

AGENDA

Planning and Zoning Commission

June 1, 2022 – REGULAR MEETING

5:30 PM

The New Business items have been placed on the agenda in the order they were received. Please note that at 9:00 p.m., the Commission will evaluate the remainder of the agenda to determine if time constraints will permit the full agenda to be heard at this meeting. All items not heard at this meeting will be postponed to the next regularly scheduled PC/BOA meeting of June 15, 2022 or to a special meeting scheduled by the Commission.

NOTICE: THE VIDEO AND AUDIO FOR THIS MEETING ARE STREAMED TO THE PUBLIC VIA THE INTERNET AND MOBILE DEVICES WITH VIEWS THAT ENCOMPASS ALL AREAS, PARTICIPANTS AND AUDIENCE MEMBERS

PLEASE SILENCE ALL ELECTRONIC DEVICES DURING THE MEETING

1. LOG INTO PC/BOA MEETING

I. Link to ZOOM meeting:

<https://us02web.zoom.us/j/88318456737?pwd=K1N3anM1L0dkUDFsWDIYWVFYQW1mdz09>

2. CALL TO ORDER

3. ROLL CALL

4. MATTERS FROM THE PUBLIC

5. APPROVAL OF MINUTES

I. May 18, 2022 Minutes

6. OLD BUSINESS

7. NEW BUSINESS

8. BOARD OF ADJUSTMENT

9. PLANNING COMMISSION

I. **P21-332:** Land Development Regulation Text Amendment to Article 2: Complete Neighborhood Zones, Article 5: Physical Development Standards Applicable in all Zones, Article 6: Use Standards Applicable in all Zones, and Article 9: Definitions, to amend various standards in residential zones related to the mass, scale, and character of residential development. Continued to the June 15, 2022 Planning Commission meeting.

II. **P22-071:** 50 S. Cache, 45 & 75 E. Pearl - Development Plan

III. **P22-015:** LDR Text Amendment - Exterior Lighting & Sign Standards

10. MATTERS FROM THE COMMISSION

11. AGENDA FOLLOWUP

12. MATTERS FROM STAFF

13. ADJOURNMENT

**MINUTES
PLANNING AND ZONING COMMISSION
TOWN OF JACKSON, WYOMING
May 18, 2022**

The meeting of the Planning and Zoning Commission was called to order at 5:30 p.m. on 05/18/2022, via ZOOM.

ROLL CALL:

☐ Anne Schuler (not present during roll call), ☐ Wendy Martinez, ☐ Katie Wilson, ☐ Abby Petri, ☐ Christie Schutt,
☐ Thomas Smits

STAFF: Paul Anthony, Tyler Sinclair

MATTERS FROM THE PUBLIC: None

APPROVAL OF MINUTES: A motion was made by: Smits seconded by: Petri

Motion approved by a 5 to 0 vote

OLD BUSINESS: None

PLANNING COMMISSION

ITEM P21-333: Request for a Land Development Regulation (LDR) Text Amendment to Section 6.1.4 Residential Uses and Section 6.1.5 Lodging Uses to amend definitions regarding occupancy limits. Continued from the April 20, 2022 Planning Commission meeting.

STAFF PRESENTATION: Tyler Sinclair

APPLICANT PRESENTATION: NA

QUESTIONS FROM COMMISSION: Planning Commission asked about how the 30-day locals exclusion would work with the new 90-day lease limit and how the enforcement would work.

PUBLIC COMMENT:

Anna Olson: Asked that this item be delayed to be discussed with the pending housing nexus study and housing mitigation policy discussion.

Leigh Chrisinger: Owner of Jackson Hole Property Management does not support the proposed

amendment and stated that it will not create workforce housing because most of their units are luxury units not likely to be converted to work-force housing.

Clare Stumpf: Speaking as an individual supports the amendment because it will deter potential buyers from demolishing existing workforce housing to build expensive new housing that is then rented short-term.

Esther Judge: Supports the amendment and anything that supports the community by slowing down the removal of existing homes.

Commission Discussion:

- Commissioner Schuler expressed general support for the amendments and the proposed 90-day minimum lease period and stated that there are adequate lodging options in the Lodging Overlay.
- Commissioner Petri agreed with Schuler and stated that while the changes would not likely add much actual workforce housing it would deter buyers from buying residential properties and converting them investment properties.
- Commissioner Smits opposed the changes due to concerns about property rights. He would also like more data on how many properties would be impacted by the changes and how many workforce housing units might be created. He was also concerned that house renters would stop using property management companies and instead manage units directly themselves which would be less regulated.
- Commissioner Martinez expressed support for the proposed amendments and stated that while there are points on both sides that there is a real need to protect existing housing and this amendment will help to do that.
- Commissioner Schutt was not available due to Zoom connection problems.
- Chair Wilson also sees multiple sides to this issue but ultimately supports the amendment based primarily on the issue of protecting community character, less so for any direct impact on workforce housing. In addition, she sees this amendment as a strengthening of our existing rules and not an entirely new program.
- Commissioner Schuler also asked whether higher fees could be charged for short-term rentals as a way to offset the impacts of the use.
- Another issue discussed generally by the Commissioners were whether staff should meet with stakeholders that would be impacted by the proposed changes, including landowners and property management companies.

MOTION:

Motion Item 1: I move to recommend **approval** to the Town Council item P21-333 proposed text amendment based on factors 1-6 in Section 8.7.1.C of the Land Development Regulations as presented in the May 18, 2022, staff report, as revised in this presentation and as reviewed and modified by the Town Attorney:

A motion was made by: Schuler seconded by: Petri

Motion approved by a 4 to 1 vote

Motion Item 2: I move to recommend approval to the Town Council of the proposed “locals’ exclusion” program to be incorporated as part of a proposed text amendment or Municipal Code P21-333, based upon factors 1-6 in Section 8.7.1.C of the Land Development Regulations as presented in the May 18, 2022, staff report and as reviewed and modified by the Town Attorney. Recommend to Council to hold a workshop on this item prior to drafting of said program.

A motion was made by: Schuler seconded by: Smits

Motion approved by a 5 to 0 vote

MATTERS FROM COMMISSION: None

MATTERS FROM STAFF: None

RECESS: 6:21pm until 6:30pm for Joint Planning Commission Meeting

STAFF REPORT



Meeting Date:	June 1, 2022	Meeting Title:	Planning Commission
Submitting Department:	Planning Department	Presenter:	Tyler Valentine
Agenda Item:	P22-071 Development Plan for a new 3-story, mixed-use building at the properties addressed at 50 S. Cache Street and 45 & 75 E. Pearl Avenue	Public Comment:	No

Purpose & Policy Considerations.

A Development Plan is required in the Downtown Core – 2 (DC-2) zoning district by the Town of Jackson Land Development Regulations (LDRs) for projects with a floor area that exceeds 19,500 sf. The proposed development is approximately 68,000 sf above grade.

Requested Action.

The applicant is requesting approval of a Development Plan for a new 3-story, mixed-use building at the properties addressed at 50 S. Cache St and 45 & 75 E. Pearl Ave.

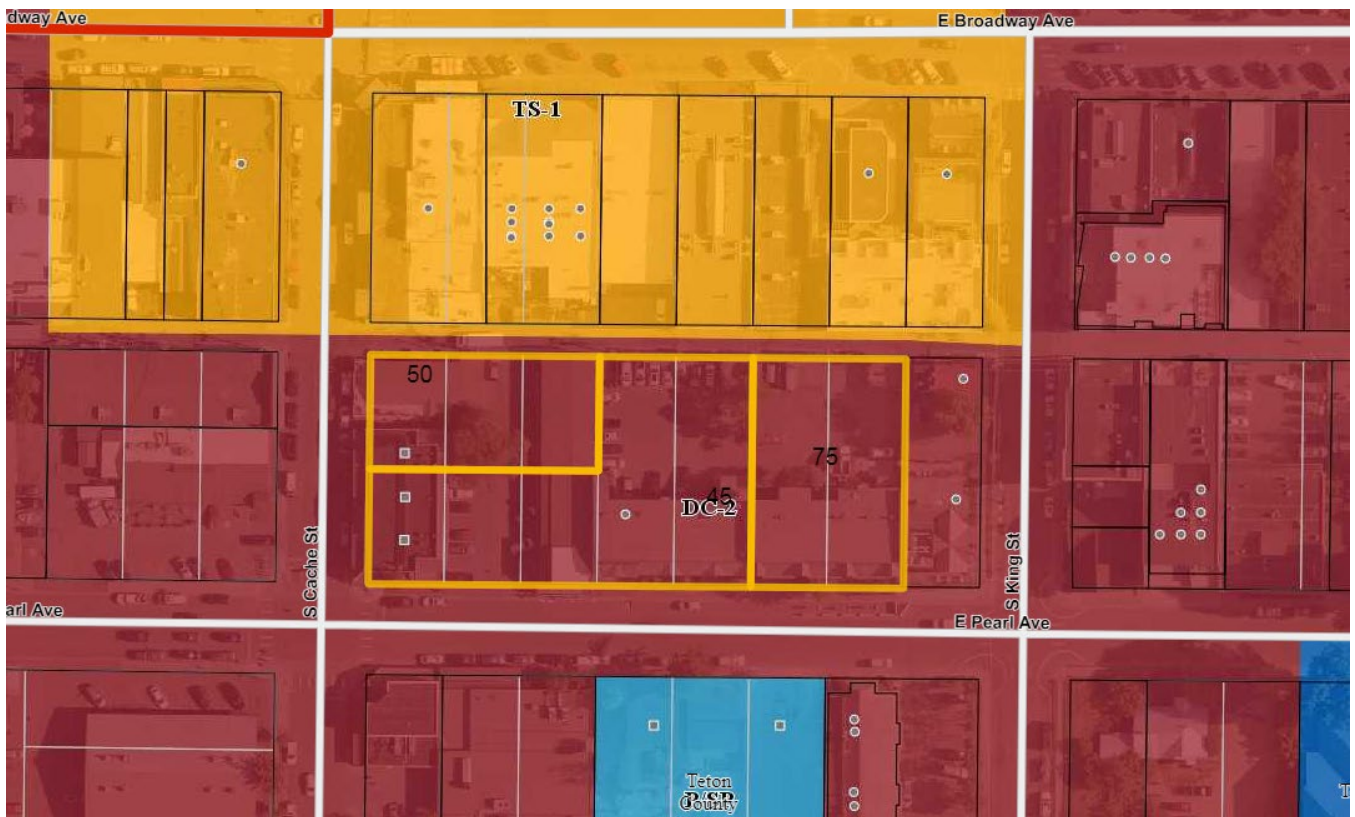
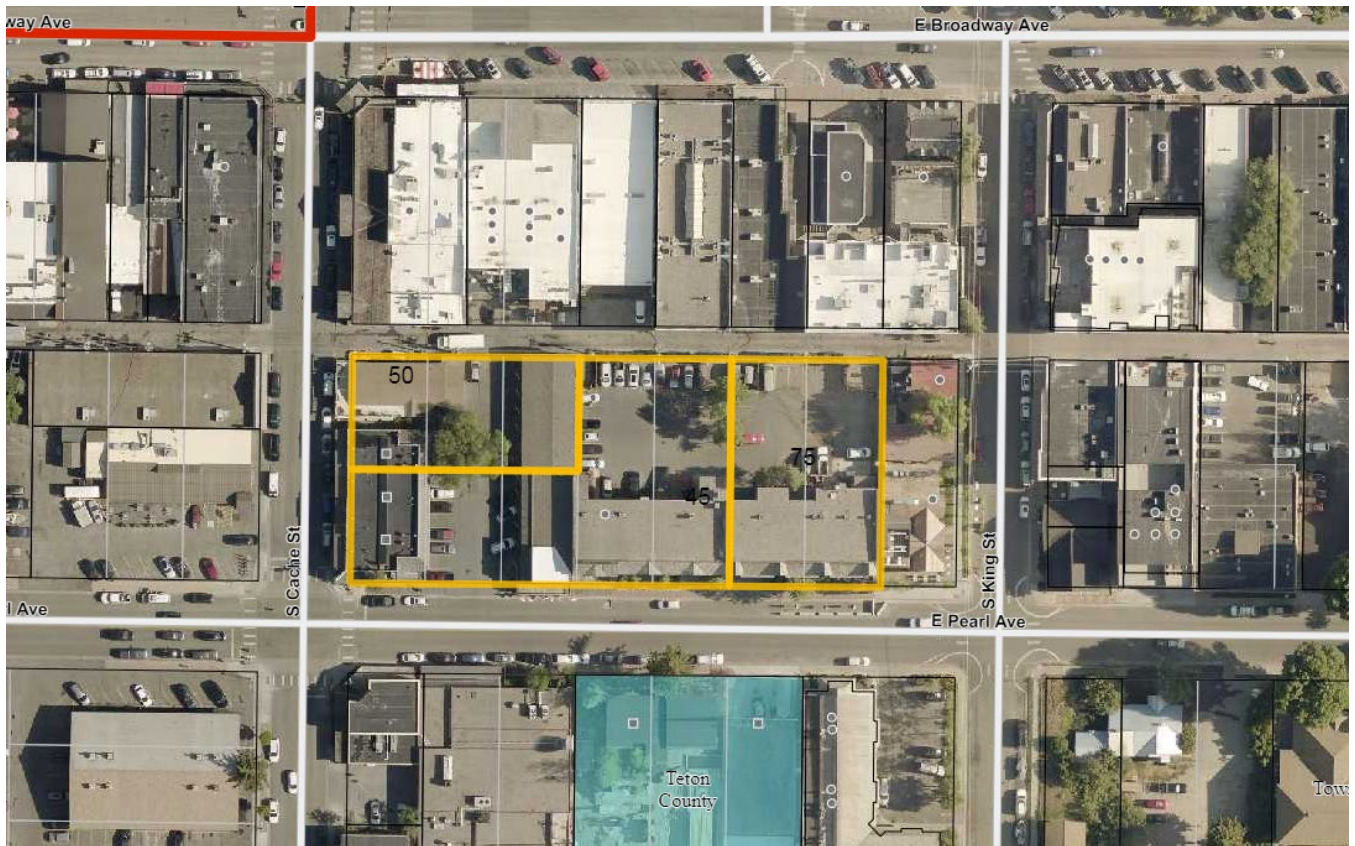
Recommendations.

The Planning Director recommends **approval** of a Development Plan for a new 3-story, mixed-use building at the properties addressed at 50 S. Cache St and 45 & 75 E. Pearl Ave, subject to the departmental reviews attached hereto and the following condition:

1. Prior to the submittal of a Building Permit, the applicant shall revise the Cache Street canopies to ensure they provide continuous coverage over the boardwalk.

Project Location.

The properties are located at 50 S. Cache St (N 1/2 LOT 14-16, BLK. 1, CACHE-1), 45 E. Pearl Ave (LOT 12-13, S 1/2 LOTS 14-16 BLK. 1, CACHE-1) and 75 E. Pearl Ave (LOT 10-11, BLK. 1, CACHE-1). An aerial photo and zoning map are shown on the following page:



Background/Project Description.

Background: The applicant's 1.2-acre property (7 lots) covers nearly an entire south-facing block starting at the corner of Pearl and Cache and extending east to the historic Coe House cabin property (Old Sweetwater). It is zoned DC-2 and located in the Lodging Overlay (LO). The site has several existing structures which include:

- Ranch Inn Hotel (57 lodging units) built from 1974 to 1995 (28,508 sf above grade + 11,558 sf basement) which includes commercial spaces such as Thai Me Up restaurant and Grace Spa
- Retail building adjacent to alley along Cache built in 1935 (2,613 sf above grade + 500 sf basement) (Under the Willow art gallery)
- Retail building at the corner of Pearl and Cache built in 1989 (7,584 sf above grade + 3,792 sf basement) (Ranch shops)
- **TOTAL EXISTING FLOOR AREA:** 38,705 sf above grade + 15,850 sf basement = 54,555 sf

On January 28, 2022, the Town Council approved a Sketch Plan for a +/-67,000 sf mixed-use building at the subject properties. The Sketch Plan was approved with the following 7 conditions of approval:

1. As part of the Development Plan, the applicant shall identify the location of the trash enclosure, 3 ADA parking spaces, and bike parking consistent with the LDRs.

Response: Staff finds that the applicant has satisfied this condition by providing a series of bike racks in the pedestrian frontage zone along both streets and bike storage within the parking garage. In addition, four (4) ADA spaces have been provided. Finally, the applicant has provided multiple trash enclosures along with 3 separate egress doors leading to the alley for trash pick-up and deliveries.

2. Prior to the Development Plan submittal, the applicant shall work with Jackson Teton County Fire/EMS to ensure the minimum amount of red curb is provided for Station #1 street parking.

Response: The Fire Department has reviewed the proposal and has no concerns over the amount of red curb designated to Fire/EMS. Although the existing curb cut will be shifted west about 40', there will be no reduction in the amount of red curb along Pearl Ave.

3. As part of the Development Plan, the applicant shall provide details on the final location and operation of the garage door along Pearl Ave.

Response: The garage door is now setback approximately 49' from the sidewalk allowing space for vehicular queuing. The garage will only be accessible to condo owners (both commercial and residential) and will not be open to the public or employees of the commercial spaces.

4. As part of the Development Plan, the applicant shall provide a landscape plan prepared by a Wyoming Landscape Architect for the street trees and private landscaped courtyard.

Response: A landscape Plan prepared by a Wyoming licensed landscape architect has been provided.

5. The applicant shall work with the Engineering Department prior to Development Plan submittal to determine the appropriate amount of alley improvements, if any, potentially including patching areas of disturbance or paving the portions of the alley adjacent to the development.

Response: According to the department review comments, the Engineering Department is requiring the applicant to pave the entire width of the alley for the length of the project.

6. As part of the Development Plan, the applicant shall allocate parking credits to the commercial spaces.

Response: The applicant has provided a response to the allocation of parking credits. Please refer to the Vehicular Access/Circulation/Parking section below for further analysis.

7. As part of the Development Plan submittal, the applicant shall make design revisions to address the perceived scale of the building. The project should appear to be two separate buildings or phases, although it may remain connected as a single building. Examples of changes could include 1) extension outward or recess of the building front and 2) adjustments at the street level building envelope and pedestrian zone to provide for more variation of experience.

Response: The applicant went before the DRC on March 9, 2022, and received a recommendation of approval. Please see the Design Review Committee (DRC) section below for further analysis.

Project Description:

The applicant is requesting approval of a Development Plan for a 67,576 sf, 3-story, mixed-use building with at-grade covered parking (69 spaces). The project includes a 6,518 sf basement consisting of a gym and storage units for the condos. All existing buildings on the site will be demolished. The proposed ground level includes several commercial spaces (+/-10,500 sf) intended for retail but can be used for other allowed commercial uses (e.g., office, service, restaurant, etc.). Levels two and three include a total of 18 short-term rental condos (ten two-bedrooms, 6 three-bedrooms, and 2 four-bedrooms). All 18 condos will be allowed to be used for both short-term rental and long-term rental and may be owner-occupied (referred to as “condos” in this report). The 2nd level above the garage includes a landscaped courtyard and the 3rd level above the vehicular entrance includes a private amenity lounge and spa area for the condo owners. Primary vehicular access will be taken from Pearl Ave which leads into a covered garage with 58 parking spaces serving both the commercial units and condo units. The applicant is also proposing 11 covered parking spaces off the alley to the north. Total parking provided in 69 spaces.

Analysis.

Development Plan Review:

This project requires Development Plan because the project’s 67,576 sf of qualifying floor area exceeds the 19,500-sf threshold for a Development Plan in the DC-2 Zone. The purpose of a Development Plan is to review a physical development or development option that is large and complex enough to benefit from a public review at a sufficient level of detail to determine compliance with these LDRs prior to the preparation of final construction or plat documents. In addition, since this project also required a Sketch Plan, the purpose of this Development Plan is also to ensure general consistency with the previously approved Sketch Plan. After reviewing the applicant’s submittal, staff finds that as conditioned it complies with the DC-2 zone and the previously approved Sketch Plan.

List of changes from Sketch Plan:

- The number of condos increased from 17 to 18.
- The number of parking spaces increased from 62 spaces to 69 spaces. Eleven of those spaces are now accessed only from the alley to provide designated parking for employees or customers of the commercial spaces.
- A bulb-out is proposed at the corner of Pearl and Cache.
- The applicant shifted the building several feet south of the alley to provide room for maintenance of utilities.
- The garage door off of Pearl Ave has been shifted north +/-49 from the sidewalk to allow space for vehicle queuing.
- The exterior material palette has been modified. Please see the Design Review Committee (DRC) section for further details.
- The architecture of the eastern-most 90' of the building along Pearl Ave differs from the rest of the building as it takes on a different theme. This was in response to the Town Council's Sketch Plan condition #7. Please see the Design Review Committee (DRC) section for further details.

Conformance with Applicable LDRs:

Staff finds that the applicant complies with the dimensional standards in the DC-2 zone as shown in the table below and discussed further in this section.

	DC-2	Proposed	Complies?
FAR	1.3 base max (71,219 sf) (2:1 Workforce Housing Bonus Allowed)	1.29 base (67,576) Basement: +/-6,500 sf (2:1 Workforce Housing bonus not used)	Yes
LSR	n/a	Landscaped courtyard above the parking garage.	Yes
Plant Units	n/a	n/a (9 street trees provided on Pearl)	Yes
Minimum Lot Size	n/a for condo/townhome	n/a for condo/townhome	Yes
Height	42' (< 5:12 roof pitch) 46' (≥ 5:12 roof pitch)	42' (flat stepped roof) & 46' (7:12 pitched roof)	Yes
Parking	<u>DC-2 Standard:</u> Retail: 2.25 per 1,000 sf Condos: 1.5 per DU <u>Parking Credits:</u> Historical Parking Credits = 21.38* Street Parking Credits = 12 TOTAL CREDITS = 33.38 spaces	<u>Requirement:</u> 10,500 sf (retail) @ 2.25 = 23.6 - 33.38 (credits) = 9.78 (surplus) 18 (condos) @ 1.5 = 27 TOTAL REQUIRED = 27 spaces. 	Yes

	(credits can only be used to mitigate the commercial/retail. Cannot be used for lodging/residential condos)	TOTAL PROPOSED = 69 spaces	
Primary Street Setback (Cache)	0' – 5'	0' – 5'	Yes
Secondary Street Setback (Pearl)	0' – 5'	0' – 5'	Yes
Side Interior Setback (east)	0' or 5'	3'	Yes
Rear Setback (north)	0' or 5'	0'-5'	Yes
Street Façade Width (min)	80% of primary and secondary street	Nearly 100% for primary and secondary	Yes
3rd Story Step-back	20' with 40% encroachment allowed	20' and 40% encroachment	Yes
Pedestrian Frontage	13'6" for Trees in Grate 13' for Covered Boardwalk	13'6" (Pearl) Trees in Grate 13' (Cache) Covered Boardwalk	Yes

*Historical parking credits were established in a 2005 downtown parking analysis that was based on the amount of parking provided on a site in 1988. These historical parking credits run the with land and can be used to mitigate all commercial uses but cannot be used to mitigate lodging, short-term rental or any long-term residential uses.

Site Design:

The proposed site plan is consistent with the goals of the DC-2 zone by creating a strong street wall and holding the corner, providing multiple residential unit entrances, including active and engaging uses on the ground level, breaking up the commercial into smaller spaces, providing private open spaces for the condo tenants, covering the parking garage and hiding it from public view. The new and expanded sidewalks on both streets will significantly improve pedestrian safety and function along the frontage of this project. The new sidewalk on Cache will be a covered boardwalk due to its proximity to the Town Square and the new sidewalk on Pearl will be concrete with pavers and street trees (Trees in Grates) which will improve the street experience for residents and visitors alike. One observation made by Town Engineering and Parks and Recreation is that the proposed canopies along Cache have +/-3' gaps in between them. Since the LDR requirement calls for a continuous covered walkway, the applicant will be required to revise the canopies to be continuous with no gaps.

A bulb-out is proposed at the corner of Pearl and Cache which was not shown in the previous Sketch Plan. This would not be the first project to propose a bulb-out on just a single corner of an intersection. For example, the Glenwood/Gill and Rusty Parrot projects both received approval for bulb-outs on one corner knowing that other corner lots would do the same as they redeveloped. Bulb-outs are known to be effective measures in pedestrian safety as they shorten the street crossing distance, provide better visibility conditions between vehicles and pedestrians, and narrow the road which causes vehicles to slow down. For these reasons, staff supports the bulb-out design.

Primary vehicular access will be taken from Pearl Ave which leads to a covered parking garage with 58 spaces. An additional 11 parking spaces will be provided along the alley but those spaces are only accessible to/from the garage by foot. During the Sketch Plan, Town Engineering did not require the applicant to pave the alley.

Now that the applicant plans to use the alley for vehicular access, and due to the various alley improvements for utilities, Town Engineering is requiring the applicant to pave the entire width of the alley for the length of the project.

Building Design & Size:

As shown above in the LDR compliance table, the building and site comply with all relevant dimensional standards for the DC-2 zone. The building is 3-stories with mostly a flat roof design with a maximum of 42' in height at each stepped section. The eastern-most 90' of the building along Pearl Ave has a pitched roof design with a maximum height of 46'. The building has one 2-story section along Pearl Ave which is where the vehicular entrance is located. This section includes a different material (i.e., black metal panels) and has a first floor that is set back much farther than the rest of the building to help break up the mass along the longest portion of the building.

The ground-level commercial is broken up into several spaces ranging in size from 493 – 3,447 sf and each space has its own street entry. The ground level also includes 4 private entry doors (1 on Cache and 3 on Pearl) that lead to the condos on the 2nd and 3rd levels. The condos can also be accessed directly from the covered parking garage. Units range in size from 1,853 sf to 3,690 sf. Ten units are 2-bedrooms, six units are 3-bedrooms, and two units are 4-bedrooms. The LDRs require a 20-foot 3rd-story step-back and the design has provided this, including a larger step-back in certain places. In addition, other additive and subtractive architectural elements are provided on the first two levels to vary the façade and rooflines to create interest and shadow lines. Additionally, the portions of the 3rd level that are not required to be stepped back have been willfully stepped back 3' from the 2nd level façade to further help reduce the perceived mass.

Since the Sketch Plan approval, exterior changes have been made to the overall material palette and to the architecture of the eastern-most 90' of the building along Pearl Ave. The new materials for the building include black cedar siding, large format reclaimed wood siding, Montana moss rock stone, stained cedar plants, black painted wood detailing, matte black metal panels, black aluminum windows, and CMU block for the structured parking along the alley. Regarding the changes to the eastern-most 90' of the building along Pearl Ave, please see DRC section below.

Design Review Committee (DRC):

The DRC reviewed this project on March 9, 2022, and recommended approval to the Town Council with a condition requiring the applicant to further address the detailing on the easternmost section of the building to improve the authenticity. This condition was directed toward the large faux chimneys and railing materials. The applicant has since made revisions to satisfy these conditions.

The primary focus of the DRC's review was compliance with Condition #7 of the Sketch Plan which concluded that the large building façade along Pearl Ave still appeared to be too monolithic and lacked sufficient articulation variation to meet the western character design guidelines as well as the Town's general design guidelines. The other part of the Council's Condition #7 addressed the need to increase the level of interest and variety of the building at the street level for pedestrians. The uniform window design and lack of articulation of the shopfront level added to the monolithic feel of the building and so the Council wanted to see some street-level changes there as well. Below is Condition #7:

As part of the Development Plan submittal, the applicant shall make design revisions to address the perceived scale of the building. The project should appear to be two separate buildings or phases, although it may remain connected as a single building. Examples of changes could include 1) extension

outward or recess of the building front and 2) adjustments at the street level building envelope and pedestrian zone to provide for more variation of experience.

Note: It was generally agreed upon by the Council, staff, and the applicant that if the building was to remain connected as a single building, the best location to introduce a change to break up the building would be at the 2-story portion along Pearl Ave.

At the March 2022, meeting the DRC was presented with 2 designs (Option A & B) both of which kept the project as a single building while attempting to break up the building at the 2-story portion on Pearl Ave as mentioned above. In the opinion of the DRC, Option A did not go far enough to meet the Council's condition as it did not successfully break up the building to appear as two buildings or phases. Option A kept the same flat roof pattern as the Sketch Plan design and generally involved pushing the garage door back, setting the first floor back about 10' to create an outdoor area, moving that building module back about 4.5 feet on the second floor, and changing the exterior materials to a black metal panel.

Option B, which is the option DRC recommended, went further and generally involved pushing the garage door back, setting a large portion of the first floor back about 10' to create an outdoor area, introducing a pitched roof (46' in height), adding dormers on the third level, changing the exterior material to reclaimed wood, adding punched windows on level 2, increasing the building separation on east side from 1' to 3', changing the material and design of the east façade, and extending the elevator overruns with stone to look more like a chimney feature. Similar to Option A, Option B also included a change in exterior materials over the 2-story portion along Pearl Ave to a black metal panel which further signified a transition in the design. Overall, the DRC appreciated how Option B provided a much better transition to the historic Coe Cabin to the east through the use of natural wood siding, a pitched roof, and a 3' buffer. These changes are best articulated in the eastern elevations and renderings.

Vehicular Access/Circulation/Parking:

Vehicular access has not changed significantly since the Sketch Plan approval in that primary access will be taken from Pearl Ave via a 24'-wide, two-way driveway that leads to a covered parking garage. In response to a Sketch Plan condition of approval relating to the location and operation of the parking garage door, the applicant has shifted the garage door back from the Pearl Ave sidewalk by approximately 49' to allow room for queuing. Access to the parking garage will be limited to condo owners (both commercial and residential) but not open to the public or employees of the commercial spaces (Note: the existing parking requirements require no on-site parking for the commercial spaces). Once inside the parking garage, there is one main drive aisle which gives way to 58 parking spaces. Each condo unit will be designated 2 spaces and the remaining spaces will be shared amongst the commercial spaces.

One noteworthy change from the Sketch Plan is the provision of 11 parking spaces off the alley to the north. These spaces will be designated for the employees and customers of the commercial spaces and can only be accessed to/from the garage on foot. Any additional overflow or guest parking will be provided by on-street parking as is typical in the downtown area. However, due to Fire Station #1 being located across the street on Pearl Ave, the amount of on-street parking will be limited due to the red curbs designated for Fire/EMS.

In total, the applicant has increased the overall provided parking since the Sketch Plan from 62 spaces to 69 spaces. As mentioned above in the LDR Compliance table, the property has 33.38 parking credits which were used to reduce the on-site parking requirement for the ground-level commercial. Since the commercial only generates a 24-space requirement, the 33.38 parking credits completely cover the commercial requirement

relieving the applicant of providing any parking for the commercial spaces. In total, the applicant is only required to provide 27 spaces for the condos.

In accordance with Sketch Plan condition #6, the 33.38 parking credits (rounded up to 33.5) will be allocated to the 7 commercial spaces based on the percentage of each space's size compared to the total commercial square footage. In other words, the larger the tenant space the more credits are assigned. Below is the parking allocation:

- Retail Space A – 4 credits
- Retail Space B – 11 credits
- Retail Space C – 7.5 credits
- Retail Space D – 1.5 credits
- Retail Space E – 1.5 credits
- Retail Space F – 1.5 credits
- Retail Space G – 6.5 credits

Note: The applicant has requested the flexibility to modify and finalize the parking allocations at the time subdivision plat based on the interest of future commercial condo owners. Staff is comfortable providing flexibility knowing that the plat will serve as the official record for parking credits.

Affordable/Employee/Workforce Housing:

Sec. 6.3.2.A.1 in the LDRs gives an affordable housing "credit" for any uses on the site established from December 19, 1995, to the present. Essentially, whichever uses generate the highest mitigation requirement during this period create a credit of equal value that can be used to offset the housing requirement of new development or redevelopment on the same site. Based on this methodology for assessing housing credits and requirements, the proposed development requires less housing mitigation than the existing mitigation credit so no additional deed-restricted housing is required or proposed. In fact, a housing credit of 3.86 units will remain on the site even after the proposed project is completed.

The below table provides a summary of the affordable housing mitigation plan.

Mitigation Requirement (Base 1.3 FAR)
<u>Proposed:</u> 67,576 (above grade) + 6,518 sf (basement) = 74,094 sf (total gross) • (10) 2-bedroom short-term rental condos = 2.04 units • (6) 3-bedroom short-term rental condos = 1.836 units • (2) 4-bedroom short-term rental condos = 0.818 • Retail (10,543 sf) = 2.275 units Requirement: 6.97 deed-restricted units <u>Credit for existing/historical uses:</u> 38,705 sf above grade + 15,850 sf basement = 54,555 sf (total gross) • 57 lodging units = 5.82 units • Retail (13,022 sf) = 2.81 units • Restaurant/bar (3,000 sf) = 1.796 units

- Apartments = no credit
- Assembly = no credit

Total Credits: 10.43 units

Complies: 3.46 units of credit remaining

Development Exactions:

The proposed project includes 18 condominium units which will require a subdivision plat at a later date. Each unit, therefore, will generate demand for schools and parks that must be mitigated according to Division 7.5: Development Exactions Standards. The final school and park exactions will be calculated as part of the Development Plan approval and will be due at the time of subdivision plat approval.

Construction Staging:

As part of the previously approved Sketch Plan, the Town Engineer required that a construction-staging narrative and plan be submitted with the Development Plan. The applicant has complied with that requirement by providing a construction-staging plan and narrative which has been reviewed by the Engineering Department. Engineering has provided several comments that will need to be addressed at the time of building permit submittal. The intended outcome of this Development Plan review is for Council, Engineering, and the applicant to have the opportunity to ask questions early on with the goal of having the applicant address said concerns before a formal decision is made on the construction-staging plan at a later date.

Public Comment

None.

Comprehensive Plan & Priority Alignment.

Development Plan. All Development Plan proposals may be approved only if all of the following findings are made:

1. *The proposed project is consistent with the desired future character described for the site in the Jackson/Teton County Comprehensive Plan.*

Not applicable. This finding is not applicable according to the Wyoming Supreme Court.

2. *The proposed project achieves the standards and objective of the Natural Resource Overlay (NRO) and Scenic Resources Overlay (SRO), if applicable.*

Not applicable. The property is not located within the Natural Resource Overlay (NRO) or Scenic Resources Overlay (SRO).

3. *The proposed project does not have a have a significant impact on public facilities and services, including transportation, portable water and wastewater facilities, parks, schools, police, fire, and EMS facilities.*

Complies. As conditioned, staff finds that the proposed project will not have significant impacts on public facilities and infrastructure.

4. *The proposed project complies with the Town of Jackson Design Guidelines, if applicable.*

Complies. The DRC reviewed this Development Plan on March 9, 2022, and recommended approval to Town Council.

5. *The proposed project complies with all relevant standards of these LDRs and other Town Ordinances.*

Complies. As conditioned, staff finds that the application meets all standards of the LDRs and other Town Ordinances.

6. *The proposed project is in substantial conformance with all standards or conditions of any prior applicable permits or approvals.*

Complies. Staff finds that the Development Plan is in substantial conformance with the previously approved Sketch Plan.

Fiscal Impact.

No fiscal impact identified at this time.

Staff Impact.

The amount of staff time to review, meet with the applicant, research, and write this report including future work to send final letters is roughly 40 hours.

Attachments or Links.

Department Reviews

Applicant Submittal

Suggested Motion.

I move to **recommend approval** to the Town Council of Development Plan P22-071 for a new 3-story, mixed-use building at the properties located at 50 S. Cache St and 45 & 75 E. Pearl Ave based upon the findings and conditions presented in the staff report, the departmental reviews, and subject to this staff report dated June 1, 2022.

