TOWN GRAY
PLANNING BOARD
AGENDA • SEPTEMBER 9, 2021

Planning Board
Regular Meeting

Henry Pennell Municipal Complex
24 Main Street
Gray, ME 04039

7:00 PM

I. MEETING COMMENCES
Roll Call

II. MINUTES APPROVAL

a. August 12, 2021 Minutes Approval

III. PUBLIC HEARINGS

a. Gray Yarmouth Road Solar LLC:
A request by Gray Yarmouth Road Solar LLC for Conditional Use and Site Plan Review for a 33+/- commercial solar energy system on a 102+/- acre parcel accessed at the end of Hillcrest Drive (near 51 Yarmouth Rd) owned by the Sawyer & Dunn families on Tax Map 36, lot 33-1 in a Rural Residential & Agricultural Zoning District.

b. Proposed Amendments to VC/VCP District Design Standards:
Public input and Public Hearing on proposed amendments to Section 402.8.3 (Village Center District Standards) of the Zoning Ordinance and adopt new Design Standards that would apply to new and renovated residential and accessory structures in the Village Center Proper (VCP) and Village Center (VC) Districts.

IV. NEW BUSINESS

a. Bruns Properties LLC:
A request for pre-application conference by Bruns Properties LLC for an amendment to an approved Site Plan Review for a 3,500 sq. ft. addition for manufacturing/processing use on their property a 175 Portland Road, Tax Map 59, lots 36-25 & 21 in accordance with a Contract Zoning Agreement adopted by the Gray Town Council on November 1, 2016. The parcel was formerly in a Commercial Zoning District.

b. Stillwater Subdivision Phase II:
A request by Birchpoint Properties LLC & A.H. Grover Inc., for sketch plan review for Phase II

of a proposed residential open space subdivision (Stillwater Pines) consisting of 14 lots on 30+/- acres accessed from Woodcock Drive off Yarmouth Road on portion of Tax Map 44, lot 32-112 in accordance with a Contract Zoning Agreement adopted by the Gray Town Council on March 16, 2021. The parcel was formerly in Medium Density and Rural Residential & Agricultural Zoning Districts.

V. ADJOURNMENT

** The Town of Gray is an equal opportunity employer and complies with all applicable equal access to public accommodations law. If you are planning to attend a Town Council or Town committee or board meeting and need assistance with a physical disability, please contact the Town Manager's office at least 48 hours in advance of the meeting to have the Town assist you. 657-3339. TTY 657-3931.*

Town of Gray
Planning Board Minutes
August 12, 2021

Regular Meeting **Henry Pennell Municipal Complex** **7:00 PM**

24 Main Street, Gray, ME 04039

I. MEETING COMMENCED AT 7:14pm.

This in-person meeting was held at Town Hall. There was not a staff member available to produce a live broadcast on GCTV or a video recording. Therefore, the minutes recorder has prepared this full documentation of discussions.

Attendee Name	Title	Status	Arrived
Don Hutchings	Chair	Present	
Dan Cobb	Vice Chair	Present	
Peter Gellerson	Board Member	Present	
Charlie Abrams	Board Member	Present	
Joseph Caminiti	Board Member	Absent	
Catherine Caswell	Alternate	Absent	
Andrew Watson	Alternate	Present	
Doug Webster	Community Development / Acting Planner	Present	
Dan Maguire	Town Council Liaison	Present	

Motion to appoint Andrew Watson as a voting member for this meeting.

RESULT:	**APPROVED [UNANIMOUS]**
MOVER:	Peter Gellerson, Board Member
SECONDER:	Dan Cobb, Vice Chair
AYES:	Hutchings, Cobb, Gellerson, Abrams

II. MINUTES APPROVAL

1. Planning Board Minutes - Regular Meeting – July 8, 2021

Dan Cobb should have been listed as excused. Charlie Abrams should have been listed as present.

Motion to approve the Planning Board Minutes of July 8, 2021

RESULT:	**APPROVED AS AMENDED [UNANIMOUS]**
MOVER:	Peter Gellerson, Board Member
SECONDER:	Charlie Abrams, Board Member
AYES:	Hutchings, Cobb, Gellerson, Abrams, Watson

III. INFORMATION EXCHANGE

1. Workshop for self-storage facility near 104 Lewiston Rd.

   Doug Webster reported this workshop was held earlier this evening at 6:30p.m.

2. Legal Update Seminar on September 16, 2021

   Doug Webster informed the Planning Board that Jensen Baird will conduct this seminar regarding recently adopted legislation. He requests board members to notify Pam Edson prior to September 3rd if they can attend so she can register them. Peter Gellerson plans to attend. Board members Hutchings, Cobb, Abrams, and Watson will see if they can also attend.

IV. PUBLIC HEARINGS

a. Gray Yarmouth Road Solar LLC:
A request by Gray Yarmouth Road Solar LLC for Conditional Use and Site Plan Review for a 33+/- commercial solar energy system on a 102+/- acre parcel accessed at the end of Hillcrest Drive (near 51 Yarmouth Rd) owned by the Sawyer & Dunn families on Tax Map 36, lot 33-1 in a Rural Residential & Agricultural Zoning District.

John Motta and Ben Gregory (of Dynamic Energy), along with Chip Haskell (Project Manager of Haley Ward) were present for this meeting.

Doug Webster said this project is a commercial solar array and the submission application is very thorough. A site walk was held on June 23rd after the pre-application conference which was held at the June Planning Board meeting. Tonight's meeting was advertised and the abutters were notified.

John Motta explained that Dynamic Energy is a private company from Wayne, Pennsylvania. He provided an overview of the company and their work in other states. Due to the 2019 legislation in Maine, they now have nine projects in Maine under development. He said this project was first introduced to Kathy Tombarelli (former Town Planner) and Deb Cabana (former Town Manager) last November. They are seeking their DEP permit and are working diligently with CMP. They have a connection agreement with CMP.

Chip Haskell explained that Haley Ward is based in Bangor and is working with Dynamic Energy. This is a 4.999 Megawatt project on a 33 acre project envelope inside a 102 acre parcel. The property used to be blueberry barrens but has grown up significantly. The property will be cleared, and a road will be constructed. There will be a 7 ft. tall fence surrounding the project. Solar panels will be single axis trackers which will follow the sun. There is a small wetland area which they are avoiding; it will be cleared but not grubbed. They are filing for wetland permitting.

Mr. Haskell said the main focus of the DEP permit is on stormwater. Grass will be allowed to grow and cannot be mowed more than twice a year per law. He said thick grass slows the stormwater. Road and sedimentation controls will be in place due to DEP standards (erosion berms, etc.).

Peter Gellerson asked for clarification of where the project is on the large parcel. Mr. Haskell explained the fenced in area will be the 33 acres. The array will be on the southernmost area of the property, the rest of the property is further back.

Mr. Gellerson also pointed out the notary public's commission expired last month and questioned if that is a concern. John Motta explained it was signed two years ago when the notary's commission was valid, so he does not see a need to go back to the notary.

Mr. Gellerson asked if they are leasing the property from the Dunn/Sawyer families and Mr. Haskell confirmed that. Mr. Gellerson pointed out that Jean Dunn's name is attached to this information and asked if this is still a legal situation since she has passed away. John Motta said she signed the option. The lease agreement will be signed by her heirs.

Dan Cobb expressed an interest to discuss pole sightings, at a later time. Charlie Abrams asked if there will be any buildings on site. Mr. Haskell said there will be no buildings. There will be no power storage on site. The inverters will be attached to the panels and the transformers will be on concrete pads.

Andrew Watson inquired where the energy was going. Mr. Haskell explained the energy will feed into the grid.

Don Hutchings said they received a letter from a resident on the road. Mr. Hutchings asked for an explanation about the road. Mr. Haskell said most of the road use will be during construction. He further explained there will be a couple of tractor trailers per day on Hillcrest to deliver panels, etc. Once operational, there will be about one vehicle a month. Mr. Hutchings asked for confirmation they will put the road back to the original condition and Chip Haskell confirmed.

Peter Gellerson inquired if any arrangements had been made with the residents to compensate them for the use of the road and asked if Dynamic had also received the letter from the resident. Ben Gregory confirmed they had received the letter. Mr. Gregory explained Hillcrest is a parcel with fee ownership of the Sawyer/Dunn families. The residents share road maintenance. Mr. Gregory said Dynamic will work with the landowners to pay their fair share of maintenance and contribute to ongoing maintenance.

Mr. Gellerson also wanted to confirm they will bring the road back to the original condition and asked if they will improve the road or compensate the residents. John Motta said they will not personally compensate the residents. Mr. Haskell added to that by saying the road would be graded and repaired if necessary. Mr. Gellerson said if he lived on the road, he would want more than them just bringing it back to the original condition. The resident who wrote the letter wants paving of the private road. Mr. Gellerson isn't recommending the paving, but he stated it would be a good opportunity for the applicants to do more for the residents, in order to leave the residents with good feelings since they are using their private road for this project; thoughts for the applicant to consider.

Don Hutchings asked if they had been in touch with the residents. He and Mr. Gellerson both explained that the letter from the resident said they had only heard from other residents, not from Dynamic Energy. John Motta said they haven't received any calls or direct contact from homeowners. Chip Haskell said there hasn't been contact from residents other than at the site walk.

Doug Webster stated the town has provided notifications to residents. Most residents of Hillcrest were notified of the zoning change. Residents were notified of the site walk and were also notified of tonight's public hearing.

Chair Hutchings asked if there were any residents in the audience who wanted to speak. No one offered to speak.

Dan Cobb asked if there is a road association. Chip Haskell said the residents have an easement to utilize the road, but he isn't sure if there is a road association. Ben Gregory said there is a recorded deed for easements, but he was also unsure if there is a road association. A member of the audience, Dick LeClerc, responded to the question but could not be heard as he did not address the board from the podium. When asked to go to the podium and repeat his statement, he said he was just replying to the question and stayed seated.

Dan Maguire said this is not a winter maintenance road so there is no town requirement to have a road association. Don Hutchings inquired who is plowing. Mr. Maguire did not know who. John Motta said after construction, they will participate in the operating costs of plowing. Charlie Abrams inquired if that is for the full length of time they will be leasing the property. John Motta confirmed yes, for the length of time they lease the property and also to make sure there is no damage after the equipment is removed.

Doug Webster explained the owner of the fee has the ability to assign easement rights to others. The owner of the fee is the Sawyer/Dunn family. Residents of Hillcrest have easements. The applicant agrees to a prorated share of ongoing maintenance and repairs post construction and when the equipment is removed post construction.

Chair Hutchings asked if anyone had any more discussion and if Mr. Webster had provided a draft motion for the board to consider. Mr. Webster had not included a draft motion as he had listed many discussion points in his Planner's Memo for the board to consider. He referenced the top of page 3 of his Planner's Memo, particularly the need to conform to Section 402.8.10.

Mr. Webster also referenced notes from the site walk. The applicants are requesting a waiver for the planting schedule. He inquired if they were still in line for 21-22 construction. Mr. Motta said it most likely would be later; late winter, early spring of 2022. Additionally, Mr. Webster mentioned they would most likely want to avoid mud season.

Doug Webster referenced the three requested waivers on page 3 of his Planner's Memo. These requested waivers are for 1) groundwater impact analysis, 2) traffic impact analysis, and 3) a planting schedule.

.

Mr. Gellerson had concerns about vegetation as he could not see information about trimming back vegetation in their plan. He would like Gorrill-Palmer present to observe while this is being done. Chip Haskell explained the site plan shows the proposed tree line; clearing would be all inside the polygon. Mr. Gellerson asked if that information was definitive enough for whoever does the clearing and Chip Haskell said yes as DEP is specific about it.

Mr. Haskell passed out photos to the board to see the vegetation. He stated it has really grown up since the aerial image was done. He cannot locate a more up to date aerial image so the one they have is misleading. He said they walked an ATV trail after the site walk and determined the vegetation is thick. John Motta passed a drone image to the board to view. He said there will be significant buffering/screening. Mr. Gellerson said he was surprised to see a lot of trees since it had previously been blueberry barrens.

Dan Maguire called a Point of Information. He noted that most trees appear to be deciduous, so in wintertime, there would not be the same amount of buffering. Chip Haskell agreed to that point but said there are evergreens as well.

Doug Webster referenced buffering/screening information on page 4 (G) of his Planner's memo. He said he tried to make a point in the memo to express that the aesthetic impact of the array is the depth of the buffer, not where the fence is.

G. Aesthetics/Buffering/Screening:

1. Although the production site has been set back 100' to the property line per the proposed site plan (C101) in the submittal, the actual depth of the existing vegetation to be retained as a buffer scales from the submitted Site Plan to be approximately 50' along the property line running northwest-southeast and 75' for the line running northeast-southwest.

Mr. Webster inquired about the height of the panels. Chip Haskell said they are about 7 or 8 feet high. John Motta noted they are less than 15 feet. Chip Haskell added that when they are all the way up, they will be approximately 12 feet high at the max.

Doug Webster discussed the fact that the Fire Department has provided suggestions regarding the gates. They want a double wide gate at the end where the array meets the undeveloped land. They need access to the remaining property in case of a brush fire. Chip Haskell was glad Mr. Webster clarified that as he had missed that point. He said they can work with the Fire Department on this as the road has a big falloff there and wondered if it would be preferable to put it elsewhere along the road. Mr. Webster also noted the Fire Dept. need for 50 ft. turn radii. Chip Haskell said that is fine.

Mr. Webster noted the first gate proposed is at the beginning of the production site with the turnaround on the far side of the gate. He wondered if it is possible to relocate the hammerhead so a curious driver would have the ability to turn around. Mr. Haskell said they can do that or add another hammerhead. He can work with the Fire Dept. on this.

Charlie Abrams also inquired about plowing. Dan Maguire thought they could plow past the gate.

Doug Webster also said the Fire Dept. wants a knox box on gates. This was ok with Chip Haskell.

Mr. Webster asked about the number of transformers. Mr. Haskell said there will be two and both will be on pads. There will be many inverters on the ends of the screens of panels. Mr. Webster requested confirmation that the max decibels will be 35 or 46 at the property line and Mr. Haskell confirmed that is correct. He said the sound will be similar to a quiet dishwasher. He also noted that the decibels at night or when raining will be zero. Mr. Gellerson inquired if power is generated on a cloudy day and Mr. Motta said very little would be.

Mr. Webster asked the board if they are comfortable with the buffering/screening. He also wanted them to discuss future expansion of Hillcrest and the proposed telephone poles, particularly in reference to future paving, possible future public water, etc. He said the goal is to move this project along, but these elements need to be discussed.

Chair Hutchings asked Mr. Webster, as acting Town Planner, what needs to be done. Mr. Webster explained that the Sawyer/Dunn families own the property, but residents have the right to go up and down the road. He said future discussions of public water, etc. would be up to the Dunn/Sawyer families as they, not the residents, own the road and residents just have right to use the road. Mr. Webster felt it was prudent to discuss future development as laying the groundwork now for these decisions would pay dividends in later discussions. He said the ability to move the poles to the same side or location would make future changes to Hillcrest more economical. Chair Hutchings asked the applicants to address this topic.

John Motta said the "ugly duckling" is CMP. They would have a say on Dynamic's poles and the existing poles (CMP owns poles). Mr. Hutchings confirmed with him they are just putting power on the poles. Mr. Motta said the point of connection is an actual pole at the

intersection of Hillcrest and Rt. 115. They are interested in doing this in the most efficient matter and CMP will tell them if they don't like their plan.

Chair Hutchings inquired of Mr. Webster how to address this. Mr. Webster said the objective now is just dots on pieces of paper, but they have the opportunity to look to see what will happen int the future. It will be up to the property owners with input from CMP. He suggested an option, wondering if it would be feasible for underground power from the production site and re-do the poles so they on one side. He said right now, the power is on the northwest side of Hillcrest. He asked the board if it is worth exploring relocating the point of location to consolidate poles or lay groundwork for future development.

John Motta said they can look at this possibility, however, CMP won't let them share the easement. Dan Cobb asked why they can't move their interconnection pole with the four poles onto their own sight. That way, there won't be 4 ugly poles at the end of Hillcrest. He suggested if they connect at their own site, they could bring it underground to Rt. 115.

John Motta referenced the ordinance process. Mr. Maguire explained the 3-phase poles are 45-footers which significantly changes the look of Hillcrest and there are lots of wires. That is why underground was suggested. Mr. Motta said CMP wants 45 ft. poles and above ground connection to residents. Mr. Cobb suggested a separate 3-phase underground line to service this project and connect to CMP at their own site. He suggested extending CMP's line to the site and have applicants do their connection at the project location. Mr. Motta explained CMP requires above ground to where they splice with them. They would have to have their own express feeder back to the substation.

Chair Hutchings asked them to point out where the power will start. Chip Haskell pointed out where the physical connection has to be, which is not on the project site. Mr. Motta said CMP already owns the pole set there. He said it conflicts with the electric code to take the line on Yarmouth Road and splice it there, then pop it back at their site. CMP would make them go all the way back to the substation. Charlie Abrams asked if they need all 4 poles and they confirmed yes.

Mr. Hutchings asked if the applicants are saying this would be too expensive and John Motta explained it would be too expensive to have express feeders to go back to the substation. He said even if CMP would allow it, it would be cost prohibitive.

Chair Hutchings mentioned there was no proposed motion in the Planner's Memo and asked if the board wanted to table this.

Charlie Abrams suggested deciding on buffering after seeing what winter looks like and then plant evergreens in open spots. Mr. Gellerson mentioned the applicants need answers sooner than that.

Chair Hutchings asked Mr. Webster about a proposed motion. Dan Cobb expressed he was not even close to accepting this as is.

Mr. Webster asked if the board was comfortable with the buffering. A performance guarantee could be set up if the board wants one. There are other minor changes to be done regarding the access road, input from the Fire Dept., etc. Mr. Gellerson said most of the changes discussed tonight could be covered by condition #1.

Dan Cobb said he wants more clarity about what is/isn't going to happen. He was expecting Doug's comments/discussion topics in the Planner's Memo would have been gone over more methodically. There are 5 suggested changes and he would like to see all 5. He also said one objective is regarding year-round screening and the photos are seasonal. They haven't discussed if it will be sufficient year-round. He didn't feel they have obtained a good summary about what is happening since the conversation wasn't streamlined with the Planner's Memo. He also said they hadn't voted on conditional use. This is a big project which needs a lot of clarity, needs to be planned and documented. They are asking for three waivers which they haven't yet discussed. He said two made sense to him, but he was unsure why this project is so unique that a planting schedule doesn't have to be done. He does like the project, however.

Chair Hutchings suggested the applicants take a week or two and make more details of what plans need to be done. He suggested calling a special meeting if they would like. He said he would also like to know about the long-term plans, etc. Ben Gregory said that sounds reasonable. He did note they have already worked with the town for a long time on this.

Ben Gregory said he was pleased the natural screening turned out to be thicker than they had expected. Chip Haskell said they feel ahead of the game since the buffering was thicker than they had expected. He is willing to prepare and provide a summary document by addressing the items listed in Doug Webster's memo of suggestions and the discussion tonight. Dan Cobb reinforced there are many items which need to be addressed for which they need resolution. He asked them to come back to the board with comments of which items they will do and which they cannot do. He also said it would be useful for them to make a statement and incorporate the drone shot. He also suggested they indicate justifications for why they meet standards and justifications for why they want waivers.

Mr. Motta inquired if there is anything else they will need to address. Mr. Webster said they should address comments in his memo, board comments tonight, and comments from the consulting engineer, issued on July 30th, regarding stormwater. He agreed with Dan Cobb's recommendation to have all administrative items addressed such as conditional use, waivers, stormwater, etc.

Chip Haskell said he had reviewed Will Haskell's (of Gorrill-Palmer) comments but didn't follow his thoughts. He asked if he could contact Will Haskell directly, preferably by phone. Doug Webster explained all communication with the town's consulting engineer needs to go through the town. Chip Haskell suggested including Mr. Webster on a phone call.

Don Hutchings stated the board likes the project but need specifics addressed and asked the applicants to keep Doug Webster in the loop. He asked Mr. Webster to write down a proposed motion for the next meeting. He mentioned a special meeting could be held. Mr. Gellerson asked the applicants if they would like that, and they indicated yes. Mr. Webster, however, pointed out it would be complicated by lack of time for required newspaper announcements of an upcoming meeting. Mr. Gellerson then said a special meeting in two weeks would most likely not be feasible due to advertising deadlines. Chip Haskell indicated that is fine as he needs to have discussions with Gorrill-Palmer. Dan Cobb asked about them addressing the 7 items of conditional use criteria. Mr. Webster also noted there was an addendum submitted on July 29th which was placed inside the front cover of the board packet when distributed.

Mr. Hutchings thanked them for being at the meeting this evening. Mr. Gellerson then proposed a motion to table until the next meeting.

MOTION: To table until the next meeting, the request by Gray Yarmouth Road Solar LLC for Conditional Use and Site Plan Review for a 33+/- commercial solar energy system on a 102+/- acre parcel accessed at the end of Hillcrest Drive (near 51 Yarmouth Rd) owned by the Sawyer & Dunn families on Tax Map 36, lot 33-1 in a Rural Residential & Agricultural Zoning District.

RESULT:	**TABLED [UNANIMOUS]**
MOVER:	Peter Gellerson, Board Member
SECONDER:	Charlie Abrams, Board Member
AYES:	Hutchings, Cobb, Gellerson, Abrams, Watson

b. Frost Road Light Manufacturing:
A request by Marc Keites for Site Plan Review for a 2,000 square foot building for a light manufacturing use on property now/formerly owned by Cynthia Rogers at 30+/- Frost Road on Tax Map 43, lot 24-19-1 in a Business Development-1 Zoning District.

Marc Keites was present. Doug Webster explained this will be a 32x60 ft. building. He explained to the board that there are two issues to consider; stormwater and buffering/screening. There were questions about stormwater so he met with the town's consulting engineer who provided a practical solution. Mr. Webster provided a background about the stormwater in his Planner's Memo. This project does trigger site plan review, but it is a small and relatively minor project.

Dan Cobb stated if the stormwater plan is satisfactory to Mr. Webster and the town engineer, then he is fine with it. He doesn't believe buffering near the turnpike is a particularly important issue. Mr. Webster put buffering in the draft motion (#6) since the ordinance references buffering. Charlie Abrams asked how far the building is from the turnpike. Mr. Keites said it is 55 ft. away. There are three pine trees; one fell and he is removing the other two. He also said the building will be about 15 ft. high. The difference in elevation from the property to the turnpike is 15 ft. so the top of the building will be about level with the turnpike.

Chair Hutchings asked Mr. Webster if he was ok with this project and asked if there needs to be a performance bond. Mr. Webster said he is ok with this project, but he needed a board decision about #6 in the proposed motion. He said there will need to be a soil disturbance performance bond. There is also a need for a small escrow for Gorrill-Palmer to go back out to the property.

Chair Hutchings asked what the dollar amount would be and suggested that be in the motion. Mr. Webster said the number is usually determined by Gorrill-Palmer, therefore not available for this meeting, but it won't be substantial. Chair Hutchings confirmed with Mr. Keites he is ok with that.

Dan Cobb suggested waiving #6 in the proposed motion. No board members felt strongly about keeping it. Mr. Cobb's motion included #1, #2, #3, #4, #5, and #7 of the proposed motion from the Planner's Memo, excluding #6.

MOTION: The Planning Board approves the application by Marc Keites for a 2,000 sq. ft. building for light manufacturing at 30 +/- Frost Road, Map 43, lot 24-19-1, in a Business Development-1 Zoning District as depicted on the submitted plans and documentation subject to the following conditions:

1. Standard condition of approval #1 (not including de minimis)

2. Property owner shall maintain MeDEP's Best Management Practices throughout the construction of all areas until the site is stabilized.

3. The owner shall provide full copies of necessary NRPA & ACOE permit submitted to the Gray CEO prior to construction of the stream crossing and keep the CEO apprised of the stream crossing construction timeline.

4. The 75' minimum disturbance stream setback from the normal high-water line shall be maintained and remain vegetated.

5. The Planning Board waives Site Plan Review stormwater submittals provided that the owner constructs and maintains a crushed stone interface 2'-3' wide; the design and construction must be approved by the Town's consulting engineer.

[#6 in the draft motion in the Planner's Memo was not incorporated in the approved motion]

7. Prior to the Town's issuance of a building permit for the proposed 2,000 sq. ft. building, the owner shall provide a surety that covers the erosion and sedimentation for soil disturbance on the parcel, inspection escrow for the Town's consulting engineer, and the tree planting.

RESULT:	**APPROVED [UNANIMOUS]**
MOVER:	Dan Cobb, Vice Chair
SECONDER:	Charlie Abrams, Board Member
AYES:	Hutchings, Cobb, Gellerson, Abrams, Watson

V. Motion to Adjourn at 9:01 p.m.

RESULT:	**APPROVED [UNANIMOUS]**
MOVER:	Dan Cobb, Vice Chair
SECONDER:	Charlie Abrams, Board Member
AYES:	Hutchings, Cobb, Gellerson, Abrams, Watson

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
FORMERLY: CES INC

August 20, 2021

Town of Gray Planning Department
Attn: Doug Webster, Acting Town Planner
24 Maine Street
Gray, ME 04039
dwebster@graymaine.org

Re: Gray Yarmouth Road Solar LLC | Peer Review Comment Response

Dear Mr. Webster:

Haley Ward, Inc. (Haley Ward) has prepared the following response to comments from William Haskell received via email on July 30, 2021. The comments have been provided in bold italics, followed by our response.

1. ***Show location of stabilized construction entrance on plans.***

   This has been added to the Proposed Site Plan

2. ***The gravel access road section shows a road width of 15 feet, the application states that the road is 16 feet wide. Revise as necessary.***

   This has been revised on the Proposed Site Plan

3. ***Call out to grub the area under the proposed road.***

   This has been added to the Proposed Site Plan

4. ***Provide fence/gate details.***

   This has been added to the Detail Sheet.

5. ***Provide UGU trench detail.***

   This has been added to the Detail Sheet.

One Merchants Plaza, Suite 701, Bangor, ME 04401
T: 207.989.4824 | HALEYWARD.COM

6. ***Provide detail of proposed equipment pads.***

   This has been added to the Detail Sheet.

7. ***A few locations on the road appear to require cross culverts. Add appropriately sized culverts as necessary including inlet and outlet aprons. Provide details and sizing calculations.***

   One location of the proposed road was identified as requiring a cross culvert. This culvert has been added to the Proposed Site Plan. Calculations demonstrating the pipe sizing have also been provided.

8. ***Provide typical detail of ditch turnout and stone berm.***

   This has been added to the Detail Sheet.

9. ***The stormwater HydroCAD output in the report is difficult to review. For some reason the output that is included does not include printouts for the same subcatchments in pre- versus post-. For example, for the 2 year storm event in pre-development, there is output for subcatchments 1S, 2S and 5S. For post-development 2 year storm, there is output for subcatchment's 3S and 6S. We need additional description and clarification on the selection of cover types and curve numbers for the hydrologic model. Intuitively, it does not make sense, given the areas of tree cutting that will occur, that the post-development curve number would be reduced from the existing condition. Unfortunately, we cannot complete a detailed review since we did not receive full printouts of the pre- and post-development model data/results. We will complete our review of the stormwater report and calculations once we receive additional information.***

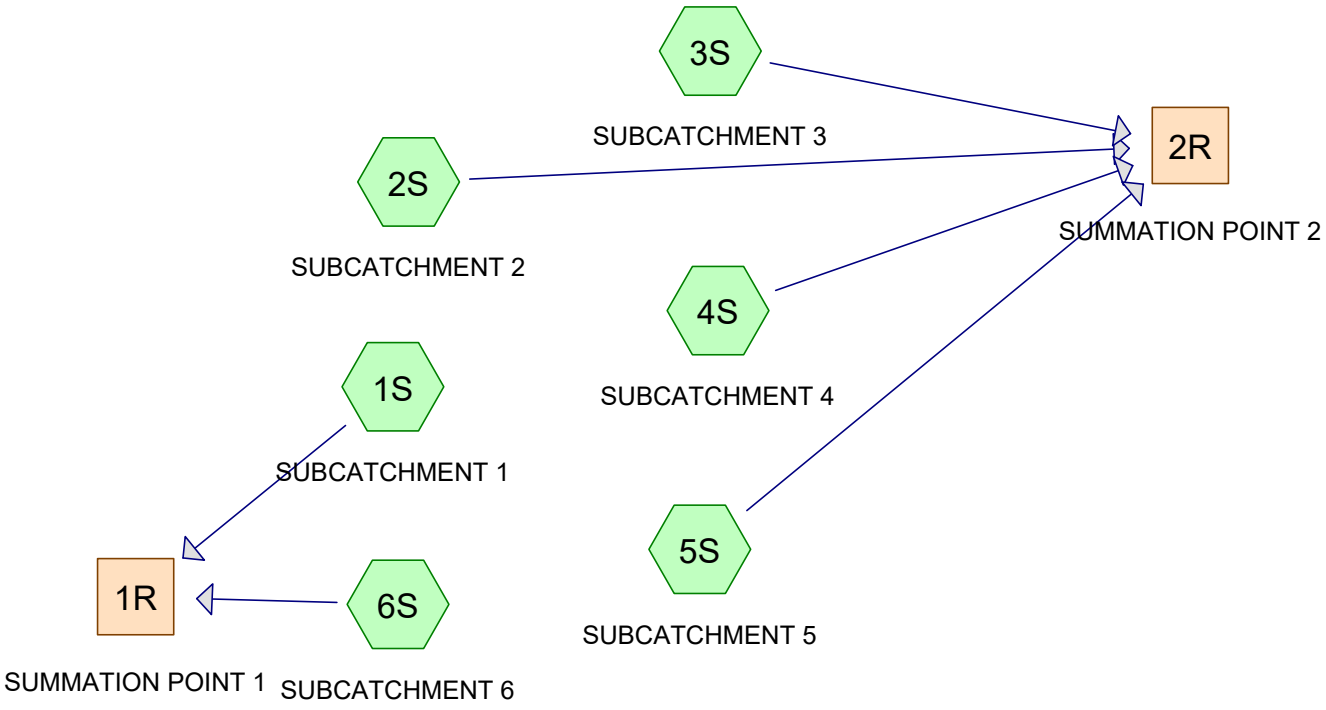
   The full HydoCAD output has been provided, output data for all sub-catchments and summation points are shown.

   Our HydroCad model for the existing site conditions uses the cover types of *Woods, fair* (CN: 73) and *Woods/grass combination, fair* (CN: 76) for the undeveloped project area. The use of fair cover type in our model was based on the midsized undergrowth observed on our site visits. These cover types were determined using the TR-55 Manual: Urban Hydrology for Small Watersheds, along with both aerial imagery and site visit observations.

   The proposed site conditions model uses these same cover types in the areas to remain undeveloped, and it uses *Impervious* (CN: 98) and *Meadow* (CN: 71) in the developed areas. All area beneath the solar panels will be maintained as a meadow, meeting Maine Department of Environmental Protection standards, being mowed no more than twice per year.

10. ***The Applicant has requested 3 waivers. We have no technical concerns with the requested waivers.***

    Comment noted.



Subcat Reach Pond Link

Routing Diagram for PRE DEVELOPMENT
Prepared by CES, Inc., Printed 7/16/2021
HydroCAD® 10.00-25 s/n 10605 © 2019 HydroCAD Software Solutions LLC

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

Subcatchment1S: SUBCATCHMENT1 Runoff Area=338,618 sf 0.00% Impervious Runoff Depth>1.46"
Flow Length=885' Tc=16.9 min CN=75 Runoff=10.20 cfs 0.946 af

Subcatchment2S: SUBCATCHMENT2 Runoff Area=63,025 sf 0.00% Impervious Runoff Depth>1.53"
Flow Length=350' Tc=8.4 min CN=76 Runoff=2.52 cfs 0.185 af

Subcatchment3S: SUBCATCHMENT3 Runoff Area=752,444 sf 0.00% Impervious Runoff Depth>1.46"
Flow Length=1,800' Tc=23.4 min CN=75 Runoff=19.85 cfs 2.096 af

Subcatchment4S: SUBCATCHMENT4 Runoff Area=342,544 sf 0.00% Impervious Runoff Depth>1.38"
Flow Length=1,600' Tc=35.0 min CN=74 Runoff=7.19 cfs 0.907 af

Subcatchment5S: SUBCATCHMENT5 Runoff Area=999,439 sf 0.00% Impervious Runoff Depth>1.45"
Flow Length=1,520' Tc=31.0 min CN=75 Runoff=23.35 cfs 2.775 af

Subcatchment6S: SUBCATCHMENT6 Runoff Area=222,140 sf 0.00% Impervious Runoff Depth>1.53"
Flow Length=590' Tc=16.9 min CN=76 Runoff=7.02 cfs 0.649 af

Reach 1R: SUMMATION POINT 1 Inflow=17.22 cfs 1.595 af
Outflow=17.22 cfs 1.595 af

Reach 2R: SUMMATION POINT 2 Inflow=49.93 cfs 5.962 af
Outflow=49.93 cfs 5.962 af

Total Runoff Area = 62.402 ac Runoff Volume = 7.557 af Average Runoff Depth = 1.45"
100.00% Pervious = 62.402 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1S: SUBCATCHMENT 1

Runoff = 10.20 cfs @ 12.25 hrs, Volume= 0.946 af, Depth> 1.46"

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 2 YEAR Rainfall=3.90"

Area (sf)	CN	Description
67,940	73	Woods, Fair, HSG C
270,678	76	Woods/grass comb., Fair, HSG C
338,618	75	Weighted Average
338,618		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0600	0.25		**Sheet Flow,** Range n= 0.130 P2= 3.10"
3.6	215	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.0	105	0.0600	1.71		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.5	205	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.5	310	0.0350	0.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
16.9	885	Total			

Summary for Subcatchment 2S: SUBCATCHMENT 2

Runoff = 2.52 cfs @ 12.12 hrs, Volume= 0.185 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 2 YEAR Rainfall=3.90"

Area (sf)	CN	Description
63,025	76	Woods/grass comb., Fair, HSG C
63,025		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0600	0.25		**Sheet Flow,** Range n= 0.130 P2= 3.10"
5.1	300	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.4	350	Total			

Summary for Subcatchment 3S: SUBCATCHMENT 3

Runoff = 19.85 cfs @ 12.34 hrs, Volume= 2.096 af, Depth> 1.46"

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 2 YEAR Rainfall=3.90"

Area (sf)	CN	Description
346,933	73	Woods, Fair, HSG C
405,511	76	Woods/grass comb., Fair, HSG C
752,444	75	Weighted Average
752,444		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0600	0.25		**Sheet Flow,** Range n= 0.130 P2= 3.10"
6.8	635	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.8	150	0.0800	1.41		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.6	100	0.1600	2.80		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.1	165	0.0350	1.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.8	700	0.0700	1.32		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
23.4	1,800	Total			

Summary for Subcatchment 4S: SUBCATCHMENT 4

Runoff = 7.19 cfs @ 12.51 hrs, Volume= 0.907 af, Depth> 1.38"

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 2 YEAR Rainfall=3.90"

Area (sf)	CN	Description
175,502	73	Woods, Fair, HSG C
167,042	76	Woods/grass comb., Fair, HSG C
342,544	74	Weighted Average
342,544		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0600	0.25		**Sheet Flow,** Range n= 0.130 P2= 3.10"
2.7	280	0.0600	1.71		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.5	165	0.0500	1.12		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
4.7	465	0.0550	1.64		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.1	120	0.1300	1.80		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.7	520	0.0070	0.42		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
35.0	1,600	Total			

Summary for Subcatchment 5S: SUBCATCHMENT 5

Runoff = 23.35 cfs @ 12.45 hrs, Volume= 2.775 af, Depth> 1.45"

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 2 YEAR Rainfall=3.90"

Area (sf)	CN	Description
391,720	73	Woods, Fair, HSG C
607,719	76	Woods/grass comb., Fair, HSG C
999,439	75	Weighted Average
999,439		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0600	0.25		**Sheet Flow,** Range n= 0.130 P2= 3.10"
0.8	100	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.4	200	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.1	215	0.0300	0.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.2	305	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.2	350	0.0350	0.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.0	300	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
31.0	1,520	Total			

Summary for Subcatchment 6S: SUBCATCHMENT 6

Runoff = 7.02 cfs @ 12.24 hrs, Volume= 0.649 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 2 YEAR Rainfall=3.90"

Area (sf)	CN	Description
222,140	76	Woods/grass comb., Fair, HSG C
222,140		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	50	0.0100	0.12		**Sheet Flow,** Range n= 0.130 P2= 3.10"
4.0	170	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.2	370	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
16.9	590	Total			

Summary for Reach 1R: SUMMATION POINT 1

Inflow Area = 12.873 ac, 0.00% Impervious, Inflow Depth > 1.49" for 2 YEAR event
Inflow = 17.22 cfs @ 12.25 hrs, Volume= 1.595 af
Outflow = 17.22 cfs @ 12.25 hrs, Volume= 1.595 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach 2R: SUMMATION POINT 2

Inflow Area = 49.528 ac, 0.00% Impervious, Inflow Depth > 1.44" for 2 YEAR event
Inflow = 49.93 cfs @ 12.41 hrs, Volume= 5.962 af
Outflow = 49.93 cfs @ 12.41 hrs, Volume= 5.962 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

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

Subcatchment1S: SUBCATCHMENT1 Runoff Area=338,618 sf 0.00% Impervious Runoff Depth>1.96"
Flow Length=885' Tc=16.9 min CN=75 Runoff=13.81 cfs 1.272 af

Subcatchment2S: SUBCATCHMENT2 Runoff Area=63,025 sf 0.00% Impervious Runoff Depth>2.05"
Flow Length=350' Tc=8.4 min CN=76 Runoff=3.39 cfs 0.247 af

Subcatchment3S: SUBCATCHMENT3 Runoff Area=752,444 sf 0.00% Impervious Runoff Depth>1.96"
Flow Length=1,800' Tc=23.4 min CN=75 Runoff=26.88 cfs 2.819 af

Subcatchment4S: SUBCATCHMENT4 Runoff Area=342,544 sf 0.00% Impervious Runoff Depth>1.87"
Flow Length=1,600' Tc=35.0 min CN=74 Runoff=9.82 cfs 1.227 af

Subcatchment5S: SUBCATCHMENT5 Runoff Area=999,439 sf 0.00% Impervious Runoff Depth>1.95"
Flow Length=1,520' Tc=31.0 min CN=75 Runoff=31.60 cfs 3.733 af

Subcatchment6S: SUBCATCHMENT6 Runoff Area=222,140 sf 0.00% Impervious Runoff Depth>2.04"
Flow Length=590' Tc=16.9 min CN=76 Runoff=9.43 cfs 0.867 af

Reach 1R: SUMMATION POINT 1 Inflow=23.24 cfs 2.139 af
Outflow=23.24 cfs 2.139 af

Reach 2R: SUMMATION POINT 2 Inflow=67.69 cfs 8.025 af
Outflow=67.69 cfs 8.025 af

Total Runoff Area = 62.402 ac Runoff Volume = 10.164 af Average Runoff Depth = 1.95"
100.00% Pervious = 62.402 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1S: SUBCATCHMENT 1

Runoff = 13.81 cfs @ 12.24 hrs, Volume= 1.272 af, Depth> 1.96"

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=4.60"

Area (sf)	CN	Description
67,940	73	Woods, Fair, HSG C
270,678	76	Woods/grass comb., Fair, HSG C
338,618	75	Weighted Average
338,618		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0600	0.25		**Sheet Flow,** Range n= 0.130 P2= 3.10"
3.6	215	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.0	105	0.0600	1.71		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.5	205	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.5	310	0.0350	0.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
16.9	885	Total			

Summary for Subcatchment 2S: SUBCATCHMENT 2

Runoff = 3.39 cfs @ 12.12 hrs, Volume= 0.247 af, Depth> 2.05"

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 10 YEAR Rainfall=4.60"

Area (sf)	CN	Description
63,025	76	Woods/grass comb., Fair, HSG C
63,025		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0600	0.25		**Sheet Flow,** Range n= 0.130 P2= 3.10"
5.1	300	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.4	350	Total			

