10	5	82	3	353	10	45	328	7
Future Vol, veh/h	10	3	3	10	5	82	3	353	10	45	328	7
Conflicting Peds, #/hr	0	0	4	0	0	19	0	0	2	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-3	-	-	-4	-	-	4	-
Peak Hour Factor	61	61	61	88	88	88	85	85	85	92	92	92
Heavy Vehicles, %	0	50	0	11	25	1	0	4	11	2	2	0
Mvmt Flow	16	5	5	11	6	93	4	415	12	49	357	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	960	899	368	899	897	442	368	0	0	429	0	0
Stage 1	462	462	-	431	431	-	-	-	-	-	-	-
Stage 2	498	437	-	468	466	-	-	-	-	-	-	-
Critical Hdwy	7.1	7	6.2	6.61	6.15	5.91	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	6	-	5.61	5.15	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	6	-	5.61	5.15	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.45	3.3	3.599	4.225	3.309	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	238	233	682	291	298	641	1202	-	-	1130	-	-
Stage 1	584	492	-	629	586	-	-	-	-	-	-	-
Stage 2	558	505	-	604	568	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	187	218	678	270	279	630	1199	-	-	1128	-	-
Mov Cap-2 Maneuver	187	218	-	270	279	-	-	-	-	-	-	-
Stage 1	580	464	-	625	582	-	-	-	-	-	-	-
Stage 2	462	502	-	559	536	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	23.3	13.7	0.1	1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1199	-	-	524	223	1128	-	-
HCM Lane V/C Ratio	0.003	-	-	0.21	0.118	0.043	-	-
HCM Control Delay (s)	8	0	-	13.7	23.3	8.3	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.8	0.4	0.1	-	-



Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	21	6	7	343	313	26
Future Volume (vph)	21	6	7	343	313	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.968				0.990	
Flt Protected	0.963			0.999		
Satd. Flow (prot)	1736	0	0	1861	1844	0
Flt Permitted	0.963			0.999		
Satd. Flow (perm)	1736	0	0	1861	1844	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	176			499	312	
Travel Time (s)	4.0			11.3	7.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	23	7	8	373	340	28
Shared Lane Traffic (%)						
Lane Group Flow (vph)	30	0	0	381	368	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60			60
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

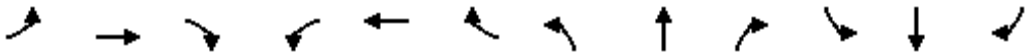
Intersection	
Int Delay, s/veh	0.6

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Vol, veh/h	21	6	7	343	313	26
Future Vol, veh/h	21	6	7	343	313	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	7	8	373	340	28

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	743	354	368	0	-	0
Stage 1	354	-	-	-	-	-
Stage 2	389	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	383	690	1191	-	-	-
Stage 1	710	-	-	-	-	-
Stage 2	685	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	380	690	1191	-	-	-
Mov Cap-2 Maneuver	490	-	-	-	-	-
Stage 1	704	-	-	-	-	-
Stage 2	685	-	-	-	-	-

Approach	SE	NE	SW
HCM Control Delay, s	12.3	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NEL	NET	SELn1	SWT	SWR
Capacity (veh/h)	1191	-	524	-	-
HCM Lane V/C Ratio	0.006	-	0.056	-	-
HCM Control Delay (s)	8	0	12.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

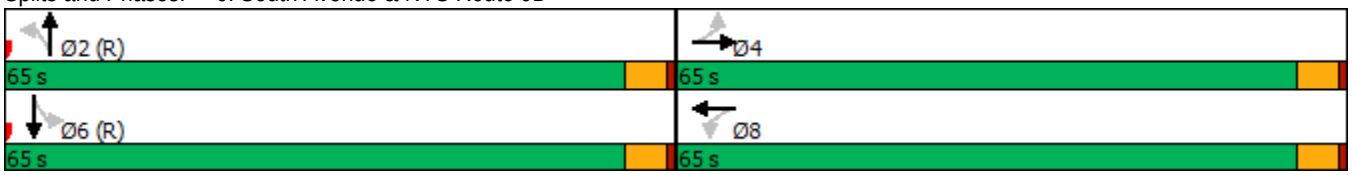


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	194	16	13	208	37	14	27	13	32	35	9
Future Volume (vph)	9	194	16	13	208	37	14	27	13	32	35	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		6%			-6%			-1%			3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								0.99			0.99	
Frt		0.990			0.980			0.967			0.984	
Flt Protected		0.998			0.998			0.987			0.979	
Satd. Flow (prot)	0	1821	0	0	1844	0	0	1822	0	0	1686	0
Flt Permitted		0.984			0.980			0.926			0.866	
Satd. Flow (perm)	0	1795	0	0	1810	0	0	1701	0	0	1491	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			9			17			7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		241			516			194			303	
Travel Time (s)		5.5			11.7			4.4			6.9	
Confl. Peds. (#/hr)							6					6
Peak Hour Factor	0.82	0.82	0.82	0.85	0.85	0.85	0.55	0.55	0.55	0.82	0.82	0.82
Heavy Vehicles (%)	0%	0%	0%	12%	4%	0%	0%	0%	0%	2%	12%	0%
Adj. Flow (vph)	11	237	20	15	245	44	25	49	24	39	43	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	268	0	0	304	0	0	98	0	0	93	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	0.96	0.96	0.96	0.99	0.99	0.99	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	21.0	21.0		21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	65.0	65.0		65.0	65.0		65.0	65.0		65.0	65.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	60.0	60.0		60.0	60.0		60.0	60.0		60.0	60.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.32			0.36			0.12			0.13	
Control Delay		23.1			23.5			16.9			19.2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		23.1			23.5			16.9			19.2	
Queue Length 50th (ft)		138			157			38			41	
Queue Length 95th (ft)		181			213			39			67	
Internal Link Dist (ft)		161			436			114			223	
Turn Bay Length (ft)												
Base Capacity (vph)		830			840			794			691	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.32			0.36			0.12			0.13	

Intersection Summary	
Area Type:	Other
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 45	
Control Type: Pretimed	

Splits and Phases: 6: South Avenue & NYS Route 9D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	194	16	13	208	37	14	27	13	32	35	9
Future Volume (veh/h)	9	194	16	13	208	37	14	27	13	32	35	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1843	1843	1843	1957	1885	1957	1910	1910	1910	1872	1759	1872
Adj Flow Rate, veh/h	11	237	20	15	245	44	25	49	24	39	43	11
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.82	0.82	0.82	0.85	0.85	0.85	0.55	0.55	0.55	0.82	0.82	0.82
Percent Heavy Veh, %	0	0	0	12	4	0	0	0	0	2	12	0
Cap, veh/h	44	752	62	49	694	121	212	409	190	312	333	81
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	32	1630	134	44	1504	262	384	887	412	590	721	176
Grp Volume(v), veh/h	268	0	0	304	0	0	98	0	0	93	0	0
Grp Sat Flow(s),veh/h/ln	1796	0	0	1810	0	0	1683	0	0	1487	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	12.1	0.0	0.0	13.9	0.0	0.0	4.0	0.0	0.0	4.0	0.0	0.0
Prop In Lane	0.04		0.07	0.05		0.14	0.26		0.24	0.42		0.12
Lane Grp Cap(c), veh/h	858	0	0	864	0	0	812	0	0	726	0	0
V/C Ratio(X)	0.31	0.00	0.00	0.35	0.00	0.00	0.12	0.00	0.00	0.13	0.00	0.00
Avail Cap(c_a), veh/h	858	0	0	864	0	0	812	0	0	726	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.1	0.0	0.0	22.6	0.0	0.0	19.9	0.0	0.0	19.9	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	0.0	1.1	0.0	0.0	0.3	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	0.0	0.0	7.3	0.0	0.0	2.1	0.0	0.0	2.0	0.0	0.0
LnGrp Delay(d),s/veh	23.1	0.0	0.0	23.7	0.0	0.0	20.2	0.0	0.0	20.3	0.0	0.0
LnGrp LOS	C			C			C			C		
Approach Vol, veh/h		268			304			98			93	
Approach Delay, s/veh		23.1			23.7			20.2			20.3	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		65.0		65.0		65.0		65.0
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s		60.0		60.0		60.0		60.0
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0

Intersection Summary		
HCM 2010 Ctrl Delay		22.6
HCM 2010 LOS		C



Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	79	232	582	65	159	679
Future Volume (vph)	79	232	582	65	159	679
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	5%		3%			-1%
Storage Length (ft)	85	0		0	340	
Storage Lanes	1	1		0	1	
Taper Length (ft)	86				86	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.986			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1725	1544	1809	0	1778	1872
Flt Permitted	0.950				0.197	
Satd. Flow (perm)	1725	1544	1809	0	369	1872
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	30		30			30
Link Distance (ft)	427		462			529
Travel Time (s)	9.7		10.5			12.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	86	252	633	71	173	738
Shared Lane Traffic (%)						
Lane Group Flow (vph)	86	252	704	0	173	738
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			
Headway Factor	1.03	1.03	1.02	1.02	0.99	0.99
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	pm+ov	NA		pm+pt	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8			6	
Minimum Split (s)	21.0	9.0	15.0		9.0	15.0
Total Split (s)	30.0	20.0	70.0		20.0	90.0
Total Split (%)	25.0%	16.7%	58.3%		16.7%	75.0%
Maximum Green (s)	25.0	15.0	65.0		15.0	85.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Walk Time (s)	5.0		5.0			
Flash Dont Walk (s)	11.0		11.0			
Pedestrian Calls (#/hr)	0		0			
v/c Ratio	0.24	0.44	0.72		0.40	0.56
Control Delay	41.7	31.0	25.9		8.4	10.4

Lane Group	NWL	NWR	NET	NER	SWL	SWT
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	41.7	31.0	25.9		8.4	10.4
Queue Length 50th (ft)	56	144	392		39	246
Queue Length 95th (ft)	104	222	545		62	338
Internal Link Dist (ft)	347		382			449
Turn Bay Length (ft)	85				340	
Base Capacity (vph)	359	579	979		437	1326
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.24	0.44	0.72		0.40	0.56

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NET and 6:SWTL, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	

Splits and Phases: 1: NYS Route 9D & Verplanck Avenue



Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (veh/h)	79	232	582	65	159	679
Future Volume (veh/h)	79	232	582	65	159	679
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1816	1816	1835	1872	1872	1872
Adj Flow Rate, veh/h	86	252	633	71	173	738
Adj No. of Lanes	1	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	360	515	878	98	467	1326
Arrive On Green	0.21	0.21	0.54	0.54	0.13	0.71
Sat Flow, veh/h	1730	1544	1621	182	1783	1872
Grp Volume(v), veh/h	86	252	0	704	173	738
Grp Sat Flow(s),veh/h/ln	1730	1544	0	1803	1783	1872
Q Serve(g_s), s	5.0	15.6	0.0	35.2	4.1	22.8
Cycle Q Clear(g_c), s	5.0	15.6	0.0	35.2	4.1	22.8
Prop In Lane	1.00	1.00		0.10	1.00	
Lane Grp Cap(c), veh/h	360	515	0	976	467	1326
V/C Ratio(X)	0.24	0.49	0.00	0.72	0.37	0.56
Avail Cap(c_a), veh/h	360	515	0	976	467	1326
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.6	31.9	0.0	20.7	14.2	8.4
Incr Delay (d2), s/veh	1.6	3.3	0.0	4.6	2.2	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	7.1	0.0	18.7	2.6	12.3
LnGrp Delay(d),s/veh	41.1	35.2	0.0	25.3	16.4	10.1
LnGrp LOS	D	D		C	B	B
Approach Vol, veh/h	338		704			911
Approach Delay, s/veh	36.7		25.3			11.3
Approach LOS	D		C			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	20.0	70.0				90.0		30.0
Change Period (Y+Rc), s	5.0	5.0				5.0		5.0
Max Green Setting (Gmax), s	15.0	65.0				85.0		25.0
Max Q Clear Time (g_c+I1), s	0.0	0.0				0.0		0.0
Green Ext Time (p_c), s	0.0	0.0				0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	20.7
HCM 2010 LOS	C

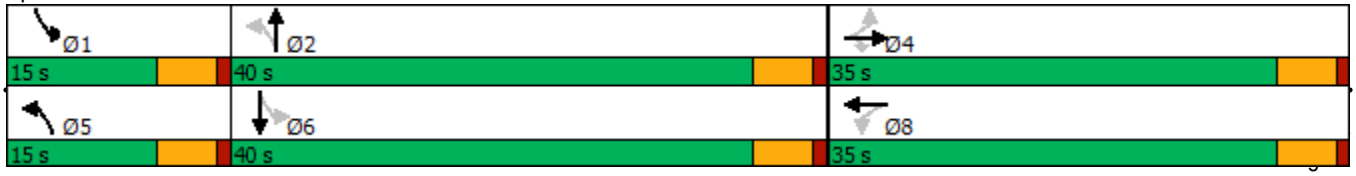
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	2	28	9	12	20	67	519	4	17	627	179
Future Volume (vph)	33	2	28	9	12	20	67	519	4	17	627	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-10%			-6%			3%	
Storage Length (ft)	0		95	0		0	75		0	75		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			86			86		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.96		0.98			1.00			0.99	
Frt			0.850		0.934			0.999			0.967	
Flt Protected		0.955			0.989		0.950			0.950		
Satd. Flow (prot)	0	1780	1599	0	1815	0	1771	1936	0	1778	1775	0
Flt Permitted		0.699			0.911		0.172			0.446		
Satd. Flow (perm)	0	1303	1533	0	1672	0	321	1936	0	835	1775	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			85		27						19	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		584			328			388			335	
Travel Time (s)		13.3			7.5			8.8			7.6	
Confl. Peds. (#/hr)			12			4			1			10
Confl. Bikes (#/hr)			3									
Peak Hour Factor	0.73	0.73	0.73	0.75	0.75	0.75	0.94	0.94	0.94	0.95	0.95	0.95
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	5%	1%	0%	0%	1%	2%
Adj. Flow (vph)	45	3	38	12	16	27	71	552	4	18	660	188
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	48	38	0	55	0	71	556	0	18	848	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.01	1.01	1.01	0.94	0.94	0.94	0.96	0.96	0.96	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	2	1	2		2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83	83	20	83		83	6		83	6	
Trailing Detector (ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Position(ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Size(ft)	20	43	43	20	43		43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40	40		40		40			40		
Detector 2 Size(ft)		43	43		43		43			43		
Detector 2 Type		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex			Cl+Ex		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0	0.0		0.0		0.0			0.0		
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	16.0		4.0	16.0	
Minimum Split (s)	20.0	20.0	20.0	21.0	21.0		9.0	21.0		9.0	21.0	
Total Split (s)	35.0	35.0	35.0	35.0	35.0		15.0	40.0		15.0	40.0	
Total Split (%)	38.9%	38.9%	38.9%	38.9%	38.9%		16.7%	44.4%		16.7%	44.4%	
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0		10.0	35.0		10.0	35.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Max		None	Max	
Walk Time (s)				5.0	5.0							
Flash Dont Walk (s)				11.0	11.0							
Pedestrian Calls (#/hr)				0	0							
v/c Ratio		0.30	0.15		0.24		0.18	0.39		0.03	0.76	
Control Delay		31.3	2.5		18.8		4.0	6.3		3.3	18.9	
Queue Delay		0.0	0.0		0.0		0.0	0.4		0.0	0.0	
Total Delay		31.3	2.5		18.8		4.0	6.8		3.3	18.9	
Queue Length 50th (ft)		18	0		10		6	63		2	257	
Queue Length 95th (ft)		37	0		30		17	220		6	#546	
Internal Link Dist (ft)		504			248			308			255	
Turn Bay Length (ft)			95				75			75		
Base Capacity (vph)		621	775		811		472	1438		762	1123	
Starvation Cap Reductn		0	0		0		0	429		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.08	0.05		0.07		0.15	0.55		0.02	0.76	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 63.3
Natural Cycle: 70
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

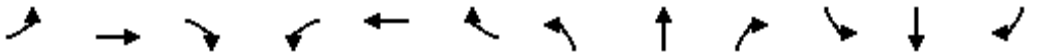
Splits and Phases: 2: NYS Route 9D & Beekman Street/W. Church Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	2	28	9	12	20	67	519	4	17	627	179
Future Volume (veh/h)	33	2	28	9	12	20	67	519	4	17	627	179
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.90	0.95		0.98	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1864	1881	1995	1995	1995	1864	1938	1957	1872	1849	1872
Adj Flow Rate, veh/h	45	3	38	12	16	27	71	552	4	18	660	188
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.73	0.73	0.73	0.75	0.75	0.75	0.94	0.94	0.94	0.95	0.95	0.95
Percent Heavy Veh, %	1	0	0	0	0	0	5	1	0	0	1	2
Cap, veh/h	240	12	127	97	56	74	366	1220	9	571	836	238
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.05	0.63	0.63	0.02	0.61	0.61
Sat Flow, veh/h	1349	139	1442	238	636	843	1775	1921	14	1782	1382	394
Grp Volume(v), veh/h	48	0	38	55	0	0	71	0	556	18	0	848
Grp Sat Flow(s),veh/h/ln	1488	0	1442	1717	0	0	1775	0	1935	1782	0	1776
Q Serve(g_s), s	0.0	0.0	1.4	0.0	0.0	0.0	0.8	0.0	8.5	0.2	0.0	20.9
Cycle Q Clear(g_c), s	1.5	0.0	1.4	1.6	0.0	0.0	0.8	0.0	8.5	0.2	0.0	20.9
Prop In Lane	0.94		1.00	0.22		0.49	1.00		0.01	1.00		0.22
Lane Grp Cap(c), veh/h	252	0	127	228	0	0	366	0	1229	571	0	1075
V/C Ratio(X)	0.19	0.00	0.30	0.24	0.00	0.00	0.19	0.00	0.45	0.03	0.00	0.79
Avail Cap(c_a), veh/h	837	0	748	944	0	0	589	0	1229	849	0	1075
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.7	0.0	24.7	24.8	0.0	0.0	7.9	0.0	5.4	4.6	0.0	8.6
Incr Delay (d2), s/veh	0.4	0.0	1.3	0.5	0.0	0.0	0.3	0.0	1.2	0.0	0.0	5.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.6	0.9	0.0	0.0	0.5	0.0	4.9	0.1	0.0	11.7
LnGrp Delay(d),s/veh	25.1	0.0	26.0	25.3	0.0	0.0	8.1	0.0	6.6	4.6	0.0	14.5
LnGrp LOS	C		C	C			A		A	A		B
Approach Vol, veh/h		86			55			627			866	
Approach Delay, s/veh		25.5			25.3			6.8			14.3	
Approach LOS		C			C			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.0	41.7		10.1	7.7	40.0		10.1
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	10.0	35.0		30.0	10.0	35.0		30.0
Max Q Clear Time (g_c+I1), s	2.2	10.5		3.5	2.8	22.9		3.6
Green Ext Time (p_c), s	0.0	1.5		0.4	0.1	2.4		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	12.4
HCM 2010 LOS	B

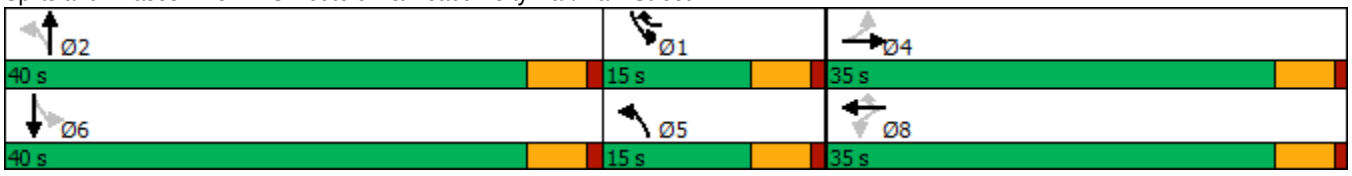


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	2	2	44	0	197	2	392	52	293	377	3
Future Volume (vph)	2	2	2	44	0	197	2	392	52	293	377	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-8%			-3%			3%	
Storage Length (ft)	0		0	0		70	65		0	120		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			86			86		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98				0.97		0.98			1.00	
Frt		0.955				0.850		0.982			0.999	
Flt Protected		0.984			0.950		0.950			0.950		
Satd. Flow (prot)	0	1742	0	0	1877	1663	1832	1817	0	1760	1851	0
Flt Permitted		0.870			0.800		0.498			0.381		
Satd. Flow (perm)	0	1540	0	0	1581	1619	960	1817	0	706	1851	0
Right Turn on Red			Yes			No			No			Yes
Satd. Flow (RTOR)		3										
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		133			350			693			388	
Travel Time (s)		3.0			8.0			15.8			8.8	
Confl. Peds. (#/hr)			14			6			48			11
Peak Hour Factor	0.71	0.71	0.71	0.89	0.89	0.89	0.88	0.88	0.88	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	0%	2%	5%	1%	1%	0%
Adj. Flow (vph)	3	3	3	49	0	221	2	445	59	318	410	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	0	0	49	221	2	504	0	318	413	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.01	1.01	1.01	0.95	0.95	0.95	0.98	0.98	0.98	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83		20	83	83	83	6		83	6	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Size(ft)	20	43		20	43	43	43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40			40	40	40			40		
Detector 2 Size(ft)		43			43	43	43			43		
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0	0.0	0.0			0.0		
Turn Type	Perm	NA		Perm	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8	1	5	2		1	6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		8.0	8.0	4.0	4.0	31.0		4.0	35.0	
Minimum Split (s)	21.0	21.0		21.0	21.0	9.0	9.0	36.0		9.0	40.0	
Total Split (s)	35.0	35.0		35.0	35.0	15.0	15.0	40.0		15.0	40.0	
Total Split (%)	38.9%	38.9%		38.9%	38.9%	16.7%	16.7%	44.4%		16.7%	44.4%	
Maximum Green (s)	30.0	30.0		30.0	30.0	10.0	10.0	35.0		10.0	35.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag						Lag	Lag	Lead		Lag	Lead	
Lead-Lag Optimize?						Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		None	Max	
Walk Time (s)	5.0	5.0						5.0				
Flash Dont Walk (s)	11.0	11.0						11.0				
Pedestrian Calls (#/hr)	0	0						0				
v/c Ratio		0.05			0.23	0.57	0.00	0.49		0.44	0.28	
Control Delay		23.2			29.4	24.8	3.5	12.2		7.3	5.8	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.2	
Total Delay		23.2			29.4	24.8	3.5	12.2		7.3	6.0	
Queue Length 50th (ft)		2			19	69	0	131		32	44	
Queue Length 95th (ft)		11			47	121	2	220		65	176	
Internal Link Dist (ft)		53			270			613			308	
Turn Bay Length (ft)						70	65			120		
Base Capacity (vph)		743			761	394	833	1021		726	1466	
Starvation Cap Reductn		0			0	0	0	0		0	445	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.01			0.06	0.56	0.00	0.49		0.44	0.40	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 63.1	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	

Splits and Phases: 3: NYS Route 9D & Beacon City Hall/Main Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	2	2	44	0	197	2	392	52	293	377	3
Future Volume (veh/h)	2	2	2	44	0	197	2	392	52	293	377	3
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.95		0.98	1.00		0.96	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1890	1890	1890	1976	1976	1956	1928	1884	1928	1853	1853	1872
Adj Flow Rate, veh/h	3	3	3	49	0	221	2	445	59	318	410	3
Adj No. of Lanes	0	1	0	0	1	1	1	1	0	1	1	0
Peak Hour Factor	0.71	0.71	0.71	0.89	0.89	0.89	0.88	0.88	0.88	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	1	0	2	5	1	1	0
Cap, veh/h	115	97	67	299	0	315	674	916	121	582	1038	8
Arrive On Green	0.13	0.13	0.13	0.13	0.00	0.13	0.06	0.57	0.57	0.06	0.57	0.57
Sat Flow, veh/h	291	761	526	1423	0	1624	1837	1620	215	1765	1837	13
Grp Volume(v), veh/h	9	0	0	49	0	221	2	0	504	318	0	413
Grp Sat Flow(s),veh/h/ln	1577	0	0	1423	0	1624	1837	0	1835	1765	0	1851
Q Serve(g_s), s	0.0	0.0	0.0	1.6	0.0	3.8	0.0	0.0	10.2	0.0	0.0	7.7
Cycle Q Clear(g_c), s	0.3	0.0	0.0	1.9	0.0	3.8	0.0	0.0	10.2	0.0	0.0	7.7
Prop In Lane	0.33		0.33	1.00		1.00	1.00		0.12	1.00		0.01
Lane Grp Cap(c), veh/h	280	0	0	299	0	315	674	0	1037	582	0	1046
V/C Ratio(X)	0.03	0.00	0.00	0.16	0.00	0.70	0.00	0.00	0.49	0.55	0.00	0.39
Avail Cap(c_a), veh/h	800	0	0	801	0	894	853	0	1037	754	0	1046
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.7	0.0	0.0	24.3	0.0	23.3	7.6	0.0	8.1	13.9	0.0	7.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	2.8	0.0	0.0	1.6	0.8	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.8	0.0	3.5	0.0	0.0	5.5	4.6	0.0	4.2
LnGrp Delay(d),s/veh	23.7	0.0	0.0	24.6	0.0	26.1	7.6	0.0	9.7	14.7	0.0	8.6
LnGrp LOS	C			C		C	A		A	B		A
Approach Vol, veh/h		9			270			506			731	
Approach Delay, s/veh		23.7			25.9			9.7			11.3	
Approach LOS		C			C			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.0	40.0		12.9	9.0	40.0		12.9
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	10.0	35.0		30.0	10.0	35.0		30.0
Max Q Clear Time (g_c+I1), s	2.0	12.2		2.3	2.0	9.7		5.8
Green Ext Time (p_c), s	1.0	1.3		0.0	0.0	1.0		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	13.4
HCM 2010 LOS	B

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	10	3	3	10	5	82	3	353	10	45	370	7
Future Volume (vph)	10	3	3	10	5	82	3	353	10	45	370	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-3%			-4%			4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.974			0.886			0.996			0.998	
Flt Protected		0.970			0.995						0.995	
Satd. Flow (prot)	0	1638	0	0	1646	0	0	1853	0	0	1813	0
Flt Permitted		0.970			0.995						0.995	
Satd. Flow (perm)	0	1638	0	0	1646	0	0	1853	0	0	1813	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		162			281			312			693	
Travel Time (s)		3.7			6.4			7.1			15.8	
Confl. Peds. (#/hr)			4			19			2			3
Confl. Bikes (#/hr)												1
Peak Hour Factor	0.61	0.61	0.61	0.88	0.88	0.88	0.85	0.85	0.85	0.92	0.92	0.92
Heavy Vehicles (%)	0%	50%	0%	11%	25%	1%	0%	4%	11%	2%	2%	0%
Adj. Flow (vph)	16	5	5	11	6	93	4	415	12	49	402	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	26	0	0	110	0	0	431	0	0	459	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	0.98	0.98	0.98	0.97	0.97	0.97	1.03	1.03	1.03
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	2.6

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	10	3	3	10	5	82	3	353	10	45	370	7
Future Vol, veh/h	10	3	3	10	5	82	3	353	10	45	370	7
Conflicting Peds, #/hr	0	0	4	0	0	19	0	0	2	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-3	-	-	-4	-	-	4	-
Peak Hour Factor	61	61	61	88	88	88	85	85	85	92	92	92
Heavy Vehicles, %	0	50	0	11	25	1	0	4	11	2	2	0
Mvmt Flow	16	5	5	11	6	93	4	415	12	49	402	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1005	944	413	944	942	442	413	0	0	429	0	0
Stage 1	507	507	-	431	431	-	-	-	-	-	-	-
Stage 2	498	437	-	513	511	-	-	-	-	-	-	-
Critical Hdwy	7.1	7	6.2	6.61	6.15	5.91	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	6	-	5.61	5.15	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	6	-	5.61	5.15	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.45	3.3	3.599	4.225	3.309	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	222	219	643	273	282	641	1157	-	-	1130	-	-
Stage 1	552	468	-	629	586	-	-	-	-	-	-	-
Stage 2	558	505	-	575	545	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	174	205	639	252	264	630	1154	-	-	1128	-	-
Mov Cap-2 Maneuver	174	205	-	252	264	-	-	-	-	-	-	-
Stage 1	548	441	-	625	582	-	-	-	-	-	-	-
Stage 2	461	501	-	531	513	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	24.8	13.9	0.1	0.9
HCM LOS	C	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1154	-	-	514	208	1128	-	-
HCM Lane V/C Ratio	0.003	-	-	0.214	0.126	0.043	-	-
HCM Control Delay (s)	8.1	0	-	13.9	24.8	8.3	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.8	0.4	0.1	-	-



Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	21	6	22	343	313	68
Future Volume (vph)	21	6	22	343	313	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.968				0.976	
Flt Protected	0.963			0.997		
Satd. Flow (prot)	1736	0	0	1857	1818	0
Flt Permitted	0.963			0.997		
Satd. Flow (perm)	1736	0	0	1857	1818	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	176			499	312	
Travel Time (s)	4.0			11.3	7.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	23	7	24	373	340	74
Shared Lane Traffic (%)						
Lane Group Flow (vph)	30	0	0	397	414	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60			60
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

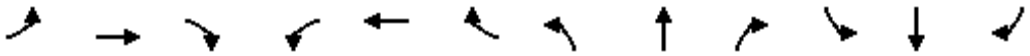
Intersection	
Int Delay, s/veh	0.7

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Vol, veh/h	21	6	22	343	313	68
Future Vol, veh/h	21	6	22	343	313	68
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	7	24	373	340	74

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	798	377	414	0	-	0
Stage 1	377	-	-	-	-	-
Stage 2	421	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	355	670	1145	-	-	-
Stage 1	694	-	-	-	-	-
Stage 2	662	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	346	670	1145	-	-	-
Mov Cap-2 Maneuver	463	-	-	-	-	-
Stage 1	676	-	-	-	-	-
Stage 2	662	-	-	-	-	-

Approach	SE	NE	SW
HCM Control Delay, s	12.7	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NEL	NET	SELn1	SWT	SWR
Capacity (veh/h)	1145	-	497	-	-
HCM Lane V/C Ratio	0.021	-	0.059	-	-
HCM Control Delay (s)	8.2	0	12.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

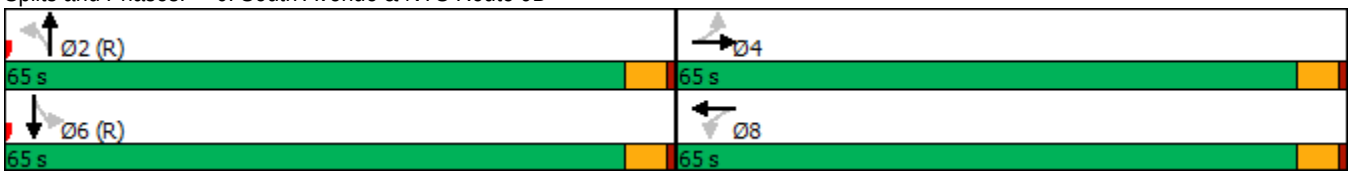


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	194	16	13	223	37	14	27	13	32	35	9
Future Volume (vph)	9	194	16	13	223	37	14	27	13	32	35	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		6%			-6%			-1%			3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								0.99			0.99	
Frt		0.990			0.981			0.967			0.984	
Flt Protected		0.998			0.998			0.987			0.979	
Satd. Flow (prot)	0	1821	0	0	1845	0	0	1822	0	0	1686	0
Flt Permitted		0.983			0.981			0.926			0.866	
Satd. Flow (perm)	0	1794	0	0	1814	0	0	1701	0	0	1491	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			8			17			7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		241			516			194			303	
Travel Time (s)		5.5			11.7			4.4			6.9	
Confl. Peds. (#/hr)							6					6
Peak Hour Factor	0.82	0.82	0.82	0.85	0.85	0.85	0.55	0.55	0.55	0.82	0.82	0.82
Heavy Vehicles (%)	0%	0%	0%	12%	4%	0%	0%	0%	0%	2%	12%	0%
Adj. Flow (vph)	11	237	20	15	262	44	25	49	24	39	43	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	268	0	0	321	0	0	98	0	0	93	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	0.96	0.96	0.96	0.99	0.99	0.99	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	21.0	21.0		21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	65.0	65.0		65.0	65.0		65.0	65.0		65.0	65.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	60.0	60.0		60.0	60.0		60.0	60.0		60.0	60.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.32			0.38			0.12			0.13	
Control Delay		23.2			23.9			16.9			19.2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		23.2			23.9			16.9			19.2	
Queue Length 50th (ft)		138			169			38			41	
Queue Length 95th (ft)		181			227			39			67	
Internal Link Dist (ft)		161			436			114			223	
Turn Bay Length (ft)												
Base Capacity (vph)		830			841			794			691	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.32			0.38			0.12			0.13	

Intersection Summary	
Area Type:	Other
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 45	
Control Type: Pretimed	

Splits and Phases: 6: South Avenue & NYS Route 9D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	194	16	13	223	37	14	27	13	32	35	9
Future Volume (veh/h)	9	194	16	13	223	37	14	27	13	32	35	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1843	1843	1843	1957	1885	1957	1910	1910	1910	1872	1759	1872
Adj Flow Rate, veh/h	11	237	20	15	262	44	25	49	24	39	43	11
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.82	0.82	0.82	0.85	0.85	0.85	0.55	0.55	0.55	0.82	0.82	0.82
Percent Heavy Veh, %	0	0	0	12	4	0	0	0	0	2	12	0
Cap, veh/h	44	752	62	48	704	115	212	409	190	312	333	81
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	32	1629	134	40	1525	249	384	887	412	590	721	176
Grp Volume(v), veh/h	268	0	0	321	0	0	98	0	0	93	0	0
Grp Sat Flow(s),veh/h/ln	1796	0	0	1814	0	0	1683	0	0	1487	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	12.1	0.0	0.0	14.8	0.0	0.0	4.0	0.0	0.0	4.0	0.0	0.0
Prop In Lane	0.04		0.07	0.05		0.14	0.26		0.24	0.42		0.12
Lane Grp Cap(c), veh/h	858	0	0	866	0	0	812	0	0	726	0	0
V/C Ratio(X)	0.31	0.00	0.00	0.37	0.00	0.00	0.12	0.00	0.00	0.13	0.00	0.00
Avail Cap(c_a), veh/h	858	0	0	866	0	0	812	0	0	726	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.1	0.0	0.0	22.8	0.0	0.0	19.9	0.0	0.0	19.9	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	0.0	1.2	0.0	0.0	0.3	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	0.0	0.0	7.8	0.0	0.0	2.1	0.0	0.0	2.0	0.0	0.0
LnGrp Delay(d),s/veh	23.1	0.0	0.0	24.0	0.0	0.0	20.2	0.0	0.0	20.3	0.0	0.0
LnGrp LOS	C			C			C			C		
Approach Vol, veh/h		268			321			98			93	
Approach Delay, s/veh		23.1			24.0			20.2			20.3	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		65.0		65.0		65.0		65.0
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s		60.0		60.0		60.0		60.0
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	22.8
HCM 2010 LOS	C



Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	73	232	612	71	159	649
Future Volume (vph)	73	232	612	71	159	649
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	5%		3%			-1%
Storage Length (ft)	85	0		0	340	
Storage Lanes	1	1		0	1	
Taper Length (ft)	86				86	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.986			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1725	1544	1809	0	1778	1872
Flt Permitted	0.950				0.172	
Satd. Flow (perm)	1725	1544	1809	0	322	1872
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	30		30			30
Link Distance (ft)	427		462			529
Travel Time (s)	9.7		10.5			12.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	79	252	665	77	173	705
Shared Lane Traffic (%)						
Lane Group Flow (vph)	79	252	742	0	173	705
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			
Headway Factor	1.03	1.03	1.02	1.02	0.99	0.99
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	pm+ov	NA		pm+pt	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8			6	
Minimum Split (s)	21.0	9.0	15.0		9.0	15.0
Total Split (s)	30.0	20.0	70.0		20.0	90.0
Total Split (%)	25.0%	16.7%	58.3%		16.7%	75.0%
Maximum Green (s)	25.0	15.0	65.0		15.0	85.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Walk Time (s)	5.0		5.0			
Flash Dont Walk (s)	11.0		11.0			
Pedestrian Calls (#/hr)	0		0			
v/c Ratio	0.22	0.44	0.76		0.42	0.53
Control Delay	41.4	31.0	27.6		8.9	10.0

Lane Group	NWL	NWR	NET	NER	SWL	SWT
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	41.4	31.0	27.6		8.9	10.0
Queue Length 50th (ft)	51	144	428		39	228
Queue Length 95th (ft)	96	222	594		62	314
Internal Link Dist (ft)	347		382			449
Turn Bay Length (ft)	85				340	
Base Capacity (vph)	359	579	979		410	1326
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.22	0.44	0.76		0.42	0.53

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NET and 6:SWTL, Start of Green	
Natural Cycle: 65	
Control Type: Pretimed	

Splits and Phases: 1: NYS Route 9D & Verplanck Avenue



Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (veh/h)	73	232	612	71	159	649
Future Volume (veh/h)	73	232	612	71	159	649
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1816	1816	1835	1872	1872	1872
Adj Flow Rate, veh/h	79	252	665	77	173	705
Adj No. of Lanes	1	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	360	515	875	101	441	1326
Arrive On Green	0.21	0.21	0.54	0.54	0.13	0.71
Sat Flow, veh/h	1730	1544	1615	187	1783	1872
Grp Volume(v), veh/h	79	252	0	742	173	705
Grp Sat Flow(s),veh/h/ln	1730	1544	0	1802	1783	1872
Q Serve(g_s), s	4.5	15.6	0.0	38.5	4.1	21.1
Cycle Q Clear(g_c), s	4.5	15.6	0.0	38.5	4.1	21.1
Prop In Lane	1.00	1.00		0.10	1.00	
Lane Grp Cap(c), veh/h	360	515	0	976	441	1326
V/C Ratio(X)	0.22	0.49	0.00	0.76	0.39	0.53
Avail Cap(c_a), veh/h	360	515	0	976	441	1326
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.4	31.9	0.0	21.4	15.7	8.2
Incr Delay (d2), s/veh	1.4	3.3	0.0	5.6	2.6	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	7.1	0.0	20.5	2.9	11.3
LnGrp Delay(d),s/veh	40.8	35.2	0.0	27.0	18.3	9.7
LnGrp LOS	D	D		C	B	A
Approach Vol, veh/h	331		742			878
Approach Delay, s/veh	36.5		27.0			11.4
Approach LOS	D		C			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	20.0	70.0				90.0		30.0
Change Period (Y+Rc), s	5.0	5.0				5.0		5.0
Max Green Setting (Gmax), s	15.0	65.0				85.0		25.0
Max Q Clear Time (g_c+I1), s	0.0	0.0				0.0		0.0
Green Ext Time (p_c), s	0.0	0.0				0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	21.6
HCM 2010 LOS	C

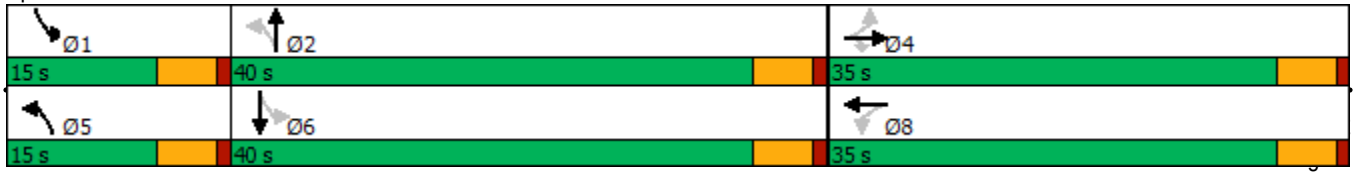
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	2	25	9	12	20	70	555	4	17	591	179
Future Volume (vph)	33	2	25	9	12	20	70	555	4	17	591	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-10%			-6%			3%	
Storage Length (ft)	0		95	0		0	75		0	75		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			86			86		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.96		0.98			1.00			0.99	
Frt			0.850		0.934			0.999			0.965	
Flt Protected		0.955			0.989		0.950			0.950		
Satd. Flow (prot)	0	1780	1599	0	1815	0	1771	1936	0	1778	1771	0
Flt Permitted		0.824			0.911		0.221			0.414		
Satd. Flow (perm)	0	1536	1533	0	1672	0	412	1936	0	775	1771	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			85		27						20	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		584			328			388			335	
Travel Time (s)		13.3			7.5			8.8			7.6	
Confl. Peds. (#/hr)			12			4			1			10
Confl. Bikes (#/hr)			3									
Peak Hour Factor	0.73	0.73	0.73	0.75	0.75	0.75	0.94	0.94	0.94	0.95	0.95	0.95
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	5%	1%	0%	0%	1%	2%
Adj. Flow (vph)	45	3	34	12	16	27	74	590	4	18	622	188
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	48	34	0	55	0	74	594	0	18	810	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.01	1.01	1.01	0.94	0.94	0.94	0.96	0.96	0.96	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	2	1	2		2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83	83	20	83		83	6		83	6	
Trailing Detector (ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Position(ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Size(ft)	20	43	43	20	43		43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40	40		40		40			40		
Detector 2 Size(ft)		43	43		43		43			43		
Detector 2 Type		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex			Cl+Ex		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0	0.0		0.0		0.0			0.0		
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	16.0		4.0	16.0	
Minimum Split (s)	20.0	20.0	20.0	21.0	21.0		9.0	21.0		9.0	21.0	
Total Split (s)	35.0	35.0	35.0	35.0	35.0		15.0	40.0		15.0	40.0	
Total Split (%)	38.9%	38.9%	38.9%	38.9%	38.9%		16.7%	44.4%		16.7%	44.4%	
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0		10.0	35.0		10.0	35.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Max		None	Max	
Walk Time (s)				5.0	5.0							
Flash Dont Walk (s)				11.0	11.0							
Pedestrian Calls (#/hr)				0	0							
v/c Ratio		0.24	0.12		0.23		0.16	0.39		0.03	0.63	
Control Delay		28.3	1.3		19.0		3.5	6.0		3.3	14.3	
Queue Delay		0.0	0.0		0.0		0.0	0.3		0.0	0.0	
Total Delay		28.3	1.3		19.0		3.5	6.3		3.3	14.3	
Queue Length 50th (ft)		18	0		10		6	69		2	236	
Queue Length 95th (ft)		37	0		31		18	241		6	#510	
Internal Link Dist (ft)		504			248			308			255	
Turn Bay Length (ft)			95				75			75		
Base Capacity (vph)		815	853		900		562	1541		770	1276	
Starvation Cap Reductn		0	0		0		0	418		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.06	0.04		0.06		0.13	0.53		0.02	0.63	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 58.7
Natural Cycle: 70
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: NYS Route 9D & Beekman Street/W. Church Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	2	25	9	12	20	70	555	4	17	591	179
Future Volume (veh/h)	33	2	25	9	12	20	70	555	4	17	591	179
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.90	0.94		0.98	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1864	1881	1995	1995	1995	1864	1938	1957	1872	1849	1872
Adj Flow Rate, veh/h	45	3	34	12	16	27	74	590	4	18	622	188
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.73	0.73	0.73	0.75	0.75	0.75	0.94	0.94	0.94	0.95	0.95	0.95
Percent Heavy Veh, %	1	0	0	0	0	0	5	1	0	0	1	2
Cap, veh/h	239	12	127	97	56	74	392	1222	8	546	823	249
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.05	0.64	0.64	0.02	0.60	0.60
Sat Flow, veh/h	1350	139	1441	239	635	843	1775	1922	13	1782	1361	411
Grp Volume(v), veh/h	48	0	34	55	0	0	74	0	594	18	0	810
Grp Sat Flow(s),veh/h/ln	1488	0	1441	1717	0	0	1775	0	1935	1782	0	1772
Q Serve(g_s), s	0.0	0.0	1.3	0.0	0.0	0.0	0.9	0.0	9.3	0.2	0.0	19.3
Cycle Q Clear(g_c), s	1.5	0.0	1.3	1.7	0.0	0.0	0.9	0.0	9.3	0.2	0.0	19.3
Prop In Lane	0.94		1.00	0.22		0.49	1.00		0.01	1.00		0.23
Lane Grp Cap(c), veh/h	251	0	127	227	0	0	392	0	1230	546	0	1072
V/C Ratio(X)	0.19	0.00	0.27	0.24	0.00	0.00	0.19	0.00	0.48	0.03	0.00	0.76
Avail Cap(c_a), veh/h	836	0	747	944	0	0	613	0	1230	823	0	1072
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.7	0.0	24.7	24.8	0.0	0.0	7.2	0.0	5.5	4.7	0.0	8.3
Incr Delay (d2), s/veh	0.4	0.0	1.1	0.5	0.0	0.0	0.2	0.0	1.4	0.0	0.0	5.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.5	0.9	0.0	0.0	0.5	0.0	5.4	0.1	0.0	10.7
LnGrp Delay(d),s/veh	25.1	0.0	25.8	25.4	0.0	0.0	7.5	0.0	6.9	4.7	0.0	13.3
LnGrp LOS	C		C	C			A		A	A		B
Approach Vol, veh/h		82			55			668			828	
Approach Delay, s/veh		25.4			25.4			7.0			13.1	
Approach LOS		C			C			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.0	41.8		10.1	7.8	40.0		10.1
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	10.0	35.0		30.0	10.0	35.0		30.0
Max Q Clear Time (g_c+I1), s	2.2	11.3		3.5	2.9	21.3		3.7
Green Ext Time (p_c), s	0.0	1.6		0.4	0.1	2.3		0.2

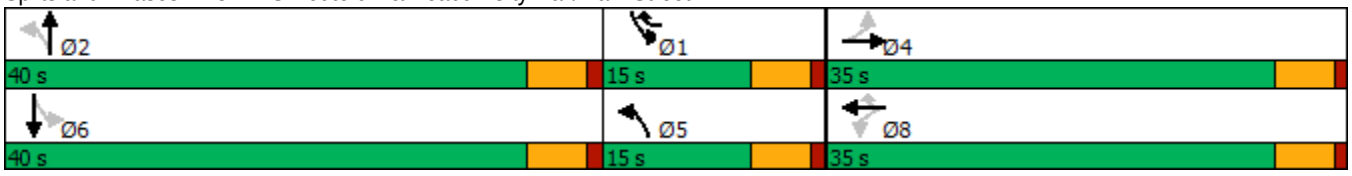
Intersection Summary	
HCM 2010 Ctrl Delay	11.6
HCM 2010 LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	2	2	38	0	197	2	431	58	293	338	3
Future Volume (vph)	2	2	2	38	0	197	2	431	58	293	338	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-8%			-3%			3%	
Storage Length (ft)	0		0	0		70	65		0	120		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			86			86		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98				0.97		0.98			1.00	
Frt		0.955				0.850		0.982			0.999	
Flt Protected		0.984			0.950		0.950			0.950		
Satd. Flow (prot)	0	1742	0	0	1877	1663	1832	1817	0	1760	1851	0
Flt Permitted		0.872			0.833		0.532			0.341		
Satd. Flow (perm)	0	1544	0	0	1646	1619	1026	1817	0	632	1851	0
Right Turn on Red			Yes			No			No			Yes
Satd. Flow (RTOR)		3									1	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		133			350			693			388	
Travel Time (s)		3.0			8.0			15.8			8.8	
Confl. Peds. (#/hr)			14			6			48			11
Peak Hour Factor	0.71	0.71	0.71	0.89	0.89	0.89	0.88	0.88	0.88	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	0%	2%	5%	1%	1%	0%
Adj. Flow (vph)	3	3	3	43	0	221	2	490	66	318	367	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	0	0	43	221	2	556	0	318	370	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.01	1.01	1.01	0.95	0.95	0.95	0.98	0.98	0.98	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83		20	83	83	83	6		83	6	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	0		-5	0	
Detector 1 Size(ft)	20	43		20	43	43	43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40			40	40	40			40		
Detector 2 Size(ft)		43			43	43	43			43		
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0	0.0	0.0			0.0		
Turn Type	Perm	NA		Perm	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8	1	5	2		1	6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		8.0	8.0	4.0	4.0	31.0		4.0	35.0	
Minimum Split (s)	21.0	21.0		21.0	21.0	9.0	9.0	36.0		9.0	40.0	
Total Split (s)	35.0	35.0		35.0	35.0	15.0	15.0	40.0		15.0	40.0	
Total Split (%)	38.9%	38.9%		38.9%	38.9%	16.7%	16.7%	44.4%		16.7%	44.4%	
Maximum Green (s)	30.0	30.0		30.0	30.0	10.0	10.0	35.0		10.0	35.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag						Lag	Lag	Lead		Lag	Lead	
Lead-Lag Optimize?						Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		None	Max	
Walk Time (s)	5.0	5.0						5.0				
Flash Dont Walk (s)	11.0	11.0						11.0				
Pedestrian Calls (#/hr)	0	0						0				
v/c Ratio		0.05			0.19	0.57	0.00	0.55		0.47	0.25	
Control Delay		23.3			28.9	24.8	3.5	13.0		8.5	5.5	
Queue Delay		0.0			0.0	0.0	0.0	0.0		3.4	0.2	
Total Delay		23.3			28.9	24.8	3.5	13.0		11.9	5.7	
Queue Length 50th (ft)		2			17	69	0	150		32	38	
Queue Length 95th (ft)		11			43	121	2	247		63	152	
Internal Link Dist (ft)		53			270			613			308	
Turn Bay Length (ft)						70	65			120		
Base Capacity (vph)		744			791	390	869	1019		678	1469	
Starvation Cap Reductn		0			0	0	0	0		263	460	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.01			0.05	0.57	0.00	0.55		0.77	0.37	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 63.2	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	

Splits and Phases: 3: NYS Route 9D & Beacon City Hall/Main Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	2	2	38	0	197	2	431	58	293	338	3
Future Volume (veh/h)	2	2	2	38	0	197	2	431	58	293	338	3
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.95		0.98	0.99		0.96	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1890	1890	1890	1976	1976	1956	1928	1884	1928	1853	1853	1872
Adj Flow Rate, veh/h	3	3	3	43	0	221	2	490	66	318	367	3
Adj No. of Lanes	0	1	0	0	1	1	1	1	0	1	1	0
Peak Hour Factor	0.71	0.71	0.71	0.89	0.89	0.89	0.88	0.88	0.88	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	1	0	2	5	1	1	0
Cap, veh/h	115	97	67	299	0	315	709	914	123	546	1038	8
Arrive On Green	0.13	0.13	0.13	0.13	0.00	0.13	0.06	0.57	0.57	0.06	0.57	0.57
Sat Flow, veh/h	290	761	526	1423	0	1624	1837	1617	218	1765	1835	15
Grp Volume(v), veh/h	9	0	0	43	0	221	2	0	556	318	0	370
Grp Sat Flow(s),veh/h/ln	1577	0	0	1423	0	1624	1837	0	1834	1765	0	1850
Q Serve(g_s), s	0.0	0.0	0.0	1.3	0.0	3.8	0.0	0.0	11.7	0.0	0.0	6.7
Cycle Q Clear(g_c), s	0.3	0.0	0.0	1.6	0.0	3.8	0.0	0.0	11.7	0.0	0.0	6.7
Prop In Lane	0.33		0.33	1.00		1.00	1.00		0.12	1.00		0.01
Lane Grp Cap(c), veh/h	279	0	0	299	0	315	709	0	1037	546	0	1046
V/C Ratio(X)	0.03	0.00	0.00	0.14	0.00	0.70	0.00	0.00	0.54	0.58	0.00	0.35
Avail Cap(c_a), veh/h	800	0	0	801	0	894	887	0	1037	718	0	1046
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.7	0.0	0.0	24.2	0.0	23.3	7.1	0.0	8.4	15.6	0.0	7.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	2.8	0.0	0.0	2.0	1.0	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.7	0.0	3.5	0.0	0.0	6.4	5.0	0.0	3.7
LnGrp Delay(d),s/veh	23.7	0.0	0.0	24.4	0.0	26.1	7.1	0.0	10.4	16.6	0.0	8.2
LnGrp LOS	C			C		C	A		B	B		A
Approach Vol, veh/h		9			264			558			688	
Approach Delay, s/veh		23.7			25.9			10.4			12.1	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.0	40.0		12.9	9.0	40.0		12.9
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	10.0	35.0		30.0	10.0	35.0		30.0
Max Q Clear Time (g_c+I1), s	2.0	13.7		2.3	2.0	8.7		5.8
Green Ext Time (p_c), s	1.0	1.5		0.0	0.0	0.9		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	13.9
HCM 2010 LOS	B

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	10	3	3	10	5	82	3	398	10	45	325	7
Future Volume (vph)	10	3	3	10	5	82	3	398	10	45	325	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-3%			-4%			4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.974			0.886			0.997			0.997	
Flt Protected		0.970			0.995						0.994	
Satd. Flow (prot)	0	1638	0	0	1646	0	0	1855	0	0	1810	0
Flt Permitted		0.970			0.995						0.994	
Satd. Flow (perm)	0	1638	0	0	1646	0	0	1855	0	0	1810	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		162			281			312			693	
Travel Time (s)		3.7			6.4			7.1			15.8	
Confl. Peds. (#/hr)			4			19			2			3
Confl. Bikes (#/hr)												1
Peak Hour Factor	0.61	0.61	0.61	0.88	0.88	0.88	0.85	0.85	0.85	0.92	0.92	0.92
Heavy Vehicles (%)	0%	50%	0%	11%	25%	1%	0%	4%	11%	2%	2%	0%
Adj. Flow (vph)	16	5	5	11	6	93	4	468	12	49	353	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	26	0	0	110	0	0	484	0	0	410	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	0.98	0.98	0.98	0.97	0.97	0.97	1.03	1.03	1.03
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	2.6

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	10	3	3	10	5	82	3	398	10	45	325	7
Future Vol, veh/h	10	3	3	10	5	82	3	398	10	45	325	7
Conflicting Peds, #/hr	0	0	4	0	0	19	0	0	2	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-3	-	-	-4	-	-	4	-
Peak Hour Factor	61	61	61	88	88	88	85	85	85	92	92	92
Heavy Vehicles, %	0	50	0	11	25	1	0	4	11	2	2	0
Mvmt Flow	16	5	5	11	6	93	4	468	12	49	353	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1009	948	364	948	946	495	364	0	0	482	0	0
Stage 1	458	458	-	484	484	-	-	-	-	-	-	-
Stage 2	551	490	-	464	462	-	-	-	-	-	-	-
Critical Hdwy	7.1	7	6.2	6.61	6.15	5.91	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	6	-	5.61	5.15	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	6	-	5.61	5.15	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.45	3.3	3.599	4.225	3.309	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	221	217	685	272	280	601	1206	-	-	1081	-	-
Stage 1	587	494	-	593	559	-	-	-	-	-	-	-
Stage 2	522	477	-	607	570	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	171	203	681	251	262	590	1203	-	-	1079	-	-
Mov Cap-2 Maneuver	171	203	-	251	262	-	-	-	-	-	-	-
Stage 1	583	465	-	589	555	-	-	-	-	-	-	-
Stage 2	426	474	-	560	536	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	25	14.5	0.1	1
HCM LOS	D	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1203	-	-	490	206	1079	-	-
HCM Lane V/C Ratio	0.003	-	-	0.225	0.127	0.045	-	-
HCM Control Delay (s)	8	0	-	14.5	25	8.5	0	-
HCM Lane LOS	A	A	-	B	D	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.9	0.4	0.1	-	-



Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	66	21	7	343	313	23
Future Volume (vph)	66	21	7	343	313	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.967				0.991	
Flt Protected	0.963			0.999		
Satd. Flow (prot)	1735	0	0	1861	1846	0
Flt Permitted	0.963			0.999		
Satd. Flow (perm)	1735	0	0	1861	1846	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	176			499	312	
Travel Time (s)	4.0			11.3	7.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	23	8	373	340	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	95	0	0	381	365	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60			60
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

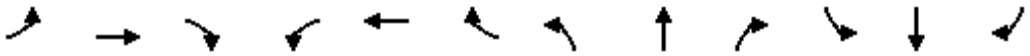
Intersection	
Int Delay, s/veh	1.6

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Vol, veh/h	66	21	7	343	313	23
Future Vol, veh/h	66	21	7	343	313	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	72	23	8	373	340	25