Town of Jackson
Project Plan Review History
PLANNING

Project Number	P22-071	Applied	3/30/2022	AL
Project Name	Dev. Plan - 50 S Cache, 45 & 75 E Pearl	Approved		
Type	DEVPLAN	Closed		
Subtype		Expired		
Status	STAFF REVIEW	Status		

Applicant	Owner CCC'S RANCH INN, LLC
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Site Address	City	State	Zip
50 S CACHE STREET	JACKSON	WY	83001

Subdivision	Parcel No	General Plan
CACHE CREEK	22411634205006	

Type of Review	Status	Dates			
Contact		Sent	Due	Received	Remarks
Notes					

Building	APPROVED W/CONDITI	3/30/2022	4/20/2022	4/7/2022	
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Kelly Sluder

(4/7/2022 8:18 AM KS)

Structures must meet the most current adopted codes at the time of permitting.

Fire	APPROVED W/CONDITI	3/30/2022	4/20/2022	3/30/2022	
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Kathy Clay

(3/30/2022 11:03 AM CLAY)

Project will be built to most current edition of the IFC and be fire sprinklered per NFPA 13. No further comments at this time.

Joint Housing Dept		3/30/2022	4/20/2022	
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Stacy Stoker

Legal		3/30/2022	4/20/2022	
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Lea Colasuonno

Parks and Rec		3/30/2022	4/20/2022	
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Steve Ashworth

Type of Review	Status	Dates			Remarks
		Sent	Due	Received	
Contact Notes (4/14/2022 2:04 PM AL) Comments from Parks and Rec on P22-071: - The canopy over entrances on Cache are not continuous, sectioned with 3- feet between. We currently do not plow that section of sidewalk due to the current canopy that extends from Cache/Pearl to Cache/Broadway. Owner to be responsible for snow removal on Cache sidewalk. - The tree grates specs show the dimensions to be only 2' x 2'. We recommend 4' grates for streetscapes as on Broadway/Redmond/N Cache/Millward/etc.. The other grates on Pearl (Post office block) are 5' square. Request new grate specs to review. - There are landscape drawings that show proximate location of 9 street trees but no reference to tree type or planting specs in the streetscape. Detail H. Paver Grates (See Attached) references L10 Series for planting soil and tree planting requirements, but this document is not part on the submission. Request these specs for review. Thanks, Rachel					
Rachel Rudd/Park Planner Teton County/Jackson Parks & Recreation 155 E Gill Ave PO Box 811 Jackson, WY 83001					
Pathways Brian Schilling (4/13/2022 2:03 PM AL) P22-071 – 50 S. Cache and 45 E. Pearl – Development Plan Comments from Teton County/TOJ Pathways Department Status: approved - Streetscapes - It appears that the applicant has addressed all the conditions raised at Sketch Plan, including: - Extend the sidewalk along Cache across the alley to meet up with the sidewalk on the north side of the alley. Shown in Civil Drawings Sheet C2.0. - The driveway crossing on Pearl shall be constructed as a continuous sidewalk, with no change in elevation from the sidewalks on either approaching leg. Shown in Civil Drawings Sheet C2.0, C4.1, and C4.4. Note: if this condition has not been met, the sidewalk elevation will need to be adjusted so that it matches the sidewalk elevation on either side of the driveway and does not dip down. - Curb extension at the Cache/Pearl intersection corner to provide improved safety for pedestrians and increase space for parking. Shown in Civil Drawings Sheet C2.0. - Provide adequate sight distance at the driveway entrance on Pearl. Shown in Civil Drawings Sheet C2.0. - Bicycle Parking - Applicant has provided short-term and long-term bicycle parking as conditioned at Sketch Plan.	APPROVED	3/30/2022	4/20/2022	4/13/2022	See comments
Planning Tyler Valentine (5/16/2022 2:25 PM TV) Please see staff report.	APPROVED W/CONDITI	3/30/2022	4/20/2022	5/16/2022	
Police Michelle Weber		3/30/2022	4/20/2022		
Public Works Scott Mohror	APPROVED W/CONDITI	3/30/2022	4/20/2022	5/20/2022	See Notes

Type of Review	Status	Dates			
		Sent	Due	Received	Remarks
Contact					
Notes					
(5/20/2022 5:19 PM BTL)					
Development Plan Comments - Approved with Conditions					
P22-071 Development Plan Comments					
ADDRESS: 50 S Cache Street/45 E Pearl Avenue/75 E Pearl Avenue					
OWNER: CCC's Ranch Inn, LLC					
APPLICANT: North Works Architects					
5/19/2022					
Scott Mohror, Brian Lenz (307) 733-3079					
DATE OF SUBMITTAL: 3/30/2022					
DATE OF MATERIALS: 3/29/2022					
REVISION NO.: 00					
The Engineering Division has reviewed your application for a DEVELOPMENT PLAN submitted on and with application materials as dated above.					
*The following comments are being provided for use in preparation of future applications and are required for sufficiency .					
PROJECT SPECIFIC COMMENTS					
1. All canopies over the sidewalk shall be contiguous per the land development regulations.					
2. All roof runoff, snow and ice melt/shedding shall be contained on site or connected to the storm drain system. Particularly, the eastern roof that slopes to the right of way needs to be addressed to prevent impacts to the right-of-way from falling snow and ice.					
3. Provide adequate drainage from the canopy/canopies to prevent drainage over or across the sidewalk.					
4. Consistent accessible slopes shall be carried across or parallel to the back of curb through all sidewalks/buffers for at least the minimum frontage widths. Elevation changes to connect building elevations with the sidewalk shall be accommodated from minimum frontage width to the building. Provide profiles of the front of curb (existing grade and proposed grade), Top Back of Curb, Front of Sidewalk, and Back of sidewalk.					
5. Access drive off of Pearl shall be a typical drive access without curb returns.					
6. Given impacts to the alley from construction and utility abandonment:					
a. The entire width of the alley shall be repaved by the developer for the length of the project.					
b. Staff sees a possibility of mutual benefit for the Town and developer if a development agreement for consideration of the feasibility, cost, design, and construction to replace the sewer main from Cache Street to the eastern most manhole in the alley by the Town as part of the development shall be provided. The Town shall be responsible for all costs of feasibility and design and construction costs beyond the limits of the proposed development. Costs within the area of the development will be shared by the Town and the Developer. If it determined by the Town that this work is not feasible then this condition shall be voided.					
7. The proposed storm line in Pearl Ave. shall be paid for by the developer and after acceptance by the Town be and asset of the Town.					
8. Show all encroachments into the Town's rights-of-way or easements. Encroachment agreements are required for encroachments of buildings, retaining walls, foundations, canopies, balconies, roofs, shoring, signs, etc.					
9. A demolition permit is required for each existing structure to be removed from the site.					
10. Water and sewer services to be abandoned for the project shall be abandoned at the main during the demolition phase of the project.					
11. Demolition plan notes for construction dates do not correspond with scheduled construction dates in CM Plan. Revise dates accordingly.					
12.					
13. Provide a grading plan that shows existing and proposed site contours with elevation labels, spot elevations, high and low points, grade breaks. Provide easements for any grading proposed on adjacent properties.					
14. Size of disturbance area is greater than 1-acre. Site disturbance of more than 1 acre and less than 5 acres requires a WYDEQ Small Construction General Permit including a Storm Water Pollution Prevention Plan (SWPPP).					
15. Provide locations and dimension of parking spaces, ADA accessible spaces, including van accessible spaces, and bicycle parking.					
16. Designate and sign ADA spaces that will be Van accessible.					
17. For uses that require deliveries, show the proposed loading facilities.					
18. Add corner streetlight at Cache and Pearl in bulb out, locate to accommodate use as a stop sign.					
19. Sand/oil separator calculations for sizing needs to be submitted. Proposed structure in compliance with IPC sizing requirements for parking area.					

Type of Review	Status	Dates		Remarks
		Sent	Due	
Contact				
Notes				
20. Irrigation plan is unclear with Point of Connections (POC's) shown in relationship to the fire line and domestic water enters the building on Civil Sheet C3.0. Provide a water entry detail including location and size of meters and backflow for domestic, fire, irrigation, etc. Backflow shall be reduced pressure assemblies with drains.				
21. Provide a plan for permanent reference monuments, property corners, etc.				
22. Permits are required prior to construction of development improvements.				
23. The Town Council may require installation and construction of utilities, pavement and other land improvements in excess of subdivision design needs.				
24. Provide a grading plan that generally complies with the Community Streets plan and Bicycle improvements plan. Include property lines, dimensions, radii, elevations, slopes, grade changes, etc.				
25. For all pedestrian areas provide a plan that includes dimensions, radii, elevations, slopes (running and cross slopes, not oblique slopes), ramp slopes, grade breaks, stair dimensions, handrails, guards, etc. showing compliance with ADA, IBC, and Town standards.				
26. Hydronics are not permitted in the Public ROW. SHEET 57 of 160, Detail A, Pedestrian Concrete details snowmelt system w/tubing.				
27. Plans show old boardwalk detail, B. Pedestrian Boardwalk, use rustic boardwalk detail.				
28. Detectable warning panels are not provided by ToJ for private developments. Strike through note that states provided by ToJ on Detail ST-112/C4.3. Use brick red color supplied by Metadome, LLC.				
29. Provide a plan for all other utilities, such as telephone, cable TV, electric, fiber, gas. All utilities shall be installed underground.				
30. Provide any easements required for public access and utilities.				
31. All bike racks installed within the public right-of-way shall be Town standard U-bike racks, or as approved by the Pathways Department. Provide adequate anchoring.				
32. All benches and litter facilities shall be Town of Jackson Standard amenities. Provide adequate anchoring.				
33. Trees in grates shall be installed in Town Standard tree wells. Spacing for trees shall be to standard spacing 30-40 feet on center. Trees shall not interfere with regulation signage.				
34. Provide Town of Jackson standard paver details and specifications.				
35. Provide a striping and signage plan for the right-of-way.				
36. If the garage parking is limited to the residents parking only, provisions must be made for business access to the alley for deliveries, trash, employee access, etc. Pearl Avenue shall not be used for deliveries.				
CM Plan				
37. Revise construction-staging narrative as necessary for review and approval with the Building Permit application.				
38. Construction fencing at the corner of Pearl and Cache needs to be oriented to minimize sight triangle. Access to the fire hydrants need to be provided for or approved by the fire marshall.				
39. Requires WYDEQ Small Construction permit along with a SWPPP.				
40. Revise proposed truck route during the demolition phase. ToJ would prefer loaded trucks to travel on Pearl Avenue rather than the route shown on Sheet C1.1.				
41. Crane size and radius reach needs to be shown. Appropriate crane agreements shall be arranged with the Town Attorney.				
42. Provide detail on covered walkway with dimensions.				
43. Provide shoring for the grading permit application as required.				
44. Address temporary construction operations for complying with vibration requirements in Section 6.4.4 of the Town's LDR's.				
45. Coordinate Construction Schedule with demo plans on Civil sheets.				
46. Include Town Hall Parking Lot as a "not allowed" under the Construction Parking paragraph.				
START		3/30/2022	4/20/2022	
Darren Brugmann				

CONDOS AT CACHE + PEARL

DEVELOPMENT PLAN SUBMITTAL

MARCH 29, 2022



NORTHWORKS



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- HOUSING MITIGATION PLAN
- PARKING CALCULATIONS
- ENGINEERING REPORT
- CONSTRUCTION MANAGEMENT PLAN
- GEOTECHNICAL REPORT

COVER LETTER

Crystal Creek Capital Real Estate Advisors, LLC

P.O. Box 844 | 25 S. Willow Street, Ste 200 | Jackson, Wyoming 83001 | Telephone 307-733-4733

Paul Anthony
Planning Director
Town of Jackson
P.O. Box 1687
Jackson, WY 83001

March 29, 2022

Re: Development Plan: 50 S. Cache Street; 45 E. Pearl Avenue; 75 E Pearl Avenue

Dear Mr. Anthony,

Please accept this Development Plan application for the redevelopment of the properties located at 50 S. Cache Street; 45 E. Pearl Avenue and 75 E Pearl Avenue. Included in this application are the following items:

1. Application
2. Project Narrative
3. Responses to the Sketch Plan Conditions for Approval
4. Updated responses to findings for approval
5. Updated responses to the Town of Jackson Planning Department pre-application conference
6. LDR compliance
7. Drawings
8. Housing mitigation plan
9. Parking Calculations
10. Engineering Report
11. Construction Management Plan
12. Geotechnical Report

The proposed project implements the goals noted in the Jackson/Teton County Comprehensive Plan. It fully conforms with the Town of Jackson land development regulations and design guidelines.

The project is a mixed-use building totaling approximately 68,000 square feet that includes commercial space at the street level and two additional levels of residential units. Upon completion, the project will add vibrancy to the southern edge of the downtown core.

No variances or administrative adjustments are proposed in this submittal.

Please notify me with any questions you may have. We look forward to working with you on this project.

Sincerely,



James D. Walter,
Founder & President

APPLICATION



PLANNING PERMIT APPLICATION
Planning & Building Department

150 E Pearl Ave. | ph: (307) 733-0440
P.O. Box 1687 | www.townofjackson.com
Jackson, WY 83001

For Office Use Only

Fees Paid _____ Date & Time Received _____
Application #s _____

Please note: Applications received after 3 PM will be processed the next business day.

PROJECT.

Name/Description: Cache / Pearl Redevelopment
Physical Address: 50. S Cache; 45 E. Pearl; 75 E. Pearl
Lot, Subdivision: 10-16 Block 1 Cache 1 PIDN: _____

PROPERTY OWNER.

Name: CCC's Ranch Inn, LLC Phone: 307-733-4733
Mailing Address: P.O. Box 844 Jackson, WY ZIP: 83001
E-mail: jim@crystalcreekcapital.com; jeanne@crystalcreekcapital.com

APPLICANT/AGENT.

Name: Northworks Architects and Planners Phone: 307-201-5324
Mailing Address: P.O. Box 4027 ZIP: 83001
E-mail: adepree@nwks.com

DESIGNATED PRIMARY CONTACT.

☒ Property Owner ☐ Applicant/Agent

TYPE OF APPLICATION. Please check all that apply; review the type of application at www.townofjackson/200/Planning

Use Permit	Physical Development	Interpretations
☐ Basic Use	☐ Sketch Plan	☐ Formal Interpretation
☐ Conditional Use	☒ Development Plan	☐ Zoning Compliance Verification
☐ Special Use	☐ Design Review	Amendments to the LDRs
Relief from the LDRs	Subdivision/Development Option	☐ LDR Text Amendment
☐ Administrative Adjustment	☐ Subdivision Plat	☐ Map Amendment
☐ Variance	☐ Boundary Adjustment (replat)	Miscellaneous
☐ Beneficial Use Determination	☐ Boundary Adjustment (no plat)	☐ Other: _____
☐ Appeal of an Admin. Decision	☐ Development Option Plan	☐ Environmental Analysis

PRE-SUBMITTAL STEPS. To see if pre-submittal steps apply to you, go to www.townofjackson.com/200/Planning and select the relevant application type for requirements. Please submit all required pre-submittal steps with application.

Pre-application Conference #: P21-062 Environmental Analysis #: _____
Original Permit #: _____ Date of Neighborhood Meeting: _____

SUBMITTAL REQUIREMENTS. Please ensure all submittal requirements are included. The Planning Department will not hold or process incomplete applications. Partial or incomplete applications will be returned to the applicant. Go to www.townofjackson.com/200/Planning and select the relevant application type for submittal requirements.

Have you attached the following?

- ☒ **Application Fee.** Fees are cumulative. Go to www.townofjackson.com/200/Planning and select the relevant application type for the fees.
- ☒ **Notarized Letter of Authorization.** A notarized letter of consent from the landowner is required if the applicant is not the owner, or if an agent is applying on behalf of the landowner. Please see the Letter of Authorization template at <http://www.townofjackson.com/DocumentCenter/View/845/LetterOfAuthorization-PDF>.
- ☒ **Response to Submittal Requirements.** The submittal requirements can be found on the TOJ website for the specific application. If a pre-application conference is required, the submittal requirements will be provided to applicant at the conference. The submittal requirements are at www.townofjackson.com/200/Planning under the relevant application type.

Note: Information provided by the applicant or other review agencies during the planning process may identify other requirements that were not evident at the time of application submittal or a Pre-Application Conference, if held. Staff may request additional materials during review as needed to determine compliance with the LDRs.

Under penalty of perjury, I hereby certify that I have read this application and associated checklists and state that, to the best of my knowledge, all information submitted in this request is true and correct. I agree to comply with all county and state laws relating to the subject matter of this application, and hereby authorize representatives of Teton County to enter upon the above-mentioned property during normal business hours, after making a reasonable effort to contact the owner/applicant prior to entering.

Signature of Property Owner or Authorized Applicant/Agent

James D. Walter

Name Printed

March 28th, 2022

Date

President

Title

PROJECT NARRATIVE

PROJECT NARRATIVE

Overview:

The proposed project will re-develop a 1.29-acre seven lot parcel within the DC-2 zoning district located in the Town of Jackson. The site is bordered on the west by Cache Street, on the south by Pearl Avenue, on the east by a previously developed 0.17-acre DC-2 zoned site, and on the north by an alley which connects Cache Street and King Street.

Existing Site:

Currently, there are three major structures that exist on the site. These include the Ranch Inn, the Ranch Square Building and the Under the Willow Building. All above grade structures will be demolished. The new development will utilize approximately 68,000 total square feet (approximately 65,000 SF FAR area) of the total 71,219 square feet allowable within the 1.29-acre site. Some of the existing basements will remain in order to minimize earth work and shoring.

Background:

Since the proposed development exceeds 39,000 square feet, a development permit is required. The proposed development received unanimous approval from the Design Review Committee on 10/13/2021, as well as Sketch Plan approval from the Planning Commission on 12/01/2021 and from the Town Council on 01/18/2022. To address a "condition for approval" created during the Sketch Plan approval from the Town Council, the applicant changed the project design significantly. The applicant created two separate design options, both of which met the criteria to address "Condition 7" and submitted these two options to the Design Review Committee ("DRC") for their review, comment, and ultimate recommendations for approval. Both options, "Options A & B" were well-received by DRC members although "Option B" was approved by a vote of 5-1. The single DRC member who voted "no" was generally supportive of the proposed design changes that were presented, but preferred Option A which is what prompted their dissenting vote. As a result, this application contains the "Option B" design as a result of DRC's recommendation for approval. It also incorporates the recommendations from DRC to change the railings on the eastern building to be consistent with the remainder of the project as well as slight modifications to the chimneys. The Development Plan Review will be followed by a Grading Permit Pre-Application, and ultimately a Building Permit Application.

The Program:

The 68,000 square foot redevelopment will include commercial space at the street level, and 18 two, three, and four-bedroom condominium units on the second and third levels. 58 parking spaces are located in a covered garage located at grade level directly behind (north of) the redevelopment, and 11 outdoor covered spaces are located north of the parking garage and accessed from the alley bordering the property. To access the garage, one will drive through a curb cut located on Pearl Avenue. To note, we are eliminating one large existing curb cut on Pearl Avenue and relocating the smaller existing curb cut that is currently located within the fire lane approximately 40 feet west to serve as the access point for the proposed parking garage. The proposed curb cut has been closely coordinated with Teton County Fire/EMS to ensure that the access and use of the fire station across Pearl Avenue is not impeded whatsoever.

Conclusion:

This Development Plan application complies with the Land Development Regulations, the Design Guidelines, the Comprehensive Plan and is being recommended for approval by Planning staff and the DRC. As noted above, the Development Plan submittal contains a number of design revisions that were informed by the Sketch Plan Conditions for Approval, as well as past commentary from Town staff, the Design Review Committee, the Planning Commission, and Town Council.

RESPONSES TO SKETCH
PLAN CONDITIONS FOR
APPROVAL

SKETCH PLAN CONDITIONS FOR APPROVAL

1. As part of the Development Plan submittal, the applicant shall identify the location of the trash enclosure, 3 ADA parking spaces, and bike parking consistent with the LDRs.

Trash enclosures, ADA parking spaces, and bike parking (both sidewalk bike racks, and interior bike storage) are all indicated on the submitted plans.

2. Prior to Development Plan submittal, the applicant shall work with Jackson Teton County Fire/EMS to ensure the minimum amount of red curb is provided for Station #1 street parking.

The proposed plans, including red curb extents, have been reviewed and approved by Kathy Clay and Jackson Teton County Fire/EMS. The overall extents of the existing red curb will not be impacted by the proposed development. The only difference between the existing red curb and the proposed red curb will be the location of the curb cut located within the red curb. The centerline of the proposed curb cut for parking garage access is to be located approximately 40' West of the centerline of the existing curb cut which is to be removed.

3. As part of the Development Plan submittal, the applicant shall provide details on the final location and operation of the garage door along Pearl Avenue.

The proposed plan has been revised so that the garage door is set back approximately 49' from the sidewalk. This design change will provide enhanced pedestrian safety and increased driveway length for vehicle queuing below the building above. Vehicular access to the parking garage will be granted via the use of remote transponders so no stacking/queuing within the driveway is anticipated. Additionally, the façade of the retail space immediately adjacent to the driveway has been recessed from the sidewalk as well which will further increase pedestrian safety.

4. As part of the Development Plan submittal, the applicant shall provide a landscape plan prepared by a Wyoming Landscape Architect for the street trees and private landscaped courtyard.

Please refer to the submitted plans. All landscape plans are prepared by Design Workshop who is licensed as a Landscape Architect in the State of Wyoming.

5. The applicant shall work with the Engineering Department prior to Development Plan submittal to determine the appropriate amount of alley improvements, if any, potentially including patching areas of disturbance or paving the portions of the alley adjacent to the development.

The proposed development's design and engineering team met with the Engineering Department to ensure that all applicable comments from the Sketch Plan review are being incorporated in the Development Plan. Among the revisions made since Sketch Plan, the design and engineering team has revised the plans to accommodate all utility service clearances along the alley wholly within the subject property.

6. As part of the Development Plan submittal, the applicant shall allocate parking credits to the commercial spaces and provide a plan for parking allocation and shared parking between the commercial and residential uses.

As noted in the Planning Department Staff report from the previously approved Sketch Plan, the subject property has 33.38 parking credits available. These parking credits shall be allocated to each retail space based on the exact amount of parking currently required for each space based on its

SKETCH PLAN CONDITIONS FOR APPROVAL (CONTINUED)

current proposed use and square footage, as dictated by the LDRs and as shown in the submitted parking calculations. Parking spaces as well as excess credits will be assigned to individual units (commercial and residential) upon sale.

As indicated in the submitted parking calculations, we are required to provide 24 parking spaces (before applying any credits) for the retail spaces. 11 of those required spaces will be provided by the on-street availability. Additionally, 11 covered outdoor parking spaces are proposed on the North side of the building and accessed from the alley. These spaces are intended to be used by retail employees and their customers. Finally, one ADA space dedicated exclusively for retail use will be provided. All remaining parking within the garage, including 3 additional ADA spaces, are intended for residential use. Total spaces required for the development: 27 (after applying credits to retail spaces) Total Spaces provided: 69

7. As part of the Development Plan submittal, the applicant shall make design revisions to address the perceived scale of the building. The project should appear to be two separate buildings or phases, although it may remain connected as a single building. Examples of changes could include 1) extension outward or recess of the building front and 2) adjustments at the street level building envelope and pedestrian zone to provide for more variation of experience.

Significant modifications were made to the building design to address Condition #7. These extensive design modifications are as follows:

1. The window panes on level three were reduced in size and recessed to reduce the perceived scale of the building.
2. The width of the solid pier at the corner of Cache and Pearl has been reduced by over 50%. This change allowed us to increase the width of the adjacent commercial storefront glazing. The result provides more variation in the pedestrian experience and a decreased scale of the building.
3. All siding previously shown as cut gray stone have been changed to Montana Moss Rock stone with a randomized, dry-stack installation (or similar). This material is commonly used to enhance the western character of buildings in Jackson. In addition, the varied texture of stone creates a less monolithic appearing building and therefore reduces the perceived scale of the building.
4. All siding previously shown as clay tile shingles have been changed to a premium large-format wood siding. This change creates a more sympathetic transition to adjacent, historic wood buildings, and reduces the perceived scale of the building.
5. The glass railings have been changed to metal. This change is a more traditional and “western” application for a railing system. It also reduces the perceived scale of the building.
6. Recessing the third-floor windows resulted in an opportunity to articulate the third-floor windows by adding trellis structures and coping details in front of each window. This change reduced the perceived scale of the building.
7. A curb bulb-out at the corner of Cache & Pearl has been added to the project. This adjustment at the street level and pedestrian zone provides for more variation of experience. It also reduces the perceived scale of the building.

SKETCH PLAN CONDITIONS FOR APPROVAL (CONTINUED)

8. On Pearl Avenue, directly west of the pitched roof building, the façade is now recessed at the second level below the amenity deck by approximately 4.5'. The siding was changed to matte metal panel cladding. The massing and material revisions clearly distinguish this area as a connector or link between the adjacent buildings and their perceived "phases" of development.
9. On Pearl Avenue, a portion of the first level is now recessed between 10' and 50' or approximately 1,800 square feet. This adjustment significantly enhances the pedestrian experience by providing more variation at the street level.
10. A ground floor residential unit was eliminated on the eastern corner of the pitched roof building and replaced with a commercial space. This change to the street level further activates and enhances the pedestrian experience.
11. The easternmost building on Pearl Street, east of the metal clad "Connector" now has a pitched roof over the level three units. This change relates to the adjacent "Sweetwater cabins" and creates a context where the project appears to be two separate buildings or phases yet connected to one single building. It also reduces the overall perceived scale of the building.
12. On the pitched roof building, we introduced dormers at the level three windows to provide a more residential appearance and varied roofline form. This change reduces the perceived scale of the building and supports the effort to create two separate buildings or phases yet connected to one single building.
13. Changed the façade material on the pitched roof building from stone to reclaimed wood. This change relates to the adjacent context of the Sweetwater building and further differentiates the pitched roof building from the overall project.
14. Provided additional punched windows at Level Two along easternmost length of building frontage to reduce the perceived scale of the building.
15. Increased the east building setback from just under 12" to 3' minimum to provide more space between the proposed building and the neighboring building.
16. We clad the elevator overrun walls at the pitched roof building in stone and included traditional cap detailing to accentuate the east and west wings of the building as separate and distinct from the project.

UPDATED RESPONSES TO FINDINGS FOR APPROVAL

FINDINGS FOR APPROVAL

1. "Consistent with the desired future character described for the site in the Jackson/Teton County Comprehensive Plan"

The proposed project is in Character District 2, Subarea 2.3, as defined in the Comprehensive Plan. This proposed redevelopment implements the desired future character for this Transitional area in multiple ways. The Comprehensive Plan calls for a vibrant mix of land uses, an engaging pedestrian experience, an attractive streetscape and a more consistent building form that replaces the existing mix of inconsistent forms.

The proposed redevelopment accomplishes all elements of the desired future character of the subarea. Specifically, the proposal includes a mix of ground level commercial uses with residential uses on the second and third levels. The pedestrian experience, particularly on Pearl Avenue, will be greatly improved with an attractive and engaging streetscape that includes a new curb-bulb out at the intersection of Cache & Pearl, new sidewalks, street trees, and street furnishings. The proposed building also replaces an existing collection of inconsistent building forms and sizes with a more consistent building form across the site, with a new development that complies with the Land Development Regulations, Design Guidelines, and Comprehensive Plan.

2. Is not subject to the finding of "Achieve the standards and objective of the Natural Resource Overlay (NRO) and Scenic Resources Overlay (SRO), if applicable."

N/A. This site is not in either the NRO or SRO.

3. "Does not have significant impact on public facilities and services, including transportation, potable water and wastewater facilities, parks, schools, police, fire and EMS facilities."

The proposed redevelopment replaces an existing 57 room motel with 18 condominium units. The new project is providing far more parking spaces than required (69 provided vs. 27 required). As a result of the significant reduction in impact, this redevelopment of the Ranch Inn generates in excess of 3 housing credits. Curb cuts are being eliminated and reduced from two (including one very wide existing curb cut) to one on Pearl Avenue. Traffic will be significantly decreased (in summer of 2021, there were 24,240 customers using the Ranch Inn). 18 residential units will result in a significant reduction of traffic and use. Lastly, the applicant's team has worked closely with town engineers, public works department and the fire department to fully satisfy all infrastructure needs.

4. "Complies with all relevant standards of these LDRs and other Town Ordinances as can be determined by the level of detail of a Sketch Plan."

This final plan complies.

5. "Is in substantial conformance with all standards or conditions of any prior applicable permits or approvals."

The Final Plan responds to the Sketch Plan conditions of approval. Please see the attached *Response to Conditions for Approval* for a detailed description of the responses.

UPDATED RESPONSES TO THE TOWN OF JACKSON PLANNING DEPARTMENT PRE-APPLICATION CONFERENCE (30 JUNE 2021)

Note: Following this pre-application conference, the design and program of the project was changed to address the comments made by staff. All text indicated with italic font within this section are updated responses, where applicable, for the current Development Plan Submission

RESPONSES TO THE TOWN OF JACKSON PLANNING DEPARTMENT PRE-APPLICATION CONFERENCE (30 JUNE 2021)

Note: Following this pre-application conference, the design and program of the project was changed to address the comments made by staff. All text indicated with italic font within this section are updated responses, where applicable, for the current Development Plan Submission

1. Massing: The general subtractive/additive massing looks very good. On the Cache frontage, staff recommends stepping the building down from 3 stories to 2 stories so that it transitions well with the property to the north (10 E Broadway) which is in the TS-1 zone allowing a max of 2 stories. If project extends all the way to Sweetwater block, staff strongly recommends that the building step down to 2 stories if possible here too.

Since the comment was made, the applicant has refined the building design, setbacks, and overall massing. The design contained within this sketch plan submittal was unanimously approved by the Design Review Committee (“DRC”) on October 13, 2021. The proposed building design includes a setback at the third level across 100% of the Cache Street and Pearl Avenue frontages. The setbacks range from 3 feet to 20 feet which exceed the land development regulations requirements.

Development Plan Update: In response to the Conditions for Approval from Sketch Plan, additional significant refinements have been made to the building design to reduce the perceived scale of the building and enhance the relationship between the proposed building design the surrounding local and regional context. In particular, please see the written responses to Condition for Approval #7 as a summary of the extensive changes made to address these points and other feedback received from Town staff, Planning Commission, and Town Council.

2. Single project massing: In addition to the subtractive/additive massing, the project will need to address its massing using horizontal and/or vertical techniques (see Sec. 1.16/1.22) to meet the Design Guidelines (both regular and DDO – see below). This is because the project is being proposed as a very large, unified project (approx. 350’ of frontage on Pearl if carried to the Sweetwater property), which means that perhaps the key issue for this project will be finding creative ways to break up the massing into much smaller modules (see Sec. 1.13.a, b & c). For example, a monolithic building designed like the Marriott on Simpson Avenue will not be acceptable in this location in the DDO.

Since the comment was made, the applicant has refined the building design and overall massing. The design contained within this sketch plan submittal was unanimously approved by the Design Review Committee (“DRC”) on October 13, 2021. Smaller modules and variability in the materiality of the exterior are included as part of the design strategy to address the design guidelines. The proposed building design includes projected and recessed modules of different materials which breaks the scale of the building into smaller sections. These modules have also been organized to provide a hierarchy and order between the retail and residential entrances.

Development Plan Update: See updated response to Item 1 above.

3. Downtown Design Overlay (“DDO”): There are a number of elements of the DDO and Area 2 that will need to be incorporated into the design.

Since the comment was made, the applicant has refined the building design and has incorporated the Downtown Design Overlay/Area 2 standards. The submittal was unanimously approved by the DRC on

RESPONSES TO THE TOWN OF JACKSON PLANNING DEPARTMENT PRE-APPLICATION CONFERENCE (30 JUNE 2021)

October 13, 2021.

Development Plan Update: See updated response to Item 1 above.

4. First story windows/transparency: The amount of glazing should be similar to traditional Jackson buildings (see Sec. 1.21). Concept drawings show street level floor to ceiling windows which is too much, might try a kick plate or some other techniques to reduce glazing. The second story windows also show more transparency than traditional structures.

Since the comment was made, the applicant has significantly reduced glazing at both street level and upper stories using a variety of techniques that more closely align with traditional structures. The proposed building design was unanimously approved by the DRC on October 13, 2021, and features kick plates below the street level storefront glazing, and a variety of punched window types on the second floor.

5. Materials: The variable brick is very good per Sec. 1.23/1/24/1.27, however, using only one type of brick for a building this size may not meet all the DDO guidelines, especially the goals of breaking the building into modules. Perhaps consider the use of different colors/textures of bricks in clean logical manner.

Since the comment was made, the applicant has refined the building design to incorporate additional materials to the exterior facades that align with the DDO guidelines. The submittal was unanimously approved by the DRC on October 13, 2021. The proposed building design has eliminated brick as a building material and now features a material palette of stone and clay tile shingles at Levels 1-2, black cedar siding at Level 3, stained cedar plank exterior ceilings and canopies, black aluminum windows, and black metal and wood detailing at the canopy structures and cornices, respectively. These material changes are a direct response to the comments received and further support the project's compliance with the Design Guidelines.

Development Plan Update: See updated response to Item 1 above. Additionally, the exterior material palette has been revised as follows:

- All areas previously shown as cut gray stone are changed to Montana moss rock stone with a randomized, dry-stack installation (or similar), which is familiar to the local area. Additionally, the more varied texture and stone create a less monolithic appearance that reduces the perceived scale of the building.*
- All areas previously shown as clay tile shingles are revised to a premium large-format wood siding to create a more sympathetic transition to adjacent, historic wood buildings, and to reduce the perceived scale of the building.*
- A limited portion of façade along Pearl Avenue has been revised in concert with massing revisions to address Condition for Approval #7. The introduction of matte metal panel in this limited area is appropriate to distinguish this part of the building as a "connector" between what is to be perceived as two phases. Further, the use of metal panel in limited areas (18% of Pearl frontage as proposed in this location) is specifically referenced in the Design Guidelines as an acceptable material compatible with maintaining Western Character*
- The easternmost section of the building has been revised in accordance with Condition for Approval #7 to include a pitched roof and other architectural changes to reduce the overall perceived scale of the development and relate to the architectural context of the neighboring property.*

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6. Pedestrian frontage: The direction from staff is that the Cache Frontage should be covered boardwalk (with continuous canopy with no gaps) and the Pearl frontage should be Trees in Grates (concrete sidewalk with pavers and trees). This appears to be what is generally shown in concept drawings. Depending on the location of the curb in relation to the property lines, the required 13.5 pedestrian frontage may not fit entirely within the public ROW. Pedestrian frontages sometimes overlap onto private property, but the Town tries to limit unreasonable encroachments when necessary. In such cases, an Administrative Adjustment may be used but in no case will the pedestrian frontage be reduced below 11' in width and preferably not below 12". On some streets, the existing curb can be moved away from the property line to provide additional pedestrian width.

Final site plan, pedestrian frontages, and required public right of way improvements will be developed prior to submitting for the Development Plan. No unnecessary encroachment agreements are anticipated.

Development Plan Update: A curb bulb-out at the corner of Cache & Pearl has been added to provide additional pedestrian space in front of the corner retail.

7. Should consider cutting building corner on first floor for entrance and additional pedestrian space. However, if curb extensions are included then cutting the corner may not be necessary.

Since the comment was made, the applicant has adjusted the plan so that corner "module" is recessed from the adjacent modules to help break down the scale of the facades and provide additional pedestrian space at the corner. This design was unanimously approved by the DRC on October 13, 2021.

Development Plan Update: A curb bulb-out at the corner of Cache & Pearl has been added to provide additional pedestrian space in front of the corner retail.

Additionally, the width and material of the outside building corner pier at the intersection of Cache & Pearl has been revised to create additional pedestrian space. The width of the solid pier has been reduced by over 50%. The increased visibility and transparency of the commercial space promotes a more vibrant pedestrian experience. Materially, the solid pier has been revised from the previously-shown clay tile shingles to now show a painted black metal pier that presents itself as a part of the adjacent storefront. The intended architectural effect is to create the appearance of the commercial storefront wrapping around the corner, further promoting a more inviting pedestrian experience at the primary corner of the proposed development.

