

AGENDA

CITY COUNCIL WORK SESSION

September 26, 2022

3:00 PM, City Council Chambers
427 Rio Grande Place, Aspen



Zoom Meeting Instructions

Join from a PC, Mac, iPad, iPhone or Android device:

Please click this URL to join: <https://us06web.zoom.us/j/81970245569?pwd=S01tNkwxVnBKZIYraW1TTEIVMzhrQT09>

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Webinar ID: 819 7024 5569

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I. Work Session

I.A Building Code Adoption

[9-26-22_Code_Adoption_Work_Session_Memo_Final.pdf](#)

[Exhibit A_Utility Data Analysis Report PitCo 2018-4-24.pdf](#)

I.B Review of Lumberyard Development Application

[Memo Council WS Lumberyard Application 9-26-2022 r1.pdf](#)

[Exhibit A_-_Lumberyard_Application_Slides_9-26-2022.pdf](#)



MEMORANDUM

TO: Mayor Torre and Aspen City Council

FROM: Bonnie Muhigirwa, Interim Chief Building Official
Denis Murray, Plans Examination Manager
Nick Thompson, Plans Examiner III

THROUGH: Phillip Supino, Community Development Director

MEMO DATE: September 19, 2022

MEETING DATE: September 26, 2022

RE: Work Session Discussion – 2021 Building Code Adoption

REQUEST OF COUNCIL:

This work session’s purpose is to seek input and direction on important topic areas relating to the adoption of the next building code.

This memo will provide an overview of the building code adoption process and the work that has been done to date. It will also highlight proposed Aspen-specific amendments in the areas of resiliency and carbon emissions in the built environment. We will then seek council input on the path to building electrification and net zero.

OVERVIEW AND TIMELINE OF BUILDING CODE ADOPTION:

The International Codes (I-Codes), are a body of coordinated codes adopted widely throughout the United States to ensure that the built environment is safe, accessible, sustainable, and resilient. New building codes are released every three years, and Aspen traditionally adopts new codes every six years. Currently Aspen is on the 2015 International Codes as adopted by Council in 2016, and staff is preparing for the adoption of the 2021 codes.

During a Council work session in May 2021, staff asked for direction on what amendments to pursue as part of this code update. The direction received was to develop a robust energy code that would go above and beyond the national standard and other nearby jurisdictions to align with Council’s climate action goals and to focus on reducing carbon emissions. Our target is to have the ordinance ready for first reading by the end of 2022.

As staff has worked to identify the areas that would be most appropriate and impactful to the reduction of carbon as local amendments to the baseline 2021 Energy Code, we have focused on electrification, energy conservation, and renewable off-sets.

WORK TO DATE:

The 2021 International Codes will update Aspen's current 2015 codes to improve resiliency, energy efficiency, equity, and safety. Some examples are allowances for gender neutral toilet rooms, new uses for carbon storing cross laminated timber, fire safety requirements for battery energy storage, and modernized handicap accessibility provisions.

Over the past 18 months the building department has worked with consultants and other City staff in Planning, Utilities, and Environmental Health to draft Aspen specific amendments to make further improvements with a focus on wildfire resiliency and energy code policies which align with the science-based targets for reducing emissions and that are also realistic and achievable in Aspen's climate and complex built environment. This process is being informed by our participation in the creation of the upcoming 2024 International Codes in an effort to bring a package of Aspen amendments that are forward thinking.

The first roll out of this effort came with the Residential Demolition and Redevelopment Standards adopted in Ordinance 13, 2022 (Residential Building response to the moratorium). Many of the energy performance requirements that were placed on the single-family residential projects receiving demolition allotments will now be required for all new construction. Ordinance 13 also did significant work to regulate construction waste and took the first steps in addressing embodied carbon. Because of the complexity of the interrelationship between the I-codes, climate policy, management, and the quickly evolving field of building science and available resources, staff anticipates the work around these topics will be ongoing after the adoption of the new codes.

Another area where staff is ready to propose Aspen amendments to the 2021 baseline codes is to increase the resiliency of buildings to the impacts of wildfires and power outages. Wildfire danger continues to rise exponentially with direct threats to buildings and their occupants as well as threats to the reliability of the energy grid. Recommended measures to address these issues include requiring all new construction to be fire sprinklered (previously there was an exception for buildings under 5,000 square feet), to use fire-resistive construction techniques from the International Wild Land-Urban Interface Code (the national standard for mitigating the threat of wildfire to buildings), and to be pre-wired for on-site power generation and energy storage. The draft ordinance being developed by staff includes these recommended amendments.

STAFF DISCUSSION:

Carbon Reduction

Electrification, Energy Conservation, and Renewable Offsets are the three keystones staff is focusing on to reduce the operational emissions of our built environment. The draft ordinance includes meaningful amendments in these areas to address Council's carbon reduction goals as stated in the Climate Action Plan.

Electrification

Aspen is in a unique situation with regards to electrification. We have an in-house utility with a 100% renewable grid that serves roughly half the town; the other half is served by Holy Cross with a 44% renewable grid that is planned to be 100% by 2030. This means that by 2030, an all-electric building would have net zero operational emissions, regardless of energy use, making electrification by far the single biggest impact tool we have for reducing the emissions of buildings and the only viable one to reach our goal of eventual zero emissions. We will need to fully electrify our buildings eventually, but there will be disruption and unintended consequences if electrification is not done thoughtfully and collaboratively.

The benefit of electrification largely revolves around the use of highly efficient heat pumps, which are essentially air conditioners that are able to run in reverse to move heat from one place to another. This technology is improving to the point where it is possible to pull heat from below freezing temperatures to provide heat for a building. Heat pumps are far more efficient than gas or old-fashioned electric resistance heaters but they are not able to create high temperature heat to the same degree. Some of the unique comfort and amenity desires of Aspen homeowners in our cold climate are not easily met with current heat pump technology. While these amenity loads could be achieved with heat pumps supplemented by electric resistance, the electric demand and system complexity would increase. This increased electric demand may necessitate additional on-site transformers for existing construction with tight site constraints. Heat pumps also have spatial, acoustic, and visual impacts because they require an increase in the size and number of condensing units on lots and roof tops. Staff is collaborating with our utility providers, and both have said that their grids can meet the increased electric load demand but there may be challenges in keeping the grid efficient, in finding renewable energy to purchase to meet the increased load, and in maintaining affordability and equity for customers.

All of these challenges to electrification are solvable, but there needs to be a thoughtful and phased approach for it to be successful. The Building Code is not the only tool the City will need to deploy to support and achieve electrification policies. Staff has been considering the feasibility of an all-electric mandate for new residential construction but feel there are too many questions to recommend that approach at this time. Staff recommends that a multi-departmental electrification task force with subject experts be formed to advise on a comprehensive building electrification roll-out plan.

While the larger electrification issue will be a long-term conversation and process with the community, there are steps that can begin our response with this 2021 code adoption. We propose that all new construction be “electric ready,” meaning new buildings would be pre-wired and have panel and transformer capacity so they can convert to fully electric in the future. Existing buildings undergoing remodels would also be pushed to be made electric ready where feasible. We have also proposed incentives that will reward early adapters who design all-electric buildings before it’s required.

Energy Conservation

The energy code has incrementally reduced the energy use of buildings over time by regulating the efficiency of the building thermal envelope (insulation, windows, and air tightness), heating and cooling equipment, and lighting. The new 2021 International Energy Conservation Code (IECC) is estimated to be roughly 9% more efficient than our currently adopted and amended 2015 IECC. In order to meet climate action goals, staff recommends requiring a significantly more robust envelope for new construction, which models show to be 20-30% more efficient than the baseline 2021 energy code. This is achieved through increasing the insulation values, limiting the percentage of allowable glazing (glass), and minimizing air leakage. Requiring a high performing building envelope is particularly valuable, because while lighting and heating/cooling systems are more readily altered, the envelope is the hardest part of the building to change and can remain in place for decades. These proposed requirements are achievable and will allow newly constructed buildings to remain high performing well into the future.

Given the adoption of demolition allotments limiting scrape and replace projects, staff anticipates an increase in the number of alteration permits to existing single family residences. Previous code editions have had very few requirements for remodeled existing buildings. The proposed new building code will establish new thresholds for levels of alteration below the demolition threshold that will trigger various energy efficiency upgrades. We are pursuing flexible options for projects in meeting these new requirements. These energy efficiency amendments will be a crucial component of reaching Aspen's emission reduction goals for the building sector.

Renewable Offsets

With the energy efficiency improvements being proposed, the energy consumed and carbon emitted will be significantly reduced but not eliminated. The Renewable Energy Mitigation Program (REMP) currently offsets the energy use of exterior amenities including snowmelt, pools, and spas by requiring an equivalent on-site renewable energy system or a payment option used to fund community renewable and efficiency projects. This payment option has a successful history of achieving a greater energy savings impact than on-site solar by a factor of 12 to 1 under CORE's stewardship.

Other mountain communities have built on Aspen's REMP program to offset additional energy using and carbon emitting amenities including outdoor heating for both commercial dining and residential, roof and gutter heat tape, and gas fireplaces (both indoor and outdoor). Staff recommends that these additional amenity energy uses be included in the REMP program to offset their energy and carbon impacts and to incentivize building owners to install them thoughtfully and only as needed. Staff also recommends placing a cap on snowmelt square footage similar to what was done in the residential demolition and redevelopment standards.

In addition, Council has expressed interest in making buildings net-zero to address climate action goals. The energy use of a building, separate from exterior energy uses and gas fireplaces, can be offset wholly or in part by using REMP as other mountain communities have done. On-site solar is typically preferred for directly offsetting a

building's remaining energy use to achieve 'net zero.' However, it is not always a realistic solution to completely offset the energy use of many of our buildings with on-site solar due to either poor solar siting or because of large amenity loads which are more than what can physically be offset on-site. Additionally, on-site solar is of limited utility to the overall grid since it produces energy during periods of low power demand. Providing an option to offset some or all a building's energy use off-site through a payment option provides predictability and flexibility to the building owner and to the Utility.

Staff has a metric for quantifying building energy using the standard of energy use per square foot modelled off a representative typical Aspen home. However, we know that actual building energy use per square foot can vary significantly in practice between large and small homes based on a 2018 Pitkin County study. Staff recommends tracking the actual energy use of buildings by enrolling new and remodeled buildings in the BIQ benchmarking program. This data can then be used to inform future policy for more accurate energy usage offsets. In the meantime, council could consider having affordable housing projects offset a lower percentage of their modeled energy usage than market-rate buildings to both account for the discrepancy in energy use density and to incentivize affordable housing.

Electrification Incentive Using Renewable Offsets

Offsetting building emissions with the REMP program presents an opportunity to take the phased electrification approach a step further. If electric buildings are required to offset their energy use at a lower level than fossil fuel powered buildings it would provide a significant financial incentive to go all electric. Additional incentives could include expedited permit review, which will require coordination with other review agencies.

In addition to the immediate impact on building emissions, having some buildings electrify now would have the additional benefit of providing much-needed data to inform future electrification policies. If a handful of buildings were to electrify voluntarily, much could be learned, particularly if those properties were to report their energy use. This could be tracked as part of the proposed enrollment of all new buildings and remodels in the Building IQ benchmarking program.

NEXT STEPS

Over the next two months staff will continue engagement and outreach activities with key stakeholders in the development community. Focus groups with designers, engineers, contractors, and building owners will provide opportunities for engagement with those impacted by the proposed changes and gather feedback on the feasibility of the proposed changes. The draft ordinance will then be shared with the Building Code Board of Appeals and then brought to Council for first reading on November 29 and second reading on December 13 of this year.

QUESTIONS FOR COUNCIL:

1. Does Council support staff's proposed phased approach for building electrification utilizing a multi-departmental task force?

2. Does Council support staff's recommendation that all new construction and alterations be added to the BIQ benchmarking program to provide better data for electrification and REMP offsets?
3. Does Council support staff's recommendation that the REMP program be expanded to include additional amenity energy uses including heat tape, exterior heating, and interior and exterior gas fireplaces?
4. Does Council support staff's recommendation that new buildings offset their energy use through the expanded REMP program?
5. Does Council support a reduced offset for affordable housing projects and for all-electric buildings to incentivize them?
6. Does Council support staff's recommendation to move forward with adoption of the 2021 I-codes with the highlighted amendments?

FINANCIAL IMPACTS: At this time, N/A

ENVIRONMENTAL IMPACTS: At this time, N/A

ALTERNATIVES: Adopt the 2021 building codes as written with no local amendments. Council may also direct staff to explore additional or alternative amendments and delay the option of new codes until sometime in 2023.

RECOMMENDATIONS: Direct staff to return with an ordinance for first reading which includes the amendments as identified by staff.

CITY MANAGER COMMENTS: N/A

EXHIBITS:

Exhibit A – 2018 Pitkin County Study: Utility Data Analysis Report PitCo 2018-4-24.pdf



Pitkin County Energy Use Utility Data Analysis

Report prepared by:
August Hasz, P.E.
April 23, 2018

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Section 2: Graphs
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Section 1: Goals and Key Findings

Goal:

Review energy data provided by gas and electric utility providers to determine an average energy use per area of residential property. If possible, determine if there is a correlation between home size and energy use per area of home. The common expectation is that as a home increases in size, the energy used per area (per square foot, ft²) of home will decrease. Anecdotal evidence has previously shown the opposite.

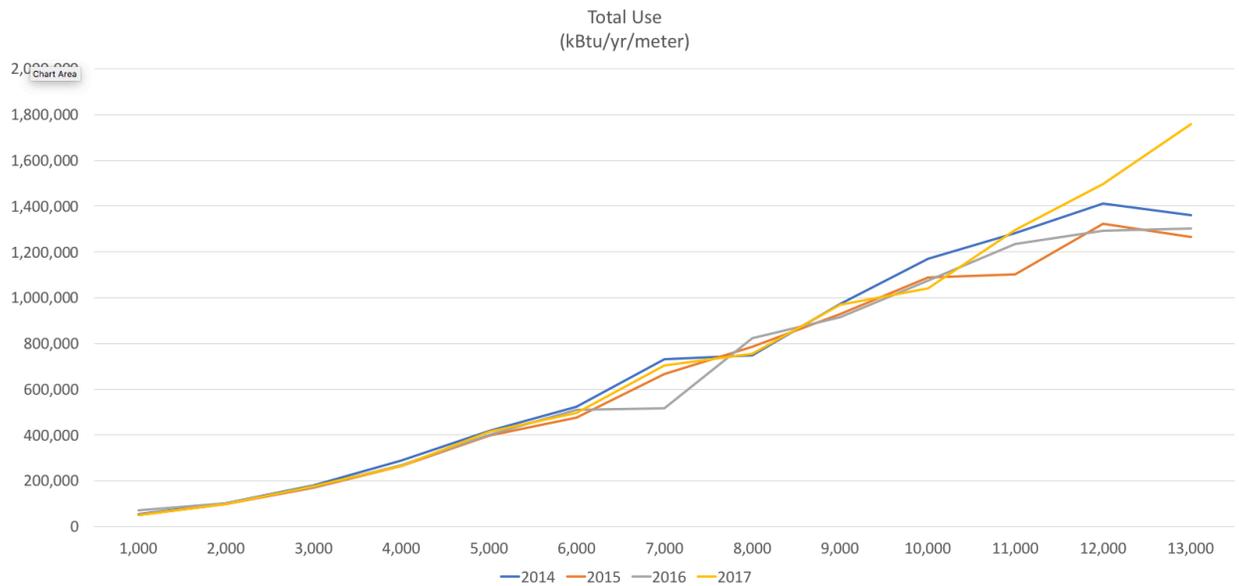
Key Findings:

- Holy Cross Energy and Black Hills Energy provided a data from nearly 900 homes spanning 4 years (2014 through 2017), for a total of 3,577 data records. All homes are located in Pitkin County.
- There is a strong correlation between home size and energy use per area (expressed as kBtu/ft²/yr). In general, larger homes use more energy per square foot.
- As home size increases from 1,000ft² (the smallest homes studied) to 14,000ft², the energy used **per ft²** more than triples from an **average of 34 kBtu/ft²/yr to 105 kBtu/ft²/yr.**
- Average energy used across all homes is 80 kBtu/ft²/yr
 - Average for homes from 1,000 to 5,000 ft² is 46 kBtu/ft²/yr
 - Average for homes from 5,000 to 14,000 ft² is 95 kBtu/ft²/yr

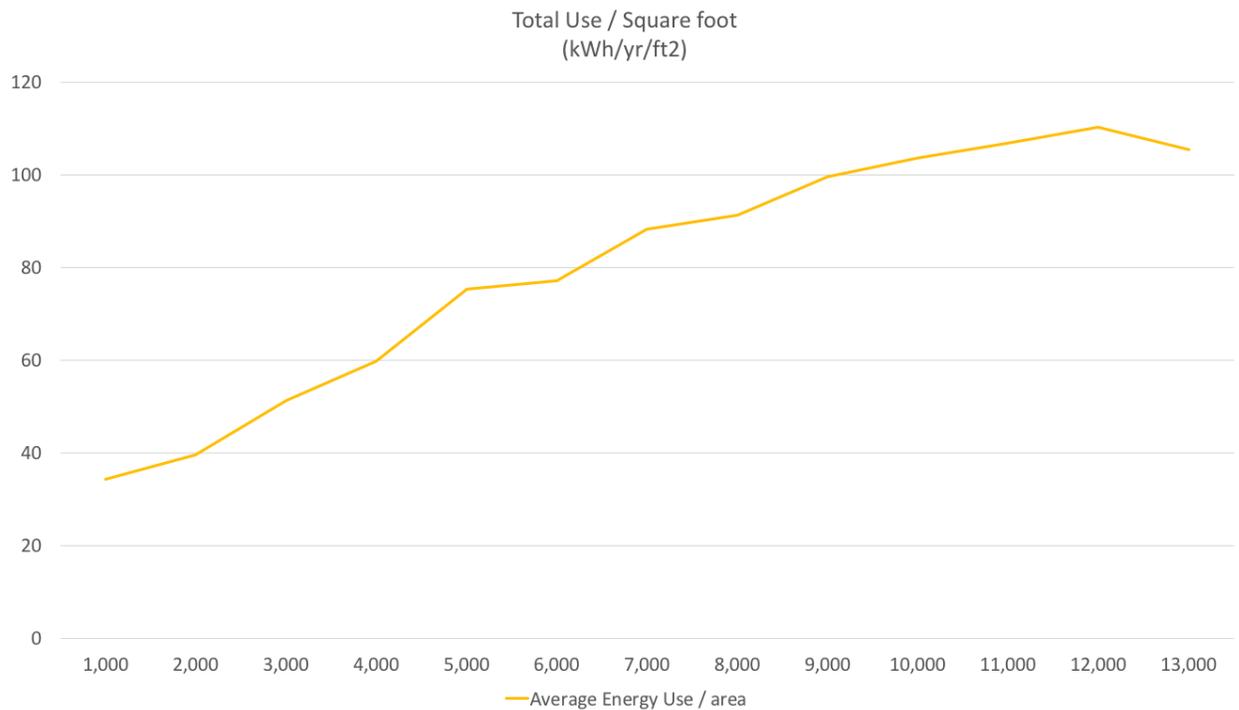
Section 2: Graphs

The data from all four years is fairly consistent (all four years are shown in Graph #1 to illustrate this). There is a trend showing that as homes increase in size, the energy used per square foot of home increases (for clarity, only the average of the four years is shown in Graph #2).

1. Total energy use per service location plotted against home size.



2. Total energy use per square foot of home, plotted against home size.



Section 3: Summary

Expected results: Intuitively, most people would expect the energy use per square foot of home to decrease as a home gets larger. Larger homes have more area per occupant and we expect the occupants' habits to be a significant driver of energy used, along with heating and cooling loads through the building shell. Here again, a large home would be assumed to have less wall and roof area per square foot of floor, and therefore lower heating and cooling loads. The expectation and common perception is that the line in graph #2 to be decreasing as home size increases.

Actual results: Energy use per square foot of home increases as the home size grows—by 3 times. Put another way, a 10,000 ft² home doesn't use 10x more energy than a 1,000 ft² home, but instead **uses 30x times more energy.**

- As home size increases from 1,000ft² (the smallest homes studied) to 14,000ft² (largest homes in this data set), the energy used **per ft²** more than triples from an **average of 34 kBtu/ft²/yr to 105 kBtu/ft²/yr.**
- Average energy used across all meters is 80 kBtu/ft²/yr
- Average for homes 1,000 to 5,000 is 46 kBtu/ft²/yr
- Average for homes 5,000 to 14,000 is 95 kBtu/ft²/yr

Speculation of causes: Some possible reasons for the discrepancy between the expected scenario and actual data include: humidification systems, snowmelt systems, roof and gutter melt systems, pools, spas, increased use of complex audio visual and security systems, increased expectations of thermal comfort and therefore higher use of cooling systems, and a liberal use of glass in the high-end residential market. The data also suggests that newer homes are continuing the trend of increased energy use per square foot. Note that the average age of the smaller homes is older than larger homes (increasing from an average year of construction of 1978 to 2005). We would expect newer homes to be more efficient, but on an energy used per square foot basis, the trend is the opposite.