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	742	353	365	0	-	0
Stage 1	353	-	-	-	-	-
Stage 2	389	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	383	691	1194	-	-	-
Stage 1	711	-	-	-	-	-
Stage 2	685	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	380	691	1194	-	-	-
Mov Cap-2 Maneuver	490	-	-	-	-	-
Stage 1	705	-	-	-	-	-
Stage 2	685	-	-	-	-	-

Approach	SE	NE	SW
HCM Control Delay, s	13.3	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NEL	NET	SELn1	SWT	SWR
Capacity (veh/h)	1194	-	527	-	-
HCM Lane V/C Ratio	0.006	-	0.179	-	-
HCM Control Delay (s)	8	0	13.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

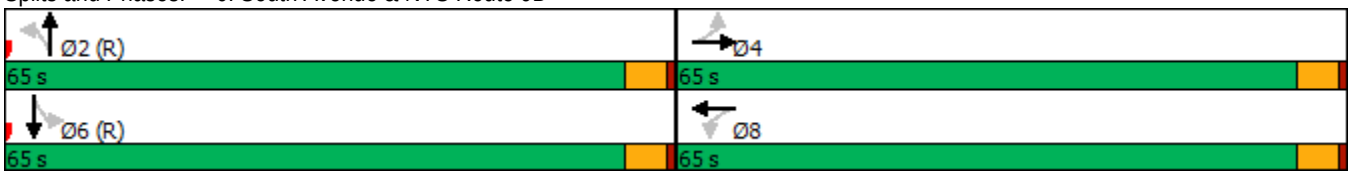


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	209	16	13	208	37	14	27	13	32	35	9
Future Volume (vph)	9	209	16	13	208	37	14	27	13	32	35	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		6%			-6%			-1%			3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								0.99			0.99	
Frt		0.991			0.980			0.967			0.984	
Flt Protected		0.998			0.998			0.987			0.979	
Satd. Flow (prot)	0	1823	0	0	1844	0	0	1822	0	0	1686	0
Flt Permitted		0.985			0.979			0.926			0.866	
Satd. Flow (perm)	0	1799	0	0	1809	0	0	1701	0	0	1491	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			9			17			7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		241			516			194			303	
Travel Time (s)		5.5			11.7			4.4			6.9	
Confl. Peds. (#/hr)							6					6
Peak Hour Factor	0.82	0.82	0.82	0.85	0.85	0.85	0.55	0.55	0.55	0.82	0.82	0.82
Heavy Vehicles (%)	0%	0%	0%	12%	4%	0%	0%	0%	0%	2%	12%	0%
Adj. Flow (vph)	11	255	20	15	245	44	25	49	24	39	43	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	286	0	0	304	0	0	98	0	0	93	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	0.96	0.96	0.96	0.99	0.99	0.99	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	21.0	21.0		21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	65.0	65.0		65.0	65.0		65.0	65.0		65.0	65.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	60.0	60.0		60.0	60.0		60.0	60.0		60.0	60.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.34			0.36			0.12			0.13	
Control Delay		23.5			23.5			16.9			19.2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		23.5			23.5			16.9			19.2	
Queue Length 50th (ft)		149			157			38			41	
Queue Length 95th (ft)		194			213			39			67	
Internal Link Dist (ft)		161			436			114			223	
Turn Bay Length (ft)												
Base Capacity (vph)		832			839			794			691	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.34			0.36			0.12			0.13	

Intersection Summary	
Area Type:	Other
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 45	
Control Type: Pretimed	

Splits and Phases: 6: South Avenue & NYS Route 9D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	209	16	13	208	37	14	27	13	32	35	9
Future Volume (veh/h)	9	209	16	13	208	37	14	27	13	32	35	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1843	1843	1843	1957	1885	1957	1910	1910	1910	1872	1759	1872
Adj Flow Rate, veh/h	11	255	20	15	245	44	25	49	24	39	43	11
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.82	0.82	0.82	0.85	0.85	0.85	0.55	0.55	0.55	0.82	0.82	0.82
Percent Heavy Veh, %	0	0	0	12	4	0	0	0	0	2	12	0
Cap, veh/h	42	759	58	49	694	121	212	409	190	312	333	81
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	29	1645	126	44	1503	262	384	887	412	590	721	176
Grp Volume(v), veh/h	286	0	0	304	0	0	98	0	0	93	0	0
Grp Sat Flow(s),veh/h/ln	1800	0	0	1809	0	0	1683	0	0	1487	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	13.0	0.0	0.0	13.9	0.0	0.0	4.0	0.0	0.0	4.0	0.0	0.0
Prop In Lane	0.04		0.07	0.05		0.14	0.26		0.24	0.42		0.12
Lane Grp Cap(c), veh/h	860	0	0	864	0	0	812	0	0	726	0	0
V/C Ratio(X)	0.33	0.00	0.00	0.35	0.00	0.00	0.12	0.00	0.00	0.13	0.00	0.00
Avail Cap(c_a), veh/h	860	0	0	864	0	0	812	0	0	726	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.4	0.0	0.0	22.6	0.0	0.0	19.9	0.0	0.0	19.9	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	0.0	1.1	0.0	0.0	0.3	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	0.0	0.0	7.3	0.0	0.0	2.1	0.0	0.0	2.0	0.0	0.0
LnGrp Delay(d),s/veh	23.4	0.0	0.0	23.7	0.0	0.0	20.2	0.0	0.0	20.3	0.0	0.0
LnGrp LOS	C			C			C			C		
Approach Vol, veh/h		286			304			98			93	
Approach Delay, s/veh		23.4			23.7			20.2			20.3	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		65.0		65.0		65.0		65.0
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s		60.0		60.0		60.0		60.0
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	22.7
HCM 2010 LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	310	24	37	4	15	23	34	437	5	6	525	166
Future Volume (vph)	310	24	37	4	15	23	34	437	5	6	525	166
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-10%			-6%			3%	
Storage Length (ft)	0		95	0		0	75		0	75		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			86			86		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.97		0.96			1.00			0.99	
Frt			0.850		0.925			0.998			0.964	
Flt Protected		0.956			0.996		0.950			0.950		
Satd. Flow (prot)	0	1760	1599	0	1713	0	1805	1915	0	1778	1774	0
Flt Permitted		0.956			0.996		0.135			0.354		
Satd. Flow (perm)	0	1760	1557	0	1713	0	257	1915	0	663	1774	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145		25			1			21	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		584			328			388			335	
Travel Time (s)		13.3			7.5			8.8			7.6	
Confl. Peds. (#/hr)			2			13			1			6
Confl. Bikes (#/hr)						1			1			1
Peak Hour Factor	0.71	0.71	0.71	0.92	0.92	0.92	0.84	0.84	0.84	0.98	0.98	0.98
Heavy Vehicles (%)	2%	4%	0%	0%	7%	0%	3%	2%	0%	0%	1%	1%
Adj. Flow (vph)	437	34	52	4	16	25	40	520	6	6	536	169
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	471	52	0	45	0	40	526	0	6	705	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.01	1.01	1.01	0.94	0.94	0.94	0.96	0.96	0.96	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	2	1	2		2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83	83	20	83		83	6		83	6	
Trailing Detector (ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Position(ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Size(ft)	20	43	43	20	43		43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40	40		40		40			40		
Detector 2 Size(ft)		43	43		43		43			43		
Detector 2 Type		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex			Cl+Ex		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0	0.0		0.0		0.0			0.0		
Turn Type	Split	NA	Perm	Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4				2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	16.0		4.0	16.0	
Minimum Split (s)	20.0	20.0	20.0	9.0	9.0		9.0	21.0		9.0	21.0	
Total Split (s)	20.0	20.0	20.0	15.0	15.0		15.0	40.0		15.0	40.0	
Total Split (%)	22.2%	22.2%	22.2%	16.7%	16.7%		16.7%	44.4%		16.7%	44.4%	
Maximum Green (s)	15.0	15.0	15.0	10.0	10.0		10.0	35.0		10.0	35.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
v/c Ratio		1.27	0.12		0.25		0.14	0.52		0.01	0.84	
Control Delay		170.0	0.5		24.9		9.7	15.3		9.0	31.3	
Queue Delay		0.0	0.0		0.0		0.0	1.4		0.0	0.0	
Total Delay		170.0	0.5		24.9		9.7	16.7		9.0	31.3	
Queue Length 50th (ft)		~346	0		10		9	153		1	334	
Queue Length 95th (ft)		#399	0		41		22	300		7	#600	
Internal Link Dist (ft)		504			248			308			255	
Turn Bay Length (ft)			95				75			75		
Base Capacity (vph)		372	443		263		361	1065		515	886	
Starvation Cap Reductn		0	0		0		0	335		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		1.27	0.12		0.17		0.11	0.72		0.01	0.80	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 73.8
Natural Cycle: 90
Control Type: Semi Act-Uncoord
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: NYS Route 9D & Beekman Street/W. Church Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	310	24	37	4	15	23	34	437	5	6	525	166
Future Volume (veh/h)	310	24	37	4	15	23	34	437	5	6	525	166
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.86	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1842	1881	1995	1947	1995	1900	1919	1957	1872	1853	1872
Adj Flow Rate, veh/h	437	34	52	4	16	25	40	520	6	6	536	169
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.71	0.71	0.71	0.92	0.92	0.92	0.84	0.84	0.84	0.98	0.98	0.98
Percent Heavy Veh, %	2	4	0	0	7	0	3	2	0	0	1	1
Cap, veh/h	354	28	345	5	19	30	197	859	10	332	576	181
Arrive On Green	0.22	0.22	0.22	0.03	0.03	0.03	0.03	0.45	0.45	0.01	0.43	0.43
Sat Flow, veh/h	1633	127	1591	144	574	897	1810	1893	22	1782	1341	423
Grp Volume(v), veh/h	471	0	52	45	0	0	40	0	526	6	0	705
Grp Sat Flow(s),veh/h/ln	1760	0	1591	1615	0	0	1810	0	1915	1782	0	1764
Q Serve(g_s), s	15.0	0.0	1.8	1.9	0.0	0.0	0.8	0.0	14.3	0.1	0.0	26.3
Cycle Q Clear(g_c), s	15.0	0.0	1.8	1.9	0.0	0.0	0.8	0.0	14.3	0.1	0.0	26.3
Prop In Lane	0.93		1.00	0.09		0.56	1.00		0.01	1.00		0.24
Lane Grp Cap(c), veh/h	382	0	345	54	0	0	197	0	869	332	0	757
V/C Ratio(X)	1.23	0.00	0.15	0.83	0.00	0.00	0.20	0.00	0.61	0.02	0.00	0.93
Avail Cap(c_a), veh/h	382	0	345	234	0	0	403	0	970	579	0	893
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.1	0.0	21.9	33.2	0.0	0.0	15.6	0.0	14.2	12.2	0.0	18.8
Incr Delay (d2), s/veh	125.7	0.0	0.2	26.4	0.0	0.0	0.5	0.0	0.9	0.0	0.0	14.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.6	0.0	0.8	1.2	0.0	0.0	0.4	0.0	7.7	0.1	0.0	15.8
LnGrp Delay(d),s/veh	152.8	0.0	22.1	59.6	0.0	0.0	16.1	0.0	15.1	12.2	0.0	33.4
LnGrp LOS	F		C	E			B		B	B		C
Approach Vol, veh/h		523			45			566			711	
Approach Delay, s/veh		139.8			59.6			15.2			33.2	
Approach LOS		F			E			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.4	36.4		20.0	7.1	34.7		7.3
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	10.0	35.0		15.0	10.0	35.0		10.0
Max Q Clear Time (g_c+I1), s	2.1	16.3		17.0	2.8	28.3		3.9
Green Ext Time (p_c), s	0.0	1.3		0.0	0.0	1.4		0.1

Intersection Summary		
HCM 2010 Ctrl Delay	58.5	
HCM 2010 LOS	E	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	310	24	40	4	15	23	35	439	5	6	561	166
Future Volume (vph)	310	24	40	4	15	23	35	439	5	6	561	166
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-10%			-6%			3%	
Storage Length (ft)	0		95	0		0	75		0	75		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			86			86		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.97		0.96			1.00			0.99	
Frt			0.850		0.925			0.998			0.966	
Flt Protected		0.956			0.996		0.950			0.950		
Satd. Flow (prot)	0	1760	1599	0	1713	0	1805	1915	0	1778	1778	0
Flt Permitted		0.956			0.996		0.117			0.356		
Satd. Flow (perm)	0	1760	1557	0	1713	0	222	1915	0	666	1778	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145		25			1			19	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		584			328			388			335	
Travel Time (s)		13.3			7.5			8.8			7.6	
Confl. Peds. (#/hr)			2			13			1			6
Confl. Bikes (#/hr)						1			1			1
Peak Hour Factor	0.71	0.71	0.71	0.92	0.92	0.92	0.84	0.84	0.84	0.98	0.98	0.98
Heavy Vehicles (%)	2%	4%	0%	0%	7%	0%	3%	2%	0%	0%	1%	1%
Adj. Flow (vph)	437	34	56	4	16	25	42	523	6	6	572	169
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	471	56	0	45	0	42	529	0	6	741	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.01	1.01	1.01	0.94	0.94	0.94	0.96	0.96	0.96	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	2	1	2		2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83	83	20	83		83	6		83	6	
Trailing Detector (ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Position(ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Size(ft)	20	43	43	20	43		43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40	40		40		40			40		
Detector 2 Size(ft)		43	43		43		43			43		
Detector 2 Type		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex			Cl+Ex		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0	0.0		0.0		0.0			0.0		
Turn Type	Split	NA	Perm	Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4				2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	16.0		4.0	16.0	
Minimum Split (s)	20.0	20.0	20.0	9.0	9.0		9.0	21.0		9.0	21.0	
Total Split (s)	20.0	20.0	20.0	15.0	15.0		15.0	40.0		15.0	40.0	
Total Split (%)	22.2%	22.2%	22.2%	16.7%	16.7%		16.7%	44.4%		16.7%	44.4%	
Maximum Green (s)	15.0	15.0	15.0	10.0	10.0		10.0	35.0		10.0	35.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
v/c Ratio		1.30	0.13		0.25		0.16	0.51		0.01	0.86	
Control Delay		185.0	0.6		25.0		9.9	15.1		9.0	33.4	
Queue Delay		0.0	0.0		0.0		0.0	1.7		0.0	0.0	
Total Delay		185.0	0.6		25.0		9.9	16.9		9.0	33.4	
Queue Length 50th (ft)		~346	0		10		9	155		1	364	
Queue Length 95th (ft)		#399	0		41		23	301		7	#648	
Internal Link Dist (ft)		504			248			308			255	
Turn Bay Length (ft)			95				75			75		
Base Capacity (vph)		362	435		256		342	1038		518	862	
Starvation Cap Reductn		0	0		0		0	334		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		1.30	0.13		0.18		0.12	0.75		0.01	0.86	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 75.2
Natural Cycle: 90
Control Type: Semi Act-Uncoord
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: NYS Route 9D & Beekman Street/W. Church Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	310	24	40	4	15	23	35	439	5	6	561	166
Future Volume (veh/h)	310	24	40	4	15	23	35	439	5	6	561	166
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.86	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1842	1881	1995	1947	1995	1900	1919	1957	1872	1853	1872
Adj Flow Rate, veh/h	437	34	56	4	16	25	42	523	6	6	572	169
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.71	0.71	0.71	0.92	0.92	0.92	0.84	0.84	0.84	0.98	0.98	0.98
Percent Heavy Veh, %	2	4	0	0	7	0	3	2	0	0	1	1
Cap, veh/h	343	27	334	5	19	30	190	889	10	346	607	179
Arrive On Green	0.21	0.21	0.21	0.03	0.03	0.03	0.03	0.47	0.47	0.01	0.44	0.44
Sat Flow, veh/h	1633	127	1591	143	573	895	1810	1893	22	1782	1365	403
Grp Volume(v), veh/h	471	0	56	45	0	0	42	0	529	6	0	741
Grp Sat Flow(s),veh/h/ln	1760	0	1591	1611	0	0	1810	0	1915	1782	0	1768
Q Serve(g_s), s	15.0	0.0	2.1	2.0	0.0	0.0	0.9	0.0	14.4	0.1	0.0	28.6
Cycle Q Clear(g_c), s	15.0	0.0	2.1	2.0	0.0	0.0	0.9	0.0	14.4	0.1	0.0	28.6
Prop In Lane	0.93		1.00	0.09		0.56	1.00		0.01	1.00		0.23
Lane Grp Cap(c), veh/h	370	0	334	54	0	0	190	0	900	346	0	786
V/C Ratio(X)	1.27	0.00	0.17	0.84	0.00	0.00	0.22	0.00	0.59	0.02	0.00	0.94
Avail Cap(c_a), veh/h	370	0	334	226	0	0	386	0	939	585	0	867
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.2	0.0	23.1	34.3	0.0	0.0	16.1	0.0	13.9	11.9	0.0	19.0
Incr Delay (d2), s/veh	142.5	0.0	0.2	27.1	0.0	0.0	0.6	0.0	0.9	0.0	0.0	17.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.8	0.0	0.9	1.3	0.0	0.0	0.5	0.0	7.7	0.1	0.0	17.6
LnGrp Delay(d),s/veh	170.7	0.0	23.3	61.4	0.0	0.0	16.7	0.0	14.8	11.9	0.0	36.3
LnGrp LOS	F		C	E			B		B	B		D
Approach Vol, veh/h		527			45			571			747	
Approach Delay, s/veh		155.0			61.4			14.9			36.1	
Approach LOS		F			E			B			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.4	38.5		20.0	7.3	36.7		7.4
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	10.0	35.0		15.0	10.0	35.0		10.0
Max Q Clear Time (g_c+I1), s	2.1	16.4		17.0	2.9	30.6		4.0
Green Ext Time (p_c), s	0.0	1.3		0.0	0.1	1.1		0.1

Intersection Summary		
HCM 2010 Ctrl Delay		63.5
HCM 2010 LOS		E

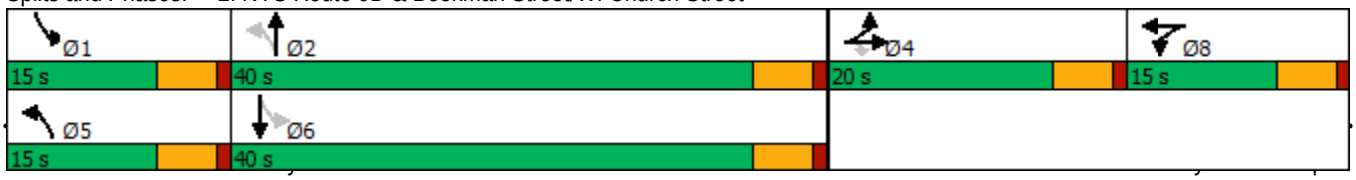
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	310	24	37	4	15	23	38	478	5	6	525	166
Future Volume (vph)	310	24	37	4	15	23	38	478	5	6	525	166
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-10%			-6%			3%	
Storage Length (ft)	0		95	0		0	75		0	75		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			86			86		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.97		0.96			1.00			0.99	
Frt			0.850		0.925			0.998			0.964	
Flt Protected		0.956			0.996		0.950			0.950		
Satd. Flow (prot)	0	1760	1599	0	1713	0	1805	1915	0	1778	1774	0
Flt Permitted		0.956			0.996		0.135			0.311		
Satd. Flow (perm)	0	1760	1557	0	1713	0	257	1915	0	582	1774	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145		25			1			21	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		584			328			388			335	
Travel Time (s)		13.3			7.5			8.8			7.6	
Confl. Peds. (#/hr)			2			13			1			6
Confl. Bikes (#/hr)						1			1			1
Peak Hour Factor	0.71	0.71	0.71	0.92	0.92	0.92	0.84	0.84	0.84	0.98	0.98	0.98
Heavy Vehicles (%)	2%	4%	0%	0%	7%	0%	3%	2%	0%	0%	1%	1%
Adj. Flow (vph)	437	34	52	4	16	25	45	569	6	6	536	169
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	471	52	0	45	0	45	575	0	6	705	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.01	1.01	1.01	0.94	0.94	0.94	0.96	0.96	0.96	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	2	1	2		2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83	83	20	83		83	6		83	6	
Trailing Detector (ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Position(ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Size(ft)	20	43	43	20	43		43	6		43	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		40	40		40		40			40		
Detector 2 Size(ft)		43	43		43		43			43		
Detector 2 Type		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex			Cl+Ex		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0	0.0		0.0		0.0			0.0		
Turn Type	Split	NA	Perm	Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4				2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	16.0		4.0	16.0	
Minimum Split (s)	20.0	20.0	20.0	9.0	9.0		9.0	21.0		9.0	21.0	
Total Split (s)	20.0	20.0	20.0	15.0	15.0		15.0	40.0		15.0	40.0	
Total Split (%)	22.2%	22.2%	22.2%	16.7%	16.7%		16.7%	44.4%		16.7%	44.4%	
Maximum Green (s)	15.0	15.0	15.0	10.0	10.0		10.0	35.0		10.0	35.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
v/c Ratio		1.27	0.12		0.25		0.16	0.56		0.02	0.84	
Control Delay		170.3	0.5		25.0		9.8	16.2		9.0	31.4	
Queue Delay		0.0	0.0		0.0		0.0	1.9		0.0	0.0	
Total Delay		170.3	0.5		25.0		9.8	18.1		9.0	31.4	
Queue Length 50th (ft)		~346	0		10		10	174		1	334	
Queue Length 95th (ft)		#400	0		41		24	336		7	#602	
Internal Link Dist (ft)		504			248			308			255	
Turn Bay Length (ft)			95				75			75		
Base Capacity (vph)		372	443		262		360	1066		482	885	
Starvation Cap Reductn		0	0		0		0	324		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		1.27	0.12		0.17		0.13	0.77		0.01	0.80	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 73.9
Natural Cycle: 90
Control Type: Semi Act-Uncoord
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: NYS Route 9D & Beekman Street/W. Church Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	310	24	37	4	15	23	38	478	5	6	525	166
Future Volume (veh/h)	310	24	37	4	15	23	38	478	5	6	525	166
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.86	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1842	1881	1995	1947	1995	1900	1919	1957	1872	1853	1872
Adj Flow Rate, veh/h	437	34	52	4	16	25	45	569	6	6	536	169
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.71	0.71	0.71	0.92	0.92	0.92	0.84	0.84	0.84	0.98	0.98	0.98
Percent Heavy Veh, %	2	4	0	0	7	0	3	2	0	0	1	1
Cap, veh/h	353	27	344	5	19	30	201	864	9	301	575	181
Arrive On Green	0.22	0.22	0.22	0.03	0.03	0.03	0.03	0.46	0.46	0.01	0.43	0.43
Sat Flow, veh/h	1633	127	1591	144	574	897	1810	1895	20	1782	1341	423
Grp Volume(v), veh/h	471	0	52	45	0	0	45	0	575	6	0	705
Grp Sat Flow(s),veh/h/ln	1760	0	1591	1615	0	0	1810	0	1915	1782	0	1764
Q Serve(g_s), s	15.0	0.0	1.8	1.9	0.0	0.0	1.0	0.0	16.2	0.1	0.0	26.4
Cycle Q Clear(g_c), s	15.0	0.0	1.8	1.9	0.0	0.0	1.0	0.0	16.2	0.1	0.0	26.4
Prop In Lane	0.93		1.00	0.09		0.56	1.00		0.01	1.00		0.24
Lane Grp Cap(c), veh/h	380	0	344	54	0	0	201	0	873	301	0	757
V/C Ratio(X)	1.24	0.00	0.15	0.83	0.00	0.00	0.22	0.00	0.66	0.02	0.00	0.93
Avail Cap(c_a), veh/h	380	0	344	233	0	0	401	0	966	547	0	890
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.2	0.0	22.0	33.3	0.0	0.0	15.6	0.0	14.7	12.6	0.0	18.9
Incr Delay (d2), s/veh	127.8	0.0	0.2	26.6	0.0	0.0	0.6	0.0	1.4	0.0	0.0	14.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.7	0.0	0.8	1.2	0.0	0.0	0.5	0.0	8.8	0.1	0.0	15.8
LnGrp Delay(d),s/veh	155.0	0.0	22.2	60.0	0.0	0.0	16.2	0.0	16.1	12.6	0.0	33.7
LnGrp LOS	F		C	E			B		B	B		C
Approach Vol, veh/h		523			45			620			711	
Approach Delay, s/veh		141.8			60.0			16.1			33.5	
Approach LOS		F			E			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.4	36.6		20.0	7.3	34.8		7.3
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	10.0	35.0		15.0	10.0	35.0		10.0
Max Q Clear Time (g_c+I1), s	2.1	18.2		17.0	3.0	28.4		3.9
Green Ext Time (p_c), s	0.0	1.5		0.0	0.1	1.4		0.1

Intersection Summary		
HCM 2010 Ctrl Delay		58.3
HCM 2010 LOS		E

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ARYEH SIEGEL
ARCHITECT

John Gunn - Planning Board Chairman
City of Beacon
One Municipal Plaza
Beacon, NY 12508

Re: 1113 Wolcott Avenue, Beacon, New York
Site Plan Application – Responses to Comments

November 30, 2021

Dear Chairman Gunn and Members of the Planning Board,

Below please find our responses to the comments included in John Clarke Planning and Design's Memorandum, dated October 8, 2021 Please refer to Hudson Land Design's response letter regarding Lanc & Tully's letter dated October 7, 2021.

John Clarke Planning and Design Comment Responses:

1. Comment acknowledged. A revised statement of use has been provided which addresses John Clark's several comments regarding the relationship between the hotel and conference center uses. Dave Buckley agreed to the revised statement of use.

Lanc & Tully Comment Responses:

General Comments

1. Sheet 5 of 12 is included with the submission.

Sheet 1 – Site Plan

1. Sight distance will be added to the engineering plans.

2. The additional L1 symbol has been removed.

3. The lighting is shown on the site plan.

4. The Index of Drawings has been revised.

5. Comment acknowledged.

84 Mason Circle | ajs@ajsarch.com | *Tel* 845 838 2490
Beacon, New York 12508 | www.ajsarch.com | *Fax* 845 838 2657

Sheet 2 – Full Site Plan

1. The road has been labeled Beekman Street
2. Notes have been included in the view
3. Lighting along the pedestrian path to Beekman Street will be reviewed.

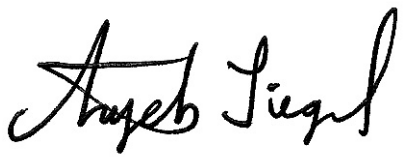
Sheet 4 – Landscape Plan

1. Site Lighting has been updated.
2. Specifications for the L-Path lights will be included in the next submission.

Please refer to Hudson Land Design's letter for responses to additional engineering comments.

Thank you. Please let me know if you have any questions.

Sincerely,



Aryeh Siegel
Aryeh Siegel, Architect

HUDSON LAND DESIGN

Civil & Environmental Engineering Consultants
174 Main Street, Beacon, New York 12508 (Main Office and Mailing Address)
13 Chambers Street, Newburgh, NY 12550 (Satellite Office)
Phone: 845-440-6926 Fax: 845-440-6637
www.HudsonLandDesign.com

November 30, 2021

Hon. John Gunn, Chairman
City of Beacon Planning Board
1 Municipal Plaza
Beacon, NY 12508

Re: 1113 Wolcott Avenue, Site Plan and Special Use Permit
1113 Wolcott Avenue
Tax Parcel: 5954-26-651901, ±2.28 ac.
City of Beacon, NY

Dear Chairman Gunn and Members of the Planning Board:

On behalf of the Applicant for the above referenced project, Hudson Land Design (HLD) has revised the plan set in response to Lanc & Tully's September 10, 2021 comment letter. Below is a point-by-point response to the comments received. Please note that Aryeh Siegel has prepared Sheets 1 through 7 of the plan set and has responded to comments that pertain his sheets under separate cover, as well as John Clarke Planning and Design's October 8, 2021 comment letter.

Lanc & Tully September 10, 2021 Comment Letter

General Comments

1. Aryeh Siegel has responded to this comment under separate cover.
2. The signed and sealed survey was provided in a previous submission.
3. The total proposed disturbance is currently at 0.92 ac. which is below the threshold of 1 acre for a SWPPP requirement. Therefore, a SWPPP is not required; however, an underground detention/infiltration system is proposed for the project which will mitigate post-development run off rates to less than pre-development runoff rates. A drainage report with hydrologic model is included with this submission. If the project expands in a future submission and the disturbance area grows to over 1 acre, a SWPPP will be prepared.
4. An I&I study report is included with this submission.

Sheet 1 of 12 - Site Plan

1. Sight distance has been measured at the site. A 40 mph speed limit was used for minimum sight distance requirements as recent 85th percentile speed (37-38 mph) from NYSDOT data was used. The sight distance measurements are provided on Sheet 8 of the plan set.

2. Aryeh Siegel has responded to this comment under separate cover.
3. Aryeh Siegel has responded to this comment under separate cover.
4. Aryeh Siegel has responded to this comment under separate cover.
5. Aryeh Siegel has responded to this comment under separate cover.

Sheet 2 of 12 – Full Site Plan

1. Aryeh Siegel has responded to this comment under separate cover.
2. Aryeh Siegel has responded to this comment under separate cover.
3. Aryeh Siegel has responded to this comment under separate cover.

Sheet 4 of 12 – Landscape & Lighting Plan

1. Aryeh Siegel has responded to this comment under separate cover.
2. Aryeh Siegel has responded to this comment under separate cover.

Sheet 8 of 12 – Grading & Utility Plan

1. Size, materials and approximate locations of the water and sewer for the church and rectory have been added to this sheet. It is noted that the existing service lines have been verified as to where they exit the buildings; however, it is unclear as to where these lines connect to City mains. We will continue to investigate their connection locations further.
2. The proposed stormwater management system will be an underground infiltration/detention system. Infiltration rate has been assumed to be 0.5"/hour, which will be verified with soil testing. HLD will schedule soil testing with the City Engineer's office.
3. The stormwater outfall location has been shifted north to avoid the abandoned tombs.
4. The lowest sewerable elevation for the proposed hotel has been added to this sheet. It should be noted that the invert of the sewer manhole within the sidewalk in front of the rectory building was measured to be approximately 3.8 feet lower than the surveyed invert. Further, it was verified that the sewer line runs north only from that manhole. There is no sewer line that runs south from this manhole. The plans have been updated to reflect this condition.
5. The inverts of the inlet pipes to the underground infiltration/detention system have been labeled on this sheet.
6. A geotechnical investigation has not been conducted. Rock removal notes have been included in the event that rock is encountered during construction.
7. A hydrodynamic separator is not proposed and references to it have been removed from the plans.
8. A valve has been added to the proposed water service near the location of the wet tap.

Sheet 12 of 12 – Water & Sewer Construction Details

1. A sewer saddle has been added to the sewer service connection detail and the pipe size has been revised to match the specified pipe size.
2. A tapping sleeve detail has been added to this sheet.
3. The water shutoff valve detail has been replaced with a gate valve detail.

Five (5) copies of a full set of revised plans, I&I study report and EAF, and three (3) copies of a drainage study, and revised Traffic report are provided with this submission for review. We look forward to discussing this project at your next available planning board agenda. Should you have any questions, please feel free to contact me at 845-440-6926.

Sincerely,

Michael A. Bodendorf, P.E.
Principal

cc: Prophecy Theater, LLC
Taylor M. Palmer, Esq.
Aryeh Siegel, AIA
Daniel G. Koehler, P.E. (HLD file)

HUDSON LAND DESIGN

Civil & Environmental Engineering Consultants
174 Main Street, Beacon, New York 12508 (Main Office and Mailing Address)
13 Chambers Street, Newburgh, New York 12550 (Satellite Office)
Phone: 845-440-6926 Fax: 845-440-6637
www.HudsonLandDesign.com

November 30, 2021

Mr. Dave Buckley
City of Beacon Building Inspector
1 Municipal Center
Beacon, NY 12508

Re: Infiltration and Inflow Investigation
1113 Wolcott Avenue, Site Plan and Special Use Permit
1113 Wolcott Avenue
Tax Parcel: 5954-26-651901, ±2.28 ac.
City of Beacon, NY

Dear Mr. Buckley,

Hudson Land Design (HLD) has completed an infiltration and inflow investigation at the above referenced parcel as required by the City of Beacon. The investigation was conducted on October 22, 2021 at the existing buildings located at 1113 Wolcott Avenue. The subject parcel consists of two (2) two and a half-story buildings with basements which up until recently served as a church with an adjacent rectory building. There is also a cemetery located behind the buildings.

The study consisted of an interior and exterior inspection of the buildings to determine the location of roof leader discharge points, and to determine if there are any floor drains or sump pumps in either of the buildings. No sump pumps or floor drains were observed in either building. All roof leaders were observed to be on the exterior of each building and all discharge to the ground surface. The attached sketch over the existing survey shows where each roof leader is located.

Based on our observations, HLD believes that there are no illicit stormwater connections from either building located at 1113 Wolcott Avenue to the City of Beacon's sanitary sewer collection system.

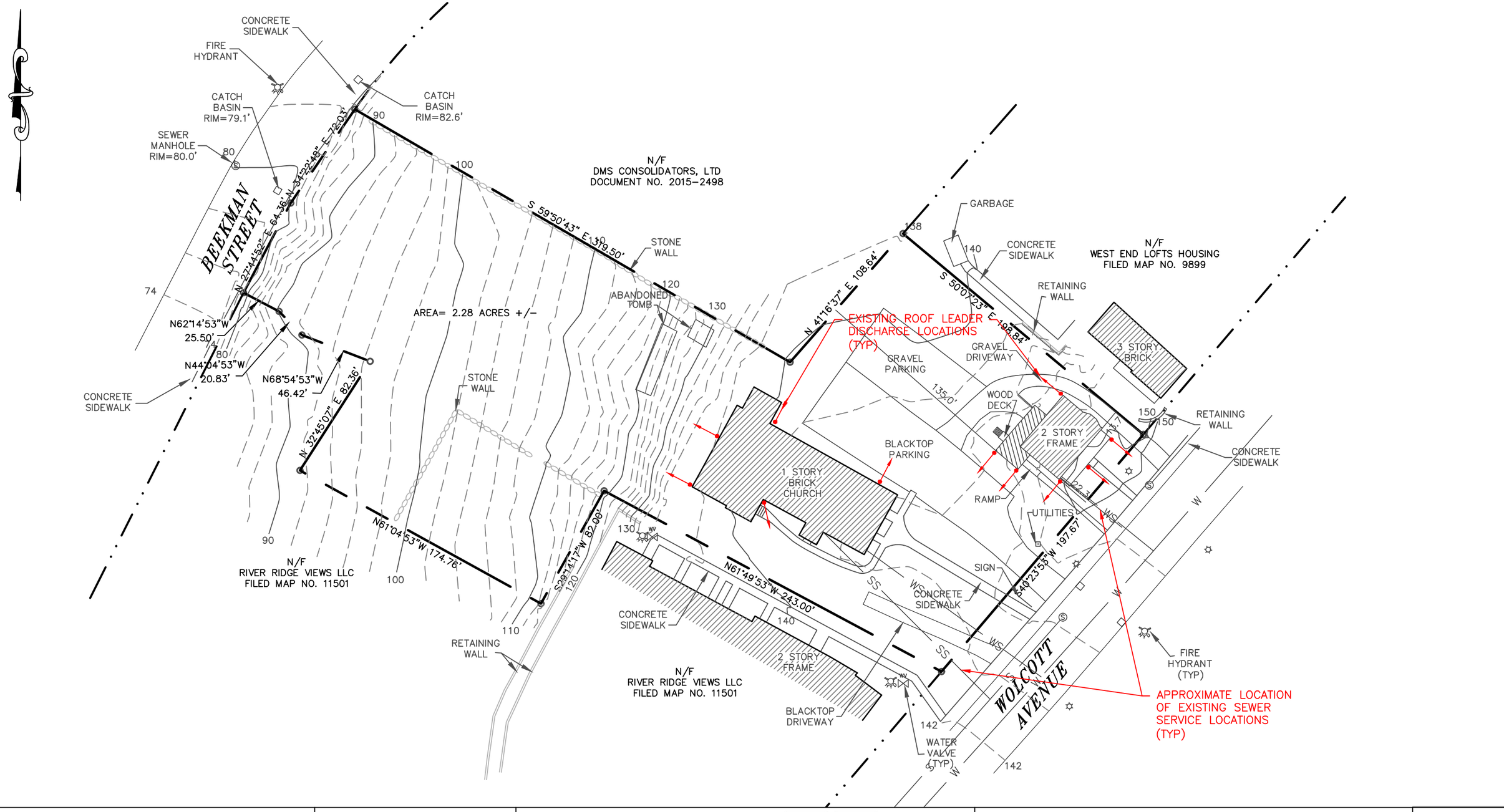
Should you have any questions, please feel free to call me at 845-440-6926.

Sincerely,



Michael A. Bodendorf, P.E.

cc: Prophecy Theater, LLC.
Taylor M. Palmer, Esq.
Daniel G. Koehler, P.E. (HLD file)



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REVISIONS:

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INFILTRATION AND INFLOW REPORT MAP

1113 WOLCOTT AVENUE

1113 WOLCOTT AVENUE
CITY OF BEACON
DUTCHESS COUNTY, NEW YORK
TAX ID: 5954-26-651901

JOB #:	2021:022
DATE:	11/30/21
SCALE:	1" = 60'
TITLE:	I&I 1
SHEET:	1 OF 1

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Drainage Report
for
1113 Wolcott Avenue

Prepared for:
Prophecy Theater, LLC
369 Main Street – Unit 493
Beacon, NY 12508

November 30, 2021



Prepared by:
Hudson Land Design Professional Engineering, P.C.
174 Main Street
Beacon, NY 12508
Ph: (845) 440-6926

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APPENDIX B: SUPPORTING DATA
APPENDIX C: HYDROLOGIC MODELING

1.0 INTRODUCTION

The 1113 Wolcott Avenue project is located on the west side of Wolcott Avenue in the City of Beacon, Dutchess County, New York. The total parcel area consists of ±2.28 acres, and contains a rectory, church, and cemetery. The parcel is located within the R1-40 zoning district and has a tax map designation of 5954-26-651901. The project proposes to expand the rectory with a 30-room hotel, renovate the church into an accessory event/restaurant space, restore the cemetery, as well as construct site access and parking.

2.0 METHODOLOGY AND REGULATORY COMPLIANCE

The proposed project will result a total 0.92 acres of disturbance, and therefore is not subject to the requirements of NYSDEC GP-0-20-001 General Permit for Construction Activities. Pre-development vs. post-development drainage analysis for the project was performed to evaluate stormwater runoff patterns and demonstrate that the post-development runoff rates to the existing stormwater discharge points do not exceed the pre-development runoff rates.

Runoff calculations were performed utilizing HydroCAD® version 10.00 published by HydroCAD Software Solutions, LLC. The software utilizes the principles of TR-55 and TR-20 to generate unit hydrographs. Rainfall events are generated utilizing Soil Conservation Service (SCS) Type III, 24-hour rainfall event for Dutchess County, NY. The Type III rainfall depths for the 1-Year, 10-Year, 25-Year and 100-Year rainfall events are 2.61, 4.70, 5.90 and 8.34 inches, respectively. Rainfall data can be found in Appendix B of this report.

3.0 SOIL CONDITIONS

A review of the Soil Survey of Dutchess County indicates that there are three types of soil present on the project site and its associated contributing drainage area. Supporting information has been provided in Appendix B. Table I below summarizes the characteristics of the soil types present within the drainage area.

Table I: Soil Types

Map Unit	Soil Names	Water Table (ft)	Bedrock	Hydrologic Soil Group
NwC	Nassau-Cardigan complex, rolling, very rocky	>80 inches	Nassau: 10-20 inches; Cardigan: 20-40 inches	C
Ud	Udorthents, smoothed	36-72 inches	>80 inches	A

Source: websoilsurvey.sc.egov.usda.gov

4.0 EXISTING DRAINAGE CONDITIONS

4.1 Design Points

Design Points represent the location where the majority of runoff from an area exits the site. The same design point is identified in post-development conditions, so that a comparison can be made between the pre-development and post-development conditions. Two design points for the project area were selected, and as follows:

Table II - Stormwater Design/Discharge Point

Stormwater Discharge Point	
SDP	**Description**
1	Sheetflow to the existing cemetery area to the west of the project area.
2	The existing City of Beacon storm sewer system in Wolcott Avenue to the east of the project area.

4.2 Existing Watershed Areas

Runoff from the project area during existing conditions can be divided in the following subcatchments:

Subcatchment 1 is comprised of 1.18 acres of onsite area that sheet flows to the west of the project area. This area includes the church, rectory, parking area, and surrounding lawn area. The majority of soils in this subcatchment area are hydrologic soil group A, with a small amount of D along the western edge of the area. Drainage generally flows via sheet flow to the west to SDP1, along the west side of the project area.

Subcatchment 2 is comprised of 0.11 acres of onsite area that sheet flows east, to Wolcott Avenue. This area includes the sidewalk, portions of the driveways, and the front lawn area. The soils in this subcatchment area are hydrologic soil group A. Drainage generally flows via sheet flow to the east to SDP2, the storm sewer system in Wolcott Avenue.

4.3 Existing Runoff Rates

Runoff rates for existing conditions have been calculated at the designated SDPs and summarized in Table III as follows:

Table III: Existing Runoff Rates (cfs)

Drainage Area	1-Year	10-Year	25-Year	100-Year
DA 1	0.53	2.18	3.30	5.73
DA 2	0.04	0.21	0.33	0.59

Unit hydrograph analysis results for pre-development conditions have been included as Appendix C.

5.0 PROPOSED DRAINAGE CONDITIONS

5.1 Developed Watershed Area

The proposed project results in a total of approximately 0.92 acres of disturbance due to the construction of the building addition and parking/site driveway. The site was divided into three subcatchments. Stormwater detention will be provided for subcatchment 11.

Subcatchment 10 is comprised of 0.48 acres of onsite area that sheet flows to the west of the project area. This area includes a portion of the church, driveway, sidewalks, and surrounding lawn area. The majority of soils in this subcatchment area are hydrologic soil group A, with a small amount of D along the western edge of the area. Drainage generally flows via sheet flow to the west, SDP1, along the west side of the project area.

Subcatchment 11 is comprised of 0.69 acres of onsite area that is tributary to the proposed underground stormwater management area. This area includes a portion of the church, the rectory/hotel, parking area, and surrounding lawn area. The majority of soils in this subcatchment area are hydrologic soil group A, with a small amount of D along the western edge of the area. Drainage generally flows west into the parking area where it is collected by a proposed catch basins and conveyed to the underground stormwater management area. Overflow from the underground stormwater management area is directed west to SDP1, along the west side of the project area.

Subcatchment 20 is comprised of 0.11 acres of onsite area that sheet flows east, to Wolcott Avenue, generally following existing subcatchment 1. This area includes the sidewalk, portions of the driveways, and the front lawn area. The soils in this subcatchment area are hydrologic soil group A. Drainage generally flows via sheet flow to the east to SDP2, the storm sewer system in Wolcott Avenue.

5.2 Proposed Runoff Rates

Runoff rates for proposed conditions have been calculated at the designated SDP and summarized in Table IV as follows:

Table IV: Proposed Runoff Rates

Drainage Area	1-Year	10-Year	25-Year	100-Year
DA 10	0.29	1.06	1.58	2.68
DA 11	0.87	2.24	3.06	4.73
DA 20	0.03	0.19	0.30	0.56

Unit hydrograph analysis results for post-development conditions have been included as Appendix C.

6.0 DRAINAGE ANALYSIS CONCLUSIONS

The stormwater runoff rates at Design Points under pre-development and post-development conditions are summarized below.

Table IV: Proposed Runoff Rates Comparison

SDP	1 - Year		10 - Year		25 - Year		100 - Year	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1	0.53	0.29	2.18	2.18	3.30	3.23	5.73	5.15
2	0.04	0.03	0.21	0.19	0.33	0.30	0.59	0.56

The runoff rates at both Design Points decrease from pre-development to post-development conditions with the underground stormwater management area in place. The runoff from the hotel/rectory and parking area will be directed to the proposed underground stormwater management area.

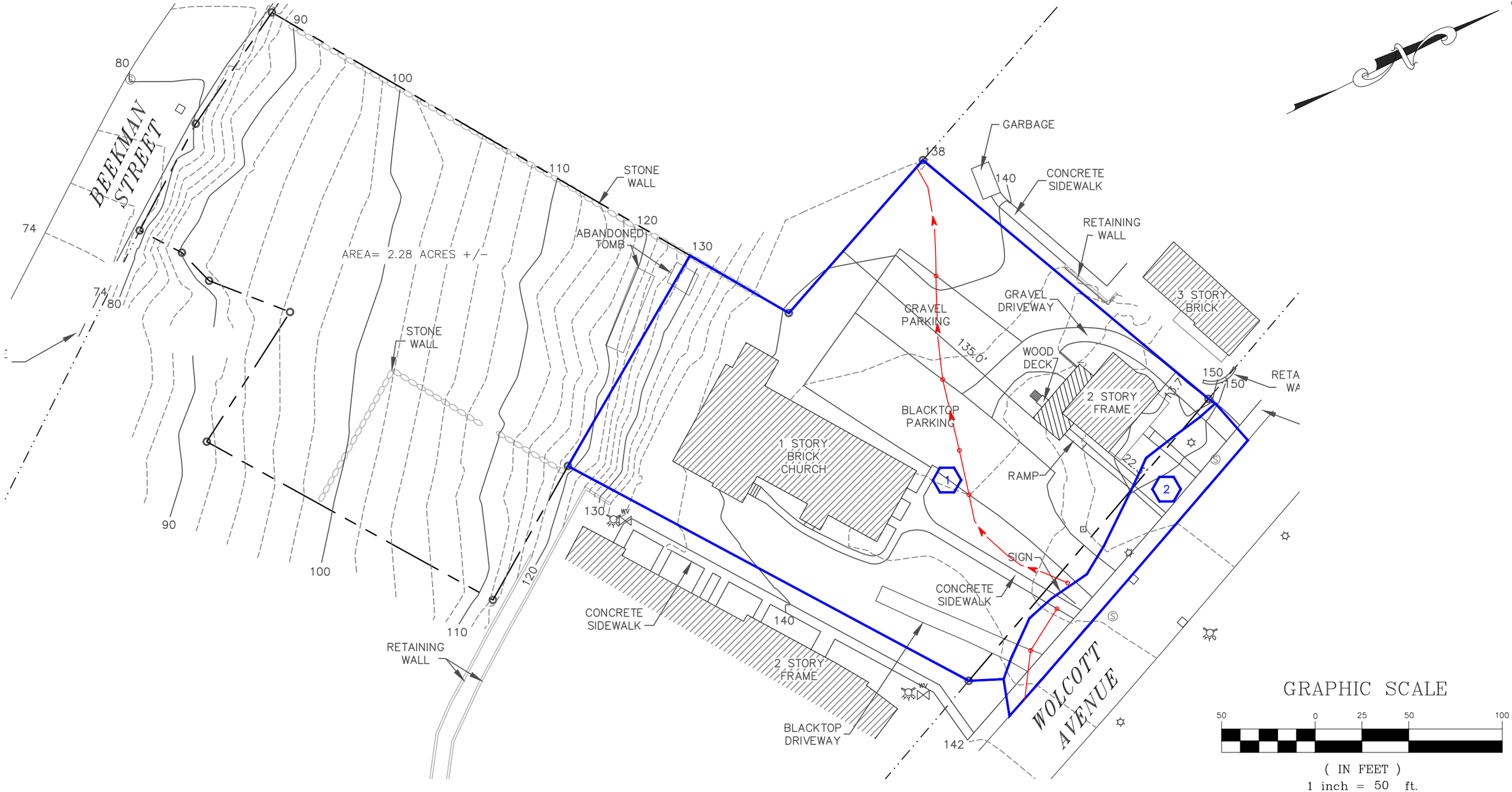
Supporting hydrologic analyses for existing and proposed conditions are included in Appendix C.

7.0 EROSION AND SEDIMENT CONTROL

Contractors shall adhere to the temporary and permanent erosion control measures as indicated on the plan. Repairs shall be made as necessary to remain in compliance with the New York State Standards and Specifications for Erosion and Sediment Control, 2016.

APPENDIX A

DRAINAGE MAPS



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REVISIONS:

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PRE-DEVELOPMENT DRAINAGE MAP

1113 WOLCOTT AVENUE

1113 WOLCOTT AVENUE
CITY OF BEACON
DUTCHESS COUNTY, NEW YORK
TAX ID: 5954-26-651901

JOB #:	2021:022
DATE:	11/30/2021
SCALE:	1" = 50'
TITLE:	DR-1
SHEET:	1 OF 2

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PH: 845-440-6926
F: 845-440-6637

POST-DEVELOPMENT DRAINAGE MAP

1113 WOLCOTT AVENUE

1113 WOLCOTT AVENUE
CITY OF BEACON
DUTCHESS COUNTY, NEW YORK
TAX ID: 5954-26-651901

JOB #:	2021:022
DATE:	11/30/2021
SCALE:	1" = 50'
TITLE:	DR-2
SHEET:	2 OF 2

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APPENDIX B

SUPPORTING DATA

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Smoothing	Yes
State	New York
Location	
Longitude	73.980 degrees West
Latitude	41.506 degrees North
Elevation	0 feet
Date/Time	Mon, 28 Jun 2021 16:48:00 -0400

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.33	0.50	0.62	0.82	1.02	1.26	**1yr**	0.88	1.19	1.45	1.77	2.15	2.61	2.96	**1yr**	2.31	2.85	3.29	3.95	4.59	**1yr**
2yr	0.39	0.60	0.74	0.98	1.23	1.53	**2yr**	1.06	1.43	1.75	2.14	2.61	3.16	3.57	**2yr**	2.80	3.43	3.93	4.63	5.28	**2yr**
5yr	0.46	0.71	0.89	1.19	1.52	1.91	**5yr**	1.31	1.76	2.20	2.70	3.28	3.96	4.52	**5yr**	3.51	4.34	4.99	5.77	6.53	**5yr**
10yr	0.51	0.80	1.02	1.38	1.79	2.27	**10yr**	1.55	2.07	2.62	3.21	3.90	4.70	5.40	**10yr**	4.16	5.20	5.98	6.81	7.67	**10yr**
25yr	0.60	0.95	1.21	1.67	2.23	2.85	**25yr**	1.92	2.56	3.30	4.06	4.93	5.90	6.85	**25yr**	5.22	6.59	7.61	8.48	9.49	**25yr**
50yr	0.68	1.09	1.39	1.95	2.63	3.39	**50yr**	2.27	3.00	3.93	4.84	5.86	7.02	8.20	**50yr**	6.21	7.89	9.14	10.03	11.16	**50yr**
100yr	0.77	1.24	1.60	2.27	3.10	4.03	**100yr**	2.68	3.53	4.68	5.77	6.99	8.34	9.83	**100yr**	7.38	9.45	10.98	11.85	13.14	**100yr**
200yr	0.87	1.43	1.85	2.65	3.67	4.79	**200yr**	3.17	4.15	5.58	6.89	8.33	9.93	11.78	**200yr**	8.79	11.33	13.19	14.02	15.47	**200yr**
500yr	1.05	1.73	2.26	3.28	4.59	6.03	**500yr**	3.96	5.15	7.04	8.70	10.51	12.51	14.98	**500yr**	11.07	14.40	16.84	17.51	19.22	**500yr**

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.44	0.54	0.72	0.89	1.09	**1yr**	0.76	1.06	1.24	1.59	2.01	2.08	2.36	**1yr**	1.84	2.27	2.54	3.33	4.08	**1yr**
2yr	0.37	0.58	0.71	0.96	1.19	1.42	**2yr**	1.03	1.39	1.61	2.05	2.58	3.07	3.45	**2yr**	2.71	3.32	3.77	4.47	5.13	**2yr**
5yr	0.42	0.65	0.81	1.11	1.41	1.65	**5yr**	1.22	1.62	1.88	2.42	3.01	3.65	4.16	**5yr**	3.23	4.00	4.56	5.28	6.06	**5yr**
10yr	0.47	0.72	0.89	1.25	1.61	1.85	**10yr**	1.39	1.81	2.11	2.72	3.38	4.14	4.80	**10yr**	3.66	4.62	5.25	5.98	6.87	**10yr**
25yr	0.54	0.82	1.02	1.46	1.92	2.13	**25yr**	1.66	2.09	2.45	3.06	3.94	4.85	5.80	**25yr**	4.30	5.57	6.30	7.03	8.14	**25yr**
50yr	0.60	0.92	1.14	1.64	2.21	2.38	**50yr**	1.91	2.32	2.76	3.42	4.43	5.50	6.70	**50yr**	4.87	6.44	7.25	7.96	9.27	**50yr**
100yr	0.68	1.03	1.29	1.86	2.55	2.66	**100yr**	2.20	2.61	3.12	3.81	5.01	6.19	7.75	**100yr**	5.48	7.46	8.33	9.00	10.56	**100yr**
200yr	0.77	1.16	1.47	2.12	2.96	2.98	**200yr**	2.56	2.91	3.52	4.28	5.66	6.92	9.00	**200yr**	6.12	8.65	9.59	10.17	12.06	**200yr**
500yr	0.92	1.36	1.75	2.55	3.62	3.47	**500yr**	3.13	3.39	4.15	4.99	6.68	8.03	10.97	**500yr**	7.11	10.55	11.57	11.94	14.39	**500yr**

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.36	0.56	0.68	0.91	1.12	1.36	**1yr**	0.97	1.33	1.52	1.96	2.42	2.82	3.22	**1yr**	2.49	3.09	3.58	4.24	4.96	**1yr**
2yr	0.40	0.62	0.77	1.04	1.28	1.54	**2yr**	1.10	1.50	1.74	2.25	2.80	3.33	3.70	**2yr**	2.95	3.56	4.11	4.82	5.47	**2yr**
5yr	0.49	0.76	0.94	1.29	1.65	1.96	**5yr**	1.42	1.91	2.25	2.88	3.66	4.26	4.88	**5yr**	3.77	4.70	5.41	6.29	7.01	**5yr**
10yr	0.58	0.89	1.11	1.55	2.00	2.37	**10yr**	1.73	2.32	2.74	3.53	4.48	5.21	6.02	**10yr**	4.61	5.78	6.71	7.69	8.49	**10yr**
25yr	0.72	1.10	1.37	1.96	2.57	3.05	**25yr**	2.22	2.99	3.57	4.73	5.87	6.81	7.93	**25yr**	6.03	7.63	8.93	10.06	10.93	**25yr**
50yr	0.85	1.30	1.62	2.32	3.13	3.72	**50yr**	2.70	3.63	4.36	5.83	7.19	8.35	9.78	**50yr**	7.39	9.40	11.10	12.33	13.24	**50yr**
100yr	1.01	1.53	1.91	2.76	3.79	4.52	**100yr**	3.27	4.42	5.32	7.19	8.81	10.24	12.05	**100yr**	9.06	11.59	13.81	15.13	16.05	**100yr**
200yr	1.19	1.80	2.27	3.29	4.59	5.49	**200yr**	3.96	5.37	6.49	8.86	10.79	12.58	14.87	**200yr**	11.13	14.29	17.18	18.57	19.45	**200yr**
500yr	1.50	2.23	2.87	4.17	5.92	7.11	**500yr**	5.11	6.95	8.45	11.70	14.12	16.55	19.60	**500yr**	14.64	18.84	22.96	24.39	25.07	**500yr**

Powered by ACIS Northeast Regional Climate Center

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Dutchess County, New York

1113 Wolcott Avenue, Beacon-Prophecy



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Ud—Udorthents, smoothed.....15
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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.