8. Uses: Is the intent to have on 8,000 sf retail space on the Cache frontage? If so, would be nice to break this into at least two smaller spaces. More variety at ground level better activates the street. If project ends including the entire Pearl frontage, the goal would be to include a number of individual commercial spaces along the street and to avoid first level condos. Outdoor dining and public amenity space should be considered in overall program if possible.

Since the comment was made, the applicant has revised the ground level plans to have multiple, individual, smaller commercial spaces.

RESPONSES TO THE TOWN OF JACKSON PLANNING DEPARTMENT PRE-APPLICATION CONFERENCE (30 JUNE 2021)

9. Sec. 1.7; 1.8; 1.9;1.12;1.13 (1.13.b & c smaller modules);

Since the comment was made, the applicant has significantly revised the building design to better address and comply with previous review comments and the Design Guidelines. This design was unanimously approved by the DRC on October 13, 2021.

Development Plan Update: See updated responses above.

10. The construction management plan will go before the Town Council. Considerations on staging should be considered as soon as possible to get ahead of potential issues.

The applicant will submit a construction management plan to the Town Council along with the Development Plan application.

Development Plan Update: A construction management plan is included in the Development Plan submission.

11. Provide turning movements for the underground parking.

Underground parking is not being considered at this time.

12. Pathways will be recommending a bulb-out or curb extension at Cache and Pearl.

If required by Pathways, bulb-out or curb extensions will be implemented.

Development Plan Update: A curb bulb-out at the corner of Cache & Pearl has been added to provide additional pedestrian space in front of the corner retail.

13. If the plan is to only develop the western 3 lots: The western 3 lots total 2,500 sf and allow a 1.3 FAR of 29,250 sf. The plans show an above-ground floor area of 51,144 sf which far exceeds the allowed FAR. Staff is assuming the use of the 2:1 bonus, but the housing calculator says otherwise and describes all unit's short-term rental. FAR can be transferred from the other 4 eastern lots, but the total FAR for all 7 lots is 68,250 sf. Essentially this would be a 17,106 sf transfer from the eastern 4 lots. Please explain how this will work with the existing Ranch Inn Hotel.

The proposed development will demolish all above ground structures. According to the Alta Survey provided by Nelson Engineering, the Gross Surface Area of the seven lots is 1.29 Acres (54,784 square feet). Using a 1.3 FAR ratio, the resulting available square footage permissible to build (assuming existing structures will be demolished) is 71,219.2 square feet.

14. Please describe the phasing plan, if any.

Phasing is not being proposed at this time, however, if a phased plan is implemented, the applicant will work with Staff to clarify the timelines.

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15. The Fire Department may add, keep, or reduce the amount of re-curb along Pearl Ave as a result of the new Fire Station. This may impact the amount of on-street parking credits for this development. At this time the Fire Department has not yet indicated a change to the red curb but may do so as part of the Sketch Plan and/or Development Plan.

The applicant will be in close contact with Jackson Hole Fire/EMS and will coordinate the design of the proposed development with the needs of the fire station. The viability of on street parking will be finalized prior to submitting the Development Plan.

Development Plan Update: The proposed plans, including red curb extents, have been reviewed and approved by Kathy Clay and Jackson Teton County Fire/EMS. The overall extents of the existing red curb will not be impacted by the proposed development. The only difference between the existing red curb and the proposed red curb will be the location of the curb cut located within the red curb. The centerline of the proposed curb cut for parking garage access is to be located approximately 40' West of the centerline of the existing curb cut which is to be removed.

16. Staff needs a detailed breakdown of how housing credits and parking credits will be applied to all ownership spaces, specifically the ground-level commercial. In the future if uses change, how will parking be designated since there appears to be a surplus of parking.

Housing and parking credits will be finalized prior to the submittal of the Development plan dependent upon the final use allocation of the ground-level commercial spaces.

Development Plan Update: See response to Sketch Plan Condition for Approval #6 included in the Development Plan submission.

17. Updates needed on the parking sheet and housing calculator:

- **16 units are shown in the parking chart, yet the floor plans indicate 18 units. Please update the parking chart to reflect the correct amount of parking per unit.**

17 units are currently being proposed. The parking chart is updated to reflect this quantity.

Development Plan Update: 18 residential units are currently being proposed. The Parking and Housing calculations have been updated accordingly and included in the Development Plan submission.

- **the housing calculator shows 3 units as conventional lodging, please confirm these are the efficiency units shown on the floor plans? Also, there are 2 other efficiency units shown on the floor plans, are these also conventional lodging?**

The housing calculator has been updated to reflect current and proposed uses.

LDR COMPLIANCE

LDR COMPLIANCE

PROJECT INFORMATION

N 1/2 LOT 14-16, BLK. 1, CACHE-1
 50 S Cache Street
 Jackson, WY 83001
 PIDN: 22-41-16-34-2-05-006
 Lot Size: 0.344 Acres (13,557 sf)

LOT 12-13, S 1/2 LOTS 14-16 BLK. 1, CACHE-1
 45 East Pearl Avenue
 Jackson, WY 83001
 PIDN: 22-41-16-34-2-05-007
 Lot Size: 0.602 Acres (26,238 sf)

LOT 10-11, BLK. 1, CACHE-1
 75 East Pearl Avenue
 Jackson, WY 83001
 PIDN: 22-41-16-34-2-05-008
 Lot Size: 0.344 Acres (14,989 sf)

2.2.15. DC-2: Downtown Core -2

Town of Jackson Applicable LDRs

1. Lot Standards				
Building Setbacks (Sec 9.4.8.)				
General	Source	Notes	Proposed	Complies
Primary street setback range (min.-max)	ToJ LDR Section 2.2.15.B.1	0' – 5'	0' – 5'	Yes
Secondary street setback range (min.-max)	ToJ LDR Section 2.2.15.B.1	0' – 5'	0' – 5'	Yes
Side interior (min.)	ToJ LDR Section 2.2.15.B.1	0' or 5'	0'	Yes
Rear (min.)	ToJ LDR Section 2.2.15.B.1	0' or 5'	0'	Yes
Abutting protected zone	ToJ LDR Section 2.2.15.B.1	10'		n/a
Landscaping (Div. 5.5.)				
Landscape surface ratio (min.)	ToJ LDR Section 2.2.15.B.1	n/a		Yes
Plan units (min.)	ToJ LDR Section 2.2.15.B.1	n/a		Yes
Fencing				
Height in any street or side yard (max)	ToJ LDR Section 2.2.15.B.1	4'		n/a

Height in rear yard (max)	ToJ LDR Section 2.2.15.B.1	6'		n/a
Setback from pedestrian frontage	ToJ LDR Section 2.2.15.B.1	1'		n/a
Setback from side or rear lot line (min.)	ToJ LDR Section 2.2.15.B.1	0'	0'	Yes
Parking Setbacks (Sec. 9.4.8.)				
Primary street, above ground (min.)	ToJ LDR Section 2.2.15.B.1	30'		n/a
Secondary street, surface parking (min.)	ToJ LDR Section 2.2.15.B.1	30'		n/a
Secondary street, tuck under, enclosed, or structured parking screened by building (min.)	ToJ LDR Section 2.2.15.B.1	0'	40'	Yes
Access				
Curb cut width (mx)	ToJ LDR Section 2.2.15.B.1	24'	24'	Yes
2. Bulk Standards				
Street Façade (Sec. 9.4.11.)				
Width of ground and 2 nd story in primary street setback range	ToJ LDR Section 2.2.15.B.2			
% of lot width (min.)	ToJ LDR Section 2.2.15.B.2	80%		Yes
Length from street corner (min.)	ToJ LDR Section 2.2.15.B.2	30'		Yes
Width of ground and 2 nd story in secondary street setback range	ToJ LDR Section 2.2.15.B.2			
% of lot width (min.)	ToJ LDR Section 2.2.15.B.2	80%		Yes
Length from street corner (min.)	ToJ LDR Section 2.2.15.B.2	30'		Yes
Building Height (Sec. 9.4.9.)				
Height (max) if roof pitch $\geq 5/12$	ToJ LDR Section 2.2.15.B.2	46'	46'	Yes

Height (max) if roof pitch <5/12	ToJ LDR Section 2.2.15.B.2	42'	42'	Yes
Stories (max)	ToJ LDR Section 2.2.15.B.2	3	3	Yes
Height (min.) in any street setback range	ToJ LDR Section 2.2.15.B.2	16'	16'	Yes
Building Stepback (Sec. 9.4.12.)				
Stepback for any 3 rd story street façade or street façade over 30' (min.)	ToJ LDR Section 2.2.15.B.2	20'	20'	Yes
Encroachment in stepback (max % of overall façade width)	ToJ LDR Section 2.2.15.B.2	40%	40%	Yes
A building with only residential use that has at least 4 units is exempt from stepback requirement	ToJ LDR Section 2.2.15.B.2			n/a
Scale of Development				
Floor area ratio (FAR) (max) (E.3.)	ToJ LDR Section 2.2.15.B.2	1.3	GSA (1.29 Acres) 54,784 * 1.3 = 71,219.2 sf	Yes
Deed restricted housing exemption (Sec. 7.8.3.)	ToJ LDR Section 2.2.15.B.2			n/a
Workforce housing floor area bonus (Sec. 7.8.4.)	ToJ LDR Section 2.2.15.B.2			n/a
3. Form Standards				
Pedestrian Frontage				
Covered walkway	ToJ LDR Section 2.2.15.B.3	See Sec 2.2.1.C.1	Cache Street	Yes
Trees in grates	ToJ LDR Section 2.2.15.B.3	See sec. 2.2.1.C.2	Pearl Ave.	Yes
Building Frontage Options				
Shopfront	ToJ LDR Section 2.2.15.B.3	See sec. 2.2.1.D.2	Shopfront	Yes
Residential	ToJ LDR Section 2.2.15.B.3	See sec. 2.2.1.D.4.		n/a
Lodging	ToJ LDR Section 2.2.15.B.3	See sec. 2.2.1.D.5.		n/a

Parking Type Options				
On-street parking	ToJ LDR Section 2.2.15.B.3	See sec. 2.2.1.E.1	Yes	Yes
Surface parking	ToJ LDR Section 2.2.15.B.3	See sec. 2.2.1.E.2.		n/a
Tuck-under parking	ToJ LDR Section 2.2.15.B.3	See sec. 2.2.1.E.4		n/a
Enclosed parking	ToJ LDR Section 2.2.15.B.3	See sec. 2.2.1.E.3.		n/a
Structured parking	ToJ LDR Section 2.2.15.B.3	See sec. 2.2.1.E.5.	Yes	Yes
Underground parking	ToJ LDR Section 2.2.15.B.3	See sec. 2.2.1.E.6.		n/a
4. Environmental Standards				
Natural Resource Setback (min) (Sec 5.1.1.)				
Cache Creek south of Cache Creek Dr.	ToJ LDR Section 2.2.15.B.4	20'		n/a
Flat Creek north of Hansen	ToJ LDR Section 2.2.15.B.4	25'		n/a
Flat Creek south of Hansen	ToJ LDR Section 2.2.15.B.4	50'		n/a
Wetland	ToJ LDR Section 2.2.15.B.4	30'		n/a
Irrigation Ditch Setback (min) (Sec. 7.7.4.D.)				
Irrigation Ditch	ToJ LDR Section 2.2.15.B.4	15'		n/a
Natural Resource Overlay (NRO)(Sec. 5.2.1.)				
5. Scenic Standards				
Exterior Lighting (Sec 5.3.1.)				
Light trespass is prohibited	ToJ LDR Section 2.2.15.B.5			Yes
All lights over 600 lumen shall be fully shielded.	ToJ LDR Section 2.2.15.B.5			Yes
Max lumens per sf of site development	ToJ LDR Section 2.2.15.B.5	3	TBD	Yes
Lumens per site (max)	ToJ LDR Section 2.2.15.B.5			Yes
All fixtures		100,000		Yes

Unshielded fixtures		5,500		Yes
Light color	ToJ LDR Section 2.2.15.B.5	<3000 Kelvin		Yes
Scenic Resource Overlay (SRO)(Sec. 5.3.2.)				
6. Natural Hazards to Avoid				
Steep Slopes (Sec 5.4.1.)				
Development prohibited	ToJ LDR Section 2.2.15.B.6	Slopes>25%		n/a
Hillside CUP required	ToJ LDR Section 2.2.15.B.6	Parcel with average cross-slope > 10%		n/a
Areas of Unstable Soils (sec. 5.4.2.)				
Fault Area (sec. 5.4.3.)				
Floodplains (sec 5.4.4.)				
Wildland Urban Interface (sec. 5.4.5.)				
7. Signs (nonresidential) (Div. 5.6.)				
Number of signs (max)	ToJ LDR Section 2.2.15.B.7	3 per business year	TBD	TBD
Background color	ToJ LDR Section 2.2.15.B.7	No white or yellow	TBD	Yes
Sign Area				
Total sign area (max)	ToJ LDR Section 2.2.15.B.7	3 sf per linear ft of street façade width up to 150 sf	TBD	Yes
Penalty	ToJ LDR Section 2.2.15.B.7	10% per projecting and freestanding sign		
Sign Type Standards				
Canopy Sign	ToJ LDR Section 2.2.15.B.7			TBD
Clearance (min)	ToJ LDR Section 2.2.15.B.7	7'6" from average grade		
Setback (min)	ToJ LDR Section 2.2.15.B.7	18" from back of curb		
Freestanding sign	ToJ LDR Section 2.2.15.B.7			TBD
Height (max)	ToJ LDR Section 2.2.15.B.7	6'		

Setback (min)	ToJ LDR Section 2.2.15.B.7	5'		
Projecting sign	ToJ LDR Section 2.2.15.B.7			TBD
Height (max)	ToJ LDR Section 2.2.15.B.7	24' above grade		
Clearance (min)	ToJ LDR Section 2.2.15.B.7	7'6" from average grade		
Setback (min)	ToJ LDR Section 2.2.15.B.7	18" from back of curb		
Window Sign	ToJ LDR Section 2.2.15.B.7			
Window surface coverage (max)	ToJ LDR Section 2.2.15.B.7	25% up to 16 sf		
Temporary signs	ToJ LDR Section 2.2.15.B.7	(sec 5.6.1.)		
8. Grading, Erosion Control, Stormwater				
Grading (sec 5.7.2.)				
Erosion Control (sec 5.7.3.)				
Erosion shall be controlled at all times	ToJ LDR Section 2.2.15.B.8			Yes
Stormwater Management (sec.5.7.4.)				
No increase in peak flow rate or velocity across property lines	ToJ LDR Section 2.2.15.B.8			Yes

9. Physical Development Permits Required							
Physical Development	Sketch Plan (Sec. 8.3.1.)	Development Plan (Sec. 8.3.2.)	Building Permit (Sec. 8.3.3.)	DRC Review (Sec. 8.2.6.)	Sign Permit (Sec. 8.3.5.)	Grading Permit (Sec. 8.3.4.)	Floodplain Permit
>39,000 sf	X	X	X	X		Sec.5.7.2.	n/a
Sign					X		

1. Allowed Uses				2. Use Requirements	
Use	Permit	Individual Use (max)	Density (max)	Parking (min.) (Div. 6.2.) (E.1.)	Affordable Workforce Housing Units (min) (Div.6.3.)

Lodging					
Short-term rental Unit (6.1.5.c.)	B(LO)	n/a	n/a	1/DU if <2 bedrooms and <5090 sf; otherwise 1.5/DU	0.204*bedrooms
Commercial Uses					
Office (6.1.6.B.)	B	n/a	n/a	1.65/1,000 sf	0.000493*sf
Retail (6.1.6.C.)	B(LO)	12,500 sf excluding basement storage	n/a	2.25/1,000 sf	0.000431*sf
Service (6.1.6.D.)	B(LO)		n/a	1.5/1,000 sf	0.000431*sf
Restaurant/Bar (6.1.6.E.)	B(LO)		n/a	1/110 sf dining area + 1/60 sf bar area	0.001197*sf

DRAWINGS

ARCHITECTURAL DRAWINGS



- ① REDUCED LEVEL THREE WINDOW PANE SIZE AND RECESSED WINDOWS **TO REDUCE PERCEIVED SCALE OF THE BUILDING**

- ② THE WIDTH OF THE SOLID PIER AT THE CORNER HAS BEEN REDUCED BY OVER 50% ON BOTH FRONTAGES TO INCREASE THE WIDTH OF THE ADJACENT COMMERCIAL STOREFRONT GLAZING **TO PROVIDE MORE VARIATION OF PEDESTRIAN EXPERIENCE.**

- ③ ALL AREAS PREVIOUSLY SHOWN AS CUT GRAY STONE ARE REVISED TO BE A MONTANA MOSS ROCK STONE WITH A RANDOMIZED, DRY-STACK INSTALLATION (OR SIMILAR) THAT IS VERY FAMILIAR TO THE AREA. ADDITIONALLY, THE MORE VARIED TEXTURE AND TONE CREATES A LESS MONOLITHIC APPEARANCE AND HELPS **TO REDUCE PERCEIVED SCALE OF THE BUILDING**

- ④ ALL AREAS PREVIOUSLY SHOWN AS CLAY TILE SHINGLES ARE REVISED TO A PREMIUM LARGE FORMAT WOOD SIDING TO CREATE A MORE SYMPATHETIC TRANSITION TO ADJACENT, HISTORIC WOOD BUILDINGS, AS WELL AS **TO REDUCE PERCEIVED SCALE OF THE BUILDING**

- ⑤ GLASS RAILINGS CHANGES TO METAL TO ACHIEVE BETTER CONNECTION TO **WESTERN CHARACTER** AND SCALE

- ⑥ ADDED ARTICULATION INCLUDING TRELLIS STRUCTURES AND COPING DETAILS



CACHE ELEVATION - PROPOSED



CACHE ELEVATION - PREVIOUS



① PUSH BACK FAÇADE AT LEVEL 2 BELOW AMENITY DECK APPROXIMATELY 4.5' AND INTRODUCE MATTE METAL PANEL CLADDING. THE MASSING AND MATERIAL REVISIONS SERVE TO CLEARLY DISTINGUISH THIS AREA AS **A CONNECTOR OR LINK BETWEEN THE ADJACENT PERCEIVED "PHASES" TO THE EAST AND WEST.**

② PUSH BACK LEVEL 1 BETWEEN 10' AND 50', OR APPROXIMATELY 1800 SF **TO SIGNIFICANTLY ENHANCE THE PEDESTRIAN EXPERIENCE**

③ ALL AREAS PREVIOUSLY SHOWN AS CUT GRAY STONE ARE REVISED TO BE A MONTANA MOSS ROCK STONE **TO REDUCE THE PERCEIVED SCALE OF THE BUILDING**

④ ALL AREAS PREVIOUSLY SHOWN AS CLAY TILE SHINGLES ARE REVISED TO A PREMIUM LARGE FORMAT WOOD SIDING **TO REDUCE THE PERCEIVED SCALE OF THE BUILDING**

⑤ GLASS RAILINGS CHANGE TO METAL **IN SUPPORT OF WESTERN CHARACTER**

⑥ REDUCED LEVEL THREE WINDOW PANE SIZE AND RECESSED WINDOWS **TO REDUCE PERCEIVED SCALE OF THE BUILDING**

⑦ ADDED ARTICULATION INCLUDING TRELLIS STRUCTURES AND COPING DETAILS **TO REDUCE PERCEIVED SCALE OF THE BUILDING**

⑧ THE WIDTH OF THE SOLID PIER AT THE CORNER HAS BEEN REDUCED BY OVER 50% ON BOTH FRONTAGES TO INCREASE THE WIDTH OF THE ADJACENT COMMERCIAL STOREFRONT GLAZING **TO PROVIDE MORE VARIATION OF PEDESTRIAN EXPERIENCE.**

⑨ REPLACED A GROUND-FLOOR RESIDENTIAL UNIT WITH COMMERCIAL SPACE **TO FURTHER ACTIVATE AND ENHANCE THE PEDESTRIAN EXPERIENCE.**

⑩ PROVIDE PITCHED ROOF OVER LEVEL 3 UNITS **TO RELATE TO ADJACENT CONTEXT**

⑪ INTRODUCE DORMERS AT LEVEL 3 WINDOWS TO PROVIDE A MORE RESIDENTIAL APPEARANCE, VARIED ROOFLINE FORM, AND **REDUCE THE PERCEIVED SCALE OF THE BUILDING.**

⑫ CHANGE FACADE MATERIAL AT EASTERNMOST LENGTH OF BUILDING FRONTAGE FROM STONE TO RECLAIMED WOOD **TO RELATE TO ADJACENT CONTEXT**

⑬ PROVIDE PUNCHED WINDOWS AT LEVEL 2 **TO REDUCE THE PERCEIVED SCALE OF THE BUILDING**

⑭ INCREASE EAST BUILDING SETBACK FROM UNDER 12" TO 3' MINIMUM **TO PROVIDE MORE SPACE BETWEEN THE PROPOSED BUILDING AND NEIGHBORING BUILDING.**

⑮ CLAD ELEVATOR OVERRUN WALLS AT EAST WING IN STONE, WITH TRADITIONAL CAP DETAILING **TO ACCENTUATE THE EAST AND WEST WINGS OF THE BUILDING AS SEPARATE AND DISTINCT.**





① PUSH BACK FAÇADE AT LEVEL 2 BELOW AMENITY DECK APPROXIMATELY 4.5' AND INTRODUCE MATTE METAL PANEL CLADDING. THE MASSING AND MATERIAL REVISIONS SERVE TO CLEARLY DISTINGUISH THIS AREA AS **A CONNECTOR OR LINK BETWEEN THE ADJACENT PERCEIVED "PHASES" TO THE EAST AND WEST.**

② PUSH BACK LEVEL 1 BETWEEN 10' AND 50', OR APPROXIMATELY 1800 SF **TO SIGNIFICANTLY ENHANCE THE PEDESTRIAN EXPERIENCE**

③ ALL AREAS PREVIOUSLY SHOWN AS CUT GRAY STONE ARE REVISED TO BE A MONTANA MOSS ROCK STONE **TO REDUCE THE PERCEIVED SCALE OF THE BUILDING**

④ ALL AREAS PREVIOUSLY SHOWN AS CLAY TILE SHINGLES ARE REVISED TO A PREMIUM LARGE FORMAT WOOD SIDING **TO REDUCE THE PERCEIVED SCALE OF THE BUILDING**

⑤ GLASS RAILINGS CHANGE TO METAL **IN SUPPORT OF WESTERN CHARACTER**

⑥ REDUCED LEVEL THREE WINDOW PANE SIZE AND RECESSED WINDOWS **TO REDUCE PERCEIVED SCALE OF THE BUILDING**

⑦ ADDED ARTICULATION INCLUDING TRELLIS STRUCTURES AND COPING DETAILS **TO REDUCE PERCEIVED SCALE OF THE BUILDING**

⑧ THE WIDTH OF THE SOLID PIER AT THE CORNER HAS BEEN REDUCED BY OVER 50% ON BOTH FRONTAGES TO INCREASE THE WIDTH OF THE ADJACENT COMMERCIAL STOREFRONT GLAZING **TO PROVIDE MORE VARIATION OF PEDESTRIAN EXPERIENCE.**

⑨ REPLACED A GROUND-FLOOR RESIDENTIAL UNIT WITH COMMERCIAL SPACE **TO FURTHER ACTIVATE AND ENHANCE THE PEDESTRIAN EXPERIENCE.**

⑩ PROVIDE PITCHED ROOF OVER LEVEL 3 UNITS **TO RELATE TO ADJACENT CONTEXT**

⑪ INTRODUCE DORMERS AT LEVEL 3 WINDOWS TO PROVIDE A MORE RESIDENTIAL APPEARANCE, VARIED ROOFLINE FORM, AND **REDUCE THE PERCEIVED SCALE OF THE BUILDING.**

⑫ CHANGE FACADE MATERIAL AT EASTERNMOST LENGTH OF BUILDING FRONTAGE FROM STONE TO RECLAIMED WOOD **TO RELATE TO ADJACENT CONTEXT**

⑬ PROVIDE PUNCHED WINDOWS AT LEVEL 2 **TO REDUCE THE PERCEIVED SCALE OF THE BUILDING**

⑭ INCREASE EAST BUILDING SETBACK FROM UNDER 12" TO 3' MINIMUM **TO PROVIDE MORE SPACE BETWEEN THE PROPOSED BUILDING AND NEIGHBORING BUILDING.**

⑮ CLAD ELEVATOR OVERRUN WALLS AT EAST WING IN STONE, WITH TRADITIONAL CAP DETAILING **TO ACCENTUATE THE EAST AND WEST WINGS OF THE BUILDING AS SEPARATE AND DISTINCT.**



PEARL ELEVATION - PROPOSED



① PUSH BACK FAÇADE AT LEVEL 2 BELOW AMENITY DECK APPROXIMATELY 4.5' AND INTRODUCE MATTE METAL PANEL CLADDING. THE MASSING AND MATERIAL REVISIONS SERVE TO CLEARLY DISTINGUISH THIS AREA AS **A CONNECTOR OR LINK BETWEEN THE ADJACENT PERCEIVED "PHASES" TO THE EAST AND WEST.**

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PEARL ELEVATION - PREVIOUS



PROPOSED DESIGN



PROPOSED DESIGN



PREVIOUS DESIGN



PREVIOUS DESIGN

PEARL ELEVATION - PROPOSED



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PEARL ELEVATION - PREVIOUS







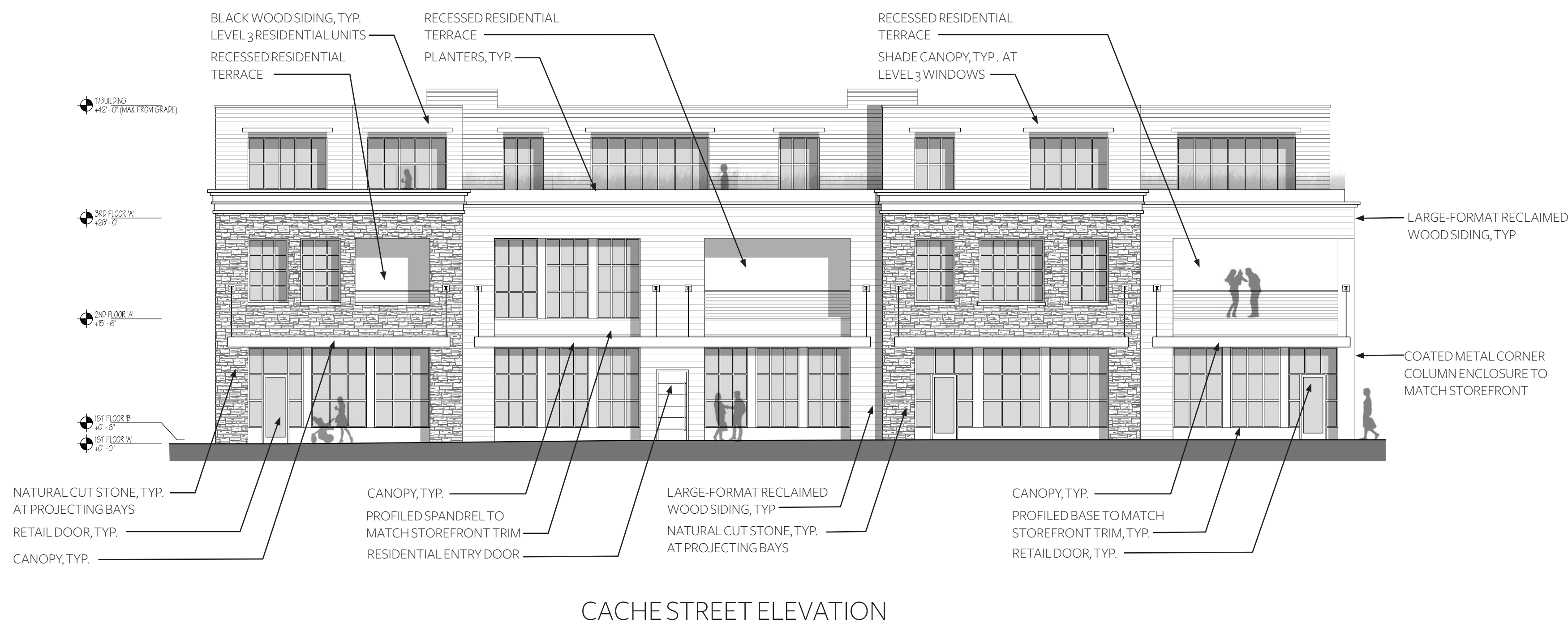
PEARL AVENUE ELEVATION

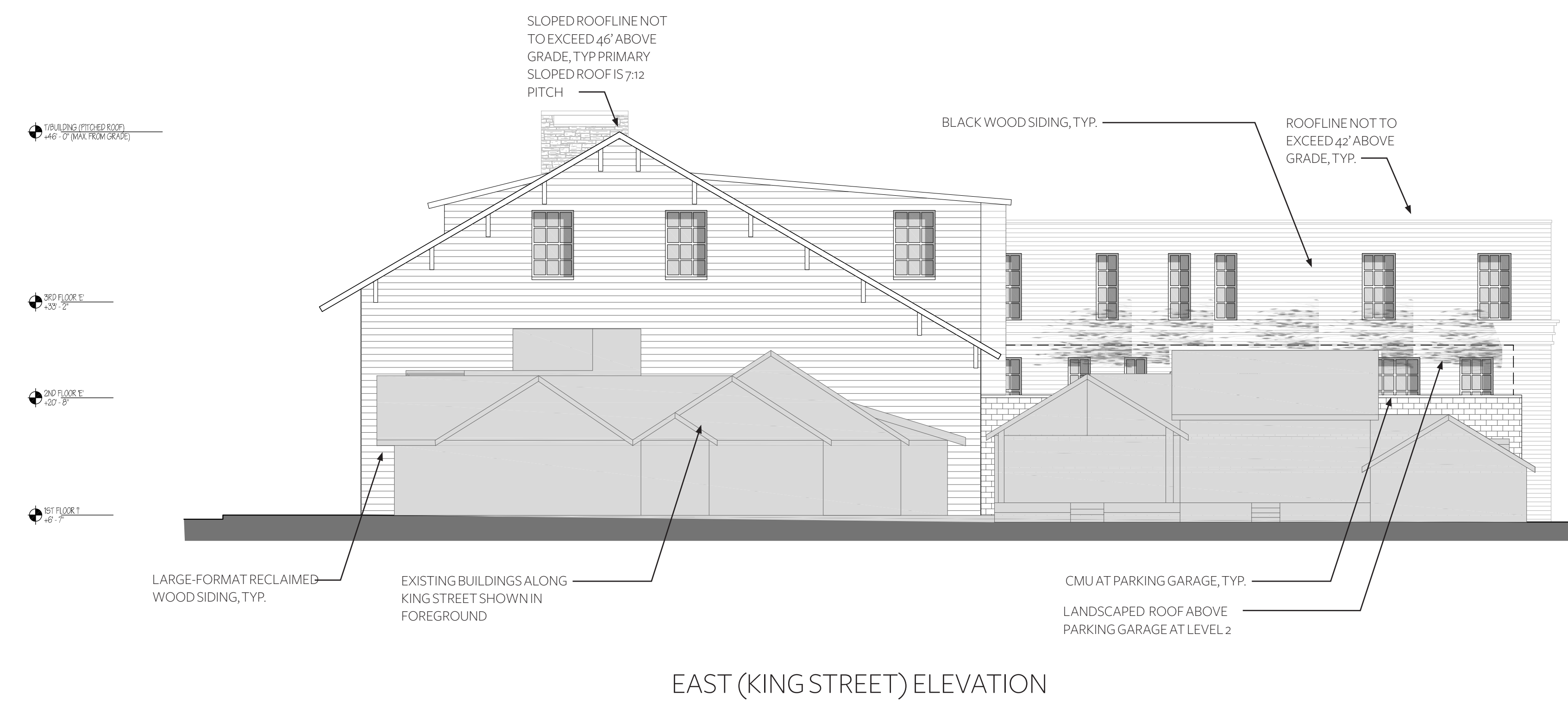
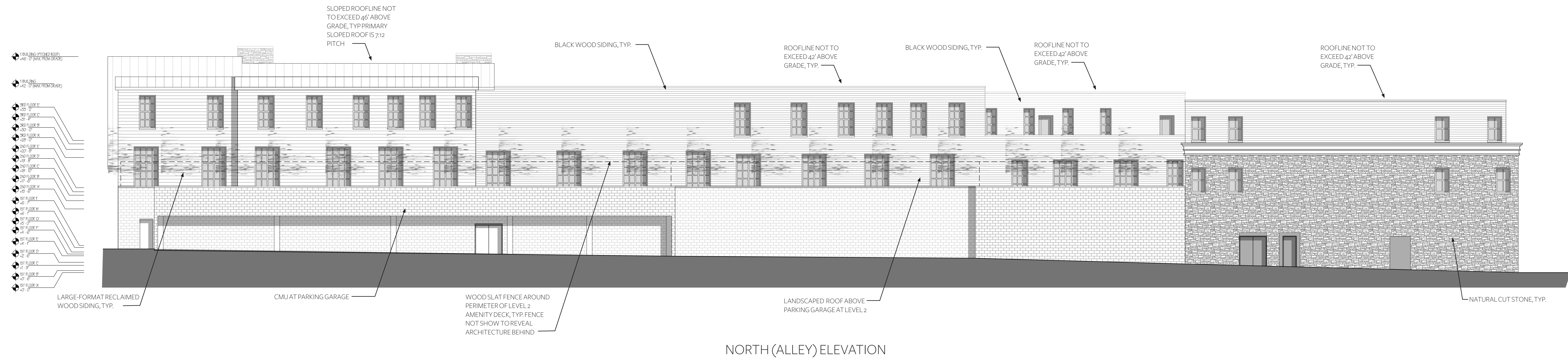