Appendix: Methodology & Data

Methodology:

Holy Cross Energy and Black Hills Energy provided cross-referenced data for specific service locations. The locations were kept anonymous. Only locations they could together verify as having a single gas and/or electric meter were used. Locations using propane were not included. Electrical data was provided in kWh, and gas in therms. All units were converted to kBtu's for consistency and to allow easier comparisons against national data. Bins of 1,000 ft² increments were used to allow for data to be provided anonymously and not able to be correlated to specific sites at a later date. The average home size in of each bin was used as the area for all data in that bin.

Data:

1. Service locations, average age and average size

Heated Sq Ft		Avg Age	Avg Size
Min	Max	(yr)	(ft ²)
1,000	2,000	1978	1,621
2,000	3,000	1982	2,508
3,000	4,000	1982	3,436
4,000	5,000	1979	4,529
5,000	6,000	1988	5,409
6,000	7,000	1989	6,503
7,000	8,000	1995	7,420
8,000	9,000	1996	8,506
9,000	10,000	1998	9,499
10,000	11,000	2002	10,534
11,000	12,000	2000	11,496
12,000	13,000	2000	12,519
13,000	14,000	2005	13,485

2. Total number of service locations per size and year of data

Size (ft2)	Total Count			
	2014	2015	2016	2017
1,001 to 2,000	143	144	144	144
2,001 to 3,000	250	249	250	250
3,001 to 4,000	152	152	152	152
4,001 to 5,000	85	85	85	85
5,001 to 6,000	55	56	56	56
6,001 to 7,000	62	62	62	62
7,001 to 8,000	19	19	19	19
8,001 to 9,000	22	22	22	22
9,001 to 10,000	30	30	30	30
10,001 to 11,000	23	23	23	23
11,001 to 12,000	22	22	22	22
12,001 to 13,000	12	12	12	12
13,001 to 14,000	18	18	18	18
	893	894	895	895

3. Total average energy use at each service location for each size range

Size (ft2)	Total: Avg kBtu/yr/SrvLoc			
	2014	2015	2016	2017
1,001 to 2,000	52,697	49,967	69,518	49,729
2,001 to 3,000	102,480	98,081	100,207	96,261
3,001 to 4,000	181,026	170,814	174,394	177,743
4,001 to 5,000	287,501	263,376	268,437	263,725
5,001 to 6,000	417,544	396,295	400,808	415,063
6,001 to 7,000	524,504	474,966	509,934	497,669
7,001 to 8,000	730,827	667,965	516,855	705,433
8,001 to 9,000	748,510	785,511	821,496	754,256
9,001 to 10,000	973,436	929,176	916,224	968,810
10,001 to 11,000	1,168,576	1,088,299	1,073,693	1,039,116
11,001 to 12,000	1,280,886	1,102,936	1,235,578	1,297,397
12,001 to 13,000	1,411,491	1,323,423	1,291,654	1,497,012
13,001 to 14,000	1,360,783	1,264,081	1,302,863	1,759,753

4. Total average energy use per square foot of home for each size range

Size (ft ²)	Total Avg kBtu/ft ² /yr				
	2014	2015	2016	2017	AVG
1,001 to 2,000	33	31	43	31	34
2,001 to 3,000	41	39	40	38	40
3,001 to 4,000	53	50	51	52	51
4,001 to 5,000	63	58	59	58	60
5,001 to 6,000	77	73	74	77	75
6,001 to 7,000	81	73	78	77	77
7,001 to 8,000	98	90	70	95	88
8,001 to 9,000	88	92	97	89	91
9,001 to 10,000	102	98	96	102	100
10,001 to 11,000	111	103	102	99	104
11,001 to 12,000	111	96	107	113	107
12,001 to 13,000	113	106	103	120	110
13,001 to 14,000	101	94	97	130	105
average kBtu/ft²/yr of all data					80
average of homes less than 5,000 ft²					46
average of greater than 5,000 ft²					95

MEMORANDUM

TO: Mayor and Council Members

FROM: Chris Everson, Affordable Housing Development Project Manager

THROUGH: Rob Schober, Capital Asset Director

MEMO DATE: September 19, 2022

MEETING DATE: September 26, 2022

RE: Lumberyard Affordable Housing Development Application Summary

SUMMARY:

The development application for the Lumberyard affordable housing project is currently being drafted and includes 277 affordable housing units with 467 bedrooms in three large 4-story buildings on 11.3 acres of City-owned property adjacent to the Aspen Airport Business Center.

The project team will present the application summary materials enclosed and will request that Council direct the team to present similar summary information in upcoming community outreach and submit the application to the Community Development Department to kick off the formal land use review and approval process.

REQUEST OF COUNCIL:

1. Do the application contents as summarized meet Council's expectations?
2. Can the team go ahead with community outreach related to the application and seek community feedback which will help to inform the public hearing process?
3. Can the team go ahead and formally submit the application to the Community Development Department?

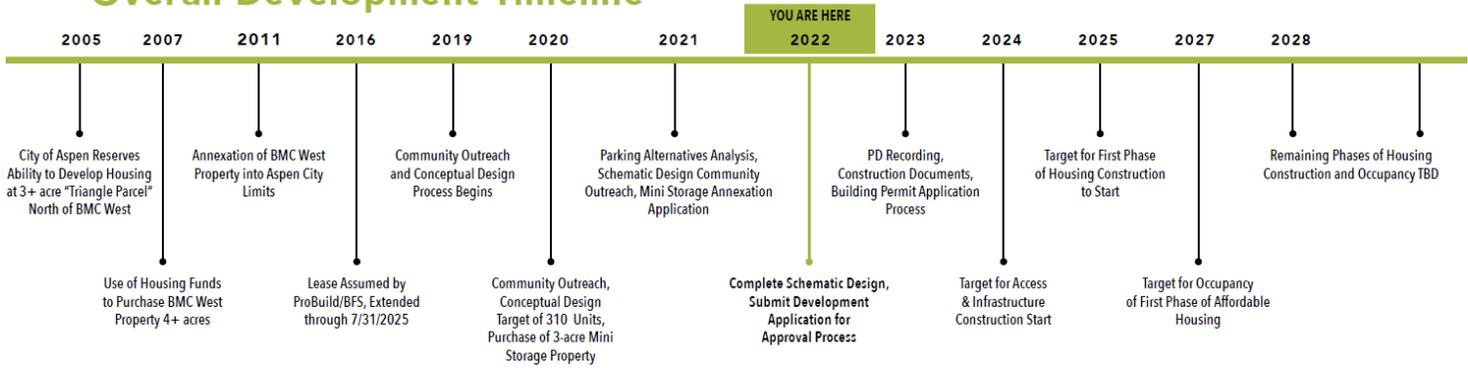
DISCUSSION:

At a work session on May 16, 2022, the project team presented the 100% Schematic Design to Aspen City Council. The enclosed summary materials include information about the extensive community outreach and iterative Council work session design process which facilitated creation of the current project designs. Project due diligence will also be reviewed, and some of that work will be ongoing throughout the land use review and approval process.

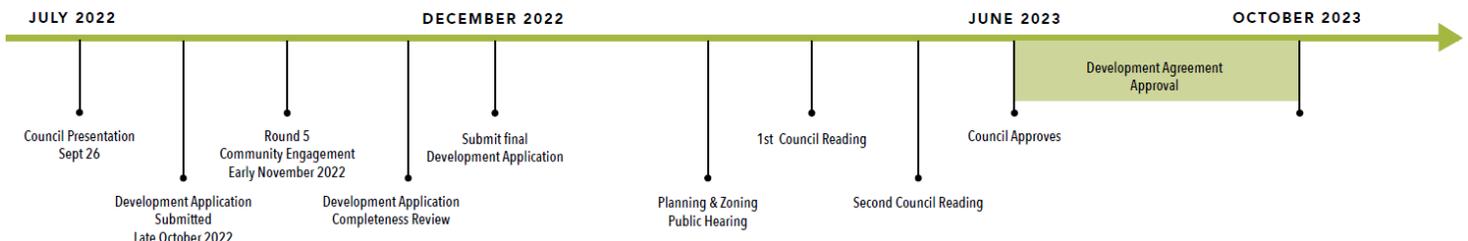
The project team is concurrently working on advancing the project design toward the Design Development (DD) level. This effort will allow the design team to submit more refined plans for the planned development and will allow for input and refinement during the land use public hearing process.

Council's goal has been to begin construction in 2024, and completion of the land use review and approval process in early 2023 is a crucial milestone toward that goal. The materials enclosed also include information about what the implementation phasing plan looks like and what each phase of work is planned to entail.

Overall Development Timeline



Near-term Timeline Development Application | Design Development



FINANCIAL IMPACTS:

The 100% Schematic Design phased project estimate shown below has previously been transmitted to Council. The project team plans to update the project estimate when the design has reached the 100% Design Development (DD) level.

Lumberyard Affordable Housing - Proposed Project Phasing and 100% SD Cost Estimate	
2019-2023 Planning & Design	\$4,362,231
2024-2025 Phase 0, Demolition, Access, Infrastructure, Traffic Signal	\$14,247,758
2026-2027 Phase 1, Building 1 - 104 Rental Units	\$125,540,701
2028-2029 Phase 2, Building 2 - 91 Rental Units	\$115,862,000
2030-2031 Phase 3, Building 3 - 82 Ownership Units	\$135,235,509
Phased Project Implementation Cost Estimate (2019 – 2031)	\$395,248,199
Historic / Sunk Land Costs	
Lumberyard Property (2007)	\$18,250,000
Aspen Mini Storage (2020)	\$11,000,000
Triangle Portion of Burlingame Lot 1A (Prorated Estimate)	\$250,000
Land Cost Subtotal	\$29,500,000
Total Estimated Project Cost with Phased Implementation and Historic Costs	\$424,748,199

ATTACHMENTS:

Exhibit A: Presentation slides – Summary of Development Application



ASPEN **LUMBERYARD**

CITY COUNCIL WORK SESSION | September 26, 2022



CITY OF **ASPEN**



TODAYS TOPICS

Cushing
Terrell®

I connect one
DESIGN

ROARING FORK
ENGINEERING

DESMAN
Design Management

FEHR & PEERS

PM | CURRELL
PROGRAM MANAGEMENT

Group 14
ENGINEERING

M I R O
ESTABLISHED 1980

1.0 WHERE WE HAVE BEEN

2.0 WHERE WE ARE NOW

3.0 PROPERTY HISTORY & EXISTING CONDITIONS

4.0 PROJECT DUE DILIGENCE

5.0 PUBLIC OUTREACH & COMMUNITY DESIGN

6.0 PROPOSED PROJECT DESCRIPTION

7.0 REGULATORY REVIEW REQUIREMENTS



**WHERE WE
HAVE BEEN**



1.0 WHERE WE HAVE BEEN

Recap of Lumberyard Milestones

September 2019

Community Outreach #1

January 2020

Community Outreach #2

October 2020

Community Outreach #3

November 2020

100% Conceptual Design

December 2021

Community Outreach #4

January 2022

Schematic Hinge Scheme Selected

May 2022

100% Schematic Design

November 2022

Development Application (TBD)





1.0 TASK AT HAND

PROGRAMMATIC ELEMENTS

- 11.3 Acre Site
- 277 Units / 467 Bedrooms
- Parking by code - 425
- Combination of Rental and For Sale Units
- Phased approach to construction over 10+ years
- Sustainable and Resilient Design
- Space for Childcare Center on Site
- Trail Connectivity
- Access to Daylight Views within Housing Units
- A Public Transit Stop
- Noise Mitigation to adjacent Highway & Airport
- Elevator Access to all Housing Units
- A Safe and Inviting Pedestrian Experience
- 590 FTEs housed

OUR CHALLENGES

- Tight spacing between buildings, access to daylight
- Concern about building scale, heights and orientation
- Noise Mitigation
- Innovation through modular design and sustainable building strategies
- Demographics of target user mix (i.e. "who is this housing for?")
- Maintain a schedule for construction to begin in 2024
- Finding the balance between competing priorities



WHERE WE ARE NOW



2.0 TODAY'S OBJECTIVES

What we will cover

- Summarize Lumberyard project through the lens of regulatory requirements.
- Discuss the applications included in the submittal.
- Highlight application content and talking points.
- Introduce review process & discuss time frame.

Our ask of you:

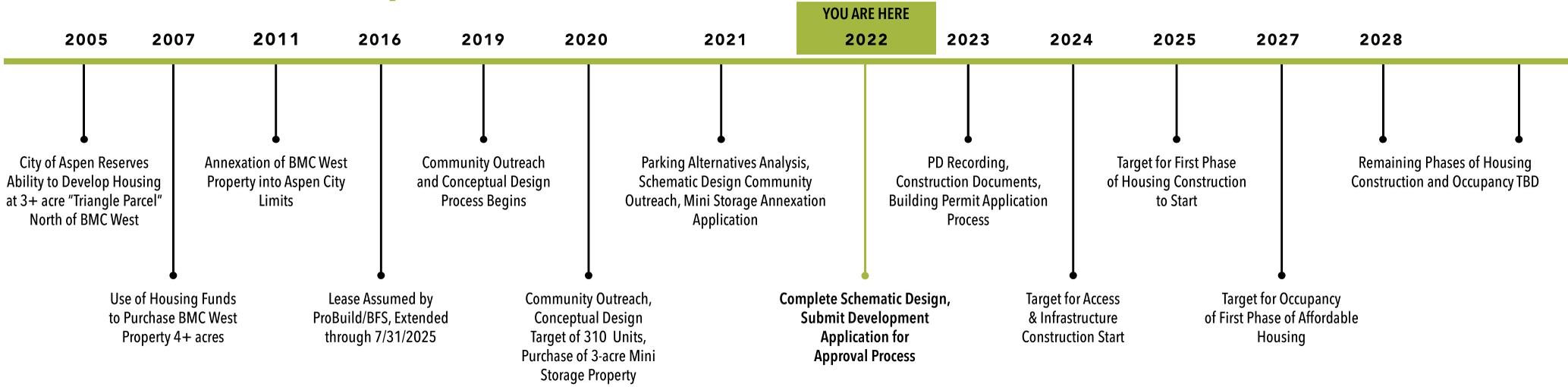
Does this Application as described meet your expectations?

Can the team formally submit the application to the Community Development Department?

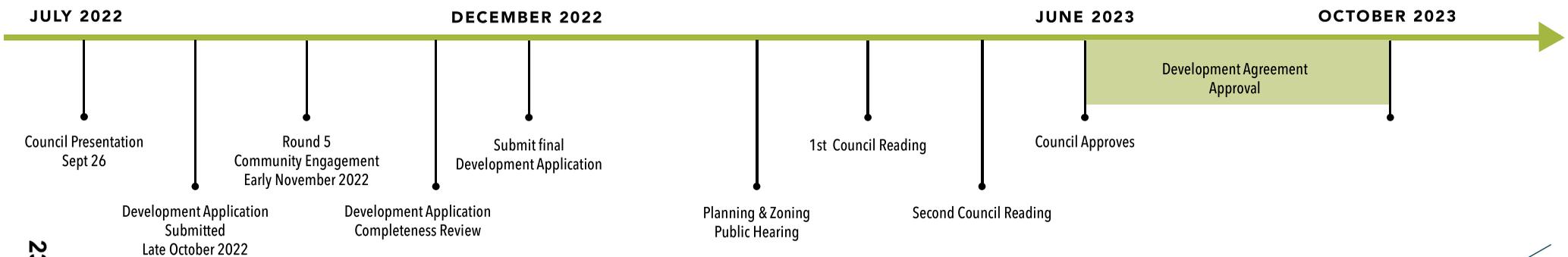
Can the team perform community outreach related to the application which will help to inform the public hearing process?



2.0 Overall Development Timeline



Near-term Timeline Development Application | Design Development

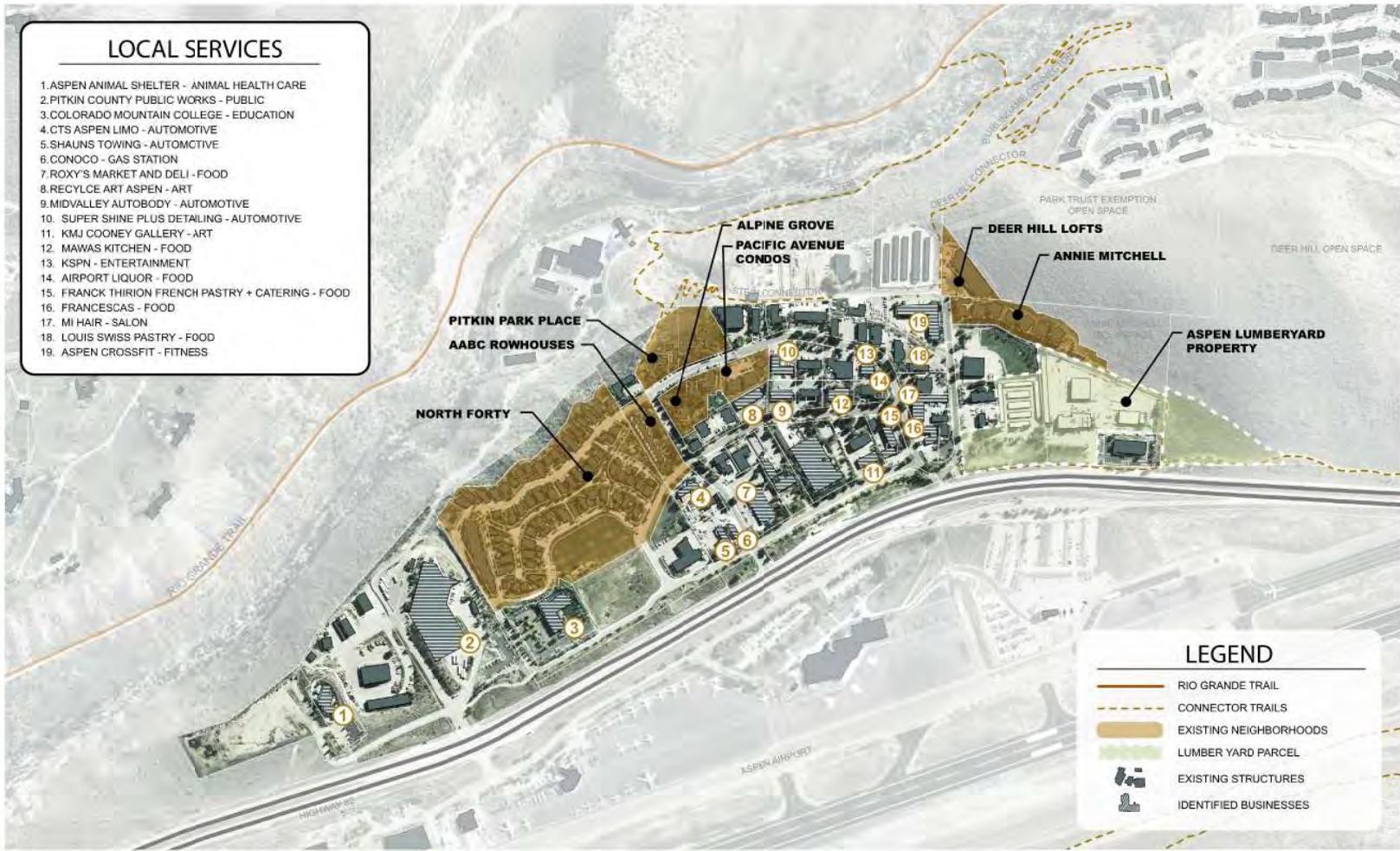




PROPERTY HISTORY & EXISTING CONDITIONS



3.0 Vicinity Map





3.0 Project Introduction





3.0 Property History

105 Woodward Ln., Aspen, CO

Size: 2.98 acres

Current Use: Aspen Mini LLC, mini storage rental

2020: Purchased using 150 Housing Fund

2022: Annexed into City limits under SCI-PUD zoning

38005 CO-82, Aspen, CO

Size: 4.74 acres

Current Use: Lumberyard and retail building supply

2007: Purchased using 150 Housing Fund

2011: Annexed into City limits under SCI-PUD zoning

Undeveloped Property

South of 38005 CO-82

Size: 3.56 acres

Current Use: Lumberyard and retail building supply

1997: City of Aspen acquired 220+ acres from the Paepcke Trust

1997: Annexed into City limits & subdivided to create Burlingame Ranch

Current zoning: RR and Conservation (C)





3.0 EXISTING CONDITIONS

105 Woodward Ln., Aspen, CO

Current Use

- Combined 27,590 square feet of existing floor area in seven CMU block-framed structures.
- 244 storage units, an office, and an apartment for the on-site manager. Two of the seven storage buildings include basement level storage.
- 27 commercial parking spaces are leased out for commercial vehicle storage
- Recent annexation

Vehicular Access

- Woodward Ln. to the north, connecting to ABC 200 Rd and is currently un-controlled/un-signalized.
- Woodward Ln. also provides vehicular access to 201 Aspen Airport Business Center

Pedestrian Access

- Paved ped/bike trail to the west of the property, within the CO-82 ROW and connects to ABC 200 Rd
- Ped/bike stop sign along the trail at the approach to ABC 200 Rd





3.0 EXISTING CONDITIONS

38005 CO-82, Aspen, CO (Lot 1 & Lot 2 of ABC Block 1)

Current Use

- One building constructed in 1972. First floor 4,975 SF of unheated warehouse storage & 1,308 SF Office space. Second floor 1,308 SF employee housing.
- Three structures that were built in 1971. 8,660 SF retail & 3,816 employee housing, 7,040 SF warehouse & 12,800 SF of lumber storage.
- Made up of two parcels annexed in 2010.