73° 58' 55" W
73° 58' 44" W
41° 30' 26" N
41° 30' 21" N
584970
584990
585010
585030
585050
585070
585090
585110
585130
585150
585170
585190
4595560
4595540
4595520
4595500
4595480
4595460
4595440
4595420
NwC
Ud
Wolcott Ave
Soil Map may not be valid at this scale.
Map Scale: 1:1,090 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 15 30 60 90
Feet
0 50 100 200 300
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Dutchess County, New York
Survey Area Data: Version 17, Jun 11, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 7, 2013—Feb 26, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
NwC	Nassau-Cardigan complex, rolling, very rocky	2.0	60.6%
Ud	Udorthents, smoothed	1.3	39.4%
Totals for Area of Interest		**3.3**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Dutchess County, New York

NwC—Nassau-Cardigan complex, rolling, very rocky

Map Unit Setting

National map unit symbol: 9rhd
Elevation: 0 to 1,800 feet
Mean annual precipitation: 41 to 47 inches
Mean annual air temperature: 45 to 50 degrees F
Frost-free period: 115 to 195 days
Farmland classification: Not prime farmland

Map Unit Composition

Nassau and similar soils: 45 percent
Cardigan and similar soils: 35 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Nassau

Setting

Landform: Benches, ridges, till plains
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Channery loamy till derived mainly from local slate or shale

Typical profile

H1 - 0 to 5 inches: channery silt loam
H2 - 5 to 16 inches: very channery silt loam
H3 - 16 to 20 inches: unweathered bedrock

Properties and qualities

Slope: 5 to 15 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Very low (about 1.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Ecological site: F144AY033MA - Shallow Dry Till Uplands
Hydric soil rating: No

Description of Cardigan

Setting

Landform: Hills, ridges
Landform position (two-dimensional): Shoulder

Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy till or colluvium derived from phyllite, slate, shale, and schist

Typical profile

H1 - 0 to 8 inches: channery silt loam
H2 - 8 to 20 inches: channery loam
H3 - 20 to 30 inches: channery silt loam
H4 - 30 to 34 inches: unweathered bedrock

Properties and qualities

Slope: 5 to 15 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Minor Components

Dutchess

Percent of map unit: 9 percent
Hydric soil rating: No

Rock outcrop

Percent of map unit: 5 percent
Hydric soil rating: Unranked

Unnamed soils, very shallow

Percent of map unit: 5 percent
Hydric soil rating: No

Sun

Percent of map unit: 1 percent
Landform: Depressions
Hydric soil rating: Yes

Ud—Udorthents, smoothed

Map Unit Setting

National map unit symbol: 9rj7
Elevation: -30 to 950 feet
Mean annual precipitation: 41 to 47 inches
Mean annual air temperature: 45 to 50 degrees F
Frost-free period: 115 to 195 days
Farmland classification: Not prime farmland

Map Unit Composition

Udorthents, smoothed, and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents, Smoothed

Typical profile

H1 - 0 to 4 inches: gravelly loam
H2 - 4 to 70 inches: very gravelly loam

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 5.95 in/hr)
Depth to water table: About 36 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water capacity: Low (about 5.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Urban land

Percent of map unit: 10 percent
Hydric soil rating: Unranked

Udorthents, wet substratum

Percent of map unit: 10 percent
Hydric soil rating: No

Unnamed soils, undisturbed

Percent of map unit: 4 percent
Hydric soil rating: Unranked

Rock outcrop

Percent of map unit: 1 percent
Hydric soil rating: Unranked

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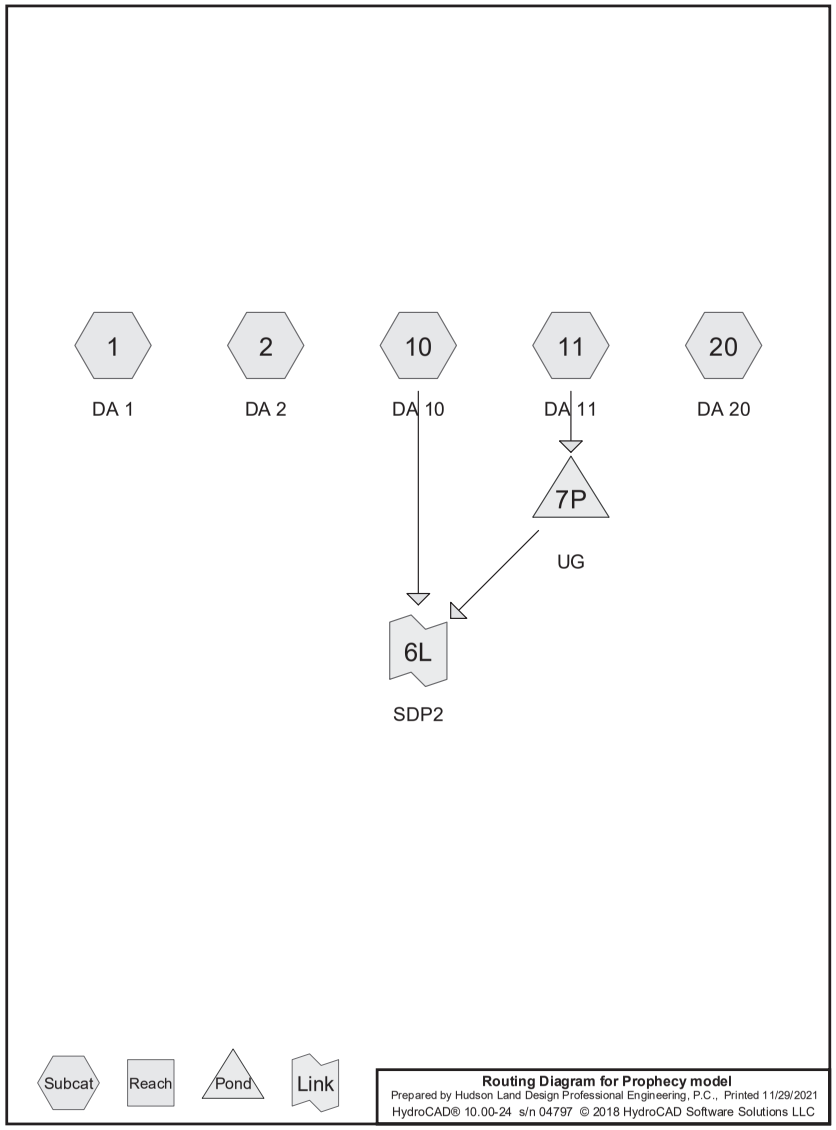
APPENDIX C

HYDROLOGIC MODELING



Project Notes

1113 Wolcott Avenue

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.917	39	>75% Grass cover, Good, HSG A (1, 2, 10, 11, 20)
0.342	80	>75% Grass cover, Good, HSG D (1, 10)
0.119	96	Gravel surface, HSG A (1, 2)
0.663	98	Paved parking, HSG A (1, 2, 11)
0.079	98	Paved roads w/curbs & sewers, HSG A (10)
0.448	98	Roofs, HSG A (1, 10, 11, 20)
2.568	**74**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
2.226	HSG A	1, 2, 10, 11, 20
0.000	HSG B	
0.000	HSG C	
0.342	HSG D	1, 10
0.000	Other	
2.568		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.917	0.000	0.000	0.342	0.000	1.259	>75% Grass cover, Good	1, 2, 10, 11, 20
0.119	0.000	0.000	0.000	0.000	0.119	Gravel surface	1, 2
0.663	0.000	0.000	0.000	0.000	0.663	Paved parking	1, 2, 11
0.079	0.000	0.000	0.000	0.000	0.079	Paved roads w/curbs & sewers	10
0.448	0.000	0.000	0.000	0.000	0.448	Roofs	1, 10, 11, 20
2.226	**0.000**	**0.000**	**0.342**	**0.000**	**2.568**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	11	0.00	0.00	85.0	0.0380	0.012	12.0	0.0	0.0
2	7P	135.10	133.85	58.0	0.0216	0.012	10.0	0.0	0.0

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1: DA 1 Runoff Area=1.176 ac 33.67% Impervious Runoff Depth>0.49"
Flow Length=253' Tc=10.5 min CN=71 Runoff=0.53 cfs 0.048 af

Subcatchment 2: DA 2 Runoff Area=0.111 ac 45.95% Impervious Runoff Depth>0.39"
Flow Length=52' Slope=0.0580 '/' Tc=5.0 min CN=68 Runoff=0.04 cfs 0.004 af

Subcatchment 10: DA 10 Runoff Area=0.478 ac 35.98% Impervious Runoff Depth>0.56"
Flow Length=275' Tc=7.5 min CN=73 Runoff=0.29 cfs 0.022 af

Subcatchment 11: DA 11 Runoff Area=0.692 ac 75.29% Impervious Runoff Depth>1.05"
Flow Length=274' Tc=7.0 min CN=83 Runoff=0.87 cfs 0.061 af

Subcatchment 20: DA 20 Runoff Area=0.111 ac 45.05% Impervious Runoff Depth>0.32"
Flow Length=52' Slope=0.0580 '/' Tc=5.0 min CN=66 Runoff=0.03 cfs 0.003 af

Pond 7P: UG Peak Elev=135.26' Storage=1,345 cf Inflow=0.87 cfs 0.061 af
Discarded=0.02 cfs 0.015 af Primary=0.08 cfs 0.019 af Outflow=0.10 cfs 0.034 af

Link 6L: SDP2 Inflow=0.29 cfs 0.042 af
Primary=0.29 cfs 0.042 af

Total Runoff Area = 2.568 ac Runoff Volume = 0.138 af Average Runoff Depth = 0.64"
53.66% Pervious = 1.378 ac 46.34% Impervious = 1.190 ac

Summary for Subcatchment 1: DA 1

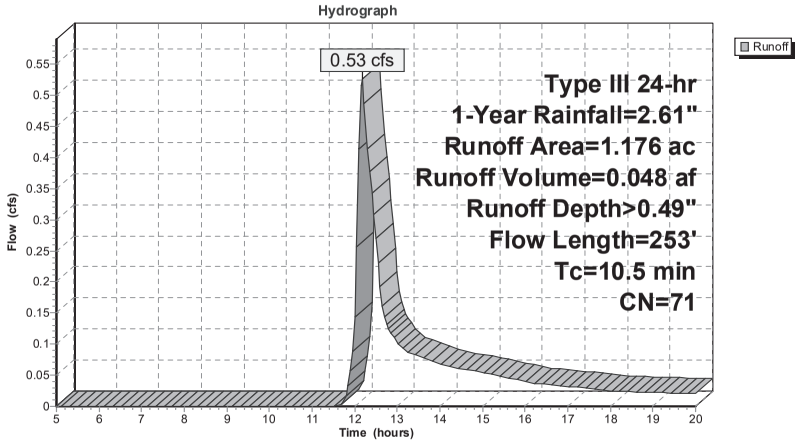
Runoff = 0.53 cfs @ 12.17 hrs, Volume= 0.048 af, Depth> 0.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-Year Rainfall=2.61"

Area (ac)	CN	Description
0.195	98	Roofs, HSG A
0.201	98	Paved parking, HSG A
0.115	96	Gravel surface, HSG A
0.471	39	>75% Grass cover, Good, HSG A
0.194	80	>75% Grass cover, Good, HSG D
1.176	71	Weighted Average
0.780		66.33% Pervious Area
0.396		33.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	75	0.0330	0.13		**Sheet Flow, S1** Grass: Dense n= 0.240 P2= 3.16"
0.4	25	0.0280	1.19		**Sheet Flow, S2** Smooth surfaces n= 0.011 P2= 3.16"
0.2	38	0.0280	3.40		**Shallow Concentrated Flow, S3** Paved Kv= 20.3 fps
0.2	55	0.0480	4.45		**Shallow Concentrated Flow, S4** Paved Kv= 20.3 fps
0.4	60	0.0300	2.79		**Shallow Concentrated Flow, S5** Unpaved Kv= 16.1 fps
10.5	253	Total			

Subcatchment 1: DA 1



Summary for Subcatchment 2: DA 2

[49] Hint: Tc<2dt may require smaller dt

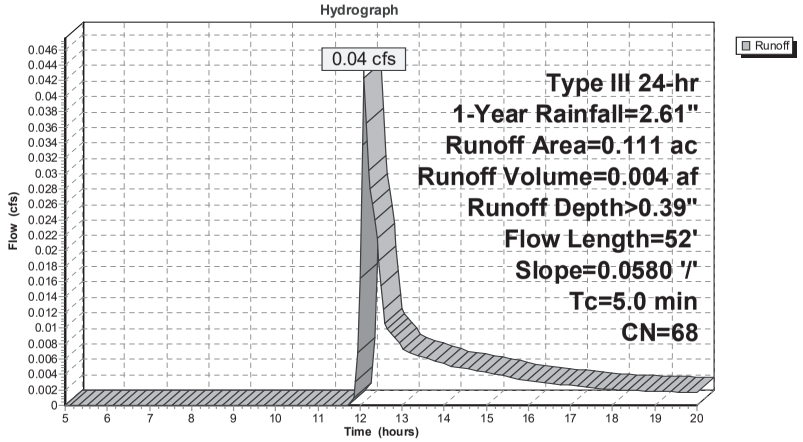
Runoff = 0.04 cfs @ 12.10 hrs, Volume= 0.004 af, Depth> 0.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-Year Rainfall=2.61"

Area (ac)	CN	Description
0.051	98	Paved parking, HSG A
0.004	96	Gravel surface, HSG A
0.056	39	>75% Grass cover, Good, HSG A
0.111	68	Weighted Average
0.060		54.05% Pervious Area
0.051		45.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	26	0.0580	0.20		**Sheet Flow, S1** Grass: Short n= 0.150 P2= 3.16"
0.3	26	0.0580	1.60		**Sheet Flow, S2** Smooth surfaces n= 0.011 P2= 3.16"
2.5	52	Total, Increased to minimum Tc = 5.0 min			

Subcatchment 2: DA 2



Summary for Subcatchment 10: DA 10

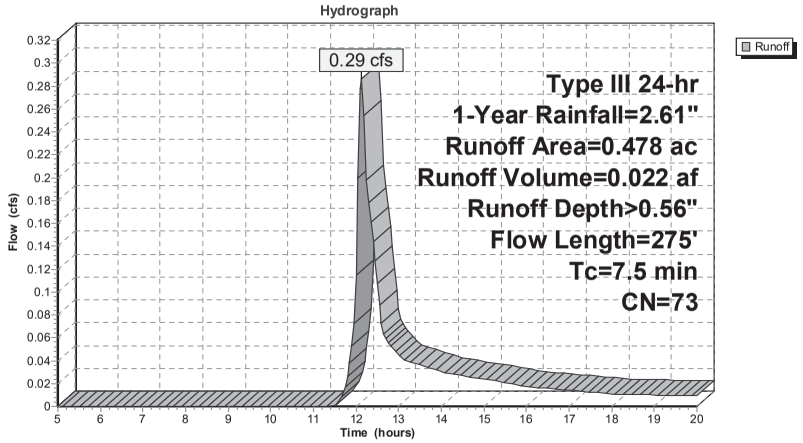
Runoff = 0.29 cfs @ 12.12 hrs, Volume= 0.022 af, Depth> 0.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-Year Rainfall=2.61"

Area (ac)	CN	Description
0.093	98	Roofs, HSG A
0.079	98	Paved roads w/curbs & sewers, HSG A
0.158	39	>75% Grass cover, Good, HSG A
0.148	80	>75% Grass cover, Good, HSG D
0.478	73	Weighted Average
0.306		64.02% Pervious Area
0.172		35.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	40	0.0560	0.21		**Sheet Flow, S1** Grass: Short n= 0.150 P2= 3.16"
0.2	19	0.0500	1.41		**Sheet Flow, S2** Smooth surfaces n= 0.011 P2= 3.16"
3.7	41	0.0400	0.19		**Sheet Flow, S3** Grass: Short n= 0.150 P2= 3.16"
0.5	175	0.1200	5.58		**Shallow Concentrated Flow, S4** Unpaved Kv= 16.1 fps
7.5	275	Total			

Subcatchment 10: DA 10



Summary for Subcatchment 11: DA 11

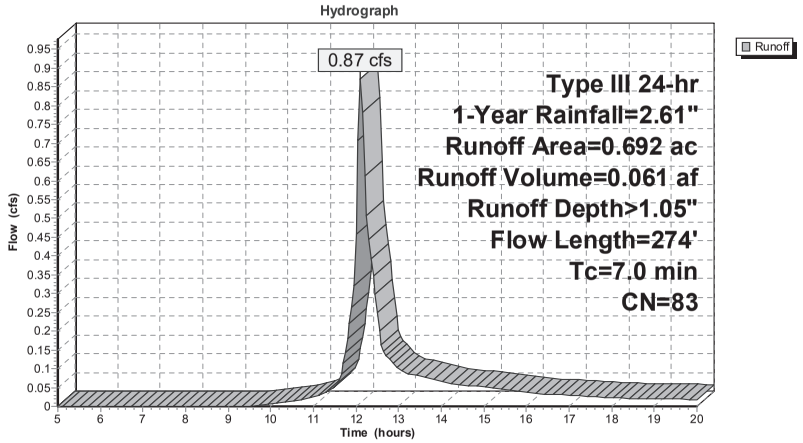
Runoff = 0.87 cfs @ 12.11 hrs, Volume= 0.061 af, Depth> 1.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-Year Rainfall=2.61"

Area (ac)	CN	Description
0.110	98	Roofs, HSG A
0.411	98	Paved parking, HSG A
0.171	39	>75% Grass cover, Good, HSG A
0.692	83	Weighted Average
0.171		24.71% Pervious Area
0.521		75.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	70	0.0330	0.19		**Sheet Flow, S1** Grass: Short n= 0.150 P2= 3.16"
0.4	30	0.0350	1.34		**Sheet Flow, S2** Smooth surfaces n= 0.011 P2= 3.16"
0.4	89	0.0350	3.80		**Shallow Concentrated Flow, S3** Paved Kv= 20.3 fps
0.1	85	0.0380	9.58	7.52	**Pipe Channel, S4** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012
7.0	274	Total			

Subcatchment 11: DA 11



Summary for Subcatchment 20: DA 20

[49] Hint: Tc<2dt may require smaller dt

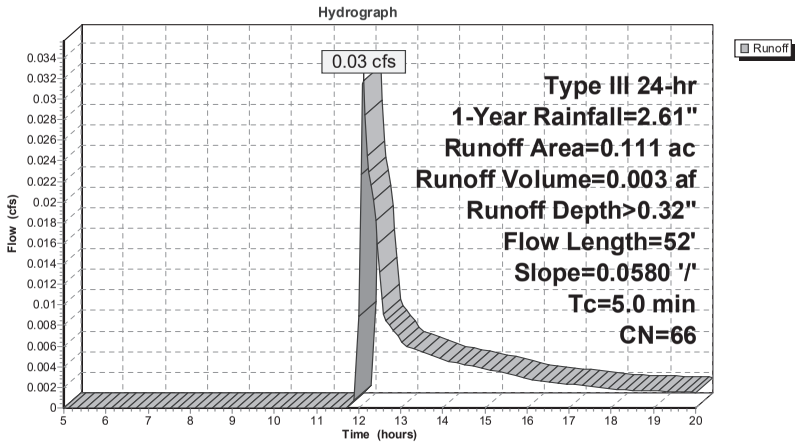
Runoff = 0.03 cfs @ 12.11 hrs, Volume= 0.003 af, Depth> 0.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-Year Rainfall=2.61"

Area (ac)	CN	Description
0.050	98	Roofs, HSG A
0.061	39	>75% Grass cover, Good, HSG A
0.111	66	Weighted Average
0.061		54.95% Pervious Area
0.050		45.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	26	0.0580	0.20		**Sheet Flow, S1** Grass: Short n= 0.150 P2= 3.16"
0.3	26	0.0580	1.60		**Sheet Flow, S2** Smooth surfaces n= 0.011 P2= 3.16"
2.5	52	Total, Increased to minimum Tc = 5.0 min			

Subcatchment 20: DA 20



Summary for Pond 7P: UG

Inflow Area = 0.692 ac, 75.29% Impervious, Inflow Depth > 1.05" for 1-Year event
Inflow = 0.87 cfs @ 12.11 hrs, Volume= 0.061 af
Outflow = 0.10 cfs @ 13.00 hrs, Volume= 0.034 af, Atten= 88%, Lag= 53.6 min
Discarded = 0.02 cfs @ 11.10 hrs, Volume= 0.015 af
Primary = 0.08 cfs @ 13.00 hrs, Volume= 0.019 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 135.26' @ 13.00 hrs Surf.Area= 1,601 sf Storage= 1,345 cf

Plug-Flow detention time= 169.8 min calculated for 0.034 af (56% of inflow)
Center-of-Mass det. time= 89.0 min (893.6 - 804.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	134.00'	1,365 cf	**30.50'W x 52.50'L x 3.54'H Field A** 5,671 cf Overall - 2,258 cf Embedded = 3,413 cf x 40.0% Voids
#2A	134.50'	2,258 cf	**Cultec R-330XLHD** x 42 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 6 rows
		3,623 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	135.10'	**10.0" Round Culvert** L= 58.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 135.10' / 133.85' S= 0.0216 '/' Cc= 0.900 n= 0.012, Flow Area= 0.55 sf
#2	Discarded	134.00'	**0.500 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.02 cfs @ 11.10 hrs HW=134.04' (Free Discharge)
↑**2=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.08 cfs @ 13.00 hrs HW=135.26' (Free Discharge)
↑**1=Culvert** (Inlet Controls 0.08 cfs @ 1.09 fps)

Pond 7P: UG - Chamber Wizard Field A

Chamber Model = Cultec R-330XLHD (Cultec Recharger® 330XLHD)
Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf
Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap
Row Length Adjustment= +1.50' x 7.45 sf x 6 rows

52.0" Wide + 6.0" Spacing = 58.0" C-C Row Spacing

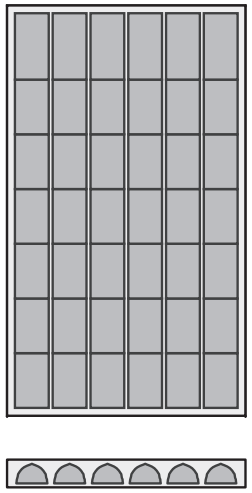
7 Chambers/Row x 7.00' Long +1.50' Row Adjustment = 50.50' Row Length +12.0" End Stone x 2 = 52.50' Base Length
6 Rows x 52.0" Wide + 6.0" Spacing x 5 + 12.0" Side Stone x 2 = 30.50' Base Width
6.0" Base + 30.5" Chamber Height + 6.0" Cover = 3.54' Field Height

42 Chambers x 52.2 cf +1.50' Row Adjustment x 7.45 sf x 6 Rows = 2,257.7 cf Chamber Storage

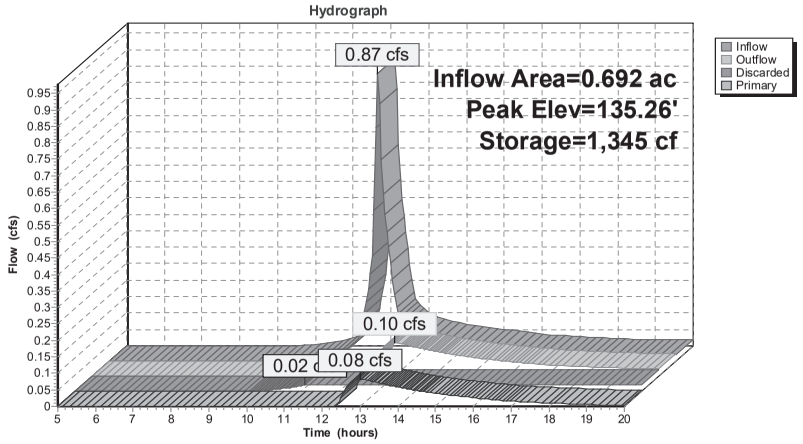
5,671.1 cf Field - 2,257.7 cf Chambers = 3,413.4 cf Stone x 40.0% Voids = 1,365.4 cf Stone Storage

Chamber Storage + Stone Storage = 3,623.0 cf = 0.083 af
Overall Storage Efficiency = 63.9%
Overall System Size = 52.50' x 30.50' x 3.54'

42 Chambers
210.0 cy Field
126.4 cy Stone



Pond 7P: UG

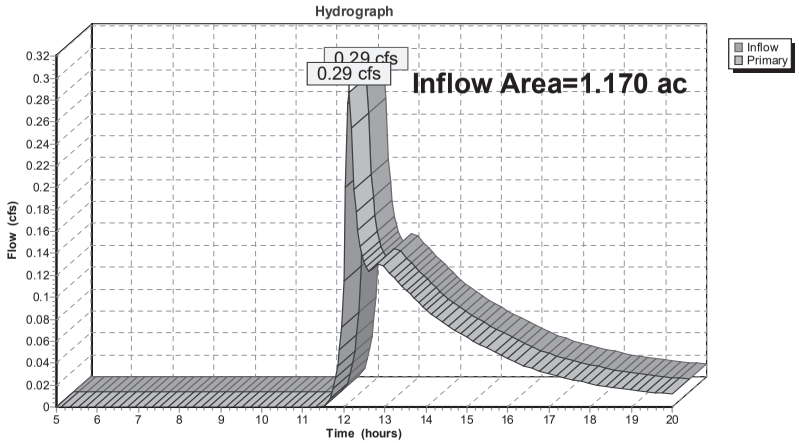


Summary for Link 6L: SDP2

Inflow Area = 1.170 ac, 59.23% Impervious, Inflow Depth > 0.43" for 1-Year event
Inflow = 0.29 cfs @ 12.12 hrs, Volume= 0.042 af
Primary = 0.29 cfs @ 12.12 hrs, Volume= 0.042 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link 6L: SDP2



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1: DA 1 Runoff Area=1.176 ac 33.67% Impervious Runoff Depth>1.74"
Flow Length=253' Tc=10.5 min CN=71 Runoff=2.18 cfs 0.170 af

Subcatchment 2: DA 2 Runoff Area=0.111 ac 45.95% Impervious Runoff Depth>1.53"
Flow Length=52' Slope=0.0580 '/' Tc=5.0 min CN=68 Runoff=0.21 cfs 0.014 af

Subcatchment 10: DA 10 Runoff Area=0.478 ac 35.98% Impervious Runoff Depth>1.89"
Flow Length=275' Tc=7.5 min CN=73 Runoff=1.06 cfs 0.075 af

Subcatchment 11: DA 11 Runoff Area=0.692 ac 75.29% Impervious Runoff Depth>2.72"
Flow Length=274' Tc=7.0 min CN=83 Runoff=2.24 cfs 0.157 af

Subcatchment 20: DA 20 Runoff Area=0.111 ac 45.05% Impervious Runoff Depth>1.39"
Flow Length=52' Slope=0.0580 '/' Tc=5.0 min CN=66 Runoff=0.19 cfs 0.013 af

Pond 7P: UG Peak Elev=135.92' Storage=2,180 cf Inflow=2.24 cfs 0.157 af
Discarded=0.02 cfs 0.018 af Primary=1.32 cfs 0.110 af Outflow=1.34 cfs 0.128 af

Link 6L: SDP2 Inflow=2.18 cfs 0.186 af
Primary=2.18 cfs 0.186 af

Total Runoff Area = 2.568 ac Runoff Volume = 0.430 af Average Runoff Depth = 2.01"
53.66% Pervious = 1.378 ac 46.34% Impervious = 1.190 ac

Summary for Subcatchment 1: DA 1

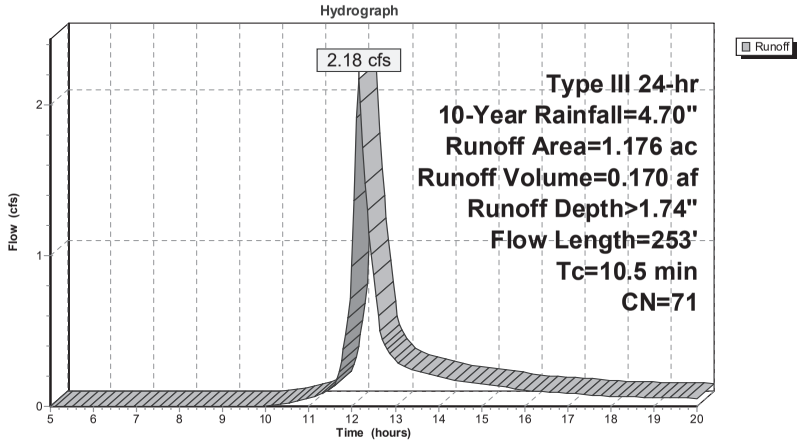
Runoff = 2.18 cfs @ 12.16 hrs, Volume= 0.170 af, Depth> 1.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (ac)	CN	Description
0.195	98	Roofs, HSG A
0.201	98	Paved parking, HSG A
0.115	96	Gravel surface, HSG A
0.471	39	>75% Grass cover, Good, HSG A
0.194	80	>75% Grass cover, Good, HSG D
1.176	71	Weighted Average
0.780		66.33% Pervious Area
0.396		33.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	75	0.0330	0.13		**Sheet Flow, S1** Grass: Dense n= 0.240 P2= 3.16"
0.4	25	0.0280	1.19		**Sheet Flow, S2** Smooth surfaces n= 0.011 P2= 3.16"
0.2	38	0.0280	3.40		**Shallow Concentrated Flow, S3** Paved Kv= 20.3 fps
0.2	55	0.0480	4.45		**Shallow Concentrated Flow, S4** Paved Kv= 20.3 fps
0.4	60	0.0300	2.79		**Shallow Concentrated Flow, S5** Unpaved Kv= 16.1 fps
10.5	253	Total			

Subcatchment 1: DA 1



Summary for Subcatchment 2: DA 2

[49] Hint: Tc<2dt may require smaller dt

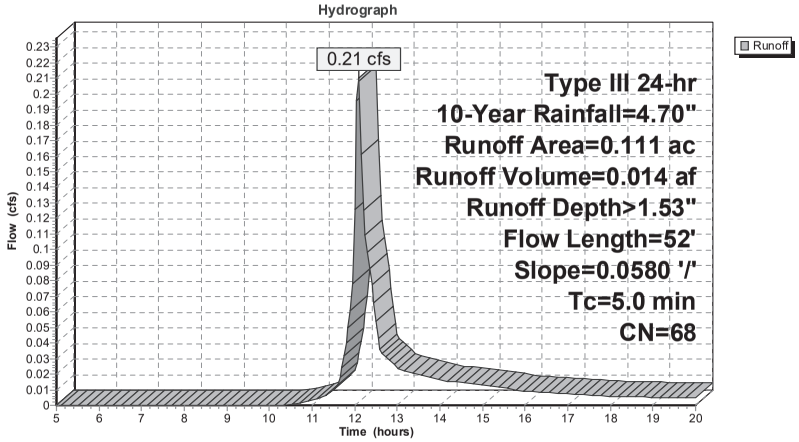
Runoff = 0.21 cfs @ 12.09 hrs, Volume= 0.014 af, Depth> 1.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (ac)	CN	Description
0.051	98	Paved parking, HSG A
0.004	96	Gravel surface, HSG A
0.056	39	>75% Grass cover, Good, HSG A
0.111	68	Weighted Average
0.060		54.05% Pervious Area
0.051		45.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	26	0.0580	0.20		**Sheet Flow, S1** Grass: Short n= 0.150 P2= 3.16"
0.3	26	0.0580	1.60		**Sheet Flow, S2** Smooth surfaces n= 0.011 P2= 3.16"
2.5	52	Total, Increased to minimum Tc = 5.0 min			

Subcatchment 2: DA 2



Summary for Subcatchment 10: DA 10

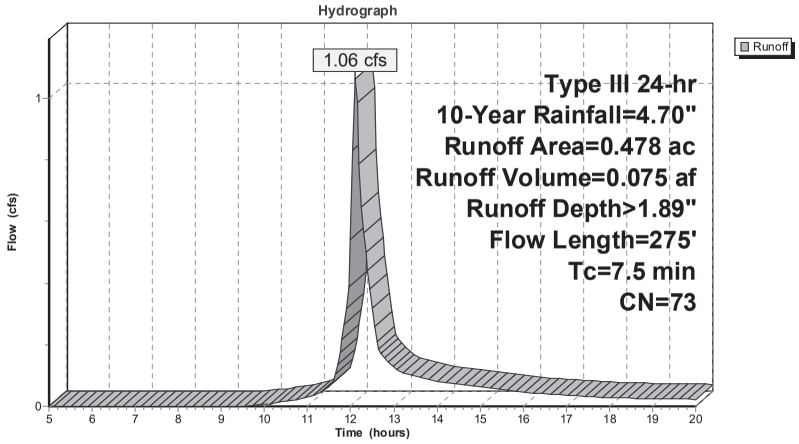
Runoff = 1.06 cfs @ 12.11 hrs, Volume= 0.075 af, Depth> 1.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (ac)	CN	Description
0.093	98	Roofs, HSG A
0.079	98	Paved roads w/curbs & sewers, HSG A
0.158	39	>75% Grass cover, Good, HSG A
0.148	80	>75% Grass cover, Good, HSG D
0.478	73	Weighted Average
0.306		64.02% Pervious Area
0.172		35.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	40	0.0560	0.21		**Sheet Flow, S1** Grass: Short n= 0.150 P2= 3.16"
0.2	19	0.0500	1.41		**Sheet Flow, S2** Smooth surfaces n= 0.011 P2= 3.16"
3.7	41	0.0400	0.19		**Sheet Flow, S3** Grass: Short n= 0.150 P2= 3.16"
0.5	175	0.1200	5.58		**Shallow Concentrated Flow, S4** Unpaved Kv= 16.1 fps
7.5	275	Total			

Subcatchment 10: DA 10



Summary for Subcatchment 11: DA 11

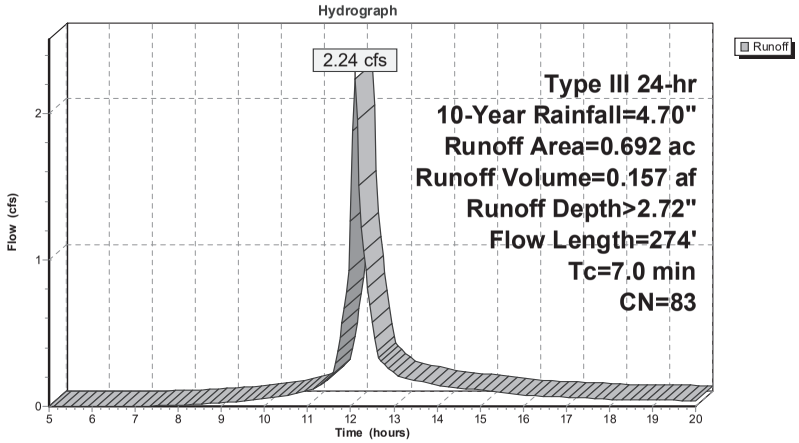
Runoff = 2.24 cfs @ 12.10 hrs, Volume= 0.157 af, Depth> 2.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (ac)	CN	Description
0.110	98	Roofs, HSG A
0.411	98	Paved parking, HSG A
0.171	39	>75% Grass cover, Good, HSG A
0.692	83	Weighted Average
0.171		24.71% Pervious Area
0.521		75.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	70	0.0330	0.19		**Sheet Flow, S1** Grass: Short n= 0.150 P2= 3.16"
0.4	30	0.0350	1.34		**Sheet Flow, S2** Smooth surfaces n= 0.011 P2= 3.16"
0.4	89	0.0350	3.80		**Shallow Concentrated Flow, S3** Paved Kv= 20.3 fps
0.1	85	0.0380	9.58	7.52	**Pipe Channel, S4** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012
7.0	274	Total			

Subcatchment 11: DA 11



Summary for Subcatchment 20: DA 20

[49] Hint: Tc<2dt may require smaller dt

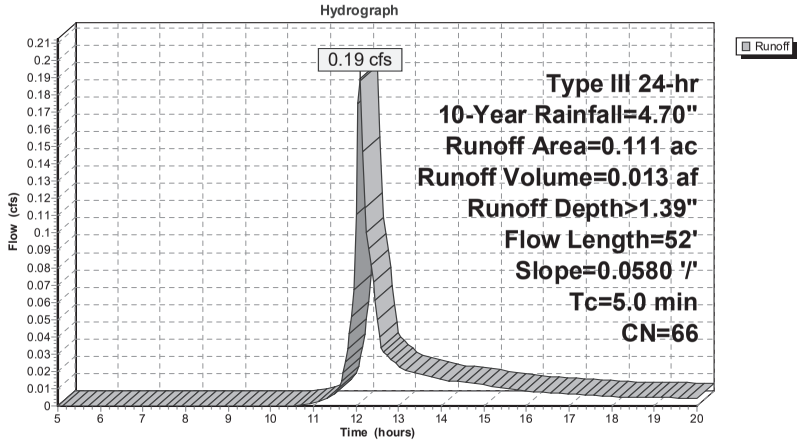
Runoff = 0.19 cfs @ 12.09 hrs, Volume= 0.013 af, Depth> 1.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (ac)	CN	Description
0.050	98	Roofs, HSG A
0.061	39	>75% Grass cover, Good, HSG A
0.111	66	Weighted Average
0.061		54.95% Pervious Area
0.050		45.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	26	0.0580	0.20		**Sheet Flow, S1** Grass: Short n= 0.150 P2= 3.16"
0.3	26	0.0580	1.60		**Sheet Flow, S2** Smooth surfaces n= 0.011 P2= 3.16"
2.5	52	Total, Increased to minimum Tc = 5.0 min			

Subcatchment 20: DA 20



Summary for Pond 7P: UG

Inflow Area = 0.692 ac, 75.29% Impervious, Inflow Depth > 2.72" for 10-Year event
Inflow = 2.24 cfs @ 12.10 hrs, Volume= 0.157 af
Outflow = 1.34 cfs @ 12.23 hrs, Volume= 0.128 af, Atten= 40%, Lag= 7.8 min
Discarded = 0.02 cfs @ 9.00 hrs, Volume= 0.018 af
Primary = 1.32 cfs @ 12.23 hrs, Volume= 0.110 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 135.92' @ 12.23 hrs Surf.Area= 1,601 sf Storage= 2,180 cf

Plug-Flow detention time= 85.5 min calculated for 0.128 af (82% of inflow)
Center-of-Mass det. time= 36.4 min (819.5 - 783.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	134.00'	1,365 cf	**30.50'W x 52.50'L x 3.54'H Field A** 5,671 cf Overall - 2,258 cf Embedded = 3,413 cf x 40.0% Voids
#2A	134.50'	2,258 cf	**Cultec R-330XLHD** x 42 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 6 rows
		3,623 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	135.10'	**10.0" Round Culvert** L= 58.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 135.10' / 133.85' S= 0.0216 '/' Cc= 0.900 n= 0.012, Flow Area= 0.55 sf
#2	Discarded	134.00'	**0.500 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.02 cfs @ 9.00 hrs HW=134.04' (Free Discharge)
↑**2=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=1.31 cfs @ 12.23 hrs HW=135.91' (Free Discharge)
↑**1=Culvert** (Inlet Controls 1.31 cfs @ 2.42 fps)

Pond 7P: UG - Chamber Wizard Field A

Chamber Model = Cultec R-330XLHD (Cultec Recharger® 330XLHD)
Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf
Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap
Row Length Adjustment= +1.50' x 7.45 sf x 6 rows

52.0" Wide + 6.0" Spacing = 58.0" C-C Row Spacing

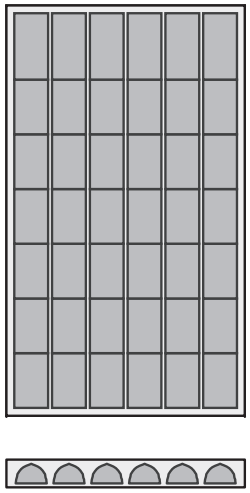
7 Chambers/Row x 7.00' Long +1.50' Row Adjustment = 50.50' Row Length +12.0" End Stone x 2 = 52.50' Base Length
6 Rows x 52.0" Wide + 6.0" Spacing x 5 + 12.0" Side Stone x 2 = 30.50' Base Width
6.0" Base + 30.5" Chamber Height + 6.0" Cover = 3.54' Field Height

42 Chambers x 52.2 cf +1.50' Row Adjustment x 7.45 sf x 6 Rows = 2,257.7 cf Chamber Storage

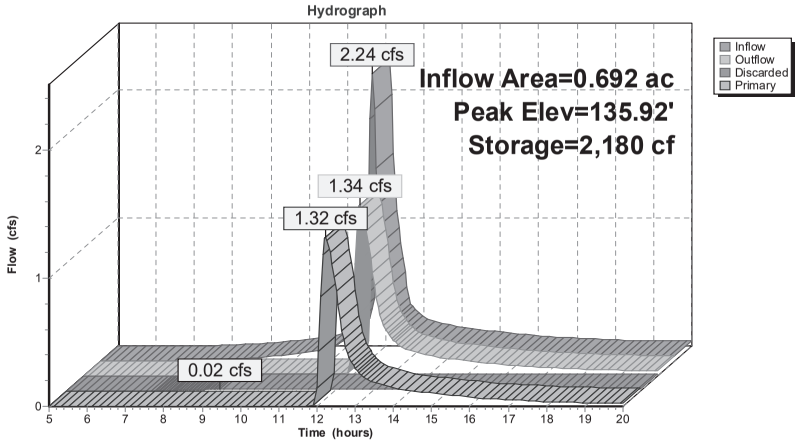
5,671.1 cf Field - 2,257.7 cf Chambers = 3,413.4 cf Stone x 40.0% Voids = 1,365.4 cf Stone Storage

Chamber Storage + Stone Storage = 3,623.0 cf = 0.083 af
Overall Storage Efficiency = 63.9%
Overall System Size = 52.50' x 30.50' x 3.54'

42 Chambers
210.0 cy Field
126.4 cy Stone



Pond 7P: UG

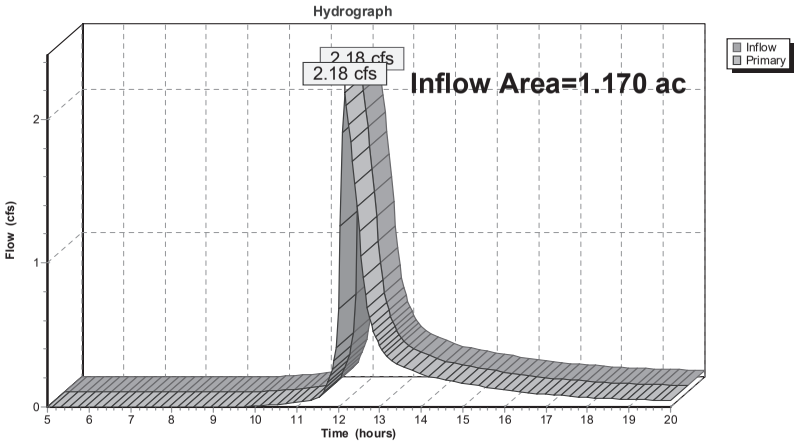


Summary for Link 6L: SDP2

Inflow Area = 1.170 ac, 59.23% Impervious, Inflow Depth > 1.90" for 10-Year event
Inflow = 2.18 cfs @ 12.16 hrs, Volume= 0.186 af
Primary = 2.18 cfs @ 12.16 hrs, Volume= 0.186 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link 6L: SDP2



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1: DA 1 Runoff Area=1.176 ac 33.67% Impervious Runoff Depth>2.61"
Flow Length=253' Tc=10.5 min CN=71 Runoff=3.30 cfs 0.256 af

Subcatchment 2: DA 2 Runoff Area=0.111 ac 45.95% Impervious Runoff Depth>2.35"
Flow Length=52' Slope=0.0580 '/' Tc=5.0 min CN=68 Runoff=0.33 cfs 0.022 af

Subcatchment 10: DA 10 Runoff Area=0.478 ac 35.98% Impervious Runoff Depth>2.79"
Flow Length=275' Tc=7.5 min CN=73 Runoff=1.58 cfs 0.111 af

Subcatchment 11: DA 11 Runoff Area=0.692 ac 75.29% Impervious Runoff Depth>3.76"
Flow Length=274' Tc=7.0 min CN=83 Runoff=3.06 cfs 0.217 af

Subcatchment 20: DA 20 Runoff Area=0.111 ac 45.05% Impervious Runoff Depth>2.18"
Flow Length=52' Slope=0.0580 '/' Tc=5.0 min CN=66 Runoff=0.30 cfs 0.020 af

Pond 7P: UG Peak Elev=136.34' Storage=2,676 cf Inflow=3.06 cfs 0.217 af
Discarded=0.02 cfs 0.019 af Primary=1.88 cfs 0.168 af Outflow=1.90 cfs 0.188 af

Link 6L: SDP2 Inflow=3.23 cfs 0.279 af
Primary=3.23 cfs 0.279 af

Total Runoff Area = 2.568 ac Runoff Volume = 0.625 af Average Runoff Depth = 2.92"
53.66% Pervious = 1.378 ac 46.34% Impervious = 1.190 ac

Summary for Subcatchment 1: DA 1

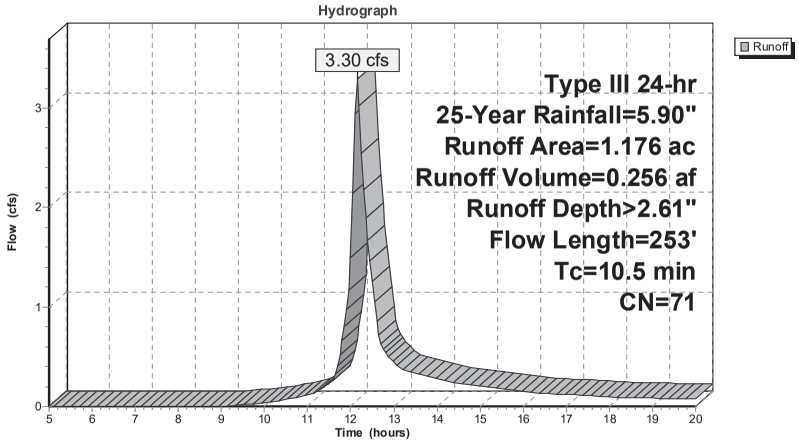
Runoff = 3.30 cfs @ 12.15 hrs, Volume= 0.256 af, Depth> 2.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.90"

Area (ac)	CN	Description
0.195	98	Roofs, HSG A
0.201	98	Paved parking, HSG A
0.115	96	Gravel surface, HSG A
0.471	39	>75% Grass cover, Good, HSG A
0.194	80	>75% Grass cover, Good, HSG D
1.176	71	Weighted Average
0.780		66.33% Pervious Area
0.396		33.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	75	0.0330	0.13		**Sheet Flow, S1** Grass: Dense n= 0.240 P2= 3.16"
0.4	25	0.0280	1.19		**Sheet Flow, S2** Smooth surfaces n= 0.011 P2= 3.16"
0.2	38	0.0280	3.40		**Shallow Concentrated Flow, S3** Paved Kv= 20.3 fps
0.2	55	0.0480	4.45		**Shallow Concentrated Flow, S4** Paved Kv= 20.3 fps
0.4	60	0.0300	2.79		**Shallow Concentrated Flow, S5** Unpaved Kv= 16.1 fps
10.5	253	Total			

Subcatchment 1: DA 1



Summary for Subcatchment 2: DA 2

[49] Hint: Tc<2dt may require smaller dt

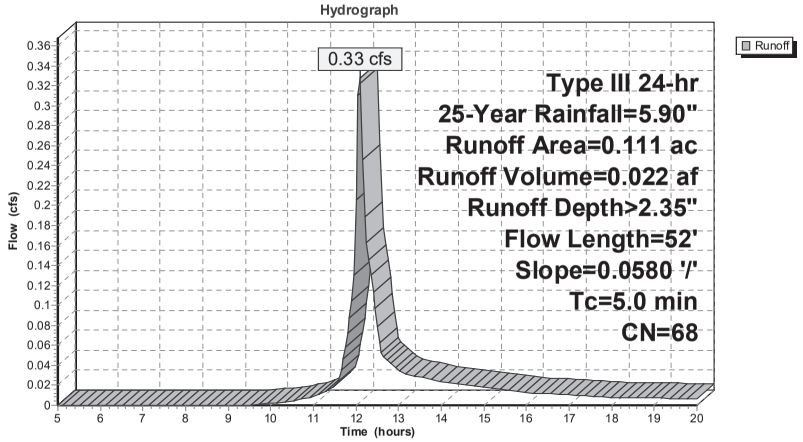
Runoff = 0.33 cfs @ 12.08 hrs, Volume= 0.022 af, Depth> 2.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.90"

Area (ac)	CN	Description
0.051	98	Paved parking, HSG A
0.004	96	Gravel surface, HSG A
0.056	39	>75% Grass cover, Good, HSG A
0.111	68	Weighted Average
0.060		54.05% Pervious Area
0.051		45.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	26	0.0580	0.20		**Sheet Flow, S1** Grass: Short n= 0.150 P2= 3.16"
0.3	26	0.0580	1.60		**Sheet Flow, S2** Smooth surfaces n= 0.011 P2= 3.16"
2.5	52	Total, Increased to minimum Tc = 5.0 min			

Subcatchment 2: DA 2



Summary for Subcatchment 10: DA 10

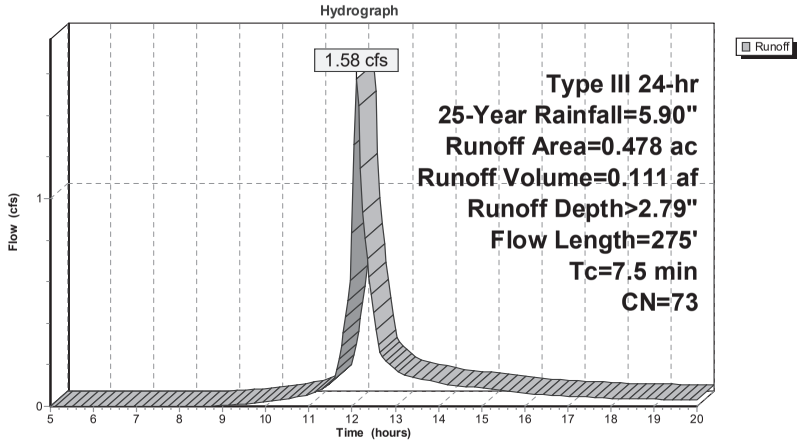
Runoff = 1.58 cfs @ 12.11 hrs, Volume= 0.111 af, Depth> 2.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.90"

Area (ac)	CN	Description
0.093	98	Roofs, HSG A
0.079	98	Paved roads w/curbs & sewers, HSG A
0.158	39	>75% Grass cover, Good, HSG A
0.148	80	>75% Grass cover, Good, HSG D
0.478	73	Weighted Average
0.306		64.02% Pervious Area
0.172		35.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	40	0.0560	0.21		**Sheet Flow, S1** Grass: Short n= 0.150 P2= 3.16"
0.2	19	0.0500	1.41		**Sheet Flow, S2** Smooth surfaces n= 0.011 P2= 3.16"
3.7	41	0.0400	0.19		**Sheet Flow, S3** Grass: Short n= 0.150 P2= 3.16"
0.5	175	0.1200	5.58		**Shallow Concentrated Flow, S4** Unpaved Kv= 16.1 fps
7.5	275	Total			

Subcatchment 10: DA 10



Summary for Subcatchment 11: DA 11

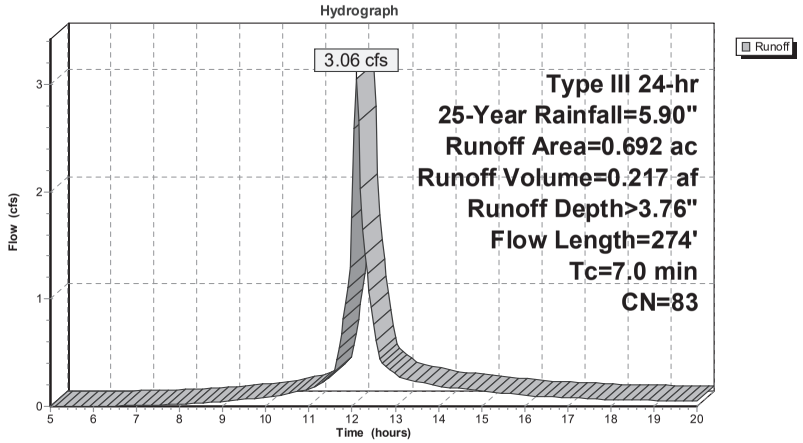
Runoff = 3.06 cfs @ 12.10 hrs, Volume= 0.217 af, Depth> 3.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.90"

Area (ac)	CN	Description
0.110	98	Roofs, HSG A
0.411	98	Paved parking, HSG A
0.171	39	>75% Grass cover, Good, HSG A
0.692	83	Weighted Average
0.171		24.71% Pervious Area
0.521		75.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	70	0.0330	0.19		**Sheet Flow, S1** Grass: Short n= 0.150 P2= 3.16"
0.4	30	0.0350	1.34		**Sheet Flow, S2** Smooth surfaces n= 0.011 P2= 3.16"
0.4	89	0.0350	3.80		**Shallow Concentrated Flow, S3** Paved Kv= 20.3 fps
0.1	85	0.0380	9.58	7.52	**Pipe Channel, S4** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012
7.0	274	Total			

Subcatchment 11: DA 11



Summary for Subcatchment 20: DA 20

[49] Hint: Tc<2dt may require smaller dt

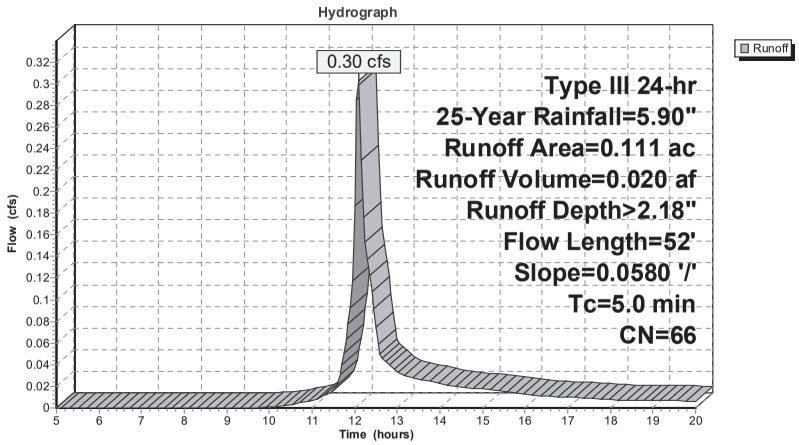
Runoff = 0.30 cfs @ 12.08 hrs, Volume= 0.020 af, Depth> 2.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.90"

Area (ac)	CN	Description
0.050	98	Roofs, HSG A
0.061	39	>75% Grass cover, Good, HSG A
0.111	66	Weighted Average
0.061		54.95% Pervious Area
0.050		45.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	26	0.0580	0.20		**Sheet Flow, S1** Grass: Short n= 0.150 P2= 3.16"
0.3	26	0.0580	1.60		**Sheet Flow, S2** Smooth surfaces n= 0.011 P2= 3.16"
2.5	52	Total, Increased to minimum Tc = 5.0 min			

Subcatchment 20: DA 20



Summary for Pond 7P: UG

Inflow Area = 0.692 ac, 75.29% Impervious, Inflow Depth > 3.76" for 25-Year event
Inflow = 3.06 cfs @ 12.10 hrs, Volume= 0.217 af
Outflow = 1.90 cfs @ 12.22 hrs, Volume= 0.188 af, Atten= 38%, Lag= 7.1 min
Discarded = 0.02 cfs @ 8.15 hrs, Volume= 0.019 af
Primary = 1.88 cfs @ 12.22 hrs, Volume= 0.168 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 136.34' @ 12.22 hrs Surf.Area= 1,601 sf Storage= 2,676 cf

Plug-Flow detention time= 72.1 min calculated for 0.187 af (86% of inflow)
Center-of-Mass det. time= 32.1 min (807.5 - 775.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	134.00'	1,365 cf	**30.50'W x 52.50'L x 3.54'H Field A** 5,671 cf Overall - 2,258 cf Embedded = 3,413 cf x 40.0% Voids
#2A	134.50'	2,258 cf	**Cultec R-330XLHD** x 42 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 6 rows
		3,623 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	135.10'	**10.0" Round Culvert** L= 58.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 135.10' / 133.85' S= 0.0216 '/' Cc= 0.900 n= 0.012, Flow Area= 0.55 sf
#2	Discarded	134.00'	**0.500 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.02 cfs @ 8.15 hrs HW=134.04' (Free Discharge)
↑**2=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=1.87 cfs @ 12.22 hrs HW=136.33' (Free Discharge)
↑**1=Culvert** (Inlet Controls 1.87 cfs @ 3.43 fps)