CACHE STREET ELEVATION



EAST (KING STREET) ELEVATION





CEDAR SIDING
BLACK SIDING AT THIRD FLOOR & REAR COURTYARD



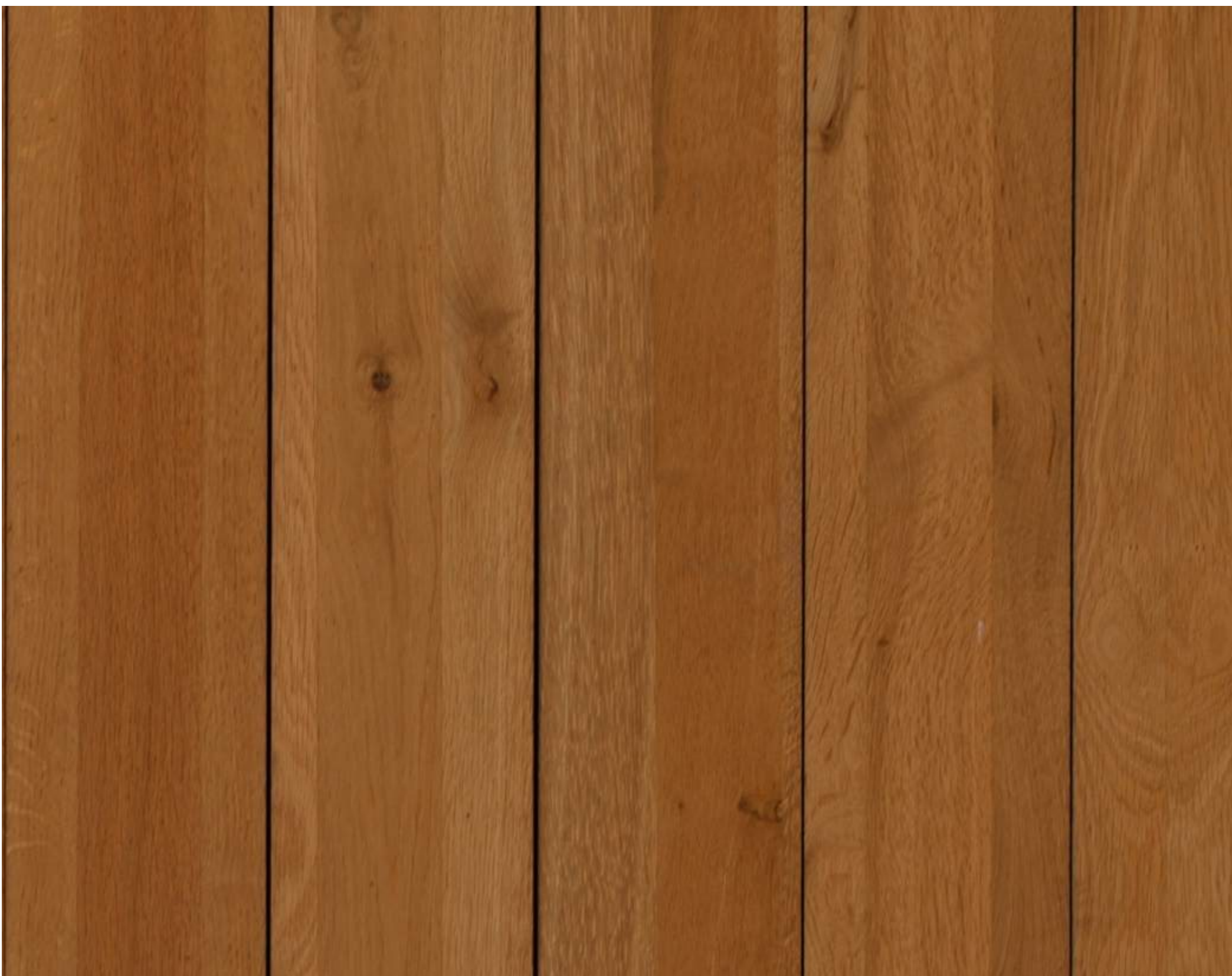
CLAY FACADE TILE
BUILDING WALL CLADDING AT LEVELS 1-2 RECESSED BAYS



STONE (TUXEDO GRAY LIMESTONE - SELECT STONE)
BUILDING WALL CLADDING AT LEVELS 1-2 PROJECTING BAYS



STAINED CEDAR PLANKS
CANOPIES AND SOFFITS



BLACK PAINTED WOOD DETAILING
CORNICES AND TRIM



BLACK ALUMINUM WINDOWS
PUNCHED WINDOWS, STOREFRONT, AND WINDOW WALL



CEDAR SIDING
BLACK SIDING AT THIRD FLOOR & REAR COURTYARD



LARGE FORMAT RECLAIMED SIDING
BUILDING WALL CLADDING AT LEVELS 1-2 RECESSED BAYS



STONE (MONTANA MOSS ROCK - SELECT STONE)
BUILDING WALL CLADDING AT LEVELS 1-2 PROJECTING BAYS



STAINED CEDAR PLANKS
CANOPIES AND SOFFITS



BLACK PAINTED WOOD DETAILING
CORNICES AND TRIM

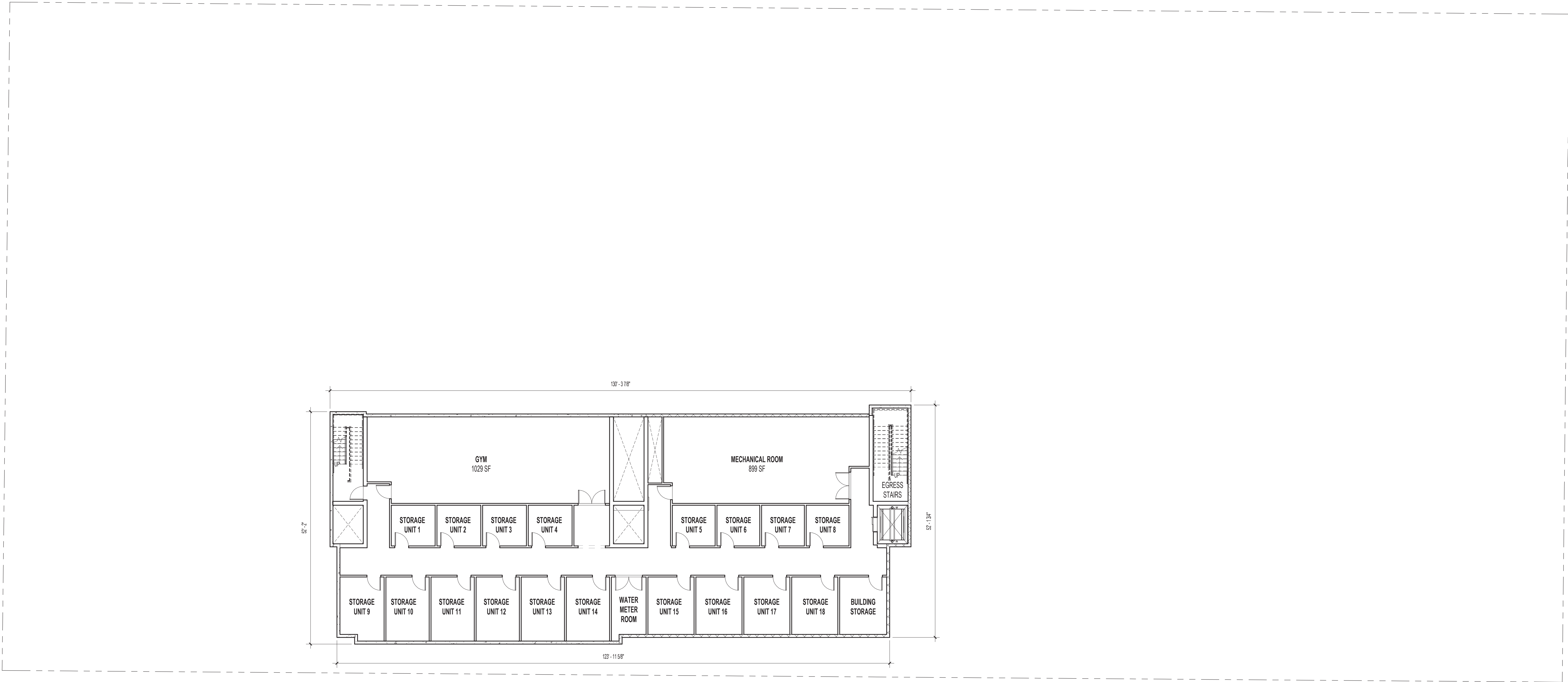


MATTE BLACK METAL PANEL
LEVEL 2 "BRIDGE" BETWEEN EAST AND WEST WINGS



BLACK ALUMINUM WINDOWS
PUNCHED WINDOWS, STOREFRONT, AND WINDOW WALL

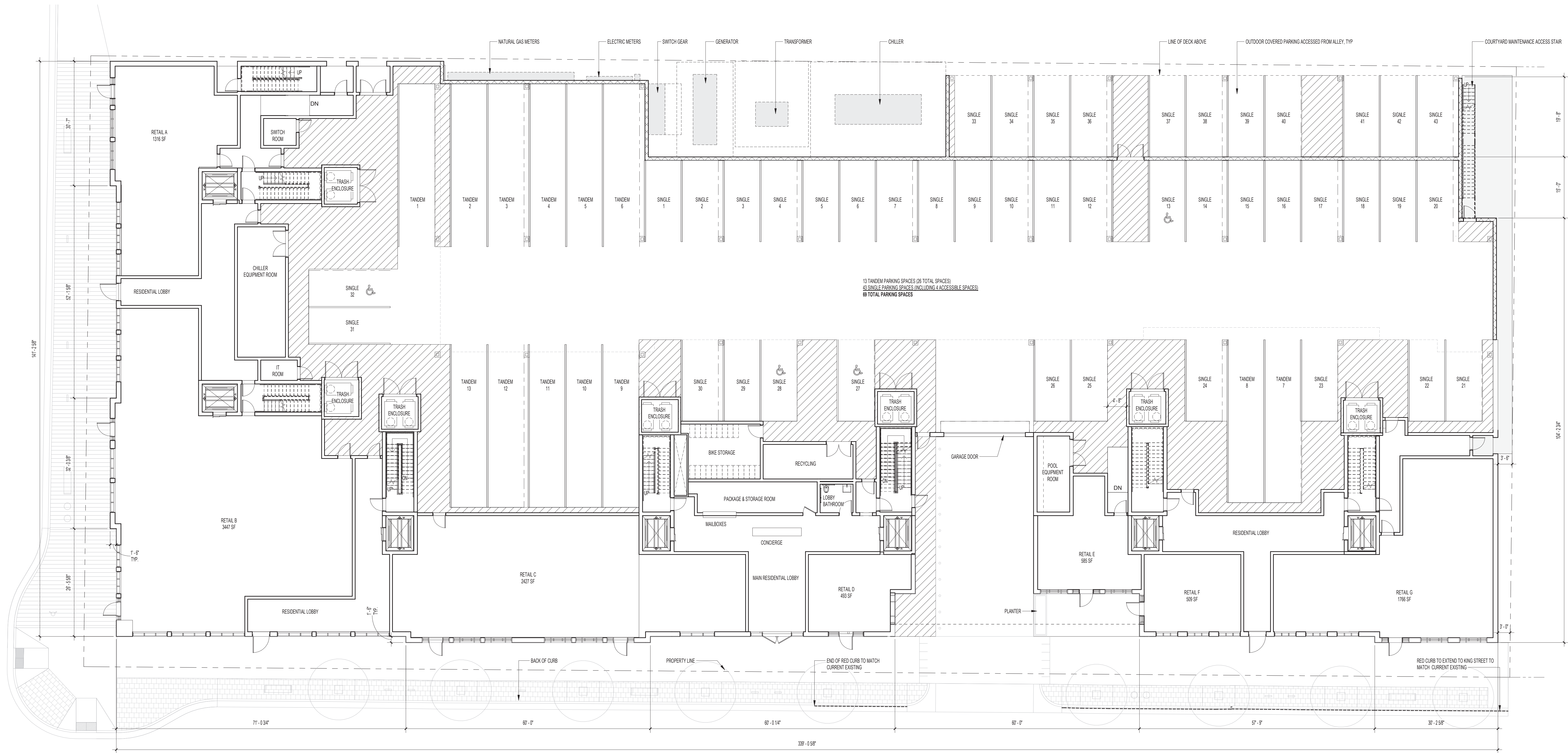




① BASEMENT PLAN
3/32" = 1'-0"

BASEMENT LEVEL
TOTAL SF - 6,518 SF

- (18) STORAGE UNIT FOR EACH RESIDENTIAL UNIT
- (1) ELEVATOR HAS BASEMENT LEVEL ACCESS
- (2) EGRESS STAIRS HAVE BASEMENT LEVEL ACCESS



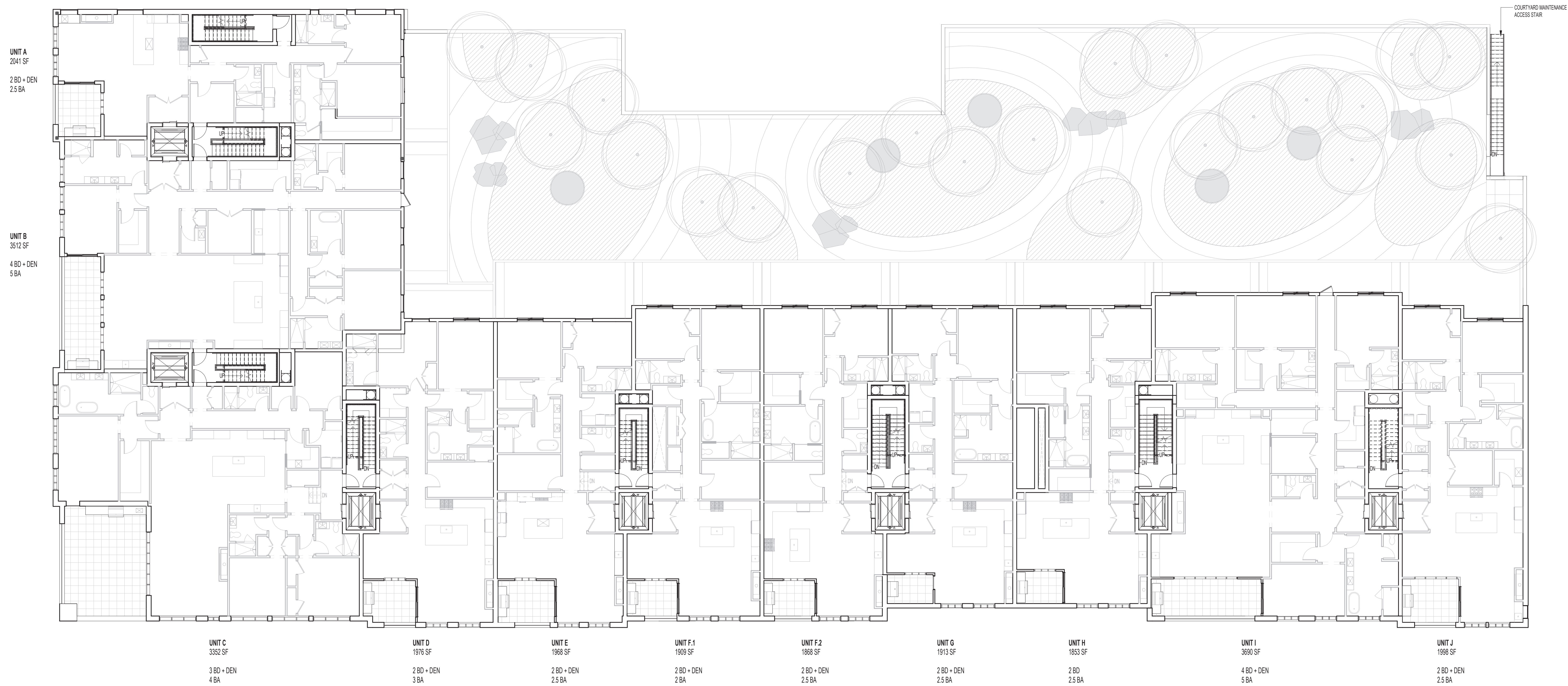
1 1ST FLOOR PLAN
3/32" = 1'-0"

BUILDING TOTALS

GROSS SF - 67,576

LEVEL 1

GROSS SF - 18,078



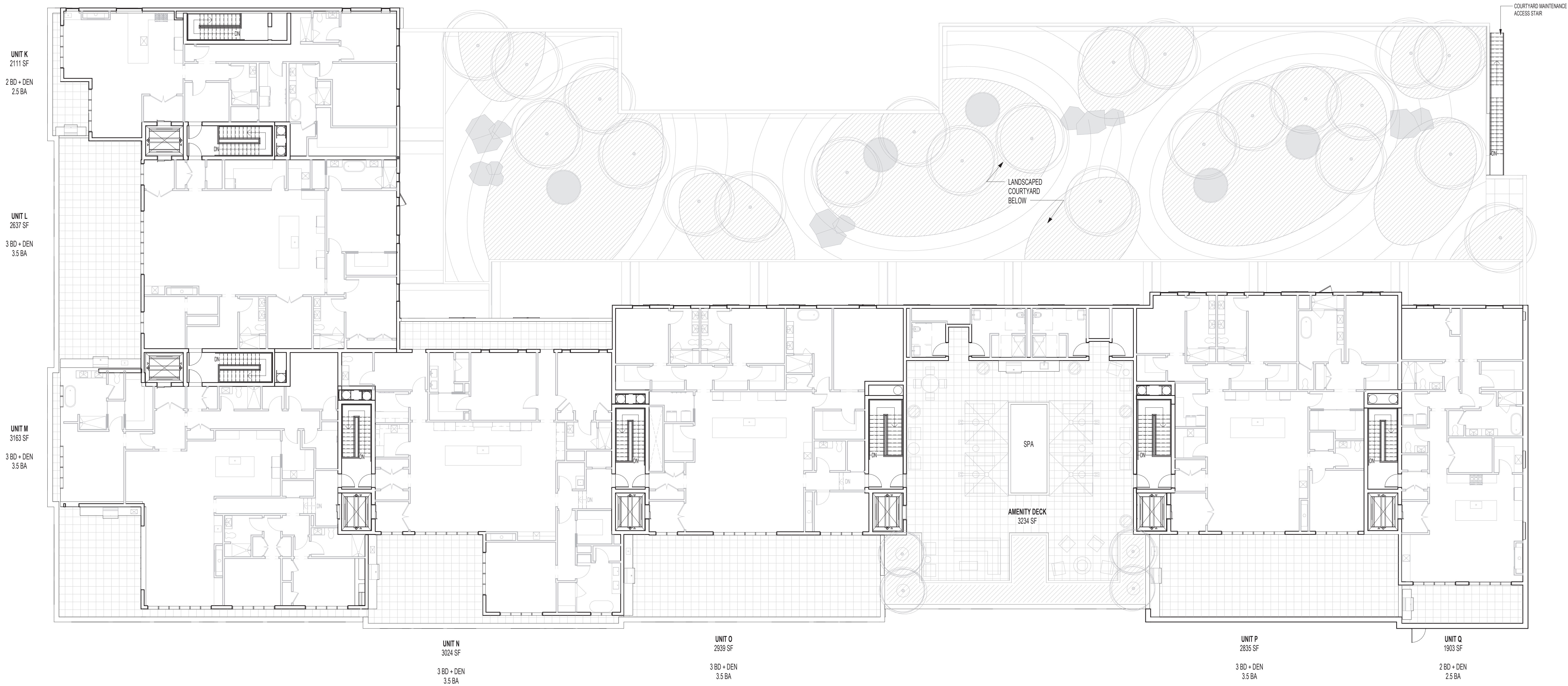
① 2ND FLOOR PLAN
3/32" = 1'-0"

BUILDING TOTALS

GROSS SF - 67,576

LEVEL 2

GROSS SF - 28,198



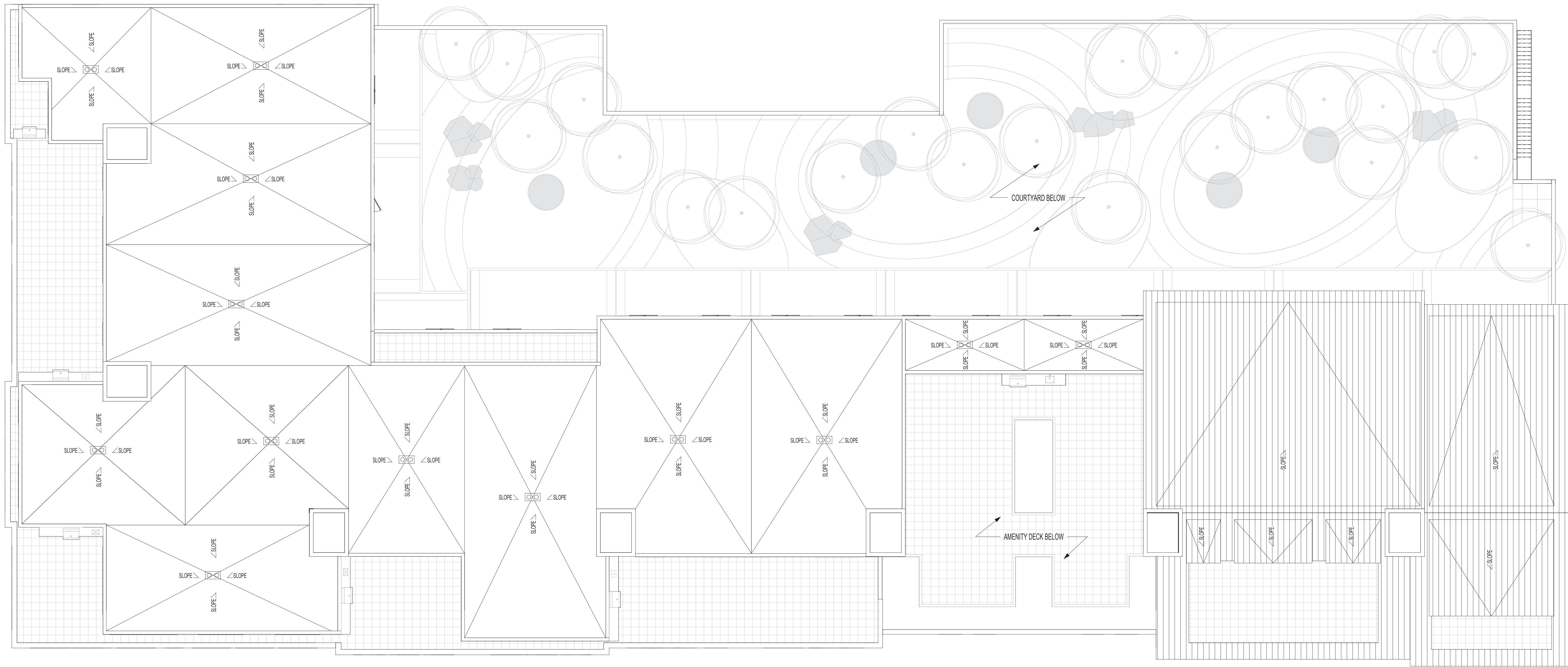
1 3RD FLOOR PLAN
3/32" = 1'-0"

BUILDING TOTALS

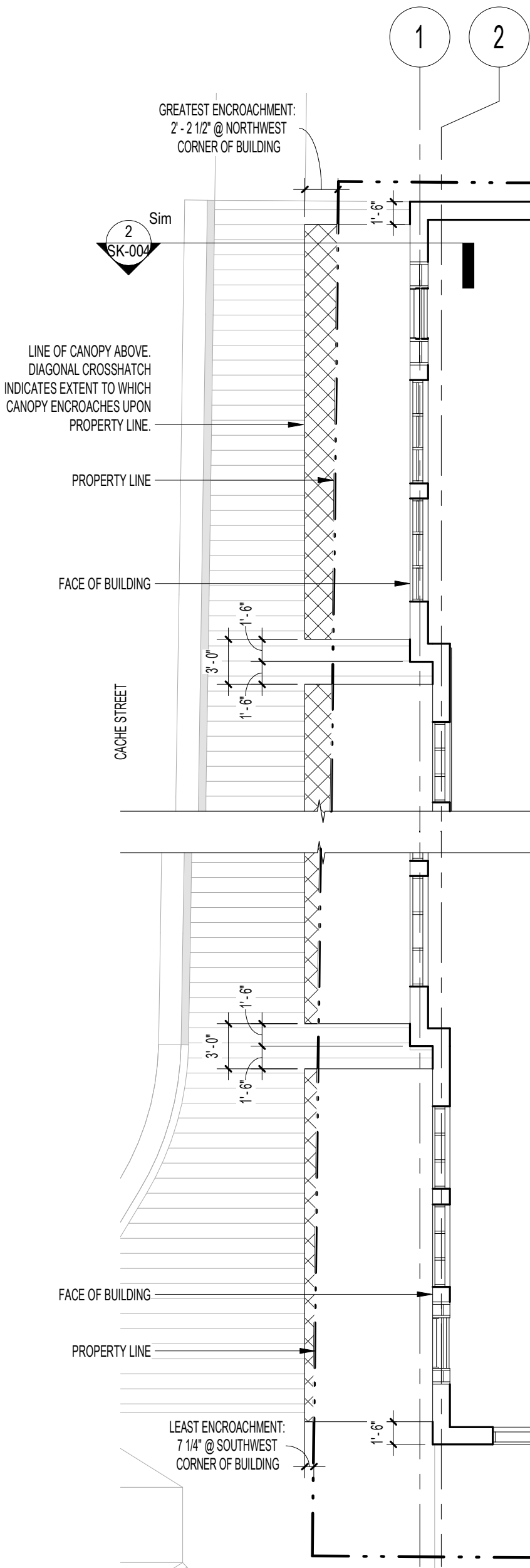
GROSS SF - 67,576

LEVEL 3

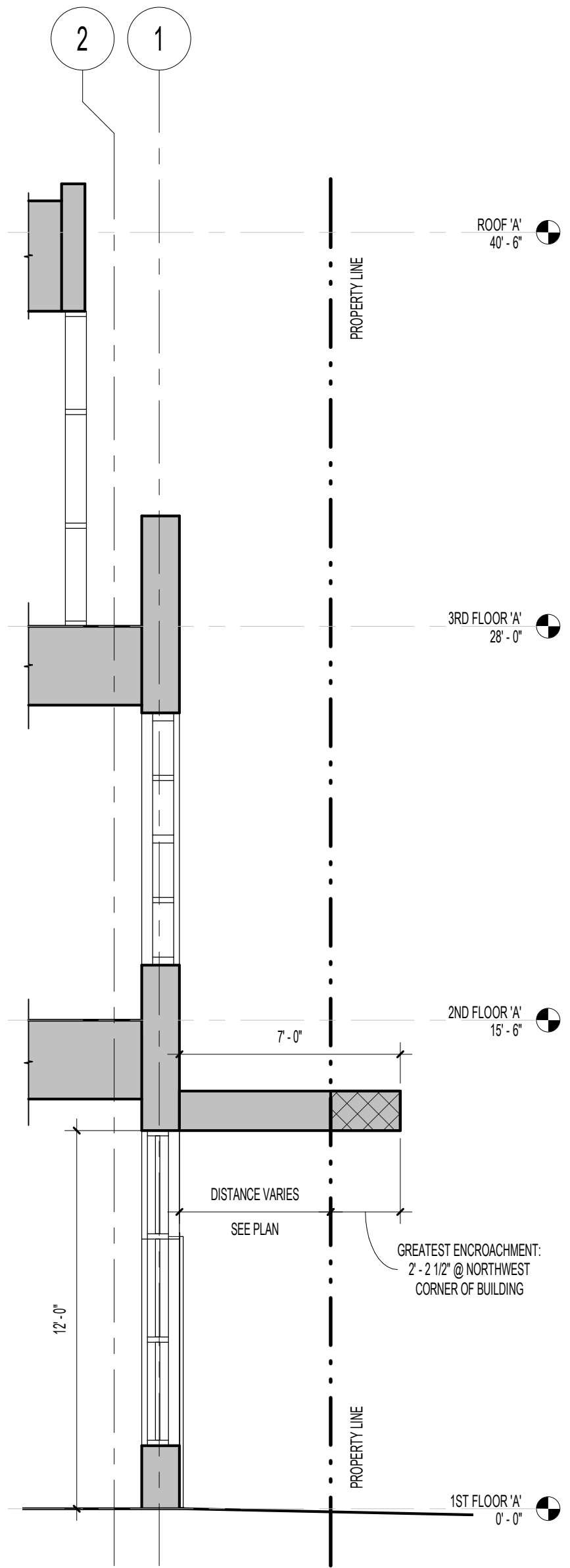
GROSS SF - 21,300



1 ROOF PLAN
3/32" = 1'-0"



1 EXHIBIT A - PROP. LINE ENCROACHMENT PLAN
1/8" = 1'-0"



2 EXHIBIT B - PROP. LINE ENCROACHMENT SECTION
1/4" = 1'-0"

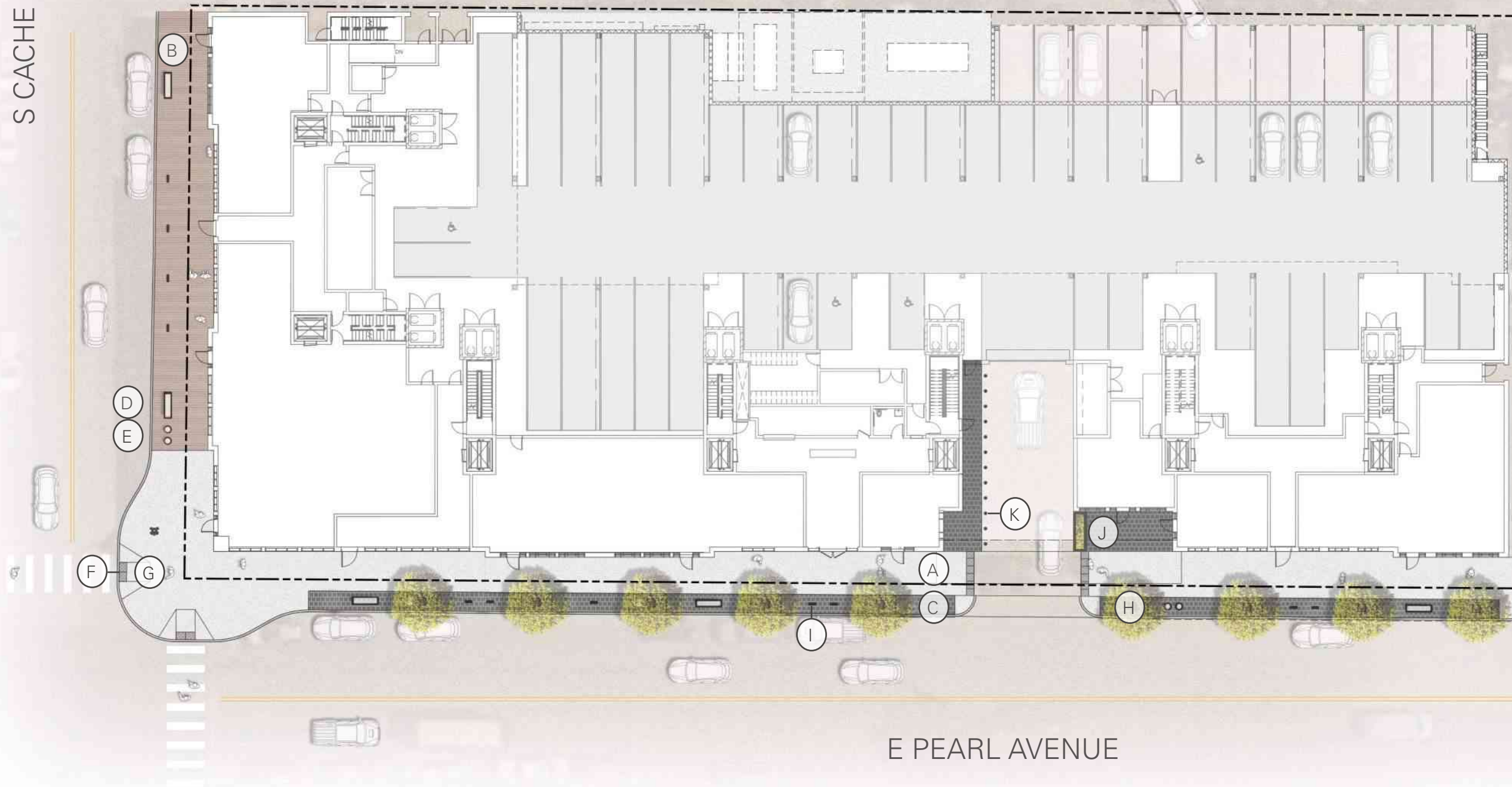
NORTHWORKS CHICAGO JACKSON HOLE SAN FRANCISCO PHILADELPHIA		CACHE AND PEARL 45 EAST PEARL AVE. JACKSON, WY 83001	Project No.2120 Drawn ByRF Checked ByCK ScaleAs indicated Date02/08/22	TITLE PROPERTY LINE ENCROACHMENT - EXHIBITS A & B SK-004
1512 N. Throop Street T 312-440-9850 F 312-440-9851		Chicago, Illinois 60642 www.nwks.com	© 2022 Northworks Architects & Planners - All rights reserved. Any discrepancies shall be reported immediately to the Architect before proceeding. Only figured dimensions should be used. Contractors and fabricators to verify all dimensions on site prior to beginning Work.	