Summary for Subcatchment 3S: SUBCATCHMENT 3

Runoff = 26.88 cfs @ 12.33 hrs, Volume= 2.819 af, Depth> 1.96"

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=4.60"

Area (sf)	CN	Description
346,933	73	Woods, Fair, HSG C
405,511	76	Woods/grass comb., Fair, HSG C
752,444	75	Weighted Average
752,444		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0600	0.25		**Sheet Flow,** Range n= 0.130 P2= 3.10"
6.8	635	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.8	150	0.0800	1.41		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.6	100	0.1600	2.80		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.1	165	0.0350	1.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.8	700	0.0700	1.32		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
23.4	1,800	Total			

Summary for Subcatchment 4S: SUBCATCHMENT 4

Runoff = 9.82 cfs @ 12.50 hrs, Volume= 1.227 af, Depth> 1.87"

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=4.60"

Area (sf)	CN	Description
175,502	73	Woods, Fair, HSG C
167,042	76	Woods/grass comb., Fair, HSG C
342,544	74	Weighted Average
342,544		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0600	0.25		**Sheet Flow,** Range n= 0.130 P2= 3.10"
2.7	280	0.0600	1.71		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.5	165	0.0500	1.12		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
4.7	465	0.0550	1.64		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.1	120	0.1300	1.80		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.7	520	0.0070	0.42		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
35.0	1,600	Total			

Summary for Subcatchment 5S: SUBCATCHMENT 5

Runoff = 31.60 cfs @ 12.45 hrs, Volume= 3.733 af, Depth> 1.95"

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 10 YEAR Rainfall=4.60"

Area (sf)	CN	Description
391,720	73	Woods, Fair, HSG C
607,719	76	Woods/grass comb., Fair, HSG C
999,439	75	Weighted Average
999,439		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0600	0.25		**Sheet Flow,** Range n= 0.130 P2= 3.10"
0.8	100	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.4	200	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.1	215	0.0300	0.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.2	305	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.2	350	0.0350	0.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.0	300	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
31.0	1,520	Total			

Summary for Subcatchment 6S: SUBCATCHMENT 6

Runoff = 9.43 cfs @ 12.24 hrs, Volume= 0.867 af, Depth> 2.04"

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=4.60"

Area (sf)	CN	Description
222,140	76	Woods/grass comb., Fair, HSG C
222,140		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	50	0.0100	0.12		**Sheet Flow,** Range n= 0.130 P2= 3.10"
4.0	170	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.2	370	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
16.9	590	Total			

Summary for Reach 1R: SUMMATION POINT 1

Inflow Area = 12.873 ac, 0.00% Impervious, Inflow Depth > 1.99" for 10 YEAR event
Inflow = 23.24 cfs @ 12.24 hrs, Volume= 2.139 af
Outflow = 23.24 cfs @ 12.24 hrs, Volume= 2.139 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach 2R: SUMMATION POINT 2

Inflow Area = 49.528 ac, 0.00% Impervious, Inflow Depth > 1.94" for 10 YEAR event
Inflow = 67.69 cfs @ 12.40 hrs, Volume= 8.025 af
Outflow = 67.69 cfs @ 12.40 hrs, Volume= 8.025 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

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

Subcatchment1S: SUBCATCHMENT1 Runoff Area=338,618 sf 0.00% Impervious Runoff Depth>2.89"
Flow Length=885' Tc=16.9 min CN=75 Runoff=20.36 cfs 1.871 af

Subcatchment2S: SUBCATCHMENT2 Runoff Area=63,025 sf 0.00% Impervious Runoff Depth>2.99"
Flow Length=350' Tc=8.4 min CN=76 Runoff=4.94 cfs 0.360 af

Subcatchment3S: SUBCATCHMENT3 Runoff Area=752,444 sf 0.00% Impervious Runoff Depth>2.88"
Flow Length=1,800' Tc=23.4 min CN=75 Runoff=39.62 cfs 4.147 af

Subcatchment4S: SUBCATCHMENT4 Runoff Area=342,544 sf 0.00% Impervious Runoff Depth>2.78"
Flow Length=1,600' Tc=35.0 min CN=74 Runoff=14.60 cfs 1.820 af

Subcatchment5S: SUBCATCHMENT5 Runoff Area=999,439 sf 0.00% Impervious Runoff Depth>2.87"
Flow Length=1,520' Tc=31.0 min CN=75 Runoff=46.55 cfs 5.494 af

Subcatchment6S: SUBCATCHMENT6 Runoff Area=222,140 sf 0.00% Impervious Runoff Depth>2.98"
Flow Length=590' Tc=16.9 min CN=76 Runoff=13.77 cfs 1.267 af

Reach 1R: SUMMATION POINT 1 Inflow=34.13 cfs 3.137 af
Outflow=34.13 cfs 3.137 af

Reach 2R: SUMMATION POINT 2 Inflow=99.88 cfs 11.821 af
Outflow=99.88 cfs 11.821 af

Total Runoff Area = 62.402 ac Runoff Volume = 14.959 af Average Runoff Depth = 2.88"
100.00% Pervious = 62.402 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1S: SUBCATCHMENT 1

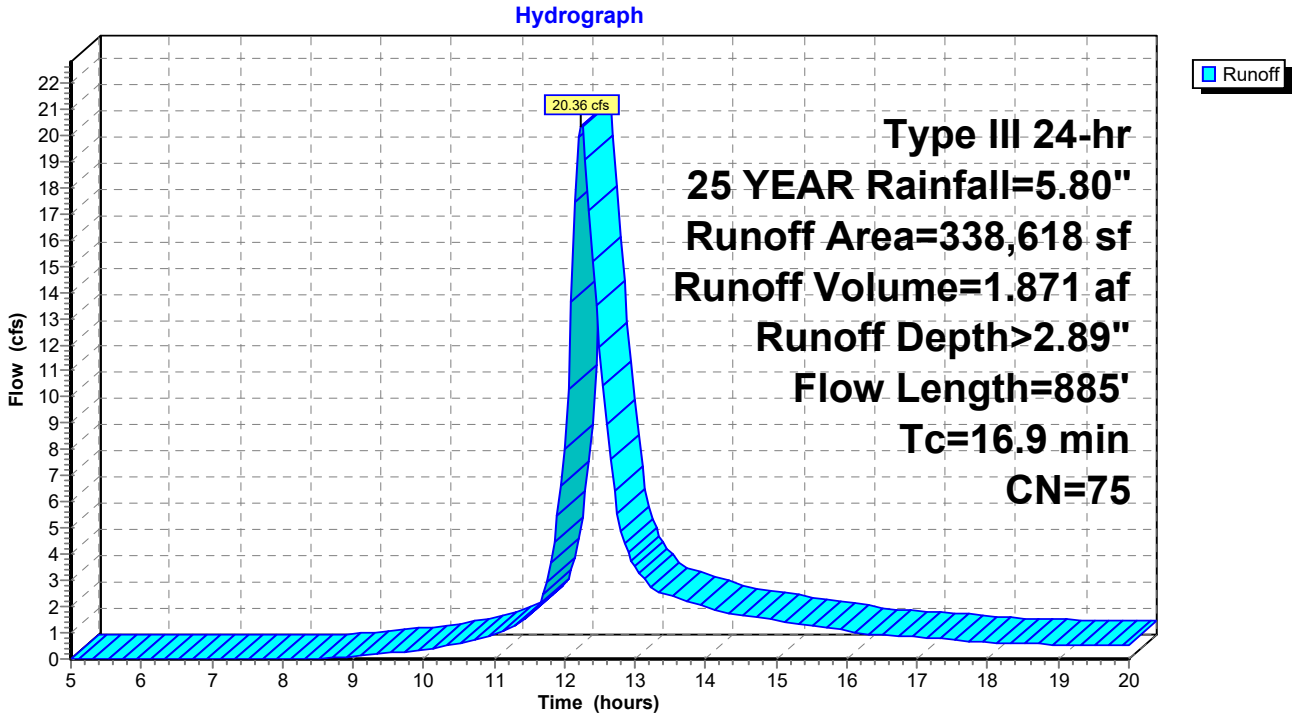
Runoff = 20.36 cfs @ 12.24 hrs, Volume= 1.871 af, Depth> 2.89"

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 25 YEAR Rainfall=5.80"

Area (sf)	CN	Description
67,940	73	Woods, Fair, HSG C
270,678	76	Woods/grass comb., Fair, HSG C
338,618	75	Weighted Average
338,618		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0600	0.25		**Sheet Flow,** Range n= 0.130 P2= 3.10"
3.6	215	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.0	105	0.0600	1.71		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.5	205	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.5	310	0.0350	0.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
16.9	885	Total			

Subcatchment 1S: SUBCATCHMENT 1



Summary for Subcatchment 2S: SUBCATCHMENT 2

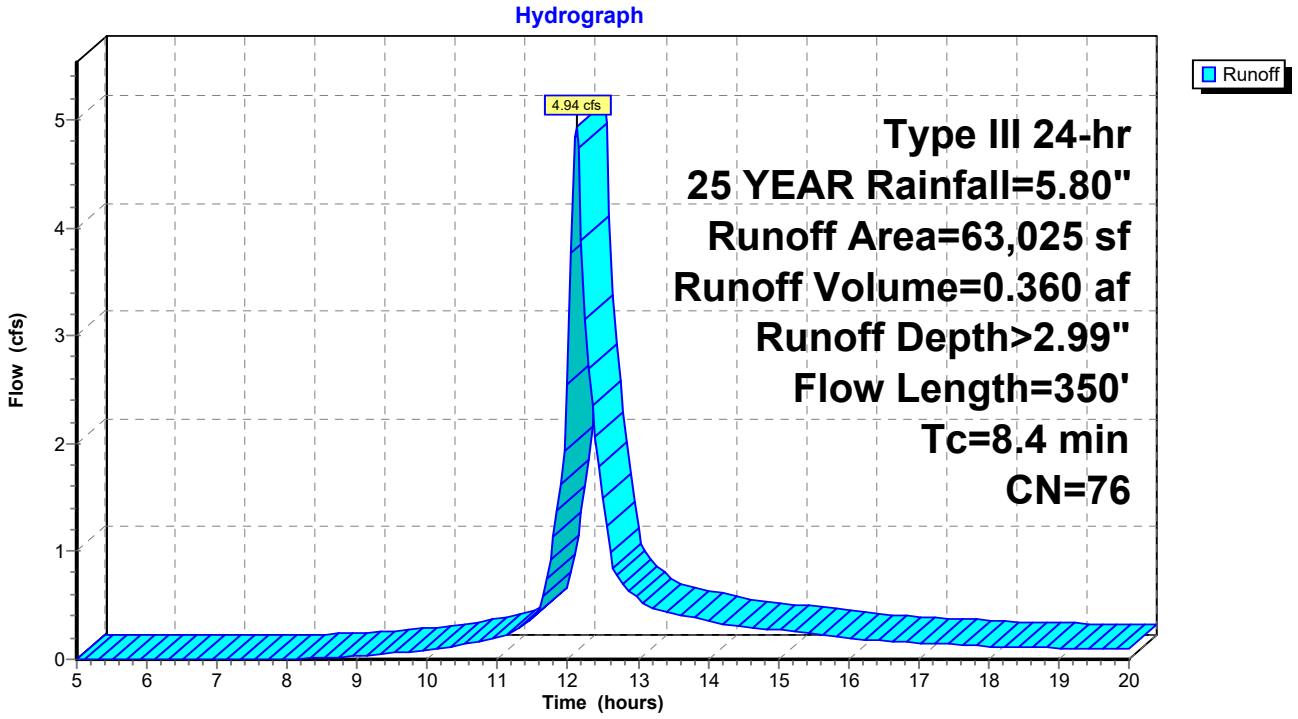
Runoff = 4.94 cfs @ 12.12 hrs, Volume= 0.360 af, Depth> 2.99"

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 25 YEAR Rainfall=5.80"

Area (sf)	CN	Description
63,025	76	Woods/grass comb., Fair, HSG C
63,025		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0600	0.25		**Sheet Flow,** Range n= 0.130 P2= 3.10"
5.1	300	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.4	350	Total			

Subcatchment 2S: SUBCATCHMENT 2



Summary for Subcatchment 3S: SUBCATCHMENT 3

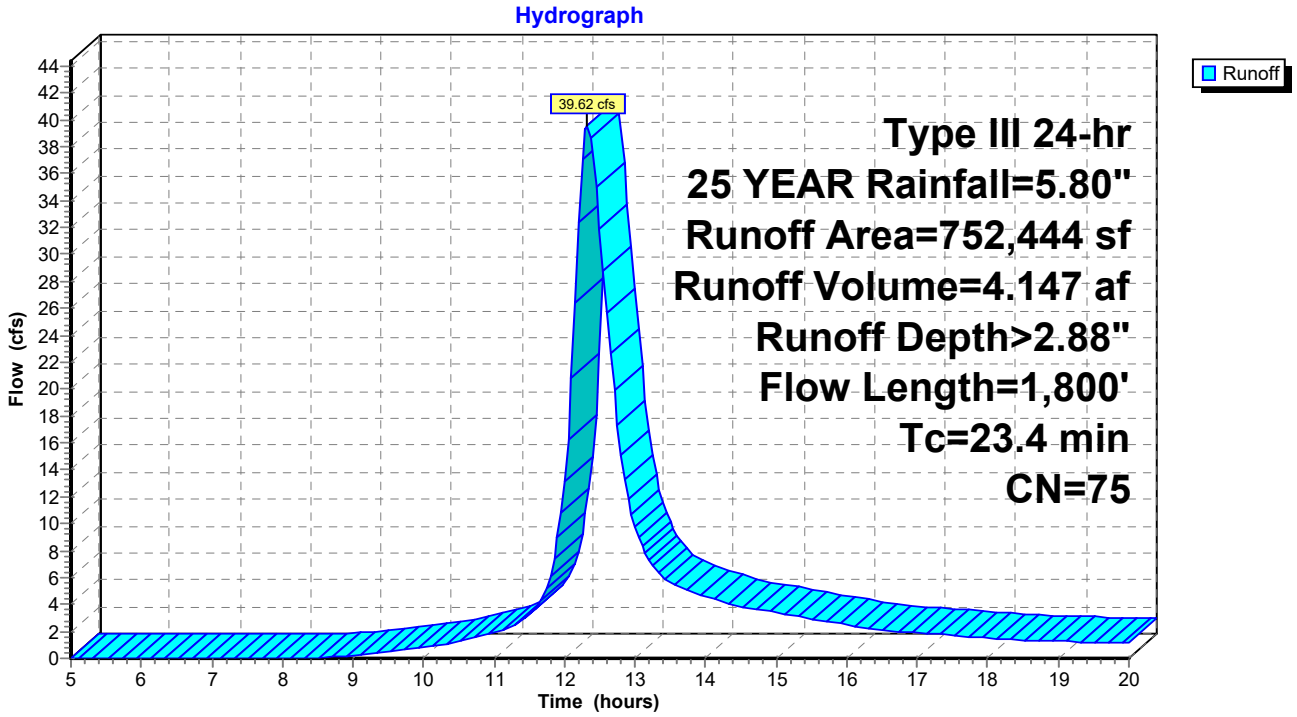
Runoff = 39.62 cfs @ 12.33 hrs, Volume= 4.147 af, Depth> 2.88"

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=5.80"

Area (sf)	CN	Description
346,933	73	Woods, Fair, HSG C
405,511	76	Woods/grass comb., Fair, HSG C
752,444	75	Weighted Average
752,444		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0600	0.25		**Sheet Flow,** Range n= 0.130 P2= 3.10"
6.8	635	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.8	150	0.0800	1.41		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.6	100	0.1600	2.80		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.1	165	0.0350	1.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.8	700	0.0700	1.32		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
23.4	1,800	Total			

Subcatchment 3S: SUBCATCHMENT 3



Summary for Subcatchment 4S: SUBCATCHMENT 4

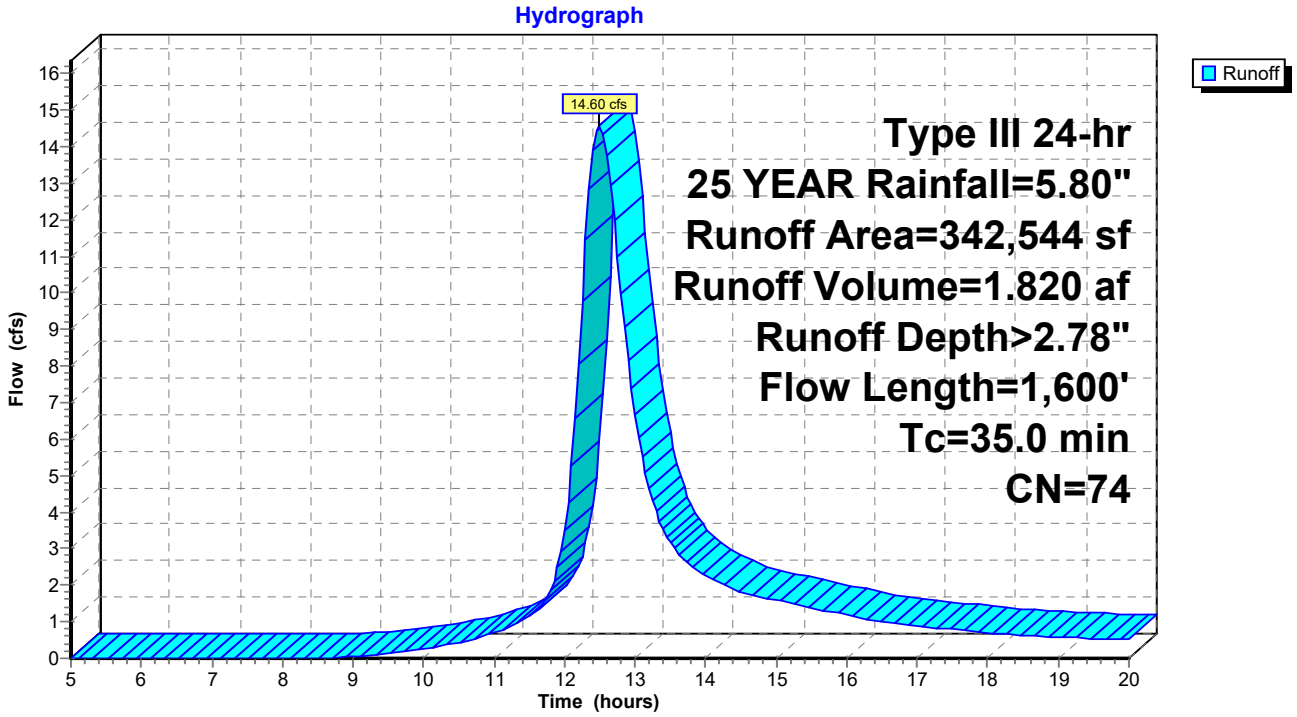
Runoff = 14.60 cfs @ 12.49 hrs, Volume= 1.820 af, Depth> 2.78"

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 25 YEAR Rainfall=5.80"

Area (sf)	CN	Description
175,502	73	Woods, Fair, HSG C
167,042	76	Woods/grass comb., Fair, HSG C
342,544	74	Weighted Average
342,544		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0600	0.25		**Sheet Flow,** Range n= 0.130 P2= 3.10"
2.7	280	0.0600	1.71		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.5	165	0.0500	1.12		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
4.7	465	0.0550	1.64		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.1	120	0.1300	1.80		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.7	520	0.0070	0.42		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
35.0	1,600	Total			

Subcatchment 4S: SUBCATCHMENT 4



Summary for Subcatchment 5S: SUBCATCHMENT 5

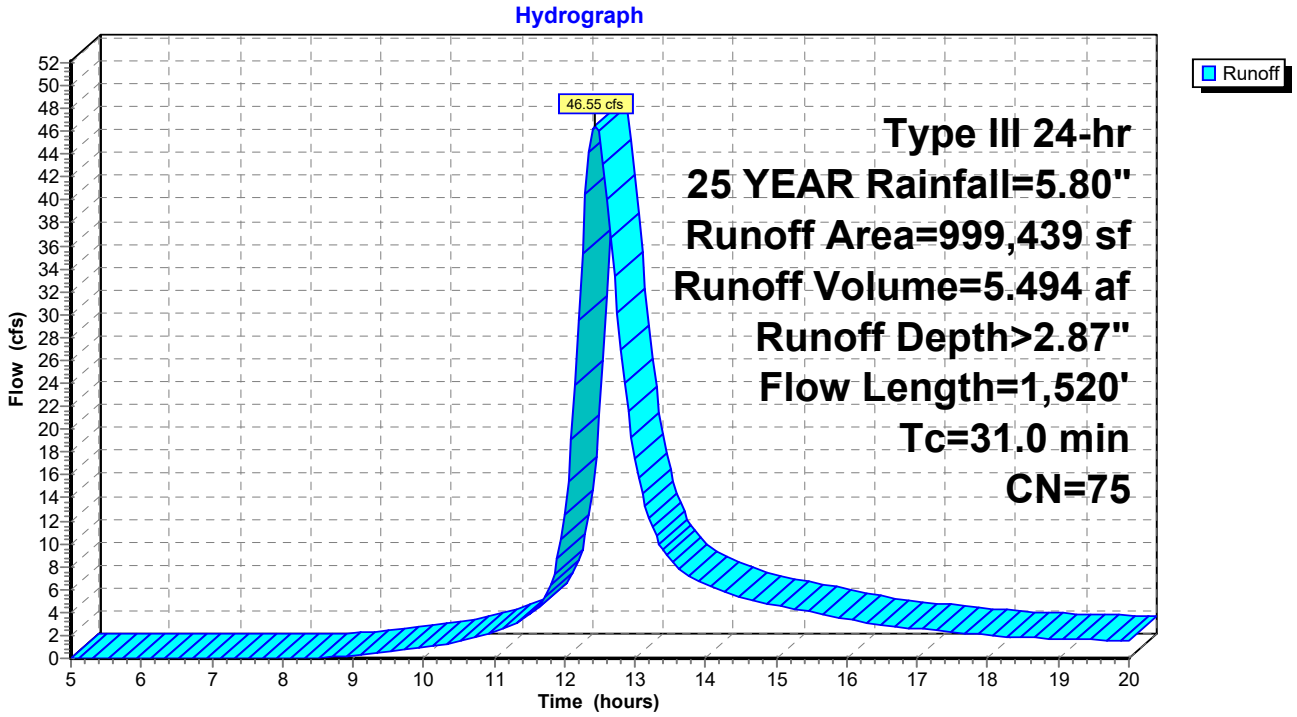
Runoff = 46.55 cfs @ 12.44 hrs, Volume= 5.494 af, Depth> 2.87"

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=5.80"

Area (sf)	CN	Description
391,720	73	Woods, Fair, HSG C
607,719	76	Woods/grass comb., Fair, HSG C
999,439	75	Weighted Average
999,439		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0600	0.25		**Sheet Flow,** Range n= 0.130 P2= 3.10"
0.8	100	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.4	200	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.1	215	0.0300	0.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.2	305	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.2	350	0.0350	0.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.0	300	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
31.0	1,520	Total			

Subcatchment 5S: SUBCATCHMENT 5



Summary for Subcatchment 6S: SUBCATCHMENT 6

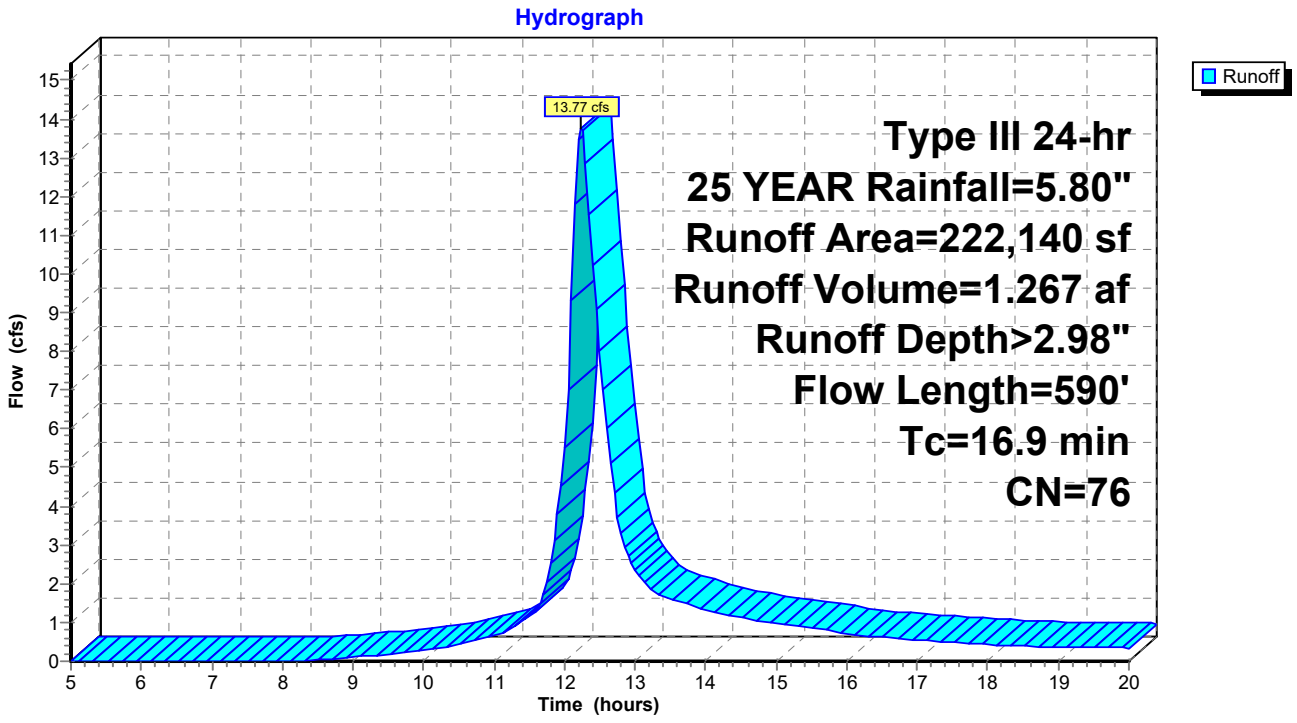
Runoff = 13.77 cfs @ 12.24 hrs, Volume= 1.267 af, Depth> 2.98"

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=5.80"

Area (sf)	CN	Description
222,140	76	Woods/grass comb., Fair, HSG C
222,140		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	50	0.0100	0.12		**Sheet Flow,** Range n= 0.130 P2= 3.10"
4.0	170	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.2	370	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
16.9	590	Total			

Subcatchment 6S: SUBCATCHMENT 6

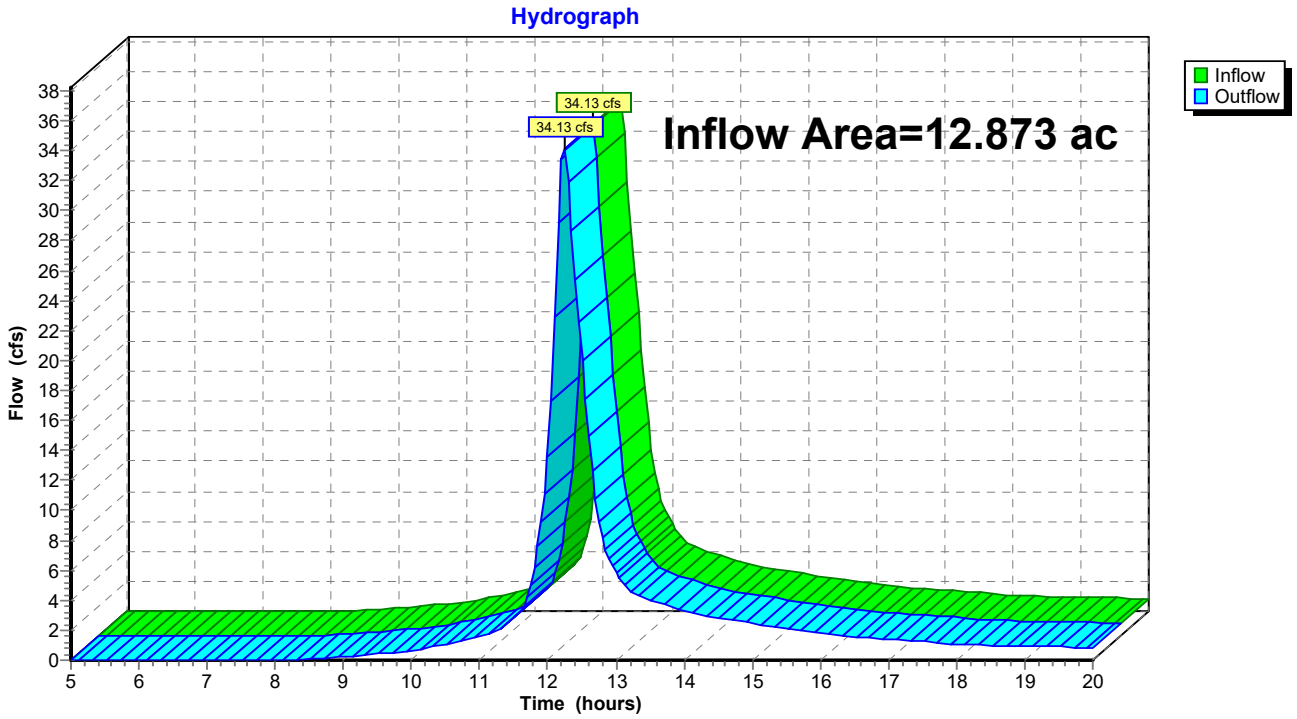


Summary for Reach 1R: SUMMATION POINT 1

Inflow Area = 12.873 ac, 0.00% Impervious, Inflow Depth > 2.92" for 25 YEAR event
Inflow = 34.13 cfs @ 12.24 hrs, Volume= 3.137 af
Outflow = 34.13 cfs @ 12.24 hrs, Volume= 3.137 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 1R: SUMMATION POINT 1

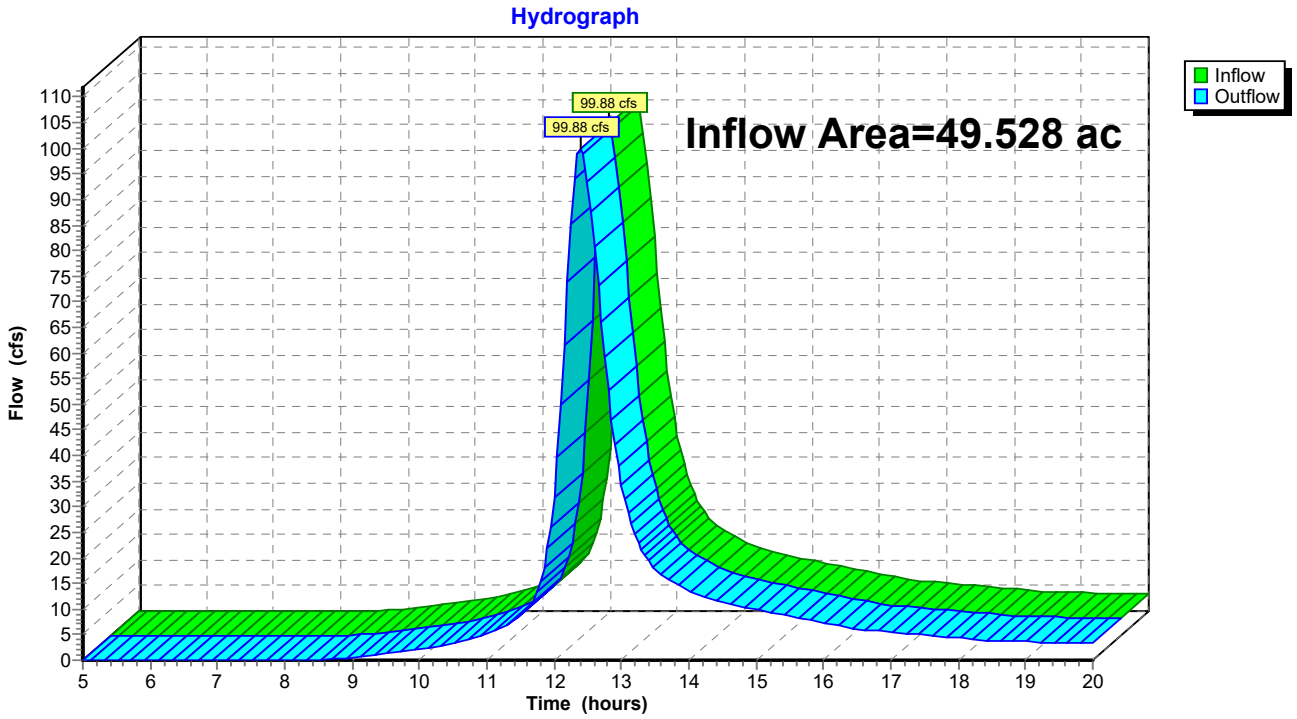


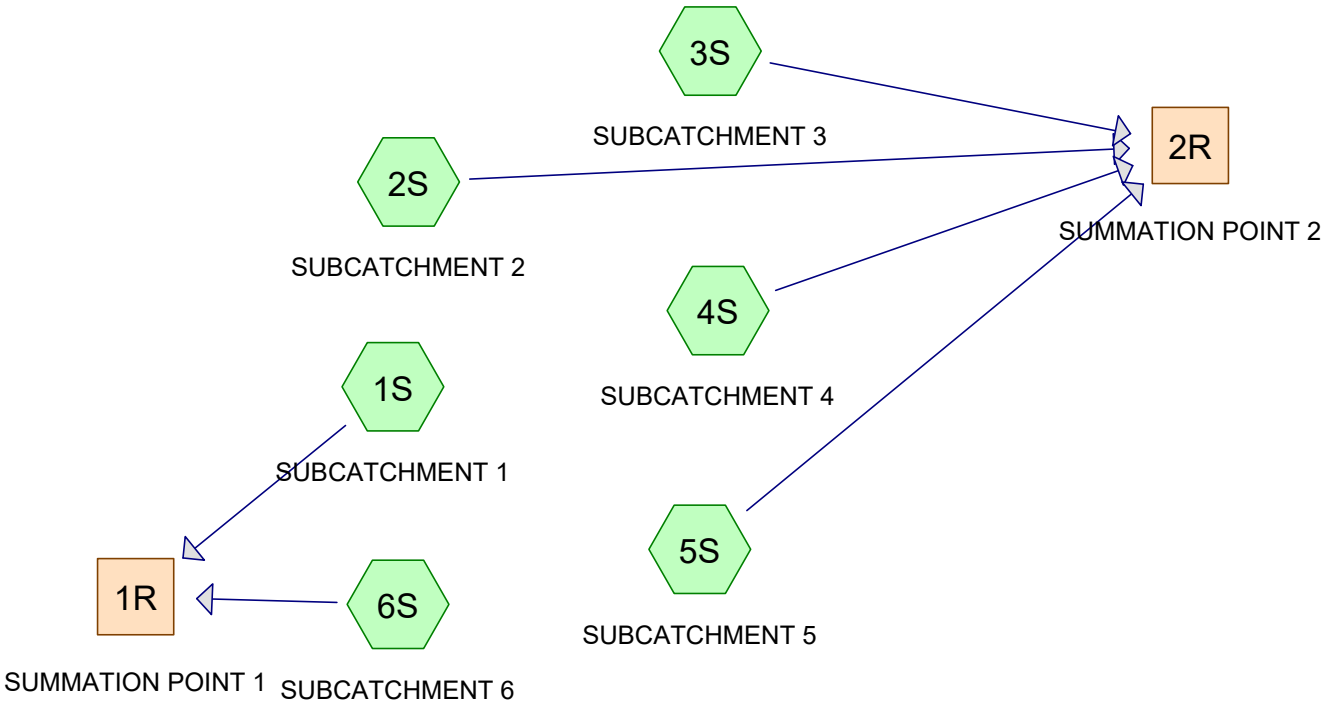
Summary for Reach 2R: SUMMATION POINT 2

Inflow Area = 49.528 ac, 0.00% Impervious, Inflow Depth > 2.86" for 25 YEAR event
Inflow = 99.88 cfs @ 12.39 hrs, Volume= 11.821 af
Outflow = 99.88 cfs @ 12.39 hrs, Volume= 11.821 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 2R: SUMMATION POINT 2





Subcat Reach Pond Link

Routing Diagram for POST DEVELOPMENT
Prepared by CES, Inc., Printed 7/16/2021
HydroCAD® 10.00-25 s/n 10605 © 2019 HydroCAD Software Solutions LLC

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

Subcatchment1S: SUBCATCHMENT1 Runoff Area=338,618 sf 0.04% Impervious Runoff Depth>1.33"
Flow Length=885' Tc=16.9 min CN=73 Runoff=9.21 cfs 0.862 af

Subcatchment2S: SUBCATCHMENT2 Runoff Area=63,025 sf 0.01% Impervious Runoff Depth>1.53"
Flow Length=350' Tc=8.4 min CN=76 Runoff=2.52 cfs 0.185 af

Subcatchment3S: SUBCATCHMENT3 Runoff Area=752,444 sf 1.34% Impervious Runoff Depth>1.33"
Flow Length=1,800' Tc=23.4 min UI Adjusted CN=73 Runoff=17.93 cfs 1.909 af

Subcatchment4S: SUBCATCHMENT4 Runoff Area=342,544 sf 0.45% Impervious Runoff Depth>1.26"
Flow Length=1,600' Tc=34.8 min CN=72 Runoff=6.50 cfs 0.824 af

Subcatchment5S: SUBCATCHMENT5 Runoff Area=999,439 sf 1.64% Impervious Runoff Depth>1.26"
Flow Length=1,520' Tc=31.0 min CN=72 Runoff=20.01 cfs 2.408 af

Subcatchment6S: SUBCATCHMENT6 Runoff Area=222,140 sf 2.59% Impervious Runoff Depth>1.46"
Flow Length=590' Tc=16.9 min UI Adjusted CN=75 Runoff=6.69 cfs 0.620 af

Reach 1R: SUMMATION POINT 1 Inflow=15.90 cfs 1.482 af
Outflow=15.90 cfs 1.482 af

Reach 2R: SUMMATION POINT 2 Inflow=44.09 cfs 5.326 af
Outflow=44.09 cfs 5.326 af

Total Runoff Area = 62.402 ac Runoff Volume = 6.808 af Average Runoff Depth = 1.31"
98.75% Pervious = 61.624 ac 1.25% Impervious = 0.778 ac

Summary for Subcatchment 1S: SUBCATCHMENT 1

Runoff = 9.21 cfs @ 12.25 hrs, Volume= 0.862 af, Depth> 1.33"

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 2 YEAR Rainfall=3.90"

Area (sf)	CN	Description
67,940	73	Woods, Fair, HSG C
138,999	76	Woods/grass comb., Fair, HSG C
152	98	Unconnected pavement, HSG C
131,527	71	Meadow, non-grazed, HSG C
338,618	73	Weighted Average
338,466		99.96% Pervious Area
152		0.04% Impervious Area
152		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0600	0.25		**Sheet Flow,** Range n= 0.130 P2= 3.10"
3.6	215	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.0	105	0.0600	1.71		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.5	205	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.5	310	0.0350	0.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
16.9	885	Total			

Summary for Subcatchment 2S: SUBCATCHMENT 2

Runoff = 2.52 cfs @ 12.12 hrs, Volume= 0.185 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 2 YEAR Rainfall=3.90"

Area (sf)	CN	Description
60,034	76	Woods/grass comb., Fair, HSG C
4	98	Unconnected roofs, HSG C
2,987	71	Meadow, non-grazed, HSG C
63,025	76	Weighted Average
63,021		99.99% Pervious Area
4		0.01% Impervious Area
4		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0600	0.25		**Sheet Flow,** Range n= 0.130 P2= 3.10"
5.1	300	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.4	350	Total			

Summary for Subcatchment 3S: SUBCATCHMENT 3

Runoff = 17.93 cfs @ 12.35 hrs, Volume= 1.909 af, Depth> 1.33"

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 2 YEAR Rainfall=3.90"