Vehicular Access

- Driveway extension to the west from Lot 2 to CO-82 and is currently un-controlled/un-signalized
- Entry: the north direction of CO-82 has a dedicated right-in turn lane, and the south direction of CO-82 has a dedicated left turn lane.
- Egress: the north direction of CO-82 has a dedicated right-out acceleration lane, while the south direction of CO-82 has a very short merge lane which is interrupted by a median only 50 ft +/- to the south, which is quite hazardous in its current condition

Pedestrian Access

- Paved ped / bike trail to the west of the property, within the CO-82 ROW





3.0 EXISTING CONDITIONS

Undeveloped Property South of 38005 CO-82, Aspen, CO

Current Use

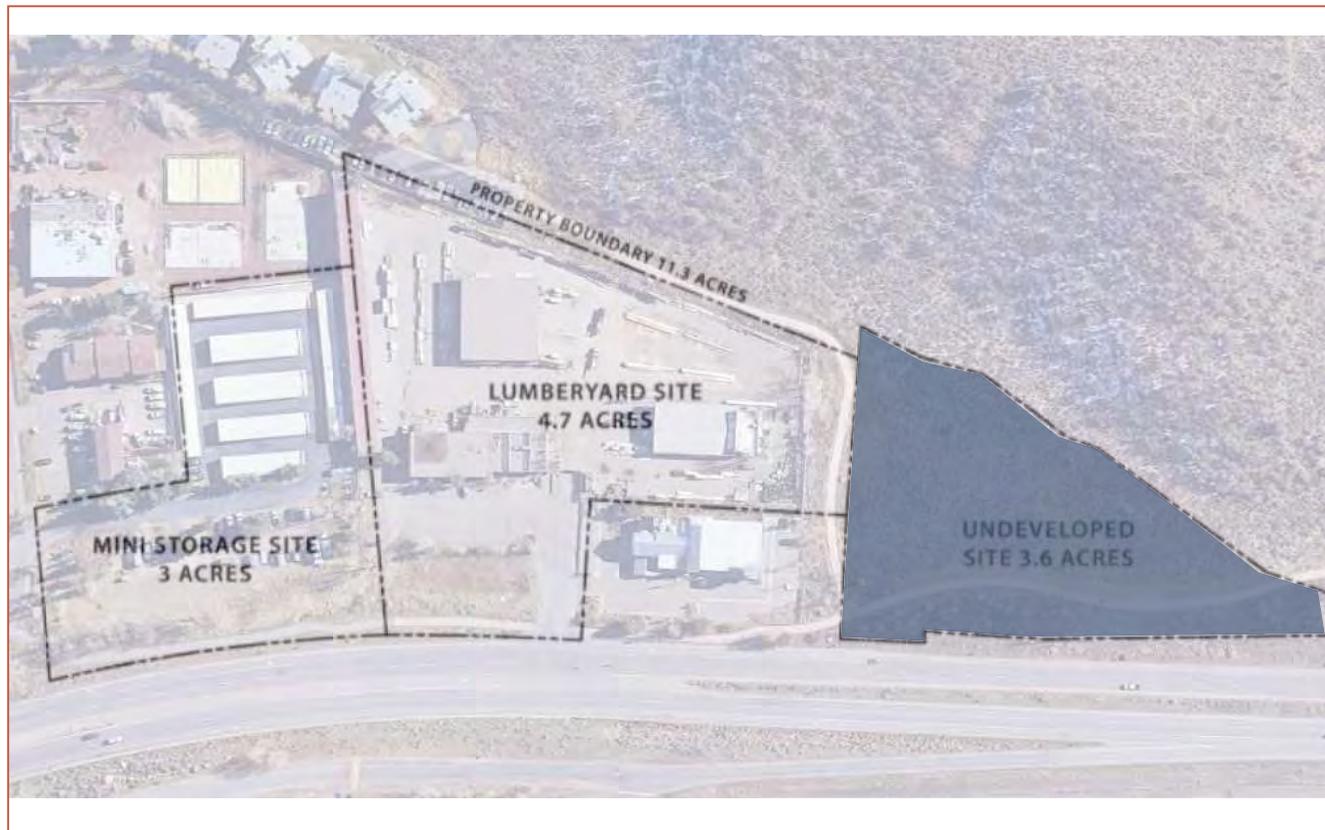
- Vacant
- The balance of the undeveloped property is dominated by sage brush
- Subdivision process underway. Recent hearing before P&Z and will be before City Council.
October 25th - 1st Reading
November 15th - 2nd Reading

Vehicular Access

- No vehicular access (temporary access easement)

Pedestrian Access

- Concrete trails which provide access to the south in the direction of Aspen and in two directions to the north; adjacent to the CO-82 ROW to the ABC as well as an extension to the east which connects to Pass Go Ln.. and which largely serves residents of the Annie Mitchell affordable housing facility.





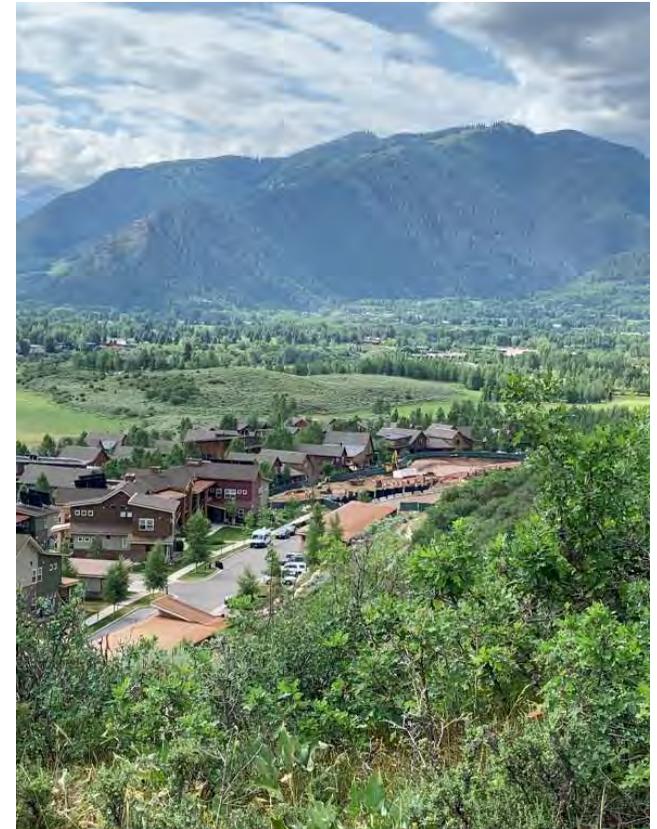
PROJECT DUE DILIGENCE



4.0 Due Diligence

Overview

- Phase 1 Environmental Site Assessment (ESA)
- Cultural Resource Inventory
- Geotechnical Subsoil Study
- Traffic and Aircraft Noise Impact Assessment
- Sample Air Testing for Volatile Organic Compounds
- Transportation Impact Analysis
- Demographic and Market Assessment / APCHA Guidelines
- Airport Obstruction Evaluation
- Resilience Assessment & Opportunities





4.0 Due Diligence

Phase 1 Environmental Site Assessment (ESA)

Key Takeaways:

- 2021 Kumar & Associates Phase 1 Report
- No evidence of Recognized Environmental Conditions (RECs)
- No discernible environmental impairments

Cultural Resource Inventory

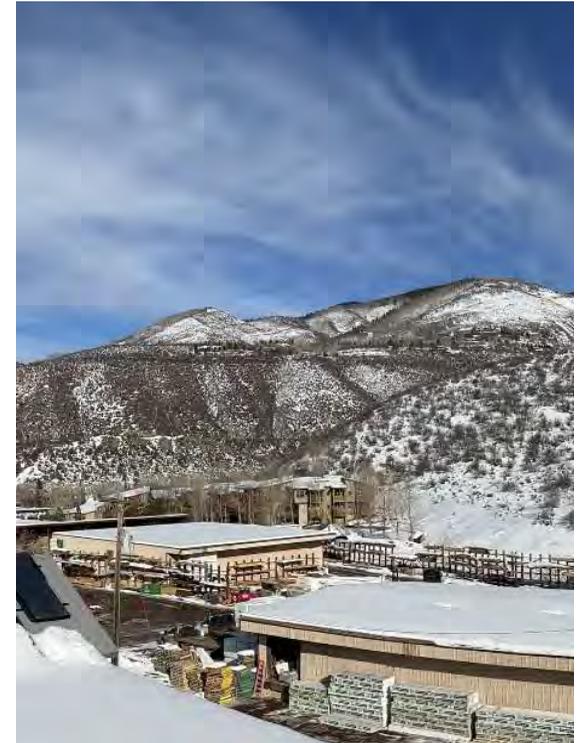
Key Takeaway:

- No historic properties affected by the Aspen Lumberyard Affordable Housing project.

Geotechnical Subsoil Survey

Key Takeaway:

- Proposed buildings can be founded on the relatively dense gravel soils





4.0 Due Diligence

Highway and Airport Noise Impacts

Key Takeaways:

- Airport 65 DNL contour is outside Lumberyard site under existing and potential alternative conditions
- While noise levels are elevated, they are within HUD guidelines
- Current design mitigates for noise to the extent feasible

Air Quality

Key Takeaways:

- Existing PM2.5 sensor indicates low levels of PM2.5 VOC 24-hour sampling showed ambient concentrations at “safe levels”, peer review in process
- New air monitoring sensors being installed, data will soon be available online for PM, O3, NO2, SO2 and CO





4.0 Due Diligence

Utilities Analysis

Key Takeaways:

- Upgrades to electric, water and sewer utilities are included in plans and estimates
- Stormwater management system is being designed to improve conditions for neighboring properties

Transportation Impact Analysis

Key Takeaways:

- By housing workers closer to Aspen, the project will reduce CO2 emissions from commuter transportation by 500,000 to 600,000 pounds per year
- The project adds about 50 vehicle trips per day to the transportation system
- Travel times on Hwy 82 will increase by about one minute during rush hour
- Through improved transit, the City can further reduce vehicle trips and travel times





4.0 Due Diligence

Transportation Demand Management

Recommendations:

The Project Team Suggests These Recommendations for the Application:

- Dedicated transit route from Rubey Park to new transit station at Lumberyard with 30-minute service. Service should include stops between Rubey Park and Lumberyard. Operating 30-minute service would require two transportation vehicles.
- A bike share station is recommended, to be located adjacent to transit station at Lumberyard.

The Project Team Suggests Lowering the Priority of these Recommendations:

- Dedicated transportation route from Rubey Park which would loop around the Lumberyard, AABC and airport.
- Feeder/circulator service
- Buy-up additional service routes (non-dedicated service)
- Car share by relocating an existing car, not buying a new car





4.0 Due Diligence

Demographics and Market Research (EPS Study)

Affordability Mix

Figure 8. Change in Employment AMI, Pitkin County, 2010-2019

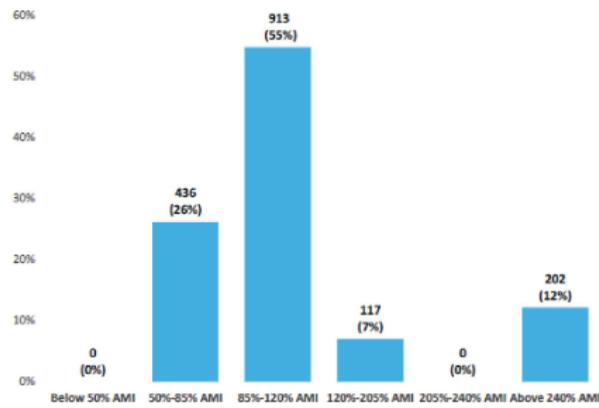


Table 7. EPS Recommended Unit Mix

APCHA %AMI	Category 1 <50%	Category 2 50-85%	Category 3 >85-130%	Category 4 >130-205%	Category 5 >205-240%	Category RO no limit	Total Units	% Mix
Rental Product								
Studio	0	0	0	0	0	0	0	0%
1-Bedroom	28	37	35	4	0	0	104	49%
2-Bedroom	15	31	25	7	0	0	78	37%
3-Bedroom	4	12	10	4	0	0	30	14%
Rental Total	47	80	70	15	0	0	212	100%
Rental %	22%	38%	33%	7%	0%	0%		
Ownership Product								
Studio	0	0	0	0	0	0	0	0%
1-Bedroom	0	12	12	10	6	0	40	41%
2-Bedroom	0	11	11	12	8	0	42	43%
3-Bedroom	0	0	10	3	3	0	16	16%
Ownership Total	0	23	33	25	17	0	98	100%
Ownership %	0%	23%	34%	26%	17%	0%		
Project Total	15%	33%	33%	13%	6%	0%		100%

Source: Economic & Planning Systems

Building 1 - RENTAL	Category1	Category2	Category3	Category4	Category5	Category RO	Total	%
% AMI	<50%	50-85%	>85-130%	>130-205%	>205-240%	Asset Limit Only		
1-Bedroom	14	20	18				52	50%
2-Bedroom	10	15	11				36	35%
3-Bedroom	4	7	5				16	15%
Total	28	42	34				104	
%	27%	40%	33%					

Building 2 - RENTAL	Category1	Category2	Category3	Category4	Category5	Category RO	Total	%
% AMI	<50%	50-85%	>85-130%	>130-205%	>205-240%	Asset Limit Only		
1-Bedroom	26	17					43	47%
2-Bedroom	22	14					36	40%
3-Bedroom	7	5					12	13%
Total	55	36					91	
%	60%	40%						

Building 3 - OWNERSHIP	Category1	Category2	Category3	Category4	Category5	Category RO	Total	%
% AMI	<50%	50-85%	>85-130%	>130-205%	>205-240%	Asset Limit Only		
1-Bedroom	10	12	10	2			34	41%
2-Bedroom	9	11	10	4			34	41%
3-Bedroom		6	6	2			14	17%
Total		19	29	26	8		82	
%		23%	35%	32%	10%			

Project Total	Category1	Category2	Category3	Category4	Category5	Category RO	Total	%
% AMI	<50%	50-85%	>85-130%	>130-205%	>205-240%	Asset Limit Only		
1-Bedroom	40	47	30	10	2		129	47%
2-Bedroom	32	38	22	10	4		106	38%
3-Bedroom	11	12	11	6	2		42	15%
Total	83	97	63	26	8		277	
%	30%	35%	23%	9%	3%			

Baseline EPS	Category1	Category2	Category3	Category4	Category5
	15%	33%	33%	13%	5%
Delta	15%	2%	-10%	-4%	-3%

Building 1 - RENTAL	Category1	Category2	Category3	Category4	Category5	Category RO	Total	%
% AMI	<50%	50-85%	>85-130%	>130-205%	>205-240%	Asset Limit Only		
1-Bedroom	8	17	27				52	50%
2-Bedroom	3	9	22	2			36	35%
3-Bedroom		4	8	4			16	15%
Total	11	30	57	6			104	
%	11%	29%	55%	6%				

Building 2 - RENTAL	Category1	Category2	Category3	Category4	Category5	Category RO	Total	%
% AMI	<50%	50-85%	>85-130%	>130-205%	>205-240%	Asset Limit Only		
1-Bedroom	24	19					43	47%
2-Bedroom	8	28					36	40%
3-Bedroom	2	10					12	13%
Total	34	57					91	
%	37%	63%						

Building 3 - OWNERSHIP	Category1	Category2	Category3	Category4	Category5	Category RO	Total	%
% AMI	<50%	50-85%	>85-130%	>130-205%	>205-240%	Asset Limit Only		
1-Bedroom	8	16	8	2			34	41%
2-Bedroom	7	13	10	4			34	41%
3-Bedroom		6	6	2			14	17%
Total		15	35	24	8		82	
%		18%	43%	29%	10%			

Project Total	Category1	Category2	Category3	Category4	Category5	Category RO	Total	%
% AMI	<50%	50-85%	>85-130%	>130-205%	>205-240%	Asset Limit Only		
1-Bedroom	32	44	43	8	2		129	47%
2-Bedroom	11	44	35	12	4		106	38%
3-Bedroom	2	14	14	10	2		42	15%
Total	45	102	92	30	8		277	
%	16%	37%	33%	11%	3%			

Baseline EPS	Category1	Category2	Category3	Category4	Category5
	15%	33%	33%	13%	5%
Delta	1%	4%	0%	-2%	-3%

Key Takeaways:

- There has been a decline in lower income households throughout the Roaring Fork Valley
- Job growth in Pitkin County has been primarily in APCHA Category 3, followed by Category 2
- The project program mix should account for both of those
- Provide some amount of flexibility for developers, to help marketability of public private partnerships



4.0 Due Diligence

Aspen Pitkin County Housing Authority Guidelines

Minimum Net Livable Square Feet for Affordable Housing Per Unit Size (Standardized)		
	APCHA	Aspen Lumberyard
Studio	500	–
1 - Bedroom	700	667
2 - Bedroom	900	1068
3- Bedroom	1200	1467
Single - Family Detached	1500	–

33 sq ft variance in 1 bed units

Each unit has private outdoor space (patio/balcony)

Net Minimum Livable Square Footage Reduction Criteria:

- Significant storage space located outside the unit (available in covered parking areas)**
- Above average natural light, i.e., more windows than required by code
- Efficient, flexible layout with limited hall and staircase space**
- Availability of site amenities, such as pool or proximity to park or open space**
- Unit location within the development, i.e., above ground location versus ground level or below ground**
- Possibility that project can achieve higher density of deed-restricted units with a reduction variance (N/A)



4.0 Due Diligence

Airport Obstruction Evaluation

Key Takeaways:

- Obstruction Evaluation is in the process of being submitted to the Federal Aviation Administration (FAA)
- Potential hazards will be identified before submitting for completeness review
- Lighting could be recommended, TBD



Photo: Shahn Sederberg (CDOT)

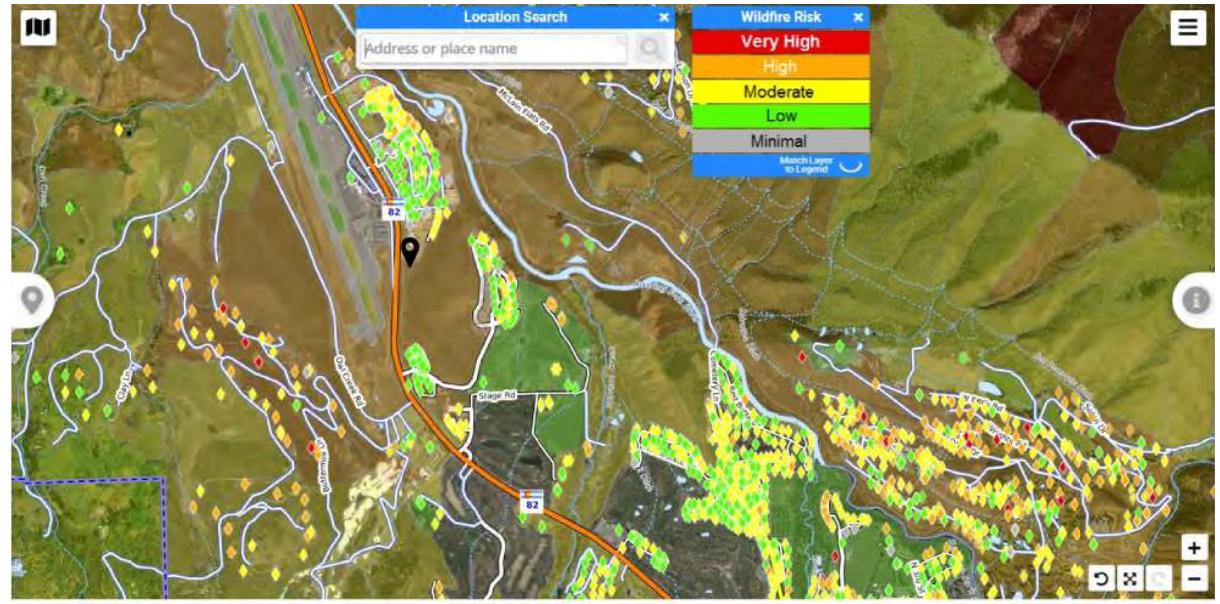


4.0 Due Diligence

Resilience Assessment & Opportunities

Key Takeaways:

- Identified three themes: Dignity, Access to Nature & the Outdoors and Connection and Community
- Identified design considerations for residents well being
- Identified design strategies to mitigate hazard risks due to climate



Source: <https://aspenfire.com/wildfire-risk-map>



PUBLIC OUTREACH AND COMMUNITY DESIGN



5.0 Public Outreach & Community-Driven Design

Conceptual Design: September 2019 - February 2020

Outreach #1 Stakeholder meetings, pop-up events, survey, open houses

Summary of Community Feedback:

Population Served: High to medium density preferred. 150-200 units. Variety of unit types and demographics served. Both rental and owned.