LANDSCAPE DRAWINGS

FIRST FLOOR EXTERIOR STREETSCAPE

S CACHE STREET

EXISTING ALLEY



LEGEND

- (A) PEDESTRIAN CONCRETE
- (B) PEDESTRIAN BOARDWALK
- (C) PERMEABLE CONCRETE PAVERS
- (D) BENCH
- (E) LITTER RECEPTACLE
- (F) DETECTABLE WARNING PLATES
- (G) ADA ACCESSIBLE CURB RAMP
- (H) PAVER GRATE WITH TREE
- (I) BIKE RACK
- (J) PLANTER IN SEATING AREA
- (K) BOLLARDS
- (L) SCALE 1:30



Name: Pedestrian Concrete
Dimensions: Varies
Color: Light grey



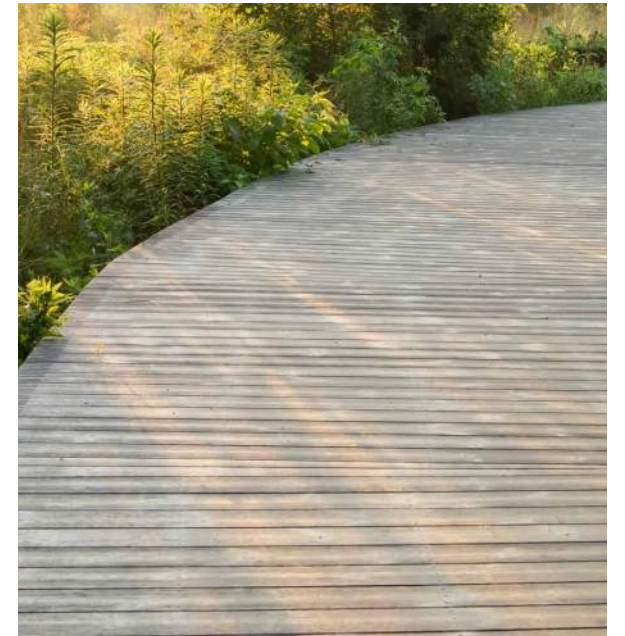
Name: Permeable Concrete Unit Pavers
Material: Concrete
Dimensions: TBD
Color: Dark grey



Name: Detectable Warning Plates
Dimensions: TBD
Color: Grey



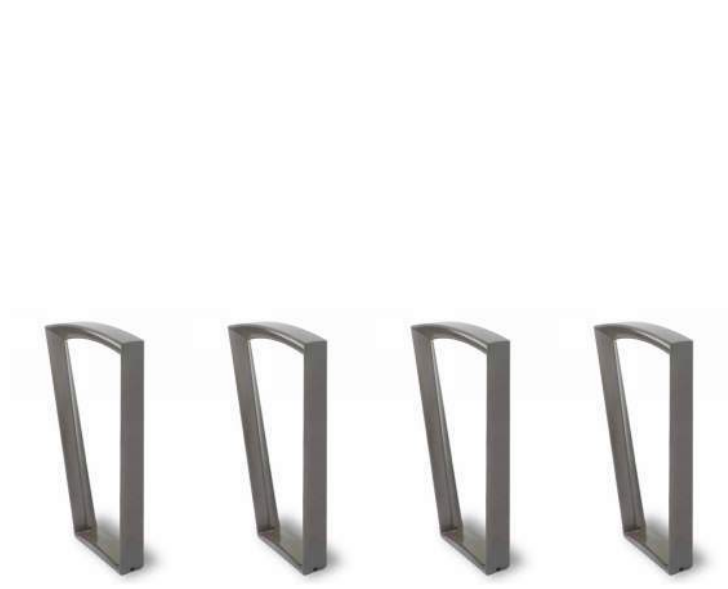
Name: Paver Grate
Material: Metal
Dimensions: TBD



Name: Pedestrian Boardwalk
Material: Wood
Dimensions: Varies



Name: STRATA Beam Bench, backless
Material: Wood, metal, concrete
Dimensions: 80" L x 21" W x 23 H
Quantity: 5



Name: Emerson Bike Rack
Material: Powdercoated metal
Dimensions: 20" L x 30" W x 4" D
Quantity: 11



Name: Petoskey Litter Receptacle (with sign)
Material: Powdercoated metal
Dimensions: 42" L x 20" W x 30 gal.
Color: TBD
Quantity: 4



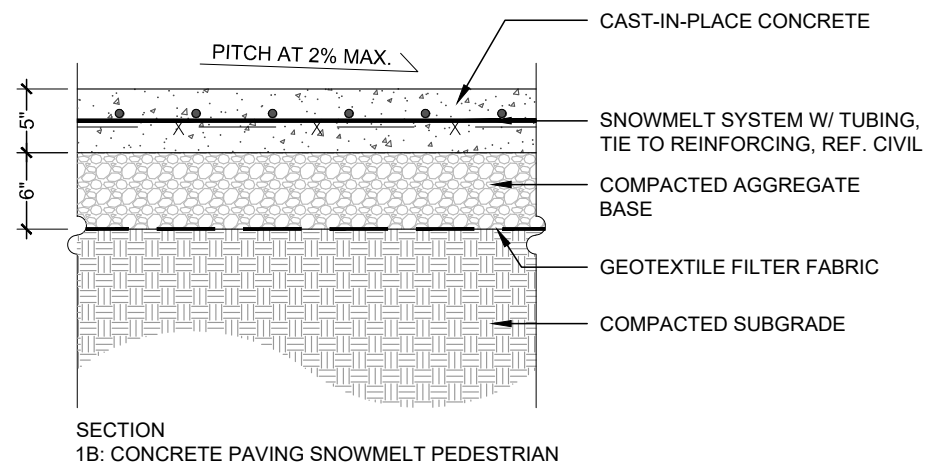
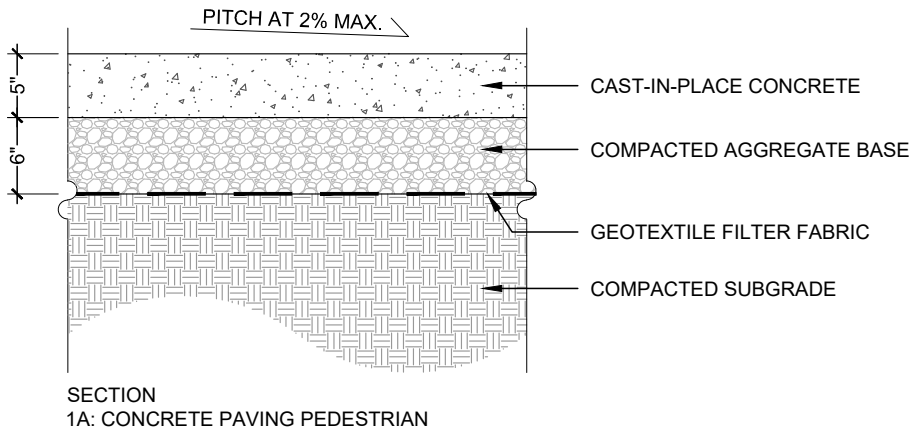
Name: Helio Bollard
Material: Metal with illuminated cap
Dimensions: 40" H x 6" D
Quantity: 12



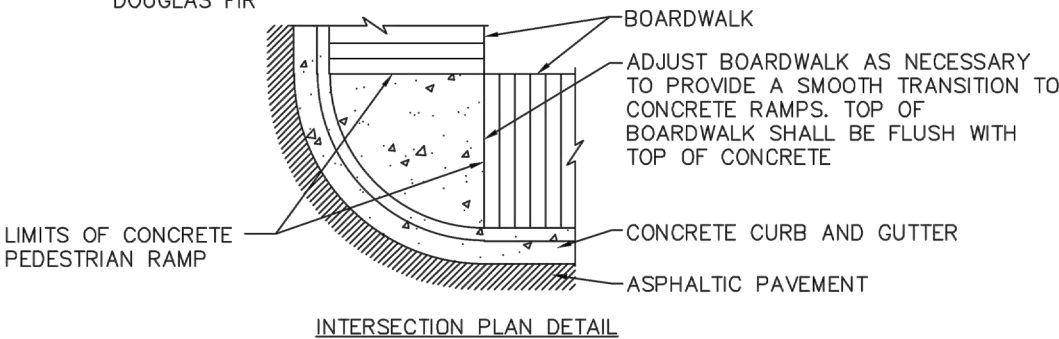
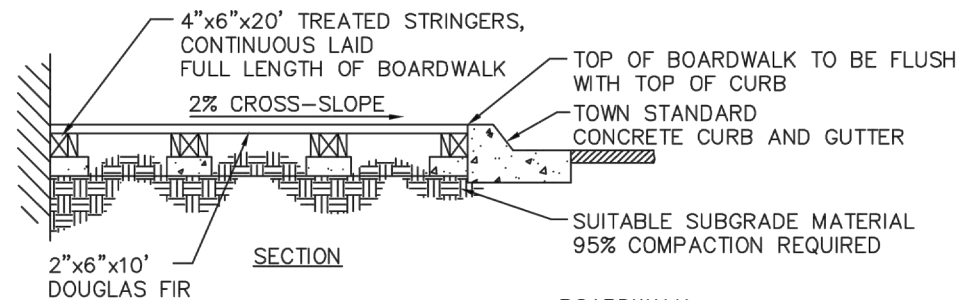
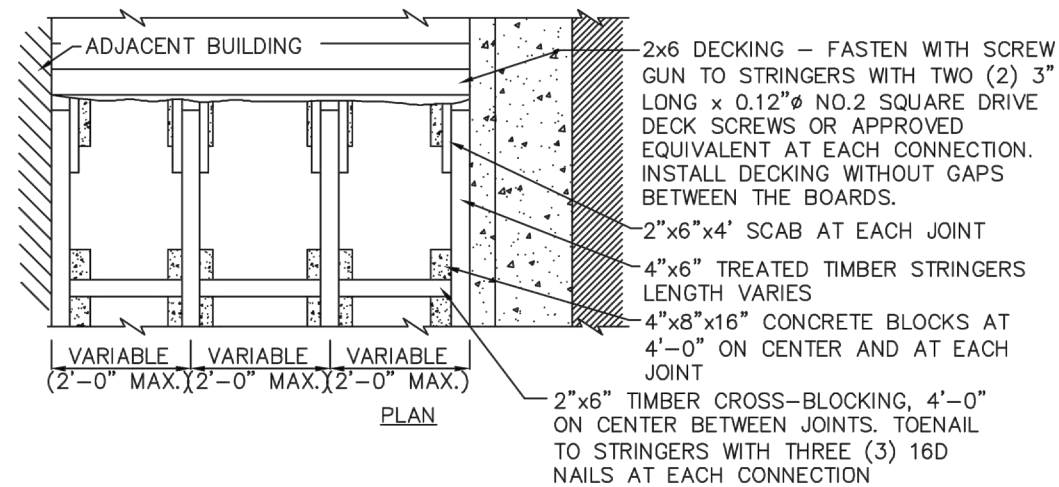
Name: Fence with hanging planters
Material: TBD
Dimensions: TBD
Quantity: 1



Name: Planter
Material: Concrete with metal veneer
Dimensions: TBD
Color: TBD
Quantity: 1



A. PEDESTRIAN CONCRETE



- NOTES:
1. UNLESS OTHERWISE APPROVED, ALL SCREWS TO BE NO.2 SQUARE DRIVE GALVANIZED DECK SCREWS. MINIMUM OF TWO SCREWS PER BOARD.
 2. ALL SUB-STRUCTURE LUMBER TO BE PRESSURE TREATED. ALL DECK LUMBER SHALL BE 2"x6" DOUGLAS FIR.
 3. INSTALL CLIPPED BOARDS WITH CROWN UP.
 4. PEDESTRIAN RAMP TO BE PER TOWN STANDARD.



BOARDWALK

ST-111 DATE: 12/4/12

SCALE: NTS

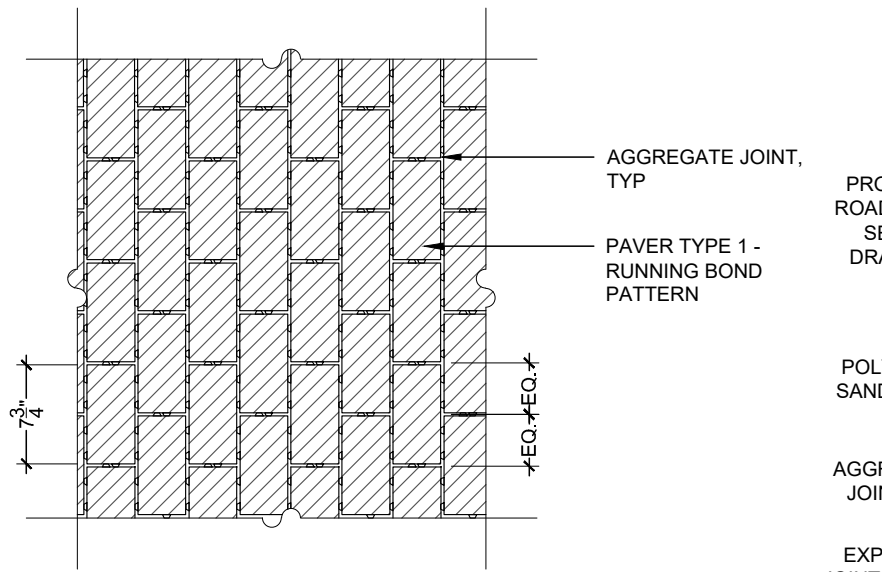
B. PEDESTRIAN BOARDWALK

NOTES:

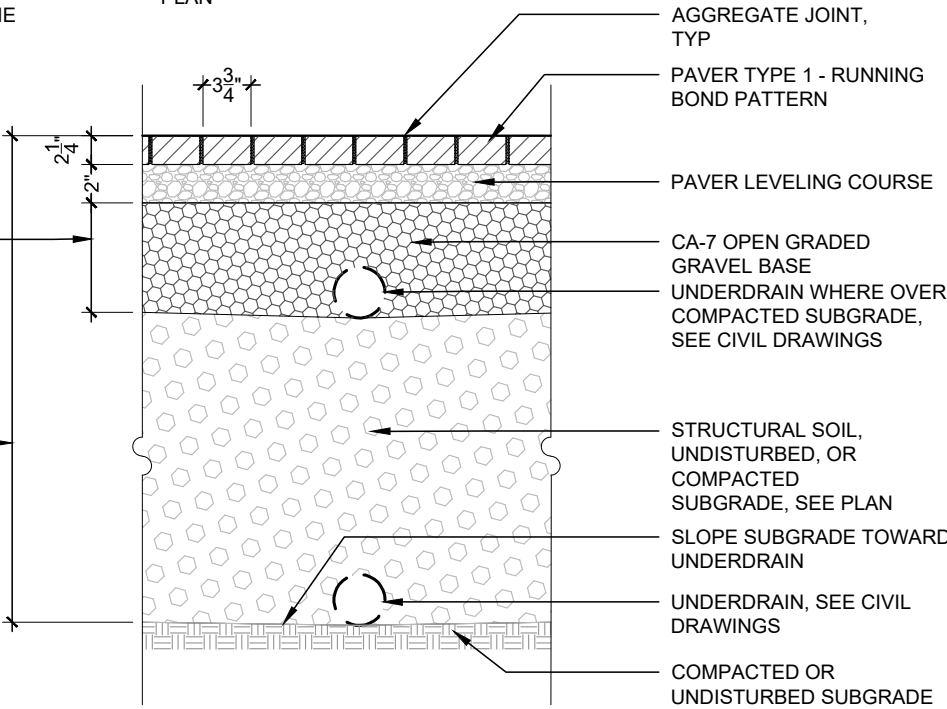
- 1. PERMEABLE PAVER ZONE WILL COMPRISE EITHER 18 OR 15 (SEE PLANS). EACH ROW SHALL BE FULL WIDTH PAVERS, NO CUTTING/RIPPING. ENDS OF PAVER FIELDS SHALL BE COORDINATED WITH ADJACENT IMPROVEMENTS, PROVIDING LENGTH CUTS ONLY AS INDICATED OR DIRECTED BY LANDSCAPE ARCHITECT.
- 2. THE DIMENSION SHALL BE FULLY COORDINATED BETWEEN ACTUAL DIMENSIONS OF PAVERS, TREE GRATES AND SITE CONDITIONS. CONCRETE WALK SHALL BE CONSTRUCTED TO ACCOMMODATE THIS REQUIREMENT.
- 1. WHERE PAVERS RUN PERPENDICULAR TO THE ROADWAY, CUTS ARE ACCEPTABLE WHEN RESULTING IN 1/2 PAVER LENGTH OR MORE.

8" IF OVER
STRUCTURAL SOIL.
12" IF OVER
COMPACTED OR
UNDISTURBED
SUBGRADE, SEE
PLAN

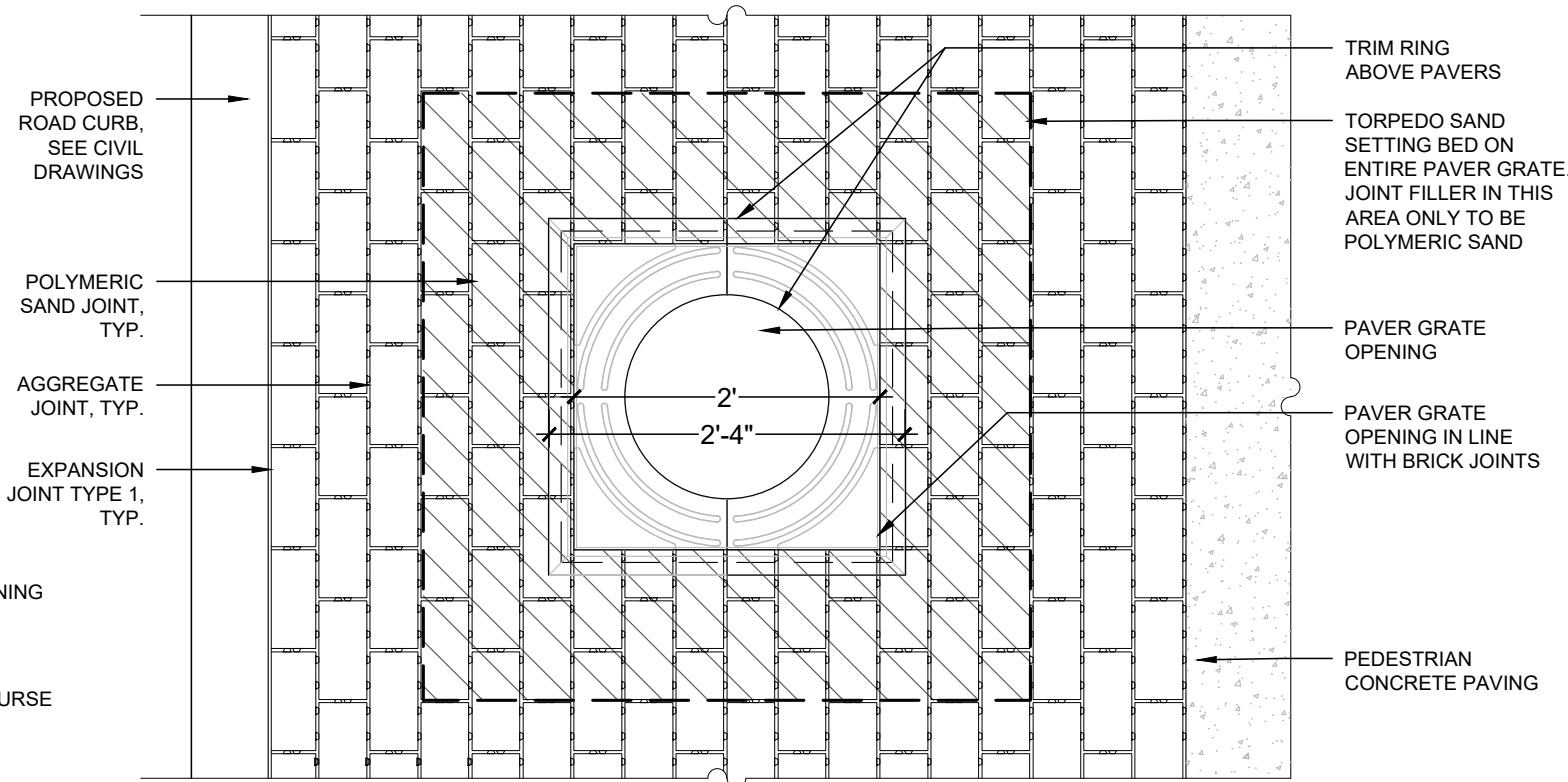
+/-3'-6" FROM
FINISHED GRADE FOR
6'-0" WIDE AMENITY
ZONE.
+/- 4'-0" FROM
FINIHSED GRADE FOR
5' WIDE AMENITY
ZONE



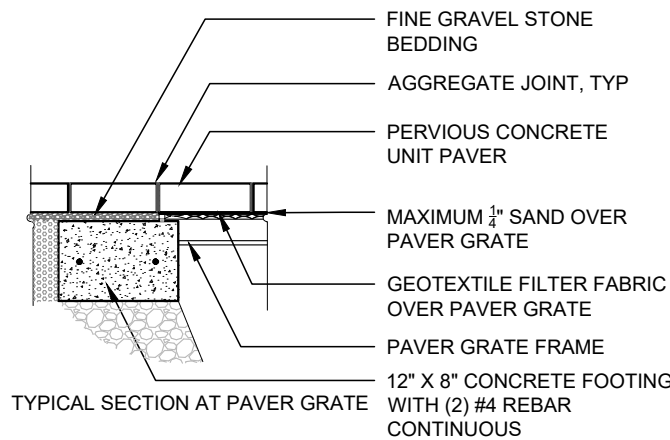
PLAN



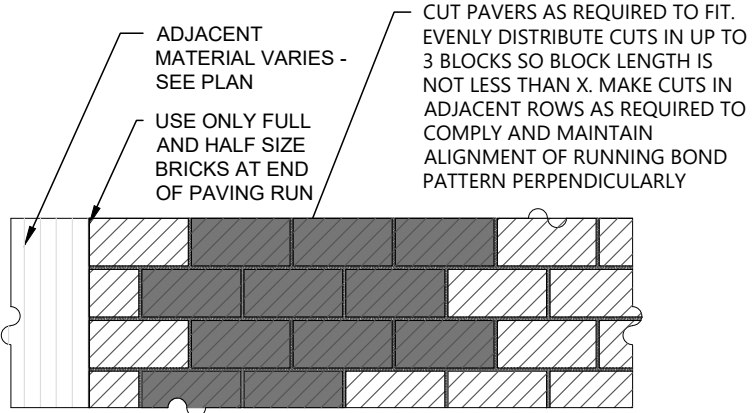
SECTION - TYPICAL



PLAN - PAVER LAYOUT AT PAVER GRATE OPENING

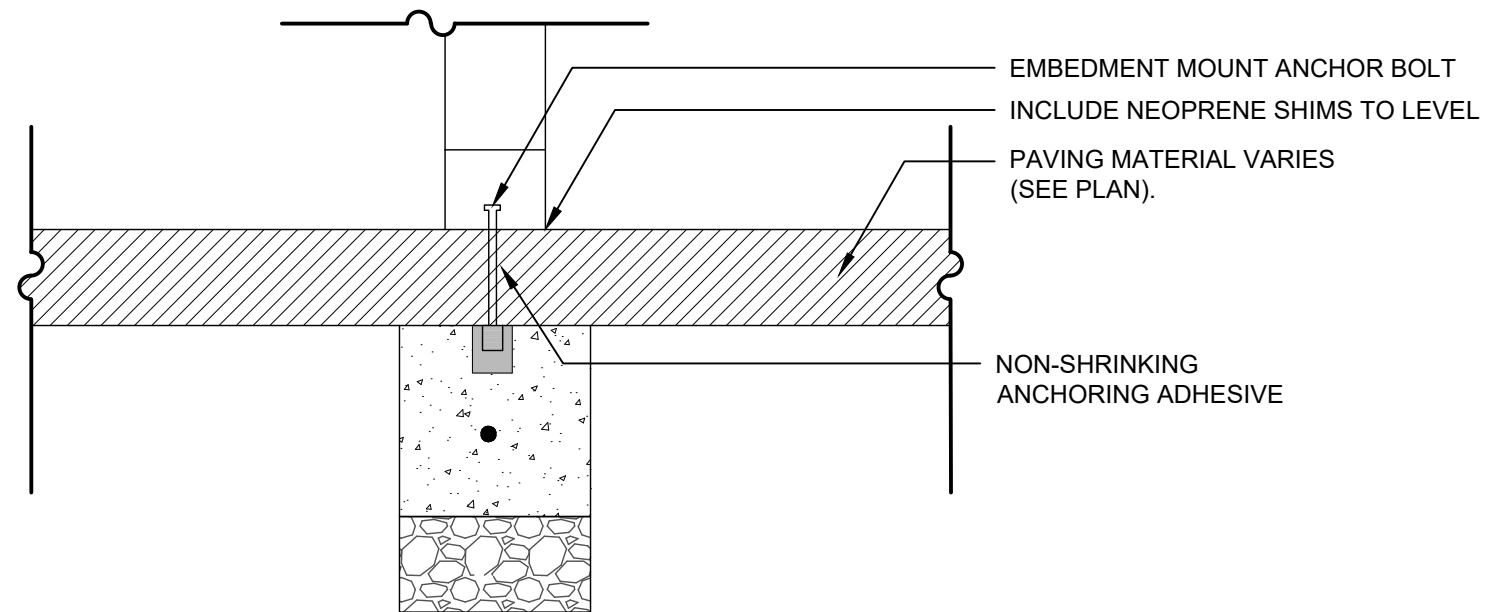
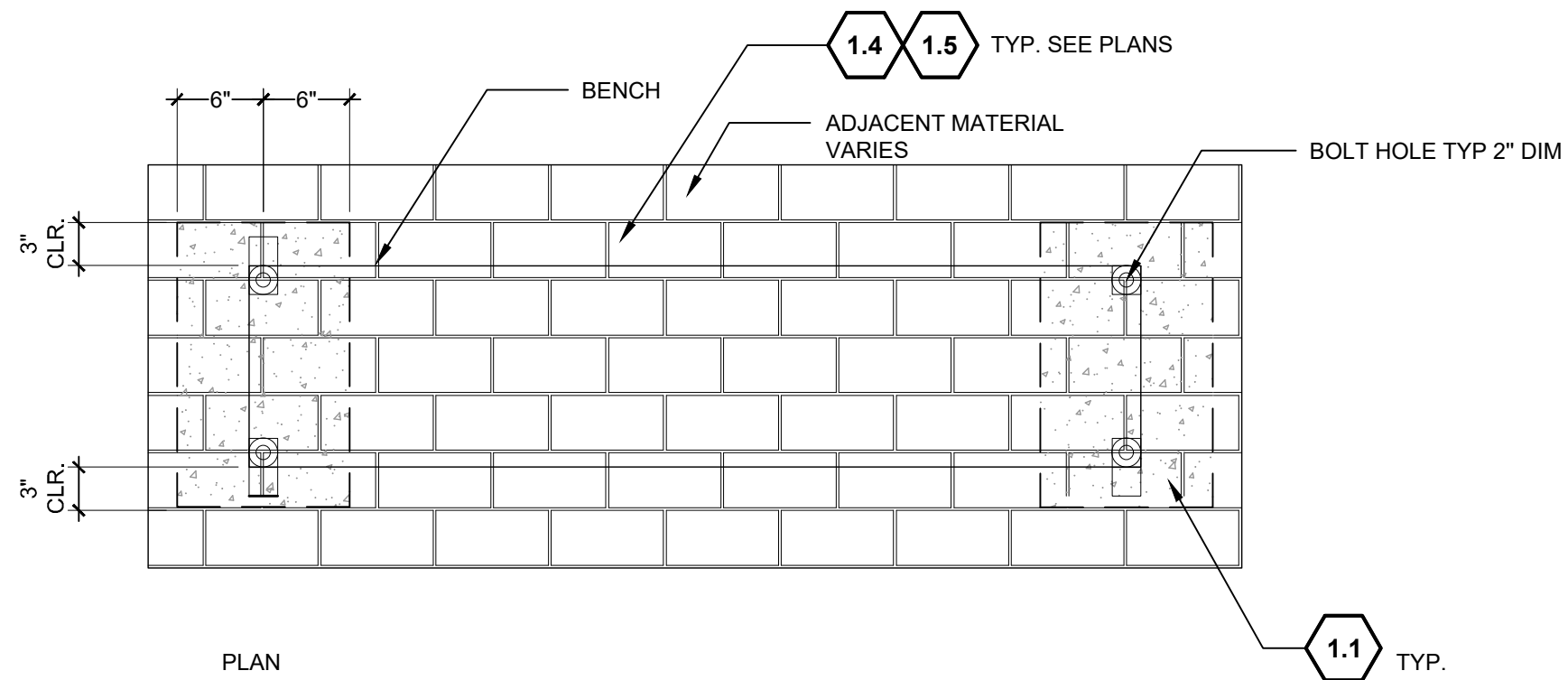


TYPICAL SECTION AT PAVER GRATE

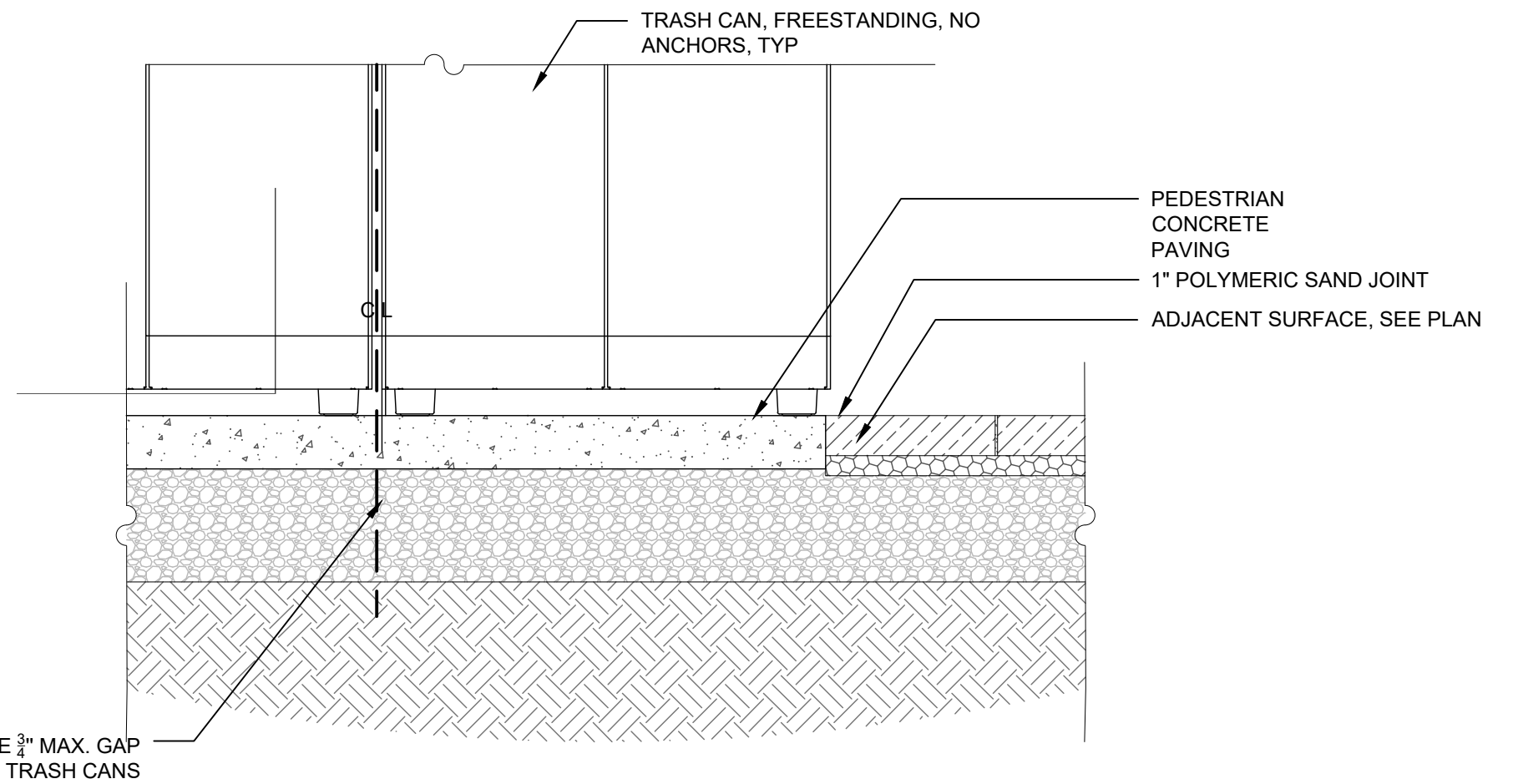
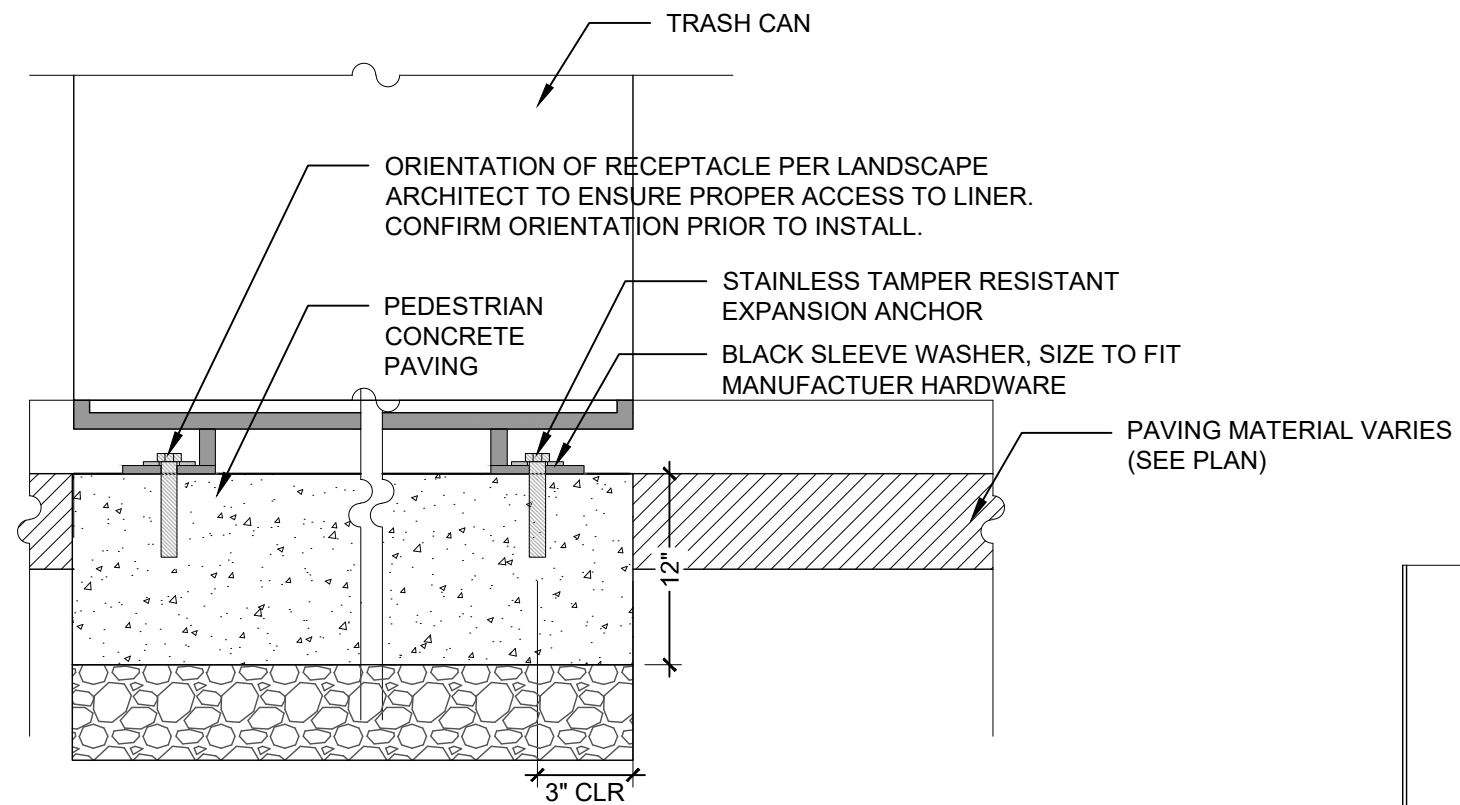