Area (sf)	CN	Adj	Description
328,289	73		Woods, Fair, HSG C
213,824	76		Woods/grass comb., Fair, HSG C
10,082	98		Unconnected pavement, HSG C
200,249	71		Meadow, non-grazed, HSG C
752,444	74	73	Weighted Average, UI Adjusted
742,362			98.66% Pervious Area
10,082			1.34% Impervious Area
10,082			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0600	0.25		**Sheet Flow,** Range n= 0.130 P2= 3.10"
6.8	635	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.8	150	0.0800	1.41		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.6	100	0.1600	2.80		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.1	165	0.0350	1.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.8	700	0.0700	1.32		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
23.4	1,800	Total			

Summary for Subcatchment 4S: SUBCATCHMENT 4

Runoff = 6.50 cfs @ 12.52 hrs, Volume= 0.824 af, Depth> 1.26"

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 2 YEAR Rainfall=3.90"

Area (sf)	CN	Description
151,791	73	Woods, Fair, HSG C
29,644	76	Woods/grass comb., Fair, HSG C
1,546	98	Unconnected pavement, HSG C
159,563	71	Meadow, non-grazed, HSG C
342,544	72	Weighted Average
340,998		99.55% Pervious Area
1,546		0.45% Impervious Area
1,546		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0600	0.25		**Sheet Flow,** Range n= 0.130 P2= 3.10"
9.7	910	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.1	120	0.1300	1.80		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.7	520	0.0070	0.42		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
34.8	1,600	Total			

Summary for Subcatchment 5S: SUBCATCHMENT 5

Runoff = 20.01 cfs @ 12.46 hrs, Volume= 2.408 af, Depth> 1.26"

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 2 YEAR Rainfall=3.90"

Area (sf)	CN	Description
212,918	73	Woods, Fair, HSG C
114,581	76	Woods/grass comb., Fair, HSG C
16,344	98	Unconnected pavement, HSG C
655,596	71	Meadow, non-grazed, HSG C
999,439	72	Weighted Average
983,095		98.36% Pervious Area
16,344		1.64% Impervious Area
16,344		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0600	0.25		**Sheet Flow,** Range n= 0.130 P2= 3.10"
0.8	100	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.4	200	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.1	215	0.0300	0.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.2	305	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.2	350	0.0350	0.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.0	300	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
31.0	1,520	Total			

Summary for Subcatchment 6S: SUBCATCHMENT 6

Runoff = 6.69 cfs @ 12.25 hrs, Volume= 0.620 af, Depth> 1.46"

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 2 YEAR Rainfall=3.90"

Area (sf)	CN	Adj	Description
174,566	76		Woods/grass comb., Fair, HSG C
5,760	98		Unconnected pavement, HSG C
41,814	71		Meadow, non-grazed, HSG C
222,140	76	75	Weighted Average, UI Adjusted
216,380			97.41% Pervious Area
5,760			2.59% Impervious Area
5,760			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	50	0.0100	0.12		**Sheet Flow,** Range n= 0.130 P2= 3.10"
4.0	170	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.2	370	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
16.9	590	Total			

Summary for Reach 1R: SUMMATION POINT 1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 12.873 ac, 1.05% Impervious, Inflow Depth > 1.38" for 2 YEAR event
Inflow = 15.90 cfs @ 12.25 hrs, Volume= 1.482 af
Outflow = 15.90 cfs @ 12.25 hrs, Volume= 1.482 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach 2R: SUMMATION POINT 2

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 49.528 ac, 1.30% Impervious, Inflow Depth > 1.29" for 2 YEAR event
Inflow = 44.09 cfs @ 12.41 hrs, Volume= 5.326 af
Outflow = 44.09 cfs @ 12.41 hrs, Volume= 5.326 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

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

Subcatchment1S: SUBCATCHMENT1 Runoff Area=338,618 sf 0.04% Impervious Runoff Depth>1.81"
Flow Length=885' Tc=16.9 min CN=73 Runoff=12.70 cfs 1.173 af

Subcatchment2S: SUBCATCHMENT2 Runoff Area=63,025 sf 0.01% Impervious Runoff Depth>2.05"
Flow Length=350' Tc=8.4 min CN=76 Runoff=3.39 cfs 0.247 af

Subcatchment3S: SUBCATCHMENT3 Runoff Area=752,444 sf 1.34% Impervious Runoff Depth>1.81"
Flow Length=1,800' Tc=23.4 min UI Adjusted CN=73 Runoff=24.71 cfs 2.601 af

Subcatchment4S: SUBCATCHMENT4 Runoff Area=342,544 sf 0.45% Impervious Runoff Depth>1.73"
Flow Length=1,600' Tc=34.8 min CN=72 Runoff=9.03 cfs 1.131 af

Subcatchment5S: SUBCATCHMENT5 Runoff Area=999,439 sf 1.64% Impervious Runoff Depth>1.73"
Flow Length=1,520' Tc=31.0 min CN=72 Runoff=27.81 cfs 3.304 af

Subcatchment6S: SUBCATCHMENT6 Runoff Area=222,140 sf 2.59% Impervious Runoff Depth>1.96"
Flow Length=590' Tc=16.9 min UI Adjusted CN=75 Runoff=9.06 cfs 0.834 af

Reach 1R: SUMMATION POINT 1 Inflow=21.76 cfs 2.008 af
Outflow=21.76 cfs 2.008 af

Reach 2R: SUMMATION POINT 2 Inflow=61.07 cfs 7.282 af
Outflow=61.07 cfs 7.282 af

Total Runoff Area = 62.402 ac Runoff Volume = 9.290 af Average Runoff Depth = 1.79"
98.75% Pervious = 61.624 ac 1.25% Impervious = 0.778 ac

Summary for Subcatchment 1S: SUBCATCHMENT 1

Runoff = 12.70 cfs @ 12.24 hrs, Volume= 1.173 af, Depth> 1.81"

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=4.60"

Area (sf)	CN	Description
67,940	73	Woods, Fair, HSG C
138,999	76	Woods/grass comb., Fair, HSG C
152	98	Unconnected pavement, HSG C
131,527	71	Meadow, non-grazed, HSG C
338,618	73	Weighted Average
338,466		99.96% Pervious Area
152		0.04% Impervious Area
152		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0600	0.25		**Sheet Flow,** Range n= 0.130 P2= 3.10"
3.6	215	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.0	105	0.0600	1.71		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.5	205	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.5	310	0.0350	0.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
16.9	885	Total			

Summary for Subcatchment 2S: SUBCATCHMENT 2

Runoff = 3.39 cfs @ 12.12 hrs, Volume= 0.247 af, Depth> 2.05"

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 10 YEAR Rainfall=4.60"

Area (sf)	CN	Description
60,034	76	Woods/grass comb., Fair, HSG C
4	98	Unconnected roofs, HSG C
2,987	71	Meadow, non-grazed, HSG C
63,025	76	Weighted Average
63,021		99.99% Pervious Area
4		0.01% Impervious Area
4		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0600	0.25		**Sheet Flow,** Range n= 0.130 P2= 3.10"
5.1	300	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.4	350	Total			

Summary for Subcatchment 3S: SUBCATCHMENT 3

Runoff = 24.71 cfs @ 12.34 hrs, Volume= 2.601 af, Depth> 1.81"

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=4.60"

Area (sf)	CN	Adj	Description
328,289	73		Woods, Fair, HSG C
213,824	76		Woods/grass comb., Fair, HSG C
10,082	98		Unconnected pavement, HSG C
200,249	71		Meadow, non-grazed, HSG C
752,444	74	73	Weighted Average, UI Adjusted
742,362			98.66% Pervious Area
10,082			1.34% Impervious Area
10,082			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0600	0.25		**Sheet Flow,** Range n= 0.130 P2= 3.10"
6.8	635	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.8	150	0.0800	1.41		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.6	100	0.1600	2.80		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.1	165	0.0350	1.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.8	700	0.0700	1.32		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
23.4	1,800	Total			

Summary for Subcatchment 4S: SUBCATCHMENT 4

Runoff = 9.03 cfs @ 12.51 hrs, Volume= 1.131 af, Depth> 1.73"

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=4.60"

Area (sf)	CN	Description
151,791	73	Woods, Fair, HSG C
29,644	76	Woods/grass comb., Fair, HSG C
1,546	98	Unconnected pavement, HSG C
159,563	71	Meadow, non-grazed, HSG C
342,544	72	Weighted Average
340,998		99.55% Pervious Area
1,546		0.45% Impervious Area
1,546		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0600	0.25		**Sheet Flow,** Range n= 0.130 P2= 3.10"
9.7	910	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.1	120	0.1300	1.80		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.7	520	0.0070	0.42		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
34.8	1,600	Total			

Summary for Subcatchment 5S: SUBCATCHMENT 5

Runoff = 27.81 cfs @ 12.45 hrs, Volume= 3.304 af, Depth> 1.73"

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=4.60"

Area (sf)	CN	Description
212,918	73	Woods, Fair, HSG C
114,581	76	Woods/grass comb., Fair, HSG C
16,344	98	Unconnected pavement, HSG C
655,596	71	Meadow, non-grazed, HSG C
999,439	72	Weighted Average
983,095		98.36% Pervious Area
16,344		1.64% Impervious Area
16,344		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0600	0.25		**Sheet Flow,** Range n= 0.130 P2= 3.10"
0.8	100	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.4	200	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.1	215	0.0300	0.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.2	305	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.2	350	0.0350	0.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.0	300	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
31.0	1,520	Total			

Summary for Subcatchment 6S: SUBCATCHMENT 6

Runoff = 9.06 cfs @ 12.24 hrs, Volume= 0.834 af, Depth> 1.96"

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=4.60"

Area (sf)	CN	Adj	Description
174,566	76		Woods/grass comb., Fair, HSG C
5,760	98		Unconnected pavement, HSG C
41,814	71		Meadow, non-grazed, HSG C
222,140	76	75	Weighted Average, UI Adjusted
216,380			97.41% Pervious Area
5,760			2.59% Impervious Area
5,760			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	50	0.0100	0.12		**Sheet Flow,** Range n= 0.130 P2= 3.10"
4.0	170	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.2	370	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
16.9	590	Total			

Summary for Reach 1R: SUMMATION POINT 1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 12.873 ac, 1.05% Impervious, Inflow Depth > 1.87" for 10 YEAR event
Inflow = 21.76 cfs @ 12.24 hrs, Volume= 2.008 af
Outflow = 21.76 cfs @ 12.24 hrs, Volume= 2.008 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach 2R: SUMMATION POINT 2

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 49.528 ac, 1.30% Impervious, Inflow Depth > 1.76" for 10 YEAR event
Inflow = 61.07 cfs @ 12.40 hrs, Volume= 7.282 af
Outflow = 61.07 cfs @ 12.40 hrs, Volume= 7.282 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

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

Subcatchment1S: SUBCATCHMENT1 Runoff Area=338,618 sf 0.04% Impervious Runoff Depth>2.71"
Flow Length=885' Tc=16.9 min CN=73 Runoff=19.07 cfs 1.752 af

Subcatchment2S: SUBCATCHMENT2 Runoff Area=63,025 sf 0.01% Impervious Runoff Depth>2.99"
Flow Length=350' Tc=8.4 min CN=76 Runoff=4.94 cfs 0.360 af

Subcatchment3S: SUBCATCHMENT3 Runoff Area=752,444 sf 1.34% Impervious Runoff Depth>2.70"
Flow Length=1,800' Tc=23.4 min UI Adjusted CN=73 Runoff=37.12 cfs 3.885 af

Subcatchment4S: SUBCATCHMENT4 Runoff Area=342,544 sf 0.45% Impervious Runoff Depth>2.60"
Flow Length=1,600' Tc=34.8 min CN=72 Runoff=13.69 cfs 1.702 af

Subcatchment5S: SUBCATCHMENT5 Runoff Area=999,439 sf 1.64% Impervious Runoff Depth>2.60"
Flow Length=1,520' Tc=31.0 min CN=72 Runoff=42.16 cfs 4.975 af

Subcatchment6S: SUBCATCHMENT6 Runoff Area=222,140 sf 2.59% Impervious Runoff Depth>2.89"
Flow Length=590' Tc=16.9 min UI Adjusted CN=75 Runoff=13.35 cfs 1.227 af

Reach 1R: SUMMATION POINT 1 Inflow=32.43 cfs 2.980 af
Outflow=32.43 cfs 2.980 af

Reach 2R: SUMMATION POINT 2 Inflow=92.24 cfs 10.922 af
Outflow=92.24 cfs 10.922 af

Total Runoff Area = 62.402 ac Runoff Volume = 13.902 af Average Runoff Depth = 2.67"
98.75% Pervious = 61.624 ac 1.25% Impervious = 0.778 ac

Summary for Subcatchment 1S: SUBCATCHMENT 1

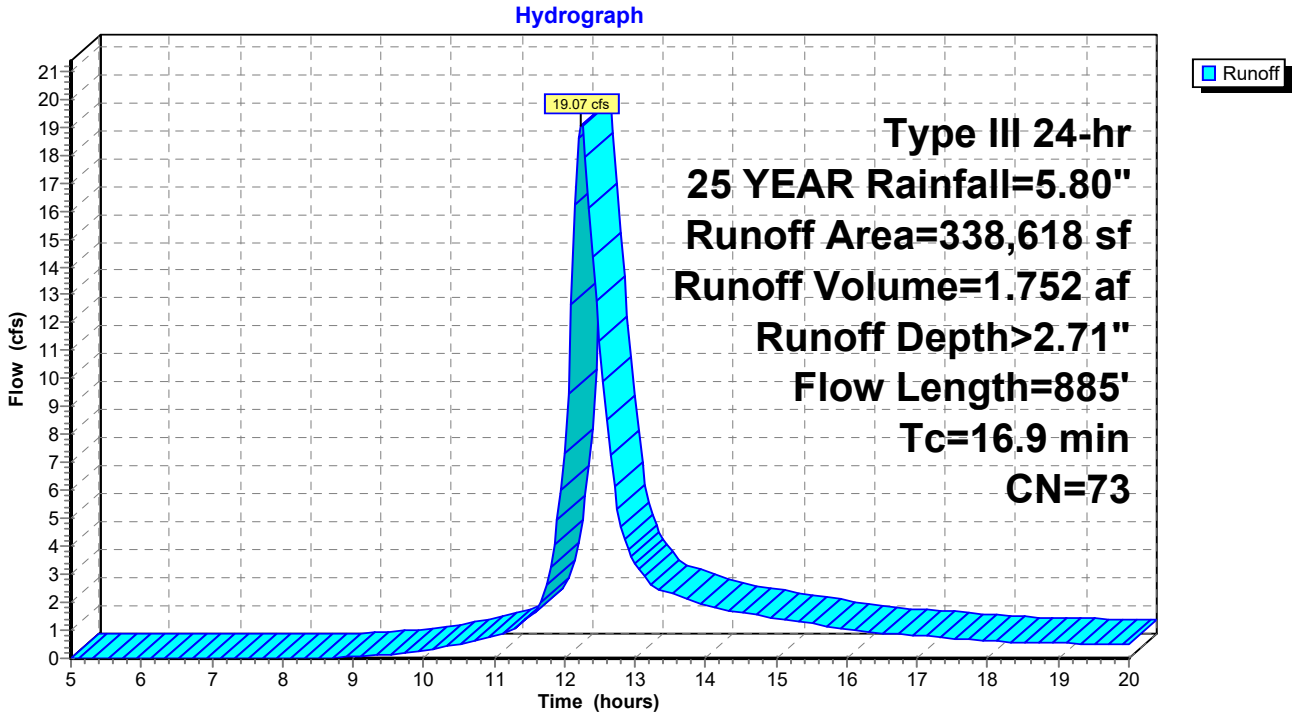
Runoff = 19.07 cfs @ 12.24 hrs, Volume= 1.752 af, Depth> 2.71"

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=5.80"

Area (sf)	CN	Description
67,940	73	Woods, Fair, HSG C
138,999	76	Woods/grass comb., Fair, HSG C
152	98	Unconnected pavement, HSG C
131,527	71	Meadow, non-grazed, HSG C
338,618	73	Weighted Average
338,466		99.96% Pervious Area
152		0.04% Impervious Area
152		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0600	0.25		**Sheet Flow,** Range n= 0.130 P2= 3.10"
3.6	215	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.0	105	0.0600	1.71		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.5	205	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.5	310	0.0350	0.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
16.9	885	Total			

Subcatchment 1S: SUBCATCHMENT 1



Summary for Subcatchment 2S: SUBCATCHMENT 2

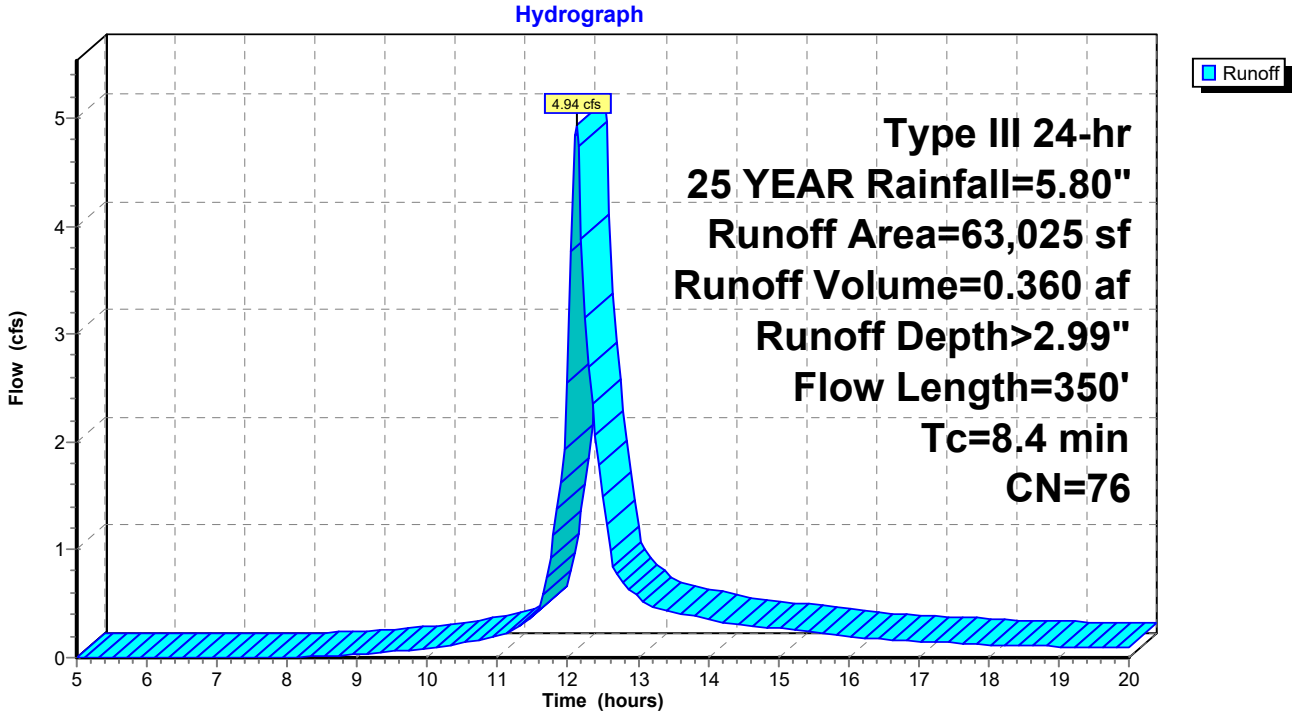
Runoff = 4.94 cfs @ 12.12 hrs, Volume= 0.360 af, Depth> 2.99"

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 25 YEAR Rainfall=5.80"

Area (sf)	CN	Description
60,034	76	Woods/grass comb., Fair, HSG C
4	98	Unconnected roofs, HSG C
2,987	71	Meadow, non-grazed, HSG C
63,025	76	Weighted Average
63,021		99.99% Pervious Area
4		0.01% Impervious Area
4		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0600	0.25		**Sheet Flow,** Range n= 0.130 P2= 3.10"
5.1	300	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.4	350	Total			

Subcatchment 2S: SUBCATCHMENT 2



Summary for Subcatchment 3S: SUBCATCHMENT 3

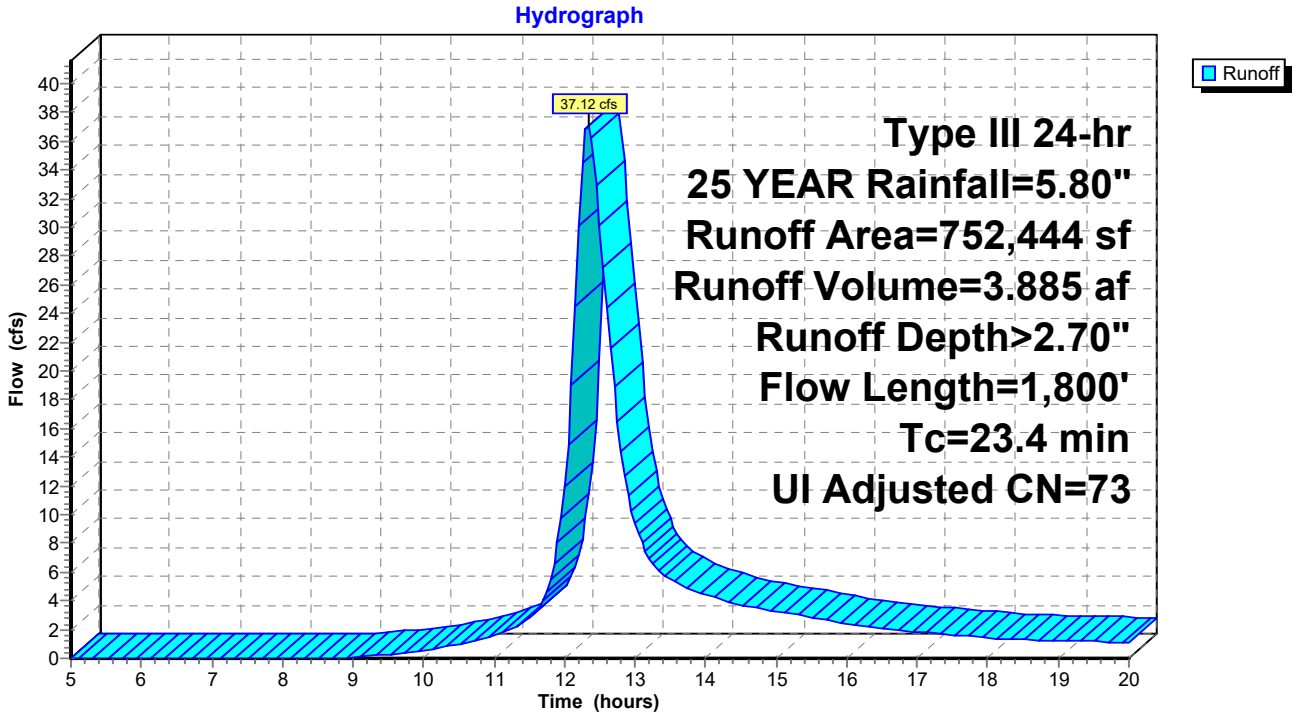
Runoff = 37.12 cfs @ 12.33 hrs, Volume= 3.885 af, Depth> 2.70"

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=5.80"

Area (sf)	CN	Adj	Description
328,289	73		Woods, Fair, HSG C
213,824	76		Woods/grass comb., Fair, HSG C
10,082	98		Unconnected pavement, HSG C
200,249	71		Meadow, non-grazed, HSG C
752,444	74	73	Weighted Average, UI Adjusted
742,362			98.66% Pervious Area
10,082			1.34% Impervious Area
10,082			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0600	0.25		**Sheet Flow,** Range n= 0.130 P2= 3.10"
6.8	635	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.8	150	0.0800	1.41		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.6	100	0.1600	2.80		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.1	165	0.0350	1.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.8	700	0.0700	1.32		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
23.4	1,800	Total			

Subcatchment 3S: SUBCATCHMENT 3



Summary for Subcatchment 4S: SUBCATCHMENT 4

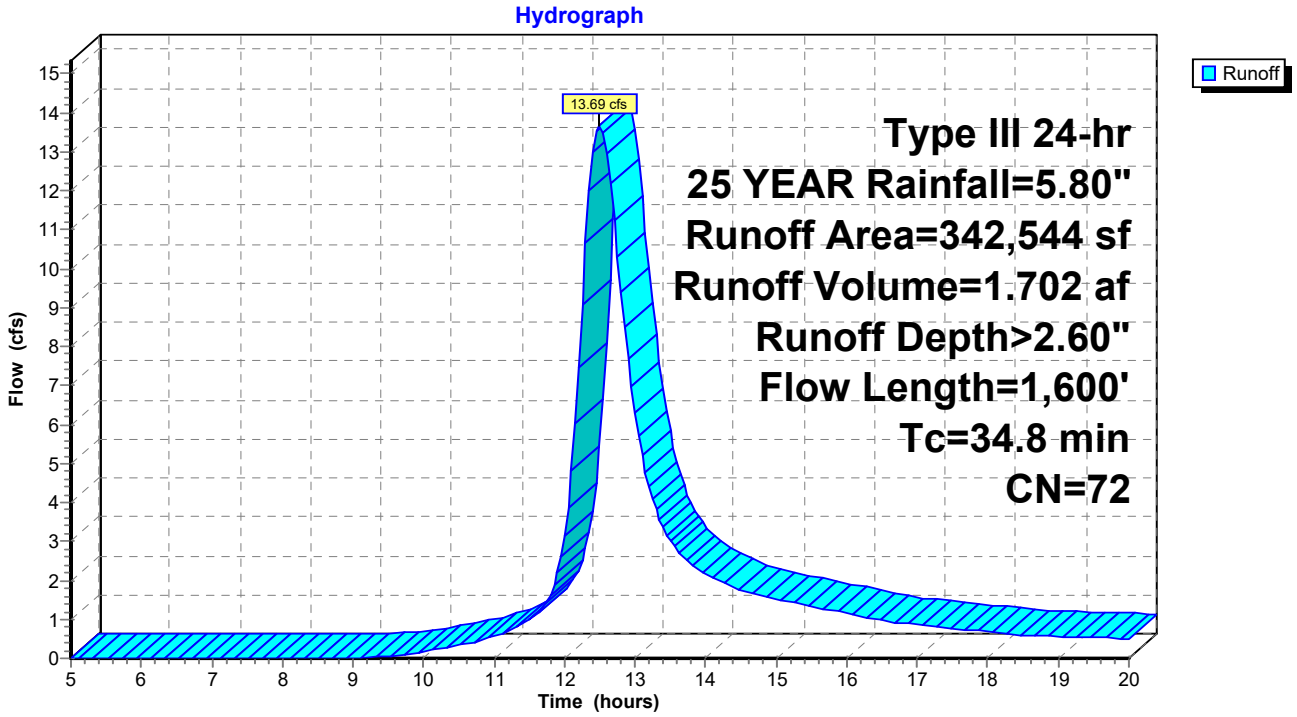
Runoff = 13.69 cfs @ 12.50 hrs, Volume= 1.702 af, Depth> 2.60"

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=5.80"

Area (sf)	CN	Description
151,791	73	Woods, Fair, HSG C
29,644	76	Woods/grass comb., Fair, HSG C
1,546	98	Unconnected pavement, HSG C
159,563	71	Meadow, non-grazed, HSG C
342,544	72	Weighted Average
340,998		99.55% Pervious Area
1,546		0.45% Impervious Area
1,546		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0600	0.25		**Sheet Flow,** Range n= 0.130 P2= 3.10"
9.7	910	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.1	120	0.1300	1.80		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.7	520	0.0070	0.42		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
34.8	1,600	Total			

Subcatchment 4S: SUBCATCHMENT 4



Summary for Subcatchment 5S: SUBCATCHMENT 5

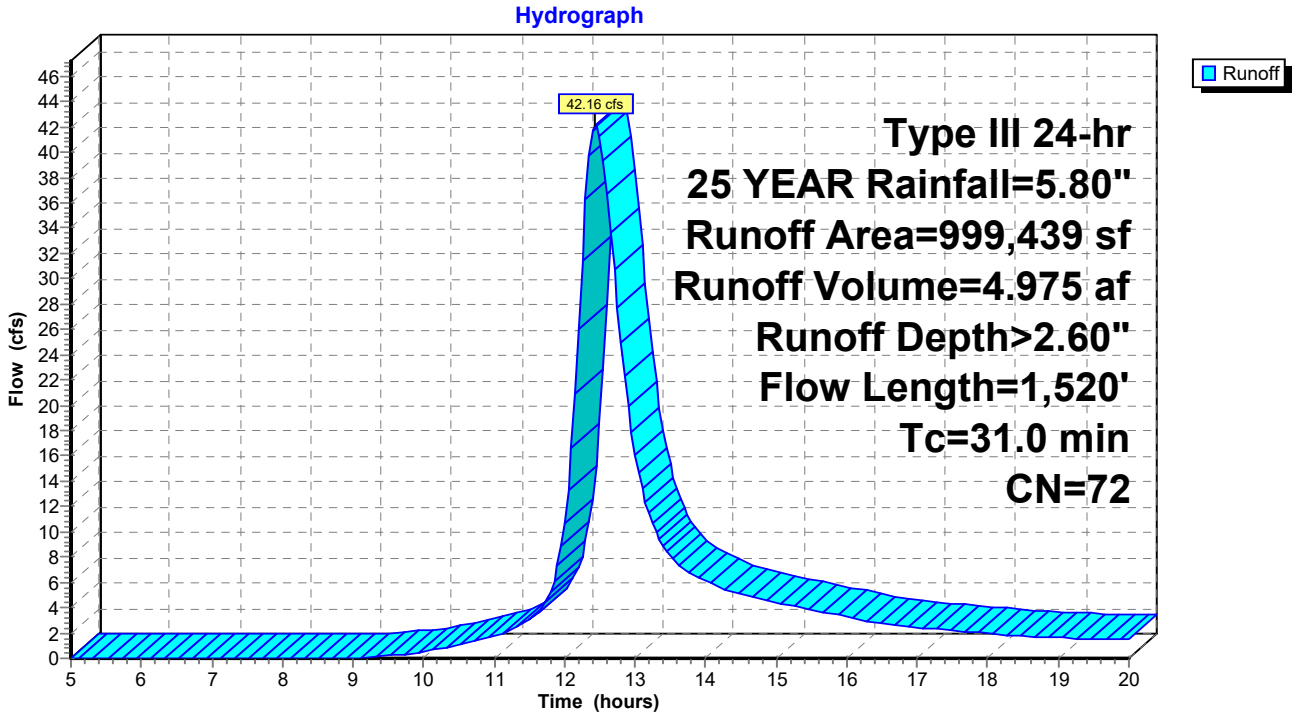
Runoff = 42.16 cfs @ 12.44 hrs, Volume= 4.975 af, Depth> 2.60"

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=5.80"

Area (sf)	CN	Description
212,918	73	Woods, Fair, HSG C
114,581	76	Woods/grass comb., Fair, HSG C
16,344	98	Unconnected pavement, HSG C
655,596	71	Meadow, non-grazed, HSG C
999,439	72	Weighted Average
983,095		98.36% Pervious Area
16,344		1.64% Impervious Area
16,344		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0600	0.25		**Sheet Flow,** Range n= 0.130 P2= 3.10"
0.8	100	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.4	200	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.1	215	0.0300	0.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.2	305	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.2	350	0.0350	0.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.0	300	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
31.0	1,520	Total			

Subcatchment 5S: SUBCATCHMENT 5



Summary for Subcatchment 6S: SUBCATCHMENT 6

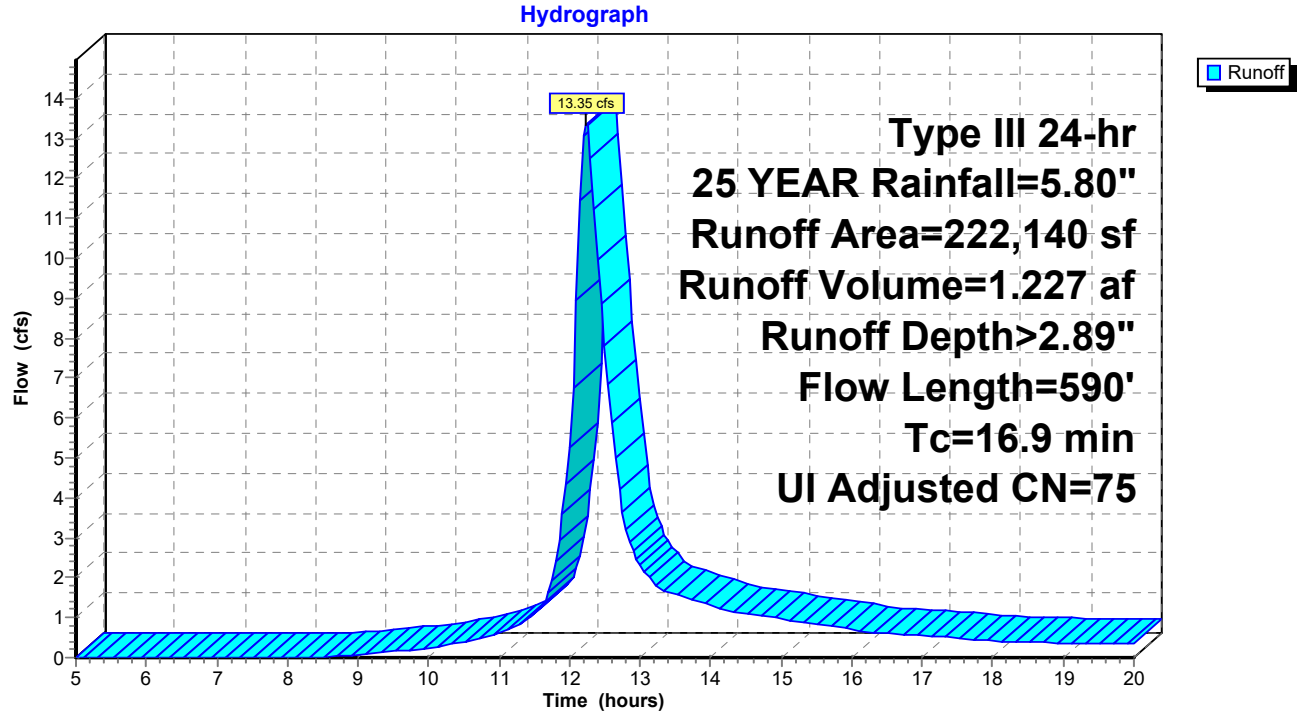
Runoff = 13.35 cfs @ 12.24 hrs, Volume= 1.227 af, Depth> 2.89"

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 25 YEAR Rainfall=5.80"

Area (sf)	CN	Adj	Description
174,566	76		Woods/grass comb., Fair, HSG C
5,760	98		Unconnected pavement, HSG C
41,814	71		Meadow, non-grazed, HSG C
222,140	76	75	Weighted Average, UI Adjusted
216,380			97.41% Pervious Area
5,760			2.59% Impervious Area
5,760			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	50	0.0100	0.12		**Sheet Flow,** Range n= 0.130 P2= 3.10"
4.0	170	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.2	370	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
16.9	590	Total			

Subcatchment 6S: SUBCATCHMENT 6



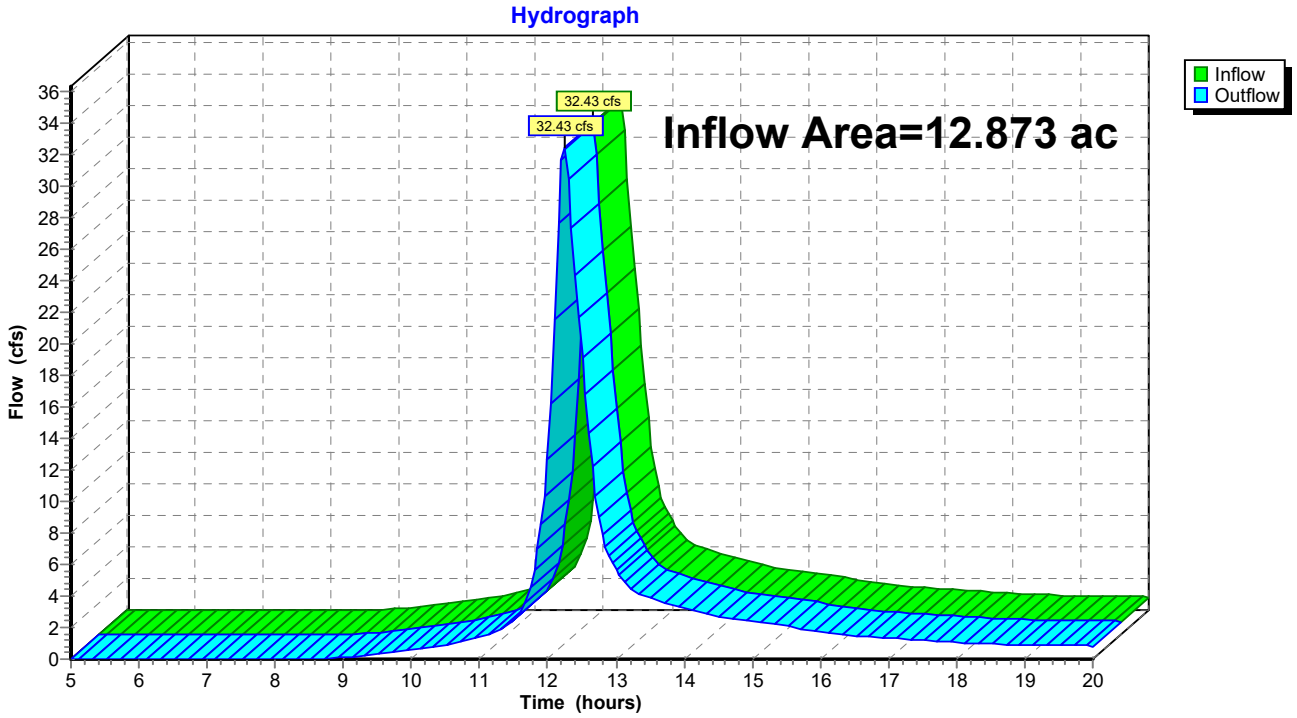
Summary for Reach 1R: SUMMATION POINT 1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 12.873 ac, 1.05% Impervious, Inflow Depth > 2.78" for 25 YEAR event
Inflow = 32.43 cfs @ 12.24 hrs, Volume= 2.980 af
Outflow = 32.43 cfs @ 12.24 hrs, Volume= 2.980 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 1R: SUMMATION POINT 1