Building Materials Supply Operation: Mixed responses: emphatic yes's, hard no's, and ambivalence.

Mixed-Use: Mostly ambivalent; don't compete w/ existing non-subsidized business. Desire for daycare facility.

Transportation and Transit: Internal and external connectivity. RFTA, Airport and trails are important assets. Do not under park! Access Control Plan, proposed controlled intersection at HWY 82.

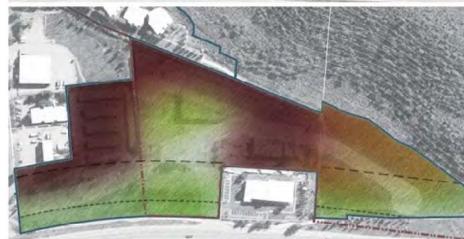
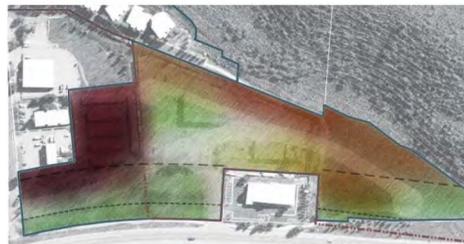
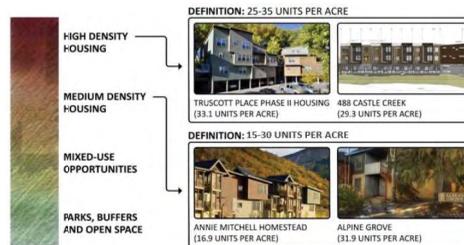
Parks and Open Space: Parks are needed in the ABC area. Triangle is used as dog park. Bandit trails at Deer Hill are valued.

Noise and Air Quality: Airport and highway noise is a fact of life at the ABC. Most noise complaints were related to the building supply operation.

Design Advice: Design for personal storage. Design for climate (snow). Minimize HOA fees. Quality construction.



Density "Heat Map" Concepts



Outreach #2 Stakeholder meetings & open houses near AABC

Summary - Consensus Items

- Site is appropriate for housing
- Serve a variety of demographics
- Trail Connections are a priority
- Access to transit is a priority
- Do not under park
- Park space is a priority
- Need to mitigate noise as much as possible

Opposing Viewpoints on Density

- "Where better than here? Build as many units as possible, 400-500 units."
- "It's an appropriate place for housing, but 212 units is too dense."





5.0 Public Outreach & Community-Driven Design

Conceptual Design: March - December 2020

Density Concepts 140, 175 & 215 Units 3-Story



Council

Outreach #3 Email, website, survey, social media, web conferences

Unit Mix:

- Mean of all responses was 58% rental and 42% ownership
- Most common answer was 50/50 rental/ownership
- Bedroom mix ratio of 2/3 studio & 1bdms and 1/3 multi-bedroom generally ok
- Most demand for 1- and 2-bedroom units
- Increase the ownership percentage on the site
- Increase the number of 2-bedroom units
- Decrease the number of studio units going forward

Parking:

- 75% of respondents supported underground parking
- 58% of potential residents say they need a parking space with their housing
- Only 14% of potential residents said they would live there without a car
- Mobility alternatives are desirable but do not reduce parking
- The most-supported mobility alternative was a Downtown/AABC shuttle route

Innovation/Co-Living:

- 75% of potential residents of the Lumberyard say they would rather have a larger unit

Innovation/Sustainability:

- Two thirds of respondents support higher-than-code energy-efficiency or net-zero
- 60% of all respondents support a sustainability certification

Architectural Character/Style:

- The highest support was given to mountain contemporary style followed closely by mountain traditional architecture

Architectural Character/Height:

- 60% of respondents support a mix of 2-3 story buildings
- 30% support 4+ stories

Site Amenities:

- Most-favored were generous gear storage, decks & patios, lawn & picnic space
- People also favored extra parking spaces

Commercial Space:

- Three quarters of respondents agree that the AABC should provide commercial services

Childcare:

- Most of the respondents support incorporating childcare into the development

Council

Conceptual Design 310 Units, 3-4 Story

Units / Unit Area sq ft / # of BRs



Work



Work

Work



Session

Session





5.0 Public Outreach & Community-Driven Design

Schematic Design: September 2021 - May 2022

Schematic Design Options

Density 310 Units, 100% 4-Story
(2 of 8 Versions Shown)

HINGE SITE CONCEPT



4-Story
40% Underground Parking
1.77 Acres Usable Open Area
48.9 Net Zero Rating



Outreach #4

Online Survey & Community Open House

Summary of Community Input

Underground Parking

- 'Hiding' parking via underground or carports was consistent
- Open ended comments consistently supported getting the parking underground
- Reasons for underground parking include increasing open space and unit counts, snow, fewer visible cars
- When faced with limited funding, respondents were still supportive to spend money on underground parking

Parking quantity

- The community is quite split on the amount of parking. Responses varied from remove all cars to two cars per unit is not enough, need for transit is a consensus
- Clear consensus that additional vehicle or large 'toy' storage is not an amenity that should be borne by this project

Project priorities

- In addition to underground parking, respondents prioritized net-zero buildings and enhanced amenities
- Enhanced amenities are described as both indoor and outdoor and mostly qualitative enhancements
- Concern about traffic impacts and the need for effective alternative transportation options

Enhanced amenities

- Amenities ranked quite high and speaks directly to livability
- More storage near parking and in-unit, decks and private open spaces, quality interior finishes, etc.

Open space

- Open space should be generous but everyone is looking for a balance
- between small and large spaces
- Prospective residents prefer smaller spaces and spending less on programmed amenities so the open space can be right-sized



5.0 Public Outreach & Community-Driven Design

Development Application: September 2022 - Now

Final Schematic Design

Density 277 Units, 467 Bedrooms
100% 4-Story



NOVEMBER 2022

Community Open House
& Online Follow UP

Outreach #5



Council

In Person (2x) /FB Live/Website Update

Goal: Update Public and Inform the Public Hearing Process

Format:

What we heard

- Amenities
- Priorities



Work

What we did

- Design updates
- Development Application Summary

Street naming activity (live & web)



Session



5.0 Public Outreach & Community-Driven Design

Proposed Street Naming Exercise

"Lumberyard" Theme Examples

- Brentwood Street
- Heartwood Lane
- Timberwood Road

"Ute Indians" Theme Examples

- Bear Dance Lane
- Quacut Road
- Shiny Street

"Aspen History" Theme Examples

- Cranbary Lane
- Penhale Street
- Prentiss Way

"Aspen Authors" Theme Examples

- Baer Way
- Berger Drive
- Thompson Street





PROPOSED PROJECT

VISION STATEMENT

A stable, thriving affordable neighborhood.
Pedestrian friendly, environmentally sustainable,
connected, and welcoming.
Looks, lives and feels authentically Aspen!



6.0 Vision & Philosophy

City of Aspen - 2012 Aspen Area Community Plan (Housing Section) Vision

We believe that a strong and diverse year-round community and a viable and healthy local workforce are fundamental cornerstones for the sustainability of the Aspen Area community.

Philosophy

We are committed to providing affordable housing because it supports:

- A stable community that is invested in the present and future of the Aspen Area.
- A reliable workforce, also resulting in greater economic sustainability.
- Opportunities for people to live in close proximity to where they work.
- A reduction in adverse transportation impacts.
- Improved environmental sustainability.
- A reduction in down valley growth pressures.
- Increased citizen participation in civic affairs, non-profit activities and recreation programs.
- A better visitor experience, including an appreciation of our genuine, lights-on community.
- A healthy mix of people, including singles, families and seniors.

Aspen/Pitkin County Housing Authority (2021 APCHA Housing Regulations) Mission Statement

The goal of APCHA is to provide affordable housing opportunities through rental and sale to persons who are or have been actively employed or self-employed within Aspen and Pitkin County, and that provide or have provided goods and services to individuals, businesses or institutional operations, within Aspen and Pitkin County (prior to retirement and/or any disability), and other qualified persons as defined in these Regulations, and as they are amended from time to time.





6.0 Program Summary

Community Connection

- Code compliant parking based on number of units & bedrooms
- Roughly split 50/50 between efficient underground and surface parking
- Convenient access to multi-modal transportation
- Improvement of the ABC Bike Trail experience

Sustainability

- In pursuit of the highest sustainability goal of any housing project in Aspen
- Sustainability addresses Environmental, Economic, and Social factors

Pedestrian Friendly

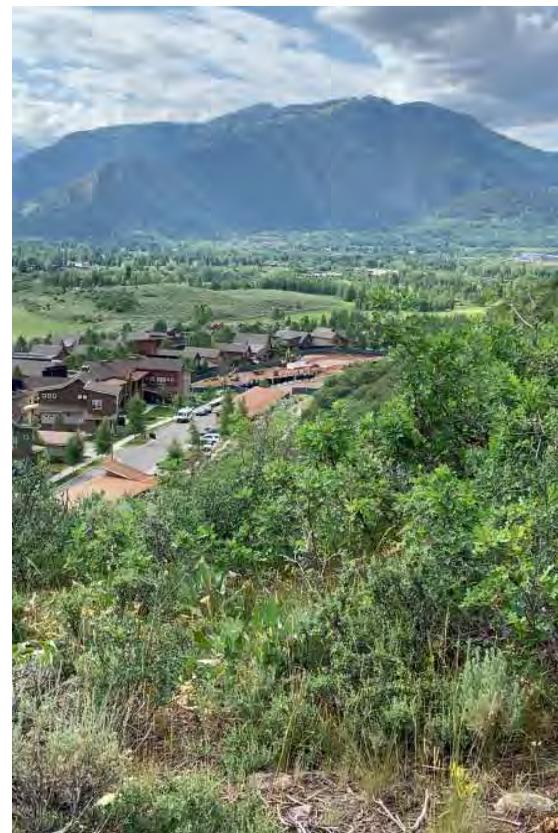
- Right-sizing unit count has allowed for better solar access on sidewalks
- Improved snow storage
- Tree lawns
- Exterior access for all ground floor units

Living Well

- Common spaces provide social connections between residents
- Building design provides elevator access to all units
- Loop streets for fire truck access
- Consolidated buildings provide ample open space
- Storage to accommodate the things it takes to “live well”

Authentically Aspen

- Celebrating the color palette of Deer Hill through natural materials
- Celebrating sustainable design strategies
- Celebrating outdoor spaces both private and common

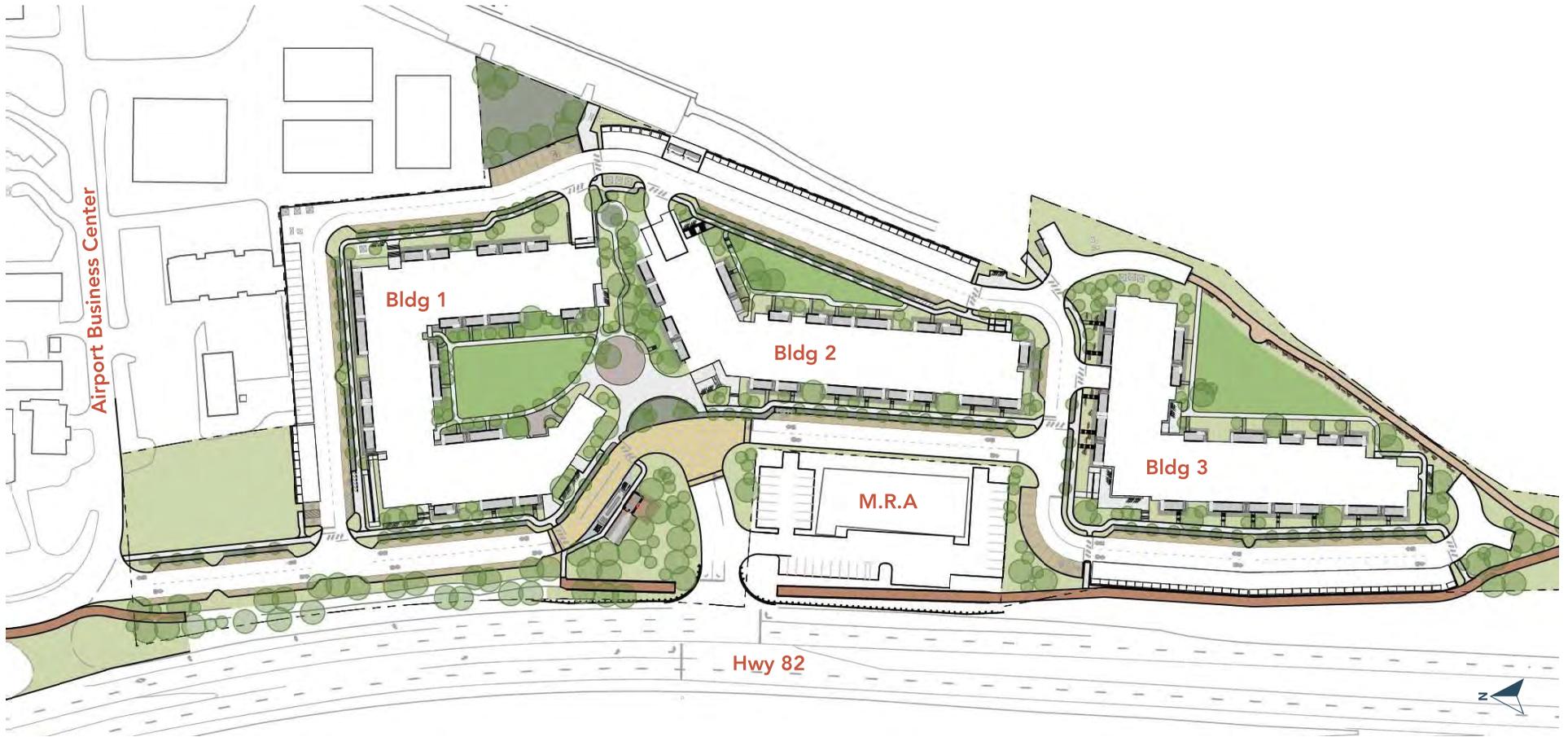




PROPOSED PROJECT DESCRIPTION: SITE

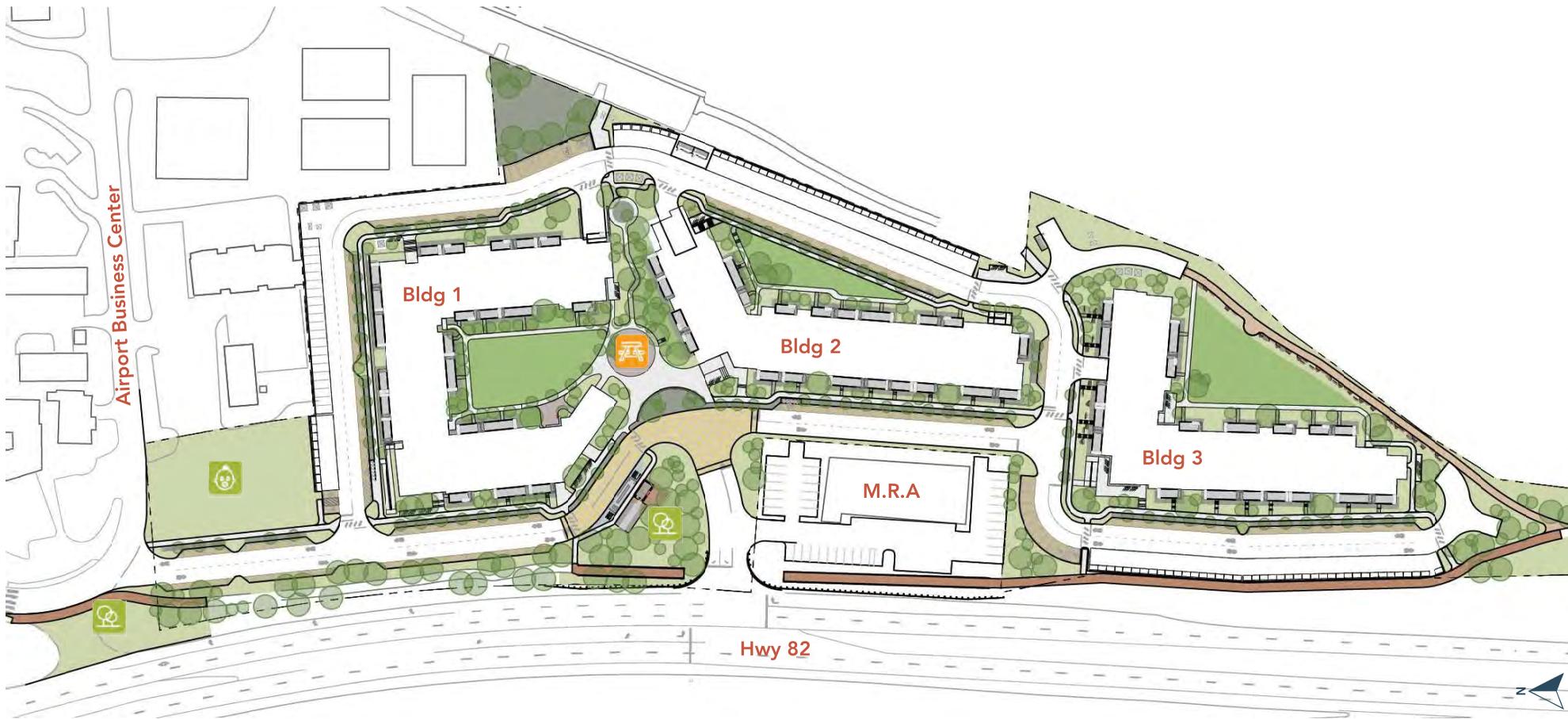


6.1 Site Design Overview





6.1 Communal Landscapes

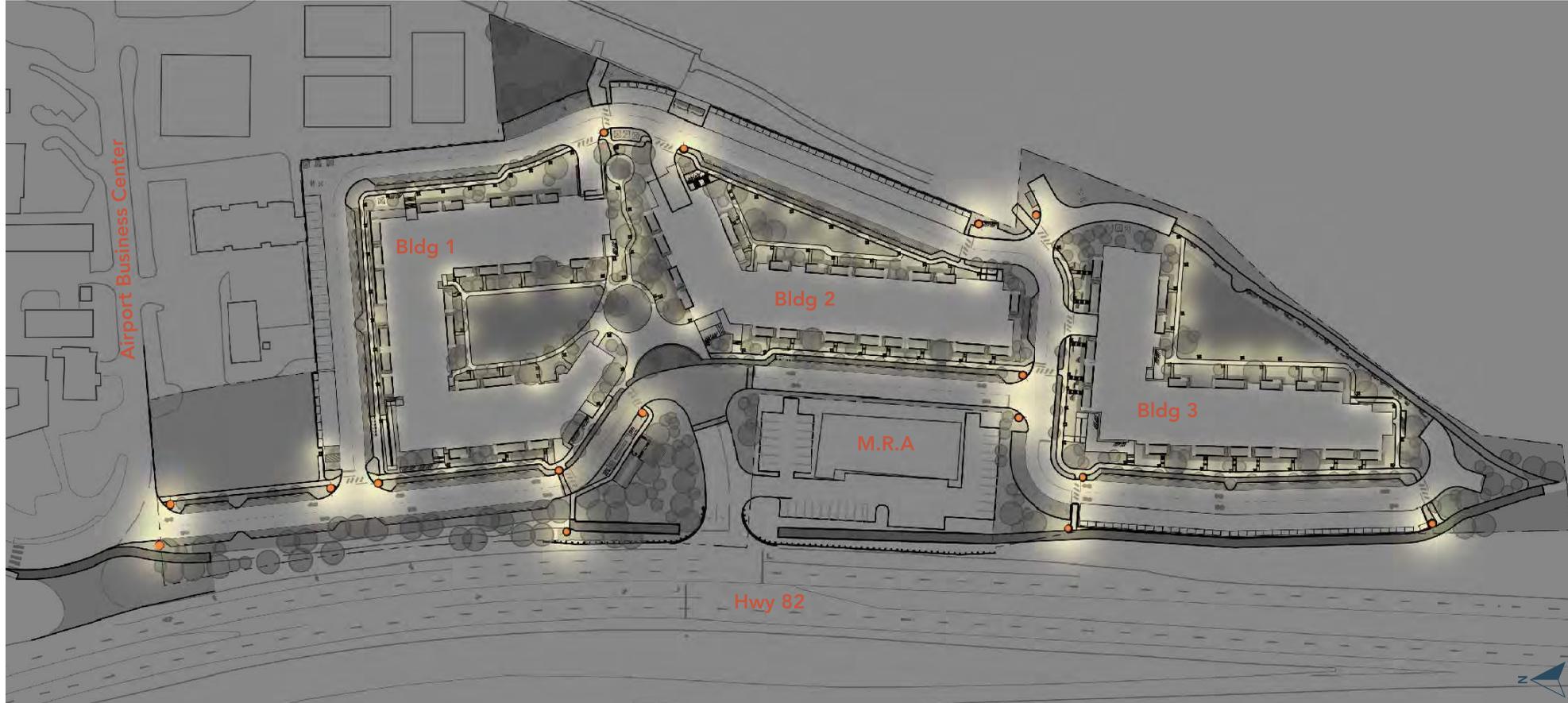


KEY

- Native Revegetation
- Open Space
- Rain Garden / Stormwater
- ☺ Community Plaza
- 🌳 Vegetated Berm
- 👶 Future Daycare Facility