PLAN - PAVER LAYOUT PARALLEL TO ROADWAY

C. PERMEABLE CONCRETE UNIT PAVERS

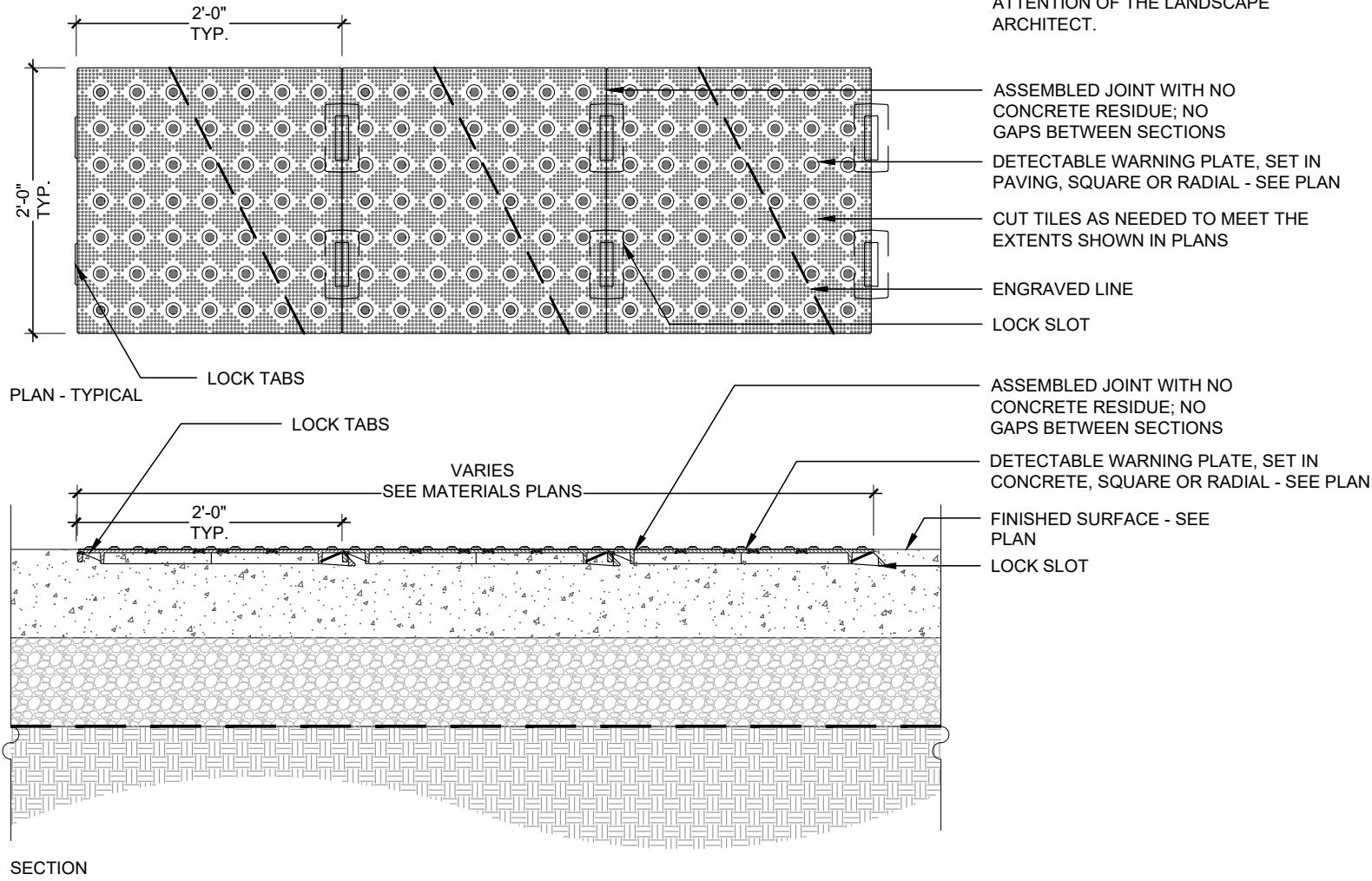


D. BENCH

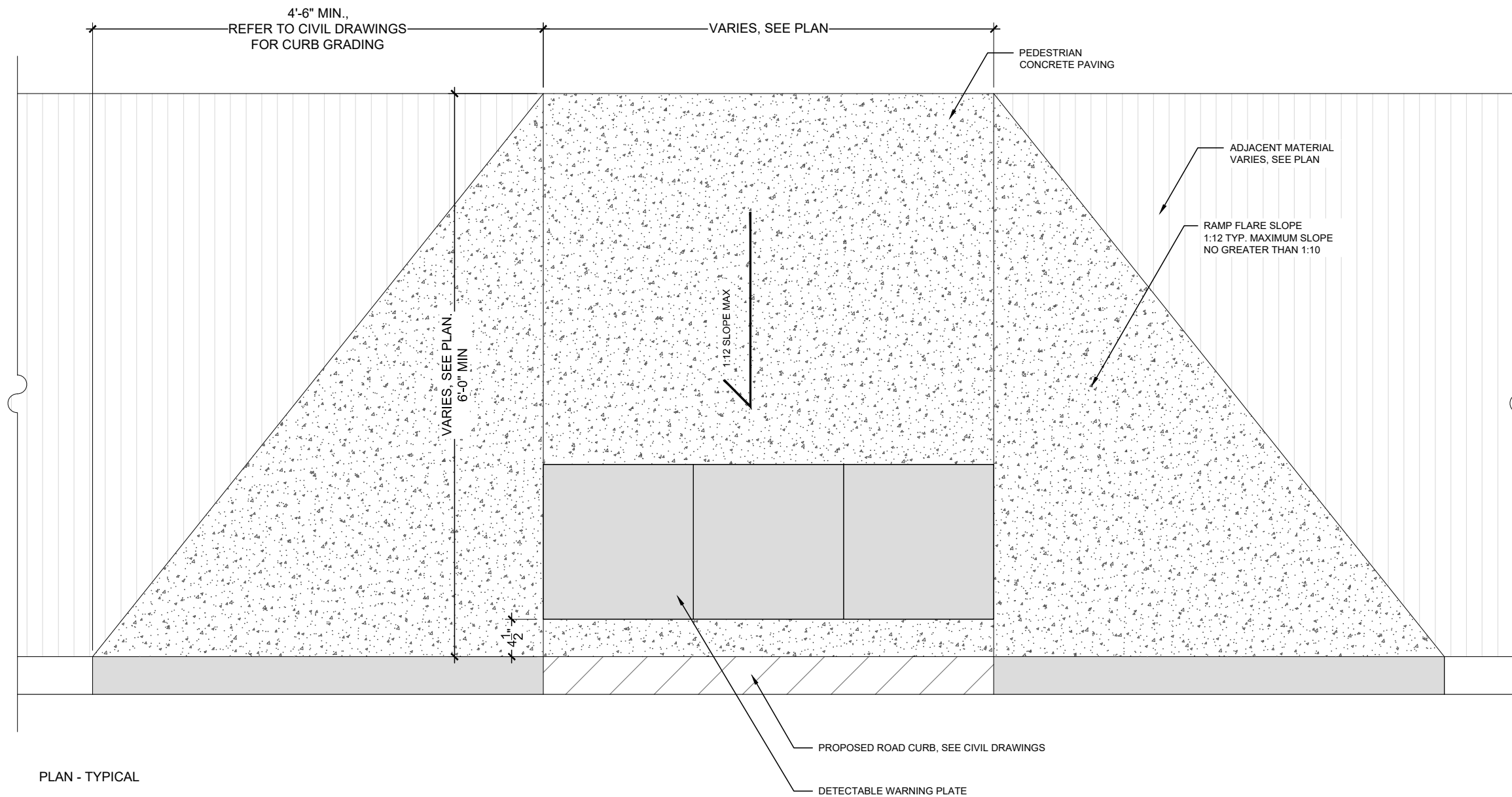


E. LITTER RECEPTACLE

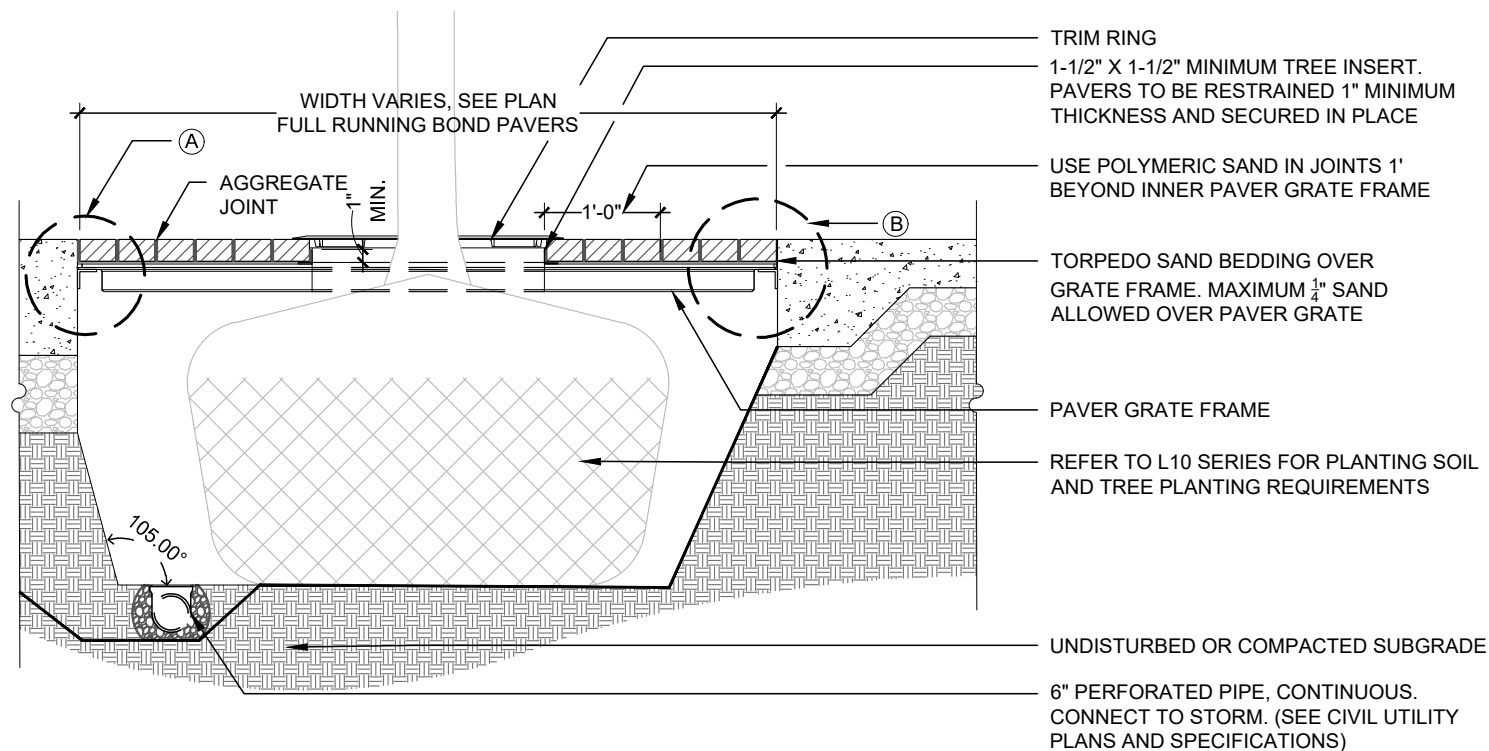
- NOTES:
1. CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE QUANTITY OF DETECTABLE WARNING PLATES FOR EACH CURB RAMP.
 2. CONTRACTOR SHALL USE MANUFACTURER RECOMMENDED RADII TO MAINTAIN A CONSISTENT 6" OFFSET FROM BACK OF THE PROPOSED CIVIL ROAD CURB
 3. WHERE A CURB RAMP IS BOUNDED ON ONE OR BOTH SIDES WITH A BARRIER CURB, THE ADJACENT MATERIAL SHALL NOT BE CONSIDERED PART OF THE PATH OF TRAVEL. CONTRACTOR SHALL BRING ANY DISCREPANCIES TO THE ATTENTION OF THE LANDSCAPE ARCHITECT.



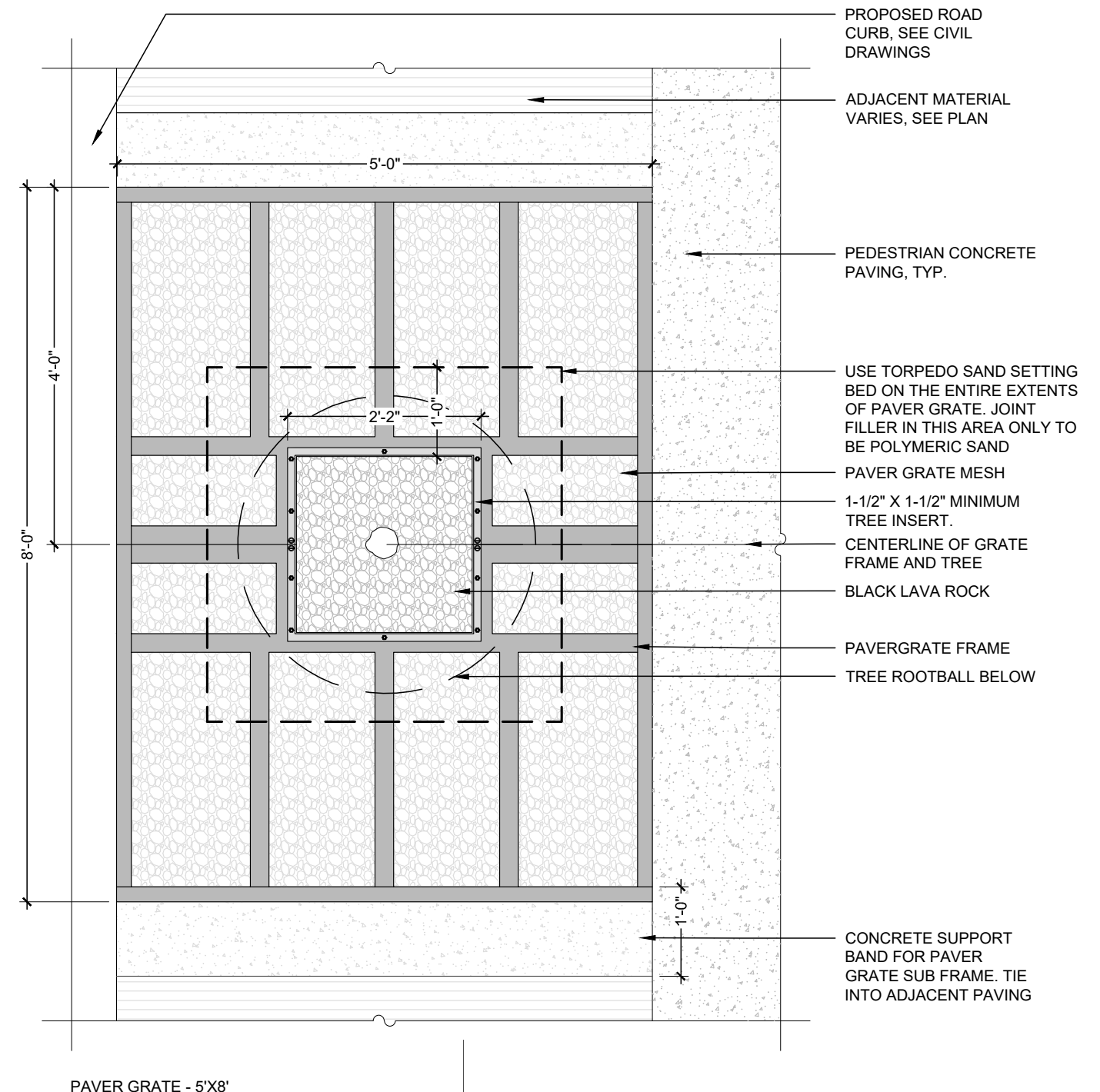
F. DETECTABLE WARNING PLATES



G. ADA ACCESSIBLE CURB RAMP

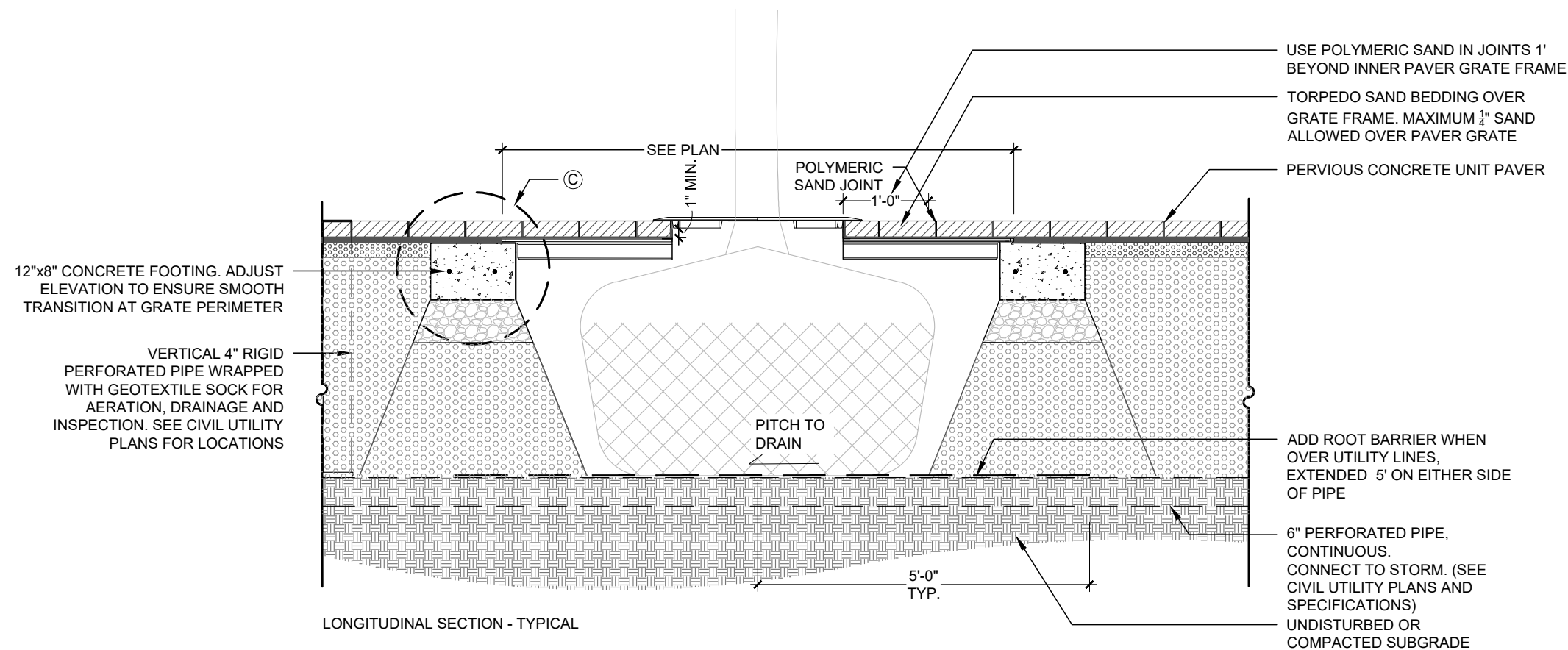
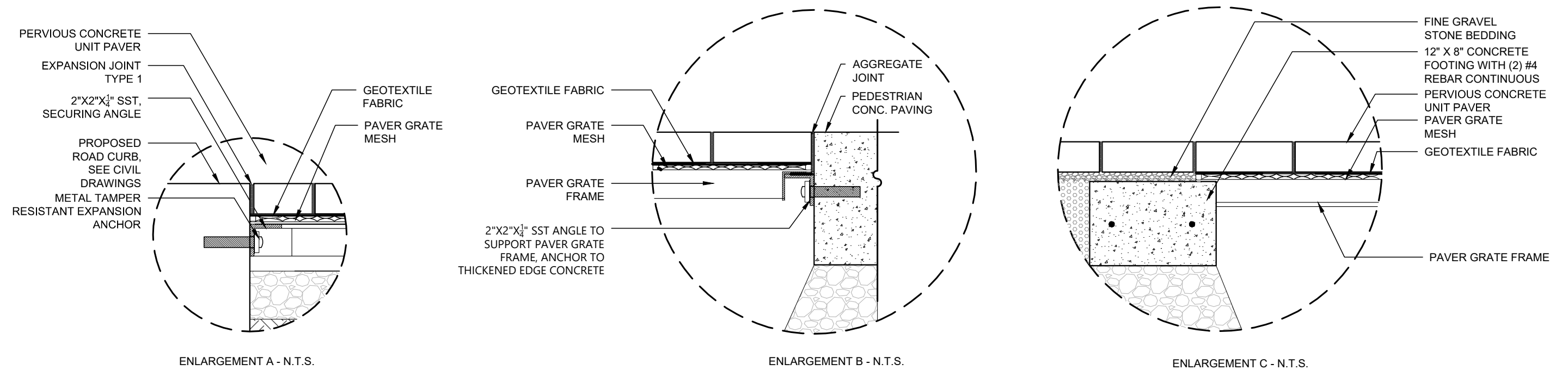


CROSS SECTION - TYPICAL



PAVER GRATE - 5'X8'

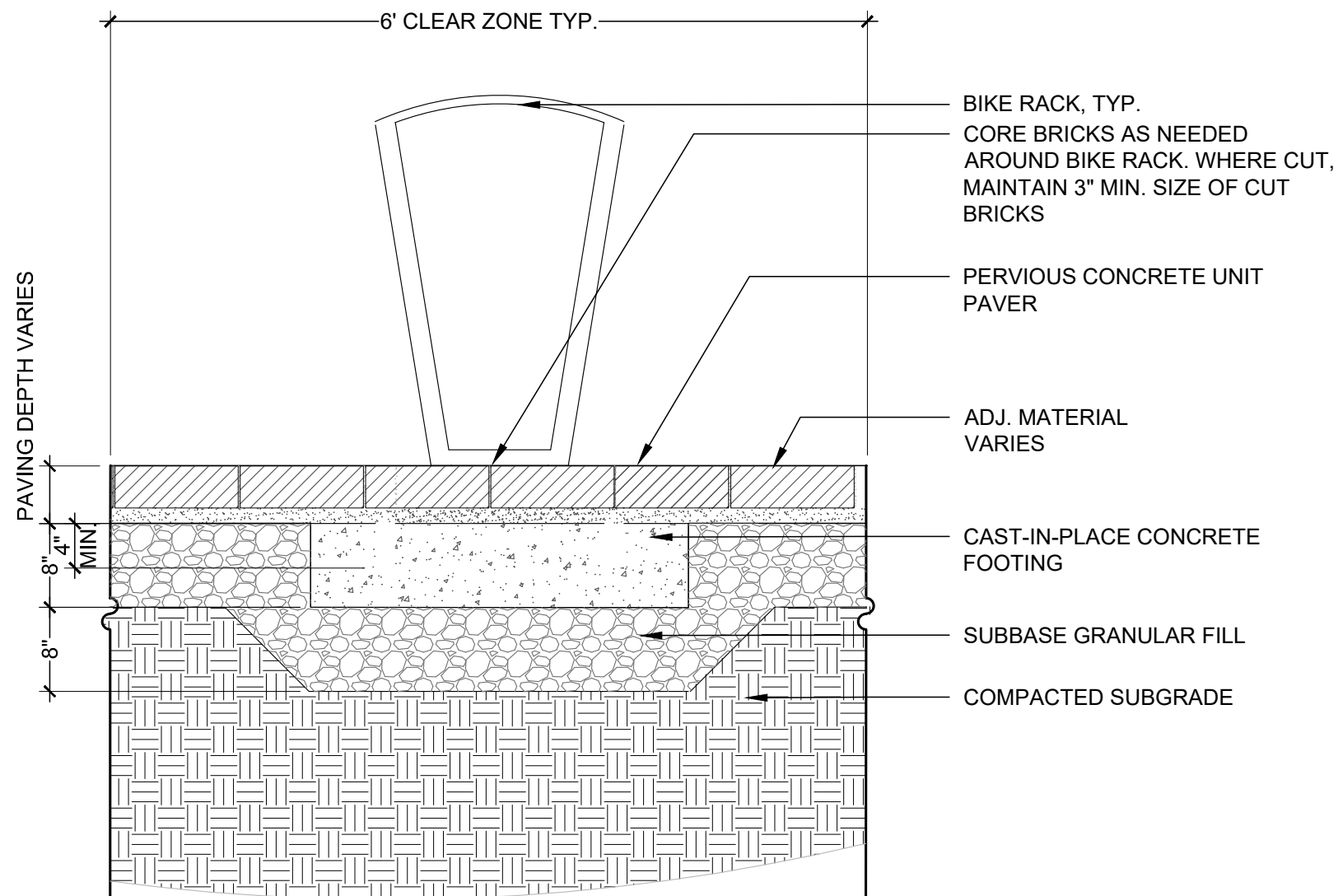
H. PAVER GRATES



NOTES:

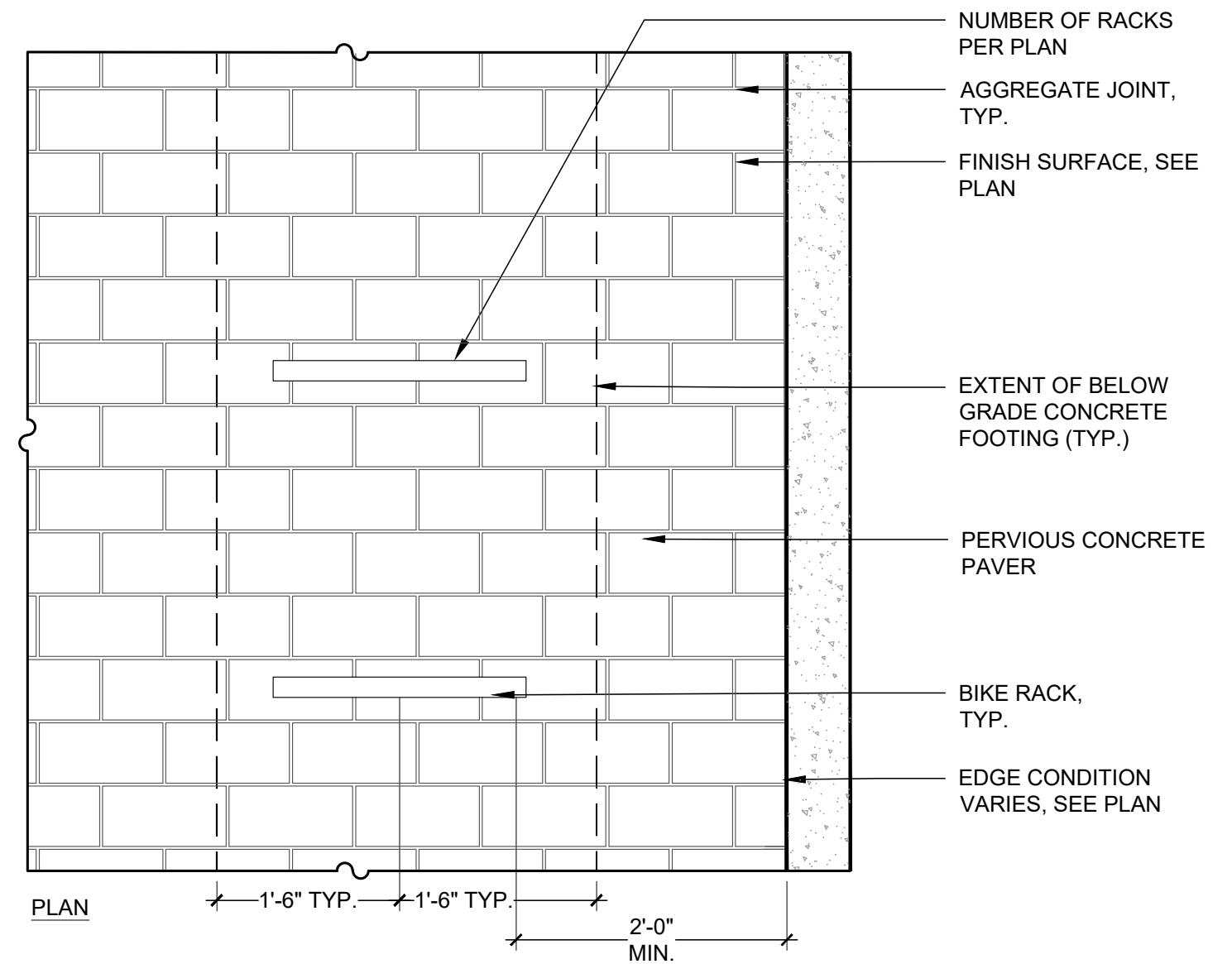
1. ORIENT FRAME JOINT 90 DEGREES TO CURB
2. PAVER GRATE SHALL BE INSTALLED AT HEIGHT TO ACCOMMODATE MESH, GEOTEXTILE FABRIC, SETTING BEDS, AND PAVERS WHILE MAINTAINING SMOOTH TRANSITION TO ADJACENT SURFACES. INNER PAVER GRATE FRAME TO EXCEED THE BOTTOM OF THE PAVERS BY 1" MAXIMUM TO PREVENT HORIZONTAL MOVEMENT.
3. ENSURE MESH EXTENDS TO EDGE OF INNER FRAME TO ENSURE EVEN PAVER BEDDING.
4. THE DESIGN INTENT IS THAT THE PERMEABLE PAVER ZONE WILL COMPRISE EITHER 18 OR 15 (SEE PLANS) FULL RUNNING BOND PAVER COURSES WITH NO CUTS. THE DIMENSION SHALL BE FULLY COORDINATED BETWEEN ACTUAL DIMENSIONS OF PAVERS, TREE GRATES AND SITE CONDITIONS. CONCRETE WALK SHALL BE CONSTRUCTED TO ACCOMMODATE THIS REQUIREMENT. IT IS THE CONTRACTORS RESPONSIBILITY TO COORDINATE BETWEEN TRADES AND CONSTRUCT MOCK-UPS AS REQUIRED IN ORDER TO DETERMINE EXACT DIMENSIONS.
5. ENSURE THAT PAVERS ARE RESTRAINED BY 1" MINIMUM THICKNESS BY TREE INSERT AT THE TREE OPENING.
6. CUT UNIT PAVERS TO FIT AROUND TREE OPENING ENSURING A SECURE FIT AGAINST PAVER GRATE SUSPENDED PAVEMENT SYSTEM TREE INSERT.
7. UNIT PAVER BEDDING TO NOT EXCEED $\frac{1}{4}$ " THICKNESS WHEN INSTALLED OVER PAVER GRATE.

H. PAVER GRATES (CONTINUED)

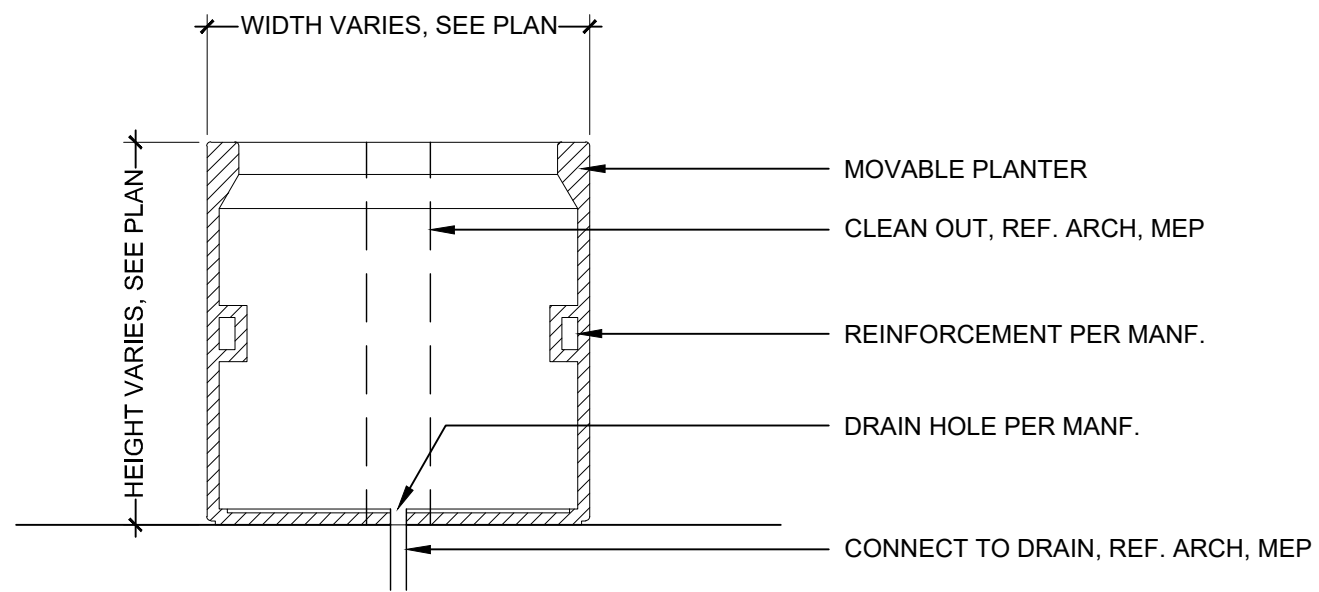


ELEVATION

I. BIKE RACK

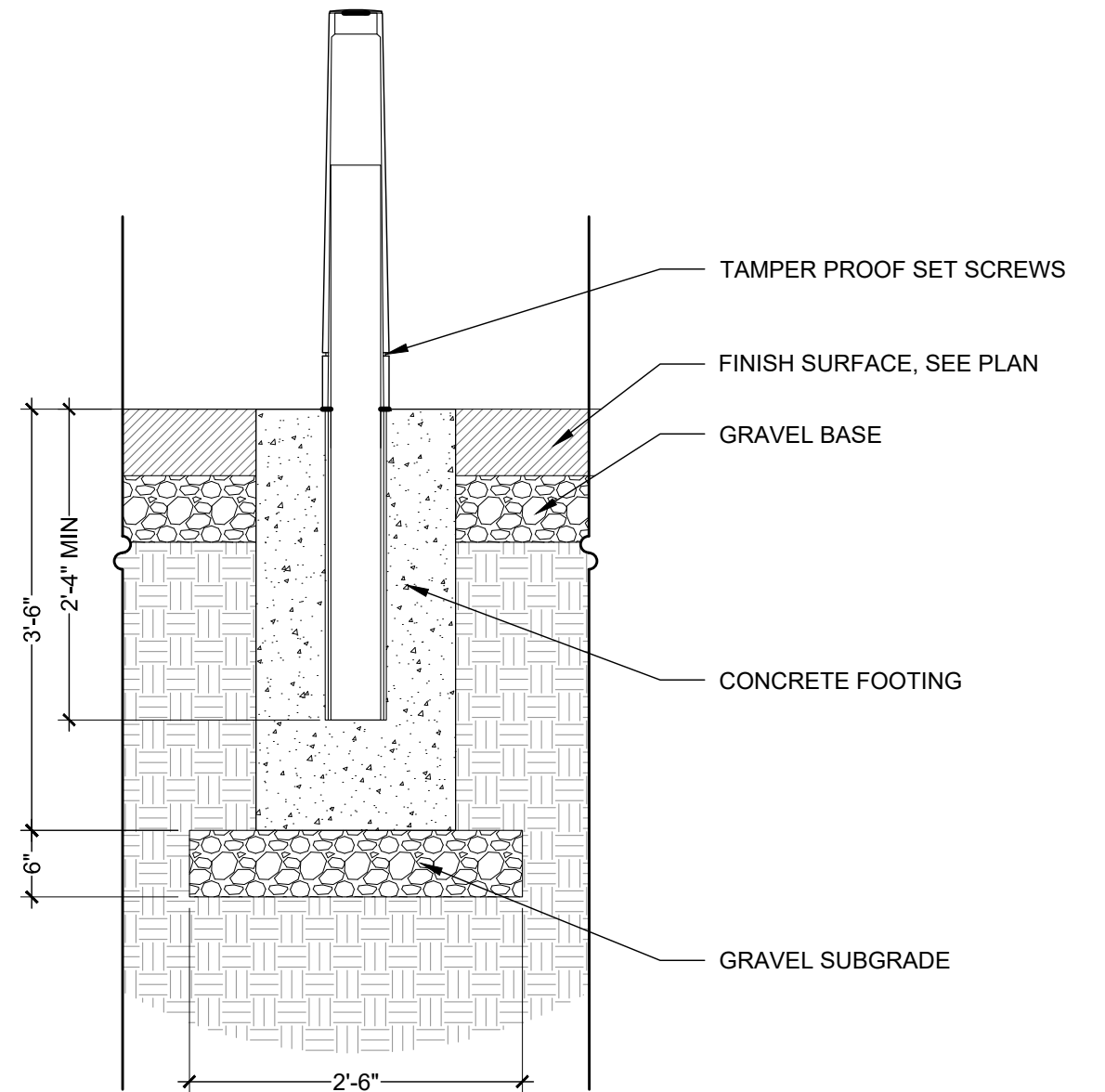


PLAN



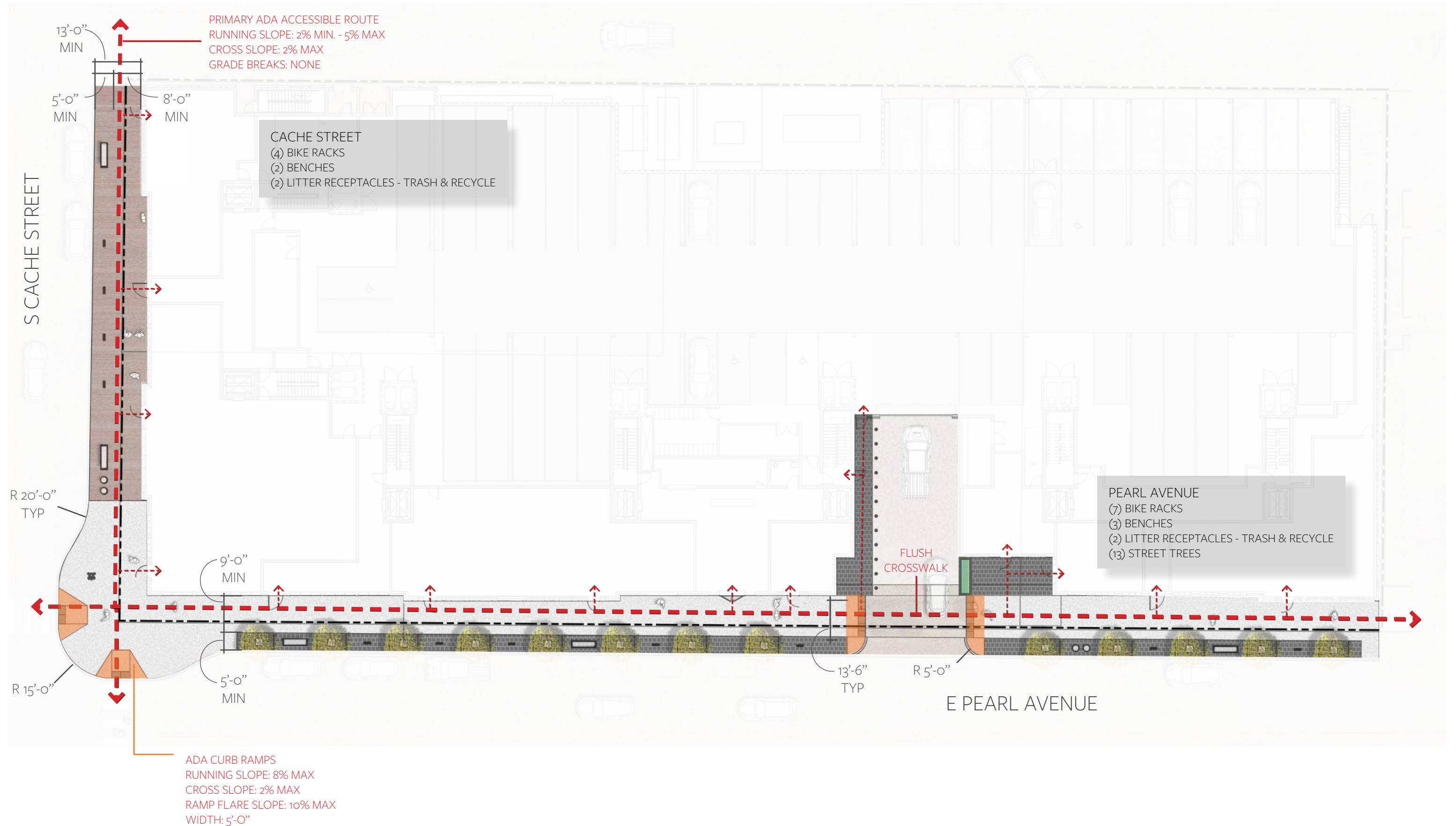
SECTION - TYPICAL

J. PLANTER IN SEATING AREA

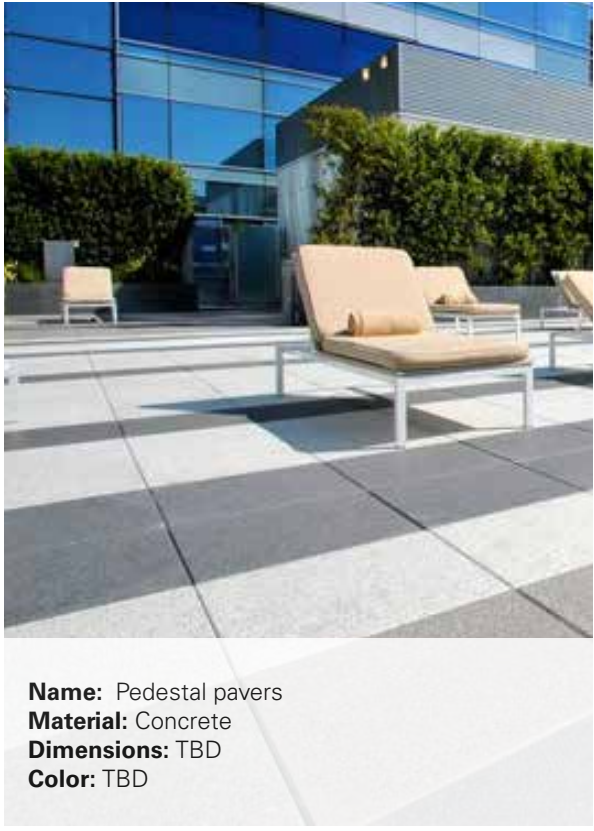
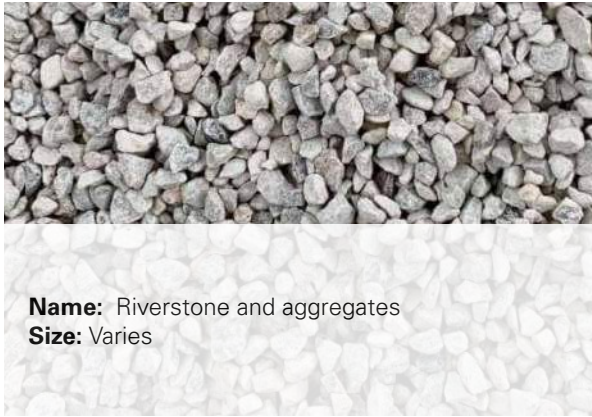
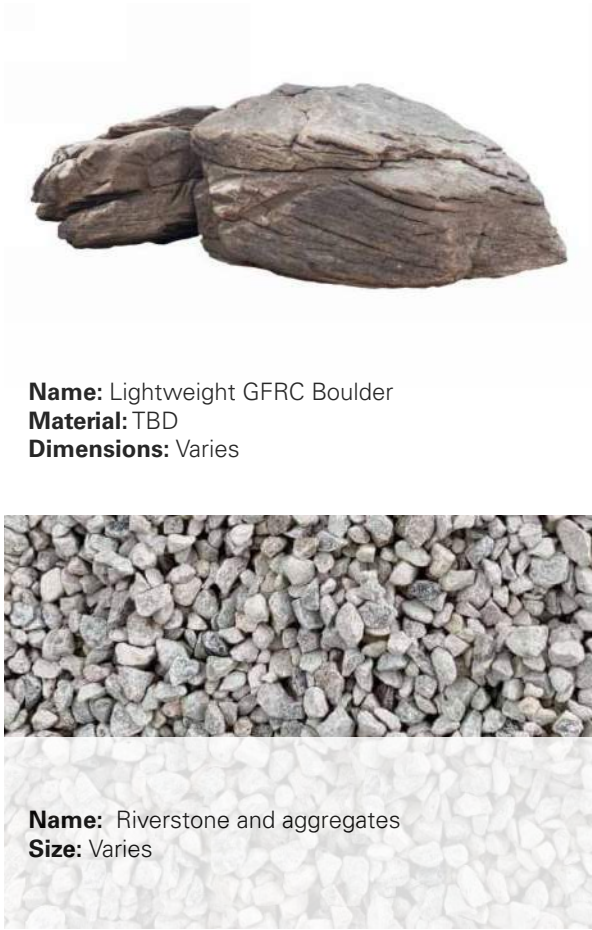