Pond 7P: UG - Chamber Wizard Field A

Chamber Model = Cultec R-330XLHD (Cultec Recharger® 330XLHD)
Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf
Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap
Row Length Adjustment= +1.50' x 7.45 sf x 6 rows

52.0" Wide + 6.0" Spacing = 58.0" C-C Row Spacing

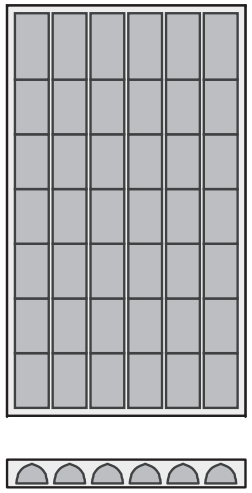
7 Chambers/Row x 7.00' Long +1.50' Row Adjustment = 50.50' Row Length +12.0" End Stone x 2 = 52.50' Base Length
6 Rows x 52.0" Wide + 6.0" Spacing x 5 + 12.0" Side Stone x 2 = 30.50' Base Width
6.0" Base + 30.5" Chamber Height + 6.0" Cover = 3.54' Field Height

42 Chambers x 52.2 cf +1.50' Row Adjustment x 7.45 sf x 6 Rows = 2,257.7 cf Chamber Storage

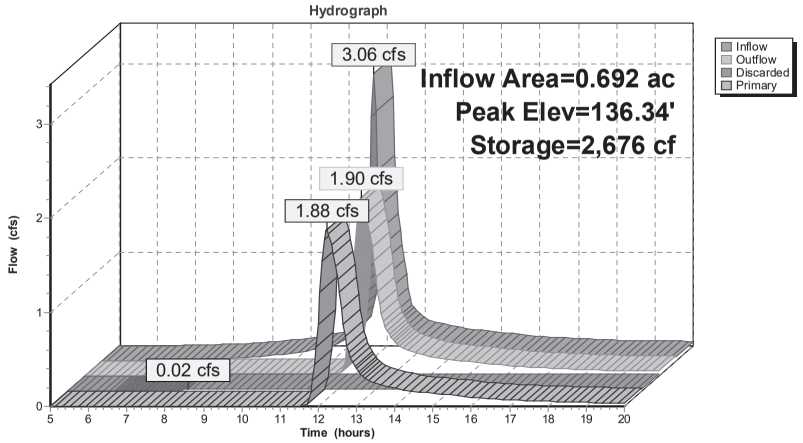
5,671.1 cf Field - 2,257.7 cf Chambers = 3,413.4 cf Stone x 40.0% Voids = 1,365.4 cf Stone Storage

Chamber Storage + Stone Storage = 3,623.0 cf = 0.083 af
Overall Storage Efficiency = 63.9%
Overall System Size = 52.50' x 30.50' x 3.54'

42 Chambers
210.0 cy Field
126.4 cy Stone



Pond 7P: UG

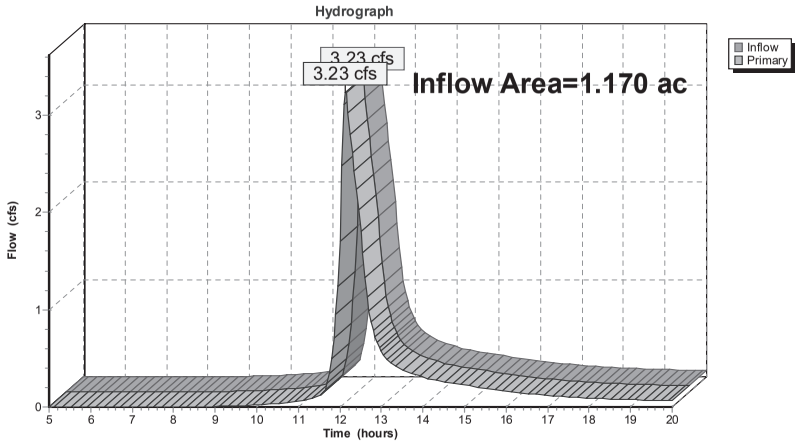


Summary for Link 6L: SDP2

Inflow Area = 1.170 ac, 59.23% Impervious, Inflow Depth > 2.87" for 25-Year event
Inflow = 3.23 cfs @ 12.14 hrs, Volume= 0.279 af
Primary = 3.23 cfs @ 12.14 hrs, Volume= 0.279 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link 6L: SDP2



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1: DA 1 Runoff Area=1.176 ac 33.67% Impervious Runoff Depth>4.55"
Flow Length=253' Tc=10.5 min CN=71 Runoff=5.73 cfs 0.446 af

Subcatchment 2: DA 2 Runoff Area=0.111 ac 45.95% Impervious Runoff Depth>4.21"
Flow Length=52' Slope=0.0580 '/' Tc=5.0 min CN=68 Runoff=0.59 cfs 0.039 af

Subcatchment 10: DA 10 Runoff Area=0.478 ac 35.98% Impervious Runoff Depth>4.78"
Flow Length=275' Tc=7.5 min CN=73 Runoff=2.68 cfs 0.191 af

Subcatchment 11: DA 11 Runoff Area=0.692 ac 75.29% Impervious Runoff Depth>5.95"
Flow Length=274' Tc=7.0 min CN=83 Runoff=4.73 cfs 0.343 af

Subcatchment 20: DA 20 Runoff Area=0.111 ac 45.05% Impervious Runoff Depth>3.99"
Flow Length=52' Slope=0.0580 '/' Tc=5.0 min CN=66 Runoff=0.56 cfs 0.037 af

Pond 7P: UG Peak Elev=137.47' Storage=3,574 cf Inflow=4.73 cfs 0.343 af
Discarded=0.02 cfs 0.022 af Primary=2.89 cfs 0.291 af Outflow=2.91 cfs 0.313 af

Link 6L: SDP2 Inflow=5.15 cfs 0.482 af
Primary=5.15 cfs 0.482 af

Total Runoff Area = 2.568 ac Runoff Volume = 1.055 af Average Runoff Depth = 4.93"
53.66% Pervious = 1.378 ac 46.34% Impervious = 1.190 ac

Summary for Subcatchment 1: DA 1

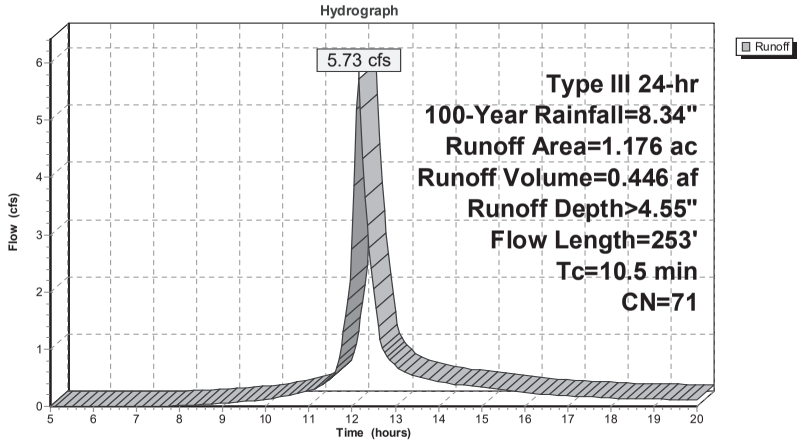
Runoff = 5.73 cfs @ 12.15 hrs, Volume= 0.446 af, Depth> 4.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.34"

Area (ac)	CN	Description
0.195	98	Roofs, HSG A
0.201	98	Paved parking, HSG A
0.115	96	Gravel surface, HSG A
0.471	39	>75% Grass cover, Good, HSG A
0.194	80	>75% Grass cover, Good, HSG D
1.176	71	Weighted Average
0.780		66.33% Pervious Area
0.396		33.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	75	0.0330	0.13		**Sheet Flow, S1** Grass: Dense n= 0.240 P2= 3.16"
0.4	25	0.0280	1.19		**Sheet Flow, S2** Smooth surfaces n= 0.011 P2= 3.16"
0.2	38	0.0280	3.40		**Shallow Concentrated Flow, S3** Paved Kv= 20.3 fps
0.2	55	0.0480	4.45		**Shallow Concentrated Flow, S4** Paved Kv= 20.3 fps
0.4	60	0.0300	2.79		**Shallow Concentrated Flow, S5** Unpaved Kv= 16.1 fps
10.5	253	Total			

Subcatchment 1: DA 1



Summary for Subcatchment 2: DA 2

[49] Hint: Tc<2dt may require smaller dt

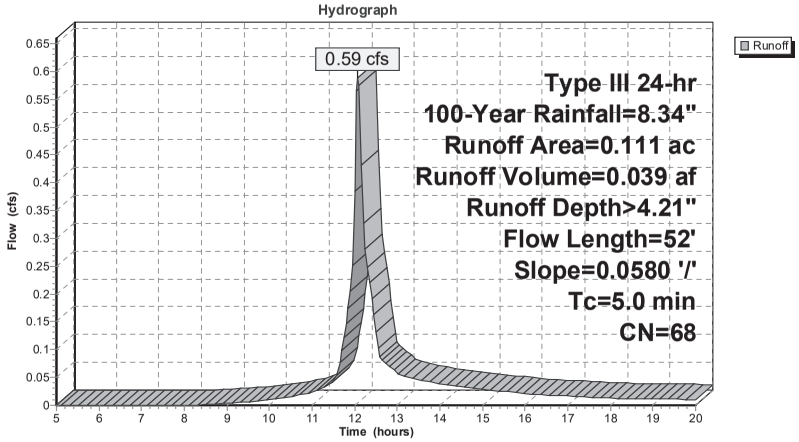
Runoff = 0.59 cfs @ 12.08 hrs, Volume= 0.039 af, Depth> 4.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.34"

Area (ac)	CN	Description
0.051	98	Paved parking, HSG A
0.004	96	Gravel surface, HSG A
0.056	39	>75% Grass cover, Good, HSG A
0.111	68	Weighted Average
0.060		54.05% Pervious Area
0.051		45.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	26	0.0580	0.20		**Sheet Flow, S1** Grass: Short n= 0.150 P2= 3.16"
0.3	26	0.0580	1.60		**Sheet Flow, S2** Smooth surfaces n= 0.011 P2= 3.16"
2.5	52	Total, Increased to minimum Tc = 5.0 min			

Subcatchment 2: DA 2



Summary for Subcatchment 10: DA 10

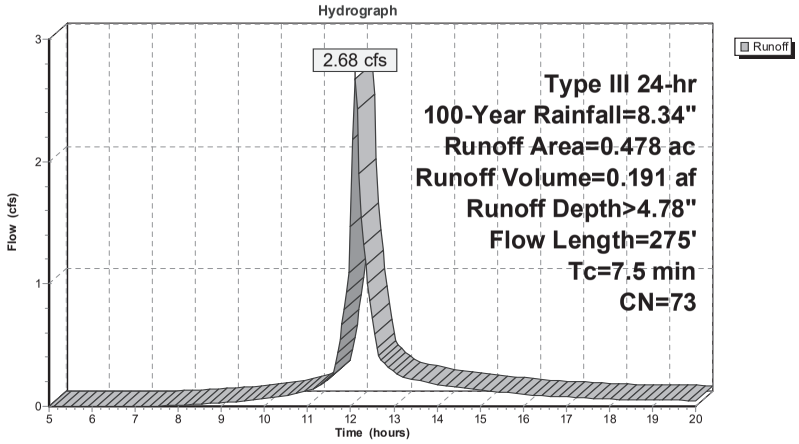
Runoff = 2.68 cfs @ 12.11 hrs, Volume= 0.191 af, Depth> 4.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.34"

Area (ac)	CN	Description
0.093	98	Roofs, HSG A
0.079	98	Paved roads w/curbs & sewers, HSG A
0.158	39	>75% Grass cover, Good, HSG A
0.148	80	>75% Grass cover, Good, HSG D
0.478	73	Weighted Average
0.306		64.02% Pervious Area
0.172		35.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	40	0.0560	0.21		**Sheet Flow, S1** Grass: Short n= 0.150 P2= 3.16"
0.2	19	0.0500	1.41		**Sheet Flow, S2** Smooth surfaces n= 0.011 P2= 3.16"
3.7	41	0.0400	0.19		**Sheet Flow, S3** Grass: Short n= 0.150 P2= 3.16"
0.5	175	0.1200	5.58		**Shallow Concentrated Flow, S4** Unpaved Kv= 16.1 fps
7.5	275	Total			

Subcatchment 10: DA 10



Summary for Subcatchment 11: DA 11

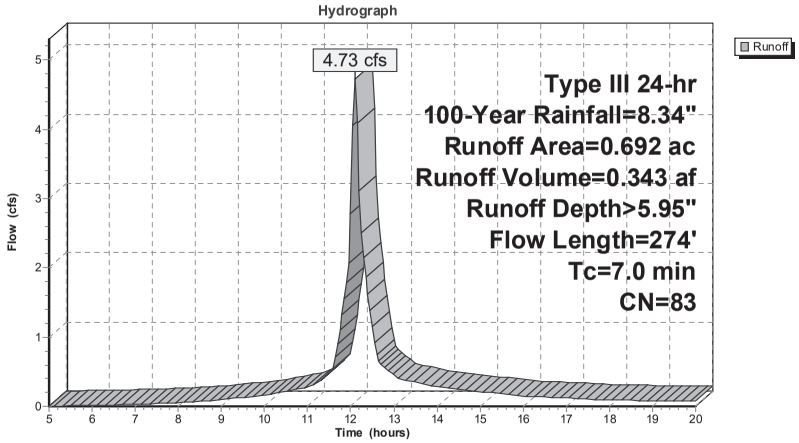
Runoff = 4.73 cfs @ 12.10 hrs, Volume= 0.343 af, Depth> 5.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.34"

Area (ac)	CN	Description
0.110	98	Roofs, HSG A
0.411	98	Paved parking, HSG A
0.171	39	>75% Grass cover, Good, HSG A
0.692	83	Weighted Average
0.171		24.71% Pervious Area
0.521		75.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	70	0.0330	0.19		**Sheet Flow, S1** Grass: Short n= 0.150 P2= 3.16"
0.4	30	0.0350	1.34		**Sheet Flow, S2** Smooth surfaces n= 0.011 P2= 3.16"
0.4	89	0.0350	3.80		**Shallow Concentrated Flow, S3** Paved Kv= 20.3 fps
0.1	85	0.0380	9.58	7.52	**Pipe Channel, S4** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012
7.0	274	Total			

Subcatchment 11: DA 11



Summary for Subcatchment 20: DA 20

[49] Hint: Tc<2dt may require smaller dt

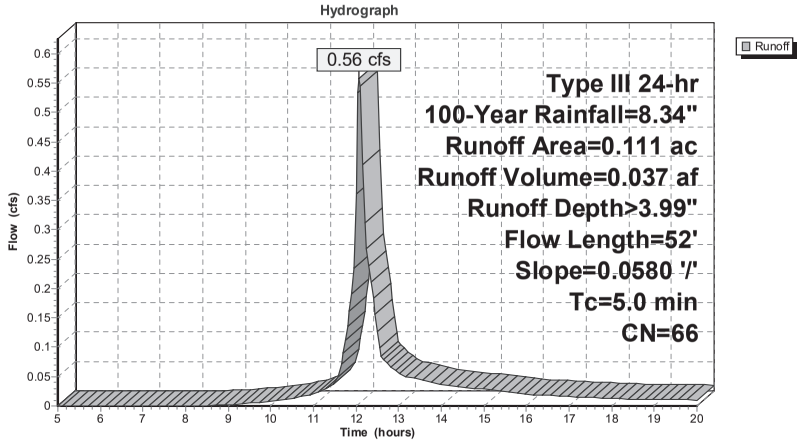
Runoff = 0.56 cfs @ 12.08 hrs, Volume= 0.037 af, Depth> 3.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.34"

Area (ac)	CN	Description
0.050	98	Roofs, HSG A
0.061	39	>75% Grass cover, Good, HSG A
0.111	66	Weighted Average
0.061		54.95% Pervious Area
0.050		45.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	26	0.0580	0.20		**Sheet Flow, S1** Grass: Short n= 0.150 P2= 3.16"
0.3	26	0.0580	1.60		**Sheet Flow, S2** Smooth surfaces n= 0.011 P2= 3.16"
2.5	52	Total, Increased to minimum Tc = 5.0 min			

Subcatchment 20: DA 20



Summary for Pond 7P: UG

Inflow Area = 0.692 ac, 75.29% Impervious, Inflow Depth > 5.95" for 100-Year event
Inflow = 4.73 cfs @ 12.10 hrs, Volume= 0.343 af
Outflow = 2.91 cfs @ 12.22 hrs, Volume= 0.313 af, Atten= 38%, Lag= 7.2 min
Discarded = 0.02 cfs @ 6.65 hrs, Volume= 0.022 af
Primary = 2.89 cfs @ 12.22 hrs, Volume= 0.291 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 137.47' @ 12.22 hrs Surf.Area= 1,601 sf Storage= 3,574 cf

Plug-Flow detention time= 59.3 min calculated for 0.313 af (91% of inflow)
Center-of-Mass det. time= 29.3 min (793.8 - 764.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	134.00'	1,365 cf	**30.50'W x 52.50'L x 3.54'H Field A** 5,671 cf Overall - 2,258 cf Embedded = 3,413 cf x 40.0% Voids
#2A	134.50'	2,258 cf	**Cultec R-330XLHD** x 42 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 6 rows
		3,623 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	135.10'	**10.0" Round Culvert** L= 58.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 135.10' / 133.85' S= 0.0216 '/' Cc= 0.900 n= 0.012, Flow Area= 0.55 sf
#2	Discarded	134.00'	**0.500 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.02 cfs @ 6.65 hrs HW=134.04' (Free Discharge)
↑**2=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=2.87 cfs @ 12.22 hrs HW=137.44' (Free Discharge)
↑**1=Culvert** (Inlet Controls 2.87 cfs @ 5.27 fps)

Pond 7P: UG - Chamber Wizard Field A

Chamber Model = Cultec R-330XLHD (Cultec Recharger® 330XLHD)
Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf
Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap
Row Length Adjustment= +1.50' x 7.45 sf x 6 rows

52.0" Wide + 6.0" Spacing = 58.0" C-C Row Spacing

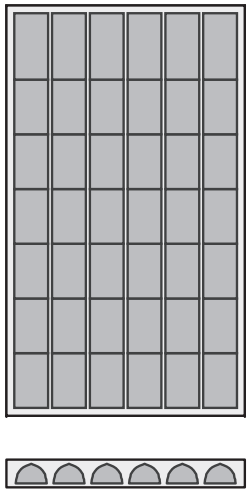
7 Chambers/Row x 7.00' Long +1.50' Row Adjustment = 50.50' Row Length +12.0" End Stone x 2 = 52.50' Base Length
6 Rows x 52.0" Wide + 6.0" Spacing x 5 + 12.0" Side Stone x 2 = 30.50' Base Width
6.0" Base + 30.5" Chamber Height + 6.0" Cover = 3.54' Field Height

42 Chambers x 52.2 cf +1.50' Row Adjustment x 7.45 sf x 6 Rows = 2,257.7 cf Chamber Storage

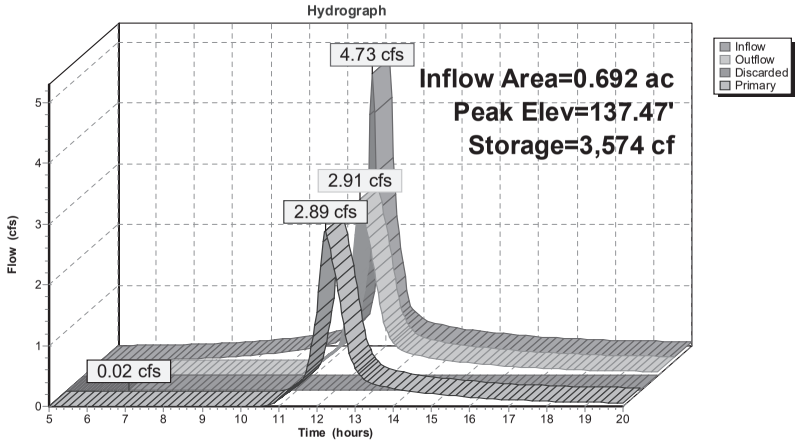
5,671.1 cf Field - 2,257.7 cf Chambers = 3,413.4 cf Stone x 40.0% Voids = 1,365.4 cf Stone Storage

Chamber Storage + Stone Storage = 3,623.0 cf = 0.083 af
Overall Storage Efficiency = 63.9%
Overall System Size = 52.50' x 30.50' x 3.54'

42 Chambers
210.0 cy Field
126.4 cy Stone



Pond 7P: UG

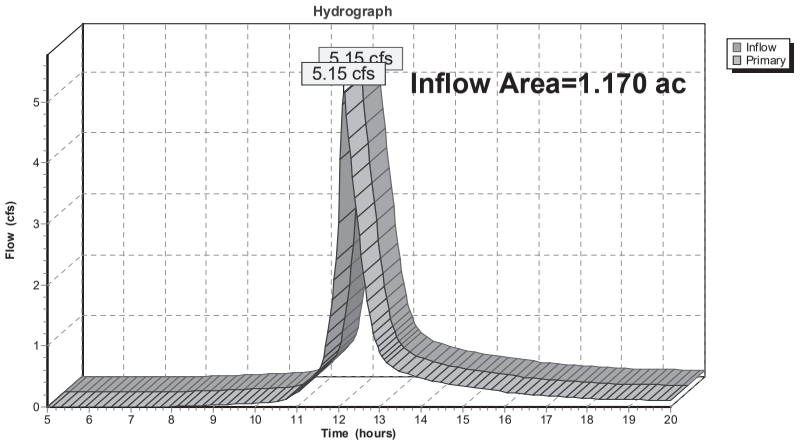


Summary for Link 6L: SDP2

Inflow Area = 1.170 ac, 59.23% Impervious, Inflow Depth > 4.94" for 100-Year event
Inflow = 5.15 cfs @ 12.14 hrs, Volume= 0.482 af
Primary = 5.15 cfs @ 12.14 hrs, Volume= 0.482 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

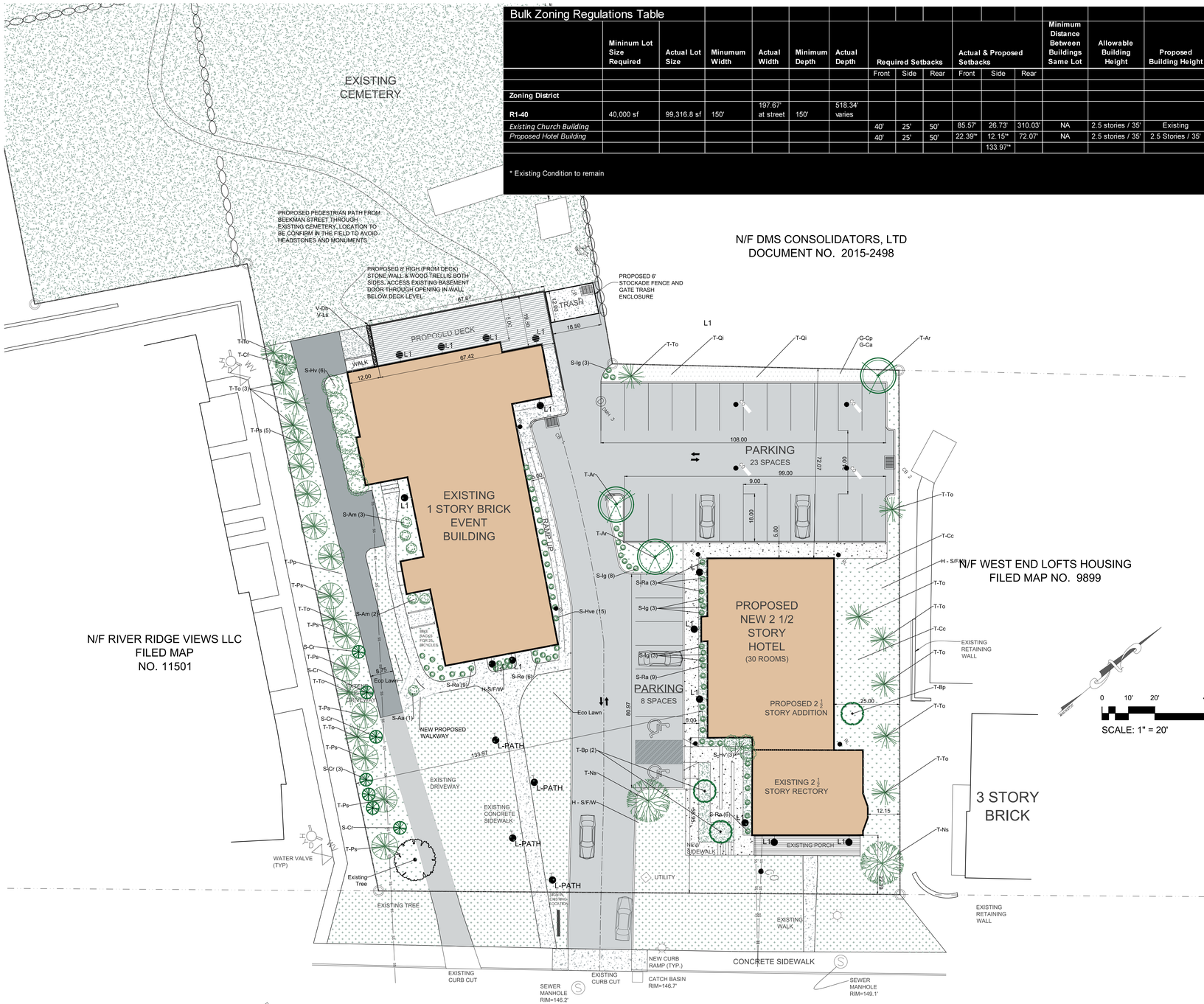
Link 6L: SDP2



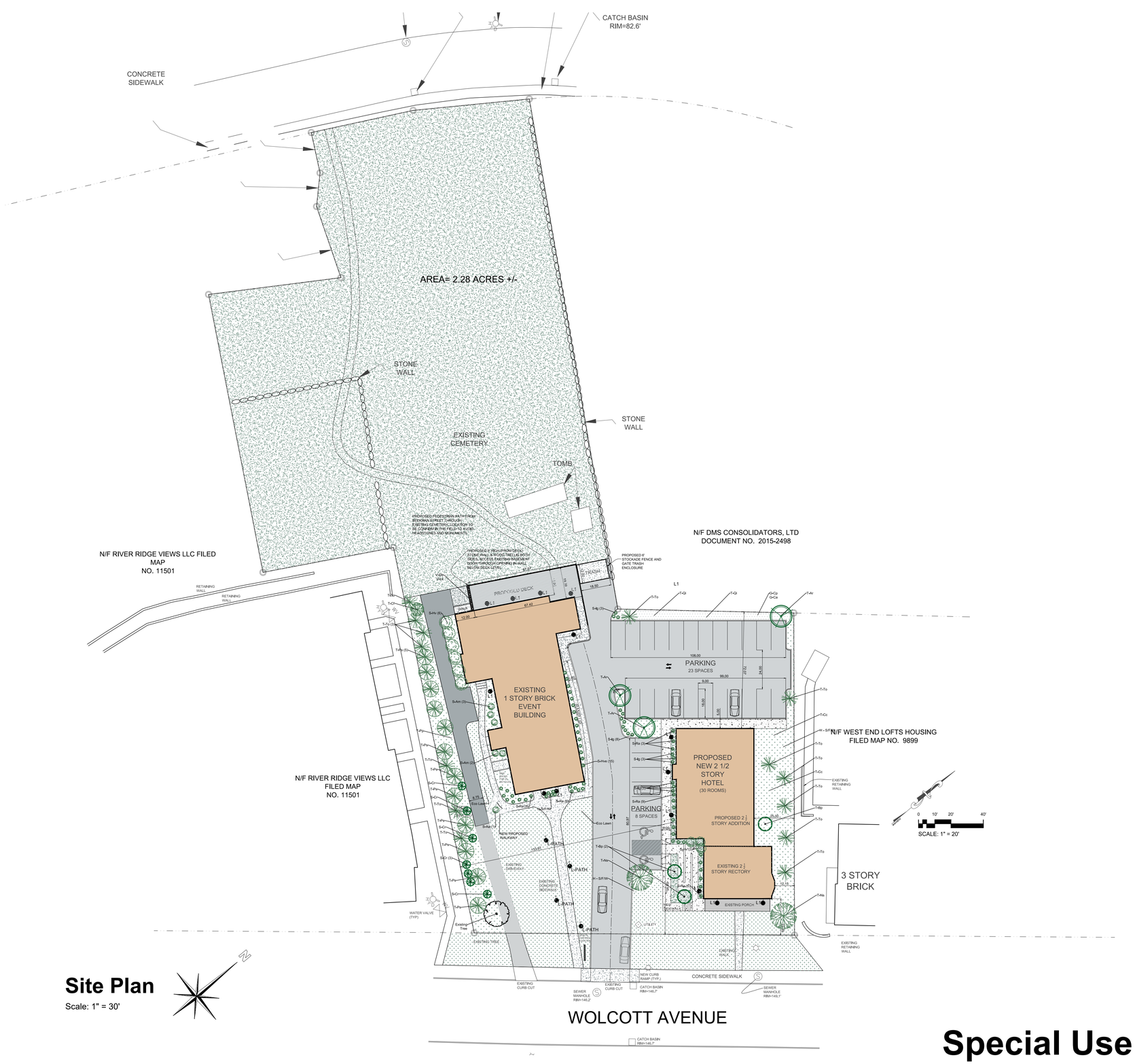
Bulk Zoning Regulations Table

	Mininum Lot Size Required	Actual Lot Size	Minumum Width	Actual Width	Minimum Depth	Actual Depth	Required Setbacks			Actual & Proposed Setbacks			Minimum Distance Between Buildings Same Lot	Allowable Building Height	Proposed Building Height	Maximum Building Coverage	Proposed Building Coverage
							Front	Side	Rear	Front	Side	Rear					
Zoning District																	
R1-40	40,000 sf	99,316.8 sf	150'	197.67' at street	150'	518.34' varies										15%	1%
Existing Church Building							40'	25'	50'	85.57'	26.73'	310.03'	NA	2.5 stories / 35'	Existing		
Proposed Hotel Building							40'	25'	50'	22.39'*	12.15'*	72.07'	NA	2.5 stories / 35'	2.5 Stories / 35'		
											133.97'*						

* Existing Condition to remain


EXISTING CEMETERY
PROPOSED PEDESTRIAN PATH FROM BEEKMAN STREET THROUGH EXISTING CEMETERY, LOCATION TO BE CONFIRM IN THE FIELD TO AVOID HEADSTONES AND MONUMENTS
PROPOSED 8' HIGH (FROM DECK) STONE WALL & WOOD TRELLIS BOTH SIDES. ACCESS EXISTING BASEMENT DOOR THROUGH OPENING IN WALL BELOW DECK LEVEL
PROPOSED 6' STOCKADE FENCE AND GATE TRASH ENCLOSURE
N/F DMS CONSOLIDATORS, LTD
DOCUMENT NO. 2015-2498
N/F WEST END LOFTS HOUSING
FILED MAP NO. 9899
N/F RIVER RIDGE VIEWS LLC
FILED MAP
NO. 11501
PROPOSED DECK
EXISTING 1 STORY BRICK EVENT BUILDING
PROPOSED NEW 2 1/2 STORY HOTEL (30 ROOMS)
PROPOSED 2 1/2 STORY ADDITION
EXISTING 2 1/2 STORY RECTORY
3 STORY BRICK
PARKING
23 SPACES
PARKING
8 SPACES
TRASH
WALK
EXISTING DRIVEWAY
NEW PROPOSED WALKWAY
EXISTING CONCRETE SIDEWALK
NEW SIDEWALK
EXISTING PORCH
EXISTING RETAINING WALL
EXISTING WALK
NEW CURB RAMP (TYP.)
CONCRETE SIDEWALK
EXISTING CURB CUT
EXISTING CURB CUT
CATCH BASIN RIM=146.7'
SEWER MANHOLE RIM=146.2'
SEWER MANHOLE RIM=149.1'
CATCH BASIN RIM=146.7'
WATER VALVE (TYP)
EXISTING TREE
Existing Tree
UTILITY
FIRE HYDRANT (TYP)
LIGHT POST (TYP)
WOLCOTT AVENUE
L-PATH
L1
T-To
T-Cf
T-To (3)
T-Pn (5)
T-Pp
T-Ps
S-Am (3)
S-Am (2)
S-Cr
T-Ps
S-Cr
T-To
T-Ps
S-Cr
T-To
T-Ps
S-Cr (3)
T-Ps
S-Cr
T-Ps
S-Hv (6)
V-Dp
V-Ls
S-Ig (3)
S-Ig (8)
S-Ra (3)
S-Ig (3)
S-Hve (15)
S-Ig (3)
S-Ra (9)
S-Ra (6)
S-Ra (9)
S-Aa (1)
T-Bp (2)
T-Ns
H - S/F/W
S-Hv (3)
S-Ra (6)
T-Qi
T-Qi
G-Cp
G-Ca
T-Ar
T-To
T-Ar
T-Ar
T-To
T-Cc
H - S/F/W
T-To
T-To
T-Cc
T-To
T-Bp
T-To
T-To
T-Ns
67.67
67.42
18.50
12.00
108.00
99.00
9.00
18.00
5.00
72.07
80.97
25.00
12.15
8.00
6.00
133.97'
Eco Lawn
Eco Lawn
8.75
RAMP UP
RAMP DN
DWN 3
DWN 2
DWN 1
SLOPE
SLOPE
SLOPE

REVISIONS:			
NO.	DATE	DESCRIPTION	BY
1	08/31/21	ADDED PER PLANNING BOARD COMMENTS	AJS
2	09/28/21	REVISED PER PLANNING BOARD COMMENTS	AJS
3	11/30/21	REVISED PER PLANNING BOARD COMMENTS	AJS



Site Plan

Scale: 1" = 30'

Special Use Permit Application

Sheet 2 of 12 - Full Site Plan

1113 Wolcott Avenue

Beacon, New York
Scale: 1" = 30'
June 29, 2021

Contract Vendee:
Prophecy Theater, LLC
36 S Brett St,
Beacon, NY 12508

Owner:
Reformed Church of Beacon
25 School Hill Road
High Falls, NY 12440

Architect:
Aryeh Siegel, Architect
84 Mason Circle
Beacon, New York 12508

Site / Civil Engineer:
Hudson Land Design
174 Main Street
Beacon, New York 12508

Surveyor:
Robert Oswald
175 WALSH ROAD PO BOX 1
LAGRANGEVILLE, NEW YORK 12540

DMS CONSOLIDATORS, LTD
DOCUMENT NO. 2015-2498

CATCH BASIN RIM=79.1'

N 27°44'52" E 64.36'
N 34°22'48" E 72.03'
S 59°50'43" E 319.50'
306.3'
AREA= 2.28 ACRES +/-
N 41°16'37" E 108.64'
25.1'
S 50°07'23" E 198.84'
4'53"W
.50'
4°04'53"W
20.83'
N68°54'53"W
46.42'
N 32°45'07" E 82.36'
N61°04'53"W 174.76'
S29°14'17"W 82.00'
28.7'
N61°49'53"W 243.00'
85.6'
S40°23'53"W 197.67'
22.3'
13.7'

STONE WALL
TOMB
GARBAGE
CONCRETE SIDEWALK
RETAINING WALL
GRAVEL PARKING
BLACKTOP PARKING
BLACKTOP DRIVEWAY
1 STORY BRICK CHURCH
2 STORY FRAME
3 STORY BRICK
RETAINING WALL
CONCRETE SIDEWALK
RETAINING WALL
CONCRETE SIDEWALK
UTILITIES
SIGN
SEWER MANHOLE RIM=149.1'
LIGHT POST (TYP)
CATCH BASIN RIM=146.7'
FIRE HYDRANT (TYP)
SEWER MANHOLE RIM=146.2'
CATCH BASIN RIM=146.7'
WATER VALVE (TYP)

REMOVE EXISTING GRAVEL DRIVEWAY
REMOVE EXISTING STAIR AND PORCH
REMOVE EXISTING ADDITIONS TO BUILDING
REMOVE EXISTING WALK

WOLCOTT AVENUE

N/F
WEST END LOFTS HOUSING
FILED MAP NO. 9899

N/F
RIVER RIDGE VIEWS LLC
FILED MAP NO. 11501

N/F
RIVER RIDGE VIEWS LLC
FILED MAP NO. 11501

REVISIONS:			
NO.	DATE	DESCRIPTION	BY
1	08/31/21	ADDED PER PLANNING BOARD COMMENTS	AJS
2	09/28/21	REVISED PER PLANNING BOARD COMMENTS	AJS
3	11/30/21	REVISED PER PLANNING BOARD COMMENTS	AJS

Site Plan
Scale: 1" = 20'

Special Use Permit Application

Sheet 3 of 12 - Existing Conditions & Demolition Plan

1113 Wolcott Avenue

Beacon, New York
Scale: 1" = 20'
June 29, 2021

Contract Vendee:
Prophecy Theater, LLC
36 S Brett St,
Beacon, NY 12508

Owner:
Reformed Church of Beacon
25 School Hill Road
High Falls, NY 12440

Architect:
Aryeh Siegel, Architect
84 Mason Circle
Beacon, New York 12508

Site / Civil Engineer:
Hudson Land Design
174 Main Street
Beacon, New York 12508

Surveyor:
Robert Oswald
175 WALSH ROAD PO BOX 1
LAGRANGEVILLE, NEW YORK 12540



POLE MOUNTED LIGHT (L1A)

SELUX LIGHTING "BETA PENDANT" POLE MOUNTED 100W FIXTURE. MODEL #BPC-L-R2-1-H100-BK-120-HS-PC WITH LOW GLARE CUTOFF SHIELD, COLOR: BLACK. PHOTOCELL CONTROL. OR APPROVED EQUAL. MOUNTING HEIGHT ON A35 SERIES BLACK ALUMINUM POLE = 10 FEET

NOTE: AS AN ALTERNATE, THE OWNER MAY INSTALL EQUIVALENT WATTAGE LED FIXTURES IN PLACE OF THE INCANDESCENT FIXTURES SHOWN. LED LIGHTING WILL MEET THE SAME SPECIFICATIONS FOR LOW GLARE CUT OFF CONTROLS, EITHER BY SHIELDING OR INTERNAL CONTROLS.

NOTE: ALL EXTERIOR LIGHTING ON THE SITE SHALL BE DIRECTED AND/OR SHIELDED SO AS NOT TO CAUSE ANY OBJECTIONABLE GLARE OBSERVABLE FROM NEIGHBORING STREETS AND PROPERTIES. THE SOURCE (BULBS) OF SUCH LIGHTING SHALL NOT BE VISIBLE FROM SAID NEIGHBORING STREETS AND PROPERTIES. PHOTOMETRIC DIAGRAMS ARE SHOWN WITH SHIELDED CONDITIONS.

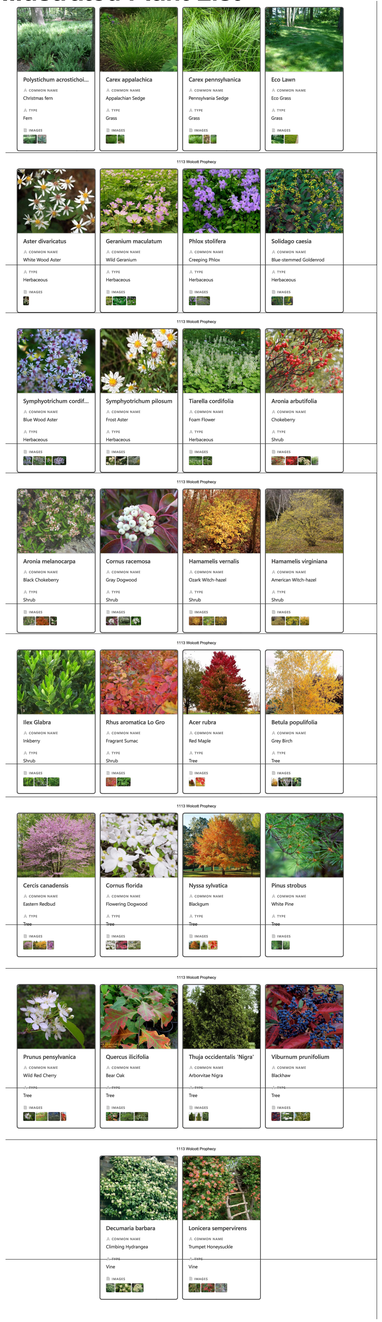
Planting Schedule

Symbol	Quantity	Type	Common Name	Botanical Name	Size	Planting Date
Ilx	2	Tree	American Holly	Ilex opaca	6'-7'	Spring/Fall
Ilg	2	Tree	Dwarf Yaupon Holly	Ilex vomitoria 'Nana'	3'-4'	Spring/Fall
Tc	2	Tree	Eastern Redbud	Cercis canadensis	7-8'	Spring/Fall
Tg	2	Tree	Flowering Dogwood	Cornus florida	7-8'	Spring/Fall
Tn	2	Tree	Blackgum	Nyssa sylvatica	7-8'	Spring/Fall
Tp	2	Tree	White Pine	Pinus strobus	7-8'	Spring/Fall
S-Ab	1	Shrub	Autumn Blaze Maple	Acer rubrum 'Autumn Blaze'	7-8'	Spring/Fall
S-Ac	1	Shrub	Chokeberry	Aronia arbutifolia	7-8'	Spring/Fall
S-Ag	1	Shrub	Gro-Low Fragrant Sumac	Rhus aromatica 'Gro-Low'	7-8'	Spring/Fall
S-Ah	1	Shrub	Witch Hazel	Hamamelis virginiana	7-8'	Spring/Fall
S-Ai	1	Shrub	Inkberry	Ilex glabra	7-8'	Spring/Fall
S-Am	1	Shrub	Mountain Laurel	Kalmia latifolia	7-8'	Spring/Fall
S-Ar	1	Shrub	Arrowwood Viburnum	Viburnum dentatum	7-8'	Spring/Fall
S-Cc	1	Shrub	Coral Berry	Symphoricarpos orbiculatus	7-8'	Spring/Fall
S-Cr	1	Shrub	Red Osier Dogwood	Cornus sericea	7-8'	Spring/Fall
S-Cs	1	Shrub	Gray Dogwood	Cornus racemosa	7-8'	Spring/Fall
S-Ct	1	Shrub	Black Chokeberry	Aronia melanocarpa	7-8'	Spring/Fall
S-Dv	1	Shrub	Arrowwood	Viburnum dentatum	7-8'	Spring/Fall
S-Fg	1	Shrub	Fragrant Sumac	Rhus aromatica	7-8'	Spring/Fall
S-Hq	1	Shrub	Oakleaf Hydrangea	Hydrangea quercifolia	7-8'	Spring/Fall
S-Hv	1	Shrub	Winterberry	Ilex verticillata	7-8'	Spring/Fall
S-Ka	1	Shrub	Mountain Laurel	Kalmia latifolia	7-8'	Spring/Fall
S-Ms	1	Shrub	Virginia Sweetspire	Itea virginica	7-8'	Spring/Fall
S-Pm	1	Shrub	Pinxterbloom Azalea	Rhododendron periclymenoides	7-8'	Spring/Fall
S-Rg	1	Shrub	Rose Glow Barberry	Berberis thunbergii	7-8'	Spring/Fall
S-Sa	1	Shrub	Sweet Pepperbush	Clethra alnifolia	7-8'	Spring/Fall
S-Sv	1	Shrub	Blackhaw Viburnum	Viburnum prunifolium	7-8'	Spring/Fall
S-Vd	1	Shrub	Doublefile Viburnum	Viburnum plicatum f. tomentosum	7-8'	Spring/Fall
S-Vt	1	Shrub	Witch Hazel	Hamamelis vernalis	7-8'	Spring/Fall
S-Ww	1	Shrub	Winterberry	Ilex verticillata	7-8'	Spring/Fall
Ec	33	Fern	Christmas Fern	Polystichum acrostichoides	1 Gallon	Spring/Fall
Ep	15	Fern	Lavyn Sonic Plumbush Fern	Loxogramme grayana	1 Gallon	Spring/Fall
Ab	22	Herbaceous	Blue Wood Aster	Symphyotrichum cordifolium	1 Gallon	Spring/Fall
Ad	22	Herbaceous	White Wood Aster	Aster divaricatus	1 Gallon	Spring/Fall
Ag	22	Herbaceous	Wild Geranium	Geranium maculatum	1 Gallon	Spring/Fall
Ah	22	Herbaceous	Creeping Phlox	Phlox stolifera	1 Gallon	Spring/Fall
Ao	22	Herbaceous	Frost Aster	Symphyotrichum pilosum	1 Gallon	Spring/Fall
Ar	22	Herbaceous	Foam Flower	Tiarella cordifolia	1 Gallon	Spring/Fall
As	22	Herbaceous	Blue Wood Aster	Symphyotrichum cordifolium	1 Gallon	Spring/Fall
Bd	22	Herbaceous	Bowman's Root	Gillenia trifoliata	1 Gallon	Spring/Fall
Bs	22	Herbaceous	Broad-leaved Goldenrod	Solidago caesia	1 Gallon	Spring/Fall
Cv	22	Herbaceous	Creeping Mahonia	Mahonia repens	1 Gallon	Spring/Fall
Ds	22	Herbaceous	Tick Trefoil	Desmodium canadense	1 Gallon	Spring/Fall
Ec	5	Vine	Climbing Hydrangea	Decumaria barbara	1 Gallon	Spring/Fall
Ec	5	Vine	Trumpet Honeysuckle	Lonicera sempervirens	1 Gallon	Spring/Fall
Eco Lawn	1	Grass	Eco Lawn	Eco Lawn	Seed	
Pr	2	Vine	Purple Rose	Rosa rugosa	1 Gallon	Spring/Fall
Ppr	2	Vine	Purple Passion Vine	Passiflora incarnata	1 Gallon	Spring/Fall
Wf	2	Vine	Wisteria	Wisteria floribunda	1 Gallon	Spring/Fall
Ww	2	Vine	Wisteria	Wisteria sinensis	1 Gallon	Spring/Fall
Ec	2	Grass	Eco Lawn	Eco Lawn	Seed	
Pp	2	Vine	Porcelain Berry	Ampelopsis brevipedunculata	1 Gallon	Spring/Fall
Pr	2	Vine	Purple Rose	Rosa rugosa	1 Gallon	Spring/Fall
Ppr	2	Vine	Purple Passion Vine	Passiflora incarnata	1 Gallon	Spring/Fall
Wf	2	Vine	Wisteria	Wisteria floribunda	1 Gallon	Spring/Fall
Ww	2	Vine	Wisteria	Wisteria sinensis	1 Gallon	Spring/Fall
Ec	2	Grass	Eco Lawn	Eco Lawn	Seed	
Pp	2	Vine	Porcelain Berry	Ampelopsis brevipedunculata	1 Gallon	Spring/Fall
Pr	2	Vine	Purple Rose	Rosa rugosa	1 Gallon	Spring/Fall
Ppr	2	Vine	Purple Passion Vine	Passiflora incarnata	1 Gallon	Spring/Fall
Wf	2	Vine	Wisteria	Wisteria floribunda	1 Gallon	Spring/Fall
Ww	2	Vine	Wisteria	Wisteria sinensis	1 Gallon	Spring/Fall

Planting and Landscape Notes

1. Contractors shall enter and exit site through pre-approved routes only.
2. No non-native plant species shall be introduced onto the site, All species shall be indigenous to the northeast region of North America.
3. If a straight specie is specified, no cultivars will be accepted without prior approval of designer.
4. No plants will be accepted that display mechanical injury, disease or specie irregularities.
5. Soil shall be prepped by removing all construction debris, loose roots and stones larger than 3".
6. All plants must be labeled when delivered to site.
7. Areas to be planted shall be marked and labeled by designer.
8. All plant locations and orientations in the field require approval from designer and owner prior to installation.
9. Test tree-pit for drainage before planting. Do not plant tree in pit if water is still evident after one hour. Contact site engineer or landscape designer if this condition is encountered.
10. All tree-planting to be coordinated with as-built utilities. Trees to be located minimum of 5' from active lines.
11. All trees shall be ball and burlap unless otherwise specified on Plant List.
12. Each new tree hole tree shall be twice the width of the rootball.
13. Burlap, wire, cords, ties and any wrapping materials must be removed from all rootballs before backfilling.
14. Plant all plants so top of rootball is slightly above surrounding soil(small and large plants)
15. No planting shall be done in muddy, rainy or frozen conditions.
16. All plants calling for 'Overflowing" in the notes shall not be accepted by designer if plants are thin.
17. If planting is delayed for more than 3 hours after delivery, set plants in shade. Protect from weather and mechanical damage. Keep roots moist and cover with mulch.
18. Contractors shall leave site neat and orderly during course of project, and store materials and equipment in owner-approved locations away from all trees and plants. Store all unplanted plant material away from damaging sun.
19. If site conditions conflict with intended design, contractor shall alert Owner and designer.
20. No substitutions are to be made without the written or verbal consent of landscape designer and owner.
21. Create a size-specific water-well around each plant, 3' from center of tree, and mulch from the outside. Do not mulch crown.
22. Water thoroughly after planting each plant. Water schedule to be determined.
23. Spray for deer if planted in fall. Sometimes bucks mark their territory with their antlers.
24. Keep planting areas weed-free until plant is established.
25. Eco Lawn seeding shall be implemented by contractor familiar with this specie mix and with the process and approved by designer. This is not the same as casting contractor grass seed.
26. Pervious/Permeable Pavers and associated grass seeding shall be installed by contractor with experience in this process. This process requires establishment maintenance, in order to succeed.
27. Bermed areas shall be built with designer directing construction.
28. Street tree and surrounding tree-pit shall be installed by contractor experienced with these materials and approved by designer.
29. All plants require regular watering for the first two seasons to succeed.