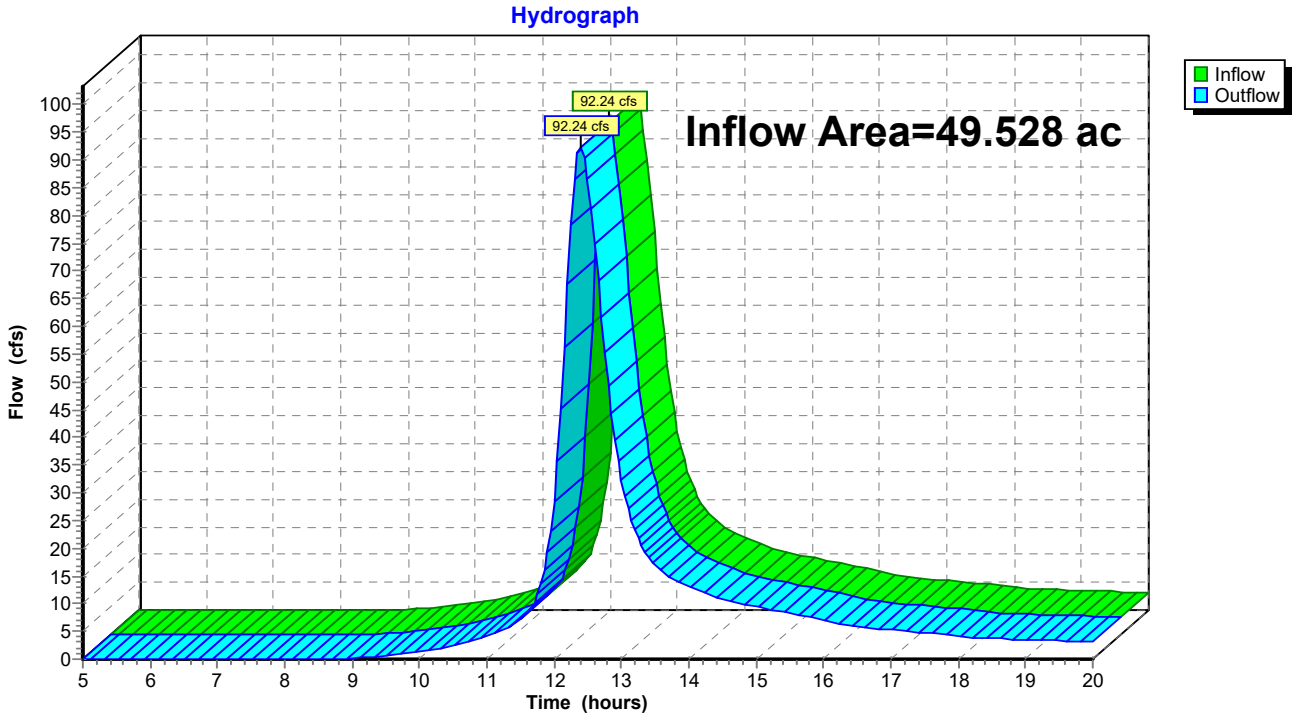
Summary for Reach 2R: SUMMATION POINT 2

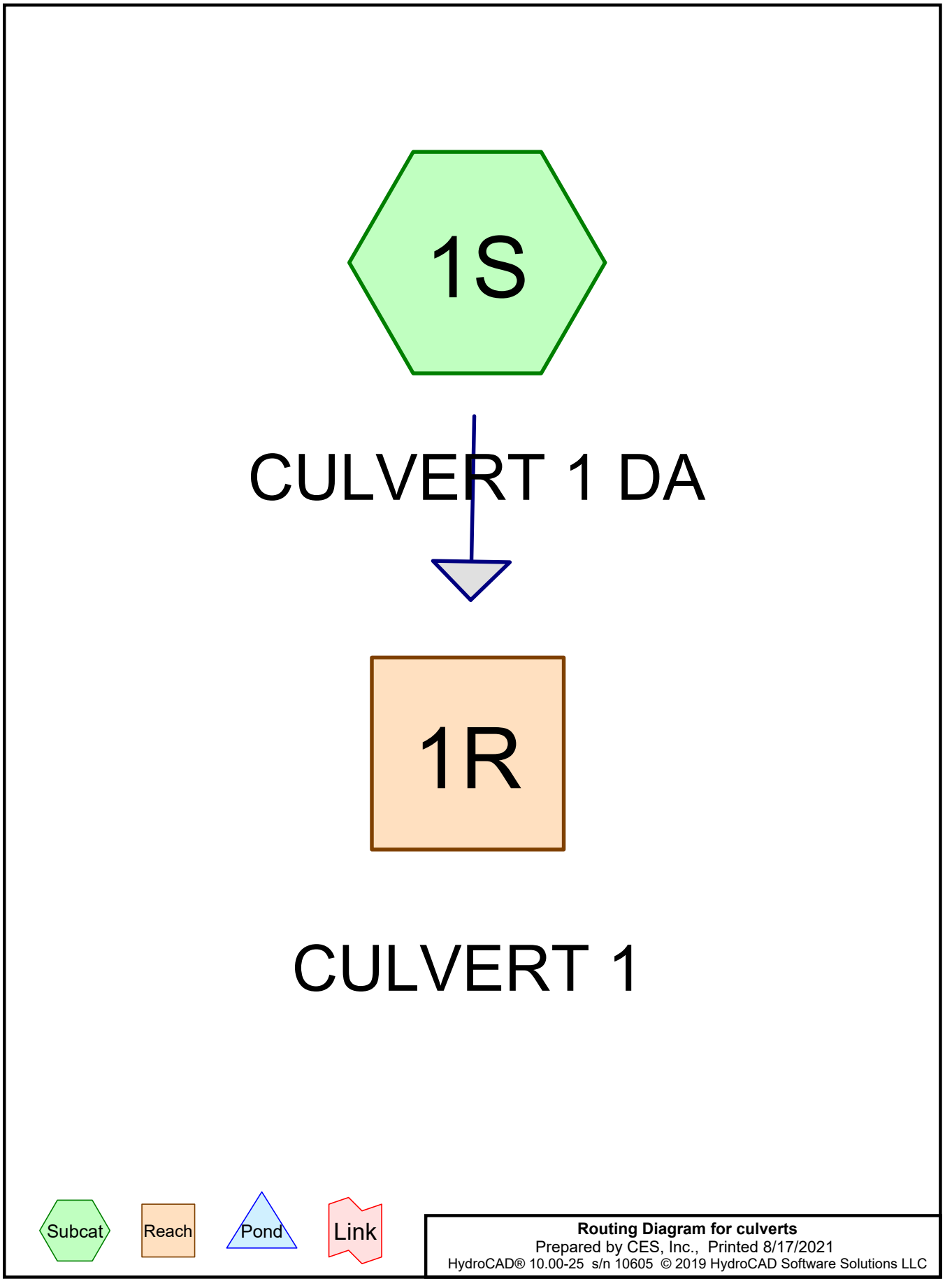
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 49.528 ac, 1.30% Impervious, Inflow Depth > 2.65" for 25 YEAR event
Inflow = 92.24 cfs @ 12.39 hrs, Volume= 10.922 af
Outflow = 92.24 cfs @ 12.39 hrs, Volume= 10.922 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 2R: SUMMATION POINT 2




1S
CULVERT 1 DA
1R
CULVERT 1
Subcat
Reach
Pond
Link
Routing Diagram for culverts
Prepared by CES, Inc., Printed 8/17/2021
HydroCAD® 10.00-25 s/n 10605 © 2019 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.223	73	Woods, Fair, HSG C (1S)
2.223	**73**	**TOTAL AREA**

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

Subcatchment1S: CULVERT 1 DA Runoff Area=96,853 sf 0.00% Impervious Runoff Depth>2.38"
Flow Length=420' Tc=15.3 min CN=73 Runoff=7.33 cfs 0.441 af

Reach 1R: CULVERT 1 Avg. Flow Depth=1.21' Max Vel=4.79 fps Inflow=7.33 cfs 0.441 af
18.0" Round Pipe n=0.013 L=20.0' S=0.0050 '/' Capacity=7.43 cfs Outflow=7.31 cfs 0.441 af

Total Runoff Area = 2.223 ac Runoff Volume = 0.441 af Average Runoff Depth = 2.38"
100.00% Pervious = 2.223 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1S: CULVERT 1 DA

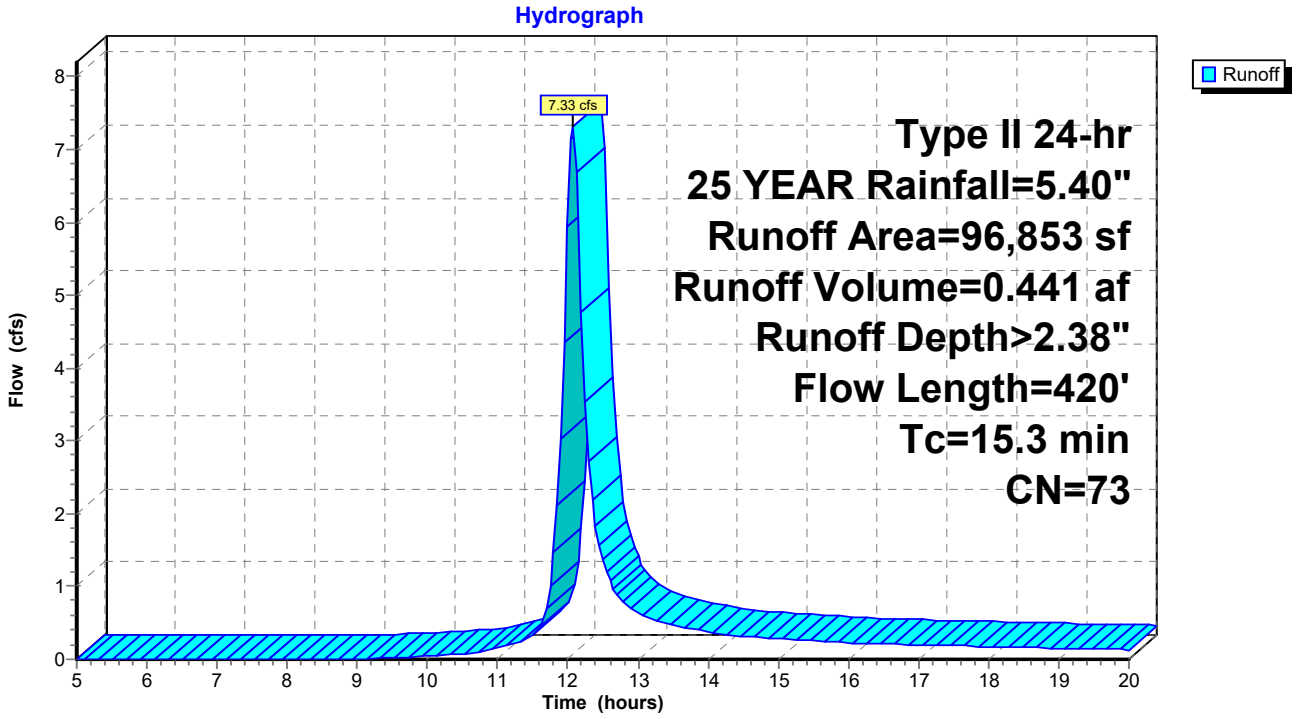
Runoff = 7.33 cfs @ 12.08 hrs, Volume= 0.441 af, Depth> 2.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.40"

Area (sf)	CN	Description
96,853	73	Woods, Fair, HSG C
96,853		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	50	0.1000	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.10"
8.7	370	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
15.3	420	Total			

Subcatchment 1S: CULVERT 1 DA



Summary for Reach 1R: CULVERT 1

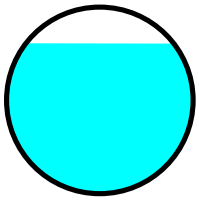
[52] Hint: Inlet/Outlet conditions not evaluated
[65] Warning: Inlet elevation not specified

Inflow Area = 2.223 ac, 0.00% Impervious, Inflow Depth > 2.38" for 25 YEAR event
Inflow = 7.33 cfs @ 12.08 hrs, Volume= 0.441 af
Outflow = 7.31 cfs @ 12.08 hrs, Volume= 0.441 af, Atten= 0%, Lag= 0.2 min

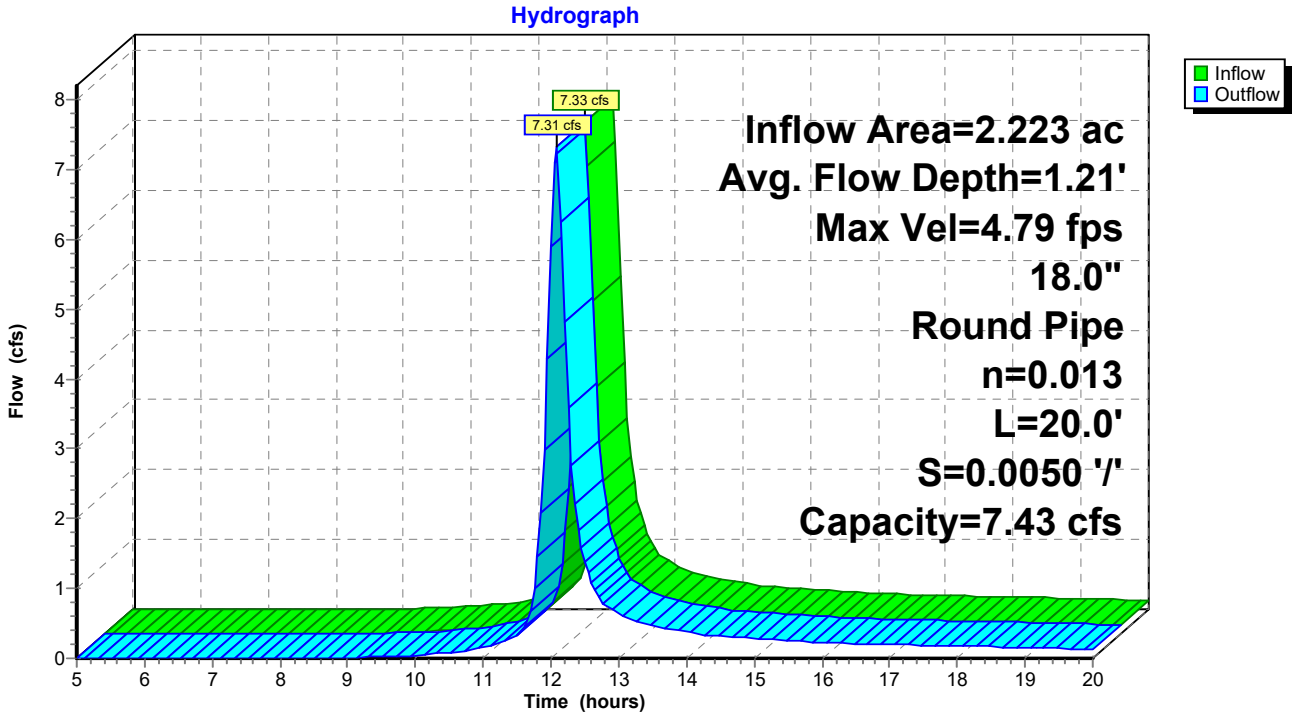
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.79 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.94 fps, Avg. Travel Time= 0.2 min

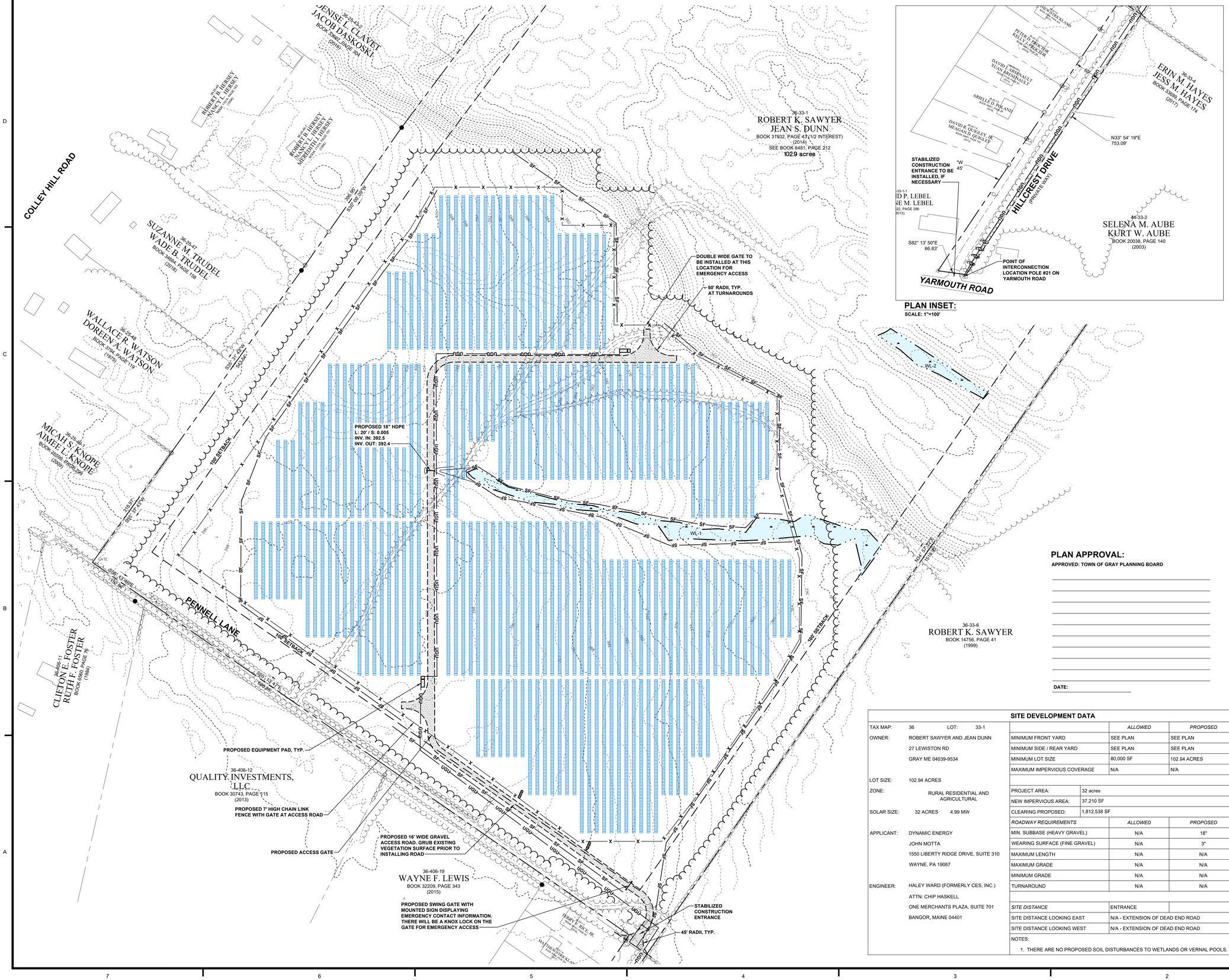
Peak Storage= 31 cf @ 12.08 hrs
Average Depth at Peak Storage= 1.21'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 7.43 cfs

18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 20.0' Slope= 0.0050 '/'
Inlet Invert= 0.00', Outlet Invert= -0.10'



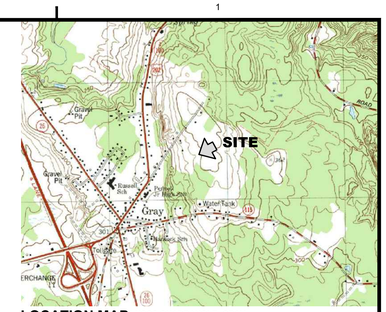
Reach 1R: CULVERT 1





PLAN INSET:

SCALE: 1"=100'



LOCATION MAP: USGS QUADRANGLE: GRAY
SCALE: 1"=2000'
MAPTECH® USGS TOPOGRAPHIC SERIES™,
©MAPTECH®, INC. 978-933-3000
WWW.MAPTECH.COM/TOPO

LEGEND:

DESCRIPTION	EXISTING	PROPOSED
PROPERTY LINE		
UTILITY POLE		
EDGE OF GRAVEL		
EDGE OF PAVEMENT		
TREELINE		
MAJOR FOOT CONTOUR	100	100
MINOR FOOT CONTOUR	98	98
OVERHEAD UTILITIES		OHU
UNDERGROUND UTILITIES		UGU
CHAIN LINK FENCE		X
SILT FENCE		SF
SOLAR PANELS		
WETLAND BOUNDARY		

PLAN APPROVAL:

APPROVED: TOWN OF GRAY PLANNING BOARD

DATE:

PLAN REFERENCE:

INFORMATION BASED ON CONDITIONS FOUND AND SURVEYED BY HALEY WARD, INC. ON JANUARY 19, 2021.

GRAPHIC SCALE

100 0 50 100 200 300

(IN FEET)
1 inch = 100 ft.

SITE DEVELOPMENT DATA

			ALLOWED	PROPOSED
TAX MAP:	36 LOT: 33-1	MINIMUM FRONT YARD	SEE PLAN	SEE PLAN
OWNER:	ROBERT SAWYER AND JEAN DUNN	MINIMUM SIDE / REAR YARD	SEE PLAN	SEE PLAN
	27 LEWISTON RD	MINIMUM LOT SIZE	80,000 SF	102.94 ACRES
	GRAY ME 04039-9534	MAXIMUM IMPERVIOUS COVERAGE	N/A	N/A
LOT SIZE:	102.94 ACRES			
ZONE:	RURAL RESIDENTIAL AND AGRICULTURAL	PROJECT AREA:	32 acres	
		NEW IMPERVIOUS AREA:	37,210 SF	
SOLAR SIZE:	32 ACRES 4.99 MW	CLEARING PROPOSED:	1,812,538 SF	
		ROADWAY REQUIREMENTS	*ALLOWED*	*PROPOSED*
APPLICANT:	DYNAMIC ENERGY	MIN. SUBBASE (HEAVY GRAVEL)	N/A	18"
	JOHN MOTTA	WEARING SURFACE (FINE GRAVEL)	N/A	3"
	1550 LIBERTY RIDGE DRIVE, SUITE 310	MAXIMUM LENGTH	N/A	N/A
	WAYNE, PA 19087	MAXIMUM GRADE	N/A	N/A
		MINIMUM GRADE	N/A	N/A
ENGINEER:	HALEY WARD (FORMERLY CES, INC.)	TURNAROUND	N/A	N/A
	ATTN: CHIP HASKELL			
	ONE MERCHANTS PLAZA, SUITE 701	*SITE DISTANCE*	ENTRANCE	
	BANGOR, MAINE 04401	SITE DISTANCE LOOKING EAST	N/A - EXTENSION OF DEAD END ROAD	
		SITE DISTANCE LOOKING WEST	N/A - EXTENSION OF DEAD END ROAD	

NOTES:
1. THERE ARE NO PROPOSED SOIL DISTURBANCES TO WETLANDS OR VERNAL POOLS.

REV.	DATE	DESCRIPTION	BY	CHK.

DRAWING ISSUE STATUS

NOT FOR CONSTRUCTION

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
One Merchants Plaza, Suite 701
Bangor, Maine 04401
207.989.4824
WWW.HALEYWARD.COM

PROJECT

GRAY YARMOUTH ROAD SOLAR LLC
GRAY, MAINE

TITLE

PROPOSED SITE PLAN

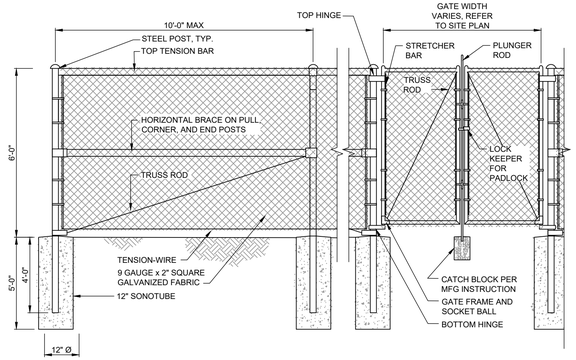
DATE	SCALE
2021.07.19	1"=100'

DRAWN BY	DESIGNED BY	CHECKED BY
WAB	DJO	SMT

PROJECT No. 12921.019

DRAWING No. **C101** REV.

FILE LOCATION: P:\12921 DYNAMIC_ENERGY\016 YARMOUTH ROAD GRAY,ACAD\2-CAD_DRAWINGS\CIVIL\DESIGN_DWGS\12921 016-C-SP.DWG, 2021.08.20, 8:08 AM

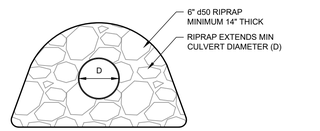


NOTE:

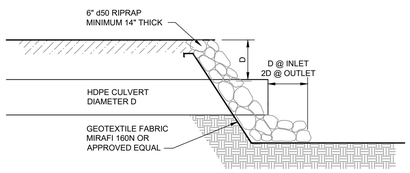
1. SECURE POSTS IN CONCRETE AS SHOWN AT ALL PULL, CORNER AND END POSTS (INCLUDING GATE POSTS).
2. FOR SINGLE LEAF GATES, LOCK KEEPER / PADLOCK HARDWARE SHALL BE INSTALLED ON ADJACENT POST.
3. REFER TO SITE PLAN FOR GATE DIMENSIONS AND LAYOUT.

CHAIN LINK FENCE DETAIL

N.T.S.



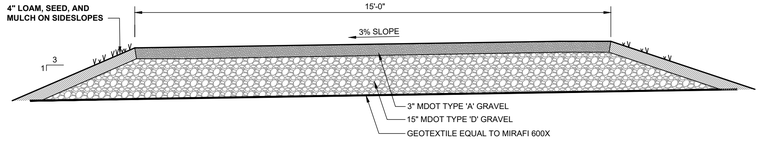
ELEVATION



PROFILE VIEW

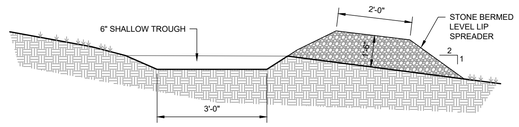
TYPICAL CULVERT INLET/OUTLET PROTECTION DETAIL

N.T.S.



GRAVEL ACCESS ROAD SECTION

N.T.S.



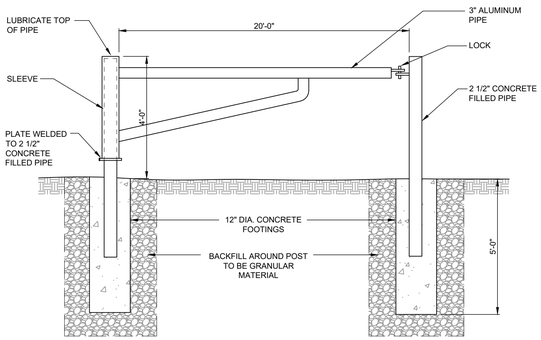
TYPICAL BUFFER LEVEL SPREADER SECTION

N.T.S.

EROSION CONTROL NOTES

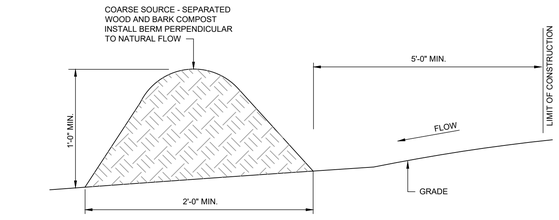
1. ALL SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE MAINE EROSION AND SEDIMENTATION CONTROL BEST MANAGEMENT PRACTICES (BMPS), PUBLISHED BY THE BUREAU OF LAND AND WATER QUALITY, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, LATEST EDITION.
2. SILT FENCE WILL BE INSPECTED, REPLACED AND/OR REPAIRED IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL OR SNOW MELT OR LOSS OF SERVICEABILITY DUE TO SEDIMENT ACCUMULATION. AT A MINIMUM, ALL EROSION CONTROL DEVICES WILL BE OBSERVED WEEKLY.
3. DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT WILL BE RETURNED TO CONSTRUCTION SITE.
4. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UPSLOPE ARE STABILIZED BY A SUITABLE GROWTH OF GRASS. ONCE A SUITABLE GROWTH OF GRASS HAS BEEN OBTAINED, ALL TEMPORARY EROSION CONTROL ITEMS SHALL BE REMOVED BY THE CONTRACTOR. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THEY ARE REMOVED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED, SEEDED, AND MULCHED IMMEDIATELY.
5. ALL DISTURBED AREAS WILL BE SEEDED WITH 2.5 LBS. RED FESCUE AND 0.5 LBS. RYE GRASS PER 1,000 SQUARE FEET AND MULCHED AT A RATE OF 90 LBS. PER 1,000 SQUARE FEET OR EQUIVALENT APPLICATION OF SEED AND MULCH.
6. A SUITABLE BINDER SUCH AS CURASOL OR TERRTACK WILL BE USED ON THE HAY MULCH FOR WIND CONTROL.
7. IF FINAL SEEDING OF DISTURBED AREAS IS NOT COMPLETED BY SEPTEMBER 15th OF THE YEAR OF CONSTRUCTION, THEN ON THAT DATE THESE AREAS WILL BE GRADED AND SEEDED WITH WINTER RYE AT THE RATE OF 112 POUNDS PER ACRE OR 3 POUNDS PER 1000 SQUARE FEET. THE RYE SEEDING WILL BE PRECEDED BY AN APPLICATION OF 3 TONS OF LIME AND 800 LBS. OF 10-20-20 FERTILIZER OR ITS EQUIVALENT. MULCH WILL BE APPLIED AT A RATE OF 90 POUNDS PER 1000 SQUARE FEET.
8. IF THE RYE SEEDING CANNOT BE COMPLETED BY OCTOBER 1st OR IF THE RYE DOES NOT MAKE ADEQUATE GROWTH BY DECEMBER 1st, THEN ON THOSE DATES, HAY MULCH WILL BE APPLIED AT 150 POUNDS PER 1000 SQUARE FEET.
9. INTERIOR SILT FENCES ALONG CONTOUR DIVIDING FLAT AND STEEP SLOPES, AREAS WITH DIFFERENT DISTURBANCE SCHEDULES, AROUND TEMPORARY STOCKPILES OR IN OTHER UNSPECIFIED POSSIBLE CIRCUMSTANCES SHOULD BE CONSIDERED BY THE CONTRACTOR. THE INTENT OF SUCH INTERIOR SILT FENCES IS TO LIMIT SEDIMENT TRANSPORT WITHIN THE SITE TOWARD THE PROTECTED CATCH BASIN INLETS TO MINIMIZE SEDIMENT REMOVAL REQUIRED BY THE EROSION CONTROL NOTE 9 PROTECTIONS AND EXTEND LIFE OF SUCH DEVICES.
10. MEADOW BUFFERS WILL BE MOWED NO SHORTER THAN SIX INCHES, NO MORE THAN TWICE PER YEAR.
11. MINIMUM EROSION CONTROL MEASURES WILL NEED TO BE IMPLEMENTED AND THE CONTRACTOR WILL BE RESPONSIBLE TO MAINTAIN ALL COMPONENTS OF THE EROSION CONTROL PLAN UNTIL THE SITE IS FULLY STABILIZED. HOWEVER, BASED ON SITE AND WEATHER CONDITIONS DURING CONSTRUCTION, ADDITIONAL EROSION CONTROL MEASURES MAY NEED TO BE IMPLEMENTED . ALL AREAS OF INSTABILITY AND EROSION MUST BE REPAIRED IMMEDIATELY DURING CONSTRUCTION AND NEED TO BE MAINTAINED UNTIL THE SITE IS FULLY STABILIZED OR VEGETATION IS ESTABLISHED. A CONSTRUCTION LOG MUST BE MAINTAINED FOR THE EROSION AND SEDIMENTATION CONTROL INSPECTIONS AND MAINTENANCE

CONTRACTOR WILL BE RESPONSIBLE FOR FOLLOWING PROCEDURES FOUND IN THE "MAINE EROSION AND SEDIMENT CONTROL PRACTICES FIELD GUIDE FOR CONTRACTORS" (PUBLISHED MARCH 2015). THE PUBLICATION CAN BE FOUND AT: HTTP://WWW.MAINE.GOV/DEP/LAND/EROSION/ESCBMPS/INDEX.HTML



GALVANIZED SWING GATE DETAIL

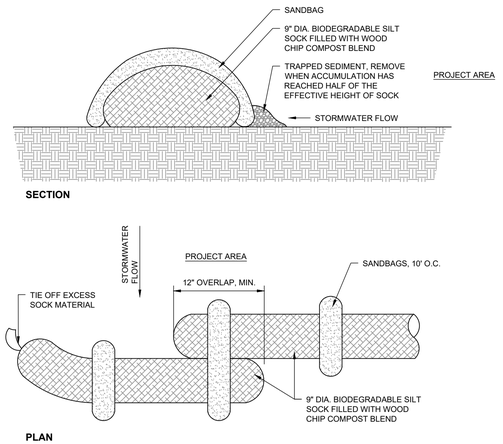
N.T.S.



NOTE:
THE EROSION CONTROL MIX MUST BE WELL-GRADED WITH AN ORGANIC COMPONENT THAT IS BETWEEN 50 AND 100% OF DRY WEIGHT, AND THAT IS COMPOSED OF FIBROUS AND ELONGATED FRAGMENTS. THE MINERAL PORTION OF THE MIX SHOULD BE NATURALLY INCLUDED IN THE PRODUCT WITH NO LARGER ROCKS (>4") OR LARGE AMOUNTS OF FINES (SILTS AND CLAYS). IN STUMP GRINDING, THE MINERAL SOIL ORIGINATES FROM THE ROOT BALL AND SHOULD NOT BE REMOVED BEFORE GRINDING. THE MIX SHOULD BE FREE OF REFUSE, MATERIAL TOXIC TO PLANT GROWTH OR UNSUITABLE MATERIAL (BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS).

EROSION CONTROL MIX BERM DETAIL

N.T.S. (MAY BE USED AS AN ALTERNATE TO SILT FENCE)

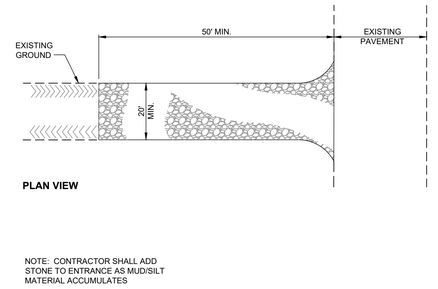


SECTION

PLAN

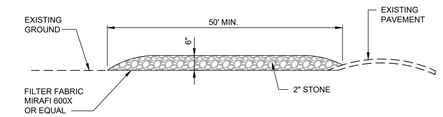
SILT SOCK DETAIL

N.T.S. (MAY BE USED AS AN ALTERNATE TO SILT FENCE)



PLAN VIEW

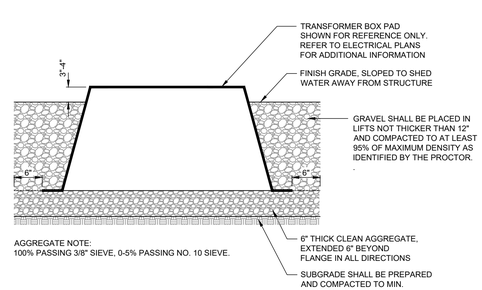
NOTE: CONTRACTOR SHALL ADD STONE TO ENTRANCE AS MUD/SILT MATERIAL ACCUMULATES



SECTION

STABILIZED CONSTRUCTION ENTRANCE DETAIL

N.T.S.

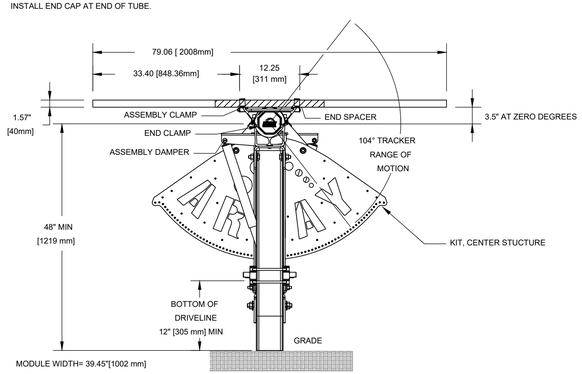


TYPICAL TRANSFORMER PAD BUILDUP DETAIL

N.T.S.

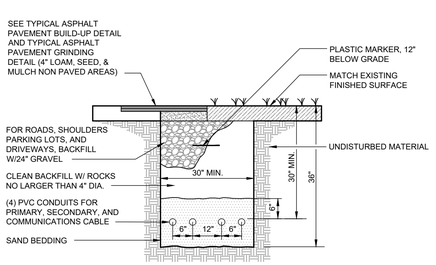
MINIMUM DISTANCES AND MODULE DATA

NOTE:
REFERENCE INDIVIDUAL ASSEMBLY DRAWINGS FOR DETAILS.
INSTALL END CLAMPS SPACERS ON END CLAMPS.
INSTALL END CAP AT END OF TUBE.



PV SYSTEM RACKING

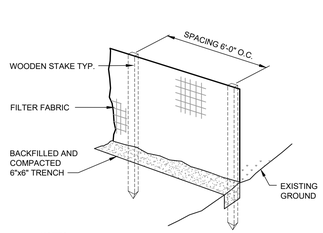
N.T.S.



NOTES:
1. SIZE, NUMBER, MATERIAL, AND ARRANGEMENT OF CONDUIT SHALL BE COORDINATED WITH INDIVIDUAL UTILITIES.
2. ALL ELECTRICAL CONDUIT AND STRUCTURES SHALL BE WATER TIGHT.

TYPICAL UNDERGROUND UTILITY TRENCH DETAIL

N.T.S.



NOTES:
1. KEY FABRIC IN A 6"x6" TRENCH W/BACKFILL AND COMPACT.
2. SILT FENCE SHALL BE A 3' FENCE WITH A MINIMUM GRAB STRENGTH OF 120 LBS.

SILT FENCE DETAIL

N.T.S.

REV.	DATE	DESCRIPTION	BY	CHK

DRAWING ISSUE STATUS

NOT FOR CONSTRUCTION

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
One Merchants Plaza, Suite 701
Bangor, Maine 04401
207.989.4824
WWW.HALEYWARD.COM

PROJECT

GRAY YARMOUTH ROAD SOLAR LLC
GRAY, MAINE

TITLE

SITE DETAILS

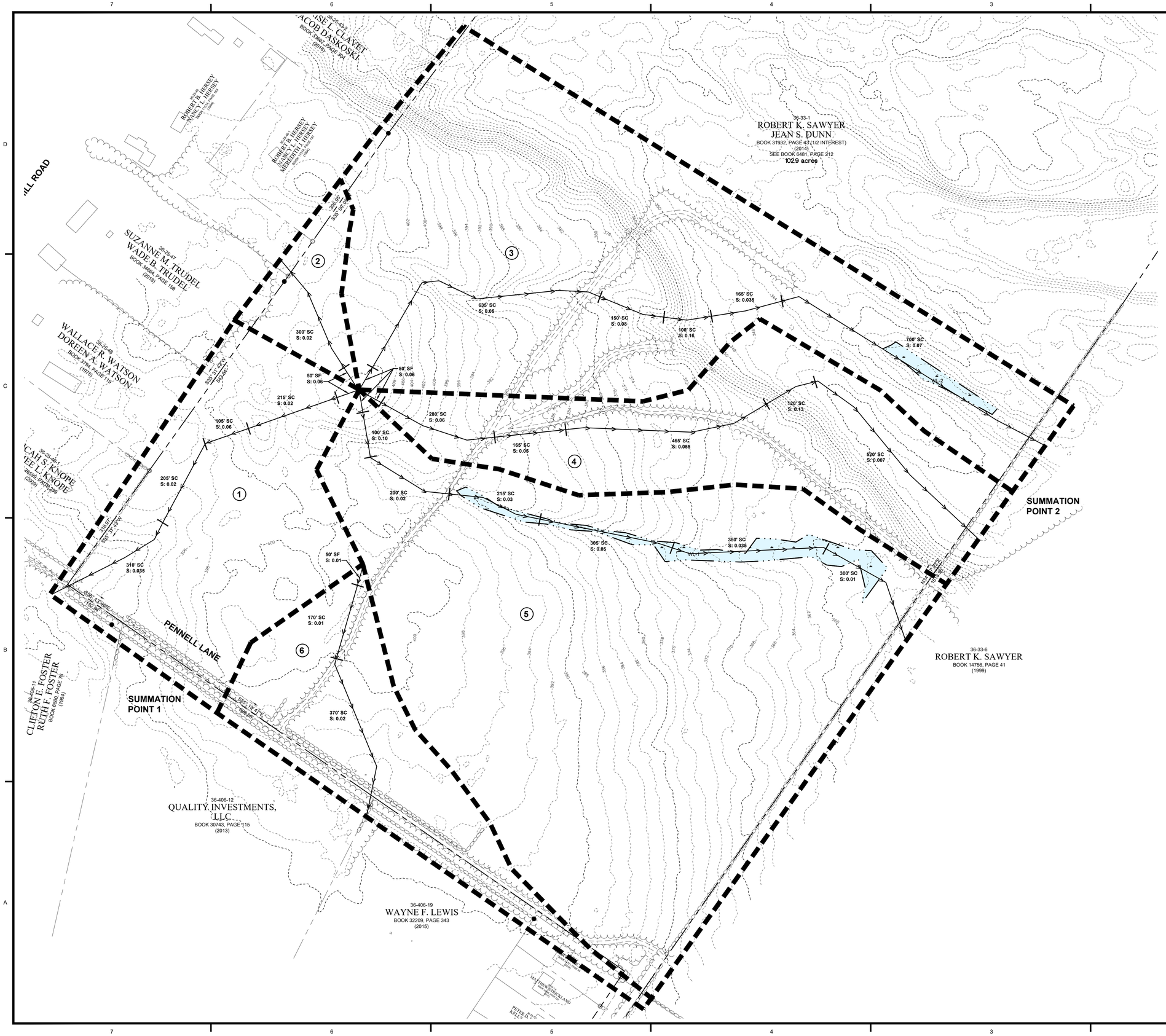
DATE	SCALE
2021.07.19	NTS

DRAWN BY	DESIGNED BY	CHECKED BY
WAB	WAB	SMT

PROJECT No. 12921.016

DRAWING No. **C501** REV.