6.1 Site & Exterior Lighting



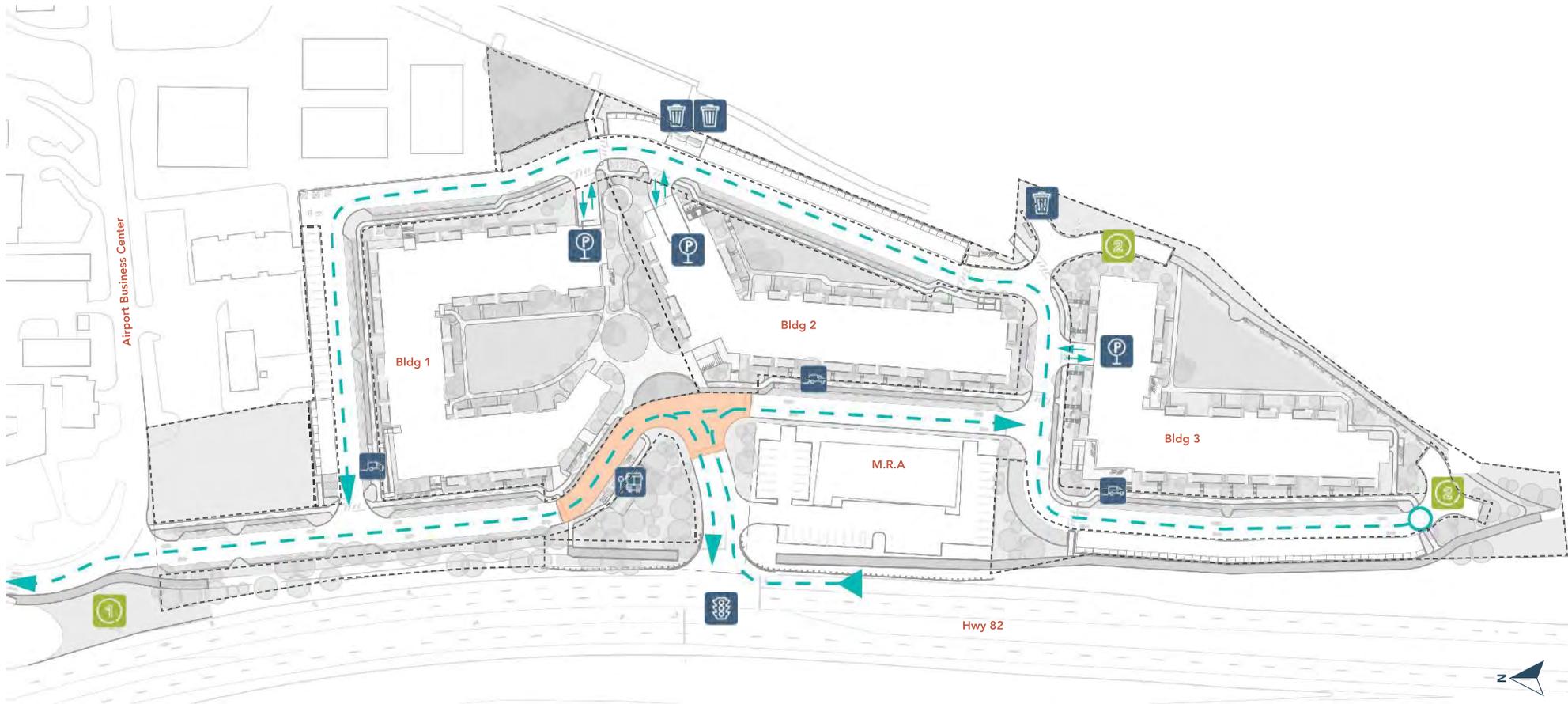
KEY

- Typical Street Light
- Typical Landscape Path Lights

All lighting to meet City of Aspen Standards.



6.1 Vehicular Access



KEY

Two-Way Road

Eliminated Intersection

RFTA Bus Stop

Garage Entrance

Firetruck Turnaround

Signaled Intersection

Raised Pedestrian Zone

Loading & Drop-Off

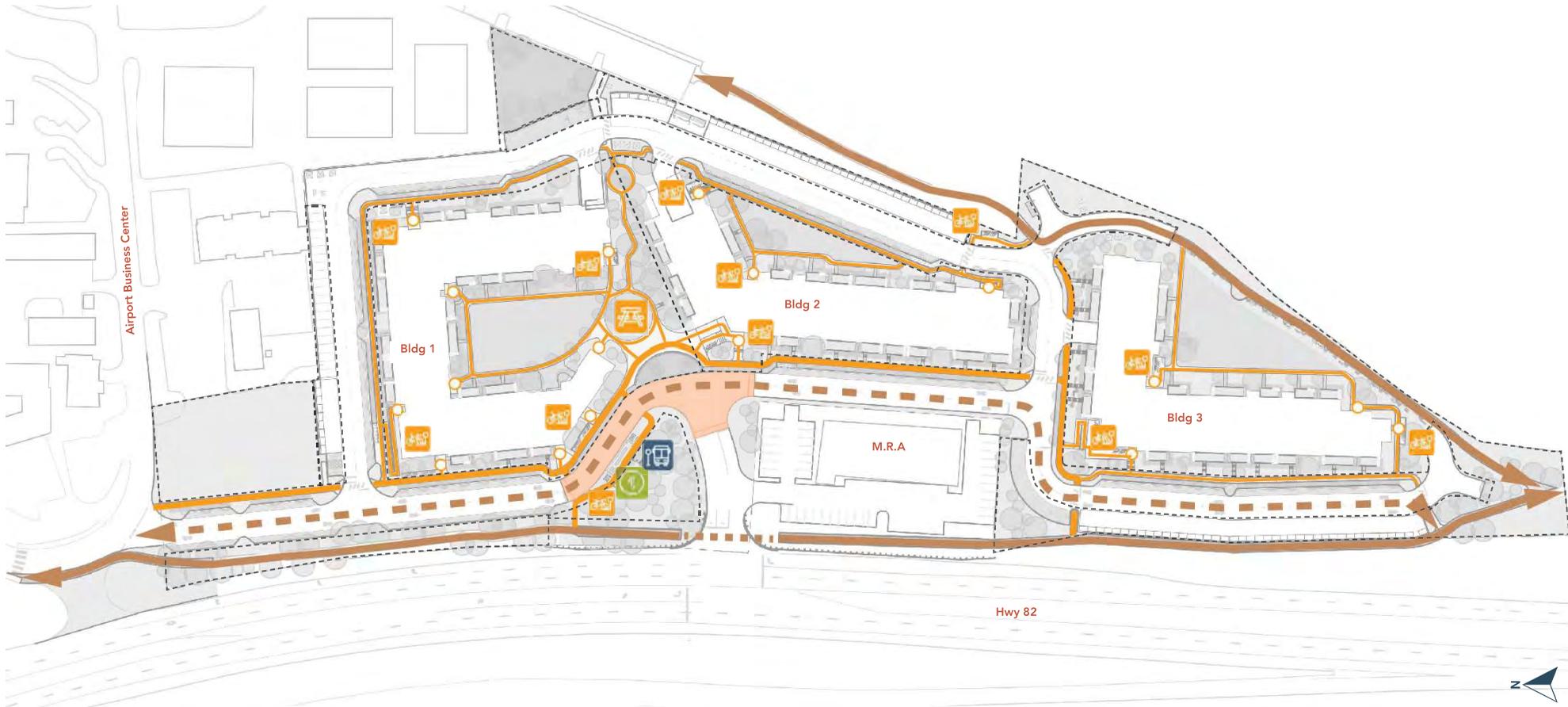
Trash Enclosure

PUD Parcel





6.1 Pedestrian Access



KEY

- Multi-Use Trail
- Underpass
- RFTA Bus Stop
- Bike Parking
- Building Entrance
- PUD Parcel
- Shared Bike Lane
- 5 - 6' Sidewalk
- Raised Pedestrian Zone
- WeCycle Station
- Community Plaza



**PROPOSED
PROJECT
DESCRIPTION:
CIVIL ENGINEERING**



6.2 Civil Engineering Design

Public Infrastructure

- TIA & CDOT Access Control Plan drove signaled intersection & access
- Desire to maintain trail connectivity
- Downstream drainage issue improvements
- On site infrastructure is insufficient to serve proposed use
- Enhancing life/Safety
- Mountain Rescue will remain open and must be accessible during all construction
- Existing grades: roads and proposed site grades were meant to minimize cut/fill





6.2 Civil Engineering Design

Stormwater & Drainage

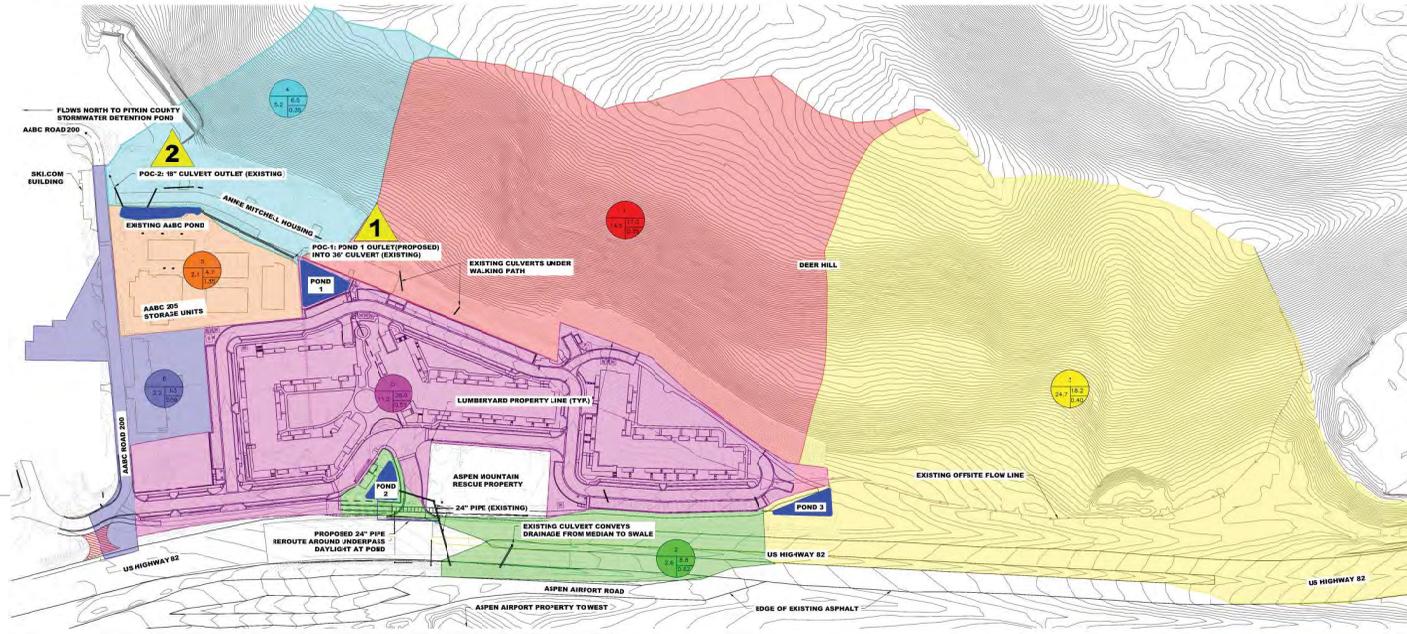
Point of Concentration 1 (POC-1) Lumberyard Pond 1 Release Point		
Lumberyard Site Condition (Inside Property Line)	% Impervious	100-Year Peak Flow (cfs) at POC-1
Undeveloped Condition	0%	20.5
Present Existing Condition	54%	29.6
Proposed Design Developed Condition	49%	11.0

Point of Concentration 2 (POC-2) Existing AABC Detention Pond		
Lumberyard Site Condition (Inside Property Line)	% Impervious	100-Year Peak Flow (cfs) at POC-2
Undeveloped Condition	0%	40.0
Present Existing Condition	54%	49.1
Proposed Design Developed Condition	49%	30.5

- A = BASIN IDENTIFIER
- B = BASIN AREA (ACRES)
- C = 100-YEAR PEAK FLOW (CFS)
- D = C VALUE (MODIFIED RATIONAL METHOD)

= POINT OF CONCENTRATION IDENTIFIER

LUMBERYARD DRAINAGE - ALL INDIVIDUAL BASINS - DEVELOPED CONDITION



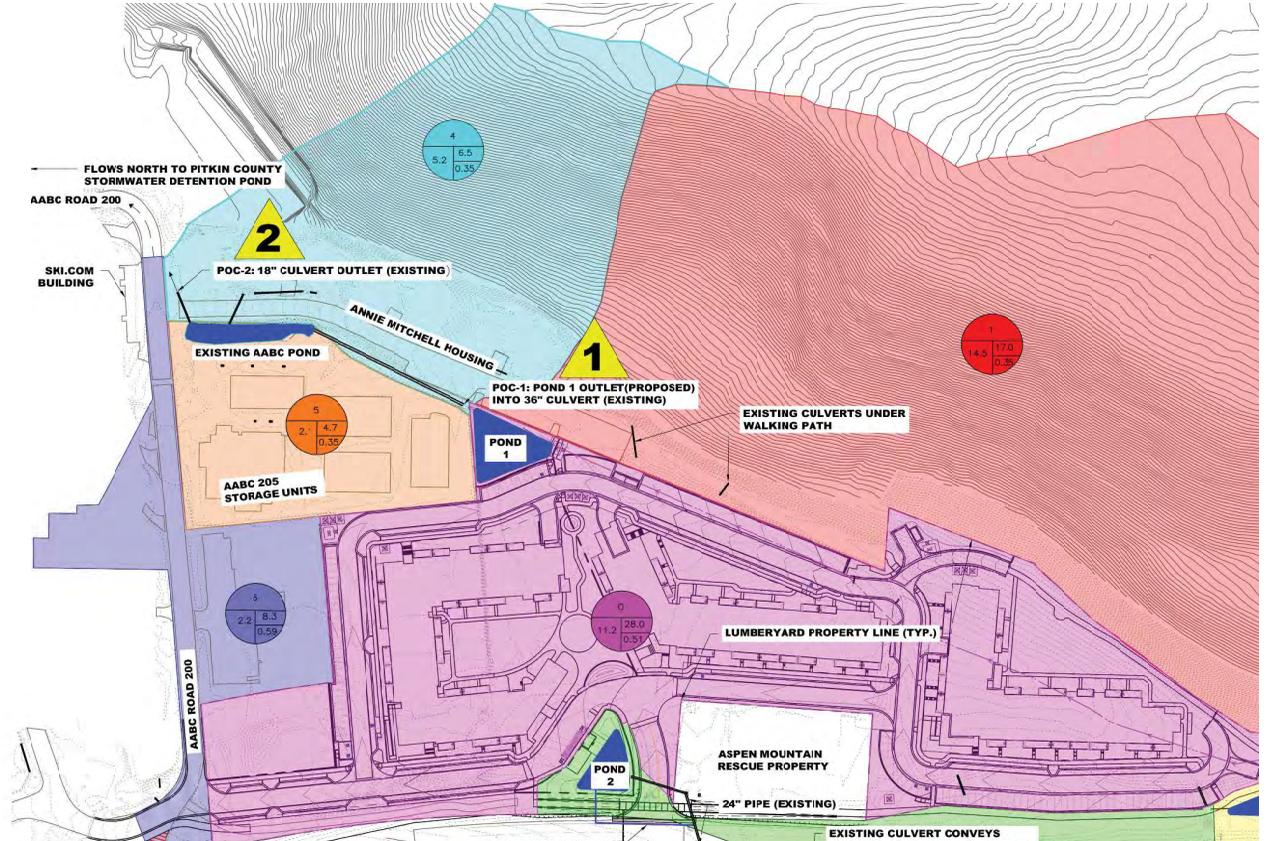


6.2 Civil Engineering Design

Drainage Improvements & Innovations

Key Findings:

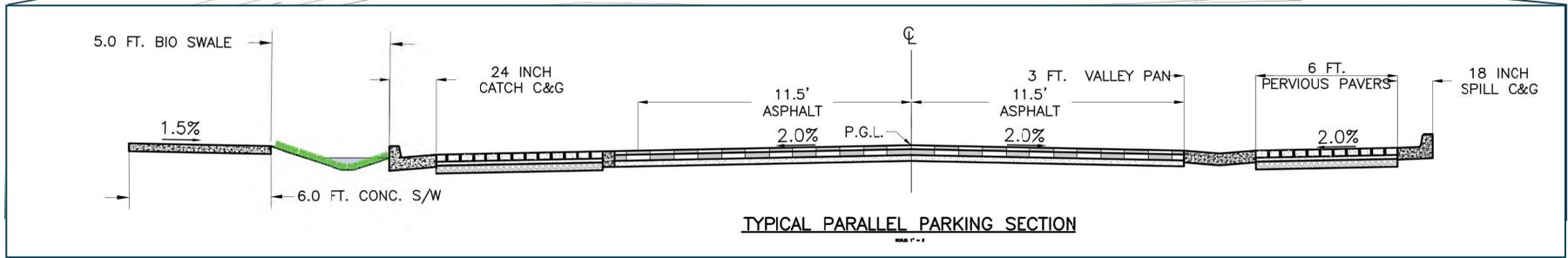
- Utilizing all methods available by code
- Ongoing city Coordination to evaluate tools & discuss reductions





6.2 Civil Engineering Design

Street, Sidewalk, Curb and Gutter





6.2 Civil Engineering Design

Hazard & Mitigation

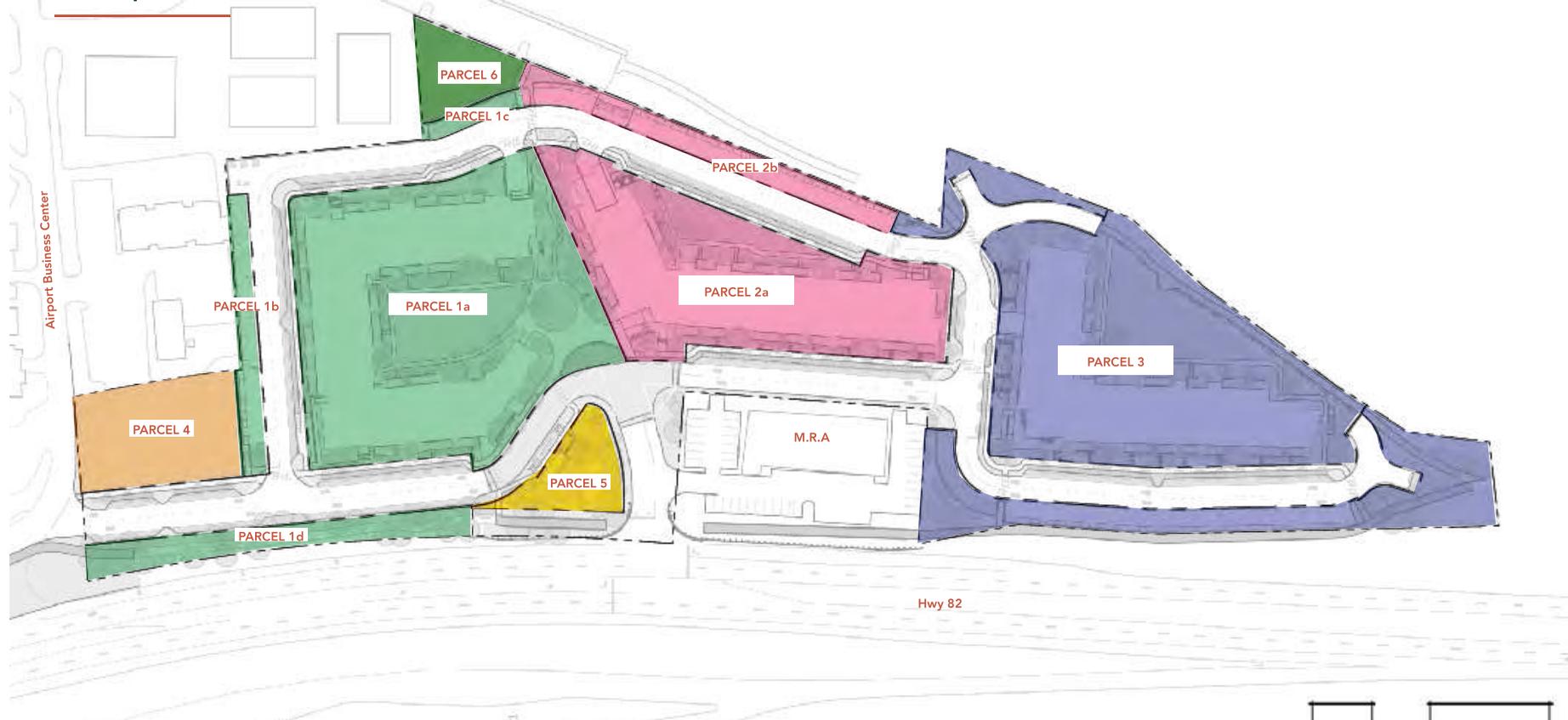


<ul style="list-style-type: none"> - - - - - Approximate Site Boundary  Aboveground Storage Tank  Drum Storage Area  Dumpster (Solid Waste)  Transformer (Pole-Mounted) 	<p>Source: Google Earth (Google)</p> <p>Image Date: November 16, 2019</p> <p>Scale: 1" = 220'</p> <p><small>The base aerial photograph depicts conditions at the time the image was recorded, which may differ from conditions at the time of the site reconnaissance.</small></p>
<p>Aspen Mini Storage, Aspen Lumberyard, and Undeveloped Land 105 AABC and 38005 Highway 82, Aspen, Pitkin County, Colorado</p>	
<p>Kumar & Associates Project No. 21-1-726</p> <p style="text-align: right;">Appendix A - Figure 2</p> <p style="text-align: right;">Site and Vicinity Diagram</p>	