SECTION

K. BOLLARDS

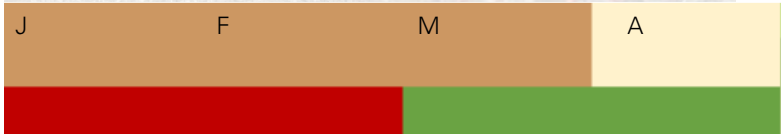


SECOND FLOOR EXTERIOR - VISUAL COURTYARD

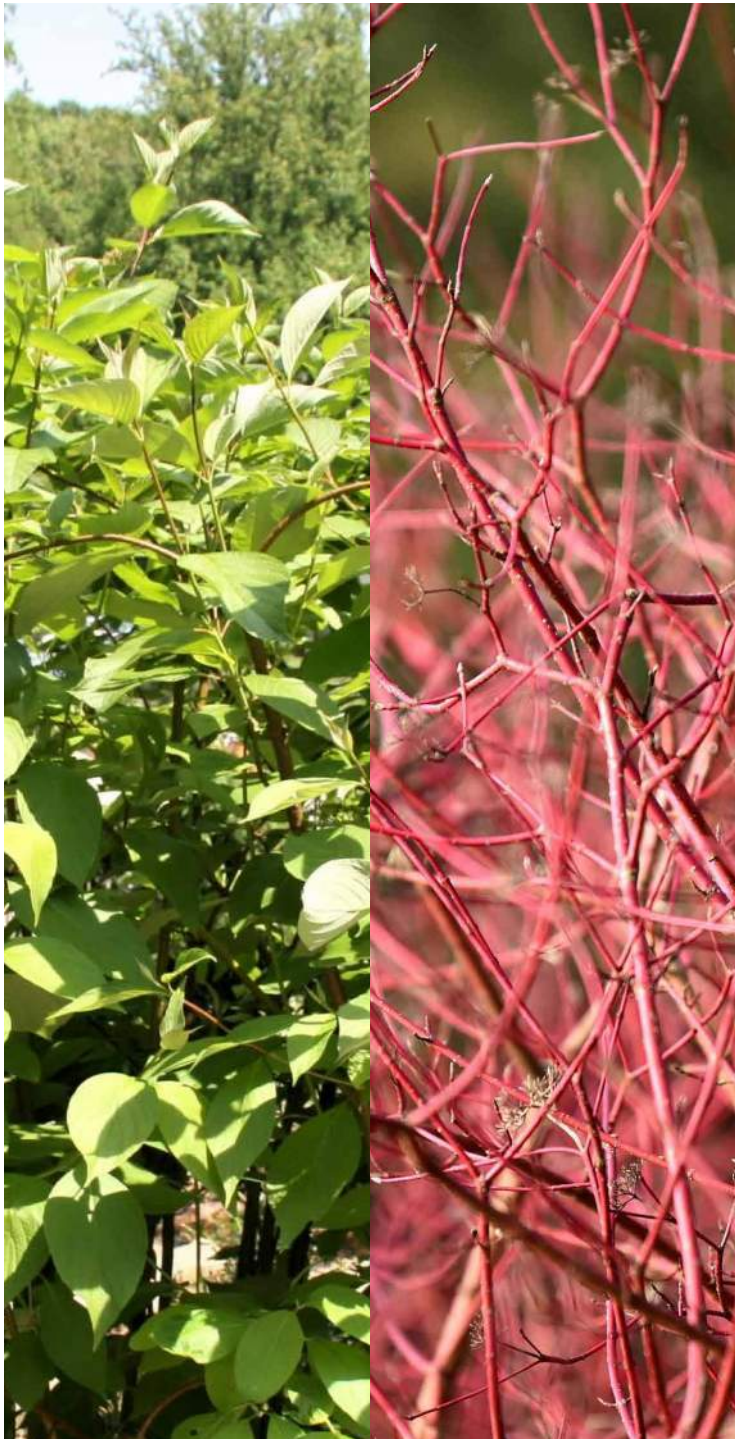




Botanical Name: *Crataegus viridis* 'Winter King'
Common Name: Green Hawthorn
Height: 15-20'
Spread: 15-20'



Botanical Name: *Amelanchier x grandiflora* 'Autumn Brilliance'
Common Name: Serviceberry
Height: 15-25'
Spread: 15-20'



Botanical Name: *Cornus sericea*
Common Name: Redtwig Dogwood
Height: 6-10'
Spread: 6-10'





Botanical Name: *Artemisia cana*
Common Name: Silver Sagebrush
Height: 1-6'
Spread: 2-3'



Botanical Name: *Festuca idahoensis*
Common Name: 'Siskiyou Blue' Idaho Fescue
Height: 15-18"
Spread: 12-15"



Botanical Name: *Bouteloua curtipendula*
Common Name: Sideoats Grama
Height: 8-24"
Spread: 8-12"



Botanical Name: *Juniperus horizontalis*
Common Name: Blue Chip Juniper
Height: 8-12"
Spread: 6-8"





Botanical Name: *Linum lewisii*
Common Name: Wild Blue Flax
Height: 1-2’
Spread: 12-18”



Botanical Name: *Penstemon strictus*
Common Name: Rocky Mountain Penstemon
Height: 18-24”
Spread: 12-18”



Botanical Name: *Campanula rotundiflora*
Common Name: Native Blue Harbell
Height: 6-18”
Spread: 12-18”

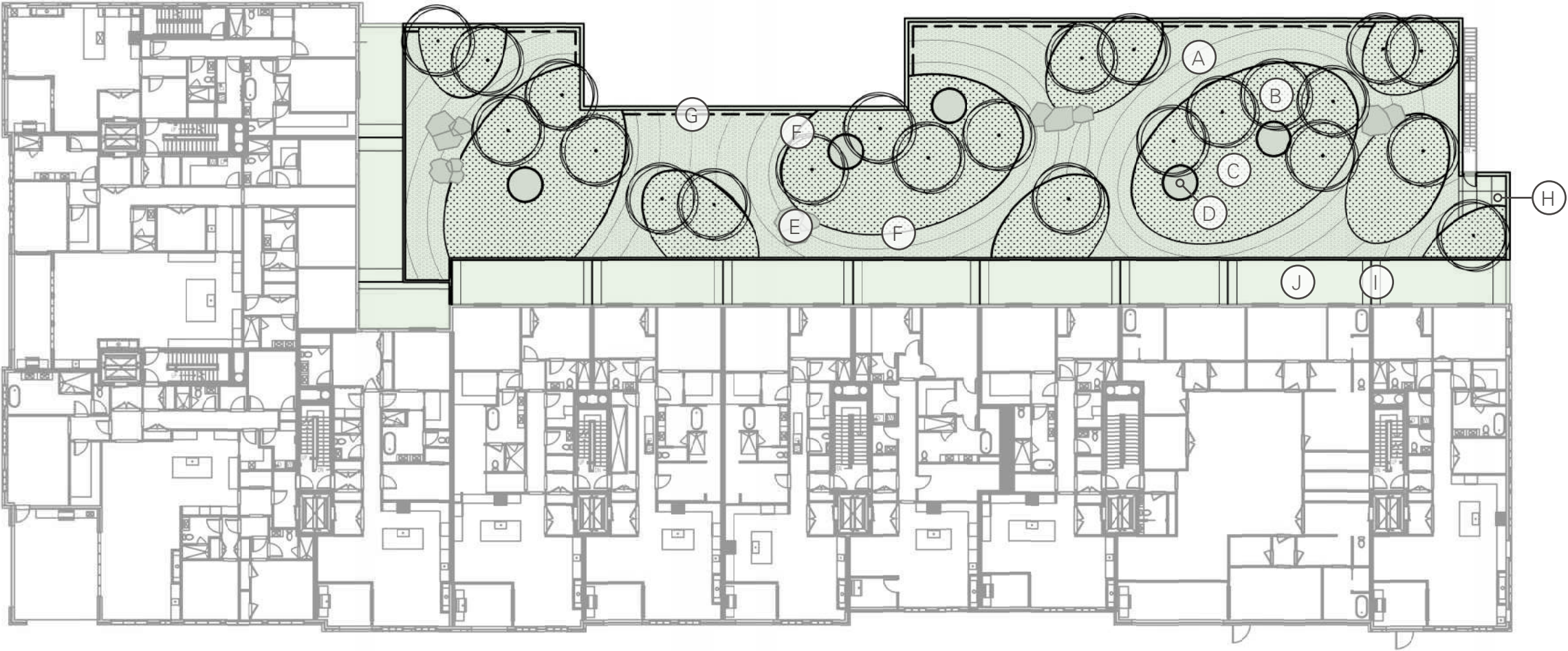


Botanical Name: *Osteospermum barberiae compactum* **PURPLE MOUNTAIN®**
Common Name: Sun Daisy, **PURPLE MOUNTAIN®**
Height: 8-10”
Spread: 10-12”



Botanical Name: *Dalea purpurea*
Common Name: Clover, Purple Prairie
Height: 2-3’
Spread: 1-2’





- LEGEND
- (A) ZEN GARDEN RIVERSTONE
 - (B) ORNAMENTAL TREE PLANTINGS
 - (C) PERENNIALS, GRASSES & GROUNDCOVERS
 - (D) LIGHTWELL
 - (E) LIGHTWEIGHT GFRC BOULDER
 - (F) METAL RETAINING WALL & CURB
 - (G) WOOD SCREEN
 - (H) PAVED LANDING
 - (I) SCREEN WALL WITH PLANTER BOXES
 - (J) RESIDENTIAL TERRACES

THIRD FLOOR EXTERIOR - ROOFTOP TERRACE



Name: Pedestal pavers
Material: Concrete
Dimensions: TBD
Color: TBD



Name: Shade Umbrella
Material: TBD
Dimensions: TBD
Color: TBD



Name: Planter
Material: Concrete with metal veneer
Dimensions: TBD
Color: TBD



Name: Fire Feature
Material: TBD
Dimensions: TBD
Color: TBD



Botanical Name: *Picea pungens*
Common Name: Blue Spruce
Height: 30-60'
Spread: 10-20'



Botanical Name: *Juniperus scopulorum*
Common Name: Rocky Mountain Juniper
Height: 20-30'
Spread: 10-15'



Botanical Name: *Prunus besseyi* 'Pawnee Buttes'
Common Name: Sand Cherry
Height: 15-30"
Spread: 4-6'



Botanical Name: *Cornus sericea*
Common Name: Redtwig Dogwood
Height: 6-10'
Spread: 6-10'





Botanical Name: *Artemisia cana*
Common Name: Silver Sagebrush
Height: 1-6'
Spread: 2-3'



Botanical Name: *Festuca idahoensis*
Common Name: 'Siskiyou Blue' Idaho Fescue
Height: 15-18"
Spread: 12-15"



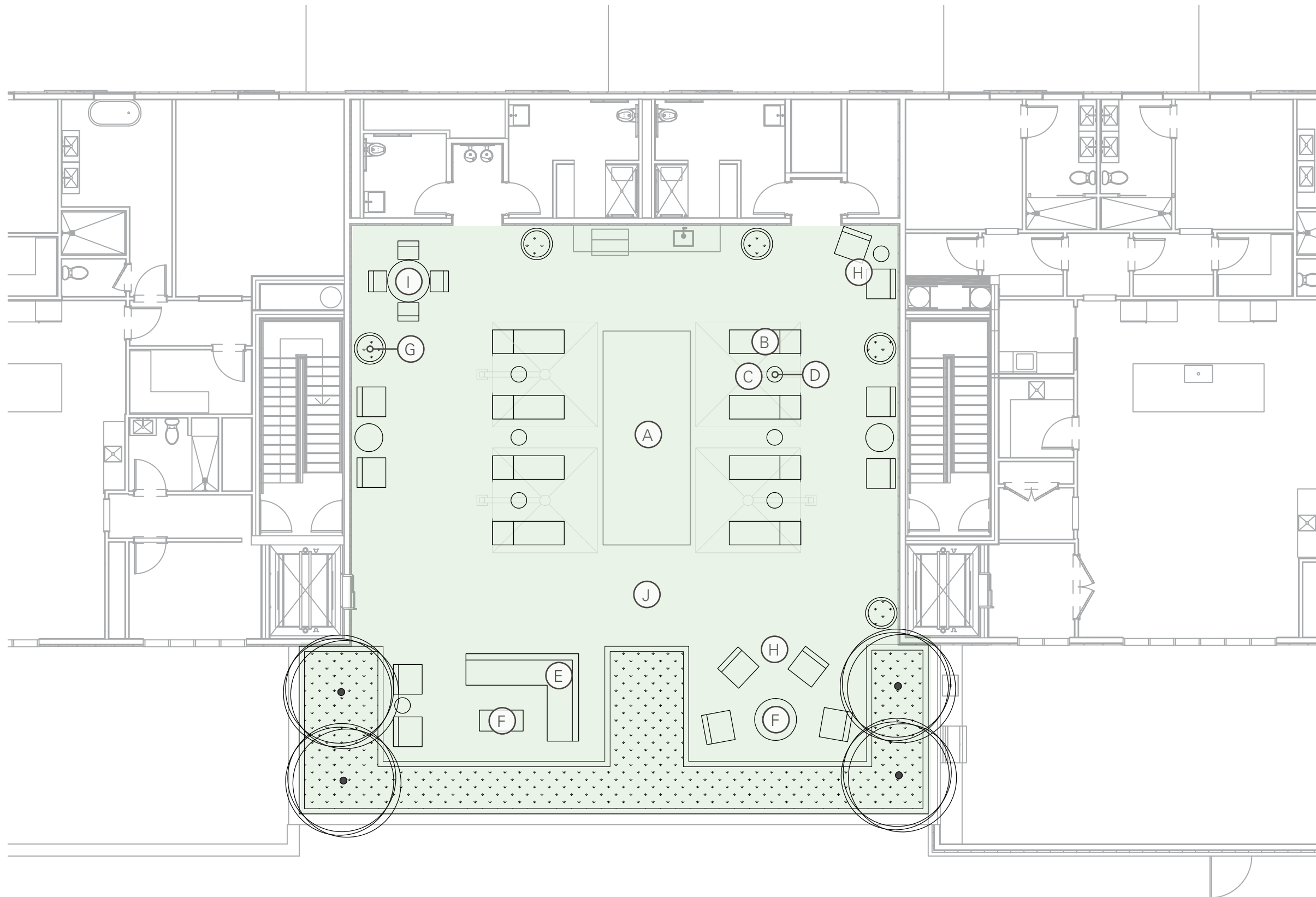
Botanical Name: *Bouteloua curtipendula*
Common Name: Sideoats Grama
Height: 8-24"
Spread: 8-12"



Botanical Name: *Juniperus horizontalis*
Common Name: Blue Chip Juniper
Height: 8-12"
Spread: 6-8"



ROOFTOP TERRACE DIAGRAM PLAN



- LEGEND
- (A) SPA FEATURE
 - (B) LOUNGE CHAIR
 - (C) UMBRELLA
 - (D) SIDE TABLE
 - (E) COUCH
 - (F) FIRE FEATURE
 - (G) MOVEABLE PLANTER
 - (H) ADIRONDACK CHAIR
 - (I) MOVEABLE TABLE & CHAIRS
 - (J) PEDESTAL PAVERS

CONSTRUCTION NOTES

- 1

THE IRRIGATION SYSTEM POINT-OF-CONNECTION (POC) SHALL BE DOWNSTREAM OF THE IRRIGATION WATER TAP AND METER INSTALLED BY OTHERS AT THE APPROXIMATE LOCATION SHOWN. INSTALL BACKFLOW PREVENTION UNIT AND MASTER VALVE ASSEMBLY AS INDICATED, SAME SIZE AS POC. VERIFY EXACT LOCATION OF POC WITH OWNER'S REPRESENTATIVE.
- 2

PEDESTAL / WALL MOUNT THE IRRIGATION CONTROLLER AT THE APPROXIMATE LOCATION SHOWN. COORDINATE ELECTRICAL POWER TO THE CONTROLLER WITH THE OWNER'S REPRESENTATIVE. CARE SHOULD BE TAKEN TO INSTALL THE IRRIGATION CONTROLLER IN A LOCATION THAT IS ACCESSIBLE FOR MAINTENANCE, AND SCREENED FROM VIEW EITHER BEHIND ENTRY WALLS, NEXT TO BUILDINGS, OR BEHIND PLANT MATERIAL. FINAL LOCATION TO BE APPROVED BY OWNER'S REPRESENTATIVE.
- 3

IRRIGATION SHOWN OUT OF LANDSCAPED AREA FOR CLARITY ONLY. INSTALL IRRIGATION COMPONENTS WITHIN LANDSCAPED AREA.
- 4

MAINLINE AND LATERAL LINES ARE SHOWN IN SAME SLEEVE FOR CLARITY ONLY. MAINLINE, CONTROL WIRES, AND LATERAL PIPE SHALL BE INSTALLED IN SEPARATE SLEEVES.
- 5

SLEEVES ARE SHOWN BROKEN-UP FOR CLARITY ONLY. MAINLINE, LATERALS, AND WIRES SLEEVES THAT CROSS EACH OTHER SHALL BE INSTALLED AS FULL SLEEVES. LINES SHOWN THROUGH OTHER LANDSCAPE FEATURES (POT LATERAL LINE THROUGH HANGING BASKET) SHALL BE ONE SOLID SLEEVE, NOT BROKEN UP AS SHOWN.

ESTIMATED ANNUAL WATER USE

THE IRRIGATION SYSTEM AS SHOWN ON THIS PLAN HAS AN ESTIMATED ANNUAL WATER USE OF 355,131 GALLONS. TO VERIFY EFFICIENT IRRIGATION SYSTEM OPERATION, THE OWNER SHALL COMPARE THIS ESTIMATED IRRIGATION WATER USE WITH ACTUAL WATER USE, AS RECORDED ON SITE, AFTER ALL PLANT MATERIAL HAS BEEN ESTABLISHED.

THE ESTIMATED ANNUAL IRRIGATION WATER USE OF THIS SYSTEM IS BASED ON 30-YEARS AVERAGE EVAPOTRANSPIRATION RATES (ET) FOR THE LOCAL AREA AND TYPICAL NEW IRRIGATION SYSTEM EQUIPMENT EFFICIENCIES. MAJOR DEVIATIONS FROM THIS ESTIMATE USE SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER AND CURRENT IRRIGATION MAINTENANCE COMPANY AT THE TIME OF THE DEVIATION.

TO VERIFY EFFICIENT IRRIGATION SYSTEM OPERATION AND WATER USE, AN IRRIGATION SYSTEM EVALUATION AND AUDIT SHOULD BE PERFORMED.

CONCEPTUAL IRRIGATION LEGEND

- BED SPRAY (ORNAMENTAL BEDS)
TO BE IRRIGATED WITH 12-INCH POP-UP SPRINKLERS WITH PRESSURE REGULATION, CHECK VALVES, AND HIGH EFFICIENCY NOZZLES
- BED SPRAY (SEDUM BEDS)
TO BE IRRIGATED WITH 12-INCH POP-UP SPRINKLERS WITH PRESSURE REGULATION, CHECK VALVES, AND HIGH EFFICIENCY NOZZLES
- SHRUBS AND PERENNIALS
TO BE IRRIGATED USING INLINE EMITTER DRIP TUBING WITH CHECK VALVES 0.6 GPM EMITTER, AT 12 INCHES ON CENTER TUBING ROWS SPACED 12 INCHES APART
- TREE BUBBLERS
TO BE IRRIGATED WITH TWO (2) TREE BUBBLERS PER TREE

CONCEPTUAL IRRIGATION NOTES

- 1

THE IRRIGATION SYSTEM POINT-OF-CONNECTION (POC) SHALL BE DOWNSTREAM OF THE IRRIGATION WATER TAP AND METER INSTALLED BY THE UTILITY CONTRACTOR AT THE APPROXIMATE LOCATION SHOWN. IRRIGATION CONTRACTOR TO INSTALL BACKFLOW PREVENTION UNIT, SAME SIZE AS POC. VERIFY EXACT LOCATION OF POC WITH OWNER'S REPRESENTATIVE.
- 2

IRRIGATION CONTRACTOR TO WALL MOUNT THE IRRIGATION CONTROLLER AT THE APPROXIMATE LOCATION SHOWN. ELECTRICAL POWER TO THE CONTROLLER TO BE PROVIDED BY THE ELECTRICAL CONTRACTOR, TERMINATED IN A JUNCTION BOX FOR HARD-WIRE CONNECTION TO THE IRRIGATION CONTROLLER. CARE SHOULD BE TAKEN TO INSTALL THE IRRIGATION CONTROLLER IN A LOCATION THAT IS ACCESSIBLE FOR MAINTENANCE, AND SCREENED FROM VIEW EITHER BEHIND ENTRY WALLS, NEXT TO BUILDINGS, OR BEHIND PLANT MATERIAL. FINAL LOCATION TO BE APPROVED BY OWNER'S REPRESENTATIVE.

IRRIGATION LEGEND

- SLEEVES: CLASS 200 PVC
- POINT-OF-CONNECTION ASSEMBLY
- MAINLINE PIPE: CLASS 200 PVC
X-INCH SIZE UNLESS OTHERWISE INDICATED
- LATERAL PIPE TO SPRINKLERS: CLASS 200 PVC
1-INCH SIZE UNLESS OTHERWISE INDICATED
- UNCONNECTED PIPE CROSSING
- INLINE DRIP TUBING: NETAFIM TLCV26-12 WITH RAINBIRD XQF DRIPLINE HEADER
- REMOTE CONTROL VALVE ASSEMBLY FOR SPRINKLER LATERALS:
RAIN BIRD PEB (SIZED PER PLAN)
- REMOTE CONTROL DRIP VALVE ASSEMBLY: RAIN BIRD XCZ-100-PRB-COM
- QUICK COUPLING VALVE ASSEMBLY: RAIN BIRD 5RC/SNP
- ISOLATION GATE VALVE ASSEMBLY: NIBCO T-136
- FLOW SENSOR ASSEMBLY: RAIN BIRD FSXXXB
- BACKFLOW PREVENTION ASSEMBLY: FEBCO 825YA
- MASTER VALVE ASSEMBLY: RAIN BIRD PESB
- POP-UP SPRAY SPRINKLER: HUNTER PROS-06-PRS30-CV W/8 SERIES NOZZLE
PRESSURE: 30 PSI RADIUS: 8 FEET
FLOW (GPM): Q-0.24 H-0.47 F-0.97
- POP-UP SPRAY SPRINKLER: HUNTER PROS-06-PRS30-CV W/10 SERIES NOZZLE
PRESSURE: 30 PSI RADIUS: 10 FEET
FLOW (GPM): Q-0.42 H-0.88 F-1.59
- POP-UP SPRAY SPRINKLER: HUNTER PROS-06-PRS30-CV W/12 SERIES NOZZLE
PRESSURE: 30 PSI RADIUS: 12 FEET
FLOW (GPM): Q-0.67 H-1.30 F-2.70
- POP-UP SPRAY SPRINKLER: HUNTER PROS-06-PRS30-CV W/15 SERIES NOZZLE
PRESSURE: 30 PSI RADIUS: 15 FEET
FLOW (GPM): Q-0.97 H-1.86 F-3.75
- POP-UP SPRAY SPRINKLER: HUNTER PROS-06-PRS30-CV W/ ADJUSTABLE NOZZLE
PRESSURE: 30 PSI RADIUS: 5 FEET TO 15 FEET
FLOW (GPM): 08A-0.44 10A-0.50 12A-0.32 15A-0.47
- POP-UP SPRAY SPRINKLER: HUNTER PROS-06-PRS30-CV W/15SS SERIES NOZZLE
PRESSURE: 30 PSI RADIUS: 5 FEET X 15 FEET
FLOW (GPM): ES515-0.65 SS530-1.30
- POP-UP ROTATING SPRAY SPRINKLER: HUNTER PROS-06-PRS40-CV W/MP1000 NOZZLES
PRESSURE: 40 PSI RADIUS: 8 FEET TO 15 FEET
FLOW (GPM): M-0.42 L-0.63 O-0.84
- POP-UP ROTATING SPRAY SPRINKLER: HUNTER PROS-06-PRS40-CV W/MP2000 NOZZLES
PRESSURE: 40 PSI RADIUS: 13 FEET TO 21 FEET
FLOW (GPM): K-0.77 G-1.10 R-1.48
- POP-UP ROTATING SPRAY SPRINKLER: HUNTER PROS-06-PRS40-CV W/MP3000 NOZZLES
PRESSURE: 40 PSI RADIUS: 22 FEET TO 30 FEET
FLOW (GPM): B-1.82 Y-2.73 A-3.64
- POP-UP ROTATING SPRAY SPRINKLER: HUNTER PROS-06-PRS40-CV W/MP3500 NOZZLE
PRESSURE: 40 PSI RADIUS: 31 FEET TO 35 FEET
FLOW (GPM): 90°-1.28 180°-2.86 210°-3.29
- POP-UP ROTATING SPRAY SPRINKLER: HUNTER PROS-06-PRS40-CV W/MPCORNER NOZZLE
PRESSURE: 40 PSI RADIUS: 8 FEET TO 14 FEET
FLOW (GPM): 45°-0.19 90°-0.39 105°-0.45
- POP-UP ROTATING SPRAY SPRINKLER: HUNTER PROS-06-PRS40-CV W/MPSTRIP NOZZLES
PRESSURE: 40 PSI RADIUS: ADJUSTABLE RECTANGULAR SPRAY
FLOW (GPM): SST - 4'X24'-0.34 5'X30'-0.47 LCS/RCS - 4'X12'-0.17 5'X15'-0.23
- POP-UP ROTATING SPRAY SPRINKLER: HUNTER PROS-06-PRS40-CV W/MP800SR NOZZLES
PRESSURE: 40 PSI RADIUS: 6 FEET TO 12 FEET
FLOW (GPM): 90°-0.23 180°-0.42 210°-0.43 360°-0.78
- POP-UP ROTATING SPRAY SPRINKLER: HUNTER PROS-06-PRS40-CV W/MP815 NOZZLES
PRESSURE: 40 PSI RADIUS: 8 FEET TO 15 FEET
FLOW (GPM): M-0.93 L-1.40 O-1.87
- TREE BUBBLER ASSEMBLY: XXX (Y) RAIN BIRD 140ZZZ BUBBLERS
PRESSURE: 30 PSI
FLOW (GPM): X.YY PER BUBBLER; X.ZZ PER ASSEMBLY
- GROUNDING AND SURGE ARRESTOR ASSEMBLY: RAIN BIRD LSP-1TURF
- WEATHER SENSOR: CONTACT HINES INC FOR WEATHER SENSOR SPECIFICATION

- INDICATES CONTROLLER AND STATION NUMBER
- INDICATES LATERAL DISCHARGE (GPM)
- INDICATES VALVE SIZE (INCHES)
- INDICATES LANDSCAPE APPLICATION

- IRRIGATION CONTROLLER UNIT WITH [EDIT FOR WEATHER SENSOR]
[EDIT FOR COMMUNICATION]
CONTROLLER A: BASELINE 3200

- LATERAL PIPE TO TREE DRIP EMITTERS: UV RADIATION RESISTANT POLYETHYLENE 3/4-INCH SIZE UNLESS OTHERWISE INDICATED, ROUTING IS DIAGRAMMATIC

INSTALLATION GENERAL NOTES

1.

THE SYSTEM DESIGN ASSUMES A MINIMUM DYNAMIC PRESSURE FOR THE IRRIGATION SYSTEM OF XX PSI (PER CITY ENGINEER), AT A MAXIMUM DISCHARGE OF 10 GPM AT THE 3/4-INCH IRRIGATION POINT-OF-CONNECTION (POC). TAP, METER, BACKFLOW PREVENTER, AND MASTER VALVE SHALL ALL BE THE SAME SIZE. VERIFY PRESSURE AND FLOW ON SITE PRIOR TO CONSTRUCTION.
2.

READ THOROUGHLY AND BECOME FAMILIAR WITH THE SPECIFICATIONS AND INSTALLATION DETAILS FOR THIS AND RELATED WORK PRIOR TO CONSTRUCTION.
3.

COORDINATE UTILITY LOCATES ("CALL BEFORE YOU DIG") OF UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.
4.

DO NOT PROCEED WITH THE INSTALLATION OF THE IRRIGATION SYSTEM WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS OR GRADE DIFFERENCES EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE ENGINEERING. IF DISCREPANCIES IN CONSTRUCTION DETAILS, LEGEND, NOTES, OR SPECIFICATIONS ARE DISCOVERED, BRING ALL SUCH OBSTRUCTIONS OR DISCREPANCIES TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE.
5.

THE DRAWINGS ARE DIAGRAMMATIC. THEREFORE, THE FOLLOWING SHOULD BE NOTED:

A.

ALTHOUGH IRRIGATION COMPONENTS MAY BE SHOWN OUTSIDE PLANTING AREAS FOR CLARITY, INSTALL IRRIGATION PIPE AND WIRING IN LANDSCAPED AREAS WHENEVER POSSIBLE.

B.

TREE AND SHRUB LOCATIONS AS SHOWN ON LANDSCAPE PLANS TAKE PRECEDENCE OVER IRRIGATION EQUIPMENT LOCATIONS. AVOID CONFLICTS BETWEEN THE IRRIGATION SYSTEM, PLANTING MATERIALS, AND ARCHITECTURAL FEATURES.

C.

USE ONLY STANDARD TEES AND ELBOW FITTINGS. USE OF TEES IN THE BULLNOSE CONFIGURATION, OR USE OF CROSS TYPE FITTINGS IS NOT ALLOWED.
6.

PROVIDE THE FOLLOWING COMPONENTS TO THE OWNER PRIOR TO THE COMPLETION OF THE PROJECT:

A.

TWO (2) OPERATING KEYS FOR EACH TYPE OF MANUALLY OPERATED VALVES.

B.

TWO (2) OF EACH SERVICING WRENCH OR TOOL NEEDED FOR COMPLETE ACCESS, ADJUSTMENT, AND REPAIR OF ALL ROTARY SPRINKLERS.
7.

SELECT NOZZLES FOR SPRAY AND ROTARY SPRINKLERS WITH ARCS WHICH PROVIDE COMPLETE AND ADEQUATE COVERAGE WITH MINIMUM OVERSPRAY FOR THE SITE CONDITIONS. CAREFULLY ADJUST THE RADIUS OF THROW AND ARC OF COVERAGE OF EACH ROTARY SPRINKLER TO PROVIDE THE BEST PERFORMANCE.
8.