FILE LOCATION: P:\12921-01\DYNAMIC_ENERGY\01-YARMOUTH ROAD (GRAY-ACHIO-CAI)_DRAWINGS\CIVIL\DISC\N_DWGS\12921-01S-C-DET.DWG, 2021.08.20, 6:59 AM



REV.	DATE	DESCRIPTION	BY	CHK.

DRAWING ISSUE STATUS

NOT FOR CONSTRUCTION

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
One Merchants Plaza, Suite 701
Bangor, Maine 04401
207.989.4824
WWW.HALEYWARD.COM

PROJECT

GRAY YARMOUTH ROAD SOLAR LLC
GRAY, MAINE

TITLE

PRE DEVELOPMENT HYDROLOGY PLAN

DATE	SCALE
2021.07.19	1"=100'

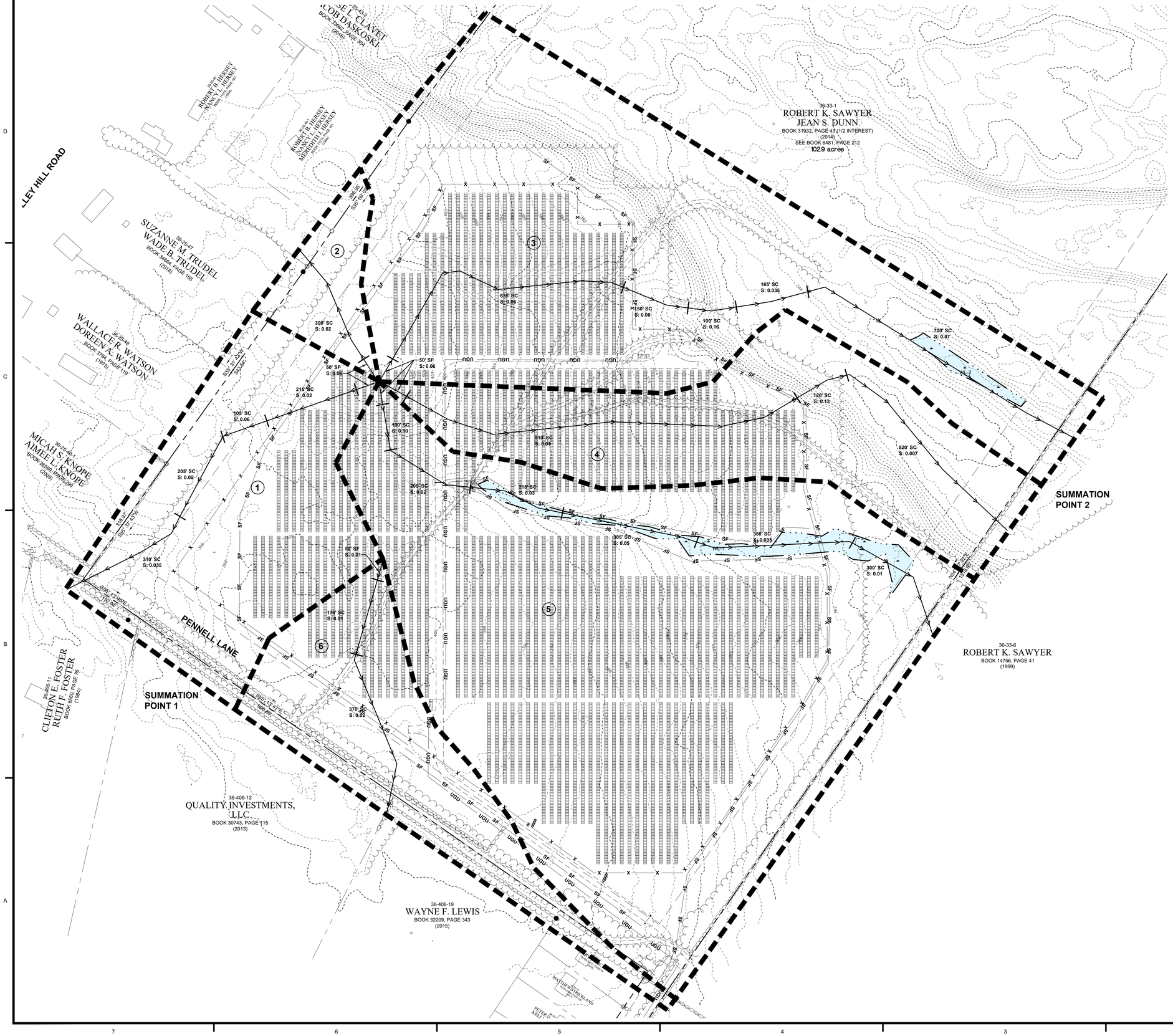
DRAWN BY	DESIGNED BY	CHECKED BY
WAB	DJO	SMT

PROJECT No.
12921.016

DRAWING No.
C701

REV.

FILE LOCATION: P:\12921-DYNAMIC_ENERGY\016-YARMOUTH ROAD GRAY-ADH\02-CAD_DRAWINGS\CIVIL\DSIGN_DWGS\12921016-C-HY.DWG, 2021.08.26, 8:09 AM



REV.	DATE	DESCRIPTION	BY	CHK.

DRAWING ISSUE STATUS

NOT FOR CONSTRUCTION

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
One Merchants Plaza, Suite 701
Bangor, Maine 04401
207.989.4824
WWW.HALEYWARD.COM

PROJECT

GRAY YARMOUTH ROAD SOLAR LLC
GRAY, MAINE

TITLE

POST DEVELOPMENT HYDROLOGY PLAN

DATE	SCALE
2021.07.19	1"=100'

DRAWN BY	DESIGNED BY	CHECKED BY
WAB	DJO	SMT

PROJECT No. 12921.016

DRAWING No. **C702** REV.

FILE LOCATION: P:\12921-DYNAMIC_ENERGY\016-YARMOUTH ROAD GRAY-ADH\02-CAD_DRAWINGS\CIVIL\DESIGN_DWGS\12921.016-C-HY.DWG, 2021.08.20, 6:09 AM

...HILL ROAD

ROBERT L. [illegible]
NANCY L. [illegible]
BOOK 11814, PAGE 89 (1988)

ROBERT K. JERSEY
NANCY L. JERSEY
MEREDITH J. JERSEY
BOOK 11868, PAGE 89 (1988)

36-33-1
ROBERT K. SAWYER
JEAN S. DUNN
BOOK 31932, PAGE 42 (1/2 INTEREST)
(2014)
SEE BOOK 6481, PAGE 212
102.9 acres

36-24-47
SUZANNE M. TRUDEL
WADE B. TRUDEL
BOOK 3486, PAGE 108
(2018)

36-24-48
WALLACE R. WATSON
DOREEN A. WATSON
BOOK 3708, PAGE 118
(1975)

36-24-49
MICAH S. KNOPE
KIMBERLEE L. KNOPE
BOOK 26588, PAGE 299
(2009)

S35° 31' 45"W
318.97'

S35° 31' 45"W
145.44'

S35° 31' 45"W
396.95'

S55° 03' 49"E
152.16'

S55° 13' 47"E
599.85'

N35° 00' 09"E
396.95'

N35° 00' 09"E
1134.47' PLAT
1016.95' MEAS

PENNELL LANE

AREA TREATED BY MEADOW BUFFER #4 (STA: 16+25 TO 18+25) SUPERELEVATE ROAD RIGHT AND DITCH TOWARDS BUFFER

AREA TREATED BY MEADOW BUFFER #5 (STA: 18+25 TO 20+25) SUPERELEVATE ROAD RIGHT AND DITCH TOWARDS BUFFER

MEADOW BUFFER #4
SIZE: 20' x 120'
AREA TREATED: 3,200 SF

MEADOW BUFFER #5
SIZE: 20' x 120'
AREA TREATED: 3,200 SF

AREA TREATED BY MEADOW BUFFER #3 (STA: 7+10 TO 16+25) SUPERELEVATE ROAD RIGHT TO SHEET DIRECTLY INTO BUFFER

MEADOW BUFFER #3
SIZE: 50' x 915'
AREA TREATED: 14,640 SF

MEADOW BUFFER #2
SIZE: 20' x 120'
AREA TREATED: 3,200 SF

MEADOW BUFFER #1
SIZE: 20' x 120'
AREA TREATED: 3,200 SF

AREA TREATED BY MEADOW BUFFER #2 (STA: 5+10 TO 7+10) SUPERELEVATE ROAD RIGHT AND DITCH TOWARDS BUFFER

AREA TREATED BY MEADOW BUFFER #1 (STA: 3+10 TO 5+10) SUPERELEVATE ROAD RIGHT AND DITCH TOWARDS BUFFER

WL-1

WL-2

36-406-12
QUALITY INVESTMENTS, LLC
BOOK 30743, PAGE 115
(2013)

36-406-19
WAYNE F. LEWIS
BOOK 32209, PAGE 343
(2015)

36-406-11
CLIFTON E. FOSTER
RUTH F. FOSTER
BOOK 6960, PAGE 79
(1994)

36-33-6
ROBERT K. SAWYER
BOOK 14756, PAGE 41
(1999)

36-33-4
ERIN M. HA...
JESS M. H...
BOOK 32...

HARVEY L. RICE, JR.
WAYNE WESTBROOKLAND
PETER D. PROCTOR
KELLY A. PROCTOR
DAVID J. ARSENAULT
JO ANN ARSENAULT

GRAPHIC SCALE
100 0 50 100 200 300
(IN FEET)
1 inch = 100ft.

REV.	DATE	DESCRIPTION	BY	CHK.

DRAWING ISSUE STATUS
NOT FOR CONSTRUCTION

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
One Merchants Plaza, Suite 701
Bangor, Maine 04401
207.989.4824
WWW.HALEYWARD.COM

PROJECT
GRAY YARMOUTH ROAD SOLAR LLC
GRAY, MAINE

TITLE
STORMWATER TREATMENT PLAN

DATE	SCALE
2021.07.19	1"=100'

DRAWN BY	DESIGNED BY	CHECKED BY
WAB	DJO	SMT

PROJECT No. 12921.016

DRAWING No. **C703** REV.

FILE LOCATION: P:\12921-DYNAMIC_ENERGY\01\5-YARMOUTH ROAD GRAY-ACHIC\2-CAD_DRAWINGS\CIVIL\DSGN_DWGS\12921.016-C-HT.DWG, 2021.08.20, 6:09 AM

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
FORMERLY: CES INC

August 20, 2021

Town of Gray Planning Department
Attn: Doug Webster, Acting Town Planner
24 Maine Street
Gray, ME 04039
dwebster@graymaine.org

Re: Gray Yarmouth Road Solar LLC | Site Plan Application

Dear Mr. Webster:

Haley Ward, Inc. (Haley Ward) has prepared the following response to the Gray Planning Board Memo data August 11, 2021. The comments have been provided in bold italics, followed by our response.

1. ***Suggested changes to submittals:***

   a. ***Necessary submittals to address G-P's 7-30-21 e-mai1***

      The response to the Peer Review comments has been provided.

   b. ***FD request a knox lock (padlock) for gates in lieu of lock box***

      The knox lock locations have been added to the Proposed Site Plan.

   c. ***FD request for a double-wide gate (ideally with no center post) at access road terminus for access to remaining portion of the parcel for i.e. brushfires***

      The double-wide gate location has been added to the Proposed Site Plan.

   d. ***Increase all turn radii to 50' for access road for Public Safety vehicles***

      All turn radii have been increased to 50' as shown on the Proposed Site Plan.

One Merchants Plaza, Suite 701, Bangor, ME 04401
T: 207.989.4824 | HALEYWARD.COM

e. *Increase "depth" of hammerheads to allow for Public Safety vehicles*

All hammerhead depths have been increased to 70' to allow emergency vehicle access, as shown on the Proposed Site Plan.

2. *Suggested Discussion Points with applicant at Planning Board (PB) meeting: (letters/numbers for reference purposes only):*

a. *This is the first formal Public Hearing of the proposed commercial solar energy system so the Board should proactively solicit any public comments.*

No public comments were offered at the 8-12-2021 PB meeting.

b. *Does the PB endorse the "Suggested changes" to submittals detailed above?*

The suggested changes have been made.

c. *Is there any re-grading proposed other than for the access roads?*

The development does not propose any significant topography alterations, no re-grading other than for the access roads is proposed. Minor additional grading may be required around any necessary road culverts or prohibitively steep areas.

d. *Status/plan (if any) regarding ATV trail that has historically been on the parcel?*

There are no proposed alterations to the existing ATV trail running east-west along the southwestern property line. The trail will be abandoned and revegetated within the proposed fenced area.

e. *Noise: Pages 5-6 of the application (booklet) states that there may be 46 dBa at the nearest property line for inverters and 35 dBa for transformers. Is this a concern and should steps (such as berms if feasible) be taken to mitigate?*

Comparable noise levels include: a quiet suburb (50 dBa,) a library (40 dBa,) and a quiet rural area (30 dBa.) (iacacoustics.com) The estimated proposed noise levels listed above are conservative estimates and do not account for ambient noise or the surrounding vegetated buffer. No additional

noise buffers are proposed.

f. *Access/Hillcrest Road matters:*

i. *Is there the ability to locate all poles on Hillcrest to one side or in close proximity to existing poles?*

No. The Point of Interconnection (POI) pole is on the southeastern side of Hillcrest Drive at the intersection with Yarmouth Road. Central Maine Power requires a total of four new poles for metering and electrical switches sited next to the POI pole, perpendicular to the existing circuit. The underground electrical line tying the project to the POI pole must meet the CMP-owned equipment on the new utility poles, above-ground.

ii. *Given the probability that the use of Hillcrest will be expanded in the future, it would seem prudent to give consideration to running future water lines and utilities underground. Stormwater generally also flows towards Yarmouth Road. Does the PB wish to consider future stormwater and future utility needs for Hillcrest before the underground utilities and point of intersection (POI) infrastructure are in the ground?*

The proposed design is not anticipated to prevent or hinder any future effort to expand water or other utility services to the residences along Hillcrest Drive. The applicant will not be paving, or otherwise modifying Hillcrest Drive in such a way that would increase stormwater flows or obstruct the installation of new utilities under the road. The underground wire and new utility poles are routed along the southeastern side of Hillcrest Drive, which will not cut-off, or impede, the existing CMP single-phase powerline or the path of future utilities under Hillcrest Drive.

iii. *Does the PB endorse a turn-around be[ore the access gate 1/2 way down Pennell Lane "extension" rather than on the far side of the proposed gate?*

An additional access gate has been proposed at the northern terminus of Hillcrest Drive. This gate will prevent unintended vehicle access onto the "Pennel Lane Extension" and will remove the need for an additional turnaround.

iv. *Residents who use Hillcrest have previously expressed concern over road damage from construction vehicles. Does the PB wish the applicant to provide any additional information/submittals regarding how this may be addressed?*

The project company will repair any damage caused to Hillcrest Drive during the construction and decommissioning of the solar array. Following those phases, the surface mix and gravel base of Hillcrest Drive be repaired and resurfaced, as necessary to fix potholes, improve drivability, and maintain adequate drainage of the road.

g. *Aesthetics/Buffering!Screening:*

i. *Although the production site has been set back 100' to the property line per the proposed site plan (C101) in the submittal, the actual depth of the existing vegetation to be retained as a buffer scales from the submitted Site Plan to be approximately* ***50' along*** *the property line running northwest-southeast and 75' for the line running northeast-southwest.*

This is correct.

ii. *In addition to buffering and screening requirements in Article 10 (Site Plan Review), there are extensive aesthetic standards in the recent amendments to 402.8.10 that I have attached to this memo. The applicant has requested a waiver for the planting schedule and there are many submittals detailing existing conditions per 402.8.10.1,3.a (attached-Visual Impact) that have not been submitted.*

Please see below for how this development will be in conformance with section 402.8.10.I.3.a

1. *The proposed site plan shows the proposed project area and abutting properties. The plan does not show the northern most ~70 acres of the property due to it being heavily wooded, and there is no disturbance proposed in this area.*

2. *The proposed site plan shows the location of the CSEPS, access roads, and utility poles. There are no proposed buildings.*

3. *Abutting property owner information is shown on the Proposed Site Plan.*

4. *All existing structures have been added to the proposed site plan.*

5. The project property abuts residential uses along the southwest and northwest property lines. *Approximately 700 feet of the southwest property line is shared with Map/Lot 36-406-12 which does not appear to have any residential structures. All abutting residential dwellings other than on Map Lot 36-33-1-7 are greater than 100' from the shared property lines.*

   Most of this property is heavily wooded, and all existing trees are estimated to be higher than 15 feet, based on site visit observation. The existing and proposed treelines are shown on the proposed site plan which demonstrate the location and thickness of the vegetated buffer to remain along the property lines. The 50' vegetated buffer has been extended adjacent to Map/Lot 36-33-1-7 since the 8-12.21 PB meeting.

6. Land Use Ordinance section 402.10.10.D.7, which requires a planting schedule is not applicable to this project. There is no plan to plant any trees due to the significant amount of existing native trees

that are to remain along the property lines.

Ordinance section 402.8.10.I requires that the vegetated buffer provide adequate year-round buffering for any abutting parcel utilized primarily for residential purposes. As mentioned prior, we believe that this is achieved by maintaining a significant buffer of existing native trees along the property lines that abut residential uses. Numerous site visits and the provided photolog and aerial imagery submittals demonstrate the significant existing tree coverage, and the screening ability of the proposed buffers. These buffer areas contain a moderate number of evergreen trees, which in combination with the density of other woody vegetation, is expected to provide an adequate screen during all seasons. There are numerous evergreen saplings located along the property lines that will continue to improve screening over the lifespan of the project.

7. No replanting is proposed for this project, a planting plan in not necessary.

Please note, we are no longer requesting a waiver from these requirements. Upon further consideration and study, we believe the proposed projects meets the standards set forth in the ordinance as outlined in the additional submissions.

iii. *The statement on page 10 in the booklet for 402.8.1 0.1 reads: "See the proposed Site Plan for the location of existing vegetation to be retained along the property* ***line".***

This is correct.

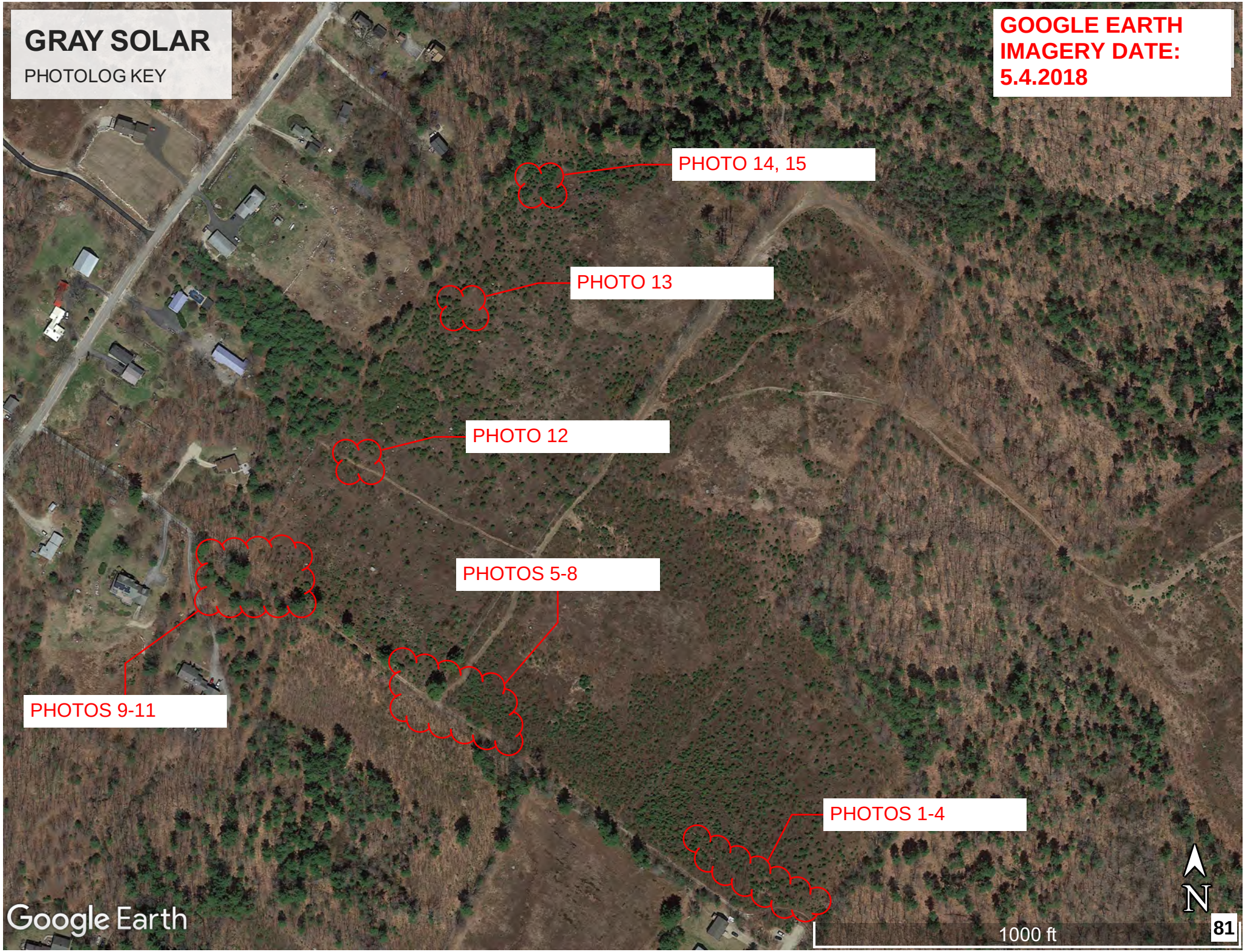
iv. *Pending information regarding the maximum height of the arrays relative to the existing vegetation, there appears to be a policy decision by the Board regarding buffering of the arrays and the production site.*

The maximum height of the solar panels is approximately

12 feet, which is considerably shorter than the surrounding vegetated buffer.

v. *One of the objectives of the standards in 402.8.10.1.3.b is to provide sufficient year-round vegetative screening (i.e. evergreens) of the production site. The Board may wish to discuss if additional submittals, perhaps including renderings per 402.8.10.1.3.c, should be required for the visual impact.*

   A photolog has been provided demonstrating the proposed vegetated screening along property lines abutting residential uses. An aerial image demonstrating the general location of evergreen trees and their coverage intensity has also been provided. As shown by these submittals, there is moderate evergreen coverage along the eastern half of the southwestern property line, and moderate to good coverage along the entire northwestern property line. Please note that the provided aerial image was taken in early May, so all visible vegetation shown is evergreen. This image was taken in 2018, and vegetation has grown in significantly since that time.


GRAY SOLAR
PHOTOLOG KEY
GOOGLE EARTH IMAGERY DATE: 5.4.2018
PHOTO 14, 15
PHOTO 13
PHOTO 12
PHOTOS 5-8
PHOTOS 9-11
PHOTOS 1-4
N
1000 ft
Google Earth
81

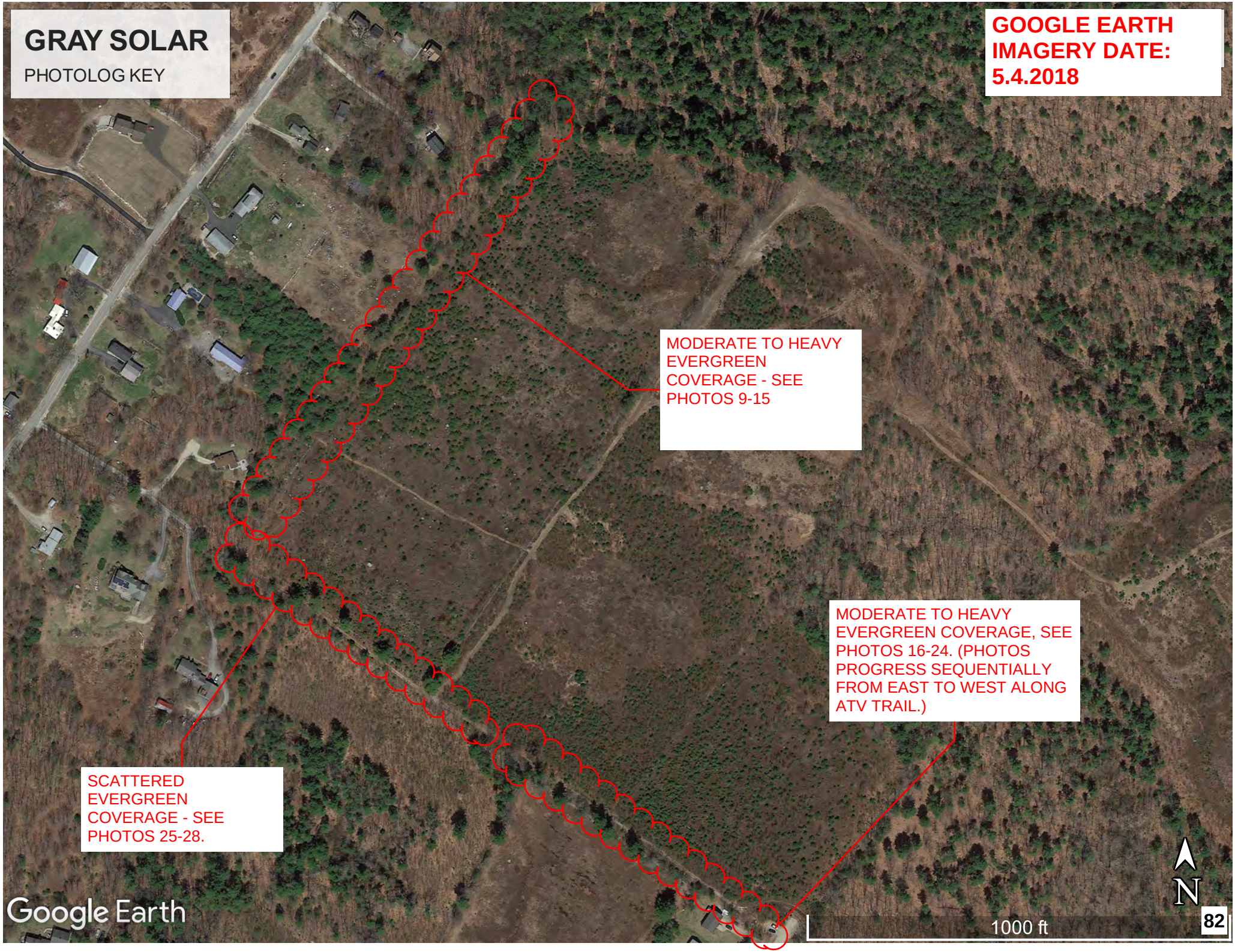

GRAY SOLAR
PHOTOLOG KEY
GOOGLE EARTH IMAGERY DATE: 5.4.2018
MODERATE TO HEAVY EVERGREEN COVERAGE - SEE PHOTOS 9-15
MODERATE TO HEAVY EVERGREEN COVERAGE, SEE PHOTOS 16-24. (PHOTOS PROGRESS SEQUENTIALLY FROM EAST TO WEST ALONG ATV TRAIL.)
SCATTERED EVERGREEN COVERAGE - SEE PHOTOS 25-28.
Google Earth
N
1000 ft
82

Photo No. 1	
Photo Date: 8.10.2021	
Site Location: Gray, ME	
Description: Existing vegetation adjacent to Map/Lot 36-33-1-7, looking east.	
Photo By: DJO	

Photo No. 2	
Photo Date: 8.10.2021	
Site Location: Gray, ME	
Description: Looking south towards Map/Lot 36-33-1-7 from ~50-foot wooded buffer (to remain.)	
Photo By: DJO	

Photo No. 3 Photo Date: 8.10.2021 Site Location: Gray, ME Description: Looking south towards Map/Lot 36-33-1-7 from ~50-foot wooded buffer (to remain.) Photo By: DJO	

Photo No. 4 Photo Date: 8.10.2010 Site Location: Gray, ME Description: Looking south towards Map/Lot 36-33-1-7 from ~20-foot wooded buffer (to remain.) Photo By: DJO	

Photo No. 5 Photo Date: 8.10.2021 Site Location: Gray, ME Description: Existing ATV Trail, looking northeast. Measuring wheel in background is ~30' north of east-bound trail (30' wooded buffer to remain.) Photo By: DJO	

Photo No. 6 Photo Date: 08.10.2021 Site Location: Gray, ME Description: Looking south towards Map/Lot 36-406-12 from ~30-foot wooded buffer (to remain.) Photo By: DJO	

Photo No. 7 Photo Date: 8.10.2021 Site Location: Gray, ME Description: Looking south towards Map/Lot 36-406-12 from ~30-foot wooded buffer (to remain.) Photo By: DJO	

Photo No. 8 Photo Date: 08.10.2021 Site Location: Gray, ME Description: Looking south towards Map/Lot 36-406-12 from ~30-foot wooded buffer (to remain.) Photo By: DJO	

Photo No. 9 Photo Date: 8.10.2021 Site Location: Gray, ME Description: Southwestern most corner of property, looking northwest. Measuring wheel is 70' from gate. 70' wooded buffer to remain along western property line. Photo By: DJO	

Photo No. 10 Photo Date: 8.10.2021 Site Location: Gray, ME Description: Looking southwest towards Map/Lot 36-406-11 from ~30-foot wooded buffer (to remain.) Photo By: DJO	

Photo No. 11	
Photo Date: 08.10.2021	
Site Location: Gray, ME	
Description: Looking west towards Map/Lot 36-25-49-1 from ~70-foot wooded buffer (to remain.)	
Photo By: DJO	

Photo No. 12	
Photo Date: 8.10.2021	
Site Location: Gray, ME	
Description: Looking west towards Map/Lot 36-25-48 from ~70-foot wooded buffer (to remain.)	
Photo By: DJO	

Photo No. 13	
Photo Date: 08.10.2021	
Site Location: Gray, ME	
Description: Looking west towards Map/Lot 36-25-47 from ~70-foot wooded buffer (to remain.)	
Photo By: DJO	

Photo No. 14	
Photo Date: 8.10.2021	
Site Location: Gray, ME	
Description: Looking west towards Map/Lot 36-25-46-1 from ~70-foot wooded buffer (to remain.)	
Photo By: DJO	

Photo No. 15 Photo Date: 08.10.2021 Site Location: Gray, ME Description: Looking west towards Map/Lot 36-25-46-1 from ~70-foot wooded buffer (to remain.) Photo By: DJO	

Photo No. 16 Photo Date: 08.18.2021 Site Location: Gray, ME Description: Existing evergreen coverage adjacent Map/Lot 36-33-1-7, looking east. Photo By: DJO	

Photo No. 17 Photo Date: 08.18.2021 Site Location: Gray, ME Description: Existing evergreen coverage adjacent Map/Lot 36-33-1-7, looking east. Photo By: DJO	

Photo No. 18 Photo Date: 08.18.2021 Site Location: Gray, ME Description: Existing evergreen coverage along southwestern property line, looking west along ATV trail. Photo By: DJO	

Photo No. 19 Photo Date: 08.18.2021 Site Location: Gray, ME Description: Existing evergreen coverage along southwestern property line. Photo By: DJO	

Photo No. 20 Photo Date: 08.18.2021 Site Location: Gray, ME Description: Existing evergreen coverage along southwestern property line. Photo By: DJO	

Photo No. 21 Photo Date: 08.18.2021 Site Location: Gray, ME Description: Existing evergreen coverage along southwestern property line. Photo By: DJO	

Photo No. 22 Photo Date: 08.18.2021 Site Location: Gray, ME Description: Existing evergreen coverage along southwestern property line. Photo By: DJO	

Photo No. 23	
Photo Date: 08.18.2021	
Site Location: Gray, ME	
Description: Existing evergreen coverage along southwestern property line. Looking east along ATV trail.	
Photo By: DJO	

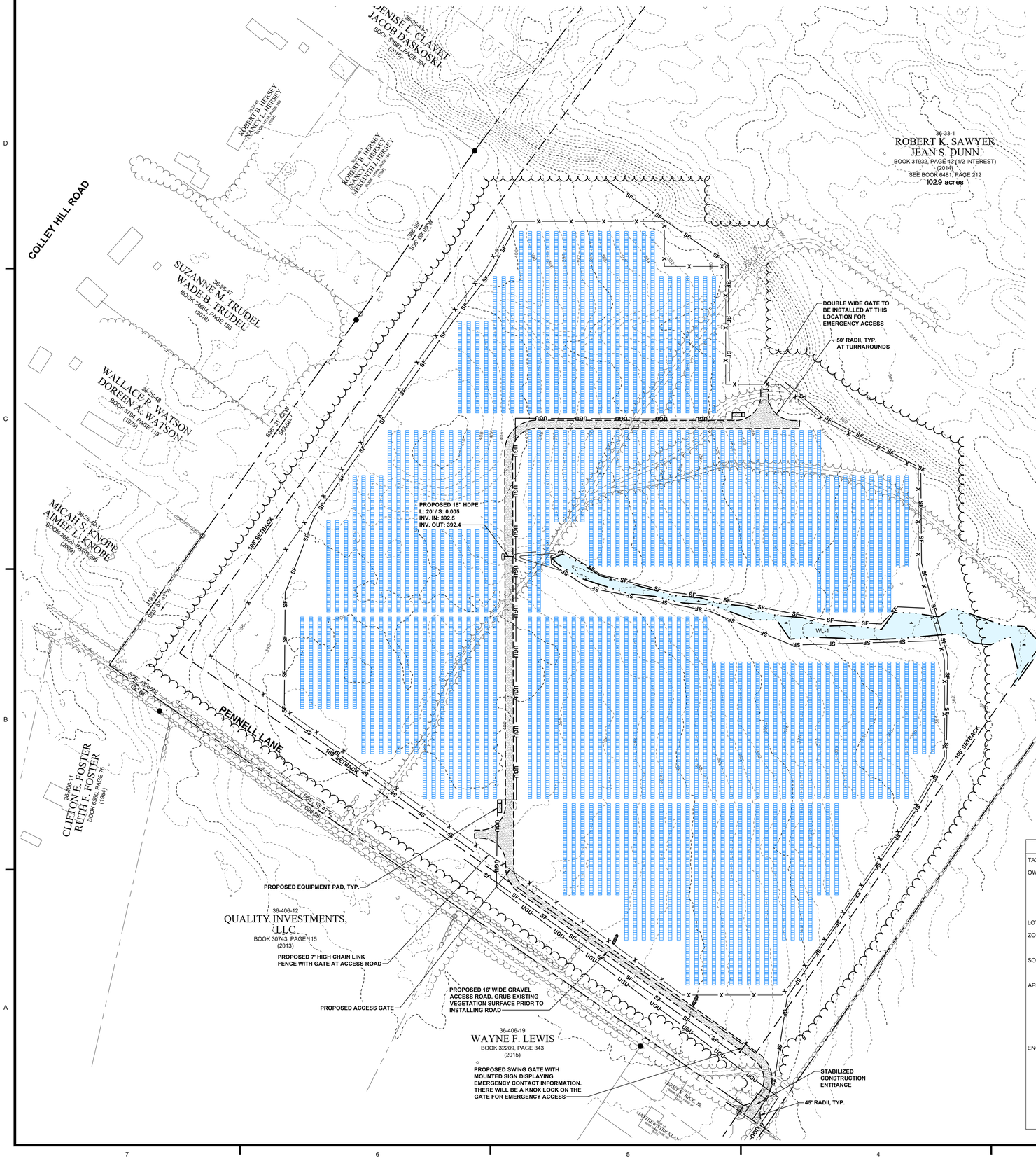
Photo No. 24	
Photo Date: 08.18.2021	
Site Location: Gray, ME	
Description: Existing evergreen coverage along southwestern property line.	
Photo By: DJO	

Photo No. 25 Photo Date: 08.18.2021 Site Location: Gray, ME Description: Existing evergreen coverage along southwestern property line. Looking west along ATV trail. Photo By: DJO	

Photo No. 26 Photo Date: 08.18.2021 Site Location: Gray, ME Description: Dense wooded coverage along southwestern property line. Looking west along ATV trail. Photo By: DJO	

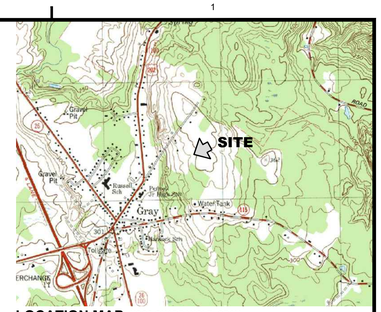
Photo No. 27	
Photo Date: 08.18.2021	
Site Location: Gray, ME	
Description: Existing evergreen coverage along southwestern property line.	
Photo By: DJO	

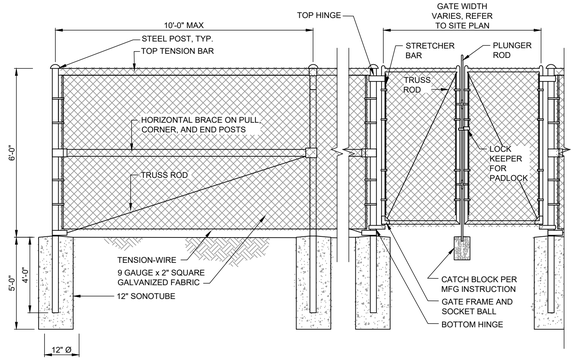
Photo No. 28	
Photo Date: 08.18.2021	
Site Location: Gray, ME	
Description: Dense wooded coverage along southwestern property line. Looking east along ATV trail from gate at southwest corner of property.	
Photo By: DJO	



PLAN INSET:

SCALE: 1"=100'


SITE
Gray
Gray Pit
Walker Rock
Pleasant Lake
Crystal Lake
Knowlton Pond
Duck Pond
Dingley Brook
Mosher Brook
Pennell Brook
Mosher Hill
Pennell Hill
Colley Hill
Bald Hill
Bald Hill Pond
Bald Hill Brook
Bald Hill Cove
Bald Hill Cove Brook
Bald Hill Cove Pond
Bald Hill Cove Stream
Bald Hill Cove Trail
Bald Hill Cove Trailhead
Bald Hill Cove Trailhead Parking
Bald Hill Cove Trailhead Parking Lot
Bald Hill Cove Trailhead Parking Lot Entrance
Bald Hill Cove Trailhead Parking Lot Exit
Bald Hill Cove Trailhead Parking Lot Entrance Road
Bald Hill Cove Trailhead Parking Lot Exit Road
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt
Bald Hill Cove Trailhead Parking Lot Exit Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt
Bald Hill Cove Trailhead Parking Lot Entrance Road Intersection Signal Pole Base Foundation Anchor Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut Washer Plate Bolt Nut

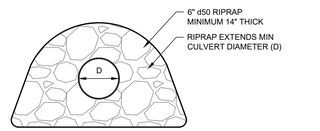


NOTE:

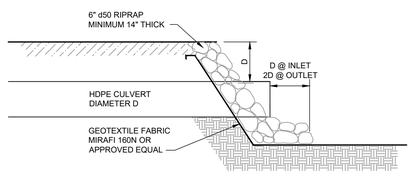
1. SECURE POSTS IN CONCRETE AS SHOWN AT ALL PULL, CORNER AND END POSTS (INCLUDING GATE POSTS).
2. FOR SINGLE LEAF GATES, LOCK KEEPER / PADLOCK HARDWARE SHALL BE INSTALLED ON ADJACENT POST.
3. REFER TO SITE PLAN FOR GATE DIMENSIONS AND LAYOUT.

CHAIN LINK FENCE DETAIL

N.T.S.



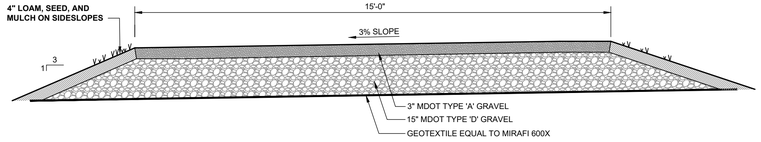
ELEVATION



PROFILE VIEW

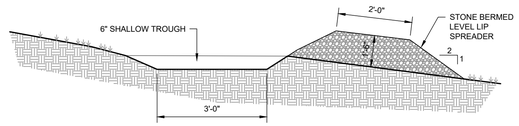
TYPICAL CULVERT INLET/OUTLET PROTECTION DETAIL

N.T.S.