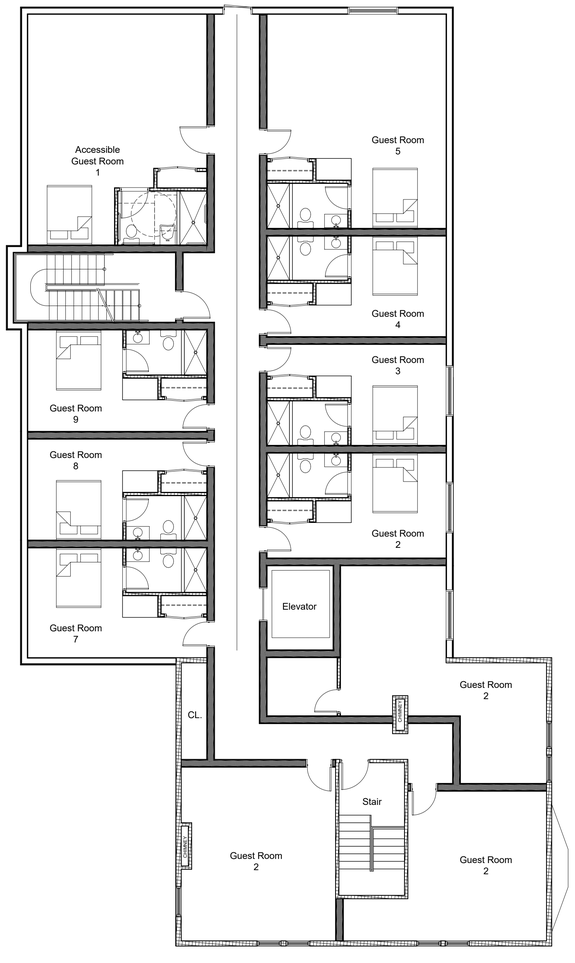
Illustrated Plant List




AREA= 2.28 ACRES +/-
STONE WALL
STONE WALL
EXISTING CEMETERY
TOMB
PROPOSED PEDESTRIAN PATH FROM BRINKMAN ASPHALT THROUGH EXISTING CEMETERY, LOCATION TO BE CONFIRM IN THE FIELD TO AVOID HEADSTONES AND MONUMENTS.
PROPOSED 6' WOOD PRIVACY FENCE ON TOP OF STONE WALL & WOOD TRELLIS BOTH SIDES, ACCESS EXISTING BASEMENT DOOR THROUGH OPENING IN WALL BELOW DECK LEVEL
PROPOSED 6' WOOD PRIVACY FENCE ON TOP OF STONE WALL & WOOD TRELLIS BOTH SIDES, ACCESS EXISTING BASEMENT DOOR THROUGH OPENING IN WALL BELOW DECK LEVEL
PROPOSED 6' STOCKADE FENCE AND GATE TRASH ENCLOSURE
TRASH
PROPOSED DECK
EXISTING 1 STORY BRICK EVENT BUILDING
PARKING
PROPOSED NEW 2 1/2 STORY HOTEL (30 ROOMS)
PARKING SPACES
PROPOSED 2 STORY ADDITION
EXISTING 2 STORY RECTORY
EXISTING PORCH
3 STORY BRICK
NEW PROPOSED WALKWAY
EXISTING DRIVEWAY
EXISTING CONCRETE WALKWAY
PATH
RETAINING WALL
RETAINING WALL
WATER VALVE (TYP.)
EXISTING TREE
EXISTING CURB CUT
EXISTING CURB CUT
NEW CURB RAMP (TYP.)
CATCH BASIN RIM=146.7'
CONCRETE SIDEWALK
SEWER MANHOLE RIM=146.2'
SEWER MANHOLE RIM=145.7'
EXISTING RETAINING WALL
EXISTING RETAINING WALL
L1
L1A
L2
L3
L4
L5
L6
L7
L8
L9
L10
L11
L12
L13
L14
L15
L16
L17
L18
L19
L20
L21
L22
L23
L24
L25
L26
L27
L28
L29
L30
L31
L32
L33
L34
L35
L36
L37
L38
L39
L40
L41

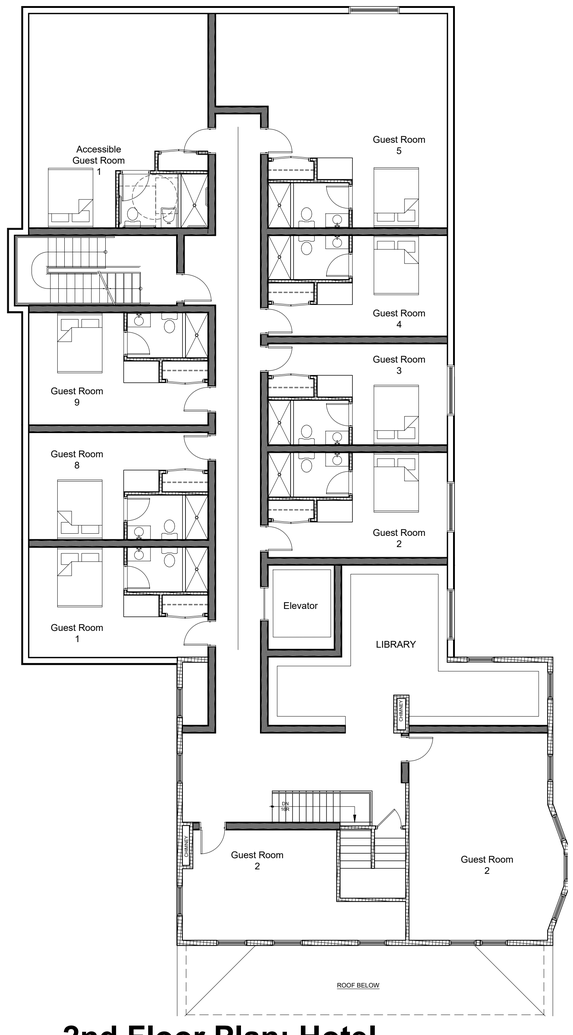
Elevation: Side Facing Church

Scale: $\frac{3}{32}$" = 1'-0"



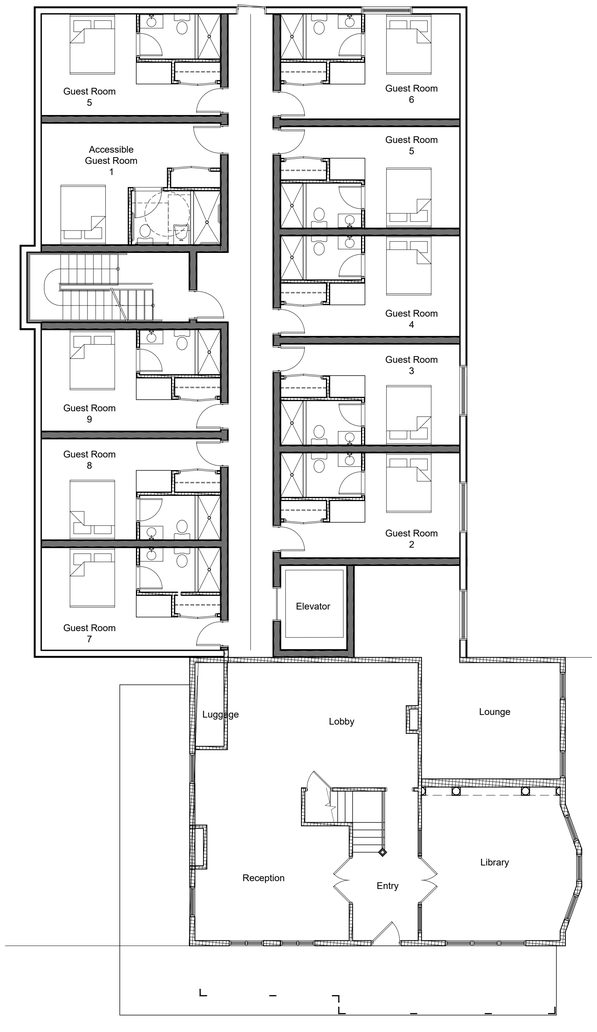
Elevation: Rear

Scale: $\frac{3}{32}$" = 1'-0"



Elevation: Side

Scale: $\frac{3}{32}$" = 1'-0"



Elevation: Front - Facing Wolcott

Scale: $\frac{3}{32}$" = 1'-0"



View



View



View

3rd Floor Plan: Hotel

Scale: $\frac{1}{8}$" = 1'-0"

2nd Floor Plan: Hotel

Scale: $\frac{1}{8}$" = 1'-0"

1st Floor Plan: Hotel

Scale: $\frac{1}{8}$" = 1'-0"

Special Use Permit Application

Sheet 5 of 12 - Hotel Plans & Elevations

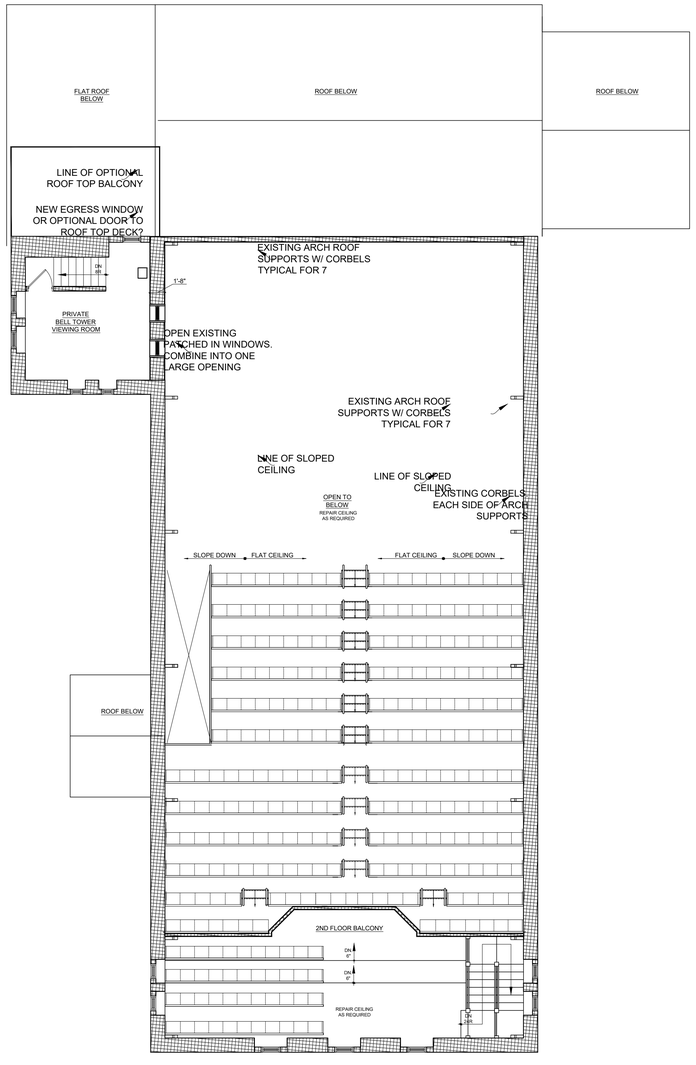
Contract Vendee:
Prophecy Theater Group, LLC
1113 Wolcott Avenue
Beacon, NY 12508

Architect:
Aryeh Siegel, Architect
84 Mason Circle
Beacon, New York 12508

Site / Civil Engineer:
Hudson Land Design
174 Main Street
Beacon, New York 12508

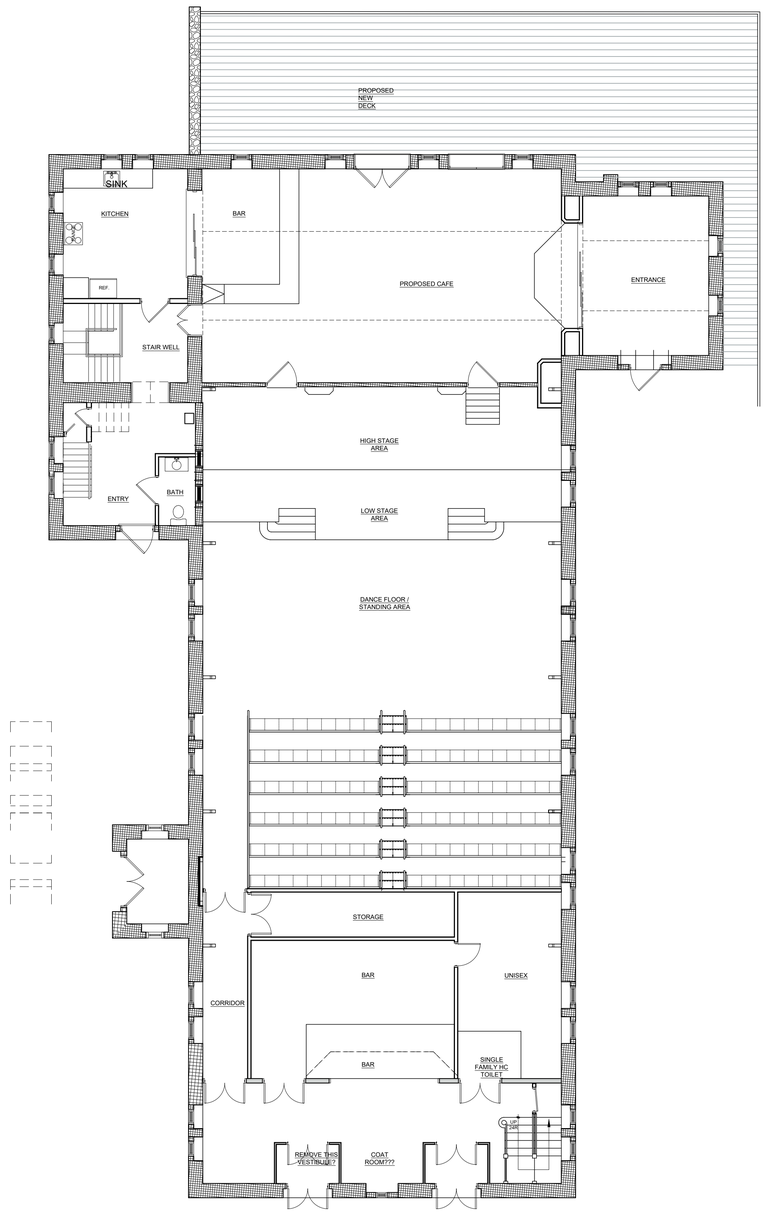
Surveyor:
Robert Oswald
175 WALSH ROAD PO BOX 1
LAGRANGEVILLE, NEW YORK 12540

1113 Wolcott Avenue
Beacon, New York
Scale: AS NOTED
April 29, 2021



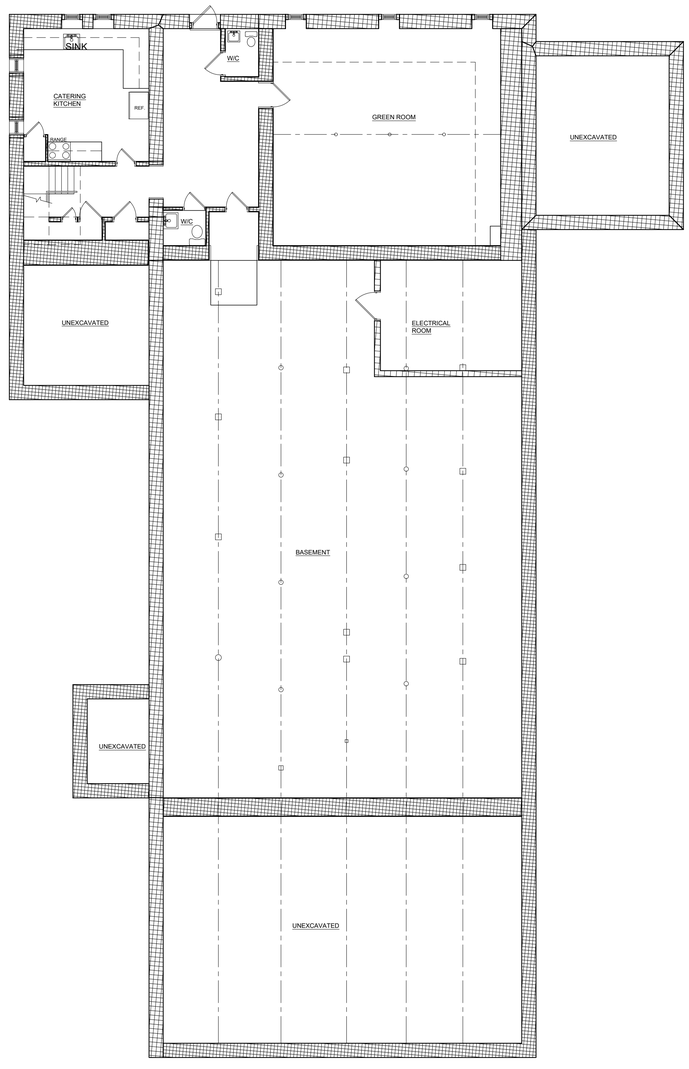
2nd Floor Plan: Event Space

Scale: $\frac{1}{8}$" = 1'-0"



1st Floor Plan: Event Space

Scale: $\frac{1}{8}$" = 1'-0"



Basement Plan: Event Space

Scale: $\frac{1}{8}$" = 1'-0"

Special Use Permit Application

Sheet 6 of 12 - Conference Center Plans

Contract Vendee:
Prophecy Theater Group, LLC
1113 Wolcott Avenue
Beacon, NY 12508

Architect:
Aryeh Siegel, Architect
84 Mason Circle
Beacon, New York 12508

Site / Civil Engineer:
Hudson Land Design
174 Main Street
Beacon, New York 12508

Surveyor:
Robert Oswald
175 WALSH ROAD PO BOX 1
LAGRANGEVILLE, NEW YORK 12540

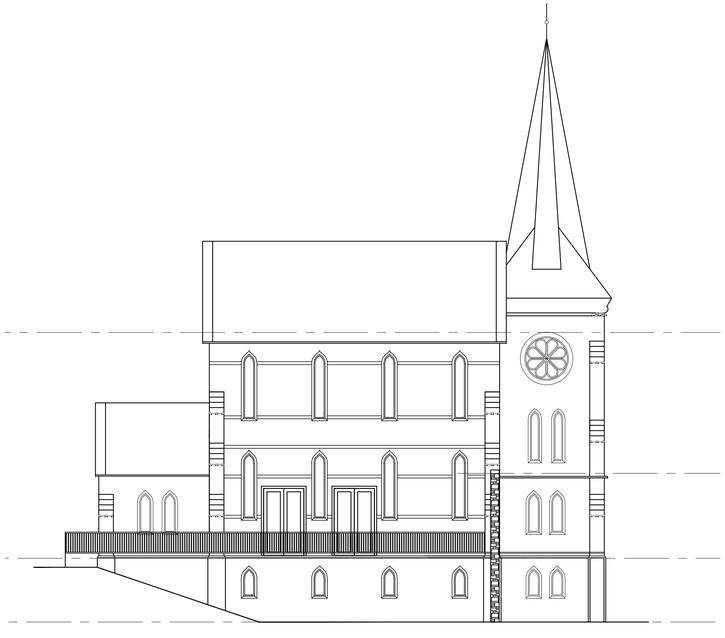
1113 Wolcott Avenue
Beacon, New York
Scale: $\frac{1}{8}$" = 1'-0"
April 29, 2021

REVISIONS:			
NO.	DATE	DESCRIPTION	BY
1	08/31/21	REVISED PER PLANNING BOARD COMMENTS	AJS
2	09/28/21	REVISED PER PLANNING BOARD COMMENTS	AJS
3	11/30/21	REVISED PER PLANNING BOARD COMMENTS	AJS



Elevation: Event Space - Side

Scale: $\frac{3}{32}$" = 1'-0"



Elevation: Event Space - Rear

Scale: $\frac{3}{32}$" = 1'-0"



Elevation: Event Space - Front

Scale: $\frac{3}{32}$" = 1'-0"



Elevation: Event Space - Side

Scale: $\frac{3}{32}$" = 1'-0"

Special Use Permit Application

Sheet 7 of 12 - Conference Center Elevations

Contract Vendee:
Prophecy Theater Group, LLC
1113 Wolcott Avenue
Beacon, NY 12508

Architect:
Aryeh Siegel, Architect
84 Mason Circle
Beacon, New York 12508

Site / Civil Engineer:
Hudson Land Design
174 Main Street
Beacon, New York 12508

Surveyor:
Robert Oswald
175 WALSH ROAD PO BOX 1
LAGRANGEVILLE, NEW YORK 12540

1113 Wolcott Avenue
Beacon, New York
Scale: $\frac{3}{32}$" = 1'-0"
April 29, 2021



LEGEND:

- EXISTING PROPERTY LINE
- ADJOINING PROPERTY LINE
- EXISTING EASEMENT LINE
- EXISTING STREAM
- EXISTING WETLAND BOUNDARY
- 100' WETLAND BUFFER
- EXISTING MAJOR CONTOUR (250)
- EXISTING MINOR CONTOUR (252)
- EXISTING TREE LINE
- EXISTING OVER HEAD WIRE (OHW)
- EXISTING UTILITY POLE
- EXISTING SEWER SERVICE LINE (SS)
- EXISTING SEWER LINE (S)
- EXISTING SEWER MANHOLE
- EXISTING SEWER CLEAN OUT (CO)
- EXISTING WATER LINE (W)
- EXISTING WATER SERVICE LINE (WS)
- EXISTING WELL
- EXISTING HYDRANT
- EXISTING WATER SHUT OFF VALVE
- EXISTING WATER VALVE (WV)
- EXISTING STORM WATER LINE
- EXISTING ROOF LEADER (RL)
- EXISTING CATCH BASIN
- PROPOSED PROPERTY LINE
- PROPOSED SET BACK LINE
- PROPOSED MAJOR CONTOUR (250)
- PROPOSED MINOR CONTOUR (252)
- PROPOSED EASEMENT
- PROPOSED TREE LINE
- PROPOSED SEWER LINE (S)
- PROPOSED SEWER SERVICE LINE (SS)
- PROPOSED SEWER MANHOLE
- PROPOSED SEWER CLEAN OUT (CO)
- PROPOSED SDS LATERAL
- PROPOSED SDS SOLID LINE
- PROPOSED STORM WATER LINE (ST)
- PROPOSED ROOF LEADER LINE (RL)
- PROPOSED ROOF LEADER (RL)
- PROPOSED WATER LINE (W)
- PROPOSED WATER SERVICE LINE (WS)
- PROPOSED WELL
- PROPOSED HYDRANT
- PROPOSED WATER SHUT OFF VALVE (WV)
- PROPOSED WATER VALVE

INSPECTION SCHEDULE & LONG TERM MAINTENANCE OF STORMWATER STRUCTURES

CATCH BASINS AND PIPING:

ALL CATCH BASINS SHALL BE INSPECTED AFTER EACH STORM EVENT FOR SEDIMENT ACCUMULATION, AND DEBRIS, AND REMOVE AS NECESSARY. WHEN SEDIMENT ACCUMULATION WITHIN THE CATCH BASIN SUMP REACHES 1/2 OF THE SUMP DEPTH, IT SHALL BE REMOVED. ASSOCIATED PIPING SHALL BE INSPECTED ANNUALLY AND ACCUMULATED SEDIMENT SHALL BE REMOVED AS NEEDED.

RIP RAP OUTLET PROTECTION:

RIP RAP OUTLET PROTECTION SHALL BE INSPECTED AFTER EACH STORM AND CLEARED OF ANY SEDIMENT AND/OR DEBRIS. IF THE RIP RAP STONE BECOMES SILTED WITH SEDIMENT, IT MAY REQUIRE REMOVAL OF THE RIP RAP STONE SO THAT THE SEDIMENT CAN BE REMOVED PROPERLY. REPLACE RIP RAP STONE AS REQUIRED.

UNDERGROUND INFILTRATION/DETENTION/INFILTRATION:

BEST MANAGEMENT PRACTICE FOR MAINTAINING OPTIMUM PERFORMANCE OF THE UNDERGROUND INFILTRATION SYSTEM IS A COMBINATION OF THE FOLLOWING:

1. PROPER MAINTENANCE OF THE INLET ROW,
2. REMOVAL OF ACCUMULATED SEDIMENT FROM THE UPSTREAM CATCH BASIN AND STORMWATER COLLECTION SYSTEM, AND
3. MAINTAINING THE SITE IMPERVIOUS AND LAWN AREAS IN A STABLE CONDITION. ANY FUTURE LAND DISTURBANCE ASSOCIATED WITH MAINTENANCE OF THE BUILDINGS AND GROUNDS SHALL CAREFULLY PREPARE AN EROSION AND SEDIMENT CONTROL PLAN TO LIMIT TRANSPORT OF SEDIMENT LADEN RUNOFF TO THE COLLECTION SYSTEM.

THE CULTEC SYSTEM SHALL BE EQUIPPED WITH AN INSPECTION PORT LOCATED ON THE INLET ROW. THE INSPECTION PORT IS A CIRCULAR CAST BOX PLACED IN A RECTANGULAR CONCRETE COLLAR. WHEN THE LID IS REMOVED, A 6–INCH PIPE WITH A SCREW–IN PLUG WILL BE EXPOSED. REMOVE THE PLUG. THIS WILL PROVIDE ACCESS TO THE CULTEC CHAMBER ROW BELOW. FROM THE SURFACE, THROUGH THIS ACCESS, THE SEDIMENT MAY BE MEASURED AT THIS LOCATION. A STADIA ROD MAY BE USED TO MEASURE THE DEPTH OF SEDIMENT IF ANY IN THIS ROW. ADDITIONALLY, CCTV INSPECTION OF THIS ROW CAN BE DEPLOYED THROUGH THIS ACCESS PORT TO DETERMINE IF ANY SEDIMENT HAS ACCUMULATED. IF THE DEPTH OF SEDIMENT IS IN EXCESS OF 3 INCHES, THEN THIS ROW SHOULD BE CLEANED WITH HIGH PRESSURE WATER THROUGH A CULVERT CLEANING NOZZLE. THIS WOULD BE CARRIED OUT THROUGH THE UPSTREAM STRUCTURES. THE INLET ROW IS PLACED ON A POLYETHYLENE LINER TO PREVENT SCOURING OF THE WASHED STONE BENEATH THIS ROW. THIS FACILITATES THE FLUSHING OF THIS ROW WITH HIGH PRESSURE WATER THROUGH A CULVERT CLEANING NOZZLE. THE NOZZLE IS DEPLOYED THROUGH THE UPSTREAM STRUCTURE AND EXTENDED TO THE END OF THE ROW. THE WATER IS TURNED ON AND THE INLET ROW IS BACK–FLUSHED INTO THE STRUCTURE WHERE IT IS REMOVED BY USING A VACUUM TRUCK.

MAINTENANCE GUIDELINES:

1. THE OWNER SHALL KEEP A MAINTENANCE LOG WHICH SHALL INCLUDE DETAILS OF ANY EVENTS WHICH WOULD HAVE AN EFFECT ON THE SYSTEM'S OPERATIONAL CAPACITY.
2. THE OPERATION AND MAINTENANCE PROCEDURE SHALL BE REVIEWED PERIODICALLY AND CHANGED TO MEET SITE CONDITIONS.
3. MAINTENANCE OF THE STORMWATER MANAGEMENT SYSTEM SHALL BE PERFORMED BY QUALIFIED WORKERS AND SHALL FOLLOW APPLICABLE OCCUPATIONAL HEALTH AND SAFETY REQUIREMENTS.
4. DEBRIS REMOVED FROM THE STORMWATER MANAGEMENT SYSTEM SHALL BE DISPOSED OF IN ACCORDANCE WITH APPLICABLE LAWS AND REGULATIONS.

SUGGESTED MAINTENANCE SCHEDULE (TO BE RE–ASSESSED BY THE OPERATOR PERIODICALLY BASED ON SITE CONDITIONS AND EVALUATION OF SYSTEM FUNCTIONALITY):

1. YEAR 1: INSPECT INLETS AND OUTLETS MONTHLY FOR ANY CLOGGING, AND REMOVE DEBRIS AS MAY BE NECESSARY. INSPECT THE SURFACE AROUND THE CHAMBERS FOR ANY DEPRESSIONS.
2. YEAR 2 AND AFTER: INSPECT INLETS AND OUTLETS EVERY SPRING AND FALL FOR ANY CLOGGING, AND REMOVE DEBRIS AS MAY BE NECESSARY. INSPECT THE SURFACE AROUND THE CHAMBERS FOR ANY DEPRESSIONS.
3. 2 YEARS AFTER COMMISSIONING: INSPECT THE INTERIOR OF THE STORMWATER MANAGEMENT CHAMBERS THROUGH INSPECTION PORT FOR DEFICIENCIES USING CCTV OR COMPARABLE TECHNIQUE.
4. 9 YEARS AFTER COMMISSIONING, AND EVERY 9 YEARS THEREAFTER (OR AS MAY BE NEEDED): CLEAN STORMWATER MANAGEMENT CHAMBERS AND FEED CONNECTORS OF ANY DEBRIS. INSPECT THE INTERIOR OF THE STORMWATER MANAGEMENT CHAMBERS THROUGH INSPECTION PORT FOR DEFICIENCIES USING CCTV OR COMPARABLE TECHNIQUE.
5. 45 YEARS AFTER COMMISSIONING: A PROFESSIONAL ENGINEER SHALL ASSESS THE REMAINING LIFE EXPECTANCY OF THE STORMWATER MANAGEMENT CHAMBERS AND RECOMMEND ACTIONS TO REHABILITATE, RESTORE OR REPLACE THE STORMWATER MANAGEMENT CHAMBERS AS MAY BE REQUIRED.
6. ANNUALLY: CONFIRM THAT NO UNAUTHORIZED MODIFICATIONS HAVE BEEN PERFORMED TO THE SITE THAT MAY IMPACT THE ADEQUATE FUNCTIONING OF THE SYSTEM.
7. PERIODICALLY: MONITOR WATER LEVELS IN THE CHAMBER SYSTEM FOLLOWING SIGNIFICANT STORM EVENTS. DEWATERING OF THE SYSTEM SHOULD TAKE NO LONGER THAN 24 HOURS.

THE FACILITY OWNER SHALL PROVIDE FOR THE PERIODIC INSPECTION OF THE STORMWATER FACILITIES IN ACCORDANCE WITH THE SWPPP, AND SHALL HAVE THE FACILITIES INSPECTED ON A YEARLY BASIS BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW YORK, TO DETERMINE THE CONDITION AND INTEGRITY OF THE STORMWATER CONTROL MEASURES. THE INSPECTING PROFESSIONAL SHALL PREPARE AND SUBMIT TO THE CITY OF BEACON WITHIN 30 DAYS OF THE INSPECTION BUT NOT LATER THAN JUNE 1 OF EACH YEAR, A WRITTEN REPORT OF THE FINDINGS INCLUDING RECOMMENDATIONS FOR THOSE ACTIONS NECESSARY FOR THE CONTINUATION OF THE STORMWATER CONTROL MEASURES. SEE "APPENDIX O" OF THE STORMWATER POLLUTION PREVENTION PLAN FOR DETAILED OPERATIONS AND MAINTENANCE PROCEDURES.

SITE SPECIFIC NOTES:

1. THE CONTRACTOR SHALL PERFORM A UTILITIES CALL–OUT PRIOR TO CONSTRUCTION TO VERIFY ALL UNDERGROUND UTILITY LOCATIONS BY CONTACTING UFPO @ 1–800–962–7962. SPECIFIC ATTENTION SHALL BE PAID TO THE LOCATIONS OF THE GAS, WATER AND SEWER MAINS WITH RESPECT TO THE PROPOSED LOCATIONS FOR THE SERVICE LINES.
2. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS AND INVERTS OF ALL DRAINAGE, SANITARY SEWER, WATER AND GAS LINES AND STRUCTURES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOT ASSUME THAT ALL LOCATIONS AS SHOWN ON THE PLAN ARE CORRECT.
3. THE PROPOSED LOT SHALL BE SERVED BY THE CITY OF BEACON MUNICIPAL WATER AND SEWER SERVICES. AS SUCH, THE CONTRACTOR SHALL CONTACT THE CITY OF BEACON WATER AND SEWER DEPARTMENTS TO SCHEDULE A PRE–CONSTRUCTION MEETING TO ENSURE THAT THE ARRANGEMENTS FOR WATER SUPPLY AND SEWAGE DISPOSAL ARE COMMENCED IN ACCORDANCE WITH THE APPROVED PLANS AND AMENDMENTS THERETO AND GENERALLY ACCEPTED STANDARDS.
4. THE WATER SERVICE LINE AND METER SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF BEACON WATER DEPARTMENT REQUIREMENTS.
5. THE NEW WATER SERVICE LINE SHALL BE CLASS 52 DIP, SIZE TO BE DETERMINED.
6. THE SEWER SERVICE LATERAL SHALL BE 6"ø SDR–35 PVC PIPE WITH PITCH AS SHOWN ON THE PLAN.
7. STREET CLOSURE FOR WATER, SEWER AND GAS SERVICE CONNECTIONS AND DRIVEWAY CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH CITY OF BEACON AND NYSDOT REQUIREMENTS. A PLAN SHALL BE IN PLACE FOR MAINTENANCE AND PROTECTION OF TRAFFIC.
8. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO CONSTRUCTION. WOLLCOTT AVENUE SHALL BE KEPT CLEAN AND SWEPT DURING CONSTRUCTION.
9. SUMP PUMPS TO BE PROVIDED FOR FOOTING DRAINS, AS REQUIRED. THE TYPES OF PUMPS AND METHODS USED TO ENSURE PROPER DRAINAGE SHALL BE ACCEPTABLE TO THE CITY OF BEACON BUILDING DEPARTMENT.
10. THE BUILDING DEPARTMENT SHALL HAVE THE RIGHT TO INSPECT THE EXISTING BUILDING TO CONFIRM THAT THERE ARE NOT EXISTING STORMWATER CONNECTIONS TO THE CITY'S SANITARY SEWER SYSTEM PRIOR TO THE MAP BEING SIGNED.
11. WATER AND SEWER FOR THE RECTORY WILL BE ABANDONED IN ACCORDANCE WITH CITY REQUIREMENTS.
12. IN ORDER TO PROTECT THE FEDERALLY–LISTED ENDANGERED INDIANA BAT (MYOTIS SODALIS) AND THE FEDERALLY–LISTED THREATENED NORTHERN LONG–EARED BAT (MYOTIS SEPTENTRIONALIS), THE CLEARING OF POTENTIAL ROOSTING TREES SHALL OCCUR ONLY BETWEEN NOVEMBER 1 AND MARCH 31. ORANGE CONSTRUCTION FENCING SHALL BE USED TO SEPARATE AREAS TO BE GRADED FROM AREAS NOT TO BE DISTURBED. NO ARTIFICIAL DYES, COLORING, INSECTICIDE, OR ALGAECIDE SUCH AS COPPER SULFATE SHALL BE USED IN STORMWATER CONTROL STRUCTURES.

ROCK REMOVAL NOTES:

1. ROCK REMOVAL (IF NECESSARY) SHALL BE ACCOMPLISHED BY MECHANICAL METHODS AS MUCH AS POSSIBLE AND SHALL ONLY BE PERMITTED BETWEEN 8:00AM AND 5:00 PM ON ANY DAY WHICH ROCK REMOVAL IS PERMITTED.
2. ACCEPTABLE ROCK REMOVAL METHODS ARE RIPPING, HYDRAULIC HAMMER OR DRILLING HOLES WITH USE OF EXPANSIVE TOOLS AND/OR WEDGES.
3. IF MECHANICAL METHODS BECOME INEFFECTIVE DUE TO HARD ROCK, AND IT IS DETERMINED THAT BLASTING IS REQUIRED, IT SHALL BE BROUGHT TO THE ATTENTION OF THE CITY OF BEACON BUILDING DEPARTMENT. NO BLASTING SHALL COMMENCE UNTIL A BLASTING PROTOCOL IS SUBMITTED TO THE CITY OF BEACON BUILDING DEPARTMENT FOR REVIEW AND APPROVAL.
4. BLASTING PROTOCOL SHALL BE IN ACCORDANCE WITH §111 OF THE CITY OF BEACON CODE.

SIGHT DISTANCE NOTE:

THE SIGHT DISTANCES AT THE PROPOSED DRIVEWAY LOCATION WERE ANALYZED. BASED ON FIELD MEASUREMENTS, THE EXISTING SIGHT DISTANCES ARE APPROXIMATELY 433 FEET LOOKING LEFT (NORTH) AND 544 FEET RIGHT (SOUTH) FROM THE PROPOSED ACCESS. EXISTING STOPPING SIGHT DISTANCES ARE APPROXIMATELY 336 FEET LOOKING LEFT (NORTH) AND 534 FEET RIGHT (SOUTH) FROM THE PROPOSED ACCESS. SIGHT DISTANCES ARE BASED ON AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) CRITERIA THE STOPPING SIGHT DISTANCE (200 FEET) AND INTERSECTION SIGHT DISTANCE (335 FEET) FOR THE 30 MPH POSTED SPEED LIMIT ALONG ROUTE 9D WILL BE SATISFIED. AVAILABLE NYSDOT SPEED DATA FOR ROUTE 9D IN THIS AREA INDICATES THAT THE 85TH PERCENTILE SPEEDS ARE APPROXIMATELY 37 TO 38 MPH. FOR A 40 MPH DESIGN SPEED, AASHTO REQUIRES A MINIMUM 305 FOOT STOPPING SIGHT DISTANCE, 385 FEET MINIMUM INTERSECTION SIGHT DISTANCE LEFT, 445 FEET MINIMUM INTERSECTION SIGHT DISTANCE RIGHT. AND TO ALLOW FOR THE SAFE OPERATION OF THE INTERSECTION. THIS REQUIRED STOPPING SIGHT DISTANCE WILL ALSO BE SATISFIED. IT SHOULD BE NOTED THAT SOME PRUNING/CLEARING OF VEGETATION IMMEDIATELY NORTH OF THE PROPOSED DRIVEWAY LOCATION ON THE WEST SIDE OF ROUTE 9D SHOULD BE COMPLETED IN ORDER TO MAXIMIZE THE SIGHT DISTANCE LOOKING TO THE NORTH FROM THE SITE DRIVEWAY.

SNOW REMOVAL AND STORAGE NOTES:

1. SNOW SHALL BE REMOVED WITHIN 8 HOURS AFTER A SNOW EVENT.

DRAWN BY: ESR				CHECKED BY: MAB			
REVISIONS:				REVISIONS:			
NO.	DATE	DESCRIPTION	BY	NO.	DATE	DESCRIPTION	BY
1	8/31/21	PER PLANNING BOARD COMMENTS	CMB				
2	11/30/21	PER PLANNING BOARD COMMENTS	MAB				

GRADING & UTILITY PLAN

SCALE: 1" = 30'

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

STATE OF NEW YORK · MICHAEL A. BODENDORF · 084466 · LICENSED PROFESSIONAL ENGINEER

SEAL

HUDSON LAND DESIGN

HUDSON LAND DESIGN
PROFESSIONAL ENGINEERING P.C.
174 MAIN ST., BEACON, NEW YORK 12508
13 CHAMBERS ST., NEWBURGH, NEW YORK 12550
PH: 845-440-6926
F: 845-440-6637

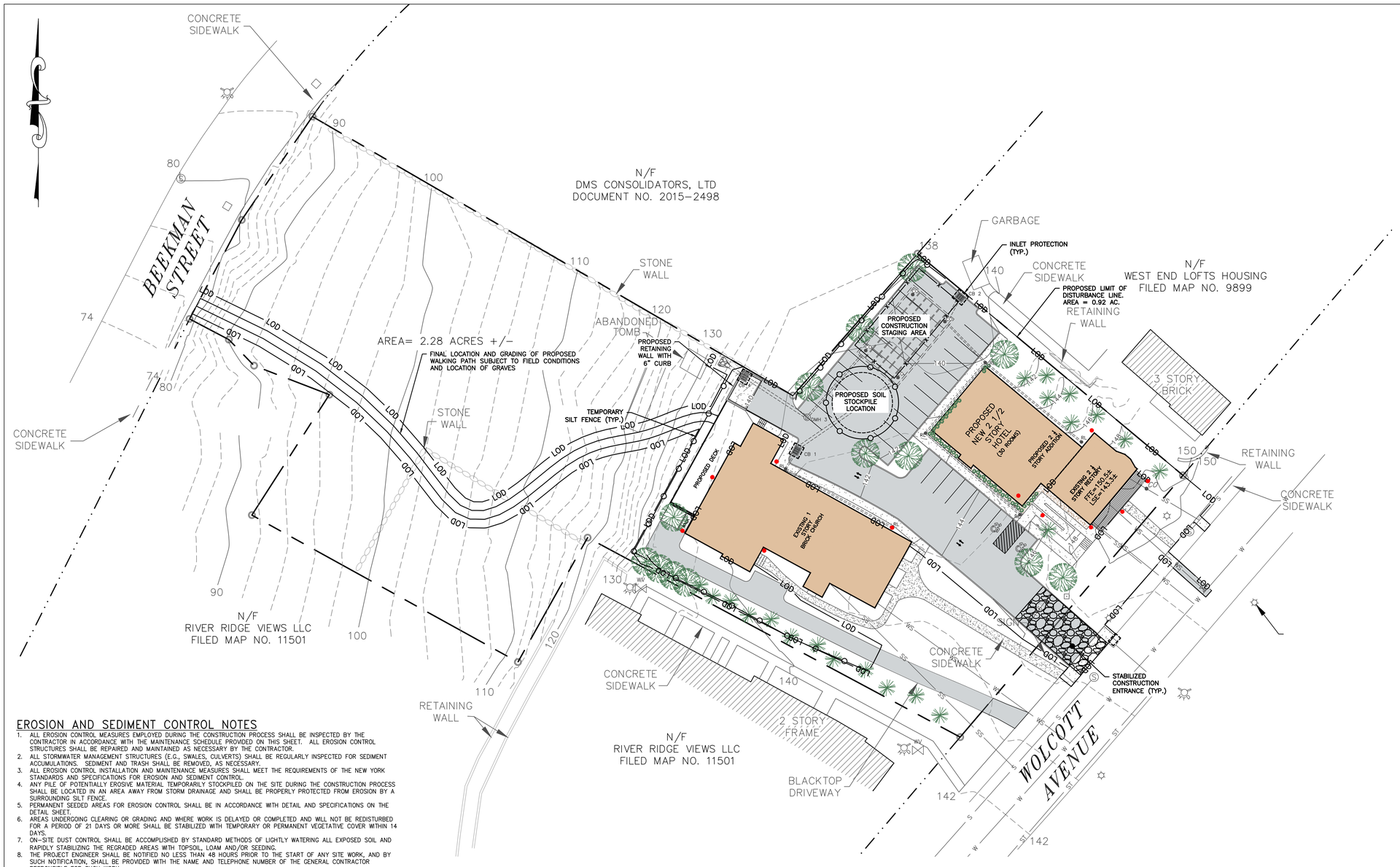
GRADING & UTILITY PLAN

1113 WOLCOTT AVENUE

1113 WOLCOTT AVENUE
CITY OF BEACON
DUTCHESS COUNTY, NEW YORK
TAX ID: 5954-26-651901

JOB #: 2021:022
DATE: 6/16/2021
SCALE: 1" = 30'
TITLE: GU-1
SHEET: 8 OF 12

UNAUTHORIZED ALTERATIONS OR ADDITIONS TO THIS DRAWING IS A VIOLATION OF SECTION 7209.2 OF THE NEW YORK EDUCATION LAW



LEGEND:

- EXISTING PROPERTY LINE
- ADJOINING PROPERTY LINE
- EXISTING EASEMENT LINE
- EXISTING STREAM
- EXISTING WETLAND BOUNDARY
- 100' WETLAND BUFFER
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING TREE LINE
- EXISTING OVER HEAD WIRE
- EXISTING UTILITY POLE
- EXISTING SEWER SERVICE LINE
- EXISTING SEWER LINE
- EXISTING SEWER MANHOLE
- EXISTING SEWER CLEAN OUT
- EXISTING WATER LINE
- EXISTING WATER SERVICE LINE
- EXISTING WELL
- EXISTING HYDRANT
- EXISTING WATER SHUT OFF VALVE
- EXISTING WATER VALVE
- EXISTING STORM WATER LINE
- EXISTING ROOF LEADER
- EXISTING CATCH BASIN
- PROPOSED PROPERTY LINE
- PROPOSED SET BACK LINE
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED EASEMENT
- PROPOSED TREE LINE
- PROPOSED SEWER LINE
- PROPOSED SEWER SERVICE LINE
- PROPOSED SEWER MANHOLE
- PROPOSED SEWER CLEAN OUT
- PROPOSED SDS LATERAL
- PROPOSED SDS SOLID LINE
- PROPOSED STORM WATER LINE
- PROPOSED ROOF LEADER LINE
- PROPOSED ROOF LEADER
- PROPOSED WATER LINE
- PROPOSED WATER SERVICE LINE
- PROPOSED WELL
- PROPOSED HYDRANT
- PROPOSED WATER SHUT OFF VALVE
- PROPOSED WATER VALVE
- PROPOSED SILT FENCE
- PROPOSED LIMIT OF DISTURBANCE
- PROPOSED CONSTRUCTION ENTRANCE

INSPECTION SCHEDULE & MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES

PERMANENT AND TEMPORARY VEGETATION:
INSPECT ALL AREAS THAT HAVE RECEIVED VEGETATION EVERY SEVEN DAYS AND AFTER EVERY STORM EVENT WITH RAINFALL THAT EQUALS OR EXCEEDS 0.5 INCH. ALL AREAS DAMAGED BY EROSION OR WHERE SEED HAS NOT ESTABLISHED SHALL BE REPAIRED AND RESTABILIZED IMMEDIATELY.

STABILIZED CONSTRUCTION ENTRANCE:
INSPECT THE ENTRANCE PAD EVERY SEVEN DAYS AND AFTER EVERY STORM EVENT WITH RAINFALL THAT EQUALS OR EXCEEDS 0.5 INCH. CHECK FOR MUD, SEDIMENT BUILD-UP AND PAD INTEGRITY. MAKE DAILY INSPECTIONS DURING WET WEATHER. REGRADE PAD AS NEEDED FOR RUNOFF CONTROL. WASH AND REPLACE STONE AS NEEDED. THE STONE IN THE ENTRANCE SHOULD BE WASHED OR REPLACED WHENEVER THE ENTRANCE FAILS TO REDUCE MUD BEING CARRIED OFF SITE BY VEHICLES. IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADS BY BRUSHING OR SWEEPING. REMOVE TEMPORARY CONSTRUCTION ENTRANCE AS SOON AS THEY ARE NO LONGER NEEDED TO PROVIDE ACCESS TO THE SITE AS DIRECTED BY PROJECT ENGINEER.

SILT FENCE:
INSPECT FOR DAMAGE EVERY SEVEN DAYS AND AFTER EVERY STORM EVENT WITH RAINFALL THAT EQUALS OR EXCEEDS 0.5 INCH. MAKE ALL REPAIRS IMMEDIATELY. REMOVE SEDIMENT FROM THE UP-SLOPE FACE OF THE FENCE BEFORE IT ACCUMULATES TO A HEIGHT EQUAL TO ONE-QUARTER THE HEIGHT OF THE FENCE. IF FENCE FABRIC TEARS, BEGINS TO DECOMPOSE, OR IN ANY WAY BECOMES INEFFECTIVE, REPLACE THE AFFECTED SECTION OF FENCE IMMEDIATELY.

SOIL STOCKPILE:
INSPECT SEDIMENT CONTROL BARRIERS (SILT FENCE) AND VEGETATION FOR DAMAGE EVERY SEVEN DAYS AND AFTER EVERY STORM EVENT WITH RAINFALL THAT EQUALS OR EXCEEDS 0.5 INCH. MAKE ALL REPAIRS IMMEDIATELY. REMOVE SEDIMENT FROM THE UP-SLOPE FACE OF THE SEDIMENT CONTROL BARRIER BEFORE IT ACCUMULATES TO A HEIGHT EQUAL TO ONE-QUARTER THE HEIGHT OF THE SEDIMENT CONTROL BARRIER. IF SEDIMENT CONTROL BARRIER TEARS, BEGINS TO DECOMPOSE, OR IN ANY WAY BECOMES INEFFECTIVE, REPLACE THE AFFECTED SECTION OF SEDIMENT CONTROL BARRIER IMMEDIATELY. REVEGETATE DISTURBED AREA TO STABILIZE SOIL STOCKPILE. REMOVE THE SEDIMENT CONTROL BARRIER WHEN THE SOIL STOCKPILE HAS BEEN REMOVED.

DUST CONTROL:
SCHEDULE CONSTRUCTION OPERATIONS TO MINIMIZE THE AMOUNT OF DISTURBED AREAS AT ANY ONE TIME DURING THE COURSE OF WORKS. APPLY TEMPORARY SOIL STABILIZATION PRACTICES SUCH AS MULCHING, SEEDING, AND SPRAYING (WATER). STRUCTURAL MEASURES (MULCH, SEEDING) SHALL BE INSTALLED IN DISTURBED AREAS BEFORE SIGNIFICANT BLOWING PROBLEMS DEVELOP. WATER SHALL BE SPRAYED AS NEEDED. REPEAT AS NEEDED, BUT AVOID EXCESSIVE SPRAYING, WHICH COULD CREATE RUNOFF AND EROSION PROBLEMS.

CHECK DAM:
(IF REQUIRED) INSPECT CHECK DAMS EVERY SEVEN DAYS AND AFTER EVERY STORM EVENT WITH RAINFALL THAT EQUALS OR EXCEEDS 0.5 INCH. IF SIGNIFICANT EROSION OCCURS BETWEEN STRUCTURES, A LINER OF STONE OR OTHER SUITABLE MATERIAL SHOULD BE INSTALLED IN THAT PORTION OF THE CHANNEL. REMOVE SEDIMENT ACCUMULATED BEHIND THE DAM AS NEEDED TO ALLOW CHANNEL TO DRAIN THROUGH THE STONE CHECK DAM AND PREVENT LARGE FLOWS FROM CARRYING SEDIMENT OVER THE DAM. REPLACE STONES AS NEEDED TO MAINTAIN THE DESIGN CROSS SECTION OF THE STRUCTURES. REMOVE CHECK DAMS AS PER APPROVAL OF THE PROJECT ENGINEER.

EROSION CONTROL BLANKET:
(IF REQUIRED) INSPECT THE BLANKET EVERY SEVEN DAYS AND AFTER EVERY STORM EVENT WITH RAINFALL THAT EQUALS OR EXCEEDS 0.5 INCH. REPLACE WIRE STAPLES AS REQUIRED. REPAIR AND RESEED WHERE CRACKS AND DAMAGED VEGETATION IS EVIDENT. WHEN DAMAGED BEYOND REPAIR OR NO LONGER FUNCTIONING, THE BLANKET SHALL BE REPLACED.

DEWATERING PITS:
(IF REQUIRED) – INSPECT DAILY DURING OPERATION FOR CLOGGING OR OVERFLOW. CLEAR INLET AND DISCHARGE PIPES OF OBSTRUCTIONS. IF A FILTER MATERIAL BECOMES CLOGGED WITH SEDIMENT, PIT SHALL BE DISMANTLED AND NEW PITS SHALL BE CONSTRUCTED AS NEEDED.

SEDIMENT TRAP:
(IF REQUIRED) SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO THE ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-HALF OF THE DESIGN DEPTH OF THE TRAP. SEDIMENT REMOVED FROM THE TRAP SHALL BE DEPOSITED IN A PROTECTED AREA IN SUCH A MANNER THAT IT WILL NOT ERODE.

CATCH BASINS:
ALL CATCH BASINS SHALL BE INSPECTED AFTER EACH STORM EVENT FOR SEDIMENT ACCUMULATION, AND DEBRIS, AND REMOVE AS NECESSARY. THE INLET PROTECTION SHALL BE INSPECTED FOR SEDIMENT ACCUMULATION AND REPLACED AS NECESSARY. WHEN SEDIMENT ACCUMULATION WITHIN THE CATCH BASIN SUMP REACHES 1/2 OF THE SUMP DEPTH, IT SHALL BE REMOVED.

EROSION AND SEDIMENT CONTROL NOTES

1. ALL EROSION CONTROL MEASURES EMPLOYED DURING THE CONSTRUCTION PROCESS SHALL BE INSPECTED BY THE CONTRACTOR IN ACCORDANCE WITH THE MAINTENANCE SCHEDULE PROVIDED ON THIS SHEET. ALL EROSION CONTROL STRUCTURES SHALL BE REPAIRED AND MAINTAINED AS NECESSARY BY THE CONTRACTOR.
2. ALL STORMWATER MANAGEMENT STRUCTURES (E.G., SWALES, CULVERTS) SHALL BE REGULARLY INSPECTED FOR SEDIMENT ACCUMULATIONS. SEDIMENT AND TRASH SHALL BE REMOVED, AS NECESSARY.
3. ALL EROSION CONTROL INSTALLATION AND MAINTENANCE MEASURES SHALL MEET THE REQUIREMENTS OF THE NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL.
4. ANY PILE OF POTENTIALLY EROSIVE MATERIAL TEMPORARILY STOCKPILED ON THE SITE DURING THE CONSTRUCTION PROCESS SHALL BE LOCATED IN AN AREA AWAY FROM STORM DRAINAGE AND SHALL BE PROPERLY PROTECTED FROM EROSION BY A SURROUNDING SILT FENCE.
5. PERMANENT SEEDED AREAS FOR EROSION CONTROL SHALL BE IN ACCORDANCE WITH DETAIL AND SPECIFICATIONS ON THE DETAIL SHEET.
6. AREAS UNDERGOING CLEARING OR GRADING AND WHERE WORK IS DELAYED OR COMPLETED AND WILL NOT BE REDISTURBED FOR A PERIOD OF 21 DAYS OR MORE SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT VEGETATIVE COVER WITHIN 14 DAYS.
7. ON-SITE DUST CONTROL SHALL BE ACCOMPLISHED BY STANDARD METHODS OF LIGHTLY WATERING ALL EXPOSED SOIL AND RAPIDLY STABILIZING THE REGRADED AREAS WITH TOPSOIL, LOAM AND/OR SEEDING.
8. THE PROJECT ENGINEER SHALL BE NOTIFIED NO LESS THAN 48 HOURS PRIOR TO THE START OF ANY SITE WORK, AND BY SUCH NOTIFICATION, SHALL BE PROVIDED WITH THE NAME AND TELEPHONE NUMBER OF THE GENERAL CONTRACTOR RESPONSIBLE FOR SUCH WORK.
9. THE CITY MAY INSPECT EROSION AND SEDIMENT CONTROL PRACTICES ON THE SITE DURING CONSTRUCTION AND RECOMMEND THAT THE CONTRACTOR INSTALL ADDITIONAL EROSION CONTROL MEASURES IF DEEMED NECESSARY TO PROTECT ANY UNDISTURBED AREAS OF THE SITE. ANY SUCH REQUESTS SHALL BE MADE DIRECTLY TO THE CONTRACTOR AND QUALIFIED PROFESSIONAL AND FOLLOWED UP WITH A WRITTEN NOTIFICATION TO THE DEVELOPER. IN ADDITION, THE CITY SHALL BE CONSULTED ON ANY SPECIAL ADDITIONS OR DELETIONS OF EROSION CONTROL MEASURES WARRANTED BY CHANGING FIELD CONDITIONS. THE NOTICE OF INTENT (NOI) MAY NEED TO BE UPDATED AS A RESULT OF THE CHANGES.
10. THE CONTRACTOR/OWNER SHALL MAINTAIN A RECORD OF ALL EROSION AND SEDIMENT CONTROL INSPECTION REPORTS AT THE SITE IN A LOG BOOK. THE SITE LOG BOOK SHALL BE MAINTAINED ON SITE AND BE MADE AVAILABLE TO THE PERMITTING AUTHORITY. THE OWNER/CONTRACTOR SHALL, ON A MONTHLY BASIS, POST AT THE SITE A SUMMARY OF THE SITE INSPECTION ACTIVITIES IN A PUBLICLY ACCESSIBLE LOCATION.
11. THE OWNER SHALL FILE A NOI WITH THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES AND A NOTICE OF TERMINATION (NOT) WITH THE NYSDEC FOLLOWING CONSTRUCTION ACTIVITIES.
12. IF GROUNDWATER IS ENCOUNTERED DURING CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL CONSTRUCT A DEWATERING PIT IN ACCORDANCE WITH NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (AKA SUMP PIT) TO FILTER WATER FOR PUMPING TO A SUITABLE LOCATION.
13. WHEN ALL DISTURBED AREAS ARE STABLE, ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED PER THE APPROVAL OF THE CITY AND QUALIFIED PROFESSIONAL.
14. UPON COMPLETION OF CONSTRUCTION, THE PARCEL OWNER(S) AND SUBSEQUENTLY THE HOMEOWNERS ASSOCIATION SHALL BE RESPONSIBLE FOR THE INSPECTION AND MAINTENANCE OF THE STORMWATER MANAGEMENT SYSTEM. THE STORMWATER MANAGEMENT SYSTEM SHALL BE INSPECTED QUARTERLY AND AFTER EACH SIGNIFICANT RAINFALL EVENT. THE OWNER(S) SHALL MAINTAIN A RECORD OF INSPECTION AND MAINTENANCE REPORTS AT THE SITE. REFER TO THE SWPPP FOR INSPECTION REQUIREMENTS AND FUTURE MAINTENANCE.

SOIL RESTORATION NOTES:

1. THE CONSTRACTOR SHALL EMPLOY SOIL RESTORATION TO ALL DISTURBED AREAS THAT WILL REMAIN LANDSCAPED.
2. FOR HEAVY TRAFFIC AREAS, FULL SOIL REASTORATION WILL BE REQUIRED. FULL SOIL RESTORATION CONSISTS OF USE OF A BULLDOZER WITH A DEEP RIPPER ATTACHED TO IT. THE RIPPING SHALL BE DONE TO A DEPTH OF 12"-24". COMPOST IS PLACED OVER THE RIPPED SOIL, THEN WORKED INTO THE SOIL WITH A DEEP SUB-SOILER.
3. FOR LIGHT TRAFFIC AREAS, SOIL RESTORATION MAY BE ACCOMPLISHED BY MEANS OF TILLING THE SOIL WITH A DISK TYPE TILLER PULLED BY A TRACTOR OR PLACEMENT OF TOPSOIL OVER THE EXISTING SOIL A.O.B.E..

DRAWN BY: ESR				CHECKED BY: MAB			
REVISIONS:				REVISIONS:			
NO.	DATE	DESCRIPTION	BY	NO.	DATE	DESCRIPTION	BY
1	8/31/21	PER PLANNING BOARD COMMENTS	CMB				
2	11/30/21	PER PLANNING BOARD COMMENTS	MAB				

EROSION & SEDIMENT CONTROL PLAN
SCALE: 1" = 30'
GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

STATE OF NEW YORK · GEORGE A. BOSSHART · 084466 · LICENSED PROFESSIONAL ENGINEER
SEAL

HUDSON LAND DESIGN
HUDSON LAND DESIGN
PROFESSIONAL ENGINEERING P.C.
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EROSION & SEDIMENT CONTROL PLAN

1113 WOLCOTT AVENUE

1113 WOLCOTT AVENUE
CITY OF BEACON
DUTCHESS COUNTY, NEW YORK
TAX ID: 5954-26-651901

JOB #:	2021:022
DATE:	6/16/2021
SCALE:	1" = 30'
TITLE:	EC-1
SHEET:	9 OF 12

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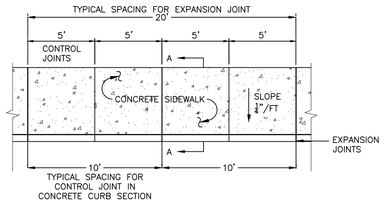
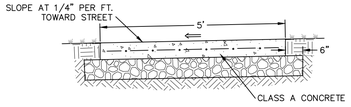
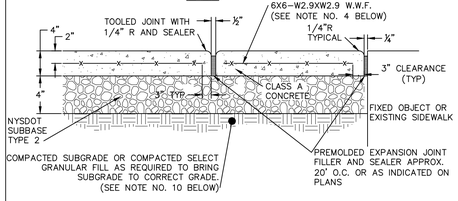
SITE DETAILS



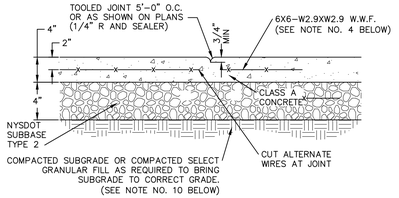
PLAN



SECTION A–A



EXPANSION JOINT

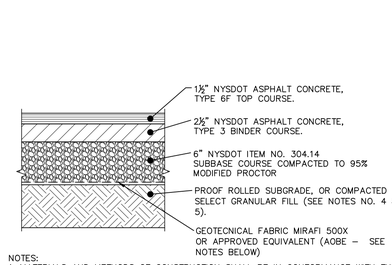


CONTROL JOINT

NOTES:

1. 10' SPACING OF CONTROL JOINTS SHALL BE USED FOR CAST IN PLACE CONCRETE CURBS.
2. MATERIAL AND METHODS OF CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION (NYSDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, DATED JANUARY 2, 2002, AND ALL ADDENDA THERETO; THE ONLY EXCEPTION BEING THAT THE WORK OF THIS CONTRACT SHALL BE MEASURED IN ENGLISH UNITS.
3. ALL CONCRETE SHALL BE 3,500 PSI CLASS A CONCRETE. CONCRETE MATERIALS, PLACEMENT, AND CONSTRUCTION SHALL CONFORM WITH SECTION 500 OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS.
4. REINFORCING STEEL FOR CONCRETE SHALL CONFORM WITH SECTION 556 – REINFORCING STEEL FOR CONCRETE STRUCTURES OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS AND AS SPECIFICALLY CALLED OUT IN THE DRAWINGS.
5. ALL EXPOSED SURFACED SHALL HAVE A BROOM TEXTURED FINISH.
6. EXPANSION JOINTS SHALL BE LOCATED A MAXIMUM OF 20' ON CENTER, OR AS INDICATED ON PLANS.
7. JOINTS SHALL NOT BE SAW CUT.
8. EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH "SUREBOND"/"SAFEBOND"SB–7000 INTENSIFIER BRIGHT PROTECTOR AND SIDEWALK SEALER, OR EQUAL. RATE AND METHOD OF APPLICATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
9. SUBBASE MATERIAL SHALL CONFORM WITH SECTION 304 OF THE ABOVE REFERENCED NYSDOT STANDARD.
10. WHERE IT IS NECESSARY TO PLACE FILL FOR PURPOSE OF BRINGING THE SUBGRADE ELEVATION UP TO A SPECIFIED GRADE, THE FILL MATERIAL PLACED SHALL BE IN CONFORMATION WITH SECTION 203–EXCAVATION AND EMBANKMENT OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS.
11. ALL WORK SHALL CONFORM WITH SECTION 608–SIDEWALK, DRIVEWAYS, AND BICYCLE PATHS OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS.