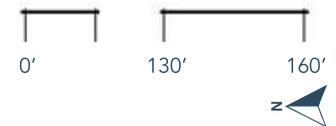
6.2 Civil Engineering Design

Proposed Subdivision Parcels



KEY

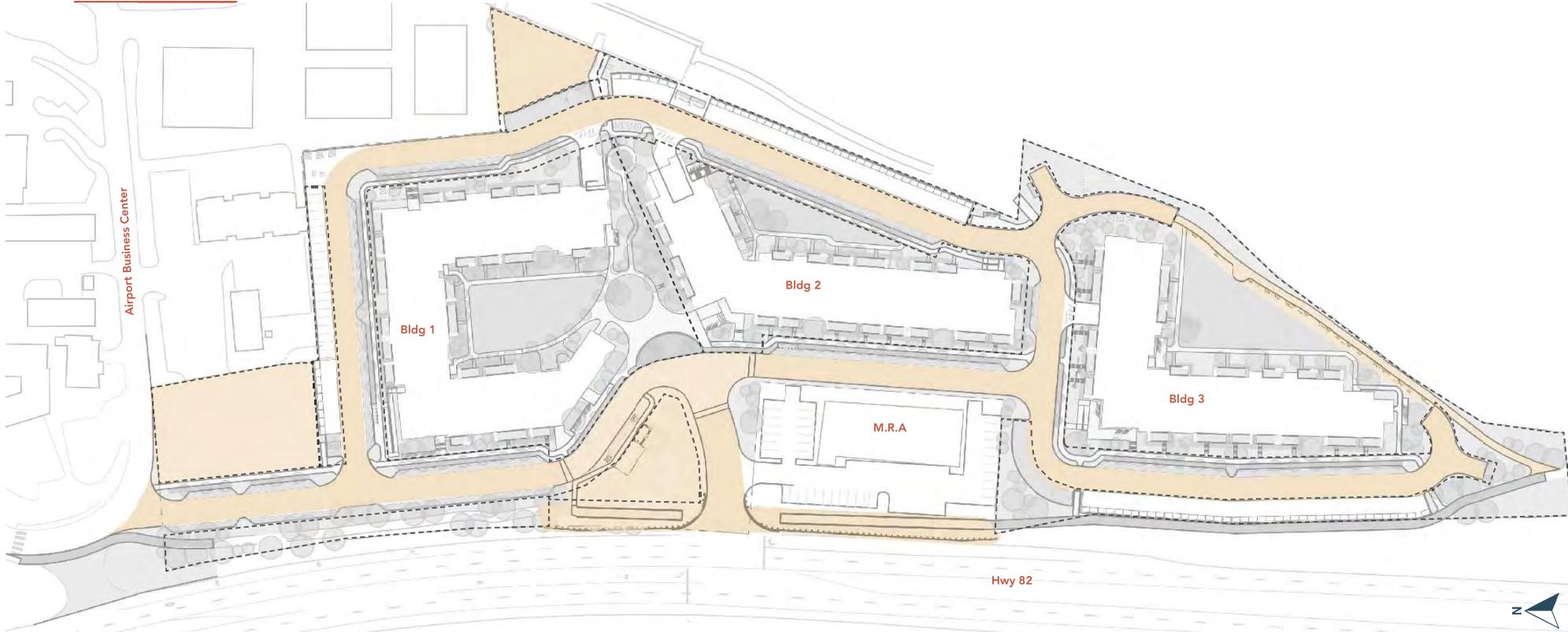
- | | | |
|----------|----------|----------|
| Parcel 1 | Parcel 3 | Parcel 5 |
| Parcel 2 | Parcel 4 | Parcel 6 |





6.2 Civil Engineering Design

Phase 0: Demolition, Recycling & Infrastructure



KEY

- Phase 0
- PUD Parcel

Demolition and removal / reuse of existing building asphalt and concrete.

Construct intersection, underpass, install all utilities and storm infrastructure.

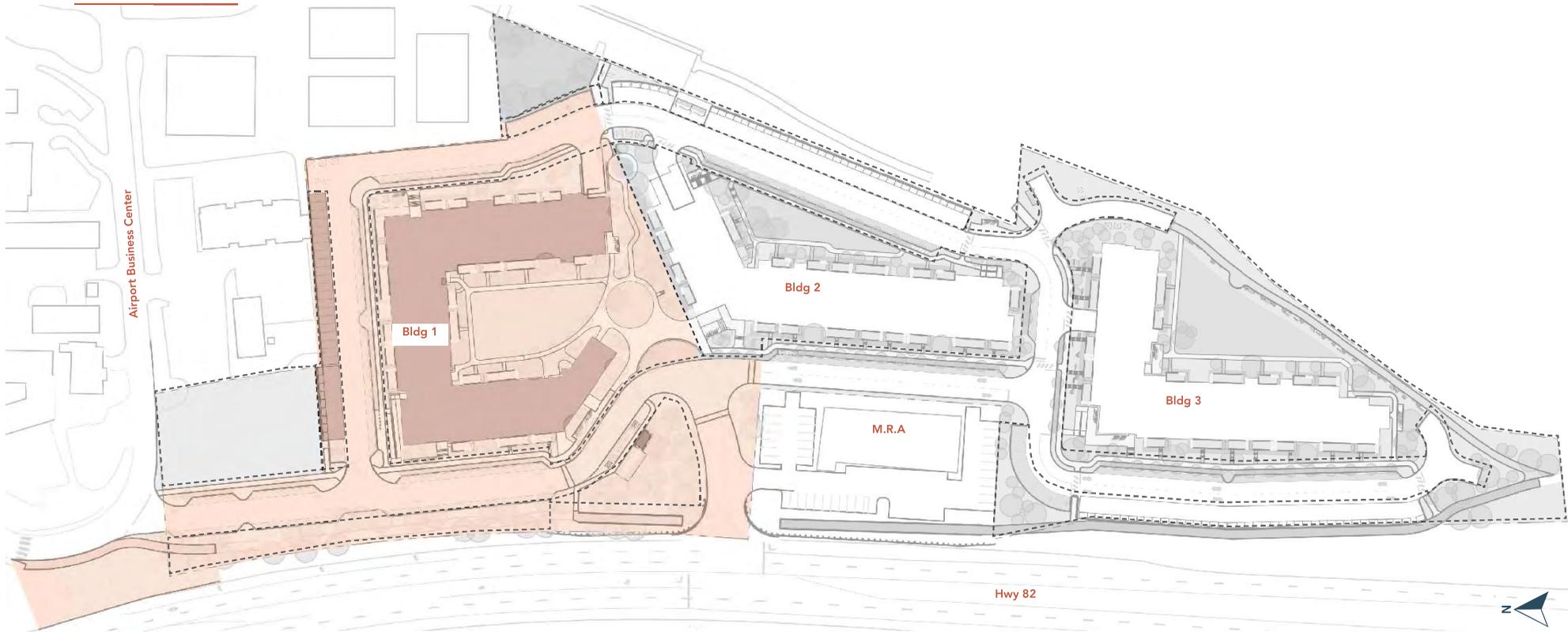
Roads will be brought to grade and temporary asphalt installed.

Install new trail connection behind building 3.



6.2 Civil Engineering Design

Phase 1: Building 1



KEY

- Phase 1
- PUD Parcel

Construct Bldg 1 + Subgrade Parking + Covered Parking + Community Plaza + Transit Shelter

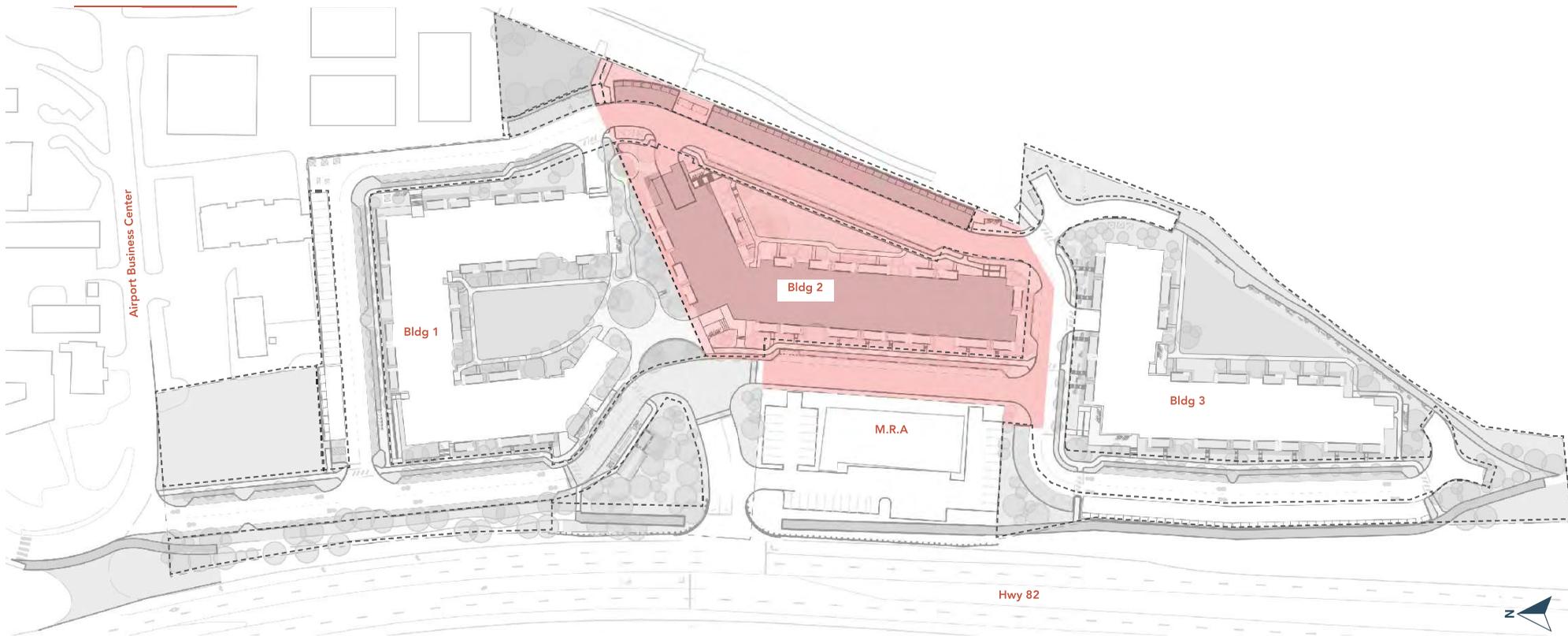
104 Rental Units

All Phases Include Driveways, Patios, Hardscapes, Curb and Gutter Construction.



6.2 Civil Engineering Design

Phase 2: Building 2



KEY

- Phase 2
- PUD Parcel

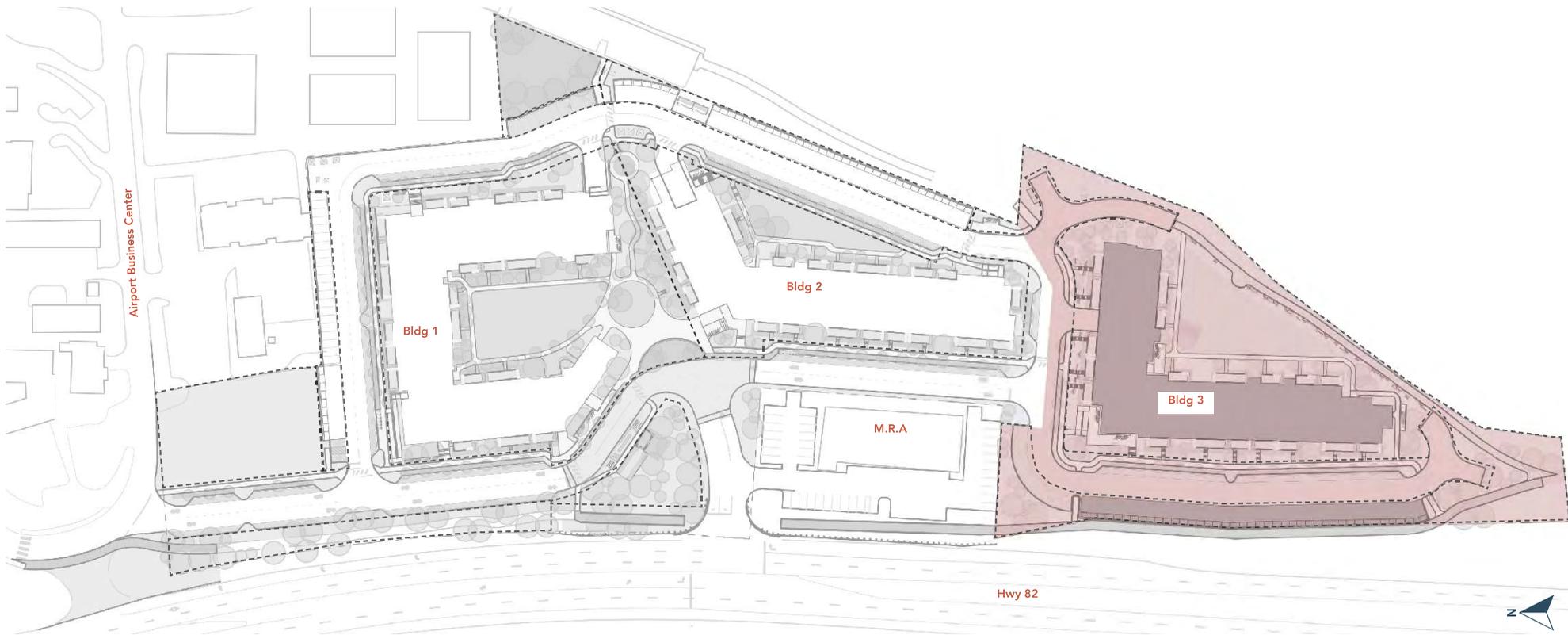
Construct Bldg 2 + Subgrade Parking +
Covered Parking
91 Rental Units

All Phases Include Driveways, Patios,
Hardscapes, Curb and Gutter Construction.



6.2 Civil Engineering Design

Phase 3: Building 3



KEY

- Phase 3
- PUD Parcel

Construct Bldg 3 + Subgrade Parking + Covered Parking

82 Ownership Units

All Phases Include Driveways, Patios, Hardscapes, Curb and Gutter Construction.



**PROPOSED
PROJECT
DESCRIPTION:
ARCHITECTURE**



6.3 Overview

Guiding Principles | Design Drivers

Community Connection

- Shared common areas throughout buildings
- Completed trail system
- Indoor and outdoor gathering spaces

Sustainability

- Enterprise Green Communities Certification
- 75% Net Zero
- Active and Passive solar design
- Resilient & durable materials

Pedestrian Friendly

- Tree lawns
- “Front Porch” exterior access for all ground floor units
- Elevator access to all units

Living Well

- Common spaces provide social connections between residents
- Building design provides elevator access to all units
- Centrally sited buildings create open space
- Storage to accommodate the things it takes to “live well”
- Prioritize natural light and views
- Flexibility in unit design

Authentically Aspen

- Celebrating the color palette of Deer Hill through natural materials
- Celebrating sustainable design strategies
- Celebrating outdoor spaces both private and common
- Creating a new and high standard for affordable housing



6.3 Sustainability

Enterprise Green Communities Certification

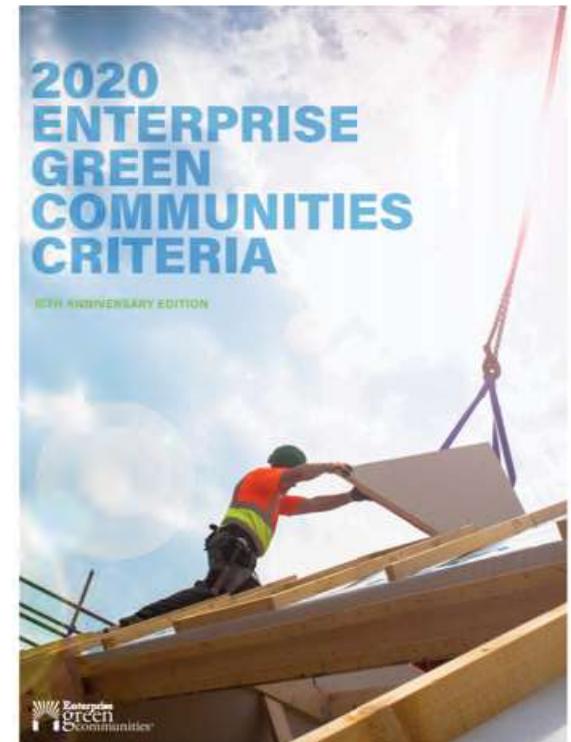
Enterprise Green Communities has a Resilience component which focuses on proactively designing for day-to-day conservation of resources, new climate challenges, hazard mitigation preparedness, and strengthening cultural connections.

- The focus on hazard mitigation preparedness requires that we recognize considerations for hazards such as wildfire, air quality, new disease vectors, extreme events, loss of power, drought and mud flows.
- The focus on cultural resilience provides mental health benefits such as increased sense of shared ownership, social accountability, and sense of belonging.

EGC SCORE: 123pts (40+ Required)

MILESTONES COMPLETED TO DATE:

- Sustainability Charrette
- Context Map
- Social Determinants of Health Analysis
- Project Priority Survey
- Cultural Resilience / Responsive Design Assessment
- Multi-Hazard Vulnerability / Climate Resilient Design Assessment





6.3 Sustainability

Enterprise Green Communities Resiliency Study

Vulnerability	Design Response
Wildfire	Ignition Resistance Construction per 2021 International Wildland-Urban Interface Code (Section 505 Class 2), Intentional Landscaping
Air Quality	Balanced Ventilation, Enhanced Filtration, Mechanical Cooling
New Disease Vectors	Integrated Pest Management, Enhanced Filtration
Extreme Events	Space of Respite, Evacuation Planning, Shelter In Place Strategies, Backup Power for Critical Loads, Snow Removal Site Planning
Loss of Power	Backup Power for Critical Loads, Passive Survivability
Drought	Intentional Landscaping
Mudflow	Site Modification Plan to be Implemented after a Wildfire on Deer Hill

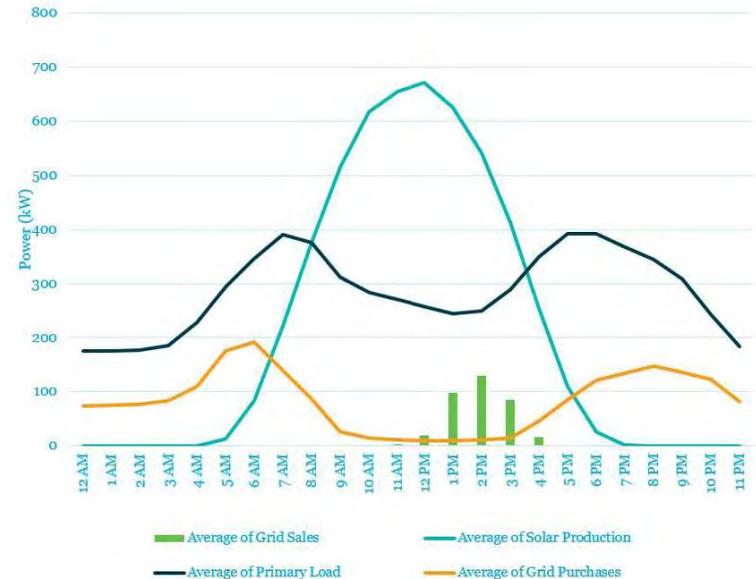
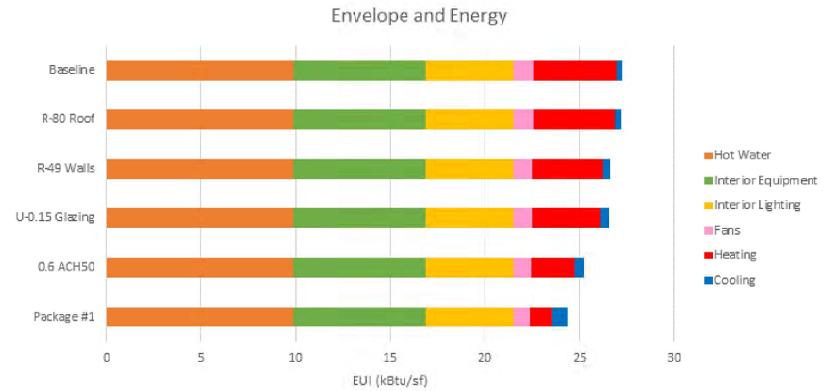


6.3 Sustainability

75% Net Zero

We are currently on track to meet our 75% Net Zero Stretch Goal!