GRAVEL ACCESS ROAD SECTION

N.T.S.



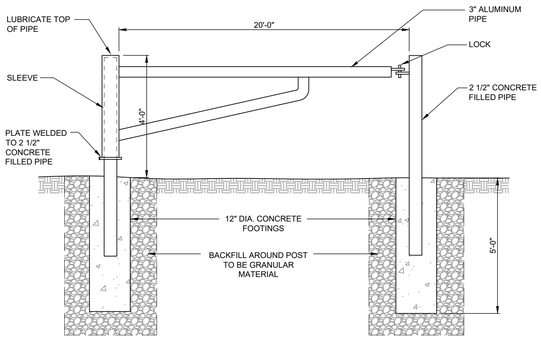
TYPICAL BUFFER LEVEL SPREADER SECTION

N.T.S.

EROSION CONTROL NOTES

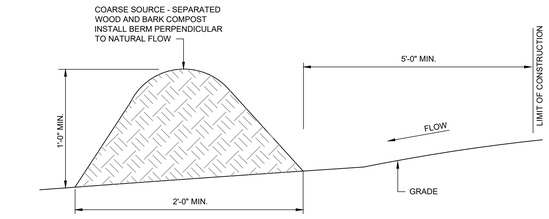
1. ALL SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE MAINE EROSION AND SEDIMENTATION CONTROL BEST MANAGEMENT PRACTICES (BMPS), PUBLISHED BY THE BUREAU OF LAND AND WATER QUALITY, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, LATEST EDITION.
2. SILT FENCE WILL BE INSPECTED, REPLACED AND/OR REPAIRED IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL OR SNOW MELT OR LOSS OF SERVICEABILITY DUE TO SEDIMENT ACCUMULATION. AT A MINIMUM, ALL EROSION CONTROL DEVICES WILL BE OBSERVED WEEKLY.
3. DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT WILL BE RETURNED TO CONSTRUCTION SITE.
4. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UPSLOPE ARE STABILIZED BY A SUITABLE GROWTH OF GRASS. ONCE A SUITABLE GROWTH OF GRASS HAS BEEN OBTAINED, ALL TEMPORARY EROSION CONTROL ITEMS SHALL BE REMOVED BY THE CONTRACTOR. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THEY ARE REMOVED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED, SEEDED, AND MULCHED IMMEDIATELY.
5. ALL DISTURBED AREAS WILL BE SEEDED WITH 2.5 LBS. RED FESCUE AND 0.5 LBS. RYE GRASS PER 1,000 SQUARE FEET AND MULCHED AT A RATE OF 90 LBS. PER 1,000 SQUARE FEET OR EQUIVALENT APPLICATION OF SEED AND MULCH.
6. A SUITABLE BINDER SUCH AS CURASOL OR TERRTACK WILL BE USED ON THE HAY MULCH FOR WIND CONTROL.
7. IF FINAL SEEDING OF DISTURBED AREAS IS NOT COMPLETED BY SEPTEMBER 15th OF THE YEAR OF CONSTRUCTION, THEN ON THAT DATE THESE AREAS WILL BE GRADED AND SEEDED WITH WINTER RYE AT THE RATE OF 112 POUNDS PER ACRE OR 3 POUNDS PER 1000 SQUARE FEET. THE RYE SEEDING WILL BE PRECEDED BY AN APPLICATION OF 3 TONS OF LIME AND 800 LBS. OF 10-20-20 FERTILIZER OR ITS EQUIVALENT. MULCH WILL BE APPLIED AT A RATE OF 90 POUNDS PER 1000 SQUARE FEET.
8. IF THE RYE SEEDING CANNOT BE COMPLETED BY OCTOBER 1st OR IF THE RYE DOES NOT MAKE ADEQUATE GROWTH BY DECEMBER 1st, THEN ON THOSE DATES, HAY MULCH WILL BE APPLIED AT 150 POUNDS PER 1000 SQUARE FEET.
9. INTERIOR SILT FENCES ALONG CONTOUR DIVIDING FLAT AND STEEP SLOPES, AREAS WITH DIFFERENT DISTURBANCE SCHEDULES, AROUND TEMPORARY STOCKPILES OR IN OTHER UNSPECIFIED POSSIBLE CIRCUMSTANCES SHOULD BE CONSIDERED BY THE CONTRACTOR. THE INTENT OF SUCH INTERIOR SILT FENCES IS TO LIMIT SEDIMENT TRANSPORT WITHIN THE SITE TOWARD THE PROTECTED CATCH BASIN INLETS TO MINIMIZE SEDIMENT REMOVAL REQUIRED BY THE EROSION CONTROL NOTE 9 PROTECTIONS AND EXTEND LIFE OF SUCH DEVICES.
10. MEADOW BUFFERS WILL BE MOWED NO SHORTER THAN SIX INCHES, NO MORE THAN TWICE PER YEAR.
11. MINIMUM EROSION CONTROL MEASURES WILL NEED TO BE IMPLEMENTED AND THE CONTRACTOR WILL BE RESPONSIBLE TO MAINTAIN ALL COMPONENTS OF THE EROSION CONTROL PLAN UNTIL THE SITE IS FULLY STABILIZED. HOWEVER, BASED ON SITE AND WEATHER CONDITIONS DURING CONSTRUCTION, ADDITIONAL EROSION CONTROL MEASURES MAY NEED TO BE IMPLEMENTED . ALL AREAS OF INSTABILITY AND EROSION MUST BE REPAIRED IMMEDIATELY DURING CONSTRUCTION AND NEED TO BE MAINTAINED UNTIL THE SITE IS FULLY STABILIZED OR VEGETATION IS ESTABLISHED. A CONSTRUCTION LOG MUST BE MAINTAINED FOR THE EROSION AND SEDIMENTATION CONTROL INSPECTIONS AND MAINTENANCE

CONTRACTOR WILL BE RESPONSIBLE FOR FOLLOWING PROCEDURES FOUND IN THE "MAINE EROSION AND SEDIMENT CONTROL PRACTICES FIELD GUIDE FOR CONTRACTORS" (PUBLISHED MARCH 2015). THE PUBLICATION CAN BE FOUND AT: HTTP://WWW.MAINE.GOV/DEP/LAND/EROSION/ESCBMPS/INDEX.HTML



GALVANIZED SWING GATE DETAIL

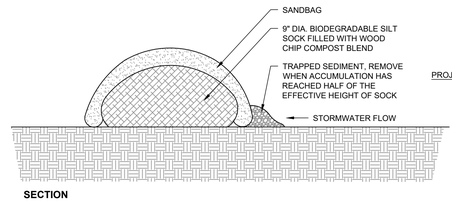
N.T.S.



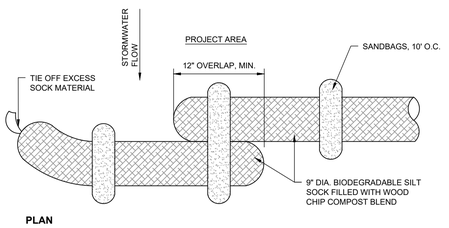
NOTE:
THE EROSION CONTROL MIX MUST BE WELL-GRADED WITH AN ORGANIC COMPONENT THAT IS BETWEEN 50 AND 100% OF DRY WEIGHT, AND THAT IS COMPOSED OF FIBROUS AND ELONGATED FRAGMENTS. THE MINERAL PORTION OF THE MIX SHOULD BE NATURALLY INCLUDED IN THE PRODUCT WITH NO LARGER ROCKS (>4") OR LARGE AMOUNTS OF FINES (SILTS AND CLAYS). IN STUMP GRINDING, THE MINERAL SOIL ORIGINATES FROM THE ROOT BALL AND SHOULD NOT BE REMOVED BEFORE GRINDING. THE MIX SHOULD BE FREE OF REFUSE, MATERIAL TOXIC TO PLANT GROWTH OR UNSUITABLE MATERIAL (BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS).

EROSION CONTROL MIX BERM DETAIL

N.T.S. (MAY BE USED AS AN ALTERNATE TO SILT FENCE)



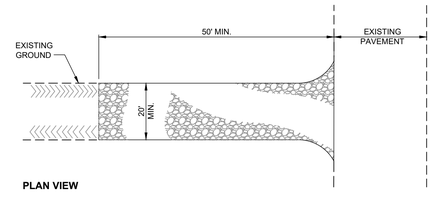
SECTION



PLAN

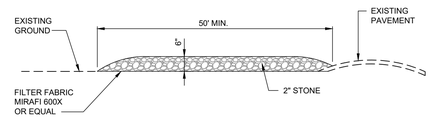
SILT SOCK DETAIL

N.T.S. (MAY BE USED AS AN ALTERNATE TO SILT FENCE)



PLAN VIEW

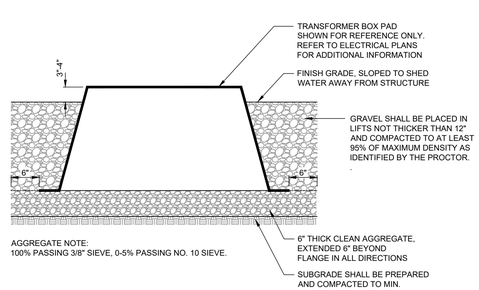
NOTE: CONTRACTOR SHALL ADD STONE TO ENTRANCE AS MUD/SILT MATERIAL ACCUMULATES



SECTION

STABILIZED CONSTRUCTION ENTRANCE DETAIL

N.T.S.

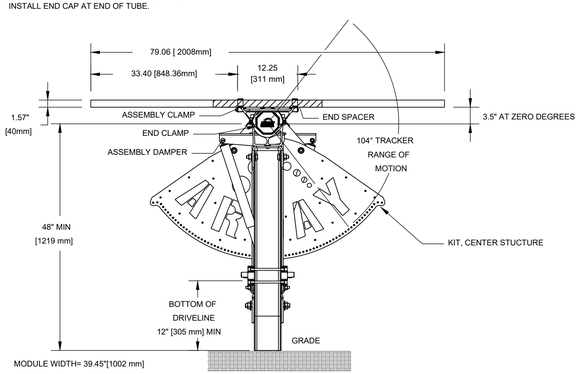


TYPICAL TRANSFORMER PAD BUILDUP DETAIL

N.T.S.

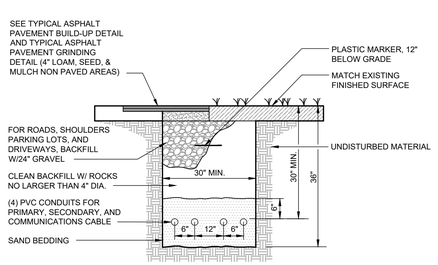
MINIMUM DISTANCES AND MODULE DATA

NOTE:
REFERENCE INDIVIDUAL ASSEMBLY DRAWINGS FOR DETAILS.
INSTALL END CLAMPS SPACERS ON END CLAMPS.
INSTALL END CAP AT END OF TUBE.



PV SYSTEM RACKING

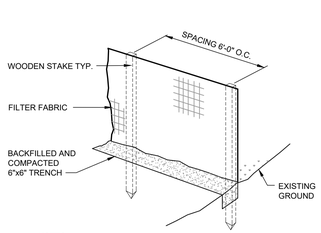
N.T.S.



NOTES:
1. SIZE, NUMBER, MATERIAL, AND ARRANGEMENT OF CONDUIT SHALL BE COORDINATED WITH INDIVIDUAL UTILITIES.
2. ALL ELECTRICAL CONDUIT AND STRUCTURES SHALL BE WATER TIGHT.

TYPICAL UNDERGROUND UTILITY TRENCH DETAIL

N.T.S.



NOTES:
1. KEY FABRIC IN A 6"x6" TRENCH W/BACKFILL AND COMPACT.
2. SILT FENCE SHALL BE A 3' FENCE WITH A MINIMUM GRAB STRENGTH OF 120 LBS.

SILT FENCE DETAIL

N.T.S.

REV.	DATE	DESCRIPTION	BY	CHK

DRAWING ISSUE STATUS

NOT FOR CONSTRUCTION

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
One Merchants Plaza, Suite 701
Bangor, Maine 04401
207.989.4824
WWW.HALEYWARD.COM

PROJECT

GRAY YARMOUTH ROAD SOLAR LLC
GRAY, MAINE

TITLE

SITE DETAILS

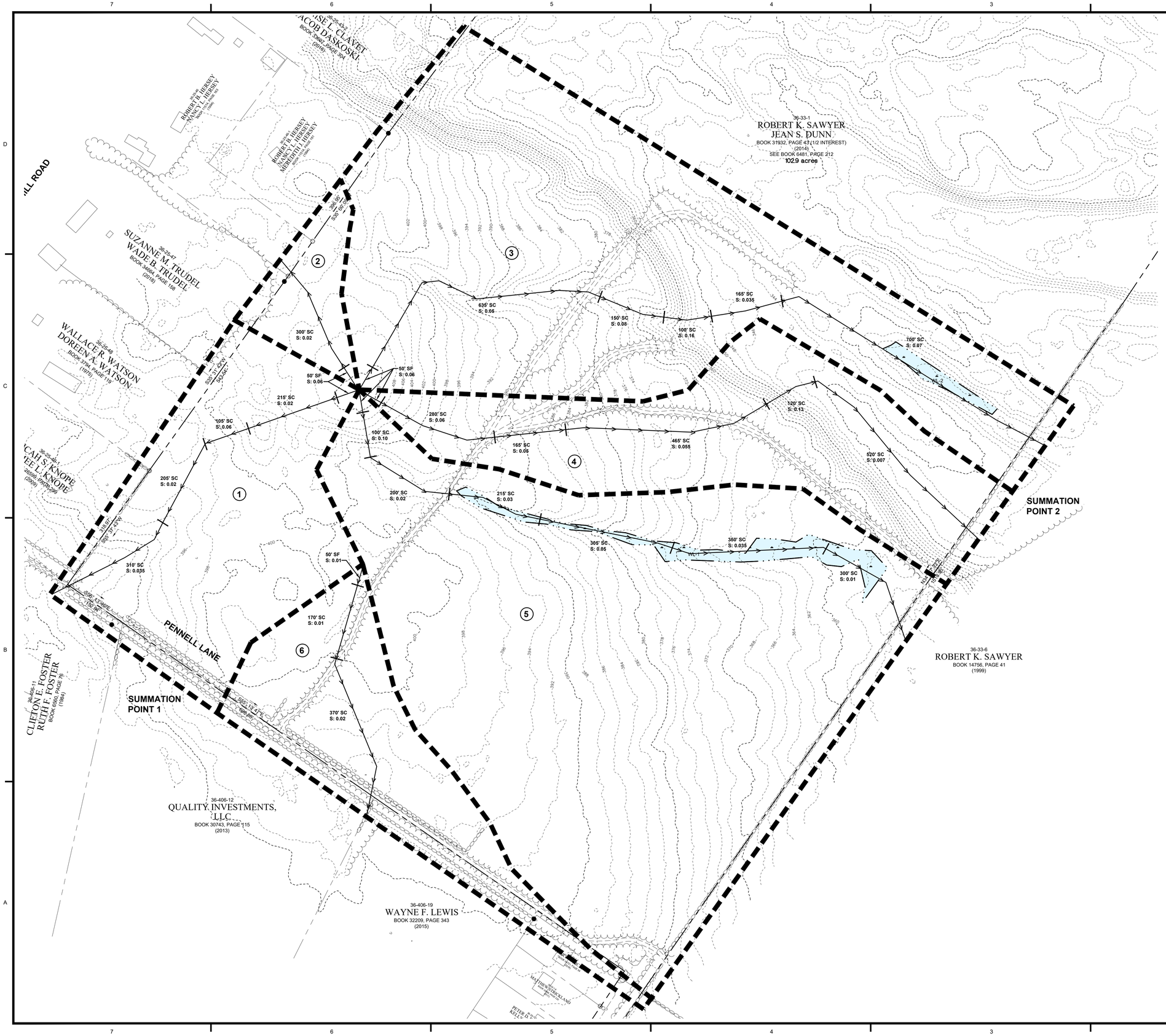
DATE	SCALE
2021.07.19	NTS

DRAWN BY	DESIGNED BY	CHECKED BY
WAB	WAB	SMT

PROJECT No. 12921.016

DRAWING No. **C501** REV.

FILE LOCATION: P:\12921-01\DYNAMIC_ENERGY\01-YARMOUTH ROAD (GRAY-ACHIO-CAI)_DRAWINGS\CIVIL\DISIGN_DWGS\12921-01S-C-DIT.DWG, 2021.08.20, 6:59 AM



REV.	DATE	DESCRIPTION	BY	CHK.

DRAWING ISSUE STATUS

NOT FOR CONSTRUCTION

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
One Merchants Plaza, Suite 701
Bangor, Maine 04401
207.989.4824
WWW.HALEYWARD.COM

PROJECT

GRAY YARMOUTH ROAD SOLAR LLC
GRAY, MAINE

TITLE

PRE DEVELOPMENT HYDROLOGY PLAN

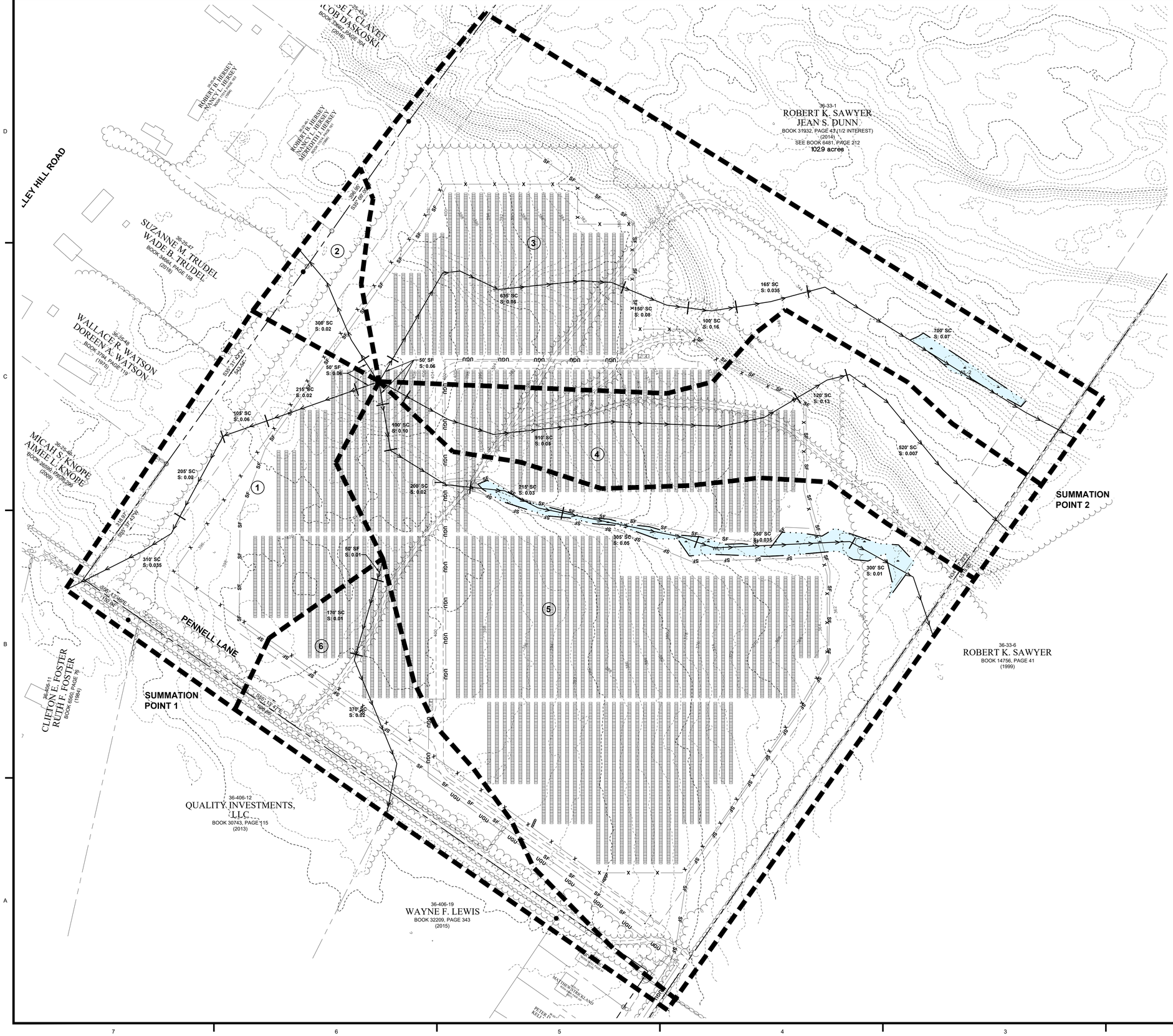
DATE	SCALE
2021.07.19	1"=100'

DRAWN BY	DESIGNED BY	CHECKED BY
WAB	DJO	SMT

PROJECT No. 12921.016

DRAWING No. **C701** REV.

FILE LOCATION: P:\12921-DYNAMIC_ENERGY\016-YARMOUTH ROAD GRAY-ADHOC-CAD_DRAWINGS\CIVIL\DSIGN_DWGS\12921016-C-HY.DWG, 2021.08.26, 8:09 AM



REV.	DATE	DESCRIPTION	BY	CHK.

DRAWING ISSUE STATUS

NOT FOR CONSTRUCTION

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
One Merchants Plaza, Suite 701
Bangor, Maine 04401
207.989.4824
WWW.HALEYWARD.COM

PROJECT

GRAY YARMOUTH ROAD SOLAR LLC
GRAY, MAINE

TITLE

POST DEVELOPMENT HYDROLOGY PLAN

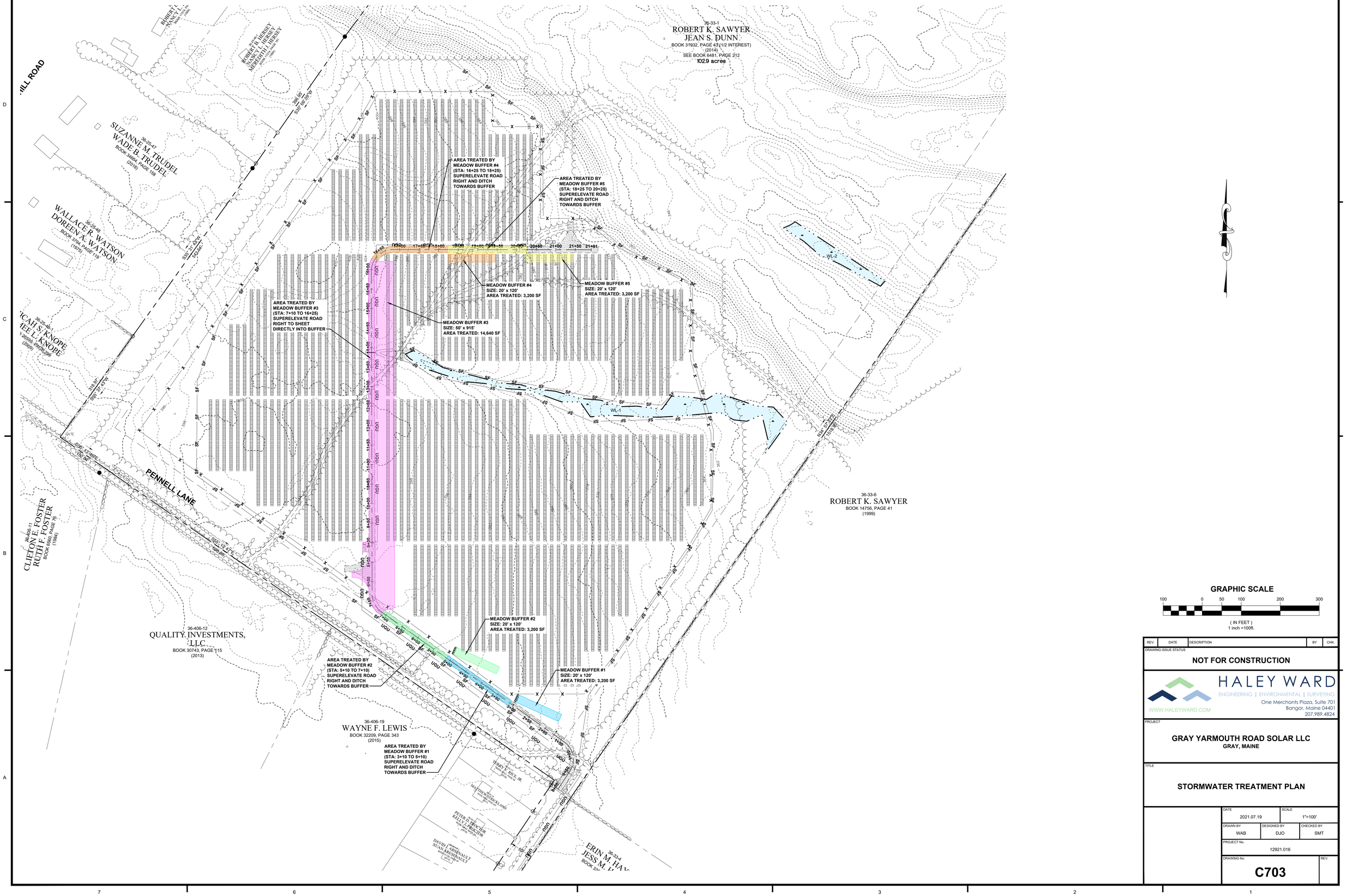
DATE	SCALE
2021.07.19	1"=100'

DRAWN BY	DESIGNED BY	CHECKED BY
WAB	DJO	SMT

PROJECT No. 12921.016

DRAWING No. **C702** REV.

FILE LOCATION: P:\12921-DYNAMIC_ENERGY\016-YARMOUTH ROAD GRAY-ADH\02-CAD_DRAWINGS\CIVIL\DESIGN_DWGS\12921.016-C-HY.DWG, 2021.08.20, 6:09 AM



REV.	DATE	DESCRIPTION	BY	CHK.

DRAWING ISSUE STATUS

NOT FOR CONSTRUCTION

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
One Merchants Plaza, Suite 701
Bangor, Maine 04401
207.989.4824
WWW.HALEYWARD.COM

PROJECT

GRAY YARMOUTH ROAD SOLAR LLC
GRAY, MAINE

TITLE

STORMWATER TREATMENT PLAN

DATE	SCALE
2021.07.19	1"=100'

DRAWN BY	DESIGNED BY	CHECKED BY
WAB	DJO	SMT

PROJECT No. 12921.016

DRAWING No. **C703** REV.

FILE LOCATION: P:\12921-DYNAMIC_ENERGY\01\5-YARMOUTH ROAD GRAY-ADH\2-CAD_DRAWINGS\CIVIL\DSGN_DWGS\12921.016-C-HT.DWG, 2021.08.20, 6:09 AM

August 26, 2021

TO: Gray Town Council
Nate Rudy, Town Manager
Gray Planning Board

FROM: Doug Webster, Community Development

RE: Overview of proposed Ordinance changes
Section 402.8.3 & VC/VCP Design Guidelines

Attached to this introductory memo please find 22 pages detailing the proposed changes to both Section 402.8.3 of the Town's Zoning Ordinance and the Village Center (VC) and Village Center Proper (VCP) Design Guidelines. The Town Council adopted a 180-day moratorium (effective 4-6-21) to allow the Town to craft design guidelines for residential structures in the VC & VCP Districts. The attached proposed changes are intended to allow the Town to not extend the currently in effect moratorium any further than necessary by adopting design standards.

The attachment consists of three main components:
-Comm Dev-1 & 2: Proposed changes to 402.8.3 in the Zoning Ordinance
-Comm Dev-3 to 6: Existing VC/VCP Design Standards (parts 1 to 3)
-Comm Dev-7 to 22: Proposed all new part 4 of VC/VCP Design Standards

The manner in which the VC/VCP Design Standards are established administratively to be applicable is via Section 402.8.3 of the Zoning Ordinance. This currently adopted section of the Zoning Ordinance requires all development proposals that trigger PB review in VC/VCP to meet parts 1 through 3 of the currently in effect VC/VCP Design Guidelines. These currently adopted *parts 1 to 3* of the Design Guidelines generally focus on commercial buildings and larger (i.e. 4-dwelling) structures (see attached Comm Dev 3 to 6).

The proposed new *Part 4* of the VC/VCP Design Guidelines were intentionally drafted to focus on residential structures in response to the policy direction provided by the Council when the moratorium was adopted. <u>All of the attached part 4</u> (Comm Dev-7 to 22) <u>is proposed new language</u>. The underlined portions are merely denoting the more substantive changes since the Council provided input at the 8-2-21 meeting.

I have drafted this memo and the attachment to meet the needs of both the 9-7-21 Council meeting as well as the 9-9-21 PB meeting. As such, when the attachment is included in the Council packets for the 9-9-21 meeting, there will be two sets of page numbers on the bottom of each page. The page numbers on the *left* side of each page read i.e. "Comm Dev-1". The number at the bottom of each page on the *right* side is the Council packet page number.

The anticipated timeline is for Council first reading at the 9-7-21 meeting, Planning Board (PB) hearing on 9-9-21, then Council second read/adoption at the 9-21-21 meeting. The 30-day wait after second reading would have the changes effective on 10-21-21. Given that the last day the moratorium is in effect is 10-3-21, it is apparent that the Council would presumably need to extend the moratorium for a minimum of 17 additional days (from 10-3-21 to 10-21-21) at the Council's 9-21-21 meeting.

I look forward to meeting with the Council on Tuesday, September 7th and with the Planning Board on Thursday, September 9th. As always, I am pleased to answer questions or clarifications that the Council or Planning Board members may have in advance of the upcoming meetings.

402.8.3 Village Center and Village Center Proper District Standards

A. Replacement of Existing Buildings and Structures

Existing buildings or other structures in the Village Center and Village Center Proper Districts are allowed to be rebuilt or replaced with new construction provided that the existing "footprint" is not exceeded unless in conformance with the standards in Section 402.5.4 for the Village Center and Village Center Proper Districts ~~and~~, as well as ~~the~~ applicable portions of the Gray Village Center and Village Center Proper Design Guidelines ~~in Section 402.8.3.B below~~.

1. Replacement of Destroyed or Damaged Building: The owner of a building or structure in the Village Center or Village Center Proper Districts that is destroyed or damaged by any means beyond the control of the owner shall have the option of rebuilding or restoring the building or structure either on the same "footprint" or in accordance with the space standards of Section 402.5.4 within a period of one (1) year from the date of destruction or damage. The Code Enforcement Officer may issue a permit for one additional one (1) year period if reasonable progress is being made and ~~is~~ nuisance condition(s) do not exist.

2. Voluntary Replacement: A building or structure in the Village Center or Village Center Proper Districts may be voluntarily replaced provided that the existing "footprint" is not exceeded. The construction of the replacement building or structure must be completed in accordance with a building permit drawn within one (1) year of the demolition of the prior building or structure and construction must be completed within a period of two (2) years from the date of the building permit. The building permit shall expire if the work or change involved is not commenced within one (1) year of the date on which the permit is issued, and if the work or change is not substantially completed within the two (2) years. The Code Enforcement Officer may issue a permit for one additional one (1) year period if reasonable progress is being made and if nuisance conditions do not exist. Before a building or structure is voluntarily replaced to the existing "footprint" under this paragraph, the owner must provide the Code Enforcement Officer with a Class D survey, conducted before demolition of the building or structure showing its exact location on the lot unless the replacement building or structure is proposed to be in accordance with the space standards of Section 402.5.4.

B. Special Performance Standards:

The following standards apply in the Village Center and Village Center Proper Districts ~~to those uses requiring site plan review by the Planning Board~~:

1. All developments requiring site plan review, subdivision review, conditional use review, or which otherwise involve multi-family development by the Planning Board shall conform to Parts 1-3 of the Town's Village Center and Village Center Proper District Design Guidelines, adopted December 18, 2007 and amended September 21, 2021. The Planning Board shall be the reviewing authority for Gray Village Center and Village Center Proper Design Guidelines for all such development proposals that require Planning Board approval.

2. All of the following buildings or structures, whether newly constructed or pre-existing substantially altered as defined below, in the Village Center or Village Center Proper Districts shall conform to Part 4 of the Gray Village Center and Village Center Proper Design Guidelines:

   a. single-family, two-family, and three-family dwellings

b. Accessory apartments

c. All accessory structures regardless of size

3. a. For the purposes of this Section 402. 8.3, substantially altered shall specifically include any building or structure that is repaired, altered, or moved to the extent that a building permit is required in accordance with Article 9 of this Zoning Ordinance and/or a Building Code administered by the Town of Gray.

GRAY VILLAGE CENTER AND VILLAGE CENTER PROPER DESIGN GUIDELINES
TOWN OF GRAY MAINE

INTRODUCTION

The Town of Gray has established a Village Center (VC) zoning district to promote economic development and revitalization of the Gray Village as set forth in the Gray Village Master Plan.

The purpose of the Village Center District design Guidelines is to establish well planned non-residential development that promotes economic diversification, employment opportunities, and pedestrian activity; create functional and visual diversity as well as a pleasant working and shopping environment; and maintain significant features of the natural environment while allowing maximum flexibility in the design of new non-residential development.

Non-residential development projects will consider the following criteria:

A. Preservation and/or treatment of natural features;

B. Compatibility with surrounding uses;

C. Relationship to transit corridors;

D. Proportional size, mix and arrangement of buildings;

E. Placement and orientation of parking;

F. Provision for amenities such as landscaping, plazas, and pedestrian friendly environment; and

G. Overall site circulation of vehicles and pedestrians.

The Town has enacted these Design Guidelines as a tool to supplement the performance standards contained in the Gray land use ordinances. Although there is greater flexibility allowed in meeting the Design Guidelines than in other regulations, they are to be interpreted as being mandatory requirements for all projects within the district.

There are many ways to meet each guideline. The Design Guideline bullets in bold print set the standards that must be met for each project. The text following the bullets provides more specific direction for interpreting the standards and analyzing development applications. The Guidelines help the Planning Board determine that the project design meets the design goals and ordinance requirements.

Implementation of the Design Guidelines relies heavily on the services of architects and landscape architects working as consultants for developers and peer reviewers for the Town. The Design Guidelines provide a context for coordinated discussions of design issues in advance of formal site plan review procedures. This collaborative process ensures that site plans in the Village Center District produce high quality development that contributes to the area's downtown role.

PART 1 – SITE PLANNING

SITE CHARACTER

A. Preserve Historic Structures – Structures of historic significance or which are listed on a municipal, county, state or national historical register shall comply with said municipal, county, state or national guidelines for historic structures.

B. Carefully Orient & Screen Rear & Loading Areas – Rear or loading areas of buildings shall not face existing or planned amenities such as parks, open space, water features or public rights-of-way unless visually screened or architecturally articulated.

C. Maintain Existing Topography – Development of sloped properties shall be designed in such a way as to maintain the natural contours of the land. Methods such as terraced parking lots, stepped building pads, and greater setbacks shall be employed to minimize grade differentials.

LAND USE BUFFERING

A. Carefully Locate Objectionable Activities – Noise, traffic, odorous, or hazardous activities shall be located adjacent to areas of similar activities on adjacent properties whenever practical. Such activities shall not be located in close proximity to residential or other incompatible areas such as schools or offices.

B. Carefully Locate and Screen Service Areas & Equipment – Loading areas, access and circulation driveways, trash and storage areas, and rooftop equipment shall be visually screened and located as far as practical from adjacent residential areas.

C. Carefully Orient & Screen for Abutting Residential Uses – Non-residential uses that are incompatible with adjacent residential property shall be separated by masonry walls, landscaping, building orientation, and activity limitations. Buildings shall be designed to prevent a direct line of sight from within the building into adjacent residential property by employing design features such as screen walls, landscaping, window placement, building positioning or any combination thereof. A visual barrier of evergreen trees at least six (6) feet in height shall screen non-residential building walls and parking lots from adjacent residential property.

D. Connect Compatible Uses – Non-residential uses compatible with adjacent residential areas may be connected by features that include, but are not limited to, driveways, parking areas, walkways and common landscaped areas, or enhanced by building orientation and unfenced property lines.

BUILDING PLACEMENT

A. Build to the Street – Commercial and office building frontage shall be located as near as practical to the front setback line, or if a corner building, as near as practical to the setback lines of both streets. In the case of corner buildings, this may be accomplished using angled or sculpted building corners or an open plaza at the corner.

B. Face Buildings to the Street – Active building elevations with public access or windows shall face public streets wherever practical.

C. Coordinate Building Designs – Multiple buildings in a single project must demonstrate a positive functional relationship with one another. This creates opportunities for plazas and pedestrian areas while preventing long "barrack-like" rows of buildings. When clustering is impractical, a visual link shall be established between buildings. This link shall be accomplished through the use of an arcade system, trellis, colonnade or other open structures.

D. Provide Useable Open Spaces – Wherever practical, open space areas shall be grouped into useable, prominent landscaped areas so as to provide useable open space within a complex

of buildings or project; however this provision does not require that every building or project or all areas surrounding buildings to provide useable open space.

E. Provide Outdoor Seating Areas – Buildings shall be placed in a manner that allows space for outdoor seating areas. Spaces between buildings that offer clear, useable shapes may be used for this purpose; however, this does not require that all spaces between buildings be designed for use as outdoor seating areas.

COLOR GUIDELINES

Use Compatible Colors – Colors used on buildings shall be compatible with colors of the surrounding area.

TRASH LOADING/STORAGE AREAS

A. Enclose Dumpsters in Attractive & Durable Enclosures – Trash and garbage containers shall be stored in an enclosure that is architecturally compatible with the project or building and which includes concrete pads or appropriately designed asphalt surfaces. Trash enclosure gates shall be constructed of durable materials that obscure view by a minimum of eighty (80) percent.

B. Locate Such Service Areas Away from Abutting Residences – Non-residential buildings adjacent to residential properties shall be designed or positioned so that loading and delivery activities occur on the side of a building opposite the side facing residential property, and shall not be located within the required setback.

C. Provide Loading Areas for Restaurants – Every free-standing restaurant site shall include a loading area or arrangement for other accommodations.

D. Loading Docks not to be Visible from the Street – Loading docks shall not be directly visible from a public street. Complete screening matching the building design or a landscape buffer achieving eighty (80) percent screening within three (3) years shall be installed where necessary to meet this requirement.

E. No Standing & Idling Trucks – Trucks are prohibited from parking and idling in maneuvering or circulation areas that are adjacent to residential properties, except for approved loading or dock areas.

F. Carefully Locate & Screen Outdoor Storage Areas – Outdoor storage shall be located within approved storage areas that are permanently screened from view. Outdoor storage shall not be allowed in required parking or loading areas.

PART 2 – LANDSCAPING GUIDELINES

STANDARD DESIGN CONCEPTS

A. Use Trees to Accent Site Features – Specimen trees, deciduous trees a minimum of two (2) inches DBH or evergreen trees a minimum of two (2) feet in height, shall be used in informal groupings and rows at major focal points such as project entrances.

B. Use Shrubs & Ornamental Plantings to Accent Site Features – Non-residential projects shall include at least one of the following:

1. Herbaceous perennials and ornamental grasses in informal groupings at major focal points such as project entrances.

2. Groundcovers in lieu of turf in areas that receive minimal pedestrian traffic, such as along walkways and in medians.

LANDSCAPING REQUIREMENTS FOR PARKING LOTS GREATER THAN 50 SPACES

E. Provide Landscaping in Parking Lot Islands – Planting islands at the ends of parking rows shall meet the following standards:

1. A minimum of three hundred (300) square feet with double loaded parking;
2. A minimum of one hundred fifty (150) square feet with single loaded parking;
3. A minimum interior width of nine (9) feet;
4. Curbing six (6) inches high on all sides; and
5. Shade trees, low shrubs, groundcover, or any combination thereof.

F. Use Landscaping to Accent & Organize Parking Areas & Pedestrian Paths – Landscaping that accents driveway entrances, frames major circulation aisles, and highlights pedestrian pathways.

PART 3 – LIGHTING GUIDELINES

PARKING LOT LIGHTING

A. Appropriately Direct & Shield Parking Lot Lights – Parking lots shall require lighting, positioned or hooded in such a way that prevents the direct beam of the lights from projecting directly onto adjoining property or streets.