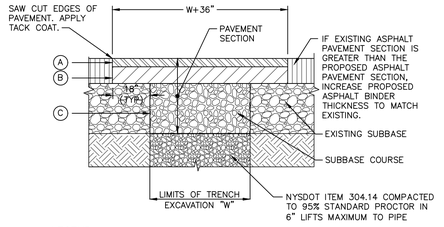
CONCRETE SIDEWALK DETAIL
NOT TO SCALE



NOTES:

1. MATERIALS AND METHODS OF CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION (NYSDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, DATED JANUARY 2, 2002.
2. SUBGRADE SHALL NOT INCLUDE FROZEN MATERIALS, DEBRIS, ORGANIC MATERIALS, LARGE STONES OR OTHER UNSUITABLE MATERIALS.
3. TACK COAT WHEN SPECIFIED OR CALLED OUT IN THESE DRAWINGS OR REQUIRED BY THE REFERENCED SPECIFICATIONS SHALL CONFORM WITH SECTION 407–TACK COAT OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS.
4. WHERE IT IS NECESSARY TO PLACE FILL FOR PURPOSES OF BRINGING THE SUBGRADE ELEVATION UP TO A SPECIFIED GRADE, THE FILL MATERIAL PLACED SHALL BE IN CONFORMANCE WITH SECTION 203–EXCAVATION AND EMBANKMENT OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS.
5. IT IS EXPECTED THAT THE EXISTING SITE SUB–SOILS ARE SAND AND GRAVEL IN NATURE (CALIFORNIA BEARING RATIO RANGE BETWEEN 40 AND 80) IF UNSUITABLE SOILS ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL CONTACT THE ENGINEER FOR POSSIBLE MODIFICATIONS TO THE PAVEMENT DETAIL.

PAVEMENT SECTION DETAIL
NOT TO SCALE



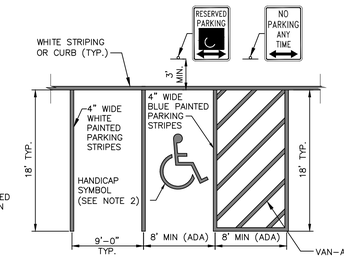
LEGEND

- (A) 1–1/2" ASPHALT CONCRETE TOP COURSE– NYSDOT TYPE 6F
- (B) 2 1/2" ASPHALT CONCRETE BINDER COURSE– NYSDOT TYPE 3
- (C) 6" GRANULAR SUBBASE COURSE– NYSDOT ITEM 304.14

NOTES:

1. SAW CUT MIN. 18" BEYOND EXCAVATION WITH SMOOTH EDGES. 18" JOINT BETWEEN EXISTING AND NEW TOP COURSE TO BE MILLED. JOINT TO BE SEALED WITH POLYMER MODIFIED SEALER.
2. FURNISH, PLACE, AND COMPACT SUBBASE.
3. TACK COAT IN ACCORDANCE WITH NYSDOT STANDARD SPEC.
4. FURNISH AND PLACE ASPHALT CONCRETE PAVEMENT AS SPECIFIED.

PAVEMENT RESTORATION DETAIL
NOT TO SCALE



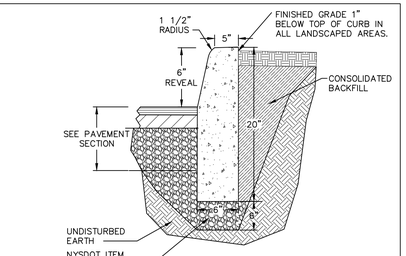
TYPICAL PARKING STRIPING

HANDICAP PARKING STRIPING

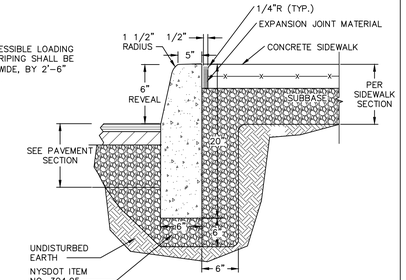
NOTES:

1. ALL DIMENSIONS SUBJECT TO CURRENT MUNICIPALITY ZONING AND SITE REGULATIONS.
2. PAINTED HANDICAP SYMBOL TO BE IN ACCORDANCE WITH NYSDOT AND ADA STANDARDS.
3. IF PARKING ABUTS A SIDEWALK, THEN THE REGULATORY SIGNS SHALL BE PLACED BEHIND THE SIDEWALK.

PARKING AND STRIPING DETAIL
NOT TO SCALE



ABUTTING GRASS OR LANDSCAPE



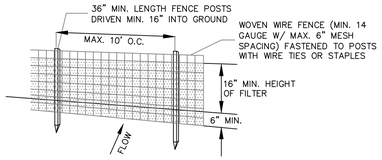
ABUTTING SIDEWALK

NOTES:

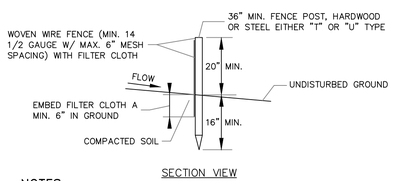
1. CONCRETE CURB SHALL BE 4,000 PSI CAST–IN–PLACE, AND IN ACCORDANCE WITH NYSDOT STANDARD SPECIFICATION SECTION 609.
2. EXPANSION JOINTS OF 1/2" CELLULOSE OR SIMILAR MATERIAL SHALL BE PLACED AT 10 FOOT INTERVALS.
3. FOR MOUNTABLE CURBS ABUTTING SIDEWALK OR OTHER HARDSCAPE, REFER TO "ABUTTING SIDEWALK" DETAIL.

CAST–IN–PLACE CONCRETE CURB DETAIL
NOT TO SCALE

EROSION AND SEDIMENT CONTROL DETAILS



PERSPECTIVE VIEW

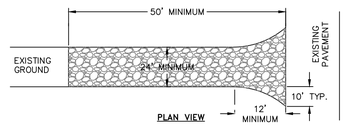


SECTION VIEW

NOTES:

1. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
2. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER–LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N OR APPROVED EQUAL.
3. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE OR APPROVED EQUAL.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

SILT FENCE DETAIL
NOT TO SCALE



NOTES:

1) STONE SIZE – USE 1–4 INCH STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.

2) LENGTH – NOT LESS THAN 50 FEET FOR A COMMERCIAL.

3) THICKNESS – NOT LESS THAN SIX (6) INCHES.

4) WIDTH – 12 FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. 24 FOOT MINIMUM IF SINGLE ENTRANCE TO SITE.

5) GEOTEXTILE – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.

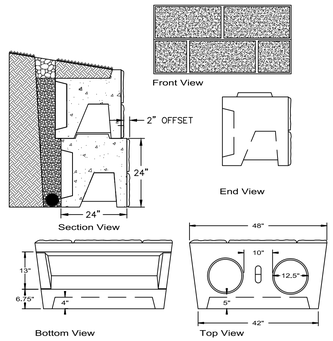
6) SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.

7) MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURE USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACTED ONTO PUBLIC RIGHTS–OF–WAY MUST BE REMOVED IMMEDIATELY.

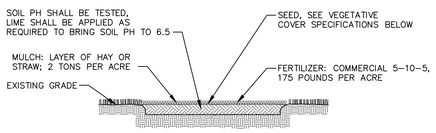
8) WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

9) PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

STABILIZED CONSTRUCTION ENTRANCE DETAIL
NOT TO SCALE



WOODARD'S CONCRETE BLOCK WALL DETAIL
NOT TO SCALE



NOTES:

1. TOPSOIL, SEED, MULCH, AND FERTILIZE DISTURBED SOIL AREAS THAT WILL BE LEFT EXPOSED FOR 14 DAYS OR MORE.
2. SEED MIXTURE FOR USE ON LAWNS IN SUNNY AREAS:

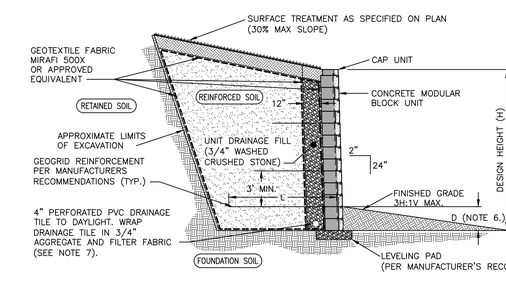
65% KENTUCKY BLUE GRASS BLEND	114 POUNDS PER ACRE
20% PERENNIAL RYEGRASS	35 POUNDS PER ACRE
15% FINE FESCUE	26 POUNDS PER ACRE
	175 POUNDS PER ACRE

3. SEED MIXTURE FOR USE IN SHADY AREAS:

80% BLEND OF SHADE TOLERANT	
KENTUCKY BLUEGRASS	138 POUNDS PER ACRE
20% FINE FESCUE	37 POUNDS PER ACRE
	175 POUNDS PER ACRE

4. SEED BETWEEN APRIL 1ST AND MAY 15TH OR AUGUST 15TH AND OCTOBER 15TH. SEEDING MAY OCCUR BETWEEN MAY 15TH AND AUGUST 15TH IF ADEQUATE IRRIGATION IS PROVIDED.
5. TOPSOIL SHALL HAVE AT LEAST 6% BY WEIGHT OF FINE TEXTURED STABLE ORGANIC MATERIAL, AND NO GREATER THAN 20%. TOPSOIL SHALL HAVE NOT LESS THAN 20% FINE TEXTURED MATERIAL (PASSING THE NO. 200 SIEVE) AND NOT MORE THAN 15% CLAY.

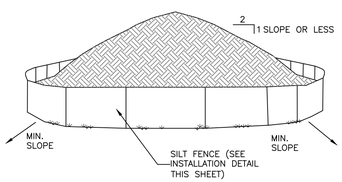
TOPSOIL, SEED AND MULCH DETAIL
NOT TO SCALE



MODULAR RETAINING WALL NOTES:

1. MODULAR RETAINING WALL MANUFACTURED BY WOODARD'S OR APPROVED EQUAL.
2. GRID TYPE SHALL BE AS SPECIFIED BY THE MANUFACTURER.
3. GRID SPACING AND LENGTH VARY BASED ON OVERALL WALL HEIGHT, SOIL AND LOADING CONDITIONS. WALLS OF LIMITED HEIGHT (I.E., 4' OR LESS) MAY NOT REQUIRE THE INSTALLATION OF GRID.
4. LEVELING PAD DEPTH SHALL BE SPECIFIED BY THE MANUFACTURER BASED ON ENGINEERING DESIGN SPECIFIC FOR THE SITE.
5. MANUFACTURER TO PROVIDE FINAL ENGINEERING CALCULATIONS AND DETAILS TO THE OWNER FOR REVIEW BY THE OWNERS ENGINEER.
6. D SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.
7. RELOCATE PERFORATED PIPE WITHIN STONE CROSS SECTION FOR STEPPED WALLS TO ACHIEVE CONTINUOUS FLOW TOWARD DISCHARGE POINT.
8. SEE MANUFACTURER'S DETAILS AND INSTALLATION GUIDELINES FOR FURTHER REQUIREMENTS.

CONCRETE MODULAR RETAINING WALL DETAIL
NOT TO SCALE



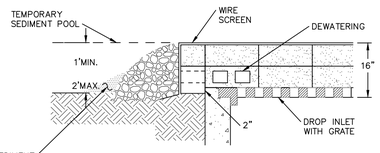
NOTES:

1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
2. EACH PILE SHALL BE SURROUNDED WITH SILT FENCING, THEN STABILIZED WITH VEGETATION OR COVERED.

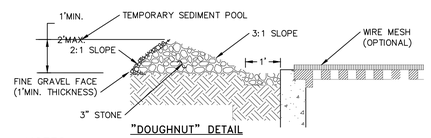
TEMPORARY SOIL STOCKPILE DETAIL
NOT TO SCALE



STONE & BLOCK PLAN VIEW



STONE & BLOCK DETAIL



"DOUGHNUT" DETAIL

NOTES:

1. LAY ONE BLOCK ON EACH SIDE OF THE STRUCTURE ON ITS SIDE FOR DEWATERING. FOUNDATION SHALL BE 2 INCHES MINIMUM BELOW REST OF INLET AND BLOCKS SHALL BE PLACED AGAINST INLET FOR SUPPORT.
2. HARDWARE CLOTH OR 1/2" WIRE MESH SHALL BE PLACED OVER BLOCK OPENINGS TO SUPPORT STONE.
3. USE CLEAN STONE OR GRAVEL 1/2–3/4 INCH IN DIAMETER PLACED 2 INCHES BELOW TOP OF THE BLOCK ON A 2:1 SLOPE OR FLATTER.
4. FOR STONE STRUCTURES ONLY, A 1 FOOT THICK LAYER OF THE FILTER STONE WILL BE PLACED AGAINST THE 3 INCH STONE AS SHOWN ON THE DRAWINGS. MAXIMUM DRAINAGE AREA 1 ACRE

CATCH BASIN INLET PROTECTION DETAIL
NOT TO SCALE

DRAWN BY: ESR				CHECKED BY: MAB			
REVISIONS:				REVISIONS:			
NO.	DATE	DESCRIPTION	BY	NO.	DATE	DESCRIPTION	BY
1	8/31/21	PER PLANNING BOARD COMMENTS	CMB				
2	11/30/21	PER PLANNING BOARD COMMENTS	MAB				

STATE OF NEW YORK MICHAEL A. BODENMANN 084465 LICENSED PROFESSIONAL ENGINEER

SEAL

HUDSON LAND DESIGN

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PROFESSIONAL ENGINEERING P.C.
174 MAIN ST., BEACON, NEW YORK 12508
13 CHAMBERS ST., NEWBURGH, NEW YORK 12550
PH: 845–440–6926
F: 845–440–6637

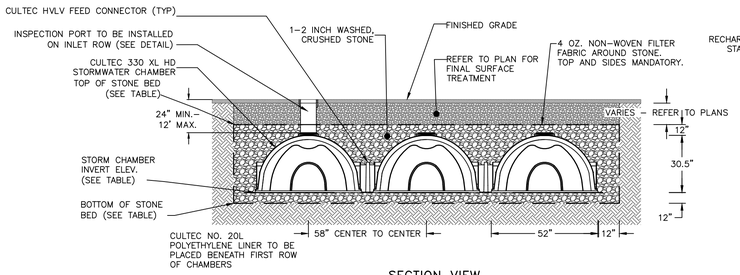
SITE AND E&SC CONSTRUCTION DETAILS

1113 WOLCOTT AVENUE

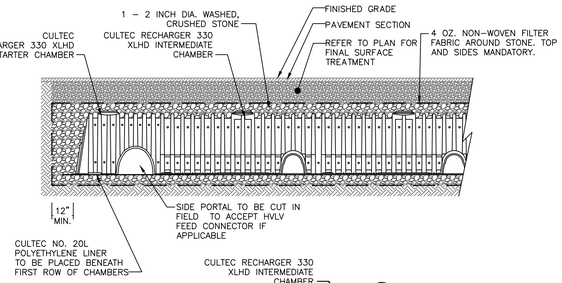
1113 WOLCOTT AVENUE
CITY OF BEACON
DUTCHESS COUNTY, NEW YORK
TAX ID: 5954–26–651901

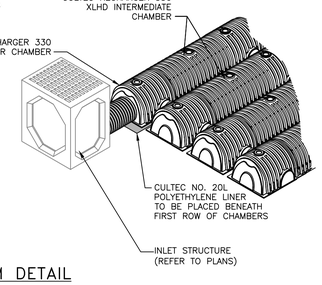
JOB #:	2021:022
DATE:	6/29/2021
SCALE:	AS SHOWN
TITLE:	CD–1
SHEET:	10 OF 12

UNAUTHORIZED ALTERATIONS OR ADDITIONS TO THIS DRAWING IS A VIOLATION OF SECTION 7209.2 OF THE NEW YORK EDUCATION LAW



SECTION VIEW

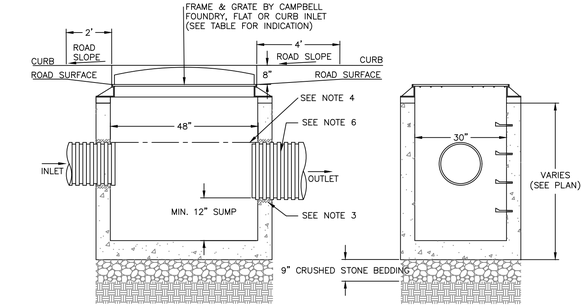




NOTES:
1. CULTEC RECHARGER 330XLHD CHAMBERS BY CULTEC, INC. OF BROOKFIELD, CT. ALL CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH CULTEC INC.'S CURRENT RECOMMENDED INSTALLATION GUIDELINES.
2. THE BED OF THE SYSYTEM FOOTPRINT SHALL BE LAID NEARLY LEVEL.
3. EACH ROW OF CHAMBERS SHALL BE FED VIA A 12" MANIFOLD WITH TEE CONNECTIONS BY CULTEC OR EQUAL.
4. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IF SUBSURFACE CONDITIONS IN THE AREAS OF THE INFILTRATOR TRENCHES IS NOT CONSISTENT WITH THE TEST PIT OR PERCOLATION DATA (E.G. GROUNDWATER OR BEDROCK ENCOUNTERED, SOIL PROPERTIES ARE NOT CONSISTENT, ETC.).
5. REFER TO THE INSPECTION SCHEDULE & LONG TERM MAINTENANCE OF STORMWATER STRUCTURES NOTES ON THE GRADING SHEET.
6. SEE ALSO CLAY KEY DETAIL THIS SHEET.

BOTTOM OF STONE BED ELEVATION	CHAMBER INVERT	TOP OF STONE BED ELEVATION	STONE BED FOOTPRINT	STONE BED DIMENSIONS	NO. OF CHAMBERS
134.0	134.5	137.54	1,601 S.F.	30.5'X52.5'	42

UNDERGROUND INFILTRATION/DETENTION SYSTEM DETAIL
NOT TO SCALE

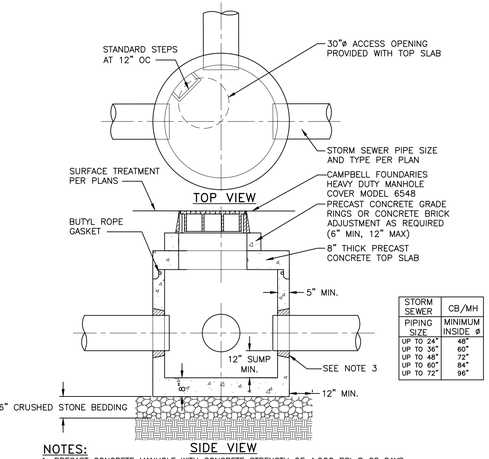


FRONT VIEW

SIDE VIEW

NOTES:
1. PRECAST CONCRETE CATCH BASIN WITH CONCRETE STRENGTH OF 4,000 PSI @ 28 DAYS.
2. THE ENDS OF ALL PIPES SHALL BE CUT OFF FLUSH WITH THE INSIDE SURFACE OF THE CATCH BASIN AND PARGED AROUND.
3. PIPES SHALL BE PARGED AROUND INTERIOR AND EXTERIOR PRIOR TO BACKFILLING OF STRUCTURE. CONNECTIONS MADE WITHIN 10 FEET OF A WATER MAIN (OR SERVICE LINE) OR A SEWER MAIN (OR SERVICE LATERAL) SHALL BE MADE WATERTIGHT.
4. PROVIDE A MINIMUM 0.1' DROP BETWEEN INLET AND OUTLET INVERTS (MATCH CROWNS FOR PIPES WITH DIFFERENT SIZE) UNLESS OTHERWISE NOTED ON THE PLAN.
5. CATCH BASINS WITH AN INTERIOR DEPTH OF 4' AND GREATER SHALL BE FURNISHED WITH STEEL REINFORCED POLYPROPYLENE PLASTIC STEPS AT 12" INTERVALS.
6. HDPE PIPE SHALL BE PROVIDED WITH WATERTIGHT CONNECTIONS. ADS MODEL N12 WT IB OR APPROVED EQUAL.

CATCH BASIN DETAIL
NOT TO SCALE

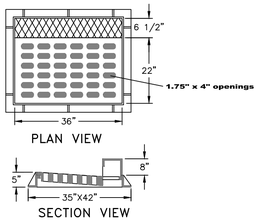


STORM SEWER	CB/MH
PIPING SIZE	MINIMUM INSIDE ø
UP TO 24"	48"
UP TO 36"	60"
UP TO 48"	72"
UP TO 60"	84"
UP TO 72"	96"

SIDE VIEW

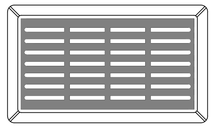
NOTES:
1. PRECAST CONCRETE MANHOLE WITH CONCRETE STRENGTH OF 4,000 PSI @ 28 DAYS.
2. THE ENDS OF ALL PIPES SHALL BE CUT OFF FLUSH WITH THE INSIDE SURFACE OF THE MANHOLE AND PARGED AROUND.
3. PIPES SHALL BE PARGED AROUND INTERIOR AND EXTERIOR PRIOR TO BACKFILLING OF STRUCTURE.
4. CONCRETE STRUCTURE AND CASTING SHALL BE RATED FOR H20 TRAFFIC LOADING.
5. INLET FRAME SHALL BE FULLY SUPPORTED ON THE CONCRETE STRUCTURE FOR H20 LOADING.
6. MANHOLES WITH AN INTERIOR DEPTH OF 4' AND GREATER SHALL BE FURNISHED WITH STEEL REINFORCED POLYPROPYLENE PLASTIC STEPS AT 12" INTERVALS.

STORMWATER MANHOLE DETAIL
NOT TO SCALE

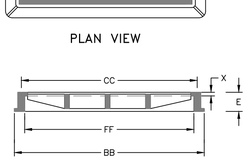


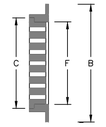
NOTES:
1. HEAVY DUTY RECTANGULAR STORMWATER INLET GRATE TO BE CAMPBELL FOUNDRY MODEL 2541, OR APPROVED EQUAL.
2. CATCH BASINS TO RECEIVE CURB INLETS ARE: CB 1&2. CB 4 TO RECEIVE A FLAT GRATE

CAST IRON STORMWATER CURB INLET GRATE DETAIL
NOT TO SCALE



PLAN VIEW



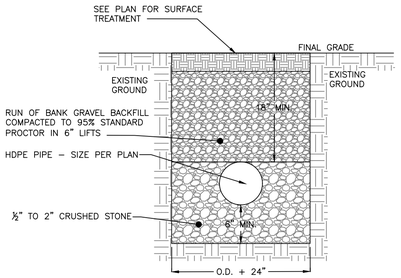


DIMENSION TABLE:

B	C	E	F	X	BB	CC	FF
39"	24"	4"	22"	1"	41"	36"	34"

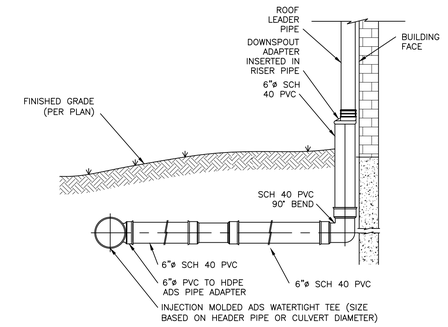
NOTES:
1. HEAVY DUTY RECTANGULAR STORMWATER INLET GRATE TO BE CAMPBELL FOUNDRY MODEL 3433, OR APPROVED EQUAL.
2. STMH1 AND STMH 2 RECEIVE SOLID CAST IRON COVERS.

CAST IRON STORMWATER FLAT INLET GRATE DETAIL
NOT TO SCALE



NOTES:
1. EXCAVATION AND TRENCHING SHALL MEET ALL OSHA REQUIREMENTS.

STORMWATER PIPE IN TRENCH DETAIL
NOT TO SCALE



NOTES:
1. ROOF LEADER LOCATIONS AND SIZES TO BE DETERMINED BY THE PROJECT ARCHITECT. DOWNSPOUT ADAPTER TO MATCH DOWNSPOUT SIZE.
2. PVC JOINT CONNECTIONS SHALL BE MADE WITH PVC CEMENT.
3. ROOF DRAINAGE HEADER PIPES SHALL BE AS NOTED ON THE UTILITY SHEET.
4. SUBSTITUTIONS OF PIPE MATERIAL SHALL BE BROUGHT TO THE DESIGN ENGINEER'S ATTENTION FOR REVIEW.

ROOF LEADER CONNECTION DETAIL
NOT TO SCALE

DRAWN BY: ESR				CHECKED BY: MAB			
REVISIONS:				REVISIONS:			
NO.	DATE	DESCRIPTION	BY	NO.	DATE	DESCRIPTION	BY
1	8/31/21	PER PLANNING BOARD COMMENTS	CMB				
2	11/30/21	PER PLANNING BOARD COMMENTS	MAB				

STATE OF NEW YORK · MICHAEL A. BODENDORF · 084469 · LICENSED PROFESSIONAL ENGINEER

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HUDSON LAND DESIGN
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PROFESSIONAL ENGINEERING P.C.
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STORMWATER CONSTRUCTION DETAILS

1113 WOLCOTT AVENUE

1113 WOLCOTT AVENUE
CITY OF BEACON
DUTCHESS COUNTY, NEW YORK
TAX ID: 5954-26-651901

JOB #: 2021:022
DATE: 6/29/2021
SCALE: AS SHOWN
TITLE: CD-2
SHEET: 11 OF 12

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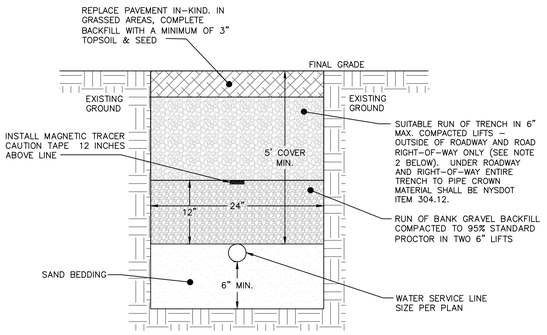


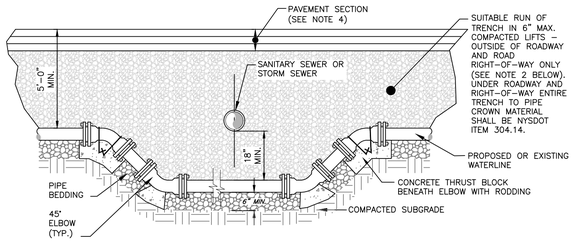
NOTES:

1. EXCAVATION AND TRENCHING SHALL MEET ALL OSHA REQUIREMENTS.

2. SUITABLE RUN OF TRENCH SHALL NOT INCLUDE FROZEN MATERIALS, DEBRIS, ORGANIC MATERIALS, ELONGATED PARTICLES, LARGE STONES OR OTHER UNSUITABLE MATERIALS. IF THE RUN OF TRENCH MATERIAL IS FOUND TO BE UNSUITABLE, A SUITABLE BACKFILL MATERIAL SHALL BE IMPORTED AND USED.

3. IN AREAS WHERE 5' COVER REQUIREMENT CANNOT BE MET, THE CONTRACTOR SHALL PROVIDE PIPE INSULATION TO PREVENT FREEZING.

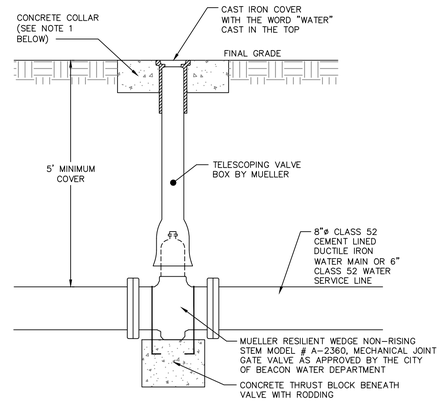
WATER SERVICE LINE TRENCH DETAIL
NOT TO SCALE



NOTES:
1. WHEN THE ELEVATION OF THE SANITARY OR STORM SEWER CAN NOT BE VARIED TO MEET THE ABOVE REQUIREMENTS, THE WATER SERVICE LINE OR MAIN SHALL BE RELOCATED TO PROVIDE THIS REQUIRED SEPARATION OR RECONSTRUCTED WITH MECHANICAL JOINT PIPE FOR A DISTANCE OF TEN (10) FEET ON EACH SIDE OF THE SEWER. ONE FULL LENGTH OF WATERMAIN SHALL BE CENTERED OVER THE SEWER SO THAT BOTH JOINTS WILL BE AS FAR AWAY FROM THE SEWER AS POSSIBLE.
2. SUITABLE RUN OF TRENCH SHALL NOT INCLUDE FROZEN MATERIALS, DEBRIS, ORGANIC MATERIALS, ENLOGATED PARTICLES, LARGE STONES OR OTHER UNSUITABLE MATERIALS. IF THE RUN OF TRENCH MATERIAL IS FOUND TO BE UNSUITABLE, A SUITABLE BACKFILL MATERIAL SHALL BE IMPORTED AND USED.

3. THE RELOCATED WATER MAIN/SERVICE LINE SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA, NYSDOH AND DCDOH STANDARDS.
4. PAVEMENT RESTORATION SHALL BE IN ACCORDANCE WITH THE PAVEMENT RESTORATION DETAIL.
5. ALL REPLACED WATERMAIN SHALL BE 12"ø CLASS 52 DUCTILE IRON.

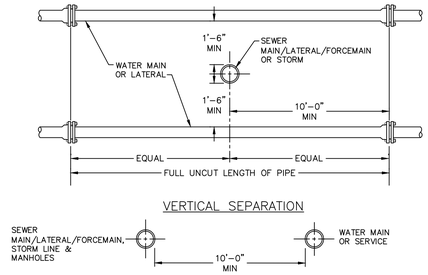
WATER LINE OFFSET DETAIL
NOT TO SCALE



NOTES:

1. CONCRETE COLLAR TO BE PROVIDED IN AREAS THAT ARE NOT PAVED. THE COLLAR SHALL BE 6" FROM THE COVER AND SHALL EXTEND 6" BELOW FINAL GRADE.

GATE VALVE DETAIL
NOT TO SCALE



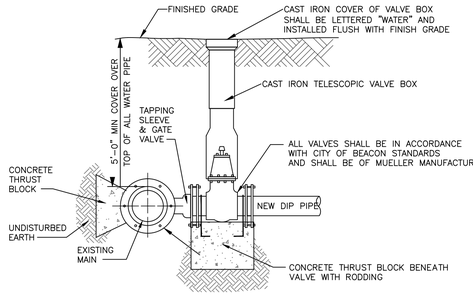
VERTICAL SEPARATION

HORIZONTAL SEPARATION

NOTE:

NO DEVIATION IN THE SEPARATION REQUIREMENTS WILL BE PERMITTED WITHOUT THE EXPRESS APPROVAL OF THE DUTCHESS COUNTY DEPARTMENT OF HEALTH AND THE CITY OF BEACON. CONCRETE ENCASEMENT OF WATERLINE OR OFFSETTING OF WATERLINE SHALL BE REQUIRED WHERE SEPARATION DISTANCES CANNOT BE MAINTAINED.

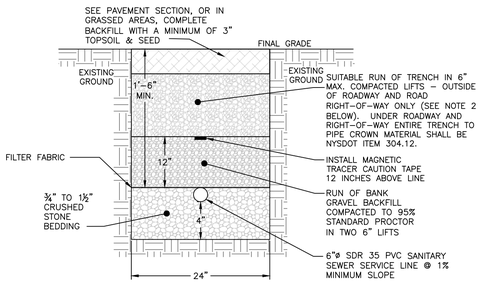
WATER LINE SEPARATION DETAIL
NOT TO SCALE



NOTES:

1. ALL VALVES SHALL OPEN BY TURNING LEFT (COUNTERCLOCKWISE) AND HAVE A 2-INCH SQUARE-OPERATING NUT PAINTED RED.
2. ALL VALVES SHALL BE M.J. RESILIENT WEDGE TYPE WITH "O" RING PACKING, DESIGNED FOR A WORKING PRESSURE OF 150 PSI AND BE IN FULL CONFORMANCE WITH AWWA C500.
3. TAPPING SLEEVE AND GATE VALVE SHOWN ARE MUELLER H-615, AND T-2630 RESPECTIVELY.

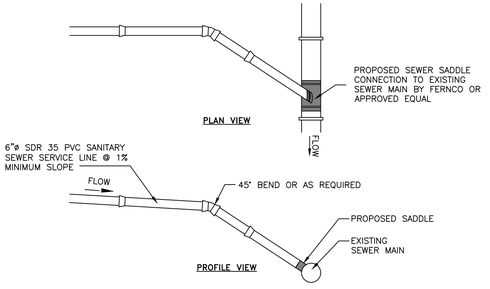
TAPPING SLEEVE DETAIL
NOT TO SCALE



NOTES:
1. EXCAVATION AND TRENCHING SHALL MEET ALL OSHA REQUIREMENTS.

2. SUITABLE RUN OF TRENCH SHALL NOT INCLUDE FROZEN MATERIALS, DEBRIS, ORGANIC MATERIALS, LARGE STONES OR OTHER UNSUITABLE MATERIALS. IF THE RUN OF TRENCH MATERIAL IS FOUND TO BE UNSUITABLE, A SUITABLE BACKFILL MATERIAL SHALL BE IMPORTED AND USED.

SANITARY SEWER SERVICE LINE TRENCH DETAIL
NOT TO SCALE



NOTES:
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2. SUITABLE RUN OF TRENCH SHALL NOT INCLUDE FROZEN MATERIALS, DEBRIS, ORGANIC MATERIALS, LARGE STONES OR OTHER UNSUITABLE MATERIALS. IF THE RUN OF TRENCH MATERIAL IS FOUND TO BE UNSUITABLE, A SUITABLE BACKFILL MATERIAL SHALL BE IMPORTED AND USED.

SANITARY SEWER SERVICE CONNECTION DETAIL
NOT TO SCALE

DRAWN BY: ESR				CHECKED BY: MAB			
REVISIONS:				REVISIONS:			
NO.	DATE	DESCRIPTION	BY	NO.	DATE	DESCRIPTION	BY
1	8/31/21	PER PLANNING BOARD COMMENTS	CMB				
2	11/30/21	PER PLANNING BOARD COMMENTS	MAB				

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SEAL

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F: 845-440-6637

WATER & SEWER CONSTRUCTION DETAILS

1113 WOLCOTT AVENUE

1113 WOLCOTT AVENUE
CITY OF BEACON
DUTCHESS COUNTY, NEW YORK
TAX ID: 5954-26-651901

JOB #:	2021:022
DATE:	6/29/2021
SCALE:	AS SHOWN
TITLE:	CD-3
SHEET:	12 OF 12

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Exhibit A: Images of the Premises and Surrounding Area

Dutchess County Parcel Access Viewer: 1113 Wolcott Avenue

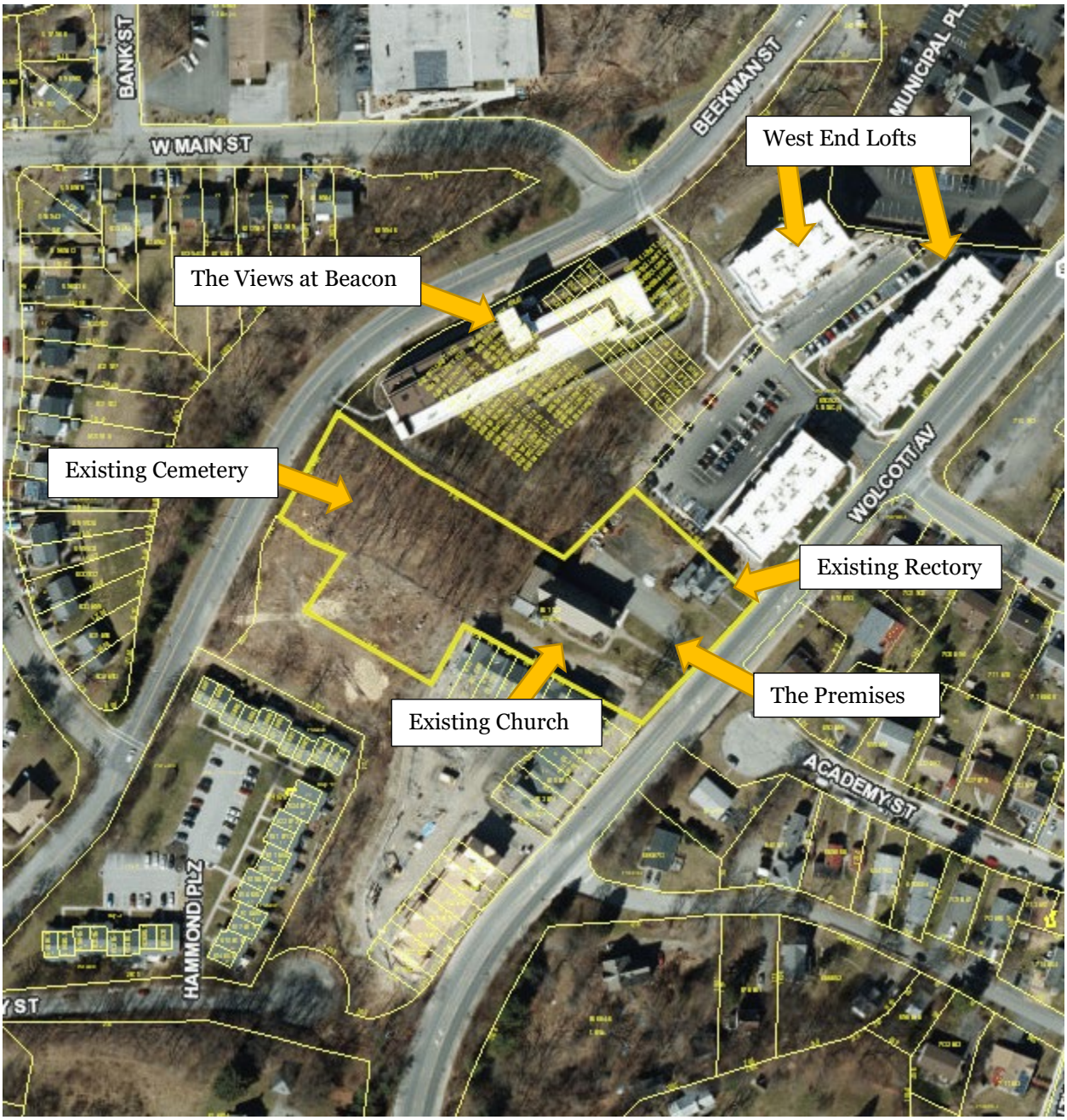
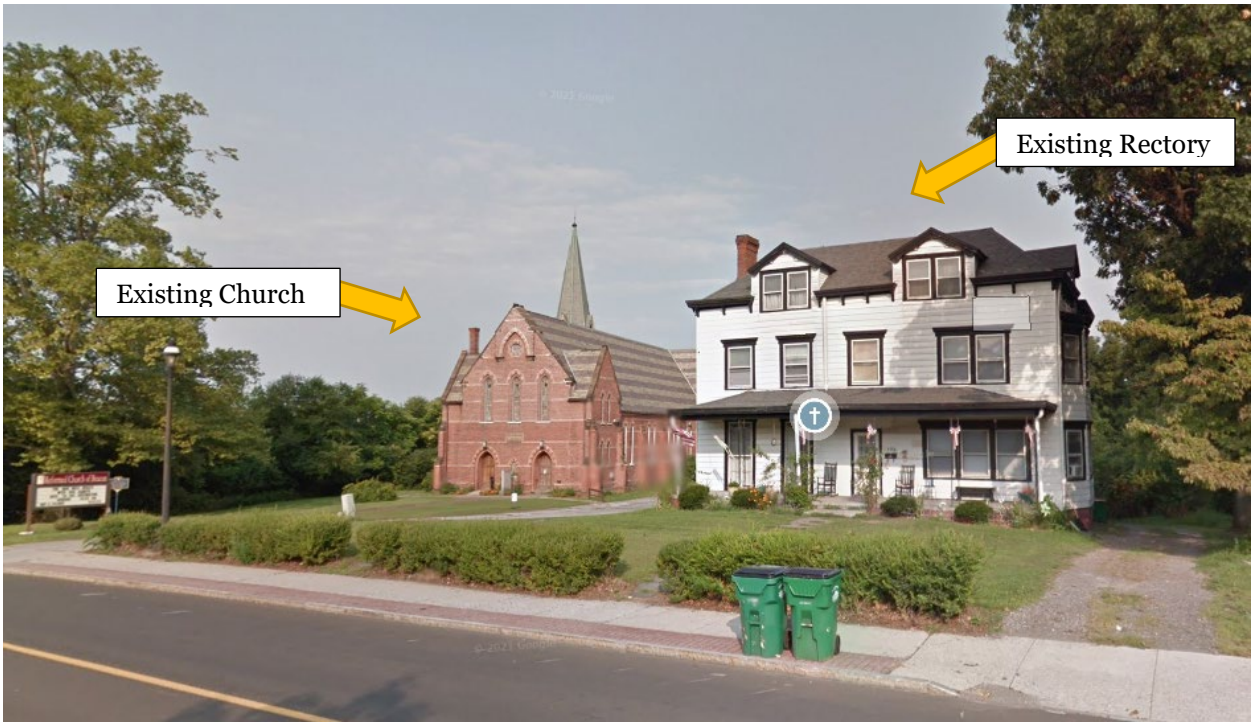


Exhibit A: Images of the Premises and Surrounding Area (cont.)

Google Map Street View: Wolcott Avenue Toward the Premises



Google Map Street View: Wolcott Avenue Toward the Premises

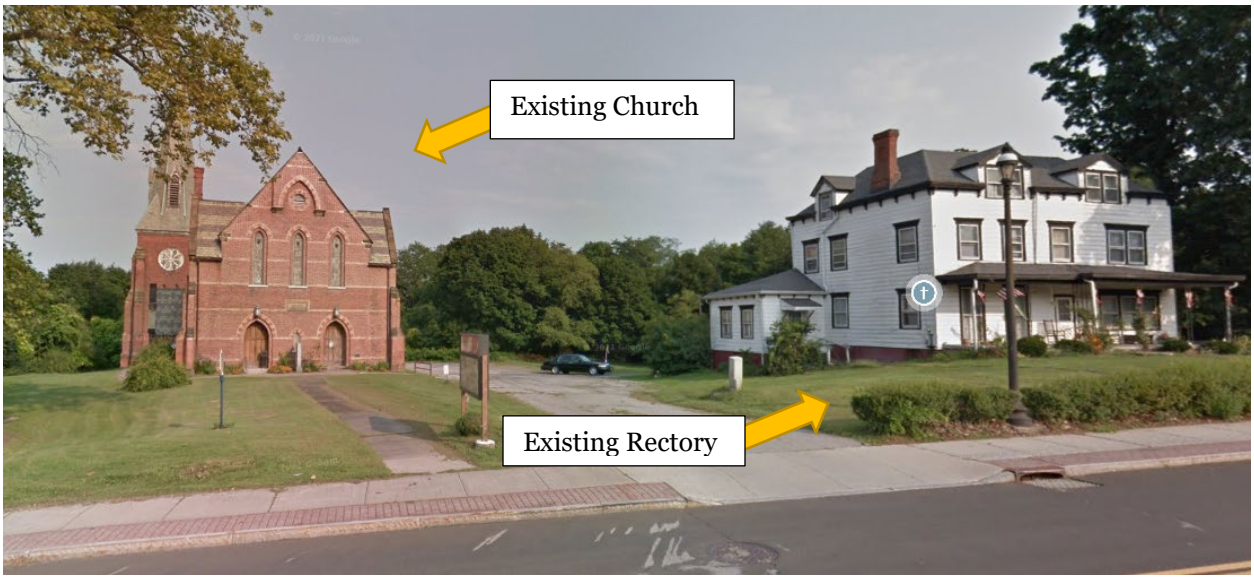


Exhibit A: Images of the Premises and Surrounding Area (cont.)

Google Map Street View: Beekman Street Toward the Premises



CUDDY +FEDER LLP

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White Plains, New York 10601
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Taylor M. Palmer
tpalmer@cuddyfeder.com

November 12, 2021

VIA E-MAIL (dbuckley@beaconny.gov)
Mr. David Buckley
Building Inspector
City of Beacon Building Department
City of Beacon
1 Municipal Plaza
Beacon, New York 12508

Re: Statement of Use: Request for Determination
Application for Site Plan & Special Permit Approval – Permitted Hotel & Accessory Uses
Premises: 1113 Wolcott Avenue, Beacon, New York 12508

Dear Mr. Buckley:

On behalf of Prophecy Theater, LLC (the "Applicant"), the owner of the above-referenced Premises, we respectfully submit this Statement of Use ("SOU") letter in connection with the Applicant's request for a formal determination from your office regarding the Applicant's revised project proposal to redevelop the Premises, which includes the preservation of the historic church, for a proposed hotel and customary incidental accessory conference center and dining facility uses on the Premises.

As you know, on June 29, 2021, the Applicant submitted an Application for Site Plan and Special Permit Approval (the "Application") to the City of Beacon Planning Board ("Planning Board") requesting to construct a hotel, *event space* and restaurant/bar on the Premises (the "Original Application"). Thereafter, the Applicant appeared before the Planning Board and prepared and submitted several supplemental submissions in furtherance of the pending Application. At the October 13, 2021 Planning Board meeting, the Board recommended that the Applicant request a formal written determination from your office to specifically confirm that the proposed *event space* component of the proposed use is indeed accessory to the principal hotel use on the Premises. We understand that there is not a use issue regarding the hotel use or the accessory dining facilities (café restaurant/bar) use proposed for the Premises.

As you also know, on October 22, 2021, the Applicant met with your office together with the City's Planning Consultant, John Clarke, and the Planning Board's Attorney, Jennifer L. Gray, Esq., to discuss the proposed accessory uses in the Application in furtherance of the Planning Board's request. Since meeting with your office, the Applicant has further refined the redevelopment program for the Premises. In particular, as noted above, the Applicant is now proposing to proceed with the development of the specially permitted hotel use, with a customary and incidental accessory conference center and accessory dining facilities (the "Revised Application").

Accordingly, this SOU letter is submitted pursuant to our discussion at the October 22nd meeting in order to provide your office with specific information as it relates to the proposed accessory use(s) and to enable your office to make a formal determination regarding the permitted customary and incidental uses proposed for the Premises. Notably, this detailed information *was not* provided in connection with the Site Plan and Special Permit Application that was submitted to the Planning Board, as it was understood by the Applicant that the uses were indeed, permitted. Therefore, the purpose of this SOU letter is to reaffirm the permissibility of these hotel-related customary and incidental accessory uses that are proposed in connection with the Revised Application so that the Applicant may supplement the associated Revised Application materials to the Planning Board for its continued review and placement on the December 14, 2021 meeting Agenda, which has a submission deadline of November 30, 2021.

THE REVISED APPLICATION FOR THE PROPOSED PROJECT:

As is detailed in the Applicant's prior submissions to the Planning Board and as will be further detailed in the Applicant's forthcoming supplemental submission to the Planning Board, the Applicant's Revised Application consists of the following:

(1) expanding the rectory into a 2½-story, thirty (30) room hotel with thirty-one (31) off-street parking spaces provided on-site;

(2) renovating the church into an accessory use space that includes a conference center and dining facilities (café/restaurant/bar); and

(3) restoring the cemetery to open it as a public park, which will include a walking path from Beekman Street to Wolcott Avenue.

The hotel lodging is proposed to be available 24/7, 365 days per year, and the dining facilities will be situated in the rear of the existing historic church. The dining facilities will serve as a reception for guests of the hotel and offer breakfast, lunch and dinner to the hotel guests, as well as members of the public. In addition, it will operate as a bar for hotel guests and for accessory conference center programming and events. The dining facilities are expected to operate approximately seven (7) days a week in support of the hotel operations and guests. The conference center accessory use will operate less intensely and frequently, utilizing the former church building for various cultural, educational, or professional programs, including weddings, conferences, art exhibitions, performances, lectures, seminars and workshops.

Specifically, the customary and incidental accessory conference center use reduces the programmatic scope from that envisioned in the Original Application. While the Applicant previously contemplated a maximum capacity of 420 people for occasional larger weekend events, the expected maximum capacity for the occasional weekend programming for the hotel conference center is a *maximum* of 350 people. Notwithstanding the maximum capacity noted here, we understand that these occasional larger weekend programs are typically expected to have fewer people, ranging between 125-200 people. Along the same line, instead of the Original Application

that included hosting events seven (7) days a week, the refined programing proposes that conference center programming would likely be limited to larger events held only on weekends with smaller functions, such as seminars, workshops or retreats on weekdays with a range between 50 to 200 attendees, but on fewer days of the week (i.e. generally Wednesday-Friday).[1]

REQUEST FOR DETERMINATION – THE REVISED APPLICATION INVOLVES A PERMITTED PRINCIPAL HOTEL USE AND PERMITTED CUSTOMARY INCIDENTAL ACCESSORY USES:

The Applicant respectfully requests a formal determination that the Applicant's Proposal for a principal hotel use and its customary incidental accessory conference center use, and accessory dining facilities, constitute permitted uses on the Premises by special permit from the Planning Board.[2]

The Premises is presently classified within the City's the R1-40 One-Family Residence District Zoning District and the Historic District and Landmark Overlay ("HDLO") District, the latter of which permits hotels and hotel-related accessory uses and structures pursuant to a special permit issued by the Planning Board.[3] It should also be noted that the regulations contained in the Zoning Code for properties located in the HDLO specifically provide for the special permit review of the proposed development, including within the historically significant church building. Such accessory uses must be incidental to the operation of a hotel, of the same general character, and located on the same site.[4]

The Revised Application includes a refined proposal for a conference center use, which qualifies as an accessory use to a hotel pursuant to the Zoning Code. The Zoning Code provides a non-exhaustive, illustrative list of hotel-related accessory uses, which explicitly includes a "conference center".[5]

The Zoning Code defines as "conference center" as:

> "[a] facility used for business meetings, cultural, educational, or professional

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[1] Note: We understand, for example, that there could very well be a retreat or seminar that rents out the entire hotel and occupies the accessory conference center space for the duration of their stay. So, there is the potential that one week the conference center is not used at all; another week it is used Thursday or Friday; and another where it's utilized by the hotel guests for their entire stay (possibly Monday-Sunday).

[2] *See* CITY OF BEACON ZONING CODE (the "ZONING CODE") § 223-43 (providing in relevant part that the Building Inspector has the authority to administer and enforce the Zoning Code). Note: We understand that both a hotel and dining facilities are considered permitted accessory uses by special permit of the Planning Board, so we understand a formal determination is not required pertaining to those uses. *See* Gauthier v. Vill. of Larchmont, 30 A.D.2d 303, 305, 291 N.Y.S.2d 584, 587 (1968) (holding that a bar, as a matter of law, is an appropriate accessory use in connection with a hotel).

[3] ZONING CODE § 223-24.7.B(6).

[4] ZONING CODE § 223-14.1.A.

[5] ZONING CODE § 223-14.1.A(1) (Such accessory uses may include the following . . .") (emphasis added).

> programs, conferences, retreats, and seminars, which may have accommodations for eating and recreation."[6]

As noted above, the Applicant proposes to use the existing church space for various accessory functions in furtherance of the principal hotel use, various cultural, educational, or professional programs, including weddings, conferences, art exhibitions, performances, lectures, seminars and workshops – events that undoubtedly fall within the scope of the illustrative list of uses permitted in the Zoning Code. Moreover, as is the case for either the accessory conference center or the dining facilities, they will be located on the same lot as the principal hotel use. Furthermore, the Applicant expects that many of the programs will be attended by those individuals staying in the hotel. Thus, the Applicant respectfully submits that the conference center is an accessory use to the hotel.

We believe the analysis does not need to continue in relation to the Revised Application and the proposed conference center accessory use. However, in the event that your review of the proposal requires further analysis to support that the components of the project constitute permitted uses, we respectfully submit that an event space would also qualify as a hotel-related customary and incidental accessory use.

As an initial matter, the Zoning Code's list of hotel-related accessory uses is not comprehensive. While Section 223-14.1 enumerates certain permitted accessory uses, it does not hold the specified uses out as exclusive. Were it the intent of the City legislature to limit the permitted accessory uses therein listed, the provision would not include a permissive "may".[7] As such, the non-exclusive listing merely serves as an illustration of potential hotel-related uses; any non-listed use may qualify provided it meets the definition of accessory. As noted above, this is not at issue for the Revised Application that involves a proposed conference center, which is explicitly listed in the non-exclusive list of uses.

Additionally, the Zoning Code defines accessory uses as "[a] use which is customarily incidental and subordinate to the principal use on a lot and located on the same lot therewith."[8] Likewise, accessory buildings are defined as "[a] building subordinate to the main building on the lot and used for purposes customarily incidental to that of said main building."[9] Thus, the Zoning Code establishes a two (2)-part test for determining whether a use qualifies as accessory:

1) It must be conducted on the same zoning lot as the principal use/building; and

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[6] ZONING CODE § 223-63.

[7] ZONING CODE § 223-14.1.A(1). *See, e.g.,* VILLAGE OF MONTEBELLO ZONING CODE § 195-124 ("Accessory uses may include . . ."); TOWN OF GREENBURGH ZONING CODE § 285-10.A(3)(l) ("Other accessory buildings or structures, such as . . ."); *C.f.* VILLAGE OF MONTEBELLO ZONING CODE § 195-73.C ("The following accessory uses shall be permitted . . ."); TOWN OF GREENBURGH ZONING CODE § 285-18.A(3)(b) (". . . the following accessory uses are permitted . . ."); VILLAGE OF TARRYTOWN ZONING CODE § 305-35.B (same).

[8] ZONING CODE § 223-63.

[9] ZONING CODE § 223-63.

2) It must be subordinate and customarily incidental to the principal use/building.[10]

Accordingly, an *event space* would also qualify as an accessory use to the new principal hotel use as the event space would be located on the same lot as the hotel and it is subordinate and customarily incidental to the hotel use. It is also well established that "[w]hether a proposed accessory use is clearly incidental to and customarily found in connection with the principal use depends on an analysis of the nature and character of the principal use of the land in question in relation to the accessory use, taking into consideration the over-all character of the particular area in question."[11] This is a fact-based analysis that considers the incidental uses customarily undertaken by the principal use.[12]

As was discussed on our October 22, 2021 call, an event space is also customarily incidental to the principal hotel use. Whether a use is customarily found in connection with the principal use depends on the use being "commonly, habitually and by long practice been established as reasonably associated with the primary use."[13] As a general matter, it is commonplace for event spaces (often synonymous with a conference center in the context of a hotel) to operate in conjunction with hotels. One need only consider the incidental uses customarily undertaken by similar businesses in the municipality to reach this conclusion.[14] In the City of Beacon, and more specifically HDLO district, for instance, the Roundhouse operates a hotel, restaurant, event space and has a residential component as well. Moreover, to qualify as incidental, a use must be in reasonable relation to the primary use, that is, it must be attendant or concomitant.[15] The event space identified in the Original Application would operate in tandem with the hotel, with the hotel lodging providing support for the various weddings,[16] conferences, and exhibitions proposed at the event space, which would utilize the entire facility consisting of the event space, hotel, and café.

Additionally, an event space use would also be subordinate to the hotel. As noted above, the Revised Application further reduces the programmatic scope from that envisioned in the Original

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[10] *See* ZONING CODE § 223-63.

[11] New York Botanical Garden v. Bd. of Standards and Appeals of New York City, 91 N.Y.2d 413, 420, 698 N.E.2d 424, 427 (N.Y. 1998).