- Designing around a low Energy Use Intensity building
 - Enhanced insulation and infiltration approaches
 - Energy efficient heating/cooling systems
 - Energy efficient water heating systems
 - Heat recovery systems
- Maximizing area of solar array with independent roof structure
- Create a comparative energy analysis between different HVAC and Plumbing systems to begin to identify best value
- Identified a path forward with Aspen Electric balance production limitations for utility and needs on site using a battery system





6.3 Architectural Design

Building Siting



KEY

- Adjacent Structures
- Lumberyard Boundary
- Building Footprint



6.3 Architectural Design

Scale & Massing - 4-Story Precedent



Green Leaf Lofts - Glenwood Springs



North of Nell - Aspen



Hotel Jerome - Aspen



Aspen Square Hotel - Aspen



Roaring Fork Apts. - Basalt



Glenwood Green Apartments - Glenwood Springs

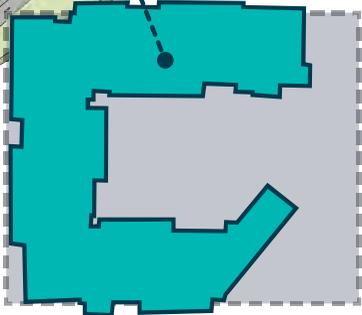
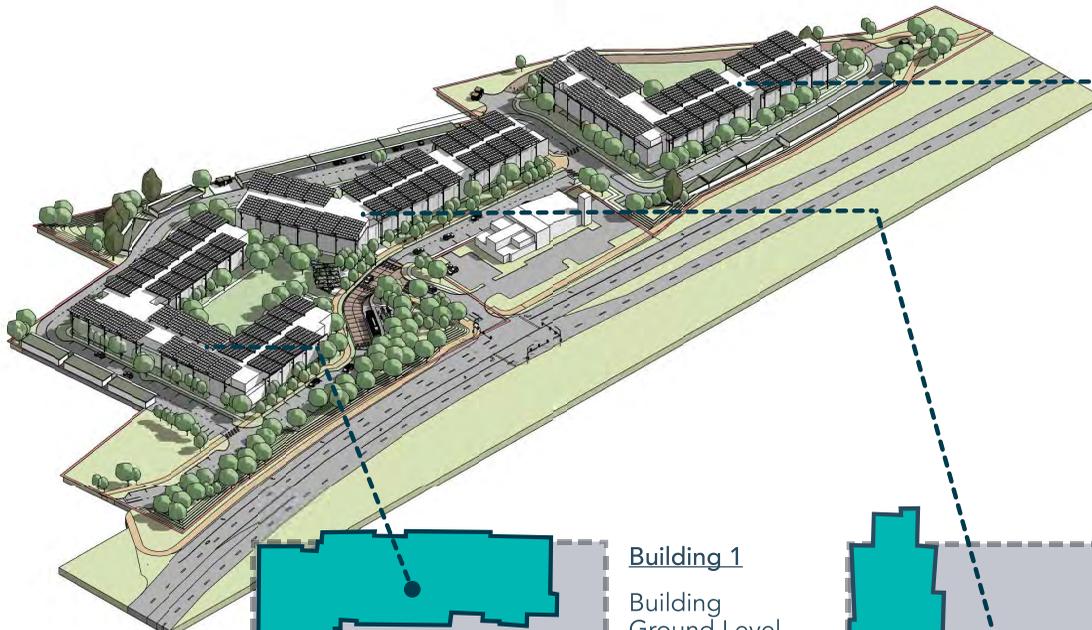


Lift One Condos - Aspen

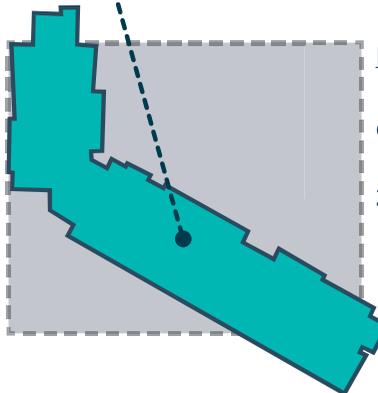


6.3 Architectural Design

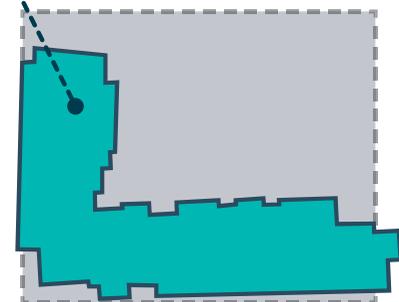
Scale & Massing - Typical City Block



Building 1
Building
Ground Level
Floorplate:
38,447SF



Building 2
Building
Ground Level
Floorplate:
28,705 SF



Building 3
Building
Ground Level
Floorplate:
28,633 SF





6.3 Architectural Design

Floor Area Ratio

Parcel	Parcel Area (SF)	Building	Building Area (SF)	Calculated FAR	Parcel Area Per Unit	Total Units Per Building and Parcel
Parcel 1a	90694.27	Building 1	186,256	2.05	872.06	104
Parcel 2a	57892.42	Building 2	147,507	2.55	636.18	91
Parcel 3	113995.04	Building 3	145,134	1.27	1,390.18	82
Total Unit Count						277
Building Area Total			478,897			



6.3 Architectural Design

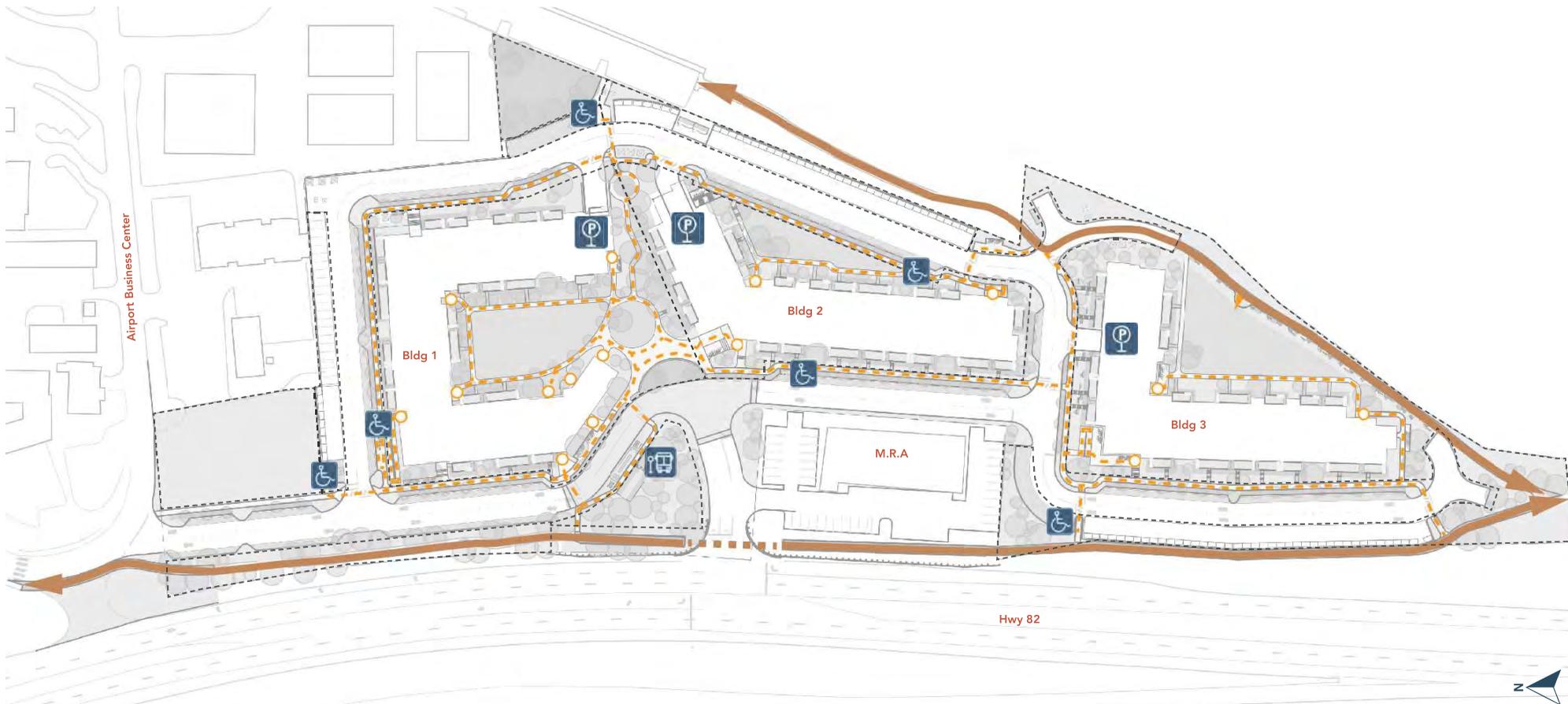
Key Features

- Corridors end with light and views
- Private patio with street entry for ground-level units
- Light filled stairways always easily accessed from units
- Multi waste/recycling/compost stations per floor
- Unit entries recessed from corridor to create a better sense of personal space
- On-Site Leasing Office (Bldg 1)
- Light-filled lobby with multiple elevators, feature stair, mail & package rooms
- Solar screening and shading
- Community amenities include a fitness center, community room, officing areas, roof decks
- Type A & B Units





6.1 Accessibility



KEY

20 ADA Parking Spaces
(Required & Provided)
60% Underground
(see floor plans)

ADA Accessible Sidewalks
Garage Entrance

ADA Parking Space

ADA Building Entrance

ADA Parking Space

ADA Multi-Use Trail

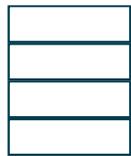
PUD Parcel

Type A Units across the building
All units are accessible via elevator

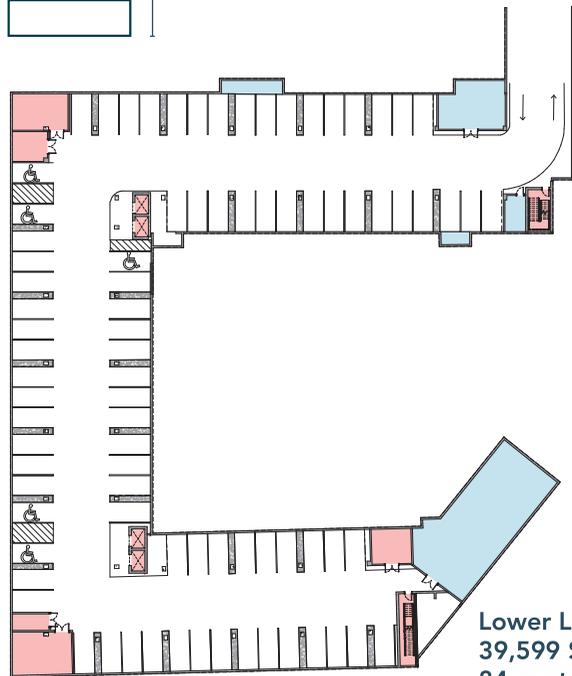


6.3 Architectural Design

Building 1 Floor Plans



4 stories
Max Height: 48'
+ 15' Solar Panels



Lower Level Parking
39,599 SF
84 spots

KEY

- Circulation
- Units
- Support Spaces
- Common Spaces

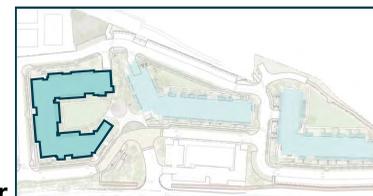


Ground Floor
38,447 SF



Floors 2 - 4
36,251 SF

KEY PLAN

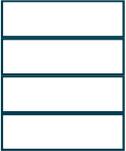


Type A Units across the building
All units are accessible via elevator



6.3 Architectural Design

Building 2 - Floor Plans


 4 stories
 Max Height: 48'
 + 15' Solar Panels



KEY

-  Circulation
-  Units
-  Support Spaces
-  Common Spaces

KEY PLAN

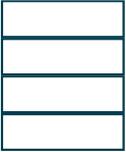


Type A Units across the building
All units are accessible via elevator



6.3 Architectural Design

Building 3 - Floor Plans


 4 stories
 Max Height: 48'
 + 15' Solar Panels



Lower Level Parking
 29,371 SF
 70 spots



Ground Floor
 28,633 SF

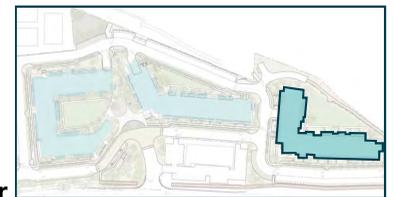


Floors 2 - 4
 29,549 SF

KEY

-  Circulation
-  Units
-  Support Spaces
-  Common Spaces

KEY PLAN



Type A Units across the building
All units are accessible via elevator



6.3 Architectural Design

Unit Plans

Key Features

- Module based design
- Open floor plans to give residents flexibility in furniture layout
- Galley style kitchen to allow residents to use a dining table, furniture island, or both
- In unit laundry
- Private balconies or terraces, sized to allow a variety of functions
- All bedrooms sized to allow for king beds and flexibility with furniture
- Primary bedroom suite (2 & 3 bed units)
- In unit storage
- Bathtubs in every unit



1 bed - 667 SF



2 bed - 1068 SF



3 bed - 1467 SF

Unit Types	Count	Rental		Ownership
		Building 1	Building 2	Building 3
		Count	Count	Count
One-Bedroom	129	52	43	34
Two-Bedroom	106	36	36	34
Three-Bedroom	42	16	12	14
Total Unit Count	277	104	91	82
Bedroom Count	467	172	151	144



6.3 Architectural Design

Context & Compatibility

Taking inspiration from Deer Hill and the surrounding site, the colors and textures used in the Lumberyard will reflect the vegetation and seasonality of the native landscape.

This biophilic approach will allow the Lumberyard to 'blend in' with its surroundings to carry your eyesight to the surrounding sagebrush and Deer Hill.

Balanced with the natural context, the materials also pull from the built context of adjacent buildings and the past use as the lumber yard mixing woods and metals.





6.3 Architectural Design

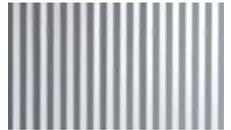
Aesthetic

Rooted in place

- A biophilic response to the native flora and seasonality
- A nod to the history of the site
- Thoughtful in attitude towards neighbors
- Celebratory in its preservation of surroundings

A new spin on Mountain Modern

- Not tied to familiar form
- Simplicity in use of color, rich in use of texture
- Natural & Authentic use of materiality
- Honest in its construction
- Interest at multiple scales



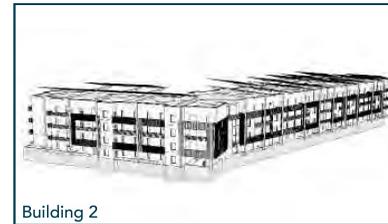


6.3 Architectural Design

Aesthetic

Vertical Articulation

- Set backs
- Recessed/extruding balconies
- Shadow lines and layers



Softened Ground Plane

- Blending the buildings base with the pedestrian street
- Stoops, porches, and private balconies
- Gardens and foliage
- Soft lines
- Draws the eye down
- Engaging pedestrian experience

Celebrating Sustainability

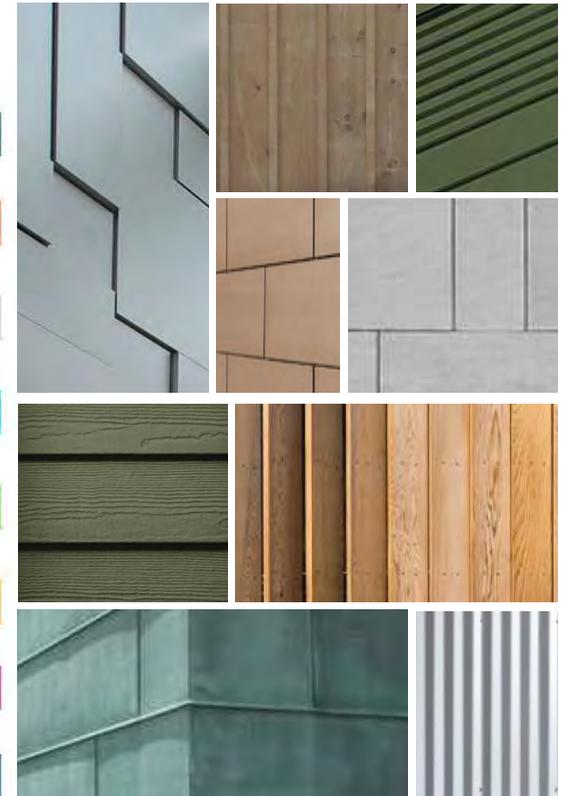
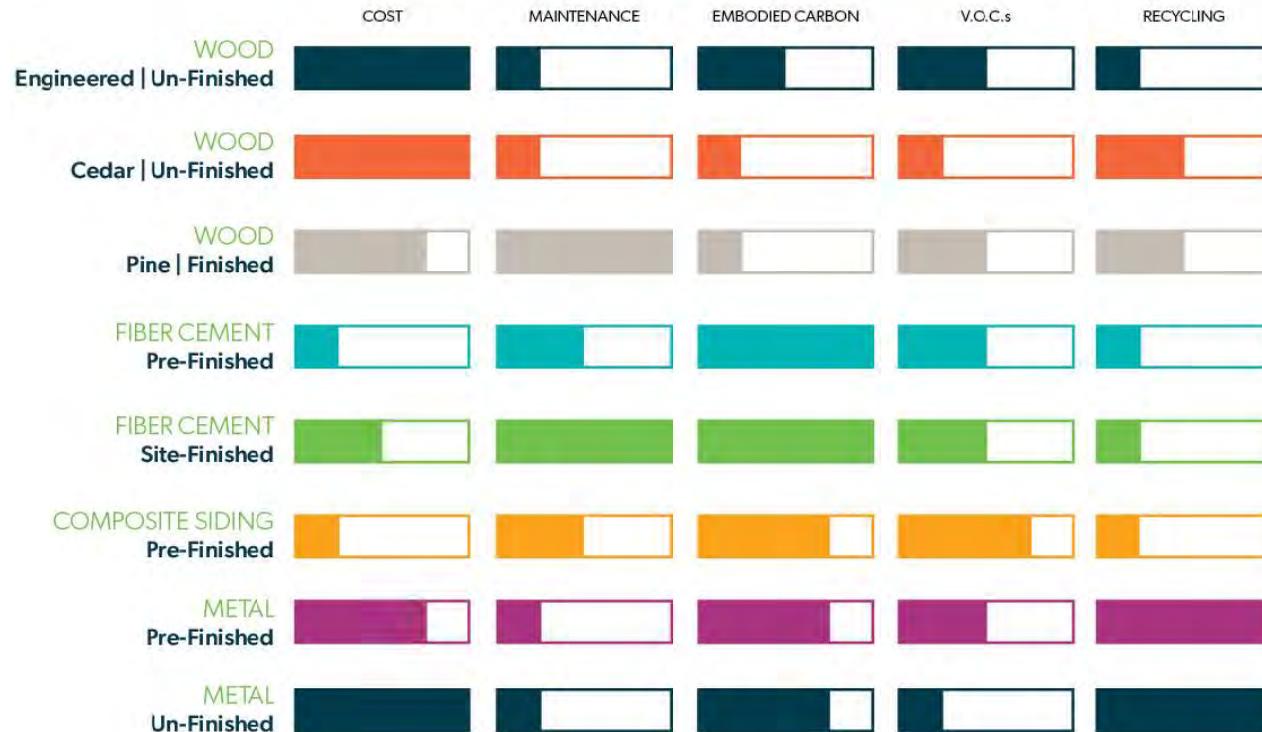
- Building orientation
- Passive solar shading
- Solar array as design element