B. Limit Light Pole Heights – Parking lot lights shall not exceed a height of twenty seven (27) feet from the parking lot surface or the height of the tallest building on the site, whichever is less.

C. Use Attractively Designed Light Poles – Parking lot light poles shall be decorative, complementary and consistent with the architecture of the project.

This is where "Part 4 – Residential Building Guidelines" will be located.

Part 4 of Gray Village Center and Village Center Proper Design Guidelines: Residential Design Standards and Administrative Procedures for VC & VCP Districts

I. **Purpose** – The purpose of these Design Standards for the construction of single-family residential buildings, two-family residential buildings, accessory structures, and accessory apartments, in the Village Center (VC) and Village Center Proper (VCP) Districts is to promote the construction of such buildings in a manner that is calculated to allow for adaptive re-use of the site for either commercial or residential purposes in the future. The objective is to grant the Town of Gray increased flexibility in meeting its current goals under the Comprehensive Plan, including promoting growth in the VC and VCP districts.

II. **Applicability**

A. These Design Standards apply to all single-family residential buildings, two-family residential buildings, three-family residential buildings, accessory apartments, and all detached accessory structures newly constructed or reconstructed in the VC or VCP Districts, as well as those that have been substantially altered, repaired, or moved.

B. For the purposes of applicability of these standards, "substantially altered, repaired, or moved" shall mean any one or more of the following:

1. requires a building permit for construction that affects greater than fifty percent (50%) of the floor area of the existing structure
2. requires a building permit for exterior renovations which involve structural alterations to the building.

III. **Aesthetic Standards** – Newly constructed or reconstructed single-/two-family homes and accessory apartments in the VC or VCP Districts, as well as existing buildings (used for that purpose) and their appurtenances, which have been substantially altered, repaired or moved, shall be visually compatible with the buildings and terrain to which they are visually related and specifically with nearby and/or adjacent buildings in terms of the following factors:

A. **Overall Style**: The building's architectural style shall be consistent throughout, with all sides matching or complimenting the style of those with the greatest visibility from the public street(s).

1. To prevent long, visually monotonous building façades, design features shall be added to the building, such as but not limited to, wall plane projections, recesses, widows, roof elevation variations, and variations in siding materials and orientations.
2. Accessory or auxiliary structures, including garages and sheds, shall be architecturally consistent with the primary structures in the use of color,

material, and detailing.





B. **Relationship of Façade Materials**: The façades of a building, particularly the front façade, should be visually compatible with surrounding buildings.

1. Use of traditional wood clapboard siding is the basic standard. Synthetic, composite, or other siding materials are acceptable if they are substantially identical in appearance to natural materials and of equal or greater durability.



2. Brick or stone masonry is also acceptable.
    a. Brick material shall be of New England character, normally red to reddish brown in color, and shall be laid with three courses in eight inches. Normal brick size shall be 2 3/8 x 3 5/8 x 7 5/8.
    b. Use of economy shape, square, or elongated brick is not permitted.

c. Multi-color brick products or patterns composed of different colors of bricks are prohibited, and any pattern in the brick masonry shall be muted with all patterns composed of brick of the same color. Alternatively, bricks may be painted, provided they are painted a single, solid color.



3. Concrete block, split face block, multicolored brick, asphalt shingles, T-111, plywood, diagonal siding, industrial metal siding, standing seam metal siding, synthetic brick, and synthetic stone are prohibited; however, use of stucco is permissible.
4. Concrete block chimneys and exposed metal chimney flues on the side of the house facing the street are prohibited. Exposed metal chimney flues on the sides of houses shall be enclosed and sided with the same or similar siding as the house.
5. Full height walls surrounding porches are not permitted. Screens in the warmer months and storm windows in the cold months are permitted, this does not include installation of combination storm and screen windows.



C. **Roof Shapes and Materials:** The shape and proportion of the roof should be visually compatible with the architectural style of the building and with those of neighboring buildings. Flat roofs are discouraged.



1. Roof forms such as gable, hipped, or slight variations are acceptable.
2. Buildings shall have a roof pitch in the ranges of 6:12 to 12:12. Porch roofs are permitted to have a pitch of 4:12 provided that the porch does not exceed 20% of the building's cumulative footprint.
3. Preferred materials are asphalt shingle, fire treated wood shingles, natural slate, rubber, composite material made to resemble slate, and/or metal.
4. Buildings that are over forty feet (40') in length, face a public street, and have a symmetrical gabled pitched roof are encouraged to break up the roof with multiple dormers proportioned and coordinated with the overall façade design.



5. Roof colors shall be those commonly found on residential buildings within the VC and VCP Districts, including but not limited to brown, black, grey, and green, and shall be of a dark hue.

6. Roof dormers with pitched or shed roof forms are permitted, and skylights within the roof plane are acceptable. Shed roofs that are integrated with the building form are also acceptable.
7. Exposed roof vents such as turbines or power roof ventilators visible from the street are discouraged.

D. **Proportionality and Placement:** The building's overall size; mass in relationship to the open space around it; and door, window, porch, and balcony sizes shall be visually compatible with its site and with its neighborhood.

1. The height of the building shall be visually compatible with the heights of buildings in the neighborhood, with particular attention paid to the height of principal structures on adjacent lots, so as not to dramatically change the street's appearance or to unduly shade neighbors and/or the street.

Compliant: **Noncompliant:**



2. The rhythm of open spaces around buildings to the buildings themselves should be considered when determining visual compatibility, whether it is between buildings or between buildings and the street (setbacks).

Compliant: **Noncompliant:**



3. The size and spacing of the building's windows and doors shall be proportional and visually compatible with those of its neighbors.

Compliant: **Noncompliant:**



E. **Access Features:** The features of a building that allow for access to the interior shall meet certain minimal design standards that ensure both their functionality and visual compatibility with others in the neighborhood.

1. The incorporation of one, and not more than one, recognizable front door facing the street is required.
2. Buildings shall not have more than one exterior stairway leading to a second or higher story, and the design of such exterior stairway shall be

visually compatible with the design of the building as a whole and with any exterior stairways on neighboring buildings.

F. **Site Features**: The size, placement, and materials of walls, fences, driveways, and landscaping features should be visually compatible with the building, the property's terrain, neighboring buildings, and the terrain of abutting properties, as well as provide adequate privacy between lots.

1. Fences, if installed, shall be post-and-rail type with wood, wood composite, stone, or masonry posts with wood top and bottom rails. Infill between rails shall be vertical pickets or other patterns consistent with older residences within the district. Fences shall not exceed forty-two (42) inches in height.



2. Preservation of existing mature trees and planting or preservation of masses of shrubs in the setback is encouraged. Landscaping should include planting of new trees and shrubs if none presently exist.



   a. An effort shall be made to use indigenous species that are insect and disease resistant. Invasive species of plants are prohibited.

b. Any trees that are planted shall be a minimum of five (5') feet from the edge of the right-of-way (ROW). The mature form and height of plant materials shall be considered so they will not create unsafe conditions, such as protrusion into power lines, or blockage of pedestrians, bicyclists, or motorists' sight lines on the road.

3. The front, side, and rear yards abutting residential properties shall maintain the district boundary in its natural state to provide a buffer of at least the minimum setback distance or at least 10 feet. When natural features (i.e., slopes, gullies, trees, shrubs, rocks) do not exist or are insufficient to provide a buffer, the developer is encouraged to landscape, or where not feasible, provide fencing or screening. The buffer shall not be expected to completely hide the building from abutting properties.



4. Site walls (retaining walls), if installed, should be a natural stone, pre-cast concrete made to resemble stone, or brick masonry. The use of other modular concrete material is not permitted for the wall face.



Site walls shall not exceed forty-two (42") inches in height unless functionally necessary due to the grades existing on the property, shall be located no closer than two (2') feet from the sidewalk, and shall be constructed to allow for proper drainage.



5. All new construction and development shall be designed to minimize storm water runoff from the site in excess of the natural predevelopment conditions. Where possible, existing natural runoff control features, such as berms, swales, terraces, and wooded areas shall be retained or added in order to reduce runoff and encourage infiltration of storm waters. All storm water must be treated underground.

IV. **Site Layout Standards**

A. The location of structures and site improvements on the parcel shall be designed and built to accommodate either residential or commercial uses. The applicant/developer shall provide a conceptual scaled plan of the parcel depicting all site components necessary to practically allow the parcel to be utilized for commercial purposes including:

1. Vehicular access (ingress and egress);
2. On-site vehicular circulation;
3. Pedestrian access and internal circulation;
4. Parking layout and design;

5. ADA parking and access;
6. Stormwater direction, collection, and management;
7. Location of subsurface wastewater disposal system; and
8. Buffering and screening to the road and abutting properties

V. **Structural and Functional Building Standards**

A. Developers are encouraged to use floor and/or roof trusses and to avoid use of load bearing walls in the interior of any structure to which these design standards are applicable to facilitate adaptive reuse of the structure.

B. Building ingress/egress; pedestrian access to the structure shall be appropriately located and sized with particular attention paid to both the main front and rear entrances of the structure. Even if a smaller (or no) door is proposed, installation of a header designed to accommodate a sufficient commercial width main entrance door should be designed/installed.

C. Grading and first floor elevation; the final site grading and finished floor elevation proposed structure's first floor shall be designed to accommodate the needs of a future commercial use, including ADA access.

VI. **Administrative Procedure**

A. Application and Approval Process

1. No application for a building permit for a property that is subject to this Part 4 of the Gray VC & VCP Design Guidelines shall be finally approved by the reviewing authority until the applicant has received a Design Standard Certificate under these Design Standards.

2. In the event that an individual submits a subdivision application involving the intent to build any of the structures to which these standards apply, the Planning Board shall administer these standards, including the Design Standard Certificate, as an integral part of its subdivision review.
3. In all other situations not specified in VI.A.2. above, review under these VC/VCP Residential Design Standards shall be undertaken simultaneously with the processing of the application for a building permit.
    a. If an applicant's application for a Design Standard Certificate proposes construction of a single building to which these standards apply on a parcel not part of a Planning Board approved subdivision, then it shall be the duty of the Town of Gray's Code Enforcement Officer, to administer and enforce Part 4 of these VC/VCP Residential Design Standards, as well as issue the Design Standard Certificate when deemed appropriate.
4. The application for a Design Standard Certificate shall be made in the Town Office on forms provided therefore. Each application shall be accompanied by such sketches, drawings, photographs, descriptions, or other information showing the proposed alterations, additions, reconstruction, changes, or new construction as may be required for the reviewing authority to make a decision, including but not limited to:
    a. Site Plan – a plan of the site, at a scale of no greater than 1" = 50', that illustrates the location of lot boundaries, any easements, ROW or other legal limitations set on the property, existing structures

and roads, any existing trees over 6" in caliper, the location of the proposed building or renovation, any proposed landscaping, walkways, drives, walls, fences, lighting, signage, service areas, transformers, propane tanks and other utility requirements – as well as significant existing site elements including shrubs and planting beds. The Plan shall also indicate the current zoning district(s), applicable setbacks, and size of lot.

b. Elevations – elevations, at a minimum scale of 1" = 16' - 0", of all exposed sides of the proposed building or renovations. The elevations shall indicate proposed materials, colors, roof pitches, finished grade and building height.

c. Photographs – For projects that involve the addition to, or reconstruction of a structure, photographs of the existing façades shall be submitted, in order to evaluate the existing conditions against the proposed elevations.

5. The applicant shall transmit the application for a Design Standard Certificate, together with the supporting information and material, to the reviewing authority for review and approval.

a. The Code Enforcement Officer has thirty (30) days after submittal of an application to determine whether the application is complete. The Code Enforcement Officer shall act within 60 days from the date the applicant files a completed application, and the applicant shall pay all required application fees and outside professional

assistance deemed necessary in accordance with provisions established in Section 402.10.9 of the Zoning Ordinance. If the Code Enforcement Officer does not make a determination within 60 days of the application being deemed complete by the reviewing authority, the application is deemed to be approved and a Design Standard Certificate shall be issued.

~~a.~~b. The Planning Board has 60 days after submittal of an application to determine both its completeness and whether the Planning Board believes the proposed development meets the applicable VC/VCP Residential Design Standards. The applicant shall pay all required application fees and outside professional assistance deemed necessary in accordance with provisions established in Section 402.10.9 of the Zoning Ordinance.

6. Nothing herein shall prohibit an extension of time, by a formal action for a specific period of time, for review and approval of the application if the parties have mutually agreed that more information and/or discussion is required. Unless the Code Enforcement Officer or Planning Board disapproves an application, a Design Standard Certificate shall be issued with or without conditions, as deemed appropriate by the Code Enforcement Officer or the Planning Board. If the Code Enforcement Officer or Planning Board disapproves an application, the reviewing authority shall issue a document containing its findings and reasoning for the denial in written form to the applicant.

B. Appeals Process

1. Appeals from a decision of the Code Enforcement Officer under these Design Standards may be taken to the Planning Board.

   a. Any person who has participated before the Code Enforcement Officer and can demonstrate particularized injury may appeal the final decision of the Code Enforcement Officer on an application for a Design Certificate to the Planning Board within thirty (30) days after the Code Enforcement Officer has issued their written decision. The appeal must be in writing and must be accompanied by a filing fee which shall be established by the Town Council.

   b. The Planning Board shall consider the appeal at a meeting held within sixty (60) days of receipt of the written request for an appeal. The Planning Board shall follow the same procedures established in Article 10 of Chapter 402 (Zoning Ordinance) for Site Plan Review.

   c. The Planning Board shall conduct a de novo hearing, and shall also review the record of the proceeding before the Code Enforcement Officer. If the Planning Board finds the Code Enforcement Officer's record to be insufficient, the Planning Board may remand the matter to the Code Enforcement Officer for either re-application or further proceedings, findings, and conclusions.

   d. The Planning Board may allow persons to present their positions orally or in writing, based on the record of the proceedings. The

Planning Board shall review new evidence and documentation, including testimony or exhibits, which is not part of the submittals reviewed by the Code Enforcement Officer.

e. The Planning Board may reverse the decision of the Code Enforcement Officer, in whole or in part, upon finding that the decision is contrary to the provisions of these Design Standards or unsupported by substantial evidence in the record. The Planning Board shall have the right to attach conditions to their decisions for the purposes of meeting applicable standards.

f. The decision of the Planning Board shall be in writing and shall contain findings and conclusions that clearly state, on all relevant factual and legal issues, the action taken by the Board and the reasons for such action. The Planning Board shall adopt its written decision within forty-five (45) days of the meeting where the appeal is heard, unless the Board makes a finding that it is unable to do so, or unless an extension has been agreed upon amongst the parties.

2. Appeals of decisions of the Planning Board under these Design Standards, whether as the primary reviewing authority or in its appellate capacity, shall be to a Superior Court according to the provisions of the Maine Rules of Civil Procedure 80B.

PLANNING BOARD/STAFF REVIEW COMMITTEE APPLICATION
TOWN OF GRAY MAINE

PROPERTY TO BE DEVELOPED			
Property Location/Address	175 Portland Road	Property Map/Lot	59.36.25 + 36-21
Zoning District	Contract Zone	Lot Acreage	7.62 + 4.50
Owner Name	Bruss Properties LLC	Tax Sheet	
Owner Address		Owner Phone	

APPLICANT			
Name (IF different than owner)	Robert Emerson	Contact Phone Number	207-338-3826
Mailing Address	164 Cantell Shore Rd	Alternate Phone Number	
Mailing City/State/Zip	Gray, ME 04039	Fax Number	
Email Address			

AGENT/CONSULTANT			
Name		Contact Phone Number	
Mailing Address		Alternate Phone Number	
Mailing City/State/Zip		Fax Number	
Email Address			

PROJECT

The undersigned requests that the Town of Gray Planning Board consider the following application for:

- ☐ **Subdivision**
  - Sketch Plan Review
  - Preliminary Plan Review (Major)
  - Final Plan Review (Major)
  - Minor
- ☒ **Site Plan Review**
  - Pre-Application Conference
  - Minor
  - ☒ Major
- ☐ **Shoreland Zoning Permit**
- ☐ **Other (specify)**
  - Conditional Use
  - Amendment
  - Extension
  - Workshop
  - Contract Zone Request

Project Description / Comments: A proposed 33'-8 3/4" x 100'-0" Addition to Existing Shop.

Applicant Signature X Robert E. Emerson **Date** 8-18-21

Bruns Bros
PROCESS EQUIPMENT

175 Portland Rd. Gray, Maine 04039
6809 Crossbow Dr. E. Syracuse, NY 13057
www.brunsbros.com

August 22, 2021

Bruns Bros.
175 Portland Road
Gray, ME 04039

Dear Planning Board Members,

Bruns Bros. Welding Inc. was founded in 1985 by Michael and Kenneth Bruns. Our first shop was a chicken house located on family property but soon we bought property at 175 Portland Road and built a wood frame-brick veneer building in 1987-1988. The building was added onto in 1993-1994 and was used as a welding fabrication shop with offices and parts space. By 2007 there was a need for additional space in all departments, so a steel building was built in 2007-2008. A 70'-0" by 110'-0" addition with an annex of 9'-0" by 11'-0" was built to the north end of the production building in 2016-2017.

There is now a need for more storage area. We are proposing a 33'-8 ¾" by 100'-0" addition to the north end of the existing building.

We are currently working with Woodbury Hill Professionals-Structural & Civil Engineering - on building designs and DEP compliance. We also have been engaged with Canam Buildings on building design.

We are looking forward to the October 14th meeting with you.

Sincerely,

Michael Bruns
Kenneth Bruns

Bruns Bros.
PROCESS EQUIPMENT

175 Portland Road, Gray, Maine 04039
800-327-4192 • Fax 207-657-2846
www.brunsbros.com

August 16th, 2021

Town of Gray Planner

Doug Webster

Robert E Emerson will be representing Bruns Bros for all issues pertaining to the expansion we are planning at the end of existing shop.

Yours sincerely,
Kenneth W. Bruns V.P.

Kenneth W Bruns

Doc#: 68847 Bk:25600 Ps: 215

WARRANTY DEED
(Statutory Short Form)

BRUNS PROPERTIES LIMITED LIABILITY COMPANY, a Maine limited liability company with an office and place of business at Gray, Cumberland County, Maine, for consideration paid, grants to **BRUNS PROPERTIES LIMITED LIABILITY COMPANY**, of Gray, Cumberland County, Maine, whose mailing address is: 175 Portland Road, Gray, ME 04039, with **WARRANTY COVENANTS**, certain lots or parcels of land, with any buildings thereon, situated on Portland Road, in Gray, Cumberland County, Maine, more particularly described as follows:

PARCEL ONE:

A certain lot or parcel of land, with the buildings thereon, situated on the Easterly side of Route 100 and the Northerly side of the Long Hill Road in the Town of Gray, County of Cumberland, and State of Maine, being more particularly described as follows:

BEGINNING at a 5/8" capped rebar found set in the ground at the intersection of the assumed Easterly sideline of Route 100 and the assumed Northerly sideline of the Long Hill Road;

Thence North 04°32'18" East along the said sideline of Route 100 a distance of 383.12 feet to a 5/8" capped rebar set in the ground;

Thence North 67°18'04" East across other land now or formerly of Bruns Bros. Welding, Inc. (7537/30) 325.00 feet to a capped 5/8" capped rebar set in the ground;

Thence, North 08°45'20" East continuing across land of said Bruns Bros. Welding, Inc. 302.26 feet to a 5/8" capped rebar set in the stone wall marking the Southerly sideline of land now or formerly of Victor I. Gibson (3140/165);

Thence, North 67°18'04" East along land of the said Gibson and the said stone wall 105.30 feet to a stone wall corner;

Thence, South 35°34'00" East continuing along the said stone wall and land of the said Gibson and land now or formerly of Central Maine Power Company 114.58 feet to the end of said stone wall;

Thence South 31°54'12" East along land of the said Central Maine Power Company 44.83 feet to the end of another stone wall;

Thence, South 34°49'05" East continuing along land of the said Central Maine Power Company and land of the said Gibson 55.55 feet to an angle in the said stone wall;

Thence, South 35°21'34" East along land of the said Gibson and the said stone wall 166.70 feet to a stone wall intersection;

Thence, South 16°25'41" East continuing along the said stone wall 54.56 feet to a 5/8" capped rebar found set in the assumed sideline of the Long Hill Road;

Thence, South 54°11'37 West along the said sideline of the Long Hill Road 601.37 feet to an angle in the said sideline.

Thence, South 59°25'18" West along the said sideline of the Long Hill Road 255.00 feet to the POINT OF BEGINNING. Containing 5.62 acres, more or less.

All bearings are Magnetic of the year 1986.

PARCEL TWO:

A certain lot or parcel of land, with any buildings thereon, situated on the Easterly side of Route 100 in the Town of Gray, County of Cumberland, and State of Maine, being more particularly described as follows:

BEGINNING at a point on the assumed easterly sideline of Route 100 and on the stone wall marking the southerly sideline of land now or formerly of Victor I. Gibson (3140/165);

Thence, North 67°18'04" East along the said stone wall and land of the said Gibson 350.00 feet to a 5/8" capped rebar set in the said stone wall;

Thence South 08°45'20" West across other land now or formerly of Bruns Bros. Welding, Inc. (7537/30) 302.26 feet to a 5/8" capped rebar set in the ground;

Thence, South 67°18'04" West continuing across land of said Bruns Bros. Welding, Inc. 325.00 feet to a 5/8" capped rebar set in the ground on the said sideline of Route 100;

Thence, North 04°32'18" East along the said sideline of Route 100 a distance of 290.00 feet to the POINT OF BEGINNING. Containing 2.00 acres.

All bearings are magnetic of the year 1986.

This conveyance is **SUBJECT TO** any and all mortgages of record.

Meaning and intending to convey all and the same premises conveyed to Bruns Properties Limited Liability Company by Deeds of Michael E. Bruns and Kenneth W. Bruns, dated June 16, 1995, and recorded in the Cumberland County Registry of Deeds in Book 11971, Page 326 and Book 11971, Page 329. The purpose of this Deed is to combine the two parcels into one parcel of approximately 7.62 acres; therefore, the easements for water and septic purposes referenced in said prior deeds are hereby extinguished.

Reference is made to a Plan entitled "Standard Boundary Survey on Route 100 & Long Hill Road, Gray, Maine, for Bruns Bros. Welding, Inc.," dated May, 1995, and prepared by Wayne T. Wood , PLS #1328.

Also conveying all rights, easements, privileges and appurtenances belonging to the premises hereinabove described.

The said **Bruns Properties Limited Liability Company** has caused this instrument to be signed in its name by Kenneth W Bruns, its Member, duly authorized, this 6 day of November, 2007.

BRUNS PROPERTIES LIMITED LIABILITY COMPANY

Witness

By: Kenneth W Bruns
Print name: Kenneth W Bruns
Its: Member

STATE OF MAINE
Cumberland, ss.

November 6, 2007

Personally appeared, before me, the above-named Kenneth W. Bruns, in his/~~her~~ capacity as a Member and acknowledged the foregoing instrument to be his/her free act and deed and the free act and deed of said limited liability company.

~~Notary Public~~/Attorney
MARY B. DEVINE
Print Name

Received
Recorded Register of Deeds
Nov 06,2007 03:56:34P
Cumberland County
Pamela E. Lovley

CORRECTIVE
WARRANTY DEED
(Maine Statutory Short Form)

JAY I. GIPSON a/k/a **JAY IRWIN GIPSON**, of Sebago, Cumberland County, Maine, and **VICKIE L. TARLING** a/k/a/**VICKIE LYNN TARLING**, of Standish, Cumberland County, Maine, for consideration paid, grant to **BRUNS PROPERTIES LIMITED LIABILITY COMPANY**, a Maine limited liability company with a place of business at Gray, Cumberland County, Maine, with a mailing address of: 175 Portland, Gray, ME 04039, with **WARRANTY COVENANTS**, a certain lot or parcel of land, with any improvements thereon, situated on the Portland Road (f/k/a New Gray Road), in **Gray**, Cumberland County, Maine, more particularly described as follows:

> A certain lot or parcel of land, with the buildings thereon, located on the Easterly side of the New Gray Road, so-called, in Gray, Cumberland County, Maine Cumberland County, State of Maine, being more particularly described as follows:
>
> **BEGINNING** at a point on the New Gray Road at the northerly corner of land now or formerly of one Hill; thence northerly by said road to the northerly corner of a certain lot of land formerly owned by William H. Webster; thence easterly along said Webster line to the former location of the Portland Lewiston Railroad; thence southerly by said railroad location to said Hill land; thence westerly by said Hill land to the **POINT OF BEGINNING.**
>
> **LESS AND EXCEPTING** a certain lot or parcel of land conveyed by Victor I. Gipson to Walter E. Tarling, Jr. and Vickie L. Tarling by Deed, recorded in the Cumberland County Registry of Deeds in Book 8407, Page 284.

Meaning and intending to convey a *portion only (Parcel One)* of the premises conveyed to Jay Irwin Gipson and Vickie Lynn Tarling by Deed of Helen Eva Gipson, et al., dated June 28, 2005, recorded in the Cumberland County Registry of Deeds in Book 23370, Page 308. Helen Eva Gipson, holder of a life estate in the above premises, died on April 20, 2012.

The purpose of this Corrective Deed is to correct an erroneous description set forth in the Deed from Jay I. Gipson and Vickie L. Tarling to Bruns Properties Limited Liability Company, dated January 15, 2016, and recorded in said Registry in Book 32871, Page 192. The prior description erroneously referenced both parcels in Grantors' source deed (23370/308); whereas, the

intent was to convey only the first parcel. In addition, the revised description also includes reference to a prior outsale (8407/287) that was omitted from Grantors' source deed.

Also conveying all rights, easements, privileges and appurtenances belonging to the premises hereinabove described.

WITNESS our hands and seals on January 30, 2016.

Witness

Jay I. Gipson

Witness

Vickie L. Tarling

STATE OF MAINE
Cumberland, ss.

January 30, 2016

Personally appeared, before me, the above-named **Jay I. Gipson** and **Vickie L. Tarling**, and acknowledged the foregoing instrument to be his/her free act and deed.

Notary Public/Attorney

MARY B. DEVINE

Print Name

Approved 11-1-16 Effective 30 days -

CONTRACT ZONING AGREEMENT AMONG THE TOWN OF GRAY, BRUNS PROPERTIES LIMITED LIABILITY COMPANY AND BRUNS BROS. WELDING, INC.

This is a Contract Zone Agreement (the "Agreement"), made as of the 2nd day of November, 2016 by and among the TOWN OF GRAY, a body corporate and politic, located in the County of Cumberland and State of Maine (the "Town"), BRUNS PROPERTIES LIMITED LIABILITY COMPANY, a Maine limited liability company, and BRUNS BROS. WELDING, INC., a Maine corporation, both with a place of business located at 167 and 175 Portland Road, Gray, Maine (the last two, collectively, the "Applicants"), pursuant to the conditional and contract zoning provisions set forth in Section 402.9.9 of the Gray Zoning Ordinance (the "Zoning Ordinance") and 30-A M.R.S.A. § 4352(8) of the Maine Zoning Enabling Act.

WHEREAS, the properties subject to this Agreement consist of two abutting parcels, approximately 4.5 acres and 7.62 acres, totaling 12.12 acres of land owned by Bruns Properties Limited Liability Company and leased to Bruns Bros. Welding, Inc., a/k/a Bruns Bros. Process Equip., located at 167 and 175 Portland Road, identified on the Town Tax maps as Lots 036-021-000 and 036-025-000, respectively, on Tax Map 059, and more particularly depicted on Exhibit "A" attached hereto and made a part hereof, and in deeds of acquisition recorded in the Cumberland County Registry of Deeds in Book 32900, Page 204 and Book 25600, Page 215, respectively, (both parcels, collectively the "Property"); and

WHEREAS, the Applicants have operated their process equipment fabrication sales and service business at 175 Portland Road in Gray for almost thirty years; and

WHEREAS, the Applicants use the Property for their business, which employs over 50 individuals and which includes, but is not limited to, the sales, service, engineering, design, fabrication and installation of process systems for the dairy, food, beverage, pharmaceutical, and other industries requiring transfer of processed product cleanly and efficiently during processing, and which involve, among other things, design, engineering, provision of instrumentation and programming, fabrication, cleaning and repair of skidded systems, as well as sanitary tanks on trailers or trucks transporting milk or potable water. The design and fabrication work may include among other processes tube welding, waterjet cutting, metal forming and fabrication. Additionally, Applicants sell, service, repair and inventory related equipment and parts such as pumps, valves, sanitary hoses, fittings, consumables and other sundry items used in processing plants. There are currently two buildings on the Property housing administrative, design, and engineering office space as well as manufacturing, inventory and production, and the Property has ample outside parking for tanker trailers, as well as other motor vehicles; and

WHEREAS, the Property is currently located in the Commercial District ("C") under the Zoning Ordinance; and

WHEREAS, the Commercial District does not presently allow, either as a permitted or conditional use, manufacturing and processing, light manufacturing, or warehousing, as provided in Table 402.5.3 of the Zoning Ordinance; and

WHEREAS, prior to the date hereof, Applicants over their existence at the location at 175 Portland Road have been granted on numerous occasions conditional use approvals to carry on the uses associated with their existing business operations and erected the buildings currently existing; and

WHEREAS, the Applicants wish to continue to use and operate the Property as currently being used, but also wish to construct additional covered building space to support the Applicants' continued business operations, as set forth in the site plan annexed hereto and incorporated herein as Exhibit "A"; and

WHEREAS, in order for the construction of additional covered space to proceed, certain amendments with respect to the permitted uses under the Zoning Ordinance are required; and

WHEREAS, the Applicants have requested a contract zone amendment for the Property to permit such additional uses and their business operations; and

WHEREAS, the size, location and configuration of the Property permit the construction of the addition as shown on Exhibit A without any additional physical and visual impacts to neighboring properties from such additional building space, and the continued operations of the business will continue to be consistent with the uses of approximately the last thirty years; and

WHEREAS, the rezoning would be consistent with the policies of the Gray Comprehensive Plan, is consistent with the existing and permitted uses within the current zoning classification, and only includes restrictions that relate to the physical development or operation of the property, and which is otherwise permitted pursuant to the Zoning Ordinance and under Maine law.

NOW, THEREFORE, in consideration of the mutual promises made by the parties to each other, the parties covenant and agree as follows:

1. Zoning Map: The Town hereby amends the Zoning Map of the Town of Gray, by adopting the map change amendment shown on the fragmentary map attached as Exhibit B.

2. Permitted Uses. Notwithstanding Table 402.5.3 of the Zoning Ordinance, as it may be amended from time to time, and in addition to the permitted and conditional uses in the Commercial District, manufacturing and processing, light manufacturing, and warehousing are added as permitted uses on the Property.

3. Building Construction Spatial Standards. The spatial standards for the Property, subject to this contract zone, are those as presently provided for in the Commercial District as follows:

Maximum Building Coverage	Minimum Lot Line Setback Front	Minimum Lot Line Setback Side	Minimum Lot Line Setback Rear	Maximum Building Height
50%	10 ft.	15 ft.	20 ft.	35 (53) ft. É

4. Underlying Zoning Designation. Except as set forth above, all other requirements of the underlying Commercial District and the Zoning Ordinance, as it may be amended from time to time, including Article 10, Site Plan Review, shall apply and shall govern the use and development of the Property.

5. Binding Covenants. The above-stated restrictions, provisions and conditions are an essential part of this Agreement and shall run with the Property, shall bind the Applicants, their successors and assigns of the Property or any part thereof, and any party

in possession or occupancy of the Property or any part thereof, and shall inure to the benefit of and be enforceable by the Town, by and through its duly authorized representatives. This Agreement may not be amended except by mutual written agreement of the parties.

6. Enforcement. The Town shall have the power to enforce all conditions and restrictions of this Agreement through an enforcement action pursuant to 30-A M.R.S.A. § 4452, as it may be amended from time to time, or as otherwise provided by law. In the event that the Applicants or their successors or assigns fail to use and operate the Property in accordance with this Contract Zone Agreement, or in the event of any other breach hereof, this Contract Zone Agreement may be terminated by vote of the Town Council after such notice as required by law and by prior written notice of breach by the Town to the Applicants and a reasonable time to cure any such breach. In that event, the Property may then be used only for such uses as are otherwise allowed by law.

7. Miscellaneous Provisions. In the event any provision of this Agreement is found to be invalid or unenforceable, such finding shall not affect the validity and enforceability of the remaining provisions of this Agreement. The failure of either party to insist upon strict performance of any of the terms or conditions of this Agreement or to exercise any of its rights under the Agreement shall not waive such rights, and such party shall have the right to enforce such rights at any time and take such action as may be lawful and authorized under this Agreement, either in law or in equity. This Agreement and the performance thereof shall be governed, interpreted, construed and regulated by the laws of the State of Maine except any conflict of laws or provisions applying laws of any other jurisdiction.

This Agreement shall be recorded in the Cumberland County Registry of Deeds within thirty (30) days after its approval by the Town Council.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date first set forth above.

WITNESS:

Elizabeth C. Bullen
Elizabeth Bullen

TOWN OF GRAY

By: Deborah Cabana
Deborah S. Cabana,
Its Town Manager, duly authorized by
Town Council vote

STATE OF MAINE
COUNTY OF CUMBERLAND, ss. November 2, 2016

Personally appeared the above-named Deborah S. Cabana, Town Manager of the Town of Gray, and acknowledged the foregoing instrument to be her free act deed in her said capacity and the free act and deed of said Town of Gray.

Before me,
Judith Rand
Notary Public/Attorney at Law
Judith Rand
print name

JUDITH A. RAND
Notary Public-Maine
My Commission Expires
October 16, 2021

WITNESS:

name of witness

BRUNS PROPERTIES LIMITED LIABILITY COMPANY

By: _____
Kenneth W. Bruns, its Managing Member

STATE OF MAINE
COUNTY OF CUMBERLAND, ss. 11-2, 2016

Personally appeared the above named Kenneth W. Bruns, Managing Member of Bruns Properties Limited Liability Company, and acknowledged the foregoing instrument to be his free act deed in his said capacity and the free act and deed of said Bruns Properties Limited Liability Company.

Before me,

_____
Notary Public/~~Attorney at Law~~

print name

Tammy L. Chapman
Notary Public, State of Maine
My Commission Expires 6/5/2017

WITNESS:

name of witness

BRUNS BROS. WELDING, INC.

By: _____
Michael E. Bruns, its President

STATE OF MAINE
COUNTY OF CUMBERLAND, ss. 11-2, 2016

Personally appeared the above named Michael E. Bruns, President of Bruns Bros. Welding, Inc., and acknowledged the foregoing instrument to be his free act deed in his said capacity and the free act and deed of said Bruns Bros. Welding, Inc.

Before me,

_____
Notary Public/~~Attorney at Law~~

print name

Tammy L. Chapman
Notary Public, State of Maine
My Commission Expires 6/5/2017

Woodbury Hill Professionals
Civil & Structural Engineering, Oversight, Management
8 Woodbury Hill Road
Auburn, ME 04210
(207) 783-4459

August 23, 2021

To: Bob Emerson

For: Bruns Brothers
175 Portland Road
Gray, ME

Dear Mr. Emerson,

I have reviewed the 2015 IBC codes regarding building areas and offer the following:

The building construction type is II-B (Non-combustible unprotected)

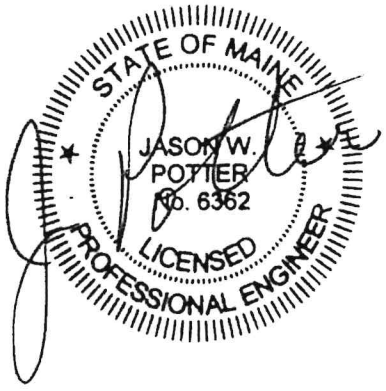
The building use is F-2 (Factory for non-combustible products)

Allowable area is 23,000sf (Per Table 506.2)

Area increase due to frontage is 50% [I=(600'/600'-0.25)20'/30'] (Eq. 5.5)

Allowable area is 34,500sf [A=23,000+(23,000x0.5)] (Eq. 5.1)

Sincerely,



Jason Potter

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION AUGUSTA, MAINE 04333-0017

DEPARTMENT ORDER

IN THE MATTER OF

BRUNS BROTHERS, INC.	) STORMWATER MANAGEMENT LAW
Gray, Cumberland County	)
PARKING AND VEHICLE ACCESS AREA	)
L-27368-NJ-A-N (after-the-fact approval)	) FINDINGS OF FACT AND ORDER

Pursuant to the provisions of 38 M.R.S.A. § 420-D, and Chapters 500, 501, and 502 of the Department's Regulations (06-096 CMR 500–502, effective August 12, 2015), the Department of Environmental Protection has considered the application of BRUNS BROTHERS, LLC with the supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

1. PROJECT DESCRIPTION:

A. History of Project: The project parcel was developed in 2005 with an 11,000-square foot building and 60,000 square feet of parking and vehicle access. Between 2006 and 2016, the applicant further expanded development on the parcel by an additional 17,300 square feet of buildings and vehicle access. Later in 2016, the applicant began construction of a 7,800-square foot building addition that was previously gravel parking area. A new parcel, approximately 4.3 acres in size, was purchased to the north of the original parcel and the applicant cleared one acre of land and placed 29,743 square feet of fill between the two parcels.

B. Project Summary: The applicant seeks after-the-fact approval for all construction since 2006 and 29,743 square feet of fill in an upland location with associated clearing. The new fill material is to be used for parking and vehicle access to the main road. The fill area plus all the previous construction will result in a total of 3.56 acres of developed area of which 2.7 acres is impervious area. The project is indicated on a plan titled "Treatment Plan, C-4," prepared by Woodbury Hill Professionals and dated April 19, 2017. The project site is located on Route 100 (Portland Road) in the Town of Gray.

The applicant also submitted a Permit By Rule Notification Form (PBR# 63408) under the Natural Resources Protection Act concurrently for the construction of the two underdrained soil filters pursuant to Section 19 for activities in, on, or over significant vernal pool habitat and Section 20 for activities located in, on, or over high or moderate value inland waterfowl and wading bird habitat. The Department accepted the PBR on April 19, 2017.

C. Current Use of the Site: The project parcel is developed with a commercial business with approximately 18,400 square feet of building area surrounded by gravel

WHAT YOUR APPEAL PAPERWORK MUST CONTAIN

Appeal materials must contain the following information at the time submitted:

1. *Aggrieved Status.* The appeal must explain how the person filing the appeal has standing to maintain an appeal. This requires an explanation of how the person filing the appeal may suffer a particularized injury as a result of the Commissioner's decision.
2. *The findings, conclusions or conditions objected to or believed to be in error.* Specific references and facts regarding the appellant's issues with the decision must be provided in the notice of appeal.
3. *The basis of the objections or challenge.* If possible, specific regulations, statutes or other facts should be referenced. This may include citing omissions of relevant requirements, and errors believed to have been made in interpretations, conclusions, and relevant requirements.
4. *The remedy sought.* This can range from reversal of the Commissioner's decision on the license or permit to changes in specific permit conditions.
5. *All the matters to be contested.* The Board will limit its consideration to those arguments specifically raised in the written notice of appeal.
6. *Request for hearing.* The Board will hear presentations on appeals at its regularly scheduled meetings, unless a public hearing on the appeal is requested and granted. A request for public hearing on an appeal must be filed as part of the notice of appeal.
7. *New or additional evidence to be offered.* The Board may allow new or additional evidence, referred to as supplemental evidence, to be considered by the Board in an appeal only when the evidence is relevant and material and that the person seeking to add information to the record can show due diligence in bringing the evidence to the DEP's attention at the earliest possible time in the licensing process or that the evidence itself is newly discovered and could not have been presented earlier in the process. Specific requirements for additional evidence are found in Chapter 2.

OTHER CONSIDERATIONS IN APPEALING A DECISION TO THE BOARD

1. *Be familiar with all relevant material in the DEP record.* A license application file is public information, subject to any applicable statutory exceptions, made easily accessible by DEP. Upon request, the DEP will make the material available during normal working hours, provide space to review the file, and provide opportunity for photocopying materials. There is a charge for copies or copying services.
2. *Be familiar with the regulations and laws under which the application was processed, and the procedural rules governing your appeal.* DEP staff will provide this information on request and answer questions regarding applicable requirements.
3. *The filing of an appeal does not operate as a stay to any decision.* If a license has been granted and it has been appealed the license normally remains in effect pending the processing of the appeal. A license holder may proceed with a project pending the outcome of an appeal but the license holder runs the risk of the decision being reversed or modified as a result of the appeal.