[12] *Id.*

[13] Gray v. Ward, 74 Misc.2d 50, 54–55, 343 N.Y.S.2d 749, *aff'd.* 44 A.D.2d 597, 354 N.Y.S.2d 591 (Sup. Ct. Nassau County 1973) (citations omitted).

[14] *See, e.g.,* Brophy v. Town of Olive Zoning Bd. of Appeals, 166 A.D.3d 1123, 86 N.Y.S.3d 650 (3d Dep't 2018) (zoning board's determination that hosting weddings was an accessory use to property's principal use as a bed and breakfast was supported by a rational basis; zoning board properly relied on wedding services offered by another bed and breakfast located in that same district).

[15] Gray, 74 Misc.2d 50, 54–55, 343 N.Y.S.2d 749.

[16] *See, e.g.,* Brophy, 166 A.D.3d 1123, 86 N.Y.S.3d 650 (upholding zoning board's determination that hosting weddings constitute an accessory use to bed and breakfast because while lodging on property was available year-round, weddings were offered on a limited basis).

Application. We also understand that the programming is not expected to extend late into the night. Although the number of people at certain events may seem disproportionate to the proposed hotel occupancy, it is important to keep in mind that the larger events are offered on a limited basis for a limited amount of time while the hotel will operate consistently. Moreover, it is well settled that if the City had intended to limit the capacity of hotel-related accessory uses in the HDLO District, it should have provided for such restrictions in the Zoning Code.[17]

Furthermore, it is irrelevant to the accessory use analysis whether the proposed accessory space is more expansive than the hotel. Because the Zoning Code defines an accessory use as one "customarily incidental and subordinate" to the principal use, it is generally understood that this does not mean that the accessory use may not be larger than other structures.[18] Thus, the Applicant also submits that the proposed event space is qualifying hotel-related accessory use.

Finally, it is well established that "zoning codes, being in derogation of the common law, must be strictly construed against the enacting municipality and in favor of the property owner."[19] Thus, to the extent that you find the Zoning Code is not explicit on this accessory event space to a principal hotel and you find that the Zoning Code is unclear whether the event space is a permitted customary incidental accessory use, the Zoning Code *must* be interpreted in favor of the Applicant.[20]

CONCLUSION:

For the reasons set forth above, the Applicant requests that a favorable interpretation be granted confirming that the Revised Application for the proposed principal hotel and customary incidental accessory conference center and dining facilities are permitted by special use permit review from the Planning Board. The Applicant respectfully submits that either the conference center or the event space is permitted on the Premises as a customary incidental accessory use; but the Applicant is only seeking a determination regarding the conference center use contemplated in the Revised Application detailed herein.

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[17] *See* New York Botanical Garden, 91 N.Y.2d at 422 (zoning ordinance which specifically listed "radio or television towers" as examples of permissible accessory uses could not be limited with a height restriction where no such restriction was present in the ordinance); Matter of Allen v. Adami, 39 N.Y.2d 275, 277 (1976) ["[h]ad the Village intended to impose such a condition on the exception, it could easily have done so . . . ."]; Exxon Corp. v. Bd. of Standards, 128 A.D.2d 289, 293 (1st Dep't 1987) (same).

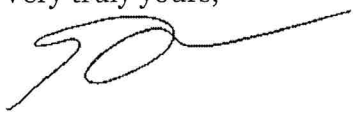
[18] Mamaroneck Beach & Yacht Club, Inc. v. Zoning Bd. of Appeals of Village of Mamaroneck, 53 A.D.3d 494, 862 N.Y.S.2d 81 (2d Dep't 2008) (holding that the zoning board of appeals "in engrafting area requirements upon provisions defining a permissive accessory use, based upon the square footage of other building structures on the property, was irrational and unreasonable").

[19] Baker v. Town of Islip Zoning Bd. of Appeals, 20 A.D.3d 522, 523 (2d Dep't 2005); *see also* Allen v. Adami, 39 N.Y.2d 275 (1976).

[20] *Id.*

For all of the reasons set forth herein, it is respectfully submitted that this interpretation request should be granted in its entirety. Should you or City Staff have any questions or comments with regard to the foregoing, please do not hesitate to contact me.

Very truly yours,



Taylor M. Palmer

cc: Jennifer L. Gray, Esq.
John Clarke Planning and Design
Aryeh Siegel, Architect
Michael A. Bodendorf, P.E. – Hudson Land Design
Prophecy Theater, LLC
Allison Fausner, Esq.

CITY OF BEACON
New York

David Buckley
Building Inspector

BUILDING DEPARTMENT 845-838-5020

November 30, 2021

Mr. Gavin Hecker
Prophecy Theater, LLC
36 South Street
Beacon, New York 12508

Re: 1113 Wolcott Avenue
Beacon, New York 12508
Grid No. 30-5954-36-651901-00

Dear Mr. Hecker,

I have reviewed the November 12, 2021 letter from Cuddy & Feder, LLP submitted on behalf of property owner, Prophecy Theater, LLC ("Applicant"), requesting a determination regarding the proposed use of property located at 1113 Wolcott Avenue in the R1-40 and Historic District and Landmark Overlay ("HDLO") Districts (the "Property"). The Property is currently improved with an historic church, rectory and cemetery. The Applicant proposes to renovate and reuse the church and rectory as a hotel with an accessory conference center and event space which will include dining facilities. The Applicant has applications for Special Permit and Site Plan approval pending before the City of Beacon Planning Board for this purpose. The Applicant has requested a formal determination as to whether the proposed use is permitted by the City of Beacon Zoning Code.

The Applicant is proposing a 30-room hotel with 31 parking spaces, along with an accessory conference center, dining facilities and an event space. According to the November 12, 2021 letter from Cuddy & Feder, LLP, the conference center and event space would be located in the renovated historic church, along with the dining facilities and a reception area for the hotel. The renovated church would be used for programs and events for up to 350 people, although most programs and events are expected for 125-200 people. The November 12, 2021 letter from Cuddy & Feder, LLP provides the following description for the proposed programs and events: "various cultural, educational or professional programs, including weddings, conferences, art exhibitions, performances, lectures, seminars and workshops." Dining facilities are proposed to offer breakfast, lunch and dinner to hotel guests and members of the public seven (7) days per week. An addition is proposed on the existing rectory to convert it to a 30-room hotel to be open

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New York

David Buckley
Building Inspector

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seven (7) days per week, year-round. The cemetery is proposed to be open to the public and a walking path from Beekman Street to Wolcott Avenue is proposed.

The HDLO District permits a "hotel and hotel-related accessory uses and structures with adequate screening of any new structures from surrounding public street views" subject to the issuance of a special permit by the Planning Board. (Zoning Code §§ 223-24.7 and 223-18). Therefore, the proposed hotel is a permitted use subject to the issuance of a special permit by the Planning Board.

I reviewed the Zoning Code and consulted with the City Attorney and City Planner to determine whether the proposed conference center, event space and dining facilities are permitted "hotel-related accessory uses." Generally, Section 223-63 of the Zoning Code defines accessory use as "a use which is customarily incidental and subordinate to the principal use on a lot and located on the same lot therewith, except as otherwise provided in this chapter."

Section 223-14.1 of the Zoning Code provides a list of uses that have been determined to be permitted accessory uses to a hotel. Those uses include, among others, "conference center facilities," as limited by its definition at Section 223-63, and "dining facilities providing food and drink." Therefore, in general, the Zoning Code identifies a conference center and dining facilities as permitted accessory uses to a hotel. This list does not include "event space," but the list is not exhaustive because it is prefaced with the word "may" and does not contain any limiting language. It provides examples of permitted accessory uses to a hotel but leaves open the possibility that an applicant may propose additional accessory uses that are not identified on the list.

Here, the Applicant has proposed to use the renovated church not only as an accessory conference center and dining facilities, but also as an accessory event space. "Conference center" is defined by Section 223-63 of the Zoning Code as "a facility used for business meetings, cultural, educational, or professional programs, conferences, retreats, and seminars, which may have accommodations for eating and recreation." This limited definition would not permit weddings or other programs that are not "cultural, educational or professional," but weddings are customary accessory uses of a hotel conference center. Therefore, it is my determination that an event space may generally be considered a permitted accessory use to a hotel.

Having determined that a conference center, dining facilities and event space, generally, are permitted accessory uses to a hotel in the HDLO District, I also considered whether such uses, at the size and frequency proposed by the Applicant, can be considered accessory to the 30-room hotel. For example, the Applicant is proposing a conference center and event space for a

David Buckley
Building Inspector

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New York

BUILDING DEPARTMENT 845-838-5020

maximum of 350 people as an accessory use to a 30-room hotel. I am advised by the City Attorney that based on New York State case law regarding accessory uses the disproportionality of the maximum number of guests at an event compared to the number of hotel rooms is not determinative of whether the conference center or event space can be considered "accessory" to the hotel. For example, in a case cited in the November 12, 2021 letter from Cuddy & Feder, LLP, the court found that large weddings are a permitted accessory use of a small, three-room bed and breakfast because the weddings were offered on a limited basis, several months of the year whereas the bed and breakfast operated year-round.

Based on this example, it is my determination that as long as the frequency of the use of the conference center and event space is limited for events larger than what the 30-room hotel can reasonably accommodate, such events can be considered an accessory use of the 30-room hotel.

This determination does not constitute authorization for the Applicant to perform work on the Property. The proposed hotel and hotel-related accessory uses are subject to the issuance of a Special Permit and Site Plan approval by the Planning Board and the Planning Board is permitted to impose reasonable limiting conditions related to the possible impacts of the proposed use. The burden is on the Applicant to demonstrate to the Planning Board that the proposed use meets each of the standards set forth at Sections 223-24.7 and 223-18 of the Zoning Code for the issuance of a Special Permit.

Although the proposed hotel and accessory dining facilities, conference center and event space have been determined to be permitted uses in the HDLO district, the Planning Board may still not approve the Special Permit for any of these uses or may impose limits on the scale of the uses, based on the specifics of the site and the Special Permit standards.

Due to the fact specific nature of the inquiry into whether the uses, as specifically proposed herein, are accessory to the proposed hotel, this determination is not intended to serve as precedent for other pending or future applications on this site or elsewhere in the City of Beacon.

Sincerely,

David Buckley
Building Inspector

cc: City Planner John Clarke, City Engineer John Russo, City Attorney Jennifer Gray, Attorney Taylor Palmer

LANC & TULLY
ENGINEERING AND SURVEYING, P.C.

John J. O'Rourke, P.E., Principal
David E. Higgins, P.E., Principal
John Queenan, P.E., Principal
Rodney C. Knowlton, L.S., Principal
Jerry A. Woods, L.S., Principal
John D. Russo, P.E., Principal
John Lanc, P.E., L.S.
Arthur R. Tully, P.E.

December 9, 2021

Mr. John Gunn
Beacon Planning Board Chair
City of Beacon
1 Municipal Plaza
Beacon, NY 12508

RE: 1113 Wolcott Avenue
Tax No. 5954-26-651901
Special Use & Site Plan
City of Beacon

Dear Mr. Gunn:

My office has received the following in regard to the above application:

- Submission documents for project containing the following:
  - Correspondence/Project Narrative dated November 30, 2021, from Cuddy & Feder to Planning Board.
  - Correspondence dated November 12, 2021, from Cuddy & Feder to Beacon Building Dept.
  - Correspondence dated November 30, 2021, from Beacon Building Dept. to applicant.
  - Updated Application for Site Plan Approval.
  - Full Environmental Assessment Form, dated November 30, 2021.
  - LWRP Consistency Statement, dated November 30, 2021.
  - Traffic & Parking Study, dated November 30, 2021, as prepared by Colliers Engineering and Design.
  - Correspondence dated November 30, 2021, from Aryeh Siegel, Architect.
  - Correspondence dated November 30, 2021, from Hudson Land Design.
  - Inflow and Infiltration (I&I) Report, dated November 30, 2021, as prepared by Hudson Land Design.
  - Report titled "Drainage Report for 1113 Wolcott Avenue", dated November 30, 2021, as prepared by Hudson Land Design.
- Plans titled "1113 Wolcott Avenue", consisting of 12 sheets, with Sheets 1 through 7 having the latest revision date of November 30, 2021, as prepared by Aryeh Siegel and Sheets 8 through 12 having the latest revision date of November 30, 2021, as prepared by Hudson Land Design.

The proposed project is located on Wolcott Avenue in the R1-40 Zone and Historic District & Landmark Overlay District (HDLO). The existing 2.28± acre parcel contains a church (Reformed Dutch Church of Fishkill Landing), parsonage building and a cemetery. The applicant is proposing to convert the church into an conference center with dining facilities, and to construct a 30-room hotel on the parcel, along with providing 31 on site spaces for parking as related to the hotel.

Based on our review of the above documents and plans, we would like to offer the following comments:

General Comments:

1. The applicant's engineer, Hudson Land Design, has conducted an Infiltration and Inflow (I&I) study of the existing site. Based upon the study, there are no apparent sources of I&I into the City's sanitary sewer collection system from the project site.

2. Sites disturbing more than 1-acre within the City of Beacon are required to prepare a full stormwater pollution prevention plan (SWPPP). As this project is disturbing less than 1-acre, the applicant is not required to meet these requirements, but they have provided a drainage analysis report for the site, along with proposed onsite drainage improvements to reduce/mitigate the rate of post runoff from the site for the proposed project. Based upon our review of the report, we find the proposed drainage improvements to be acceptable.

3. A certified survey, with topography, shall be submitted for the entire parcel. The survey shall show all existing structures located on the site along with any other special features that may be present on the site, such as head stones in the cemetery. ***Applicant's engineer notes that this will be provided in a future submission.***

Sheet 1 of 12 – Site Plan:

1. As previously noted, there is an "L1" symbol located on the DMS Consolidators parcel that should be removed. Although the applicant's consultant notes that this has been removed, this symbol is still appearing on the plan.

2. As previously noted, the site plan shall show the location of all light poles and lighting. The "Landscape and Lighting Plan" shows additional light poles that are not shown on the site plan. Although the applicant's consultant notes that all lights are shown, the lights poles (L1A) are not shown on the plan.

3. As previously noted, the title for Sheet 4 in the "Index of Drawings" should be updated to reflect the actual sheet title within the plan set.

4. As previously noted, construction details shall be added to the plans for the proposed dumpster enclosure called out on the plan.

Sheet 2 of 12 – Full Site Plan:

1. As previously noted, the road to the rear of the parcel shall be labeled as Beekman Street.

2. As previously noted, there are a number of leaders provided at the rear of the parcel without any labels or notes provided with the leaders. The labels and notes that correspond with these leaders should be added to the plan.

3. Additional lighting shall be provided along the pedestrian path to Beekman Street. ***The applicant's consultant notes that this will be reviewed.*** We strongly recommend that lighting be provided along this pedestrian path, as there will more than likely be attendees at the events that will be leaving the site during night hours headed to the street parking on Beekman Street or to the train station.

Sheet 4 of 10 – Landscape & Lighting Plan:

1. The planting schedule presented on the plan shall be rotated 90 degrees, as the schedule is currently shown vertical.

2. Details shall be added to the plan for the proposed "L1" and "L-Path" lights noted on the plan.

Sheet 8 of 12 – Grading & Utility Plan:

1. The applicant will be required to apply for a road opening permit with NYSDOT for the proposed work within the NYSDOT right of way along Wolcott Avenue for the proposed 6" water line to the proposed hotel and the sidewalk replacement and site entrance.

2. It is recommended that the applicant verify with the City Building Department at this time to see an additional fire service line needs to be provided to the church based upon the change of use. If so, then the plans shall be updated to show the proposed fire service line.

3. Plan shows an underground stormwater management structure to be constructed in the parking lot located to the east of the hotel. Based upon the construction details provided on Sheet 9, it appears that the proposed system will be an infiltration system. Soil testing will need to be conducted as part of the design of this system and the testing shall require witnessing by the City Engineer's office. The applicant's consultant shall contact the City Engineer's office to schedule the soil testing to allow for the witnessing of the required soil testing. ***Applicant's engineer notes that the soil testing will be coordinated with the City Engineer's office.***

4. We would recommend that the outfall for the proposed underground storm water system be channel in such a way to ensure that water from the outfall does not run on to the neighboring parcel. This could be achieved by providing a swale that leads to a level spread beyond the tombs.

5. The plan includes notes regarding rock removal. Has a geotechnical investigation been conducted of the site? If so, a copy of the report should be submitted with the next submission. ***Applicant's consultant notes that a geotechnical study has not been conducted, but the notes have been added in the event rock is encountered on the site.***

Sheet 9 of 12 – Erosion & Sediment Control:

1. The plan shall be updated to include erosion control for the pedestrian path to be constructed towards Beekman Street.

2. The plan includes several "red" dots located around both buildings, but it is unclear what these dots represent. This symbol shall be added the "Legend" table on the sheet, or the dots labeled as to what they represent.

Sheet 11 of 12 – Site and E&SC Details:

1. The "Pavement Restoration" detail shall be updated to reflect 1.5" of top course, 3" of binder course and 3" of base course for restoration of pavement within the NYSDOT right of way. The detail shall further note that if the road consists of pavement over a concrete slab, the total thickness of the pavement shall be increased to account for the thickness of the concrete slab.

This completes our review at this time. Further comments may be provided based on future submissions. **A written response letter addressing each of the above comments should be provided with the next submission.** If you have any questions, or require any additional information, please do not hesitate to contact our office.

Very truly,

LANC & TULLY, P.C.

John Russo, P.E.

cc: John Clarke, Planner
Jennifer Gray, Esq.
David Buckley, Building Inspector

John Clarke Planning and Design jclarkeplandesign@gmail.com
845.797.4152

To: John Gunn, Chair, and the City of Beacon Planning Board
Date: December 9, 2021
Re: **1113 Wolcott Avenue Street Site Plan and Special Permit**

I have reviewed the November 30, 2021 cover letter with A – J exhibits from Cuddy+Feder, including a use determination letter from the Building Inspector and a Traffic and Parking Study from Colliers Engineering and Design, and a 12-sheet Site Plan set, dated November 30, 2021.

Proposal
The applicant is proposing to construct a 2½-story, 30-room hotel as an expansion to the existing parsonage and renovate the historic church as a conference center/event space and rear café. The 2.28-acre site is in the R1-40 zoning district, in the Historic District and Landmark Overlay (HDLO) zone, and within the Local Waterfront Revitalization Program (LWRP) boundary.

Comments and Recommendations
1. Hotel and hotel-related accessory uses and structures may be considered for residential districts by Special Permit in the HDLO under Section 223-24.7, as an incentive for the preservation of historic structures. The Building Inspector has determined that, generally, a dining facility and a conference center/event space are permitted accessory uses to a hotel in the HDLO district. The Planning Board still has the ability to not approve the Special Permit for these uses or set limits on the scale of the operations, based on the Special Permit standards and the specifics of the site.

2. Parking and access details for the varied uses involve potential problems that are not fully addressed in the Traffic and Parking Study, including:

    a. The 31 parking spaces only covers the hotel use. If the hotel is full, there will be no parking available for non-hotel café customers, who are not likely to walk from remote lots. Because the on-site parking is in back with little room to turn around, blockages may develop in the lot when full and overflow parking could be a problem along the entry driveway.

    b. For large events, it is difficult to assume that patrons will walk up the steep hill through the cemetery from Beekman Street and the Metro-North lots, rather than try to park in the nearby residential streets on top of the hill across Route 9D to the east. The Site Plan will need additional details for the path through the cemetery, including lighting and potential stairs.

    c. The most convenient public off-street parking opportunities are the Tompkins and City Hall lots, which are along Route 9D about 725 and 1,100 feet to the north. These lots are being considered for possible redevelopment and may not be permanently available for event use.

    d. If a significant percentage of event trips may be drop-offs and pick-ups, as suggested in the traffic analysis, people will be tempted to stop along Route 9D or jam-up the rear parking lot, since there is no easy turnaround or available waiting area.

    e. ADA access cannot be conveniently handled by remote parking, so two on-site ADA spaces does not seem sufficient for an event capacity up to 350.

f. I suggest that the second curb cut and extended driveway to the south be eliminated or redesigned. There is no turnaround space, so any bus or truck would have to back out onto Route 9D. This delivery area would also be very close to the adjacent townhouse fronts. The applicant should explore delivery options from the rear of the north side lot and the Traffic and Parking Study should include an analysis of truck loading and access for buses with turning diagrams.

3. For Sheet 4:

   a. The lighting specifications need to include all the requirements in Section 223-14B. There are no L1 wall fixtures or L-Path fixtures shown. I recommend that no new wall fixtures are attached to the historic church and that the applicant consider fixtures with a more historically compatible design.

   b. At least two canopy street trees and additional low landscaping should be provided in front of the hotel.

   c. Additional plantings should be added around the rear parking lot to help screen views from neighboring residences.

4. On the Sheet 5 Floor Plans, 31 guest rooms are shown. The hotel will need more detailed elevations with materials and colors identified.

5. Sheet 6 should include a seating layout for the café to help determine a parking count. The applicant should be prepared to show how a maximum capacity performance would work in the interior space.

6. Sheet 7 should provide details for any proposed exterior changes to the church, including the rear deck. All exterior construction must meet the standards in Chapter 134, Historic Preservation, and will require a Certificate of Appropriateness.

7. Since the proposal is within the City's LWRP boundary, the applicant has provided a Coastal Assessment Form and a consistency statement for the proposal. These documents are sufficient for the Planning Board to declare an LWRP Consistency Determination as part of the review process.

If you have any questions or need additional information, please feel free to contact me.
John Clarke, Beacon Planning Consultant

c: Dave Buckley, Building Inspector
Jennifer L. Gray, Esq., City Attorney
Arthur R. Tully, P.E., City Engineer
John Russo, P.E., City Engineer
Aryeh Siegel, Project Architect
Michael Bodendorf, P.E., Project Engineer

City of Beacon Planning Board Agenda
12/14/2021

Title:

Review application for Special Use Permit and Site Plan Approval, Mirbeau Inn & Spa @ Howland Estate, 7 Craig House Lane, submitted by The Mirabeau Companies

ATTACHMENTS

Mirbeau Application for SUP & Site Plan Approval.pdf

Mirbeau Beacon Concept Master Plan.pdf

Mirbeau Howland Estate Views from Road.pdf

Planner Review Letter.pdf

APPLICATION FOR SPECIAL USE PERMIT

PRELIMINARY REVIEW

Submit to Planning Board Secretary, One Municipal Plaza, Suite One, Beacon, New York 12508

IDENTIFICATION OF APPLICANT

Name: The Mirbeau Companies

Address: 433 Broadway, Suite 303

Saratoga Springs, NY 12866

Signature:

Date: November 23, 2021

Phone:

(For Official Use Only) Initials	Date
Application & Fee Rec'd	11-23-2021
Initial Review	12-14-2021
PB Public Hearing	
Sent to City Council	
City Council Workshop	
City Council Public Hearing	
City Council Approve/Disapprove	

IDENTIFICATION OF REPRESENTATIVE / DESIGN PRFESSIONAL

Name: Ed Kellogg

Phone: 914-475-5623

Address: Mirbeau Inn & Spa

46 West Market Street

Rhinebeck, NY 12572

Fax:

Email address: ekellogg@mirbeau.com

IDENTIFICATION OF SUBJECT PROPERTY:

Property Address: Howland/Wolcott Ave (NYS Route 9D) at Grandview Ave

Tax Map Designation: Section: 6054 Block: 13 Lot(s): 001258 Land Area: 64.39 Acres Zoning District(s) Historic Overlay

DESCRIPTION OF PROPOSED DEVELOPMENT:

Proposed Use: Mirbeau Inn & Spa which includes Lodging, Restaurant, Spa, Events, Cottage Rentals

Gross Non-Residential Floor Space: Existing 82,000 sf Proposed 100,000 sf

TOTAL: 100,000sf

Dwelling Units (by type): Existing: None Proposed 100 Rental Rooms

TOTAL: 100 Rental Rooms

740

APPLICATION PROCESSING RESTRICTION LAW
Affidavit of Property Owner

Property Owner: Application submitted by Contract Vendee for Discussion only

If owned by a corporation, partnership or organization, please list names of persons holding over 5% interest.

BARRY KOHN, MICHAEL SILBERBERG

List all properties in the City of Beacon that you hold a 5% interest in:

344 MAIN ST. 244 TIORONDA AVE

Applicant Address: 147 UNION STREET POUGHKEEPSIE NY

Project Address: 7 CRAIGS HOUSE LANE BEACON NY

Project Tax Grid # 6054 13 001258

Type of Application

Please note that the property owner is the applicant. "Applicant" is defined as any individual who owns at least fivepercent (5%) interest in a corporation or partnership or other business.

I, BARRY KOHN, the undersigned owner of the above referenced property, hereby affirm that I have reviewed my records and verify that the following information is true.

1. No violations are pending for ANY parcel owned by me situated within the City of Beacon ✓
2. Violations are pending on a parcel or parcels owned by me situated within the City of Beacon
3. ALL tax payments due to the City of Beacon are current ✓
4. Tax delinquencies exist on a parcel or parcels owned by me within the City of Beacon
5. Special Assessments are outstanding on a parcel or parcels owned by me in the City of Beacon
6. ALL Special Assessments due to the City of Beacon on any parcel owned by me are current

Signature of Owner

Title if owner is corporation

Office Use Only:	NO	YES	Initial
Applicant has violations pending for ANY parcel owned within the City of Beacon (Building Dept.)	___	___	___
ALL taxes are current for properties in the City of Beacon are current (Tax Dept.)	___	___	___

FOR OFFICE USE ONLY
Application #

CITY OF BEACON

1 Municipal Plaza, Beacon, NY

Telephone (845) 838-5000 •

http://cityofbeacon.org/

ENTITY DISCLOSURE FORM

(This form must accompany every land use application and every application for a building permit or certificate ofoccupancy submitted by any person(s))

Disclosure of the names and addresses of all persons or entities owning any interest or controlling position of any Limited Liability Company, Partnership, Limited Partnership, Joint Venture, Corporation or other business entity (hereinafter referred to as the "Entity") filing a land-use application with the City is required pursuant to Section 223-62 of the City Code of the City of Beacon. Applicants shall submit supplemental sheets for any additional information that does not fit within the below sections, identifying the Section being supplemented.

SECTION A

Name of Applicant: The Mirbeau Companies Address of

Applicant: 433 Broadway, Suite 303, Saratoga Springs, NY Telephone

Contact Information: 914-475-5623 (Ed Kellogg)

SECTION B. List all owners of record of the subject property or any part thereof.

Name	Residence or Business Address	Telephone Number	Date and Manner title was acquired	Date and place where the deed or document of conveyance was recorded or filed.
Craig Realty Holding LLC	147 UNION ST. POUGHKEEPSIE NY	~~[illegible]~~ ~~[illegible]~~		
		845 393 1380		

SECTION B. Is any owner of record an officer, elected or appointed, or employee of the City of Beacon or related,by marriage or otherwise, to a City Council member, planning board member, zoning board of appeals member or employee of the City of Beacon ?

☐ ☑ **NO**

If yes, list every Board, Department, Office, agency or other position with the City of Beacon with which a party hasa position, unpaid or paid, or relationship and identify the agency, title, and date of hire.

Agency	**Title**	**Date of Hire, Date Elected, or Date Appointed**	**Position or Nature of Relationship**
None			

SECTION C. If the applicant is a contract vendee, a duplicate original or photocopy of the full and complete contract of purchase, including all riders, modification and amendments thereto, shall be submitted with the application.

SECTION D. Have the present owners entered into a contract for the sale of all or any part of the subject property and,if in the affirmative, please provide a duplicate original or photocopy of the fully and complete contract of sale, ineludingall riders, modifications and amendments thereto.

☑ **YES** ☐ **NO**

I, Barbara Kohn being first duly sworn, according to law, deposes and says that the statements madeherein are true, accurate, and complete.

(Print) Barbara Kohn

(Signature) _____

CITY OF BEACON
SITE PLAN SPECIFICATION FORM

Name of Application: Preliminary Discussion for Special Use Permit

PLEASE INDICATE WHETHER THE SITE PLAN DRAWINGS SHOW THE SUBJECT INFORMATION BY PLACING A CHECK MARK IN THE APPROPRIATE BOXES BELOW.		
	YES	**NO**
The site plan shall be clearly marked "Site Plan", it shall be prepared by a legally certified individual or firm, such as a Registered Architect or Professional Engineer, and it shall contain the following information:	X	
LEGAL DATA		
Name and address of the owner of record.		X
Name and address of the applicant (if other than the owner).	X	
Name and address of person, firm or organization preparing the plan.		X
Date, north arrow, and written and graphic scale.	X	
NATURAL FEATURES		
Existing contours with intervals of two (2) feet, referred to a datum satisfactory to the Planning Board.	X	
Approximate boundaries of any areas subject to flooding or stormwater overflows.		X
Location of existing watercourses, wetlands, wooded areas, rock outcrops, isolated trees with a diameter of eight (8) inches or more measured three (3) feet above the base of the trunk, and any other significant existing natural features.		X
EXISTING STRUCTURES, UTILITIES, ETC.		
Outlines of all structures and the location of all uses not requiring structures. Paved areas, sidewalks, and vehicular access between the site and public streets.		X
Locations, dimensions, grades, and flow direction of any existing sewers, culverts, water lines, as well as other underground and above ground utilities within and adjacent to the property.		X
Other existing development, including fences, retaining walls, landscaping, and screening.		X
Sufficient description or information to define precisely the boundaries of the property.	X	
The owners of all adjoining lands as shown on the latest tax records.		X
The locations, names, and existing widths of adjacent streets and curb lines.		X
Location, width, and purpose of all existing and proposed easements, setbacks, reservations, and areas dedicated to private or public use within or adjacent to the properties.		X

PROPOSED DEVELOPMENT	YES	NO
The location, use and design of proposed buildings or structural improvements.	X	
The location and design of all uses not requiring structures, such as outdoor storage (if permitted), and off-street parking and unloading areas.		X
Any proposed division of buildings into units of separate occupancy.	X	
The location, direction, power, and time of use for any proposed outdoor lighting.		X
The location and plans for any outdoor signs.		X
The location, arrangement, size(s) and materials of proposed means of ingress and egress, including sidewalks, driveways, or other paved areas.		X
Proposed screening and other landscaping including a planting plan and schedule prepared by a qualified individual or firm.		X
The location, sizes and connection of all proposed water lines, valves, and hydrants and all storm drainage and sewer lines, culverts, drains, etc.		X
Proposed easements, deed restrictions, or covenants and a notation of any areas to be dedicated to the City.		X
Any contemplated public improvements on or adjoining the property.		X
Any proposed new grades, indicating clearly how such grades will meet existing grades of adjacent properties or the street.		X
Elevations of all proposed principal or accessory structures.	X	
Any proposed fences or retaining walls.		X
MISCELLANEOUS		
A location map showing the applicant's entire property and adjacent properties and streets, at a convenient scale.	X	
Erosion and sedimentation control measures.		X
A schedule indicating how the proposal complies with all pertinent zoning standards, including parking and loading requirements.		X
An indication of proposed hours of operation.		X
If the site plan only indicates a first stage, a supplementary plan shall indicate ultimate development.	X	

For all items marked "NO" above, please explain below why the required information has not beenprovided:

The Property is currently under contract for purchase from the current Owner. All plans are preliminary and the requested information has not been developed.

Applicant/Sponsor: The Mirbeau Companies Name:

Signature: Edward A. Kellogg Edward A. Kellogg

Date: Nov. 23, 2021

Mirbeau
INN & SPA
Life. Classically Balanced.

Howland Estate, Beacon, NY

CONCEPTUAL MASTER PLAN

EXISTING SITE

November 23, 2021

LRC GROUP

GRAPHIC SCALE
100 50 0 100
SCALE IN FEET

SOUTH AVENUE
GRANDVIEW AVENUE
GRANDVIEW AVENUE
NEW YORK STATE ROUTE 9D
A.K.A. HOWLAND AVENUE
NEW YORK STATE ROUTE 9D
A.K.A. HOWLAND AVENUE
NEW YORK STATE ROUTE 9D
A.K.A. HOWLAND AVENUE

EX-1



Mirbeau INN & SPA
Life. Classically Balanced.

Howland Estate, Beacon, NY

CONCEPTUAL MASTER PLAN

SITE OVERVIEW

November 23, 2021

LRC GROUP

CP-1

Mirbeau INN & SPA
Life. Classically Balanced.

Howland Estate, Beacon, NY

CONCEPTUAL MASTER PLAN
NORTH

November 23, 2021

LRC GROUP

4' GRAVEL TRAIL

FUTURE SLOPE LIFT

EXIST. PAVED DRIVE

FOREST COTTAGES

RESTORED MANSION APPROACH

GRAPHIC SCALE
40 20 0 40
SCALE IN FEET

WATER GARDEN COTTAGES

FF 142

FF 154

FF 166

Service

HOTEL ADDITION

MONET WATER GARDENS

Hotel Entry Garden

RENOVATED MANSION
FF 178

HOTEL & SPA ADDITION

Spa Entry Garden

TENT VENUE PARKING

NORTH MEADOW

Significant Ex. Tree Typ.

TENT VENUE AREA

Farm House w/ Addition (Venue Support)

NEW HOTEL ENTRANCE

SPA ENTRANCE

NEW YORK STATE ROUTE 9D

A.K.A. HOWLAND AVENUE

ROUTE 9D

T.M. # 6054-13-126252

CP-2

ARROWSTREET

MIRBEAU HOWLAND ESTATE

PRELIMINARY DESIGN / MASTER PLANNING

BEACON, NY

23 NOVEMBER 2021

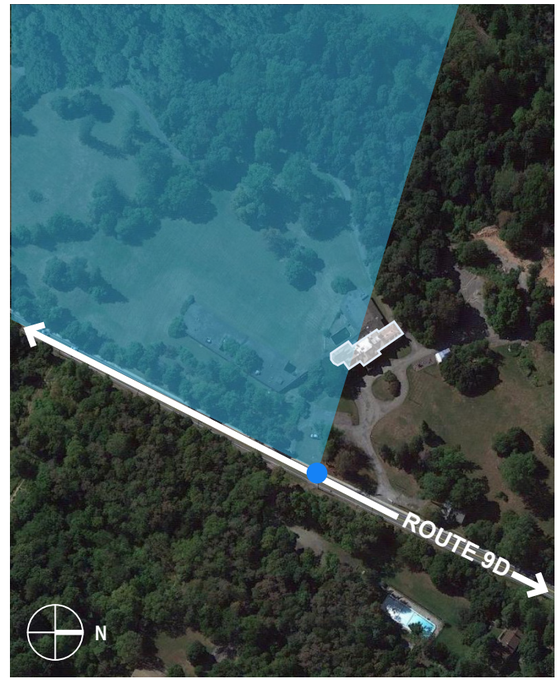


PREPARED FOR

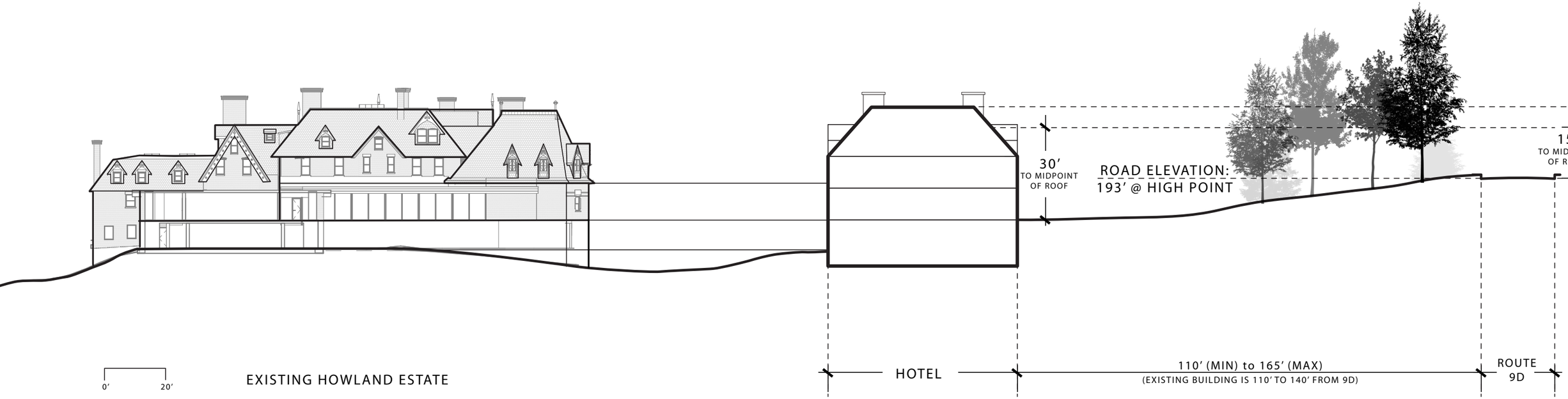
Mirbeau INN & SPA

VIEW FROM ROUTE 9D
LOOKING SOUTH





SITE SECTION
ROUTE 9D AND HOTEL ADDITION



John Clarke Planning and Design jclarkeplandesign@gmail.com
845.797.4152

To: John Gunn, Chair, and the City of Beacon Planning Board
Date: December 9, 2021
Re: **Mirbeau Howland Estate Site Plan and Special Permit**

I have reviewed the Special Permit Application, 3-sheet Preliminary Design with Route 9D section by Arrowstreet, and a 3-sheet Conceptual Master Plan, all dated November 23, 2021.

Proposal
The applicant is proposing to convert the historic Howland Estate into a hotel with additions to the renovated Mansion, spa facilities, a restaurant, event spaces, and cottage rentals. The 64.39-acre site is in the R1-80 zoning district and in the Historic District and Landmark Overlay (HDLO) zone.

Comments and Recommendations

1. Certain commercial uses may be considered for residential districts by Special Permit in the HDLO under Section 223-24.7, as an incentive for the preservation of historic structures. Among the listed uses are "hotel and hotel-related accessory uses and structures with adequate screening of any new structures from surrounding public street views." The proposed addition of a hotel/spa structure and farm buildings along the Route 9D side of the site will need sufficient landscape screening from public streets to avoid detracting from the historic views of the estate property.

2. The submitted graphics are only conceptual at this point, but are useful to get preliminary Board comments before detailed drawings are prepared. A narrative history of the site would be helpful, as well as a description of all significant elements, including a focus on all historic buildings, how they are intended to be restored and reused, and how important views to and from the buildings will be protected or enhanced.

3. The placement of the Water Garden Cottages should be reconsidered because of their location in the prime long view from the Mansion.

4. The large parking lots along the Route 9D frontage are particularly concerning. The lot to the east of the hotel/spa addition can be adequately screened from the street, but the lots between the south entrance and Farm House will be visible from Route 9D and are in line with the primary public view of the historic Mansion. This parking should be relocated to a more hidden-away area, and an analysis of the required parking for each use should be provided.

5. Because of the significant landscape history of this site, a survey should be completed of individually planted legacy trees and of all major trees over 6 inch in diameter that may need to be removed by new development.

6. Any demolition or new exterior construction must meet the standards in Chapter 134, Historic Preservation, and will require a Certificate of Appropriateness.

7. An archeological analysis should be completed for new development areas.

8. Evaluations of sight distances for all entry/exit driveways should be provided.

9. A Full Environmental Assessment Form with Mapper Summary should be completed, including a more detailed analysis of any significant impacts on regulated wetlands and floodplains. If former landfills are found on the property, they should be investigated as part of the SEQR process.

10. The applicant and Board should consider pedestrian access to and through the site, including the possibilities of a walkway along the South Avenue and Grand View Avenue frontages and trail possibilities along the Fishkill Creek.

If you have any questions or need additional information, please feel free to contact me.

John Clarke, Beacon Planning Consultant

c: Dave Buckley, Building Inspector
Jennifer L. Gray, Esq., City Attorney
Arthur R. Tully, P.E., City Engineer
John Russo, P.E., City Engineer
Ed Kellogg, Project Representative

City of Beacon Planning Board Agenda
12/14/2021

Title:

Zoning Board of Appeals - No applications for the December Meeting

ATTACHMENTS

City of Beacon Planning Board Agenda
12/14/2021

Title:

Consider request for one 90-day extension of Subdivision Approval and Certificate of Appropriateness Approval - Monell Place, submitted by Allison Cross and Henry Nye

ATTACHMENTS

Monell Place Request for Extension.pdf

CUDDY +FEDER LLP

300 Westage Business Center, Suite 380
Fishkill, New York 12524
T 845 896 2229
F 845 896 3672
cuddyfeder.com

Taylor M. Palmer
tpalmer@cuddyfeder.com

November 5, 2021

BY FEDERAL EXPRESS
AND E-MAIL

Hon. John Gunn, Chairman
& Members of the Planning Board
City of Beacon
One Municipal Plaza
Beacon, New York 12508

Re: Monell Place Subdivision
Request for Extension of Subdivision & Certificate of Appropriateness Approval
Property: Monell Place, Beacon, New York 12508 (Tax ID: 5955-04-586132)

Dear Chairman Gunn and Planning Board Members:

On behalf of Allison Cross and Henry Nye (the "Applicants"), the owners of the above-referenced Property, we are writing to request a 90-day extension of the May 11, 2021 Preliminary & Final Subdivision Plat and Certificate of Appropriateness Approval Resolution (the "Approval Resolution").[1] This request is timely, as 180 days (six (6) months) have not elapsed since the date of the adopted Approval Resolution.

The Applicant has been diligently prosecuting the conditions in the Approval Resolution, which includes the preparation of certain offers of dedications and related agreements that have been submitted to the Planning Board Attorney for review and approval. We understand that the Applicant's consultants continue to work with City Staff and that the Subdivision Plat is in executable form at this time. Accordingly, once the above-referenced agreements are in a form acceptable to the Planning Board Attorney, the Subdivision Plat will be submitted for the Chairman's signature so that the Subdivision Plat can be recorded in the Dutchess County Clerk's Office together with the approved agreements.

Given the particular circumstances noted above, we respectfully submit this formal request for one (1) 90-day extension of the Approval Resolution, thus extending to February 7, 2022, the date by which the Applicant must satisfy the remaining conditions set forth in the Approval Resolution in order for the Final Subdivision Plat to be signed by the Chairman of the Planning Board.

This Board has the authority to grant the requested extension pursuant to City of Beacon Code Section 195-14(D).

[1] A copy of the Approval Resolution adopted May 11, 2021 and dated as signed on May 13, 2021 is attached to this letter as **Exhibit A**.

We respectfully request that you please place this matter on the Planning Board's November 9, 2021 Planning Board Agenda for consideration of the Applicant's request for one (1) 90-day extension. Thank you in advance for your consideration in this matter.

Very truly yours,



Taylor M. Palmer

Enclosures
cc: Jennifer L. Gray, Esq. – Planning Board Attorney
Michael A. Bodendorf, P.E. – Hudson Land Design

EXHIBIT A

RESOLUTION

PLANNING BOARD
BEACON, NEW YORK

PRELIMINARY AND FINAL SUBDIVISION PLAT AND CERTIFICATE OF APPROPRIATENESS APPROVALS FOR MONELL PLACE SUBDIVISION

Parcel ID#: 5955-04-586132

WHEREAS, the Beacon Planning Board received an application for Subdivision Approval from property owners Allison Cross and Henry Nye (the "Applicant") to subdivide a 2.91 acre parcel into two lots for the construction of two single family houses (the "Project" or "Proposed Action"); and

WHEREAS, the subject property is located at the intersection of Monell Place and Lafayette Avenue and designated on the City tax maps as **Parcel ID# 5955-04-586132** (the "Property"); and

WHEREAS, the Property is located in the R1-20 Zoning District, Historic District and Landmark Overlay (HDLO) zone and the Coastal Management Zone as defined by the City's Local Waterfront Revitalization Program (LWRP) and the Proposed Action includes a request for an LWRP Consistency Determination; and

WHEREAS, the subdivision is shown on the "Preliminary Subdivision Plat – Monell Place Subdivision", last revised April 27, 2021, prepared by Hudson Land Design Professional Engineering, P.C., as follows:

Sheet	Title
1 of 4	*Preliminary Subdivision Plat*
2 of 4	*Subdivision Plan*
3 of 4	*Erosion and Sediment Control Plan*
4 of 4	*Construction Details*; and

WHEREAS, the application also consists of application forms, correspondence, the Environmental Assessment Form (EAF) and professional studies and reports submitted to the Planning Board; and

WHEREAS, the Planning Board reviewed the application at its meetings on January 12, 2021, February 9, 2021, April 13, 2021 and May 11, 2021; and

WHEREAS, the Proposed Action is an Unlisted Action pursuant to the State Environmental Quality Review Act (SEQRA) and on April 13, 2021 after taking a "hard look"

at the EAF and all of the associated materials prepared in connection with the Proposed Action, the Planning Board adopted a Negative Declaration, finding the Proposed Action will not result in any significant adverse environmental impacts; and

WHEREAS, in accordance with Section 220-6 of Chapter 220, Waterfront Consistency Review, of the City Code, all "actions to be undertaken within the City's Coastal Management Zone shall be evaluated for consistency in accordance with the.....LWRP policy standards...." And on April 13, 2021 the Planning Board adopted a Resolution finding the Project to be consistent with the LWRP policies that are applicable to the Project; and

WHEREAS, on April 13, 2021, the Planning Board opened and closed the duly noticed public hearing on the application for Subdivision Approval, at which time all those interested were given an opportunity to be heard; and

WHEREAS, due to public health and safety concerns related to the current COVID-19 pandemic, all public meetings and hearings on this application were duly noticed in accordance with notice requirements of the Zoning Code of the City of Beacon, and held by videoconference in accordance with the Governor's Executive Orders which suspend the "in-person" requirements of the NYS Open Meetings Law and provide alternative means by which to conduct public meetings and hearings remotely; and

WHEREAS, the Planning Board is fully familiar with the Project and has reviewed the Project relative to all applicable provisions of the City Code.

NOW THEREFORE BE IT RESOLVED, that the Planning Board hereby finds pursuant to the City of Beacon Code § 134-7 that the Proposed Action has been designed to be consistent with the character of the surrounding neighborhood, including the neighboring Eustatia property, and the properties located in the HDLO, and will be consistent with the historic character of the surrounding area and compatible with the design standards of the Historic District Landmark Overlay Zone and accordingly, the Planning Board hereby grants a Certificate of Appropriates for the Proposed Action, as shown on the application materials referenced above.

BE IT FURTHER RESOLVED, that the Planning Board hereby grants Preliminary Subdivision Plat Approval for the Project, as shown on the application materials enumerated above.

BE IT FURTHER RESOLVED, that the Planning Board hereby finds that the Final Subdivision Plat will not be substantively changed from the Preliminary Subdivision Plat and hereby determines that a public hearing on the Final Plat is not required.

BE IT FURTHER RESOLVED, that the Planning Board hereby grants Final Subdivision Plat Approval to the Project, as shown on the application materials enumerated

above, subject to the following conditions and modifications set forth below and any other requirements which must be met by law:

A. The following conditions shall be fulfilled prior to the signing of the Final Subdivision Plat by the Chairman of the Planning Board:

1. All application review fees shall be paid in full.

2. The Applicant shall seek and obtain all required permits and/or approvals from the appropriate agencies for the Project, including but not necessarily limited to approval from the Dutchess County Department of Health, and shall meet all conditions contained in such approvals, as required therein.

3. The comments contained in the City Engineer's letter to the Planning Board dated May 5, 2021, and all comments in any subsequent letter(s) issued, shall be fulfilled to the satisfaction of the City Engineer.

4. The comments contained in the City Planner's letter to the Planning Board dated May 6, 2021, and all comments in any subsequent letter(s) issued, shall be fulfilled to the satisfaction of the City Planner, except that the row of trees at the north side of the property shall be shifted west and one additional evergreen tree will be included for a total of six (6) trees.

5. All existing and proposed easements, as applicable, shall be shown on the Final Subdivision Plat to the satisfaction of the City Engineer and City Attorney. Proposed easement agreements, declarations of restrictive covenants or other appropriate documents corresponding with the easements and notes shown on the Final Subdivision Plat shall be prepared, as applicable, including (1) an Irrevocable Offer of Dedication with Bill of Sale for the sewer infrastructure in Monell Place identified on the proposed plans and the Applicant shall use best efforts to cause the owner of 3 Monell Place to join in such offer or otherwise indicate their consent to the City asserting ownership over such sewer main, and (2) Irrevocable Offer of Dedication for the land referenced in Note No. 13 under "Survey Notes" as "Possible 25-foot taking from centerline of Monell Place per Filed Map 11421." Such documents shall be submitted to the City Attorney for review as to form and shall be recorded in the Dutchess County Clerk's Office simultaneously with the Subdivision Plat, with a copy of the recorded documents submitted to the City Clerk for filing. Prior to acceptance of the Irrevocable Offer of Dedication for the sewer infrastructure in Monell Place, the Applicant shall perform the following work as set forth in the City Engineer's February 4, 2021 memorandum to the satisfaction of the City Engineer and City Water/Wastewater Superintendent unless otherwise determined by the City Council: (a) The line shall be jetted clean of all solids build up and televised to determine if any low points (bellies) exist within the existing line, (b) the sewer manhole at the southern end of the sewer run shall be raised to grade, (c) once the sewer manhole is raised to grade, it shall be inspected with the City Engineer to determine if additional

work is required to the structure. At minimum, the interior of the structure shall be coated with hydraulic cement to prevent infiltration of ground water into the structure, and (d) two joints within the sewer pipe were found to be open more than normal, allowing for possible infiltration. These joints should be grouted or lined to protect against infiltration.

When the conditions above have been satisfied, six (6) sets of the above referenced plans revised as per the conditions above shall be submitted for endorsement by the Planning Board Chairman. One set of the endorsed plans will be returned to the Applicant, one set will be retained by the City Clerk, one set will be provided to the Planning Board, and one set each will be forwarded to the Building Inspector, City Engineer and City Planner.

B. The following are general conditions which shall be fulfilled:

1. Based on the current and anticipated future need for park and recreational opportunities in the City of Beacon, as set forth in the analysis provided by BFJ Planning, and the demands of the future population of the Project, the Planning Board hereby finds that additional recreation/parkland should be created as a condition of approval. However, the Planning Board hereby determines that recreation/parkland of adequate size and location cannot be provided on the Project Site. Therefore, the Applicant shall pay a Recreation Fee for the new lot as prescribed under Section 195-25.A(4) of the City Code. The Planning Board hereby requires that, prior to the issuance of the Certificate of Occupancy, the Applicant shall pay a Recreation Fee as per the City's Fee Schedule in effect at the time of payment.

2. The Building Inspector and the City Engineer shall have the right to direct the Applicant to cause the placement, cleaning and/or repair of sedimentation and erosion control devices wherever and whenever deemed necessary during construction.

3. The Applicant shall be responsible for the payment of all application review costs incurred by the City in its review and approval of this project. Such fees shall be paid by the Applicants within thirty (30) days of each notification by the City that such fees are due. If such fees are not paid within the thirty (30) day period, and an extension therefor has not been granted by the City, this Resolution shall be rendered null and void.

4. As used herein, the term "Applicant" shall include Allison Cross and Henry Nye, and their heirs, successors and assigns.

5. If any of the conditions enumerated in this Resolution upon which this approval is granted are found to be invalid or unenforceable, then the integrity of this Resolution and the remaining conditions shall remain valid and intact.

6. The approvals granted by this Resolution do not supersede the authority of any other entity.

7. This approval is conditioned upon compliance with all of the mitigation measures specified in the Applicant's Environmental Assessment Form and the Negative Declaration granted pursuant thereto. The Applicant shall be responsible for the funding and/or implementation of all such identified mitigation measures. Where the terms of this Resolution may be inconsistent with the EAF, the terms of this Resolution shall be controlling.

8. Conditional approval of the Final Subdivision Plat shall expire one hundred eighty (180) days from the date of the adoption of this Resolution unless all items in Condition A above have been certified as completed and the Final Plat has been submitted for endorsement by the Planning Board Chairman, or unless a written request for an extension of Final Subdivision Plat Approval is granted. The Planning Board may grant ninety (90) day extensions to said time period.

9. Once the Final Subdivision Plat has been endorsed by the Planning Board Chairman, said Plat must be filed in the Dutchess County Clerk's Office within sixty-two (62) days. After said filing, two (2) copies of the Final Plat certified by Dutchess County shall be submitted to the Planning Board Secretary. One (1) certified copy of the Final Plat shall be retained by the Planning Board and the other certified copy shall be transmitted to the City Clerk along with a signed copy of this Resolution and proof of recording of the easement documents described above.

10. The Applicant must return for approval from the Planning Board if any changes to the endorsed plans and/or this Resolution of approval are subsequently desired other than changes determined to be field changes by the Building Inspector or City Engineer. The Planning Board, in its discretion, shall determine the appropriate procedures for consideration of the proposed revision, and whether such revision is material enough to require further environmental analysis and/or further project review, as the Board may deem appropriate.

Dated: May 11, 2021

Resolution Adopted: May 11, 2021
Beacon, New York

John Gunn, Chairman
City of Beacon Planning Board

MAY 13th, 2021
Dated

Motion by Ms. Quiana, seconded by Mr. Warner:

Kevin Byrne	Voting: AYE	Len Warner	Voting: AYE
J.C. Calderon	Voting: AYE	J. Randall Williams	Voting: EXCUSED
Karen Quiana	Voting: AYE	John Gunn, Chairman	Voting: AYE
Jill Reynolds	Voting: EXCUSED		

City of Beacon Planning Board Agenda
12/14/2021

Title:

Consider request for two 90-day extensions of Subdivision Approval - 25 Townsend Street, submitted by AK Property Holding, LLC

ATTACHMENTS

25 Townsend Street Request for Extension.pdf

CUDDY +FEDER LLP

445 Hamilton Avenue, 14th Floor
White Plains, New York 10601
T 914 761 1300
F 914 761 5372
cuddyfeder.com

Taylor M. Palmer
tpalmer@cuddyfeder.com

November 30, 2021

VIA E-MAIL (egrogan@cityofbeacon.org)
Hon. John Gunn, Chairman
& Members of the Planning Board
City of Beacon
One Municipal Plaza
Beacon, New York 12508

Re: AK Property Holding, LLC – Request for Extension of Final Subdivision Approval
Property: 25 Townsend Street, Beacon, New York 12508

Dear Chairman Gunn and Planning Board Members:

On behalf of AK Property Holding, LLC (the "Applicant"), we are writing to request an additional two (2) 90-day extensions of the July 10, 2018 Final Subdivision Approval Resolution, which was last extended by this Board on July 13th, 2021.[1] This request is timely, as 180 days (6 months) have not elapsed since the last extension that was granted at the Planning Board's July 13th, 2021 meeting, which current extension runs until December 22, 2021.

At this time the Applicant advises that they are still working to satisfy the prerequisite Conditions provided in the Approval Resolution in order for the Final Subdivision Plat to be signed by the Planning Board Chairman and subsequently recorded in the Dutchess County Clerk's Office.

As a condition of the July 13th extension of approval, the Planning Board requested that the Applicant's engineer prepare and forward an Updated Performance Bond Estimate to the City's Engineer for review and approval. Since that time, we understand that the Planning Board's Engineering Consultant, John Russo, P.E. of Lanc & Tully reviewed and approved the Updated Performance Bond Estimate on November 18th.[2] Our office has also been in contact with the Planning Board Attorney, who we understand has been contacted by the Applicant's closing attorney regarding a pending contract and associated details pertaining to filing a performance bond and regarding filing the Final Subdivision Plat.

[1] A copy of the 2018 Approval Resolution, adopted July 10, 2018 (the "2018 Approval Resolution") is enclosed as **Exhibit A**, together with a copy of the Planning Board's July 13, 2021 Meeting Minutes (page 7) approving the last extension request attached to this letter as **Exhibit B.**

[2] A copy of the Updated Performance Bond Estimate is attached to this letter as **Exhibit C**.

The Applicant reiterates their request for the Board's consideration stemming from additional difficulties with filing of the performance guarantee due to complications arising from the COVID-19 pandemic.

We respectfully request that you please place this matter on the next available Planning Board Agenda for consideration of the Applicant's request for two (2) 90-day extensions (180 days) for the Final Subdivision Approval, thus extending to June 20, 2022 the date by which the Applicant must satisfy conditions A.1-A.8 of the 2018 Approval Resolution.