6.3 Architectural Design

Materiality and Sustainability

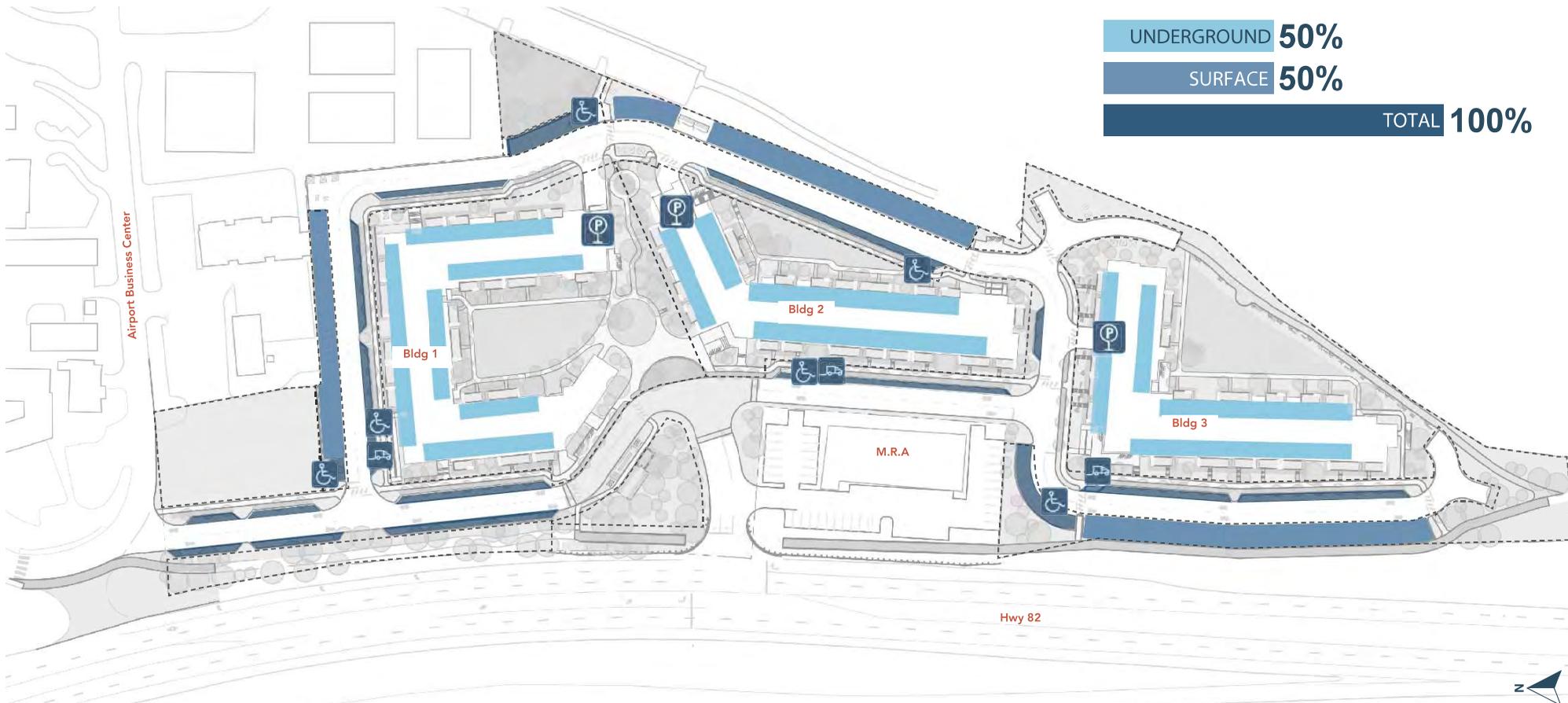




**PROPOSED
PROJECT
DESCRIPTION:
TRANSPORTATION
& PARKING**



6.4 Transportation & Parking Management



KEY

- 425 Required & Provided
- 50% Underground
- Underground
 Carport
 Surface
 PUD Parcel
- Garage Entrance
 ADA Space
 Loading & Drop-Off



6.4 Transportation Impact Analysis Report

Lumberyard Development Impacts

Key Findings

- By providing housing closer to Aspen, the project will reduce CO2 emissions from commuter transportation by 500,000 to 600,000 pounds per year.
- The project adds about 50 vehicle trips to the transportation system
- Right after people move to the Lumberyard, travel times on Hwy 82 will increase by about one minute during rush hour.
- Thereafter, the project will not significantly further increase travel times on Hwy 82.
- Through improved transit, the City can further reduce vehicle trips and travel times.

Impact Mitigation Recommendations

Project Team Recommends Raising the Priority of these Recommendations:

- Dedicated transit route from Rubey Park to new transit station at lumberyard with 30-minute service. Service should include stops between Rubey Park and Lumberyard. Operating 30-minute service would require two transportation vehicles.
- A bike share station is recommended, to be located adjacent to transit station at Lumberyard.

Project Team Recommends Lowering the Priority of these Recommendations:

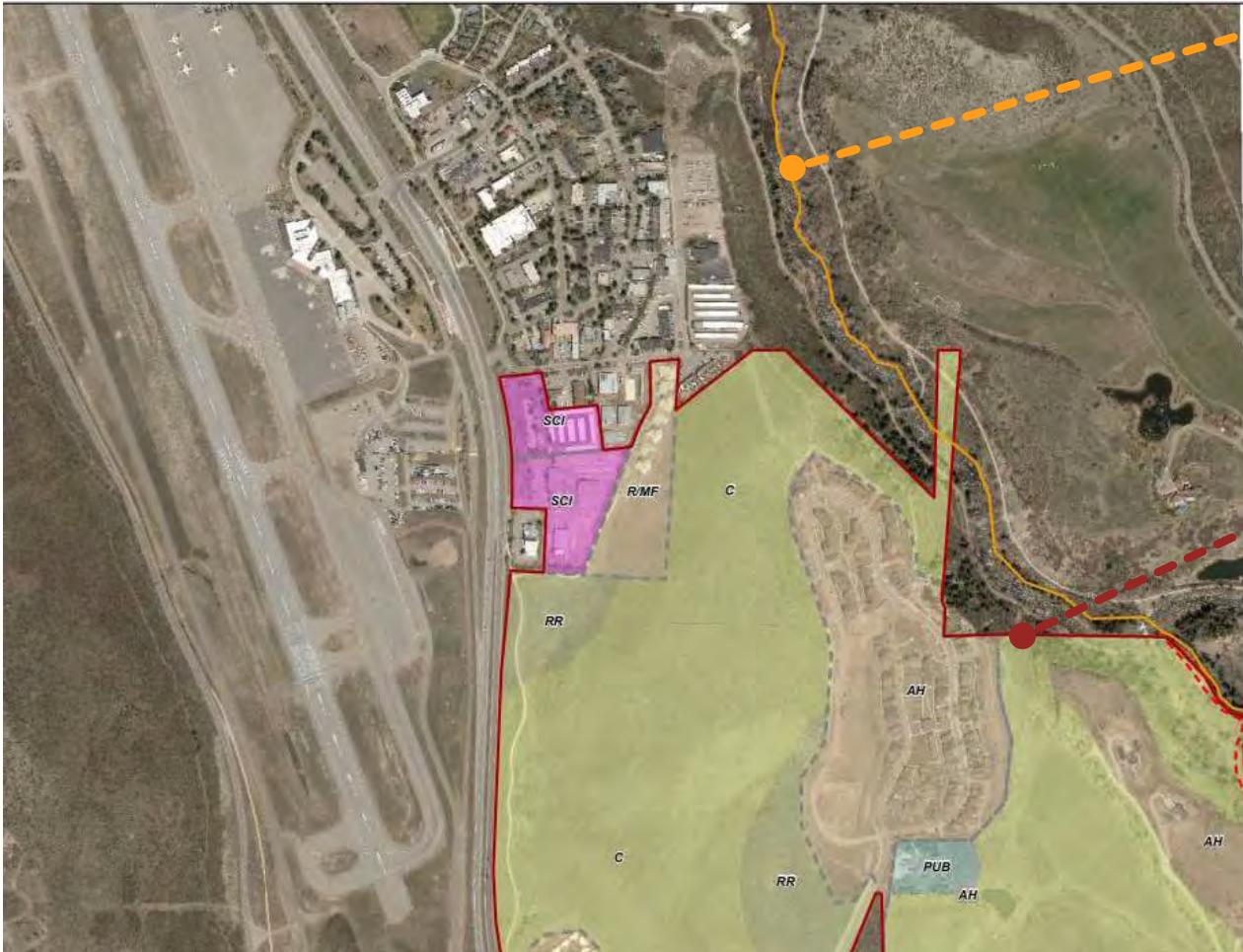
- Dedicated transportation route from Rubey Park which would loop around the Lumberyard, AABC and airport.
- Feeder / circulator service
- Buy-up additional service routes (non-dedicated service)
- Car share by relocating an existing car, not buying a new car



**PROPOSED
PROJECT
DESCRIPTION:
AREA LAND USE
& REZONING**



6.5 Adjacent Zoning Districts



Urban Growth Boundary

City Limits



6.5 Residential Multifamily (RMF)

Purpose

The purpose of the Residential Multi-Family (RMF) Zone District is to provide for the use of land for intensive long-term residential purposes, Short-term Rentals, and customary accessory uses. Recreational and institutional uses customarily found in proximity to residential uses are included as conditional uses.

Lands in the Residential Multi-Family (RMF) Zone District are typically those found in the Aspen infill area, within walking distance of the center of the City or lands on transit routes and other lands with existing concentrations of attached residential dwellings and mixed attached and detached residential dwellings.

Permitted Uses

- Detached residential dwelling
- Two (2) detached residential dwellings
- Duplex
- Multi-family dwellings
- Home Occupations
- Accessory buildings & uses
- Dormitory
- Accessory dwelling units & carriage houses meeting the provisions of Chapter 26.520
- For historic landmark properties: bed & breakfast
- Short-term Rentals

Conditional Uses

- Arts, cultural & civil uses
- Academic uses
- Recreational uses
- Group home
- Child care center



6.5 Variation Requests

	Existing Residential Multifamily Dimensional Standards	Proposed Lumberyard Dimensional Standards
Minimum Gross Lot Area	6,000 SF	-
Net Lot Area	Multi-family dwellings: No requirement.	-
Minimum Lot Width	For lots containing or proposed for One Hundred (100) Percent Deed-Restricted Affordable Housing: 30 ft.	15 ft. for parking/storage lots. 30 ft. for multifamily lots
Minimum Front Yard Setback	5 ft.	Allow "zero-lot line" development
Minimum Side Yard Setback	5 ft.	Allow "zero-lot line" development
Minimum Rear Yard Setback	5 ft.	Allow "zero-lot line" development
Maximum Site Coverage	None specified	-
Maximum Building Height	Multi-family - parcel density less than one (1) unit per one thousand five hundred (1,500) square feet of Gross Lot Area: 25ft	58 ft.
	Multi-family - parcel density equal to or greater than one (1) unit per one thousand five hundred (1,500) square feet of Gross Lot Area: 32 ft	-
Minimum Distance between buildings	Multi-family: No requirement. (Building and Fire Codes may apply.)	-
Public Amenity Space & Minimum open space		-
Floor Area Ratio	Multi-family - parcel density of less than one (1) unit per one thousand five hundred (1,500) square feet of Gross Lot Area: 0.75:1	Parcel 1a - 2.05 Parcel 2a - 2.55 Parcel 3a - 1.85
	Multi-family - parcel density equal to or greater than one (1) unit per one thousand five hundred (1,500) square feet of Gross Lot Area: 1.25:1	
	Multi-family - parcel density equal to or greater than one (1) unit per seven hundred fifty (750) square feet of Gross Lot Area: 1.5:1	
Maximum multi-family unit size	For properties in the Aspen infill area, two thousand (2,000) square feet of net livable area. For properties outside the Aspen infill area, two thousand five hundred (2,500) square feet of net livable area.	-
Trash Access area	Building two: 91 = 300 SF min	-
Minimum off-street parking spaces	Residential Multi-Family (As single use) = 1 unit per Dwelling	-
Energy Efficiency or Renewable Energy Production Systems and Equipment	On any structure other than a single-family or duplex residential building or an accessory building, these systems may extend up to ten (10) feet above height of the building at the point the equipment is attached if set back from any Street facing façade of the building a minimum of twenty (20) feet and the footprint of the equipment is minimized and combined to the greatest extent practicable.	15 ft. above Maximum Building Height
City Right-of-Way Width for a Local roadway	72 ft.	Minimum 23 ft.



REGULATORY REVIEW REQUIREMENTS



7.0 Regulatory Review Requirements

Application Summary

- Major Public Project Review
- Major Subdivision
- Rezoning
- Planned Development
- Growth Management Quota System
- School Land Dedication & Impact Fees
- Residential Design Review





7.0 Regulatory Review Requirements

Major Public Project Review

Section 26.500.040 AMC states that affordable housing projects developed by the City shall be considered a Public Project and eligible for an alternative review and approval process.

Replaces the 3-step process typically required under a Major Planned Development application.

REVIEW PROCESS:

Step 1 Public Hearing before P&Z for recommendation by resolution

Step 2 Public Hearing before City Council for decision by ordinance

NEIGHBORHOOD OUTREACH:

Community Development Department determined Neighborhood Outreach is required.

An outreach event in compliance with Section 26.304.035 is planned.

Review Standards

- Compliance with zoning district limitations, or is otherwise compatible with neighborhood context
- Supports community goals
- Compliance with all other applicable Land Use Code requirements
- Receives all development allotments required by the Growth Management Quota System



7.0 Regulatory Review Requirements

Major Subdivision Review

Proposal:

Major Subdivision: 10 New Lots

- 3 Multi-Family Lots
- 4 Parking & Pedestrian Corridor Lots
- 1 Future Childcare Lot
- 2 Stormwater utility Lots

New Public Roadways

Improved access off HWY

Will conform with proposed PD zoning specifications

Layout designed to accommodate phased building development and infrastructure construction

Review Standards

- Compliance with General Subdivision Review Standards.
- Guaranteed Access to Public Way
- Alignment with Original Townsite Plat.
- Zoning Conformance
- Existing Structure, Uses & Nonconformities.
- Enables an efficient pattern of development that optimizes the use of the limited amount of land.
- Preserves important geologic features, mature vegetation, and structures or features of the site that have historic, cultural, visual, or ecological importance or contribute to the identity of the town.
- The proposed site is not unsuitable for development because of natural or man-made hazards affecting the property.
- All engineering design and mitigation techniques have been identified as necessary to comply with city design requirements.
- The proposed subdivision shall upgrade public infrastructure and facilities necessary to serve the subdivision.
- Is exempt from or has been granted all growth management approvals.
- Meets the School Land Dedication requirements.



7.0 Regulatory Review Requirements

Rezoning - Review Standards

- Located within Urban Growth Boundary & City Limits
- Site lends itself to multi-family development due to proximity to existing infrastructure & transit
- Adequate demand to serve proposed water & sewer needs
- Building placement design prioritized minimizing impact to existing topography
- Proposed drainage design will bring improvement to the area
- The City of Aspen has prioritized development of affordable housing. The Lumberyard project aligns with this goal.
- Providing housing to the people who work in Aspen adds to the community character that makes Aspen special.





7.0 Regulatory Review Requirements

Planned Development Process Highlights

Why Planned Development?

Utilizing the Planned Development process allows the Lumberyard project to maximize efficiencies and design through the creation of a site specific Development Plan while at the same time aligning to Aspen community goals & vision.



Zoning:

Existing zoning for the project site is SCI-PUD. Zone change to RMF-PD needed to develop the site with Multi-Family affordable housing as proposed.

Site Specific:

The Planned Development Agreement and Plat will establish and memorialize the new development rights and dimensional standards associated with this Proposed Project.

Combined Review:

Project Review & Detailed Review are submitted concurrently

Project Review & Detailed Reviews will include a hearing before the Planning & Zoning Commission for a recommendation followed by City Council consideration of approval

Enhanced Public Engagement:

Additional Neighborhood Outreach in addition to public noticing requirements



7.0 Regulatory Review Requirements

Planned Development

Plan Review and Detailed

Review Standards

- Aligns with City Goals.
- Compatible with existing neighborhood character.
- Generally complies with the intent of the RMF underlying zoning district.
- Site has favorable location, area & physical characteristics that lend itself to Multi-Family development.

Architectural Highlights

- Multi-Family permitted in RMF district
- Building Height variation
- Energy Efficiency or Renewable Energy Production Systems/ Equipment variation

Civil Highlights

- Adequate capacity for connection to services
- Compliant sidewalk network
- Modification to City Right-of-Way Width for a Local roadways

Landscape & Site Highlights

- Compliant with city parking requirements
- Zero Lot line Buildings



7.0 Regulatory Review Requirements

Growth Management Quota System & School Land Dedication, Impact Fees

Growth Management Quota System

As an affordable housing project not being developed for mitigation or certificate purposes, no development allotments are required as there is no annual limit on affordable housing allotments.

Qualifies for Administrative Review under Sec. 26.470.090(d)

School Land Dedication & Impact Fees

A net increase in residential floor area triggers in-kind contribution or payment School Land Dedication, Parks & TDM/Air Quality Impact Fees.

Application will request an exemption from the School Land Dedication, Parks & TDM/Air Quality Impact Fees in accordance with Section 26.610.100.



6.3 Residential Design Standards

Building Orientation

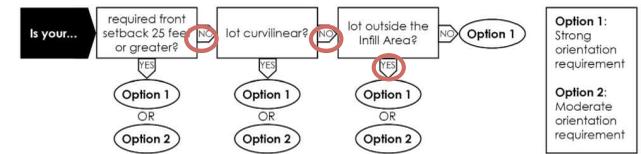
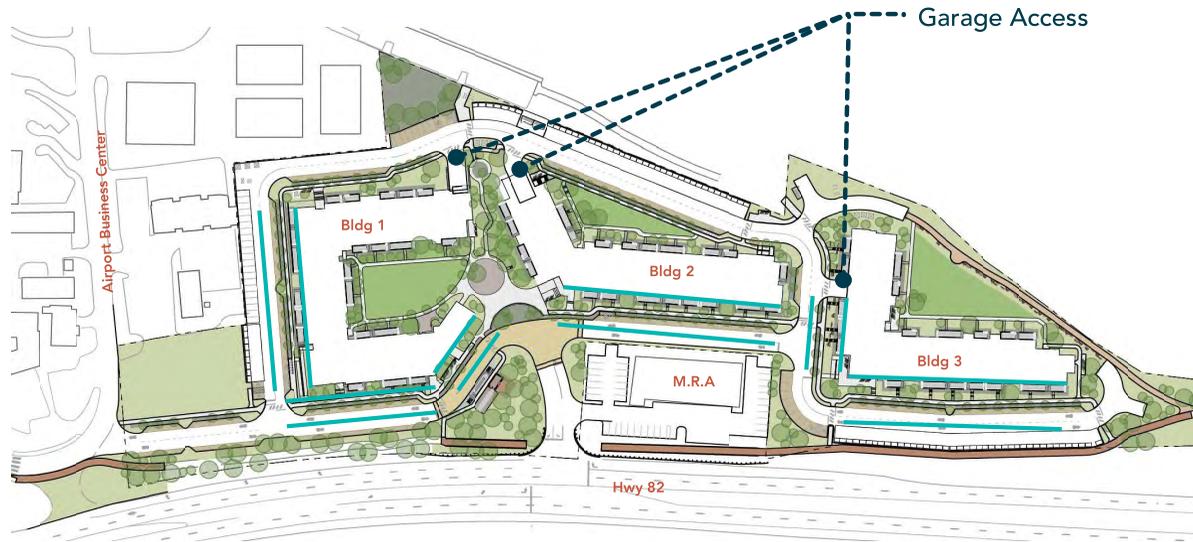
- This standard is APPLICABLE
- Strong Orientation: Majority of the front facades are parallel to the street

Garage Access

- This standard is NOT APPLICABLE
- All garages are access from public streets.

Garage Placement

- This standard is APPLICABLE
- All garages are access from public streets
- Proposed Project MEETS this standard
- All garage entries are placed on secondary facades
- All garage entries have a minimum 30ft setback from the street, minimizing view from the street



Strong Orientation



6.3 Residential Design Standards

Entry Connection

- This standard is APPLICABLE
- Requires Street Oriented Entrances and Open Front Porches
- Buildings 1, 2 & 3 MEET this standard
- Primary entrances are parallel to the street
- Street facing ground floor units have patios with unit entry and access to the sidewalk



Principal Window

- This standard is APPLICABLE
- Buildings 1, 2 & 3 meet the intention of this standard
- Units contain several windows meeting or exceeding the standard window area (12sqft)
- Buildings also contain large expanses of glass at entries and common areas promoting the connection between residents and the street





COMMENTS & QUESTIONS

thank you.

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APPENDIX