WHAT TO EXPECT ONCE YOU FILE A TIMELY APPEAL WITH THE BOARD

The Board will formally acknowledge receipt of an appeal, including the name of the DEP project manager assigned to the specific appeal. The notice of appeal, any materials accepted by the Board Chair as supplementary evidence, and any materials submitted in response to the appeal will be sent to Board members with a recommendation from DEP staff. Persons filing appeals and interested persons are notified in advance of the date set for Board consideration of an appeal or request for public hearing. With or without holding a public hearing, the Board may affirm, amend, or reverse a Commissioner decision or remand the matter to the Commissioner for further proceedings. The Board will notify the appellant, a license holder, and interested persons of its decision.

II. JUDICIAL APPEALS

Maine law generally allows aggrieved persons to appeal final Commissioner or Board licensing decisions to Maine's Superior Court, see 38 M.R.S.A. § 346(1); 06-096 CMR 2; 5 M.R.S.A. § 11001; & M.R. Civ. P 80C. A party's appeal must be filed with the Superior Court within 30 days of receipt of notice of the Board's or the Commissioner's decision. For any other person, an appeal must be filed within 40 days of the date the decision was rendered. Failure to file a timely appeal will result in the Board's or the Commissioner's decision becoming final.

An appeal to court of a license decision regarding an expedited wind energy development, a general permit for an offshore wind energy demonstration project, or a general permit for a tidal energy demonstration project may only be taken directly to the Maine Supreme Judicial Court. See 38 M.R.S.A. § 346(4).

Maine's Administrative Procedure Act, DEP statutes governing a particular matter, and the Maine Rules of Civil Procedure must be consulted for the substantive and procedural details applicable to judicial appeals.

ADDITIONAL INFORMATION

If you have questions or need additional information on the appeal process, for administrative appeals contact the Board's Executive Analyst at (207) 287-2452 or for judicial appeals contact the court clerk's office in which your appeal will be filed.

Note: The DEP provides this INFORMATION SHEET for general guidance only; it is not intended for use as a legal reference. Maine law governs an appellant's rights.

DEP INFORMATION SHEET

Appealing a Department Licensing Decision

Dated: March 2012 Contact: (207) 287-2811

SUMMARY

There are two methods available to an aggrieved person seeking to appeal a licensing decision made by the Department of Environmental Protection's ("DEP") Commissioner: (1) in an administrative process before the Board of Environmental Protection ("Board"); or (2) in a judicial process before Maine's Superior Court. An aggrieved person seeking review of a licensing decision over which the Board had original jurisdiction may seek judicial review in Maine's Superior Court.

A judicial appeal of final action by the Commissioner or the Board regarding an application for an expedited wind energy development (35-A M.R.S.A. § 3451(4)) or a general permit for an offshore wind energy demonstration project (38 M.R.S.A. § 480-HH(1)) or a general permit for a tidal energy demonstration project (38 M.R.S.A. § 636-A) must be taken to the Supreme Judicial Court sitting as the Law Court.

This INFORMATION SHEET, in conjunction with a review of the statutory and regulatory provisions referred to herein, can help a person to understand his or her rights and obligations in filing an administrative or judicial appeal.

I. ADMINISTRATIVE APPEALS TO THE BOARD

LEGAL REFERENCES

The laws concerning the DEP's *Organization and Powers*, 38 M.R.S.A. §§ 341-D(4) & 346, the *Maine Administrative Procedure Act*, 5 M.R.S.A. § 11001, and the DEP's *Rules Concerning the Processing of Applications and Other Administrative Matters* ("Chapter 2"), 06-096 CMR 2 (April 1, 2003).

HOW LONG YOU HAVE TO SUBMIT AN APPEAL TO THE BOARD

The Board must receive a written appeal within 30 days of the date on which the Commissioner's decision was filed with the Board. Appeals filed after 30 calendar days of the date on which the Commissioner's decision was filed with the Board will be rejected.

HOW TO SUBMIT AN APPEAL TO THE BOARD

Signed original appeal documents must be sent to: Chair, Board of Environmental Protection, c/o Department of Environmental Protection, 17 State House Station, Augusta, ME 04333-0017; faxes are acceptable for purposes of meeting the deadline when followed by the Board's receipt of mailed original documents within five (5) working days. Receipt on a particular day must be by 5:00 PM at DEP's offices in Augusta; materials received after 5:00 PM are not considered received until the following day. The person appealing a licensing decision must also send the DEP's Commissioner a copy of the appeal documents and if the person appealing is not the applicant in the license proceeding at issue the applicant must also be sent a copy of the appeal documents. All of the information listed in the next section must be submitted at the time the appeal is filed. Only the extraordinary circumstances described at the end of that section will justify evidence not in the DEP's record at the time of decision being added to the record for consideration by the Board as part of an appeal.

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAUL R. LEPAGE
GOVERNOR

PAUL MERCER
COMMISSIONER

June 2017

Bruns Brothers, Inc.
Attn: Ken Bruns
175 Portland Road
Gray, ME 04039

RE: Stormwater Management Law Application, Gray, DEP #L-27368-NJ-A-N

Dear Mr. Bruns:

Please find enclosed a signed copy of your Department of Environmental Protection land use permit. You will note that the permit includes a description of your project, findings of fact that relate to the approval criteria the Department used in evaluating your project, and conditions that are based on those findings and the particulars of your project. Please take several moments to read your permit carefully, paying particular attention to the conditions of the approval. The Department reviews every application thoroughly and strives to formulate reasonable conditions of approval within the context of the Department's environmental laws. You will also find attached some materials that describe the Department's appeal procedures for your information.

If you have any questions about the permit, please contact me directly. I can be reached at (207) 523-9807 or at david.cherry@maine.gov.

Sincerely,

David Cherry, Project Manager
Bureau of Land Resources

pc: File

parking area. The parcel is approximately 12 acres in size and is identified as Lots 36-25 and 36-21 on Map 59 of the Town of Gray's tax maps.

2. STORMWATER STANDARDS:

The project includes approximately 3.56 acres of developed area of which 2.7 acres is impervious area. It lies within the watershed of the Pleasant River. The applicant submitted a stormwater management plan based on the Basic and General Standards contained in Department Rules, Chapter 500. The proposed stormwater management system consists of two underdrain soil filters.

A. Basic Standards:

(1) Erosion and Sedimentation Control: The applicant submitted an Erosion and Sedimentation Control Plan that is based on the performance standards contained in Appendix A of Chapter 500 and the Best Management Practices outlined in the Maine Erosion and Sediment Control BMPs, which were developed by the Department. This plan and plan sheets containing erosion control details were reviewed by, and revised in response to the comments of, the Bureau of Land Resources (BLR).

Erosion control details will be included on the final construction plans and the erosion control narrative will be included in the project specifications to be provided to the construction contractor.

(2) Inspection and Maintenance: The applicant submitted a maintenance plan that addresses both short and long-term maintenance requirements. The maintenance plan is based on the standards contained in Appendix B of Chapter 500. This plan was reviewed by, and revised in response to the comments of, BLR. The applicant will be responsible for the maintenance of all common facilities including the stormwater management system.

Storm sewer grit and sediment materials removed from stormwater control structures during maintenance activities must be disposed of in compliance with the Maine Solid Waste Management Rules.

(3) Housekeeping: The proposed project will comply with the performance standards outlined in Appendix C of Chapter 500.

Based on BLR's review of the erosion and sedimentation control plan and the maintenance plan, the Department finds that the proposed project meets the Basic Standards contained in Chapter 500(4)(B).

B. General Standards:

The applicant's stormwater management plan includes general treatment measures that will mitigate for the increased frequency and duration of channel erosive flows due to

runoff from smaller storms, provide for effective treatment of pollutants in stormwater, and mitigate potential temperature impacts. This mitigation is being achieved by using Best Management Practices that will control runoff from no less than 95% of the impervious area and no less than 80% of the developed area.

The stormwater management system proposed by the applicant was reviewed by, and revised in response to comments from, BLR. After a final review, BLR commented that the proposed stormwater management system is designed in accordance with the Chapter 500 General Standards and recommended that the applicant's design engineer or a third-party engineer oversee the construction of the two underdrain soil filters to insure that they are installed in accordance with the details and notes specified on the approved plans. Within 30 days from completion of the entire system or at least once per year, the applicant must submit a log of inspection reports detailing the items inspected, photographs taken, and the dates of each inspection to the BLR for review.

Based on the stormwater system's design and BLR's review, the Department finds that the applicant has made adequate provision to ensure that the project will meet the Chapter 500 Basic and General Standards.

The Department further finds that the proposed project will meet the Chapter 500 standards for: discharge to freshwater wetlands.

BASED on the above findings of fact, and subject to the conditions listed below, the Department makes the following conclusions pursuant to 38 M.R.S. § 420-D, and Chapters 500, 501 and 502 of the Department's Regulations:

A. The applicant has made adequate provision to ensure that the project will meet the Chapter 500 Basic Standards for: (1) erosion and sediment control; (2) inspection and maintenance; (3) housekeeping; and (4) grading and construction activity provided that storm sewer grit is disposed of properly as discussed in Finding 2A.

B. The applicant has made adequate provision to ensure that the project will meet the Chapter 500 General Standards provided that the construction of the underdrained soil filters is overseen and documented as discussed in Finding 2B.

C. The applicant has made adequate provision to ensure that the project will meet the Chapter 500 standards for discharge to freshwater wetlands.

THEREFORE, the Department APPROVES the above noted application of BRUNS BROTHERS, INC. to construct a stormwater management system as described above in Gray, Maine, SUBJECT TO THE FOLLOWING CONDITIONS, and all applicable standards and regulations:

1. The Standard Conditions of Approval, a copy attached.

2. In addition to any specific erosion control measures described in this order, the applicant shall take all necessary actions to ensure that its activities or those of its agents do not result in noticeable erosion of soils or fugitive dust emissions on the site during the construction and operation of the project covered by this approval.

3. Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

4. Storm sewer grit and sediment materials removed from stormwater control structures shall be disposed of in compliance with the Maine Solid Waste Management Rules.

5. The applicant shall retain the design engineer or a third-party engineer to oversee the construction of the two underdrained soil filters according to the details and notes specified on the approved plans. Within 30 days of completion of the entire system or at least once per year, the applicant shall submit a log of inspection reports detailing the items inspected, photographs taken, and dates of each inspection to the BLR for review.

THIS APPROVAL DOES NOT CONSTITUTE OR SUBSTITUTE FOR ANY OTHER REQUIRED STATE, FEDERAL OR LOCAL APPROVALS NOR DOES IT VERIFY COMPLIANCE WITH ANY APPLICABLE SHORELAND ZONING ORDINANCES.

DONE AND DATED IN AUGUSTA, MAINE, THIS 2ND DAY OF JUNE, 2017.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Mark Bergeron
For: Paul Mercer, Commissioner

Filed
JUN 02 2017
State of Maine
Board of Environmental Protection

PLEASE NOTE THE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES.

DC/L27368AN/ATS#81634

STORMWATER STANDARD CONDITIONS

STRICT CONFORMANCE WITH THE STANDARD AND SPECIAL CONDITIONS OF THIS APPROVAL IS NECESSARY FOR THE PROJECT TO MEET THE STATUTORY CRITERIA FOR APPROVAL

Standard conditions of approval. Unless otherwise specifically stated in the approval, a department approval is subject to the following standard conditions pursuant to Chapter 500 Stormwater Management Law.

(1) Approval of variations from plans. The granting of this approval is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from these plans, proposals, and supporting documents must be reviewed and approved by the department prior to implementation. Any variation undertaken without approval of the department is in violation of 38 M.R.S.A. §420-D(8) and is subject to penalties under 38 M.R.S.A. §349.

(2) Compliance with all terms and conditions of approval. The applicant shall submit all reports and information requested by the department demonstrating that the applicant has complied or will comply with all terms and conditions of this approval. All preconstruction terms and conditions must be met before construction begins.

(3) Advertising. Advertising relating to matters included in this application may not refer to this approval unless it notes that the approval has been granted WITH CONDITIONS, and indicates where copies of those conditions may be obtained.

(4) Transfer of project. Unless otherwise provided in this approval, the applicant may not sell, lease, assign, or otherwise transfer the project or any portion thereof without written approval by the department where the purpose or consequence of the transfer is to transfer any of the obligations of the developer as incorporated in this approval. Such approval may only be granted if the applicant or transferee demonstrates to the department that the transferee agrees to comply with conditions of this approval and the proposals and plans contained in the application and supporting documents submitted by the applicant. Approval of a transfer of the permit must be applied for no later than two weeks after any transfer of property subject to the license.

(5) Time frame for approvals. If the construction or operation of the activity is not begun within four years, this approval shall lapse and the applicant shall reapply to the department for a new approval. The applicant may not begin construction or operation of the project until a new approval is granted. A reapplication for approval may include information submitted in the initial application by reference. This approval, if construction is begun within the four-year time frame, is valid for seven years. If construction is not completed within the seven-year time frame, the applicant must reapply for, and receive, approval prior to continuing construction.

(6) Certification. Contracts must specify that "all work is to comply with the conditions of the Stormwater Permit." Work done by a contractor or subcontractor pursuant to this approval may not begin before the contractor and any subcontractors have been shown a copy of this approval with the conditions by the developer, and the owner and each contractor and subcontractor has certified, on a form provided by the department, that the approval and conditions have been received and read, and that the work will be carried out in accordance

with the approval and conditions. Completed certification forms must be forwarded to the department.

(7) Maintenance. The components of the stormwater management system must be adequately maintained to ensure that the system operates as designed, and as approved by the department.

(8) Recertification requirement. Within three months of the expiration of each five-year interval from the date of issuance of the permit, the permittee shall certify the following to the department.

(a) All areas of the project site have been inspected for areas of erosion, and appropriate steps have been taken to permanently stabilize these areas.

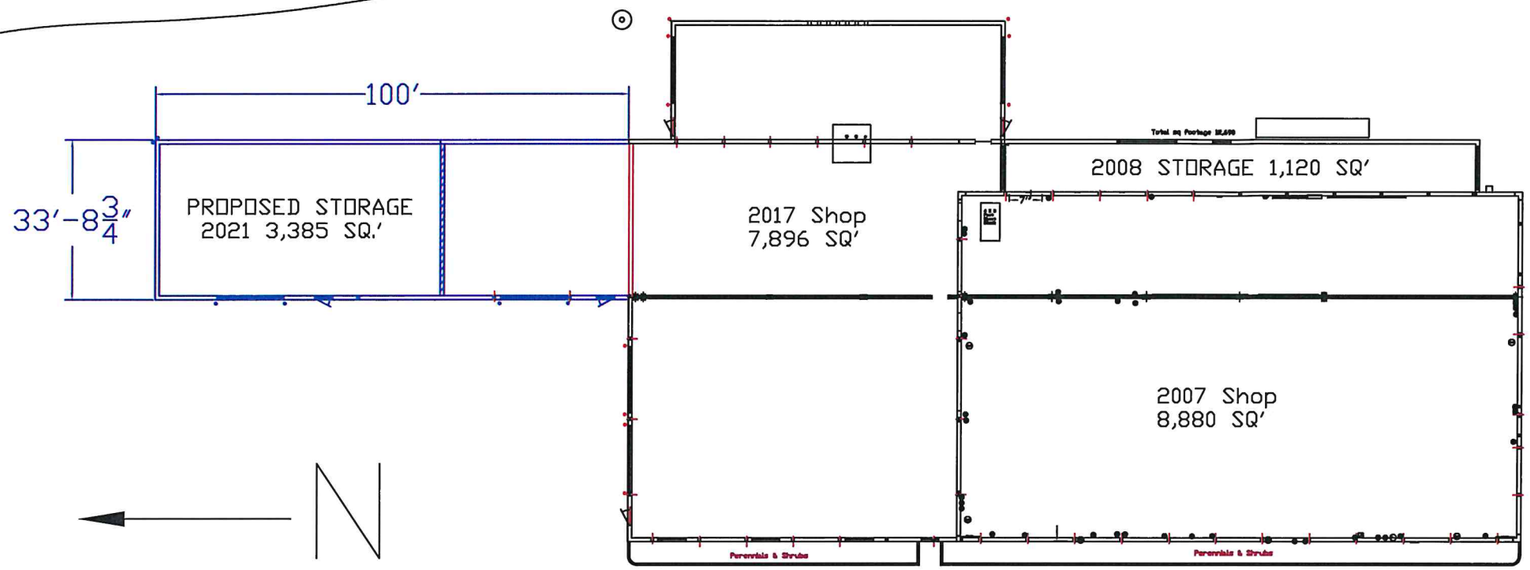
(b) All aspects of the stormwater control system have been inspected for damage, wear, and malfunction, and appropriate steps have been taken to repair or replace the facilities.

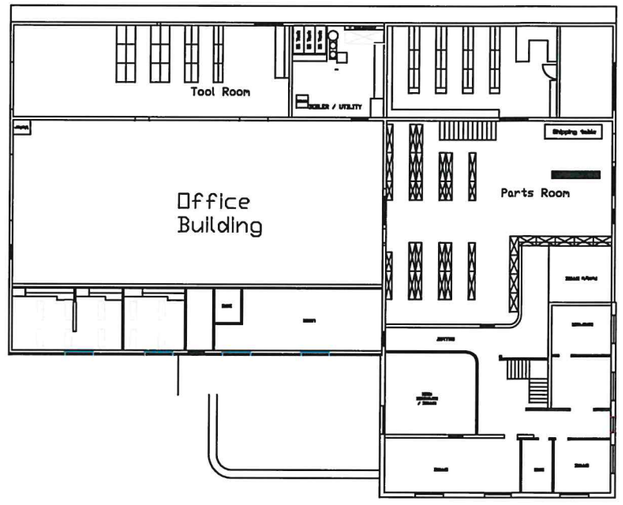
(c) The erosion and stormwater maintenance plan for the site is being implemented as written, or modifications to the plan have been submitted to and approved by the department, and the maintenance log is being maintained.

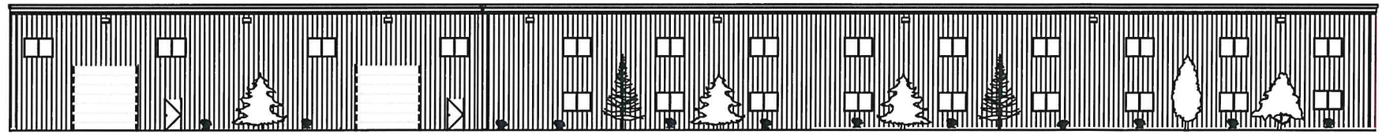
(9) Severability. The invalidity or unenforceability of any provision, or part thereof, of this permit shall not affect the remainder of the provision or any other provisions. This permit shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

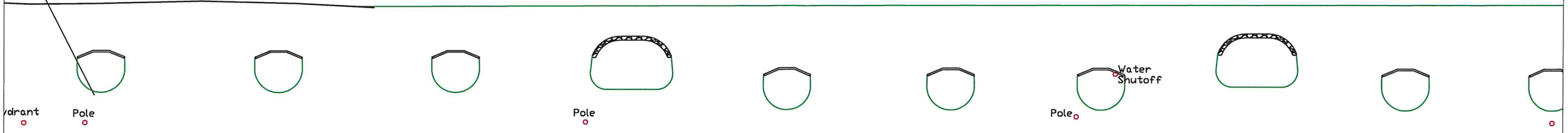
November 16, 2005 (revised December 27, 2011)

Scale 1/32″=12″ Site Plan For Bruns Properties LLC Addition









PORTLAND ROAD

Approved by the
Town of Gray
Planning Board

Signatures	Date

Property
Not part of
Bruns Bros

Bruns Properties LLC
4.50 Acres

Bruns Properties LLC
7.62 Acres

NORTH POND TREATMENT

SOUTH POND TREATMENT

LONG HILL

Site

Scale 1=1200 Site Plan For
Bruns Properties LLC Addition

100'

33'-9¾"

PROPOSED STORAGE
2021 3,383 SQ.'

2017 Shop
7,896 SQ'

2008 STORAGE 1,125 SQ'

2007 Shop
8,880 SQ'

OFFICE
3,648 SQ

BERM

N

PORTLAND ROAD

PLANNING BOARD/STAFF REVIEW COMMITTEE APPLICATION
TOWN OF GRAY MAINE

PROPERTY TO BE DEVELOPED			
Property Location/Address	Woodcock Drive, Gray	Property Map/Lot	44 .32 .112 .000
Zoning District	Medium Density	Lot Acreage	67.67
Owner Name	Allen Hamilton and Ben Grover	Tax Sheet	
Owner Address	170 Shaker Road, Gray, Maine	Owner Phone	207-650-0209
APPLICANT			
Name (IF different than owner)		Contact Phone Number	
Mailing Address		Alternate Phone Number	
Mailing City/State/Zip		Fax Number	
Email Address			
AGENT/CONSULTANT			
Name	Charlie Burnham	Contact Phone Number	207-712-6990
Mailing Address	541 US Route One	Alternate Phone Number	
Mailing City/State/Zip	Freeport, Maine, 04032	Fax Number	
Email Address	charlie@arc-maine.com		

PROJECT

The undersigned requests that the Town of Gray Planning Board consider the following application for:

☒ **Subdivision**
- ✕ Sketch Plan Review
- ☐ Preliminary Plan Review (Major)
- ☐ Final Plan Review (Major)
- ☐ Minor

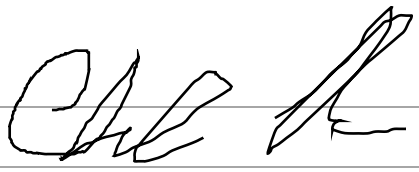
☐ **Site Plan Review**
- ☐ Pre-Application Conference
- ☐ Minor
- ☐ Major

☐ **Shoreland Zoning Permit**

☐ **Other (specify)**
- Conditional Use
- Amendment
- Extension
- Workshop
- Contract Zone Request

Project Description / Comments:

The applicant is requesting to divide the 67.67 acres into fourteen single-family residential lots. The remaining land will consist of open space and land to be developed in the future. The open space will consist of trails and future ball fields.

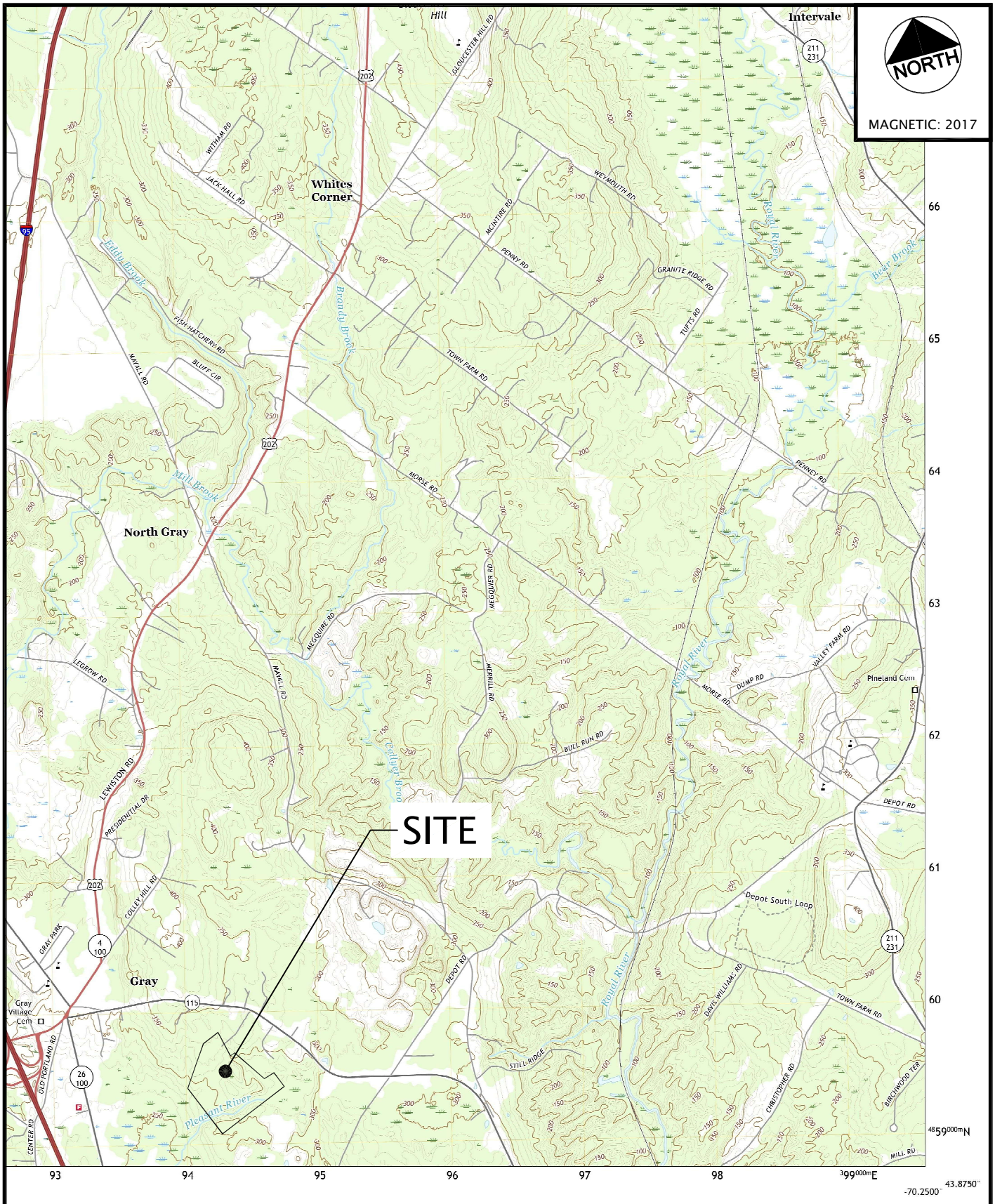
Applicant Signature  **Date** 8/18/2021

PROJECT DESCRIPTION

Allen Hamilton and Ben Grover have purchased approximately 68 acres at the end of Woodcock Drive in Gray, Maine. The property is located within the Medium Density Zone and will be served by Public Water.

As part of the first phase, a Contract Zone was created allowing for a slightly reduced road standard. Part of the agreement was that an approximately 12-acre parcel beyond the Pleasant River would be given to the Town of Gray. This portion of the project will include establishing the road that will connect to said parcel and serve 14 additional house lots.

The project will be served by Public Water with private septic on each lot. There will be an additional 1,364 linear feet of road as part of the project. As part of the CZA the owner has "the ability to exceed the maximum length of a dead-end street as established in 401.13.16.B.2.f.ii of Gray Subdivision Ordinance." In addition, the CZA permits the owner to add 37 dwelling units in addition to the 13 recently approved residential lots (50 total new dwelling units).



WOODCOCK DRIVE GRAY, MAINE 04039	SITE LOCATION MAP TAX MAP: 44 LOT 32-112

Atlantic Resource Consultants
Engineering Strategies and Solutions

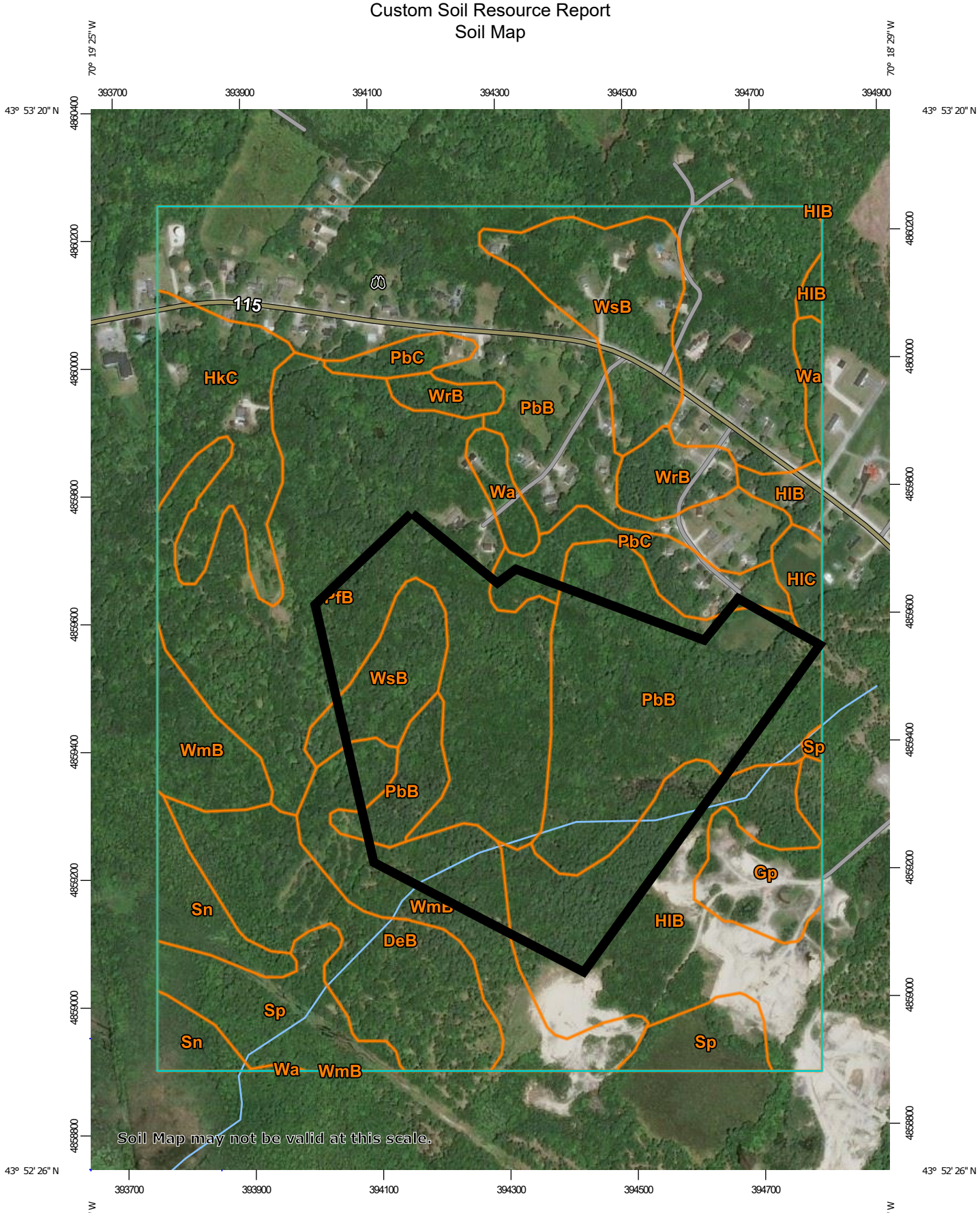
DRAWN: CB	DATE: MAY 2020	FIGURE 1
DESIGNED: CB	SCALE: N/A	
CHECKED:	JOB NO. 20-012	
FILE NAME: USGS		

NET RESIDENTIAL DENSITY CALCULATIONS

Proposed

Total Area	**1,324,800**	**SQFT**
Unbuildable Land	**318,515**	**SQFT**
ROW	89,635	SQFT
Wetlands	55,895	SQFT
Steep Slopes (25%)	172,985	SQFT
Net Residential Area	**1,006,285**	**SQFT**
Minimum Lot Area	40,000	SQFT
Number of Units Allowed	25	
Number of Lots	**14**	
Open Space	**780,718**	**SQFT**
Percent Open Space (30% Required)	59%	
Percent Usable Open Space (15% Required)	30%	

Custom Soil Resource Report
Soil Map



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: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 16, Sep 16, 2019

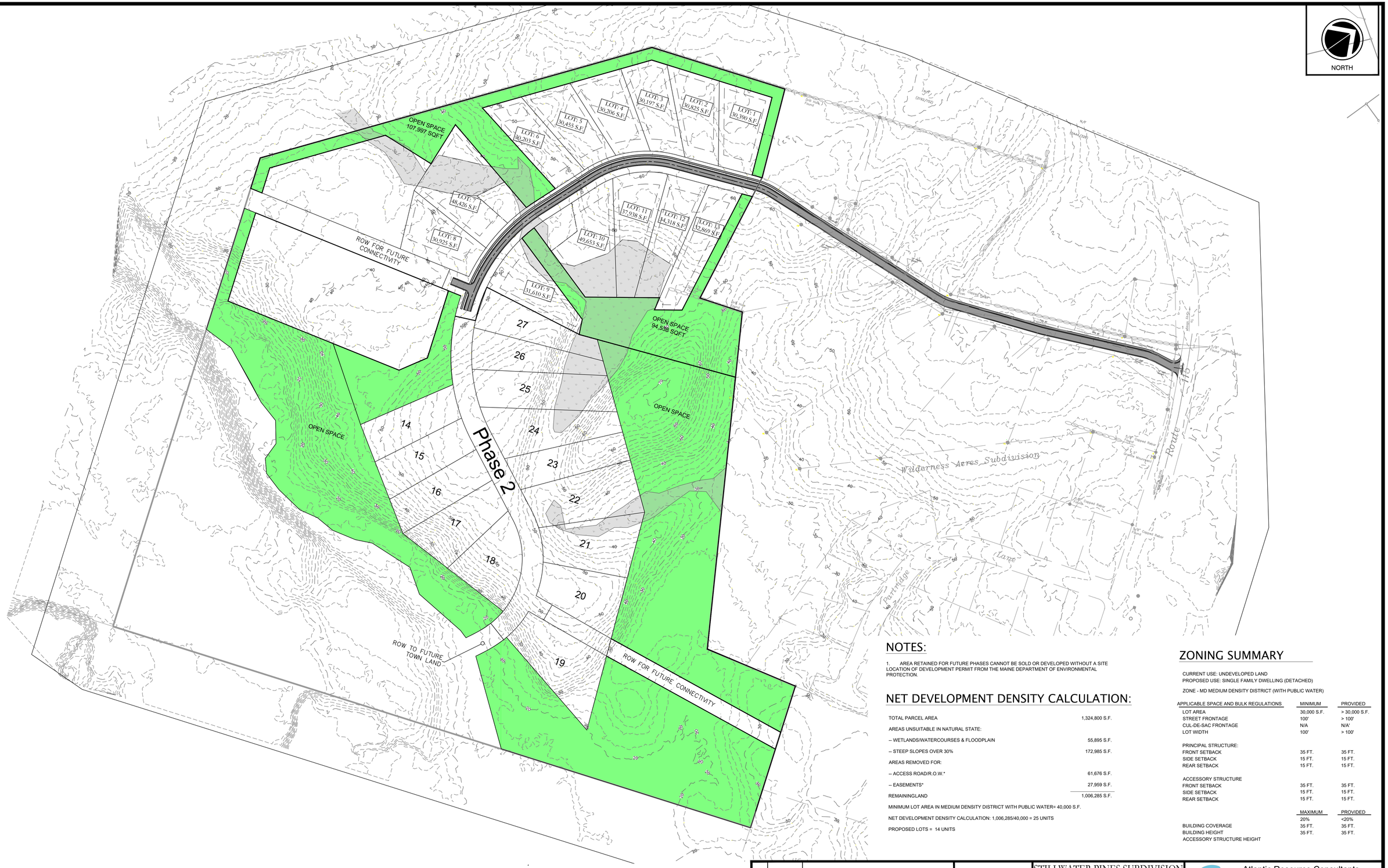
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 7, 2019—Jul 2, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
DeB	Deerfield loamy fine sand, 3 to 8 percent slopes	21.8	6.2%
Gp	Gravel pits	7.7	2.2%
HkC	Hermon sandy loam, 8 to 20 percent slopes, extremely stony	16.0	4.6%
HlB	Hinckley loamy sand, 3 to 8 percent slopes	36.6	10.4%
HlC	Hinckley loamy sand, 8 to 15 percent slopes	2.6	0.7%
PbB	Paxton fine sandy loam, 3 to 8 percent slopes	107.2	30.6%
PbC	Paxton fine sandy loam, 8 to 15 percent slopes	10.6	3.0%
PfB	Paxton very stony fine sandy loam, 3 to 8 percent slopes	63.6	18.2%
Sn	Scantic silt loam, 0 to 3 percent slopes	8.1	2.3%
Sp	Sebago mucky peat	16.4	4.7%
Wa	Walpole fine sandy loam	4.5	1.3%
WmB	Windsor loamy sand, 0 to 8 percent slopes	26.1	7.5%
WrB	Woodbridge fine sandy loam, 0 to 8 percent slopes	6.8	1.9%
WsB	Woodbridge very stony fine sandy loam, 0 to 8 percent slopes	22.4	6.4%
Totals for Area of Interest		**350.4**	**100.0%**



NOTES:

1. AREA RETAINED FOR FUTURE PHASES CANNOT BE SOLD OR DEVELOPED WITHOUT A SITE LOCATION OF DEVELOPMENT PERMIT FROM THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

NET DEVELOPMENT DENSITY CALCULATION:

TOTAL PARCEL AREA	1,324,800 S.F.
AREAS UNSUITABLE IN NATURAL STATE:	
-- WETLANDS/WATERCOURSES & FLOODPLAIN	55,895 S.F.
-- STEEP SLOPES OVER 30%	172,985 S.F.
AREAS REMOVED FOR:	
-- ACCESS ROAD/R.O.W.*	61,676 S.F.
-- EASEMENTS*	27,959 S.F.
REMAININGLAND	1,006,285 S.F.

MINIMUM LOT AREA IN MEDIUM DENSITY DISTRICT WITH PUBLIC WATER= 40,000 S.F.

NET DEVELOPMENT DENSITY CALCULATION: 1,006,285/40,000 = 25 UNITS

PROPOSED LOTS = 14 UNITS

ZONING SUMMARY

CURRENT USE: UNDEVELOPED LAND
PROPOSED USE: SINGLE FAMILY DWELLING (DETACHED)

ZONE - MD MEDIUM DENSITY DISTRICT (WITH PUBLIC WATER)

APPLICABLE SPACE AND BULK REGULATIONS	MINIMUM	PROVIDED
LOT AREA	30,000 S.F.	> 30,000 S.F.
STREET FRONTAGE	100'	> 100'
CUL-DE-SAC FRONTAGE	N/A	N/A'
LOT WIDTH	100'	> 100'
PRINCIPAL STRUCTURE:		
FRONT SETBACK	35 FT.	35 FT.
SIDE SETBACK	15 FT.	15 FT.
REAR SETBACK	15 FT.	15 FT.
ACCESSORY STRUCTURE		
FRONT SETBACK	35 FT.	35 FT.
SIDE SETBACK	15 FT.	15 FT.
REAR SETBACK	15 FT.	15 FT.
	MAXIMUM	PROVIDED
BUILDING COVERAGE	20%	<20%
BUILDING HEIGHT	35 FT.	35 FT.
ACCESSORY STRUCTURE HEIGHT		

LEGEND

EXISTING	DESCRIPTION	PROPOSED
	BOUNDARY LINE/R.O.W.	
	ABUTTER LINE/R.O.W.	
	SETBACK	
	EASEMENT	
	IRON PIPE/ROD	

SUBMITTED FOR
SKETCH PLAN REVIEW

SCALE

0 60 120 240

SCALE in FEET
1"=120'

OWNER OF RECORD

ALLEN HAMILTON (ADD BOOK AND PAGE)

REV	DATE	DESCRIPTION
1	8/18/2021	SKETCH PLAN SUBMISSION

REVISIONS

STILLWATER PINES SUBDIVISION
WOODCOCK DRIVE, MAINE 04261

SKETCH PLAN

ALLEN HAMILTON & BEN GROVER
170 SHAKER ROAD
GRAY, MAINE 04039

Atlantic Resource Consultants
541 US Route One
Freeport, ME 04032
Tel: 207.869.9050

DRAWN:	CEB	DATE:	JULY 2021
DESIGNED:	CEB	SCALE:	1" = 120'
CHECKED:	CEB	JOB NO.	20-012
FILE NAME:			
SHEET:	F-1		

S:\20-012 Woodcock Drive Subdivision\Drawings\20-012 Base CEB.dwg