Thank you in advance for your consideration in this matter.

Very truly yours,



Taylor M. Palmer

Enclosures
cc: Jennifer L. Gray, Esq. – Planning Board Attorney

EXHIBIT A

RESOLUTION

PLANNING BOARD
BEACON, NEW YORK

FINAL SUBDIVISION PLAT APPROVAL FOR
25 TOWNSEND STREET

WHEREAS, the Beacon Planning Board received an application for Final Subdivision Plat Approval from AK Property Holding LLC ("Applicant") for a residential subdivision (the "Project" or "Proposed Action"); and

WHEREAS, the property is located within the R1-7.5 One-Family Residence District and is designated as Parcel 6055-03-383149 on the City Tax Map (collectively, the "Subject Property" or "Site"); and

WHEREAS, the Subject Property is owned by AK Property Holding LLC and is comprised of approximately 5 acres which was formerly the site of the Knights of Columbus; and

WHEREAS, the Applicant is proposing to subdivide the parcel to create 13 residential lots for the construction of new single-family residences with an additional common lot for stormwater infiltration and 50' right-of-way offered for dedication to the City of Beacon for future road purposes and the opportunity to connect the Subject Property to the adjacent parcel upon the development of the adjacent parcel; and

WHEREAS, the new lots would be serviced by a cul-de-sac roadway with sidewalks and a landscaped center island; and

WHEREAS, the subdivision is shown on the drawing, entitled "Preliminary Subdivision Plan," last revised June 26, 2018, prepared by Hudson Land Design, Beacon, N.Y.; and

WHEREAS, the plans reviewed by the Planning Board consist of the following:

- Sheet 1 of 8, entitled "Existing Conditions and Demo Plan," last revised June 26, 2018, prepared by Hudson Land Design, Beacon N.Y.
- Sheet 2 of 8, entitled "Preliminary Subdivision Plan," last revised June 26, 2018, prepared by Hudson Land Design, Beacon, N.Y.
- Sheet 3 of 8, entitled "Utility Plan," last revised June 26, 2018, prepared by Hudson Land Design, Beacon N.Y.
- Sheet 4 of 8, entitled "Utility Plan and Profile," last revised June 26, 2018, prepared by Hudson Land Design, Beacon N.Y.
- Sheet 5 of 8, entitled "Erosion & Sediment Control Plan," last revised June 26, 2018, prepared by Hudson Land Design, Beacon N.Y.

- Sheet 6 of 8, entitled "Construction Details," last revised June 26, 2018, prepared by Hudson Land Design, Beacon N.Y.
- Sheet 7 of 8, entitled "Construction Details," last revised June 26, 2018, prepared by Hudson Land Design, Beacon N.Y.
- Sheet 8 of 8, entitled "Construction Details," last revised June 26, 2018, prepared by Hudson Land Design, Beacon N.Y.

WHEREAS, the application also consists of application forms and the Environmental Assessment Form (EAF), and all other submissions by the Applicant; and

WHEREAS, the Planning Board reviewed the application at its meetings on January 12, 2016, June 14, 2016, April 11, 2017, May 9, 2017, August 8, 2017, September 12, 2017, February 14, 2018, March 13, 2018, April 10, 2018, May 8, 2018, June 12, 2018 and July 10, 2018; and

WHEREAS, on March 13, 2018, following a coordinated review pursuant to SEQRA the Planning Board adopted a Negative Declaration after taking a "hard look" at each of the relevant areas of environmental concern through review of the EAF and all associated materials prepared in connection with the Proposed Action; and

WHEREAS, following the adoption of the Negative Declaration pursuant to SEQRA, on March 13, 2018, the Planning Board opened the public hearing on the application for Subdivision Approval, at which time all those interested were given an opportunity to be heard and the public hearing was continued to May 8, 2018 and June 12, 2018, and closed on June 12, 2018; and

WHEREAS, on June 12, 2018 the Planning Board granted Preliminary Subdivision Approval for the Project; and

WHEREAS, the Planning Board is fully familiar with the Project and has reviewed the Project relative to all applicable provisions of the City Code.

NOW THEREFORE, BE IT RESOLVED, that the Planning Board hereby finds that the Final Subdivision Plat will not be substantively changed from the Preliminary Subdivision Plat and hereby determines that a public hearing on the Final Plat is not required; and

BE IT FURTHER RESOLVED, that the Planning Board finds that the conditions 1 and 2 in Section "A" of the Preliminary Subdivision Approval Resolution, adopted on June 12, 2018, have been fulfilled to the satisfaction of the Planning Board, except for those conditions that have become conditions of Final Subdivision Approval set forth below, and the Planning Board hereby amends the conditions of the Preliminary Subdivision Approval Resolution to remove condition 4 in Section "A" therein.

BE IT FURTHER RESOLVED, that the Planning Board hereby grants Final Subdivision Plat Approval to the Project, as shown on the application materials enumerated above, subject to the following conditions and modifications:

A. The following conditions shall be fulfilled prior to the signing of the Final Subdivision Plat by the Chairman of the Planning Board:

1. The comments contained in the City Engineer's letter to the Planning Board dated July 5, 2018, and all comments in any subsequent letter(s) issued, shall be fulfilled to the satisfaction of the City Engineer.

2. The comments contained in the City Planner's letter to the Planning Board dated July 5, 2018, and all comments in any subsequent letter(s) issued, shall be fulfilled to the satisfaction of the City Planner.

3. All application review fees shall be paid in full.

4. The Applicant shall seek and obtain all required permits and/or approvals from the appropriate agencies for the Project, including but not necessarily limited to approval from the Dutchess County Department of Health for the extension of water distribution and sewer collection systems, and shall meet all conditions contained in such approvals, as required therein.

5. The Applicant shall submit all necessary easements in recordable form satisfactory to the City Attorney, which shall be recorded in the Dutchess County Clerk's Office simultaneously with the Subdivision Plat and prior to the transfer of any subdivision lot, with a copy of the recorded documents submitted to the City Clerk for filing. Such easements include but may not be limited to the following:

    a. 20' wide Conservation and Landscape Easement
    b. 10' wide Drainage Easement
    c. 15' wide Drainage Easement with diversion berm
    d. Stormwater Management Maintenance Agreement & Access Easement in accordance with Section 190-9 of the City Code

    Thereafter, the Applicant shall submit written evidence certifying that such easements have been duly recorded in the Dutchess County Clerk's Office.

6. The Applicant shall submit appropriate Homeowner's Association documentation for review as to form by the City Attorney, which shall include maintenance obligations for the landscaped cul-de-sac island and all stormwater facilities, including the infiltration basin and all pipes, swales and structures that convey stormwater through the Subject Property. The "HOA Lot" containing the infiltration basin shall be owned and maintained by the HOA. Unless and until the City of Beacon accepts the

offer of dedication of the 50' right of way spur off of the cul-de-sac, such right-of-way shall be owned and maintained by the HOA.

7. Pursuant to Section 195-15 of the City Code, the Applicant shall submit a performance guarantee for the construction of all public improvements in an amount to be determined by the City Engineer and in a form acceptable to the City Attorney.

8. Sheet 2 of 8, entitled "Preliminary Subdivision Plan," last revised June 26, 2018, prepared by Hudson Land Design, Beacon, N.Y. shall be re-labeled as "Final Subdivision Plan."

B. Prior to the issuance of a Building Permit, the following conditions shall be fulfilled to the satisfaction of the Building Inspector:

1. The Applicant shall submit a Construction Management Plan for review and approval of the Building Inspector, Highway Superintendent and City Engineer.

2. The Applicant shall fund an escrow account with the City of Beacon for the monthly stormwater inspections in an amount as determined by the City Engineer.

C. The following are general conditions which shall be fulfilled:

1. Based on the current and anticipated future need for park and recreational opportunities in the City of Beacon, as set forth in the analysis provided by BFJ Planning, and the demands of the future population of the Project, the Planning Board hereby finds that additional recreation/parkland should be created as a condition of approval. However, the Planning Board hereby determines that recreation/parkland of adequate size and location cannot be provided on the Project Site. Therefore, that Applicant shall pay a Recreation Fee as prescribed under Section 195-25.A(4) of the City Code. The Planning Board hereby requires that, prior to the issuance of the Certificate of Occupancy, the Applicant shall pay a Recreation Fee as per the City's Fee Schedule in effect at the time of payment.

2. The Building Inspector and the City Engineer shall have the right to direct the Applicant to cause the placement, cleaning and/or repair of sedimentation and erosion control devices wherever and whenever deemed necessary during construction.

3. This approval is conditioned upon compliance with all of the mitigation measures specified in the Applicant's Environmental Assessment Form. The Applicant shall be responsible for the funding and/or implementation of all such identified mitigation measures. Where the terms of this Resolution may be inconsistent with the EAF, the terms of this Resolution shall be controlling.

4. The Applicant shall be responsible for the payment of all application review costs incurred by the City in its review and approval of this project. Such fees shall be paid by the Applicants within thirty (30) days of each written notification by the City that such fees are due. If such fees are not paid within the thirty (30) day period, and an extension therefor has not been granted by the City, this Resolution shall be rendered null and void if the Final Plat has not yet been filed in the Dutchess County Clerk's Office.

5. As used herein, the term "Applicant" shall include their heirs, successors and assigns, and where applicable its contractors and employees.

6. If any of the conditions enumerated in this Resolution upon which this approval is granted are found to be invalid or unenforceable, then the integrity of this Resolution and the remaining conditions shall remain valid and intact.

7. The approvals granted by this Resolution do not supersede the authority of any other entity.

8. Conditional approval of the Final Subdivision Plat shall expire one hundred eighty (180) days from the date of the adoption of this Resolution unless all items in Condition A above have been certified as completed and the Final Plat has been submitted for endorsement by the Planning Board Chairman, or unless a written request for an extension of Final Subdivision Plat Approval is granted. The Planning Board may grant ninety (90) day extensions to said time period.

9. Once the Final Subdivision Plat has been endorsed by the Planning Board Chairman, said Plat must be filed in the Dutchess County Clerk's Office within sixty-two (62) days. After said filing, two (2) copies of the Final Plat certified by Dutchess County shall be submitted to the Planning Board Secretary. One (1) certified copy of the Final Plat shall be retained by the Planning Board and the other certified copy shall be transmitted to the City Clerk along with a signed copy of this Resolution.

10. The Applicant must return for approval from the Planning Board if any changes to the endorsed plans and/or this Resolution of approval are subsequently desired.

Resolution Adopted: July 10, 2018
Beacon, New York

John Gunn, Chairman

7/10/2018
Date

motion by R. Williams, seconded by R. Muscat:

Gary Barrack	Voting AYE	Rick Muscat	Voting AYE
David Burke	Voting EXCUSED	Randall Williams	Voting AYE
Jill Reynolds	Voting AYE	John Gunn, Chairman	Voting AYE
Patrick Lambert	Voting AYE		

EXHIBIT B

Ms. Quiana made a motion to direct the City Attorney's office to prepare a draft Negative SEQRA Declaration for consideration at the next meeting prior to the public hearing on the application for Subdivision Approval, seconded by Mr. Calderon. All voted in favor. Motion carried.

Ms. Quiana made a motion to schedule a public hearing on the application for Subdivision Approval for the month of August, seconded by Mr. Calderon. All voted in favor. Motion carried.

Miscellaneous Business

Zoning Board of Appeals – July Meeting

Members reviewed the Zoning Board of Appeals' July agenda, specifically for 248 Tioronda Avenue's application to change construction phasing requirements. Section 223-41.14(B) requires the non-residential space be built prior to, or concurrently with, the residential portion of the development. The applicant is seeking funding from the Community Preservation Corporation (CPC) and although they are eager to support the residential portion of the loan, they could not currently finance the commercial portion of the development.

A lengthy discussion took place and several concerns were raised. Members suggested the following questions and considerations be forwarded to the Zoning Board of Appeals. They felt the applicant should provide information on what efforts were made to find financing other than the Community Preservation Corporation, and to ask what experience the Community Preservation Corporation has in funding commercial or mixed-use development projects. In addition, they felt timing should be considered – if the variance is granted, a condition should be included to ensure that the commercial portion of the project is built. A condition could be placed on the variance that requires the foundation of the commercial building be constructed before Certificates of Occupancy for the residential buildings are issued by the Building Department. A memorandum outlining the board's discussion will be sent to the Zoning Board of Appeals for their consideration.

Consider request for two 90-day extensions of Subdivision Approval – 25 Townsend Street, dr

Attorney Taylor Palmer described his client's request for an additional two 90-day extensions of final Subdivision Approval for the 25 Townsend Avenue project. He reported they continue to work on satisfying conditions of the approval however have been in an out of contract for the sale of the property. One issue is that the sale is contingent upon the buyer to provide the performance bond which is substantial. Discussion took place with regard to updating the estimate for the performance bond to see if any changes are necessary. After much debate, Ms. Quiana made a motion to grant the two 90-day extensions contingent upon the applicant working with Mr. Russo to update the estimate for the performance bond, seconded Mr. Warner. All voted in favor. Motion carried.

Continue review of Small Cell Wireless Facility Design and Review Guideline Policy

City Attorney Drew Gamils will work on an updated draft for further consideration at the August meeting.

EXHIBIT C

25 Townsend St
City of Beacon, NY
3/29/2019; Updated November 4, 2021
Project Number 2015:025

Performance Bond Estimate

No.	New Road (24' Wide Traveled Way)	Units	$/Unit	Quantity	Cost	Notes
1	Clearing and Grubbing - 50' Road ROW	LF	6.54	200	$ 1,308	Road is proposed in mostly open area
2	Clearing and Grubbing - Easements	LF	3.27	1470	$ 4,807	
3	Rough Grade	LF	13.08	500	$ 6,540	
4	Foundation Course	SY	26.16	1333	$ 34,871	Per City of Beacon current bid rates
5	Shaping Shoulders & Ditches	LF	3.27	2470	$ 8,077	
6	Asphalt Binder Course	SY	23.98	1333	$ 31,965	Per City of Beacon current bid rates
7	Asphalt Top Course	SY	13.08	1333	$ 17,436	
8	Shoulder Grading, Topsoil & Seeding	SY	4.09	1111	$ 4,541	
9	5' Sidewalk	LF	81.75	1465	$ 119,764	Per City of Beacon current bid rates
10	Cast-in-place Concrete Curb	LF	26.16	720	$ 18,835	
11	Monolithic Curb and Sidewalk	LF	107.91	355	$ 38,308	Per City of Beacon current bid rates
	Subtotal				$ 286,452	

No.	Storm Water Measures	Units	$/Unit	Quantity	Cost	Notes
1	Catch Basins	LF	545.00	46.5	$ 25,343	Per LF of depth
2	Catch Basins frames and grates	EA	1635.00	10	$ 16,350	
3	Hydrodynamic Device	EA	13080.00	2	$ 26,160	
4	Outlet Control Structure	EA	3270.00	1.0	$ 3,270	Includes trash racks
5	15" HDPE	LF	109.00	550	$ 59,950	Per City of Beacon current bid rates
6	18" HDPE	LF	119.90	329	$ 39,447	Per City of Beacon current bid rates
7	Flared End Treatments with Rip-Rap	EA	1635.00	3	$ 4,905	
8	Infiltration Basin	LS	16350.00	1	$ 16,350	
	Subtotal				$ 191,775	

No.	Water and Sewer	Units	$/Unit	Quantity	Cost	Notes
1	Manholes	LF	817.50	30	$ 24,525	Per LF of depth
1	Manholes casting	LF	1635.00	3	$ 4,905	Per City of Beacon current bid rates
2	8" SDR-26 Sewermain	LF	43.60	412	$ 17,963	
3	8" DI Watermain	LF	54.50	472	$ 25,724	
4	Hydrants	EA	5450.00	2	$ 10,900	Per City of Beacon current bid rates
5	Gate Valves	EA	1635.00	2	$ 3,270	Per City of Beacon current bid rates
6	Water Service Stubs	EA	272.50	13	$ 3,543	
7	Sewer Service Stubs	EA	272.50	13	$ 3,543	
	Subtotal				$ 94,372	

No.	Erosion Control	Units	$/Unit	Quantity	Cost	Notes
1	Stabilized Construction Entrance	LS	2725.00	1	$ 2,725	
2	Silt Fence	LF	4.09	2,837	$ 11,596	
3	Catch Basin Inlet Protection	EA	163.50	9	$ 1,472	
	Subtotal				$ 15,793	

No.	Miscellaneous	Units	$/Unit	Quantity	Cost	Notes
1	Street Signs	EA	327.00	5	$ 1,635	
2	Final Cleaning of Drainage System	LF	2.45	557	$ 1,366	
3	Repairs to Binder Prior to Completion (10%)	LS	3270.00	1	$ 3,270	
4	As-built Drawings	LS	3270.00	1	$ 3,270	
5	Street/Screening Trees	EA	327.00	70	$ 22,890	
6	Shrubs Within Cul De Sac	EA	190.75	12	$ 2,289	
7	Light Poles	EA	872.00	12	$ 10,464	
8	2" PVC Conduit and 10 AWG Wiring for Light Poles	LF	16.35	530	$ 8,666	
9	Concrete Pavers	SF	21.26	1086	$ 23,083	Includes 1" sand bedding
10	Aggregate Base For Pavers	CY	38.15	27	$ 1,030	
11	Concrete Monuments	EA	272.50	6	$ 1,635	
	Subtotal				$ 79,598	
	Total all Items				**$ 667,989**	
	10% Contingency				**$ 66,799**	
	Grand Total				**$ 734,788**	

City of Beacon Planning Board Agenda
12/14/2021

Title:

City Council request for review Local Law regarding Accessory Apartments

ATTACHMENTS

Accessory Apartment_EAF Part 1 (4853-5108-7107.1).pdf

EAF-Accessory Apartment_Project Narrative (4877-2512-8963.1).pdf

Final_ Schedule of Use Regulations_Accessory Apartment Amendment (4891-0429-4659.1).pdf

Final_Section 223-17E Schedule of Regulations for Accessory Building_Amendment (4888-2616-1411.1).pdf

November Version_Accessory Apartment Local Law.pdf

Schedule of Dimensional Regulations_Amendment for Accessory Apartments (4876-3287-1427.1).pdf

Short Environmental Assessment Form
Part 1 - Project Information

Instructions for Completing

Part 1 – Project Information. The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

Part 1 – Project and Sponsor Information

Name of Action or Project:

Local Law to Amend Chapter 223, Section 24.1 and Section 14 and 223 Attachment 1, Attachment 2 and Attachment 3 of the City Code.

Project Location (describe, and attach a location map):

City of Beacon

Brief Description of Proposed Action:

The City Council is considering adopting a local law to amend Chapter 223, Section 24.1 and Section 14, and Chapter 223, Attachment 1, Attachment 2, and Attachment 3 of the Code of the City of Beacon concerning accessory apartments. The City Council is considering adopting amendments to the City Code to encourage the development of accessory apartments to promote renter and owner affordability in the City of Beacon.

Name of Applicant or Sponsor:	Telephone: 845-838-5000
City of Beacon	E-Mail: cityofbeacon@beaconny.gov

Address:

1 Municipal Plaza

City/PO:	State:	Zip Code:
Beacon	NY	12508

	NO	YES
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.	☐	☑
2. Does the proposed action require a permit, approval or funding from any other government Agency? If Yes, list agency(s) name and permit or approval:	☐	☐

3. a. Total acreage of the site of the proposed action? _____ acres
   b. Total acreage to be physically disturbed? _____ acres
   c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? _____ acres

4. Check all land uses that occur on, are adjoining or near the proposed action:

☐ Urban ☐ Rural (non-agriculture) ☐ Industrial ☐ Commercial ☐ Residential (suburban)

☐ Forest ☐ Agriculture ☐ Aquatic ☐ Other(Specify):

☐ Parkland

	NO	YES	N/A
5. Is the proposed action,			
a. A permitted use under the zoning regulations?	☐	☐	☐
b. Consistent with the adopted comprehensive plan?	☐	☐	☐

	NO	YES
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	☐	☐

	NO	YES
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area?		
If Yes, identify: _____	☐	☐

	NO	YES
8. a. Will the proposed action result in a substantial increase in traffic above present levels?	☐	☐
b. Are public transportation services available at or near the site of the proposed action?	☐	☐
c. Are any pedestrian accommodations or bicycle routes available on or near the site of the proposed action?	☐	☐

	NO	YES
9. Does the proposed action meet or exceed the state energy code requirements?		
If the proposed action will exceed requirements, describe design features and technologies: _____ _____	☐	☐

	NO	YES
10. Will the proposed action connect to an existing public/private water supply?		
If No, describe method for providing potable water: _____ _____	☐	☐

	NO	YES
11. Will the proposed action connect to existing wastewater utilities?		
If No, describe method for providing wastewater treatment: _____ _____	☐	☐

	NO	YES
12. a. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places?	☐	☐
b. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory?	☐	☐

	NO	YES
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?	☐	☐
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody?	☐	☐
If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: _____ _____ _____		

14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply:

☐ Shoreline ☐ Forest ☐ Agricultural/grasslands ☐ Early mid-successional

☐ Wetland ☐ Urban ☐ Suburban

	NO	YES
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered?	☐	☐
16. Is the project site located in the 100-year flood plan?	☐	☐
17. Will the proposed action create storm water discharge, either from point or non-point sources?	☐	☐
If Yes,		
a. Will storm water discharges flow to adjacent properties?	☐	☐
b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)?	☐	☐
If Yes, briefly describe: _____ _____		
18. Does the proposed action include construction or other activities that would result in the impoundment of water or other liquids (e.g., retention pond, waste lagoon, dam)?	☐	☐
If Yes, explain the purpose and size of the impoundment: _____ _____		
~~1~~9. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility?	☐	☐
If Yes, describe: _____ _____		
20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste?	☐	☐
If Yes, describe: _____ _____		

I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE

Applicant/sponsor/name: _____ Date: _____

Signature: _____ Title: _____

PRINT FORM

City of Beacon
Short Environmental Assessment Form
Part 1 - Project Information

Project Narrative

The City Council is considering adopting a local law to amend Chapter 223, Section 24.1 and Section 14, and Chapter 223 Attachment 1, Attachment 2 and Attachment 3 of the Code of the City of Beacon (the "City Code") concerning accessory apartments to encourage the development of accessory apartments to promote renter and owner affordability in the City of Beacon. The purpose of the proposed local law is to create more flexible and inclusive regulations for accessory apartments to streamline the review process, avoid unnecessary variances, provide options for more diverse households, help existing homeowners maintain their properties, and incrementally supply smaller, more affordable dwellings with a low impact level on existing neighborhoods.

Accessory apartments are currently permitted in all R1, all RD and T Zoning Districts by special use permit approval from the Planning Board. An accessory apartment is defined in the City Code as "a small rental housing unit, subject to the conditions in City Code § 223-24.1, allowed on single-family properties in residential districts and designed to meet the special housing needs of single persons, couples, other small households, the young, the elderly, persons of low and moderate-income, or property owner relatives."

The proposed local law amends the City Code to permit the development of accessory apartments on all existing single-family properties in all R1, all RD and in the T Zoning Districts subject to site plan approval from the Planning Board. Under the proposed local law, accessory apartments do not require special use permit approval. The law further exempts any proposed accessory apartment located entirely within an existing single-family dwelling from site plan approval. The Building Inspector shall have approval authority for accessory apartments that meet all the requirements of City Code § 223-24.1 and are contained entirely within an existing single-family dwelling. All other proposed accessory apartments, including any accessory apartments requiring exterior additions, conversions of existing accessory buildings, or new accessory buildings, shall require site plan approval from the Planning Board.

The proposed local law limits the floor area of an accessory apartment to 50% of the total square footage of the single-family dwelling. In addition, in no case shall the total square footage of the accessory apartment exceed a maximum of 1,000 square feet or be less than 200 square feet. The Planning Board may continue to permit larger accessory apartments where appropriate in an existing accessory building constructed prior to August 1, 1989.

The proposed local law maintains the requirement set forth in City Code § 223-14.1.F concerning off-street parking. However, the proposed local law does include language to allow the Planning board to waive the off-street parking requirement when deemed appropriate.

The proposed local law eliminates the Maximum Cumulative Square Footage column in Chapter 223, Attachment 3, Schedule of Regulations for Accessory Buildings on Residential Lots. The overall square footage of buildings on a lot can be more simply regulated by the existing Maximum Building Coverage column in Chapter 223, Attachment 1, Schedule of Dimensional Regulations. The proposed local law modifies Chapter 223, Attachment 1 to establish a 40% maximum coverage for the R1-5 and T Districts to further regulate maximum building coverage in these zoning districts. Under the City's current zoning regulations, the R1-5 and T Districts have no Maximum Building Coverage listed.

Chapter 223, Attachment 3 is further modified to increase the maximum square footage permitted for each accessory building construction in connection with a single-family dwelling to be based on the total square footage of the principal building rather than the footprint of the principal building and increase the maximum square footage permitted for each accessory building constructed in connection with a single-family home from 40% to 50%. In addition, Chapter 223, Attachment 1 is further modified to reduce the required front yard setbacks in all residential districts by five (5) feet.

The proposed local law eliminates the requirement that accessory apartments be inspected every two years. The proposed local law does not contain any renewal inspection requirement for accessory apartments. However, the proposed local law does include a condition that no accessory apartment shall be used as a short-term rental.

The proposed local law maintains the language set forth in City Code § 223-24.1.B, requiring the owner of the single-family lot upon which an accessory apartment is located to occupy at least one of the dwelling units. The proposed local law also maintains the condition set forth in City Code § 223-24.1.E, which requires that the exterior appearance of all accessory apartments located in a detached single-family dwelling must be designed to look like that of the single-family residence.

An accessory apartment may be located either in or attached to a detached single-family dwelling or in an accessory building on such a single-family lot. However, the proposed local law allows certain nonconforming structures to be converted into accessory apartments without a variance from the Zoning Board of Appeals. An existing structure that does not conform to the yard requirements of Chapter 223 may be converted into an accessory apartment without a variance from the Zoning Board of Appeals if the proposed use will not enlarge or increase the dimensional nonconformity.

223 Attachment 2

City of Beacon

§ 223-17. City of Beacon Schedule of Use Regulations
[Added 6-15-2020 by L.L. No. 7-2020[1]; amended 2-16-2021 by L.L. No. 02-2021]

Permitted Uses by District	Reference Notes	All R1	All RD	T	GB	CMS	L	WD	WP	FCD	LI	HI
Residential												
One-family detached dwelling		P	P	P	X	X	X	X	X	X	X	X
One-family attached/semidetached	Including townhouses	X	P	P	X	X	P	X	X	P	X	X
Two-family dwelling		X	P	P	X	X	X	X	X	X	X	X
Multifamily dwelling		X	SP*	P	P	P	P	P	X	P	X	X
Artist live/work space	Subject to § 223-14.2	X	X	P	P	P	P	P	X	P	P	X
Retail/Office/Service												
Retail, personal service, or bank		X	X	X	P	P	P	P	X	X	P	X
Office		X	X	P	P	P	P	P	X	P	P	X
Artist studio, art gallery/exhibit space		X	X	P	P	P	P	X	X	P	P	X
Funeral home		X	X	X	P	X	X	X	X	X	P	X
Commercial recreation, indoor		X	X	X	P	P	X	X	X	X	P	P
Auction gallery		X	X	X	P	X	X	X	X	X	P	P
Adult use	Subject to § 223-20.1	X	X	X	X	X	X	X	X	X	SP	X
Food/Lodging												
Restaurant or coffee house		X	X	X	P	P	P	P	SP*	P	X	X
Bar/brew pub/microbrewery/microdistillery		X	X	X	P	P	P	P	X	P	P	P
Food preparation business		X	X	X	P	SP	SP	X	X	X	P	P
Short-term rental	Subject to § 223-26.5	P	P	P	P	P	P	P	P	P	P	P
Bed-and-breakfast	Subject to § 223-24.4	SP	SP	SP	P	X	P	X	SP*	P	P	X
Inn		X	X	X	P	P	P	P	SP*	P	P	X
Hotel	Subject to § 223-14.1	X	X	X	P	P	P	P	X	X	P	X
Social/Community												
Spa/fitness center/exercise studio		X	X	SP	P	P	P	P	X	P	P	X
Day-care center		X	X	P	P	X	P	P	X	P	SP	X
Park, preserve, community garden		P	P	P	P	P	P	P	P	P	P	X
Theater, concert or conference space		X	X	X	P	P	P	P	X	P	P	X
Museum		SP*	SP*	SP*	P	P	P	P	X	P	P	SP
Place of worship/religious facility		P	P	P	P	X	X	X	X	X	P	X
Social club	Subject to § 223-24.2	SP	SP	SP	SP	P	X	X	X	X	SP	X
X = Use Not Permitted P = Permitted Use SP = Special Permit Use by Planning Board SP* = Special Permit Use by City Council	For specific standards see -->					Article IVD	Article IVE	Article IVA	Article IVA	Article IVC		

[1] Editor's Note: This local law also repealed former 223 Attachment 2, § 223-17D, Schedule of Regulations for Nonresidential Districts, as amended.

Permitted Uses by District	Reference Notes	All R1	All RD	T	GB	CMS	L	WD	WP	FCD	LI	HI
Government facility		P	P	P	P	P	P	P	P	P	P	P
Golf course		SP*	SP*	X	X	X	X	X	X	X	X	X
Health Care												
Hospital or nursing home	Subject to 223-21.1/22	SP*	SP*	X	X	X	X	X	X	P	P	P
Animal care facility		SP	SP	X	SP	X	X	X	X	X	SP	X
Educational												
College or university		SP*	SP*	X	P	P	P	X	X	P	P	P
Trade school or training program		X	X	X	P	P	P	X	X	P	P	P
Private school or nursery school		SP	SP	SP	P	X	P	X	X	P	SP	X
Parking/Auto-Oriented												
Off-street parking or parking structure	Subject to § 223-26	X	X	SP	SP	SP	X	X	X	X	X	X
Vehicle sales or rental lot		X	X	X	SP	X	X	X	X	X	SP	X
Gas filling station and/or car wash	Subject to Ch. 210/§ 223-21	X	X	X	SP	X	X	X	X	X	SP	X
Auto body or repair shop	Subject to Chapter 210	X	X	X	SP	X	X	X	X	X	SP	X
Ambulance service		SP	SP	SP	P	X	X	X	X	X	P	X
Industrial or Assembly												
Wholesale or storage business		X	X	X	P	X	X	X	X	X	P	P
Workshop		X	X	SP	P	P	P	X	X	P	P	P
Industrial or manufacturing use		X	X	X	X	X	SP	X	X	P	P	P
Other												
Wireless communication facility	Subject to § 223-26.4	P	P	P	P	P	P	P	P	P	P	P
Small cell wireless facility	Subject to § 223-26.4	P	P	P	P	P	P	P	P	P	P	P
Farm		P	X	X	X	X	X	X	X	X	X	X
Horticultural nursery		P	P	X	P	X	X	X	X	X	P	X
Historic District Overlay Use	Subject to § 223-24.7	SP*	SP*	SP*	SP*	SP*	SP*	SP*	SP*	SP*	SP*	SP*
Permitted Accessory Uses (includes uses/structures customarily incidental to a permitted principal use, but not an activity for commercial gain in a residential district)												
Accessory apartment	Subject to § 223-24.1	~~SP~~ P	~~SP~~ P	~~SP~~ P	X	X	X	X	X	X	X	X
Private tennis court or pool	Subject to § 223-13	P	P	P	X	X	X	X	X	X	X	X
Home occupation or artist studio	Subject to § 223-17.1	P	P	P	X	X	X	X	X	X	X	X
Parking structure		X	X	SP	X	P	P	P	X	P	X	X
Garden, roof garden, or greenhouse		P	P	P	P	P	P	P	P	P	P	P
Solar collectors	Subject to Article X	P	P	P	P	P	P	P	P	P	P	P
X = Use Not Permitted P = Permitted Use SP = Special Permit Use by Planning Board SP* = Special Permit Use by City Council	For specific standards see -->					Article IVD	Article IVE	Article IVA	Article IVA	Article IVC		

223 Attachment 3

City of Beacon
§ 223-17E, Schedule of Regulations for Accessory Buildings on Residential Lots

Zoning District	Minimum Front Yard	Minimum Rear Yard	Minimum Side Yard	~~Maximum Cumulative Square Footage for All Accessory Buildings~~	Maximum Square Footage Permitted For Each Accessory Building (Based on ~~footprint~~ the total square footage of the principal building)	Maximum Number of Sheds Permitted
R1-120 1-Family Residence District	Not permitted in front yard	50	50	~~2,775~~	~~40%~~ 50%	2
R1-80 1-Family Residence District	Not permitted in front yard	30	30	~~2,125~~	~~40%~~ 50%	2
R1-40 1-Family Residence District	Not permitted in front yard	25	25	~~1,625~~	~~40%~~ 50%	2
R1-20 1-Family Residence District	Not permitted in front yard	20	20	~~1,250~~	~~40%~~ 50%	2
R1-10 1-Family Residence District	Not permitted in front yard	15	15	~~960~~	~~40%~~ 50%	2
R1-7.5 1-Family Residence District	Not permitted in front yard	5	5	~~720~~	~~40%~~ 50%	1
R1-5 1-Family Residence District	Not permitted in front yard	5	5	~~720~~	~~40%~~ 50%	1

Zoning District	Minimum Front Yard	Minimum Rear Yard	Minimum Side Yard	Maximum Cumulative Square Footage for All Accessory Buildings	Maximum Square Footage Permitted For Each Accessory Building (Based on footprint[a] of principal building)[b]	Maximum Number of Sheds Permitted
~~R1-5 1-Family Residence District~~	~~Not permitted in front yard~~	~~5~~	~~5~~	~~720~~	~~40%~~	~~1~~
RD-6 Designed Residence District	Not permitted in front yard	50	50	2,775	40%	2
RD-5 Designed Residence District	Not permitted in front yard	30	30	2,125	40%	2
RD-4 Designed Residence District	Not permitted in front yard	25	25	1,625	40%	2
RD-3 Designed Residence District	Not permitted in front yard	20	20	1,250	40%	2
RD-1.8 Designed Residence District	Not permitted in front yard	15	15	960	40%	2
RD-1.7 Designed Residence District	Not permitted in front yard	5	5	720	40%	1
R1-5 Designed Residence District	Not permitted in front yard	5	5	720	40%	1

NOTES:

The following districts were not included in the Planning Board's recommendation: RMF-1.5 (Multifamily Residence District), SAHO (Senior Affordable Housing Overlay District.

[a] Footprint includes attached garages but excludes open porches/decks.

[b.] The maximum square footage of each accessory building for any single-family dwelling located in the RD Zoning District shall be 50% based on the total square footage of the principal building.

November 11, 2021

LOCAL LAW NO. ____ OF 2021

CITY COUNCIL
CITY OF BEACON

PROPOSED LOCAL LAW TO AMEND CHAPTER 223, SECTION 24.1 AND SECTION 14, AND . CHAPTER 223 ATTACHMENT 2:2 OF THE CODE OF THE CITY OF BEACON

A LOCAL LAW to amend Chapter 223, Section 24.1 and Section 14, and . Chapter 223 Attachment 2:2 of the Code of the City of Beacon concerning accessory apartments.

BE IT ENACTED by the City Council of the City of Beacon as follows:

Section 1. Chapter 223, Section 24.1 of the Code of the City of Beacon entitled "Accessory Apartments" is hereby amended as follows:

§ 223-24.1 Accessory Apartments.

A. Purpose and intent. It is the purpose and intent of allowing accessory apartments on all existing single-family properties in all residence districts and the Transitional District ~~in all residence districts~~ to provide the opportunity and encouragement for the development of small, rental housing units designed to meet the special housing needs of single persons, couples, other small households, the young, the elderly, persons of low and moderate income and relatives of families presently living in Beacon. It is the further purpose and intent of this provision to allow the more efficient use of the City's existing stock of dwellings and accessory buildings, to provide economic support for present resident families of limited income and to otherwise help to protect and preserve property values.

B. Owner occupancy required. The owner of the single-family lot upon which an accessory apartment is located shall occupy at least one of the dwelling units on said lot.

C. Location on the lot. An accessory apartment may be located either in or attached to a detached single-family dwelling or in an accessory building on such a single-family lot.

D. Apartment size. The floor area of an accessory apartment shall not exceed 50% of the

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total floor area of the single-family dwelling in which it is located. In no case shall the total square footage of the accessory apartment exceed a maximum of 1,000 square feet or be less than a minimum of 200 square feet. Notwithstanding the foregoing, ~~The minimum floor area for an accessory apartment within a detached single-family dwelling shall be 400 square feet. The maximum floor area shall be 650 square feet, but in no case shall the floor area of the apartment exceed 30% of the total floor area of the dwelling building in which it is located. For an accessory apartment located in an accessory building, the minimum floor area shall be 300 square feet, and the maximum shall be 600 square feet, except that~~ the Planning Board may permit a ~~smaller or~~ larger accessory apartment where appropriate in an existing accessory building constructed prior to August 1, 1989. There shall be no more than one accessory apartment permitted per single-family lot. ~~There shall be no more than one accessory apartment permitted per single-family lot. However, in the case of a lot which contains an existing accessory building or buildings that comply with the minimum required setbacks required for a principal building in the zoning district in which the lot is located and that were constructed prior to August 1, 1989, one accessory apartment shall be permitted in each such accessory building in addition to the one permitted in the detached single-family dwelling; the area of such lot shall be at least 100% larger than the minimum lot area required in the district in which the lot is located for each accessory apartment in excess of the first one.~~

E. Exterior appearance. If an accessory apartment is located in a detached single-family dwelling, the entry to such unit and its design shall be such that, to the degree reasonably feasible, the exterior appearance of the building will remain that of a single-family residence.

F. Off-street parking. A minimum of one off-street parking space shall be provided for each accessory apartment in addition to the off-street parking required for other uses existing on the lot. The Planning Board may, in its discretion, waive all parking requirements when deemed appropriate.

G. The accessory apartment shall not be used for short term rentals as defined in § 223-26.5.

H. An existing structure that does not conform to the yard requirements of Chapter 223 may be converted into an accessory apartment without a variance from the Zoning Board of Appeals if the proposed use will not enlarge or increase the dimensional nonconformity.

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~~G. Renewal inspections. Each accessory apartment shall be inspected by the Building Department every two years in order to determine whether the apartment remains in compliance with this section. Upon a satisfactory inspection report, the accessory apartment owner shall be reissued a certificate of occupancy. In the event that the inspection indicates that the apartment is no longer in compliance, the certificate of occupancy shall be revoked until the violations are cured.~~

I. The Building Inspector shall have approval authority for accessory apartments entirely contained within an existing single-family dwelling and meeting all the provisions of this section. All other proposed accessory apartments, including any accessory apartments requiring exterior additions, conversions of existing accessory buildings, or new accessory buildings, shall require site plan approval from the Planning Board.

Section 2. Chapter 223, Section 14 of the Code of the City of Beacon entitled "Accessory buildings on residential lots" is hereby amended to add a new subsection (4) as follows:

§ 223-14 Landscaping, lighting, and miscellaneous regulations.

…

E. Accessory buildings on residential lots.

…

(4) This subsection shall not apply to accessory apartments.

Section 3. Chapter 223 Attachment 1 of the Code of the City of Beacon, entitled "§ 223-17. Schedule of Dimensional Regulations" shall be amended to (1) add a 40% maximum percent building coverage limit for the R1-5 and T Zoning Districts and (2) reduce the required front yard setbacks in all residential districts by five (5) feet.

SEE ATTACHED CHART

Section 4. Chapter 223 Attachment 2 of the Code of the City of Beacon, entitled "§ 223-17, City of Beacon Schedule of Use Regulations" shall be amended to permit accessory apartment as-of-right in all Residential Districts and the Transitional District in the City of Beacon, subject to site plan review by the City Planning Board.

SEE ATTACHED CHART

Section 5. Chapter 223 Attachment 3 of the Code of the City of Beacon, entitled "§ 223-17E, Schedule of Regulations for Accessory Buildings on Residential Lots" shall be amended to(1) eliminate the maximum cumulative square foot requirement for accessory buildings for all R1 Zoning Districts, (2)increase the maximum square footage permitted for each accessory building construction in connection with a single-family dwelling to be based on the total square footage of the principal building rather than the footprint of the principal building, and (3) increase the maximum square footage permitted for each accessory building constructed in connection with a single-family home from 40% to 50%.

SEE ATTACHED CHART

Section 6. Ratification, Readoption and Confirmation

Except as specifically modified by the amendments contained herein the Code of the City of Beacon is otherwise to remain in full force and effect and is otherwise ratified, readopted and confirmed.

Section 7. Numbering for Codification

It is the intention of the City of Beacon and it is hereby enacted that the provisions of this Local Law shall be included in the Code of the City of Beacon; that the sections and subsections of this Local Law may be re-numbered or re-lettered by the Codifier to accomplish such intention; that the Codifier shall make no substantive changes to this Local Law; that the word "Local Law" shall be changed to "Chapter," "Section" or other appropriate word as required for codification; and that any such rearranging of the numbering and editing shall not affect the validity of this Local Law or the provisions of the Code affected thereby.

Section 8. Severability. The provisions of this Local Law are separable and if any provision, clause, sentence, subsection, word or part thereof is held illegal, invalid or unconstitutional, or inapplicable to any person or circumstance, such illegality, invalidity or unconstitutionality, or inapplicability shall not affect or impair any of the remaining provisions, clauses, sentences, subsections, words or parts of this Local Law or their petition to other persons or circumstances. It is hereby declared to be the legislative intent that this Local law would have been adopted if such illegal, invalid or unconstitutional provision, clause, sentence, subsection, word or part had not been included therein, and if such person or circumstance to which the Local Law or part hereof is held inapplicable had been specifically exempt there from.

Section 9. Effective Date

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This local law shall take effect immediately filing with the Office of the Secretary of State.

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223 Attachment 1

City of Beacon

§ 223-17. Schedule of Dimensional Regulations
[Added 6-15-2020 by L.L. No. 7-2020[1]]

Zoning District	Minimum Lot Size Area[h] (see also § 223-121)				Minimum Yards[a]			Minimum Distance Between Buildings Same Lot	Maximum Height Main Building (see § 223-13) (stories/feet)	Maximum percent Building Coverage		Maximum Number of Units per Building	Minimum Open Space	Zoning District	Also Refer to Pertinent Sections
	Area (square feet)	Per Unit (square feet)	Width (feet)	Depth (feet)	Front (feet)	Side (feet)	Rear[d,e] (feet)			Multifamily	All Other				
R1-120	120,000	120,000	250	350	~~75~~ 70	50	75	—	2.5 / 35	N.A.	7%	1	—	R1-120	
R1-80	80,000	80,000	150	200	~~50~~ 45	30	50	—	2.5 / 35	N.A.	10%	1	—	R1-80	
R1-40	40,000	40,000	150	150	~~40~~ 35	25	50	—	2.5 / 35	N.A.	15%	1	—	R1-40	
R1-20	20,000	20,000	125	125	~~30~~ 25	20	40	—	2.5 / 35	N.A.	20%	1	—	R1-20	
R1-10	10,000	10,000	85	100	~~25~~ 20	15	35	—	2.5 / 35	N.A.	25%	1	—	R1-10	
R1-7.5	7,500	7,500	75	100	~~20~~ 15	10	25	—	2.5 / 35	N.A.	30%	1	—	R1-7.5	
R1-5	5,000	5,000	50	100	~~15~~ 10	10	20	—	2.5 / 35	N.A.	40%	1	—	R1-5	
RD-7.5[d,e]	2 acres	7,500	200	200	~~20 to 35~~ 15 to 30	25	50	30	3 / 35	15%	20%	12	—	RD-7.5[d,e]	
RD-6[d,e]	2 acres	6,000	200	200	~~50~~ 45	25	50	30	2.5 / 35	15%	20%	16	—	RD-6[d,e]	
RD-5[d,e]	5,000	5,000	50	100	~~30~~ 25	10	25	30	3 / 35	20%	30%	16	—	RD-5[d,e]	
RD-4[d,e]	5,000	4,000	200	200	~~40~~ 35	20	40	30	2.5 / 35	20%	25%	20	—	RD-4[d,e]	
RD-3[d,e]	5,000	3,000	50	100	~~30~~ 25	20	25	30	3.5 / 45	20%	40%	24	—	RD-3[d,e]	
RD-1.8[d,e]	5,000	1,800	50	100	~~30~~ 25	20	25	30	10[b] / 100	25%	40%	—[c]	—	RD-1.8[d,e]	
RD-1.7[d,e]	5,000	1,700	50	100	~~30~~ 25	20	25	30	4.5[f] / 55[f]	25%	40%	36[g]	—	RD-1.7[d,e]	
T	5,000	i	50	100	~~10~~ 5	10	20	—	2.5 / 35	—	40%	—	—	T	
GB	—	1,500	—	100	~~15~~ 10	20	25	—	— / 35	—	—	—	—	GB	
CMS	—	—	—	75	0 to 10	0	20	—	3 /| 38	—	—	—	10%	CMS	Art. IVD
L	—	—	—	75	0 to 20	0 to 30	25	—	4 / 48	—	—	—	15%	L	Art. IVE
FCD	2 acres	3,960	—	—	—	—	—	—	3 / 40	35%		—	30%	FCD	Art. IVC
WP	1 acre	—	—	—	10	—	—	—	2.5 / 35	20%		—	—	WP	Art. IVA
WD	5 acres	—	—	—	—	—	—	—	See Art. IVA	—		—	15%	WD	Art. IVA
LI	—	1,500	60	100	20	20	25	—	— / 35	70%		—	20%	LI	
HI	—	—	60	100	30	20	25	—	— / 40	70%		—	20%	HI	

NOTES:

[a] A private garage may be built across a common lot line in multifamily developments by mutual agreement between adjoining property owners, a copy of such agreement to be filed with the building permit application for such garage.

[b] But not more than 65% of the dwelling units in a multifamily development may be contained in buildings more than 3 1/2 stories in height.

[c] But not more than 24 dwelling units in any building 3 1/2 stories or less in height.

[d] For multifamily developments, a well-designed and landscaped recreation or usable open space area, approved by the Planning Board, of 2,000 square feet for the first 20 dwelling units or part thereof, plus 100 square feet for each additional dwelling unit will be required.

[e] In any RD District, the Planning Board may approve a subdivision of land into individual building lots containing a minimum of 1,800 square feet of area each and designed for attached or semi-attached single-family dwellings (townhouses), provided that the design is such that the gross dwelling unit density for the entire tract does not exceed that which can normally be permitted for multiple dwellings in the district in which the property is located and further provided that the Planning Board attaches such conditions and safeguards to its approval as, in its opinion, are necessary to assure that the entire property, including any designated common areas for open space.

[f] A maximum of one story of parking under a building shall not count toward the maximum building height limitation in feet and stories.

[g] And each building shall not exceed 150 feet in length.

[h] For all development proposals involving a total lot area of more than three acres within an R1, RD, or Fishkill Creek Development zoning district, the lot area per dwelling unit calculation shall first deduct any lot area covered by surface water, within a federal regulatory floodway, within a state or federally regulated wetland, or with existing, predevelopment very steep slopes of 25% or more as defined in § 223-63.

[i] One-half the minimum lot size area per dwelling unit as the least restrictive adjoining residential district.

[1] Editor's Note: This local law also repealed former 223 Attachment 1, § 223-17C, Schedule of Regulations for Residential Districts, as amended.

City of Beacon Planning Board Agenda
12/14/2021

Title:

Single Family House - North Cedar Street

ATTACHMENTS

North Cedar Street Application.pdf

North Cedar Street Elevations.pdf

ARCHITECTURAL REVIEW BOARD APPLICATION

Date: 11/30/21

Project Address: North Cedar (32 in process of subdivision) vacant lot at corner of Oak)

Project Architect/Engineer: Day Stokosa

Owner/Builder: DiLello Homes Inc.

Contact Phone No.: (845) 629-8117

Approval Requested: _____ Certificate of Appropriateness X New Single Family House

Color/Materials:

Siding: Boothbay Blue (Hardie)

Roofing: Pewter Gray

Windows: Color: White Type: Casuits

Trim: Shutters: louvered Blue (36 Mid America Coordinated Colors)

Garage Door: n/a

Stone/Brick: N/A

Signature of Owner

FOR OFFICE USE ONLY:

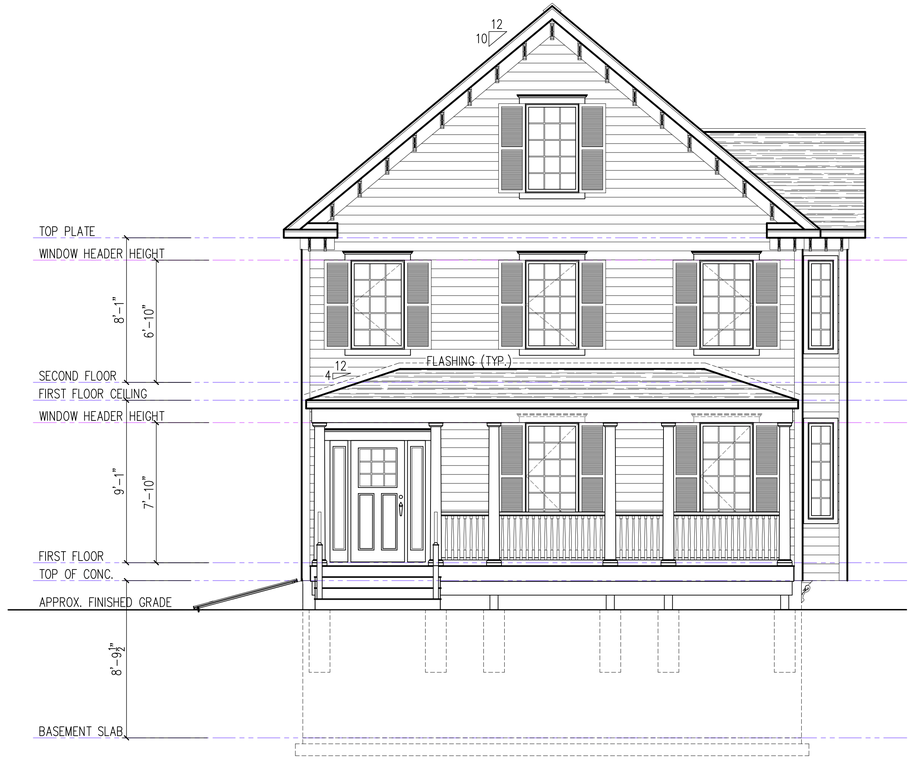
The Architectural Review Board has reviewed the plans submitted for approval for the project listed above and has determined:

Plan Denied _____
(Date)

Plan Approved _____
(Date)

Subject to the following:

FEE: $100.00



E.1 FRONT ELEVATION VIEW
E.1 SCALE: 1/4" = 1'-0"



E.2 RIGHT SIDE ELEVATION VIEW
E.1 SCALE: 1/4" = 1'-0"

IT IS A VIOLATION OF NEW YORK STATE EDUCATION LAW FOR ANY PERSONS TO ALTER THESE PLANS, SPECIFICATIONS, OR REPORTS IN ANY WAY, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR.

ALL DIMENSIONS MUST BE VERIFIED IN THE FIELD BY THE CONTRACTOR BEFORE START OF CONSTRUCTION. ANY DISCREPANCIES ON THE PLANS, OR SPECIFICATIONS, MUST BE REPORTED TO THE ENGINEER PRIOR TO THE START OF CONSTRUCTION.

Revisions

Brian J. Stokosa, PE

Project No. 2021.322

License No. 083970

DAY | STOKOSA ENGINEERING P.C.
3 Van Wyck Lane
Wappingers Falls, New York
(845)-223-3202

PROJECT
New Residence:
North Cedar Street
Beacon New York

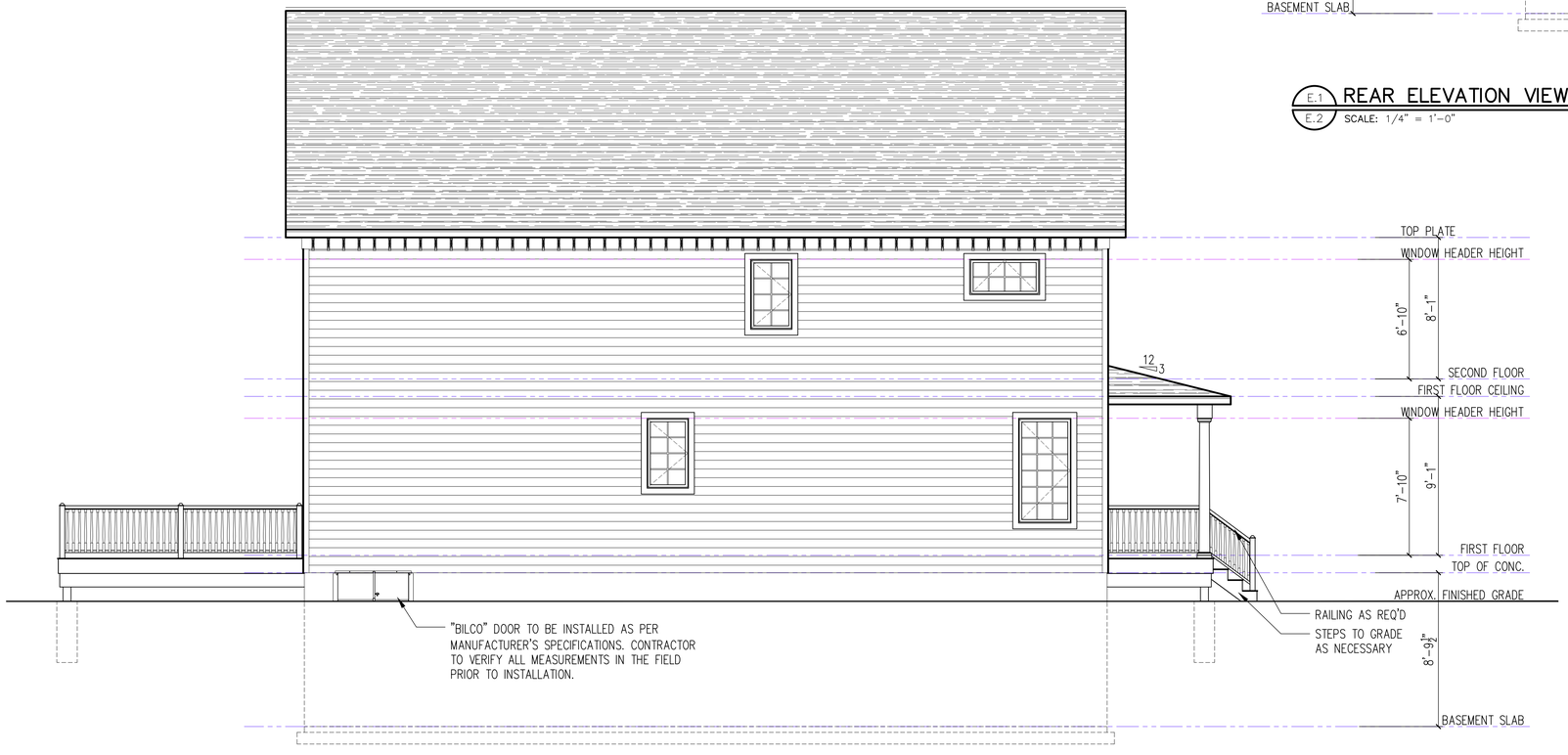
DRAWING
Elevations

SCALE	DRAWN BY	DRAWING No.
AS NOTED	KR	E.1
DATE	CHECKED BY	
08/27/2021	BJS	



E.1 / E.2 REAR ELEVATION VIEW

SCALE: 1/4" = 1'-0"



E.2 / E.2 LEFT SIDE ELEVATION VIEW

SCALE: 1/4" = 1'-0"

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3 Van Wyck Lane
Wappingers Falls, New York
(845)-223-3202

PROJECT: New Residence: North Cedar Street, Beacon, New York

DRAWING: Elevations

SCALE	DRAWN BY	DRAWING No.
AS NOTED	KR	E.2
DATE: 08/27/2021	CHECKED BY: BJS	