THE IRRIGATION CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF IRRIGATION SLEEVING. SLEEVES ARE REQUIRED FOR BOTH PIPING AND ELECTRICAL WIRING AT EACH HARDSCAPE CROSSING. COORDINATE INSTALLATION OF SLEEVING WITH OTHER TRADES. ANY PIPE OR WIRE WHICH PASSES BENEATH EXISTING HARDSCAPE WHERE SLEEVING WAS NOT INSTALLED WILL REQUIRE HORIZONTAL BORING BY THE IRRIGATION CONTRACTOR. PIPE SLEEVES SHALL BE SIZED TWICE THE NOMINAL SIZE OF THE PIPE PASSING THROUGH.
9.

INSTALL ALL ELECTRICAL POWER TO THE IRRIGATION CONTROL SYSTEM IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE AND ALL APPLICABLE LOCAL ELECTRIC UTILITY CODES.
10.

THE FOLLOWING SHOULD BE NOTED REGARDING PIPE SIZING: IF A SECTION OF UNSIZED PIPE IS LOCATED BETWEEN TWO IDENTICALLY SIZED SECTIONS, THE UNSIZED PIPE IS THE SAME NOMINAL SIZE AS THE TWO SIZED SECTIONS. THE UNSIZED PIPE SHOULD NOT BE CONFUSED WITH THE DEFAULT PIPE SIZE NOTED IN THE LEGEND.
11.

INSTALL TWO (2) #14 AWG CONTROL WIRES ON STANDARD WIRE SYSTEMS OR ONE (1) #14 AWG TWO-WIRE PAIR ON TWO-WIRE SYSTEMS, FOR USE AS SPARES. INSTALL SPARE WIRES FROM CONTROLLER LOCATION TO EACH DEAD-END OF MAINLINE. COIL 3 FEET OF WIRE IN VALVE BOX.

2043	Project No.
JRS	Drawn By
MT	Checked By
Discipline	Drawing No.

IRRIGATION LEGEND

	SLEEVES: CLASS 200 PVC		POP-UP SPRAY SPRINKLER: HUNTER PROS-06-PRS30-CV W/8 SERIES NOZZLE PRESSURE: 30 PSI RADIUS: 8 FEET FLOW (GPM): Q-0.24 H-0.47 F-0.97
	POINT-OF-CONNECTION ASSEMBLY		POP-UP SPRAY SPRINKLER: HUNTER PROS-06-PRS30-CV W/10 SERIES NOZZLE PRESSURE: 30 PSI RADIUS: 10 FEET FLOW (GPM): Q-0.42 H-0.88 F-1.59
	MAINLINE PIPE: CLASS 200 PVC X-INCH SIZE UNLESS OTHERWISE INDICATED		POP-UP SPRAY SPRINKLER: HUNTER PROS-06-PRS30-CV W/12 SERIES NOZZLE PRESSURE: 30 PSI RADIUS: 12 FEET FLOW (GPM): Q-0.67 H-1.30 F-2.70
	LATERAL PIPE TO SPRINKLERS: CLASS 200 PVC 1-INCH SIZE UNLESS OTHERWISE INDICATED		POP-UP SPRAY SPRINKLER: HUNTER PROS-06-PRS30-CV W/15 SERIES NOZZLE PRESSURE: 30 PSI RADIUS: 15 FEET FLOW (GPM): Q-0.97 H-1.86 F-3.75
	UNCONNECTED PIPE CROSSING		POP-UP SPRAY SPRINKLER: HUNTER PROS-06-PRS30-CV W/ ADJUSTABLE NOZZLE PRESSURE: 30 PSI RADIUS: 5 FEET TO 15 FEET FLOW (GPM): 08A-0.44 10A-0.50 12A-0.32 15A-0.47
	INLINE DRIP TUBING: NETAFIM TLCV26-12 WITH RAINBIRD XQF DRIPLINE HEADER		POP-UP SPRAY SPRINKLER: HUNTER PROS-06-PRS30-CV W/15SS SERIES NOZZLE PRESSURE: 30 PSI RADIUS: 5 FEET X 15 FEET FLOW (GPM): ES515-0.65 SS530-1.30
	REMOTE CONTROL VALVE ASSEMBLY FOR SPRINKLER LATERALS: RAIN BIRD PEB (SIZED PER PLAN)		POP-UP ROTATING SPRAY SPRINKLER: HUNTER PROS-06-PRS40-CV W/MP1000 NOZZLES PRESSURE: 40 PSI RADIUS: 8 FEET TO 15 FEET FLOW (GPM): M-0.42 L-0.63 O-0.84
	REMOTE CONTROL DRIP VALVE ASSEMBLY: RAIN BIRD XCZ-100-PRB-COM		POP-UP ROTATING SPRAY SPRINKLER: HUNTER PROS-06-PRS40-CV W/MP2000 NOZZLES PRESSURE: 40 PSI RADIUS: 13 FEET TO 21 FEET FLOW (GPM): K-0.77 G-1.10 R-1.48
	QUICK COUPLING VALVE ASSEMBLY: RAIN BIRD SRC/SNP		POP-UP ROTATING SPRAY SPRINKLER: HUNTER PROS-06-PRS40-CV W/MP3000 NOZZLES PRESSURE: 40 PSI RADIUS: 22 FEET TO 30 FEET FLOW (GPM): B-1.82 Y-2.73 A-3.64
	ISOLATION GATE VALVE ASSEMBLY: NIBCO T-136		POP-UP ROTATING SPRAY SPRINKLER: HUNTER PROS-06-PRS40-CV W/MP3500 NOZZLE PRESSURE: 40 PSI RADIUS: 31 FEET TO 35 FEET FLOW (GPM): 90"-1.28 180"-2.86 210"-3.29
	FLOW SENSOR ASSEMBLY: RAIN BIRD FSXXXB		POP-UP ROTATING SPRAY SPRINKLER: HUNTER PROS-06-PRS40-CV W/MPCORNER NOZZLE PRESSURE: 40 PSI RADIUS: 8 FEET TO 14 FEET FLOW (GPM): 45"-0.19 90"-0.39 105"-0.45
	BACKFLOW PREVENTION ASSEMBLY: FEBCO 825YA		POP-UP ROTATING SPRAY SPRINKLER: HUNTER PROS-06-PRS40-CV W/MP800SR NOZZLES PRESSURE: 40 PSI RADIUS: 6 FEET TO 12 FEET FLOW (GPM): 90"-0.23 180"-0.42 210"-0.43 360"-0.78
	MASTER VALVE ASSEMBLY: RAIN BIRD PESB		POP-UP ROTATING SPRAY SPRINKLER: HUNTER PROS-06-PRS40-CV W/MP815 NOZZLES PRESSURE: 40 PSI RADIUS: 8 FEET TO 15 FEET FLOW (GPM): M-0.93 L-1.40 O-1.87
	INDICATES CONTROLLER AND STATION NUMBER		
	INDICATES LATERAL DISCHARGE (GPM)		
	INDICATES VALVE SIZE (INCHES)		
	INDICATES LANDSCAPE APPLICATION		
	IRRIGATION CONTROLLER UNIT WITH [EDIT FOR WEATHER SENSOR] [EDIT FOR COMMUNICATION] CONTROLLER A: BASELINE 3200		
	LATERAL PIPE TO TREE DRIP EMITTERS: UV RADIATION RESISTANT POLYETHYLENE 3/4-INCH SIZE UNLESS OTHERWISE INDICATED, ROUTING IS DIAGRAMMATIC		
	TREE BUBBLER ASSEMBLY: XXX (Y) RAIN BIRD 140ZZZ BUBBLERS PRESSURE: 30 PSI FLOW (GPM): X-YY PER BUBBLER; X.ZZ PER ASSEMBLY		
	GROUNDING AND SURGE ARRESTOR ASSEMBLY: RAIN BIRD LSP-1TURF		
	WEATHER SENSOR: CONTACT HINES INC FOR WEATHER SENSOR SPECIFICATION		

INSTALLATION GENERAL NOTES

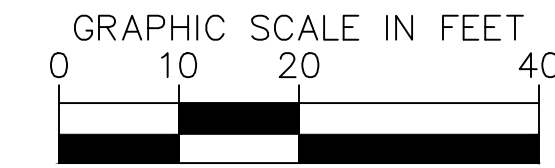
- THE SYSTEM DESIGN ASSUMES A MINIMUM DYNAMIC PRESSURE FOR THE IRRIGATION SYSTEM OF XX PSI (PER CITY ENGINEER), AT A MAXIMUM DISCHARGE OF 10 GPM AT THE 3/4-INCH IRRIGATION POINT-OF-CONNECTION (POC), TAP, METER, BACKFLOW PREVENTER, AND MASTER VALVE SHALL ALL BE THE SAME SIZE. VERIFY PRESSURE AND FLOW ON SITE PRIOR TO CONSTRUCTION.
- READ THOROUGHLY AND BECOME FAMILIAR WITH THE SPECIFICATIONS AND INSTALLATION DETAILS FOR THIS AND RELATED WORK PRIOR TO CONSTRUCTION.
- COORDINATE UTILITY LOCATES ("CALL BEFORE YOU DIG") OF UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.
- DO NOT PROCEED WITH THE INSTALLATION OF THE IRRIGATION SYSTEM WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS OR GRADE DIFFERENCES EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE ENGINEERING. IF DISCREPANCIES IN CONSTRUCTION DETAILS, LEGEND, NOTES, OR SPECIFICATIONS ARE DISCOVERED, BRING ALL SUCH OBSTRUCTIONS OR DISCREPANCIES TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE.
- THE DRAWINGS ARE DIAGRAMMATIC. THEREFORE, THE FOLLOWING SHOULD BE NOTED:
 - ALTHOUGH IRRIGATION COMPONENTS MAY BE SHOWN OUTSIDE PLANTING AREAS FOR CLARITY, INSTALL IRRIGATION PIPE AND WIRING IN LANDSCAPED AREAS WHENEVER POSSIBLE.
 - TREE AND SHRUB LOCATIONS AS SHOWN ON LANDSCAPE PLANS TAKE PRECEDENCE OVER IRRIGATION EQUIPMENT LOCATIONS. AVOID CONFLICTS BETWEEN THE IRRIGATION SYSTEM, PLANTING MATERIALS, AND ARCHITECTURAL FEATURES.
 - USE ONLY STANDARD TEES AND ELBOW FITTINGS. USE OF TEES IN THE BULLNOSE CONFIGURATION, OR USE OF CROSS TYPE FITTINGS IS NOT ALLOWED.
- PROVIDE THE FOLLOWING COMPONENTS TO THE OWNER PRIOR TO THE COMPLETION OF THE PROJECT:
 - TWO (2) OPERATING KEYS FOR EACH TYPE OF MANUALLY OPERATED VALVES.
 - TWO (2) OF EACH SERVICING WRENCH OR TOOL NEEDED FOR COMPLETE ACCESS, ADJUSTMENT, AND REPAIR OF ALL ROTARY SPRINKLERS.
- SELECT NOZZLES FOR SPRAY AND ROTARY SPRINKLERS WITH ARCS WHICH PROVIDE COMPLETE AND ADEQUATE COVERAGE WITH MINIMUM OVERSPRAY FOR THE SITE CONDITIONS. CAREFULLY ADJUST THE RADIUS OF THROW AND ARC OF COVERAGE OF EACH ROTARY SPRINKLER TO PROVIDE THE BEST PERFORMANCE.
- THE IRRIGATION CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF IRRIGATION SLEEVING. SLEEVES ARE REQUIRED FOR BOTH PIPING AND ELECTRICAL WIRING AT EACH HARDSCAPE CROSSING. COORDINATE INSTALLATION OF SLEEVING WITH OTHER TRADES. ANY PIPE OR WIRE WHICH PASSES BENEATH EXISTING HARDSCAPE WHERE SLEEVING WAS NOT INSTALLED WILL REQUIRE HORIZONTAL BORING BY THE IRRIGATION CONTRACTOR. PIPE SLEEVES SHALL BE SIZED TWICE THE NOMINAL SIZE OF THE PIPE PASSING THROUGH.
- INSTALL ALL ELECTRICAL POWER TO THE IRRIGATION CONTROL SYSTEM IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE AND ALL APPLICABLE LOCAL ELECTRIC UTILITY CODES.
- THE FOLLOWING SHOULD BE NOTED REGARDING PIPE SIZING: IF A SECTION OF UNSIZED PIPE IS LOCATED BETWEEN TWO IDENTICALLY SIZED SECTIONS, THE UNSIZED PIPE IS THE SAME NOMINAL SIZE AS THE TWO SIZED SECTIONS. THE UNSIZED PIPE SHOULD NOT BE CONFUSED WITH THE DEFAULT PIPE SIZE NOTED IN THE LEGEND.
- INSTALL TWO (2) #14 AWG CONTROL WIRES ON STANDARD WIRE SYSTEMS OR ONE (1) #14 AWG TWO-WIRE PAIR ON TWO-WIRE SYSTEMS, FOR USE AS SPARES. INSTALL SPARE WIRES FROM CONTROLLER LOCATION TO EACH DEAD-END OF MAINLINE. COIL 3 FEET OF WIRE IN VALVE BOX.

CONCEPTUAL IRRIGATION LEGEND

	BED SPRAY (ORNAMENTAL BEDS) TO BE IRRIGATED WITH 12-INCH POP-UP SPRINKLERS WITH PRESSURE REGULATION, CHECK VALVES, AND HIGH EFFICIENCY NOZZLES
	BED SPRAY (SEDUM BEDS) TO BE IRRIGATED WITH 12-INCH POP-UP SPRINKLERS WITH PRESSURE REGULATION, CHECK VALVES, AND HIGH EFFICIENCY NOZZLES
	SHRUBS AND PERENNIALS TO BE IRRIGATED USING INLINE EMITTER DRIP TUBING WITH CHECK VALVES 0.6 GPM EMITTER, AT 12 INCHES ON CENTER TUBING ROWS SPACED 12 INCHES APART
	TREE BUBBLERS TO BE IRRIGATED WITH TWO (2) TREE BUBBLERS PER TREE

CONSTRUCTION NOTES

- THE IRRIGATION SYSTEM POINT-OF-CONNECTION (POC) SHALL BE DOWNSTREAM OF THE IRRIGATION WATER TAP AND METER INSTALLED BY OTHERS AT THE APPROXIMATE LOCATION SHOWN. INSTALL BACKFLOW PREVENTION UNIT AND MASTER VALVE ASSEMBLY AS INDICATED, SAME SIZE AS POC. VERIFY EXACT LOCATION OF POC WITH OWNERS REPRESENTATIVE.
- PEDESTAL / WALL MOUNT THE IRRIGATION CONTROLLER AT THE APPROXIMATE LOCATION SHOWN. COORDINATE ELECTRICAL POWER TO THE CONTROLLER WITH THE OWNERS REPRESENTATIVE. CARE SHOULD BE TAKEN TO INSTALL THE IRRIGATION CONTROLLER IN A LOCATION THAT IS ACCESSIBLE FOR MAINTENANCE, AND SCREENED FROM VIEW EITHER BEHIND ENTRY WALLS, NEXT TO BUILDINGS, OR BEHIND PLANT MATERIAL. FINAL LOCATION TO BE APPROVED BY OWNER'S REPRESENTATIVE.
- IRRIGATION SHOWN OUT OF LANDSCAPED AREA FOR CLARITY ONLY. INSTALL IRRIGATION COMPONENTS WITHIN LANDSCAPED AREA.
- MAINLINE AND LATERAL LINES ARE SHOWN IN SAME SLEEVE FOR CLARITY ONLY. MAINLINE, CONTROL WIRES, AND LATERAL PIPE SHALL BE INSTALLED IN SEPARATE SLEEVES.
- SLEEVES ARE SHOWN BROKEN-UP FOR CLARITY ONLY. MAINLINE, LATERALS, AND WIRES SLEEVES THAT CROSS EACH OTHER SHALL BE INSTALLED AS FULL SLEEVES. LINES SHOWN THROUGH OTHER LANDSCAPE FEATURES (POT LATERAL LINE THROUGH HANGING BASKET) SHALL BE ONE SOLID SLEEVE, NOT BROKEN UP AS SHOWN.



02.10.2022

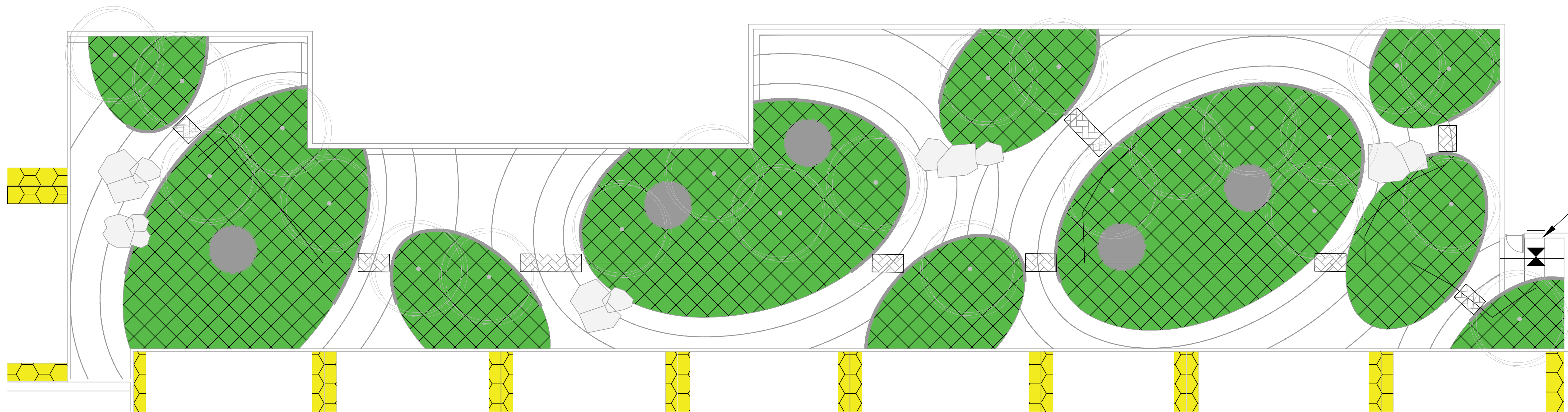
Project
CACHE AND PEARL

45 EAST PEARL AVE. JACKSON, WY 83001

2043	Project No.
JRS	Drawn By
MT	Checked By
Discipline	Drawing No.

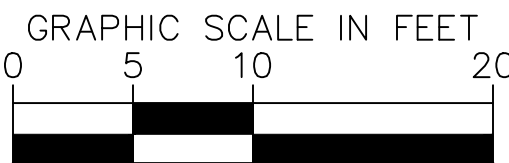
IR1.11

Drawing Name
Irrigation Plan - Streetscape



POC 1
SIZE: 3/4-INCH
FLOW: 10 GPM
PRESSURE: 50 PSI

PRELIMINARY NOT FOR
BIDDING OR CONSTRUCTION



02.10.2022

IRRIGATION LEGEND

	SLEEVES: CLASS 200 PVC
	POINT-OF-CONNECTION ASSEMBLY
	MAINLINE PIPE: CLASS 200 PVC X-INCH SIZE UNLESS OTHERWISE INDICATED
	LATERAL PIPE TO SPRINKLERS: CLASS 200 PVC 1-INCH SIZE UNLESS OTHERWISE INDICATED
	UNCONNECTED PIPE CROSSING
	INLINE DRIP TUBING: NETAFIM TLCV26-12 WITH RAINBIRD XQF DRIPLINE HEADER
	REMOTE CONTROL VALVE ASSEMBLY FOR SPRINKLER LATERALS: RAIN BIRD PEB (SIZED PER PLAN)
	REMOTE CONTROL DRIP VALVE ASSEMBLY: RAIN BIRD XCZ-100-PRB-COM
	QUICK COUPLING VALVE ASSEMBLY: RAIN BIRD SRC/SNP
	ISOLATION GATE VALVE ASSEMBLY: NIBCO T-136
	FLOW SENSOR ASSEMBLY: RAIN BIRD FSXXXB
	BACKFLOW PREVENTION ASSEMBLY: FEBCO 825YA
	MASTER VALVE ASSEMBLY: RAIN BIRD PESB
	INDICATES CONTROLLER AND STATION NUMBER
	INDICATES LATERAL DISCHARGE (GPM)
	INDICATES VALVE SIZE (INCHES)
	INDICATES LANDSCAPE APPLICATION
	IRRIGATION CONTROLLER UNIT WITH [EDIT FOR WEATHER SENSOR] [EDIT FOR COMMUNICATION] CONTROLLER A: BASELINE 3200
	LATERAL PIPE TO TREE DRIP EMITTERS: UV RADIATION RESISTANT POLYETHYLENE 3/4-INCH SIZE UNLESS OTHERWISE INDICATED, ROUTING IS DIAGRAMMATIC
	TREE BUBBLER ASSEMBLY: XXX (Y) RAIN BIRD 140ZZZ BUBBLERS PRESSURE: 30 PSI FLOW (GPM): X.YY PER BUBBLER; X.ZZ PER ASSEMBLY
	GROUNDING AND SURGE ARRESTOR ASSEMBLY: RAIN BIRD LSP-1TURF
	WEATHER SENSOR: CONTACT HINES INC FOR WEATHER SENSOR SPECIFICATION
	POP-UP SPRAY SPRINKLER: HUNTER PROS-06-PRS30-CV W/8 SERIES NOZZLE PRESSURE: 30 PSI RADIUS: 8 FEET FLOW (GPM): Q-0.24 H-0.47 F-0.97
	POP-UP SPRAY SPRINKLER: HUNTER PROS-06-PRS30-CV W/10 SERIES NOZZLE PRESSURE: 30 PSI RADIUS: 10 FEET FLOW (GPM): Q-0.42 H-0.88 F-1.59
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	POP-UP ROTATING SPRAY SPRINKLER: HUNTER PROS-06-PRS40-CV W/MP1000 NOZZLES PRESSURE: 40 PSI RADIUS: 8 FEET TO 15 FEET FLOW (GPM): M-0.42 L-0.63 O-0.84
	POP-UP ROTATING SPRAY SPRINKLER: HUNTER PROS-06-PRS40-CV W/MP2000 NOZZLES PRESSURE: 40 PSI RADIUS: 13 FEET TO 21 FEET FLOW (GPM): K-0.77 G-1.10 R-1.48
	POP-UP ROTATING SPRAY SPRINKLER: HUNTER PROS-06-PRS40-CV W/MP3000 NOZZLES PRESSURE: 40 PSI RADIUS: 22 FEET TO 30 FEET FLOW (GPM): B-1.82 Y-2.73 A-3.64
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	POP-UP ROTATING SPRAY SPRINKLER: HUNTER PROS-06-PRS40-CV W/MPCORNER NOZZLE PRESSURE: 40 PSI RADIUS: 8 FEET TO 14 FEET FLOW (GPM): 45"-0.19 90"-0.39 105"-0.45
	POP-UP ROTATING SPRAY SPRINKLER: HUNTER PROS-06-PRS40-CV W/MPSTRIP NOZZLES PRESSURE: 40 PSI RADIUS: ADJUSTABLE RECTANGULAR SPRAY FLOW (GPM): SST - 4X24-0.34 5X30'-0.47 LCS/RCS - 4X12-0.17 5X15'-0.23
	POP-UP ROTATING SPRAY SPRINKLER: HUNTER PROS-06-PRS40-CV W/MP800SR NOZZLES PRESSURE: 40 PSI RADIUS: 6 FEET TO 12 FEET FLOW (GPM): 90"-0.23 180"-0.42 210"-0.43 360"-0.78
	POP-UP ROTATING SPRAY SPRINKLER: HUNTER PROS-06-PRS40-CV W/MP815 NOZZLES PRESSURE: 40 PSI RADIUS: 8 FEET TO 15 FEET FLOW (GPM): M-0.93 L-1.40 O-1.87

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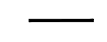
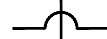
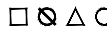
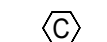
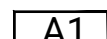
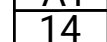
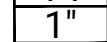
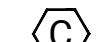
CONCEPTUAL IRRIGATION LEGEND

	BED SPRAY (ORNAMENTAL BEDS) TO BE IRRIGATED WITH 12-INCH POP-UP SPRINKLERS WITH PRESSURE REGULATION, CHECK VALVES, AND HIGH EFFICIENCY NOZZLES
	BED SPRAY (SEDUM BEDS) TO BE IRRIGATED WITH 12-INCH POP-UP SPRINKLERS WITH PRESSURE REGULATION, CHECK VALVES, AND HIGH EFFICIENCY NOZZLES
	SHRUBS AND PERENNIALS TO BE IRRIGATED USING INLINE EMITTER DRIP TUBING WITH CHECK VALVES 0.6 GPM EMITTER, AT 12 INCHES ON CENTER TUBING ROWS SPACED 12 INCHES APART
	TREE BUBBLERS TO BE IRRIGATED WITH TWO (2) TREE BUBBLERS PER TREE

CONSTRUCTION NOTES

- THE IRRIGATION SYSTEM POINT-OF-CONNECTION (POC) SHALL BE DOWNSTREAM OF THE IRRIGATION WATER TAP AND METER INSTALLED BY OTHERS AT THE APPROXIMATE LOCATION SHOWN. INSTALL BACKFLOW PREVENTION UNIT AND MASTER VALVE ASSEMBLY AS INDICATED, SAME SIZE AS POC. VERIFY EXACT LOCATION OF POC WITH OWNERS REPRESENTATIVE.
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- MAINLINE AND LATERAL LINES ARE SHOWN IN SAME SLEEVE FOR CLARITY ONLY. MAINLINE, CONTROL WIRES, AND LATERAL PIPE SHALL BE INSTALLED IN SEPARATE SLEEVES.
- SLEEVES ARE SHOWN BROKEN-UP FOR CLARITY ONLY. MAINLINE, LATERALS, AND WIRES SLEEVES THAT CROSS EACH OTHER SHALL BE INSTALLED AS FULL SLEEVES. LINES SHOWN THROUGH OTHER LANDSCAPE FEATURES (POT LATERAL LINE THROUGH HANGING BASKET) SHALL BE ONE SOLID SLEEVE, NOT BROKEN UP AS SHOWN.

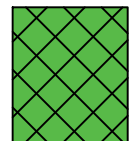
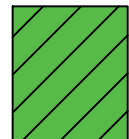
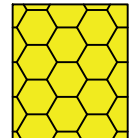
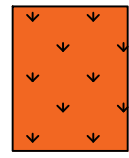
IRRIGATION LEGEND

	SLEEVES: CLASS 200 PVC		POP-UP SPRAY SPRINKLER: HUNTER PROS-06-PRS30-CV W/8 SERIES NOZZLE PRESSURE: 30 PSI RADIUS: 8 FEET FLOW (GPM): Q-0.24 H-0.47 F-0.97
	POINT-OF-CONNECTION ASSEMBLY		POP-UP SPRAY SPRINKLER: HUNTER PROS-06-PRS30-CV W/10 SERIES NOZZLE PRESSURE: 30 PSI RADIUS: 10 FEET FLOW (GPM): Q-0.42 H-0.88 F-1.59
	MAINLINE PIPE: CLASS 200 PVC X-INCH SIZE UNLESS OTHERWISE INDICATED		POP-UP SPRAY SPRINKLER: HUNTER PROS-06-PRS30-CV W/12 SERIES NOZZLE PRESSURE: 30 PSI RADIUS: 12 FEET FLOW (GPM): Q-0.67 H-1.30 F-2.70
	LATERAL PIPE TO SPRINKLERS: CLASS 200 PVC 1-INCH SIZE UNLESS OTHERWISE INDICATED		POP-UP SPRAY SPRINKLER: HUNTER PROS-06-PRS30-CV W/15 SERIES NOZZLE PRESSURE: 30 PSI RADIUS: 15 FEET FLOW (GPM): Q-0.97 H-1.86 F-3.75
	UNCONNECTED PIPE CROSSING		POP-UP SPRAY SPRINKLER: HUNTER PROS-06-PRS30-CV W/ ADJUSTABLE NOZZLE PRESSURE: 30 PSI RADIUS: 15 FEET FLOW (GPM): 08A-0.44 10A-0.50 12A-0.32 15A-0.47
	INLINE DRIP TUBING: NETAFIM TLCV26-12 WITH RAINBIRD XQF DRIPLINE HEADER		POP-UP SPRAY SPRINKLER: HUNTER PROS-06-PRS30-CV W/15SS SERIES NOZZLE PRESSURE: 30 PSI RADIUS: 5 FEET X 15 FEET FLOW (GPM): ES515-0.65 SS530-1.30
	REMOTE CONTROL VALVE ASSEMBLY FOR SPRINKLER LATERALS: RAIN BIRD PEB (SIZED PER PLAN)		POP-UP ROTATING SPRAY SPRINKLER: HUNTER PROS-06-PRS40-CV W/MP1000 NOZZLES PRESSURE: 40 PSI RADIUS: 8 FEET TO 15 FEET FLOW (GPM): M-0.42 L-0.63 O-0.84
	REMOTE CONTROL DRIP VALVE ASSEMBLY: RAIN BIRD XCZ-100-PRB-COM		POP-UP ROTATING SPRAY SPRINKLER: HUNTER PROS-06-PRS40-CV W/MP2000 NOZZLES PRESSURE: 40 PSI RADIUS: 13 FEET TO 21 FEET FLOW (GPM): K-0.77 G-1.10 R-1.48
	QUICK COUPLING VALVE ASSEMBLY: RAIN BIRD SRC/SNP		POP-UP ROTATING SPRAY SPRINKLER: HUNTER PROS-06-PRS40-CV W/MP3000 NOZZLES PRESSURE: 40 PSI RADIUS: 22 FEET TO 30 FEET FLOW (GPM): B-1.82 Y-2.73 A-3.64
	ISOLATION GATE VALVE ASSEMBLY: NIBCO T-136		POP-UP ROTATING SPRAY SPRINKLER: HUNTER PROS-06-PRS40-CV W/MP3500 NOZZLE PRESSURE: 40 PSI RADIUS: 31 FEET TO 35 FEET FLOW (GPM): 90"-1.28 180"-2.86 210"-3.29
	FLOW SENSOR ASSEMBLY: RAIN BIRD FSXXXB		POP-UP ROTATING SPRAY SPRINKLER: HUNTER PROS-06-PRS40-CV W/MPCORNER NOZZLE PRESSURE: 40 PSI RADIUS: 8 FEET TO 14 FEET FLOW (GPM): 45"-0.31 90"-0.39 105"-0.45
	BACKFLOW PREVENTION ASSEMBLY: FEBCO 825YA		POP-UP ROTATING SPRAY SPRINKLER: HUNTER PROS-06-PRS40-CV W/MP800SR NOZZLES PRESSURE: 40 PSI RADIUS: 6 FEET TO 12 FEET FLOW (GPM): 90"-0.23 180"-0.42 210"-0.43 360"-0.78
	MASTER VALVE ASSEMBLY: RAIN BIRD PESB		POP-UP ROTATING SPRAY SPRINKLER: HUNTER PROS-06-PRS40-CV W/MP815 NOZZLES PRESSURE: 40 PSI RADIUS: 8 FEET TO 15 FEET FLOW (GPM): M-0.93 L-1.40 O-1.87
	INDICATES CONTROLLER AND STATION NUMBER		
	INDICATES LATERAL DISCHARGE (GPM)		
	INDICATES VALVE SIZE (INCHES)		
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	IRRIGATION CONTROLLER UNIT WITH [EDIT FOR WEATHER SENSOR] [EDIT FOR COMMUNICATION] CONTROLLER A: BASELINE 3200		
	LATERAL PIPE TO TREE DRIP EMITTERS: UV RADIATION RESISTANT POLYETHYLENE 3/4-INCH SIZE UNLESS OTHERWISE INDICATED, ROUTING IS DIAGRAMMATIC		
	TREE BUBBLER ASSEMBLY: XXX (Y) RAIN BIRD 140ZZZ BUBBLERS PRESSURE: 30 PSI FLOW (GPM): X-YY PER BUBBLER; X.ZZ PER ASSEMBLY		
	GROUNDING AND SURGE ARRESTOR ASSEMBLY: RAIN BIRD LSP-1TURF		
	WEATHER SENSOR: CONTACT HINES INC FOR WEATHER SENSOR SPECIFICATION		

INSTALLATION GENERAL NOTES

- THE SYSTEM DESIGN ASSUMES A MINIMUM DYNAMIC PRESSURE FOR THE IRRIGATION SYSTEM OF XX PSI (PER CITY ENGINEER), AT A MAXIMUM DISCHARGE OF 10 GPM AT THE 3/4-INCH IRRIGATION POINT-OF-CONNECTION (POC), TAP, METER, BACKFLOW PREVENTER, AND MASTER VALVE SHALL ALL BE THE SAME SIZE. VERIFY PRESSURE AND FLOW ON SITE PRIOR TO CONSTRUCTION.
- READ THOROUGHLY AND BECOME FAMILIAR WITH THE SPECIFICATIONS AND INSTALLATION DETAILS FOR THIS AND RELATED WORK PRIOR TO CONSTRUCTION.
- COORDINATE UTILITY LOCATES ("CALL BEFORE YOU DIG") OF UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.
- DO NOT PROCEED WITH THE INSTALLATION OF THE IRRIGATION SYSTEM WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS OR GRADE DIFFERENCES EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE ENGINEERING. IF DISCREPANCIES IN CONSTRUCTION DETAILS, LEGEND, NOTES, OR SPECIFICATIONS ARE DISCOVERED, BRING ALL SUCH OBSTRUCTIONS OR DISCREPANCIES TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE.
- THE DRAWINGS ARE DIAGRAMMATIC. THEREFORE, THE FOLLOWING SHOULD BE NOTED:
 - ALTHOUGH IRRIGATION COMPONENTS MAY BE SHOWN OUTSIDE PLANTING AREAS FOR CLARITY, INSTALL IRRIGATION PIPE AND WIRING IN LANDSCAPED AREAS WHENEVER POSSIBLE.
 - TREE AND SHRUB LOCATIONS AS SHOWN ON LANDSCAPE PLANS TAKE PRECEDENCE OVER IRRIGATION EQUIPMENT LOCATIONS. AVOID CONFLICTS BETWEEN THE IRRIGATION SYSTEM, PLANTING MATERIALS, AND ARCHITECTURAL FEATURES.
 - USE ONLY STANDARD TEES AND ELBOW FITTINGS. USE OF TEES IN THE BULLNOSE CONFIGURATION, OR USE OF CROSS TYPE FITTINGS IS NOT ALLOWED.
- PROVIDE THE FOLLOWING COMPONENTS TO THE OWNER PRIOR TO THE COMPLETION OF THE PROJECT:
 - TWO (2) OPERATING KEYS FOR EACH TYPE OF MANUALLY OPERATED VALVES.
 - TWO (2) OF EACH SERVICING WRENCH OR TOOL NEEDED FOR COMPLETE ACCESS, ADJUSTMENT, AND REPAIR OF ALL ROTARY SPRINKLERS.
- SELECT NOZZLES FOR SPRAY AND ROTARY SPRINKLERS WITH ARCS WHICH PROVIDE COMPLETE AND ADEQUATE COVERAGE WITH MINIMUM OVERSPRAY FOR THE SITE CONDITIONS. CAREFULLY ADJUST THE RADIUS OF THROW AND ARC OF COVERAGE OF EACH ROTARY SPRINKLER TO PROVIDE THE BEST PERFORMANCE.
- THE IRRIGATION CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF IRRIGATION SLEEVING. SLEEVES ARE REQUIRED FOR BOTH PIPING AND ELECTRICAL WIRING AT EACH HARDSCAPE CROSSING. COORDINATE INSTALLATION OF SLEEVING WITH OTHER TRADES. ANY PIPE OR WIRE WHICH PASSES BENEATH EXISTING HARDSCAPE WHERE SLEEVING WAS NOT INSTALLED WILL REQUIRE HORIZONTAL BORING BY THE IRRIGATION CONTRACTOR. PIPE SLEEVES SHALL BE SIZED TWICE THE NOMINAL SIZE OF THE PIPE PASSING THROUGH.
- INSTALL ALL ELECTRICAL POWER TO THE IRRIGATION CONTROL SYSTEM IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE AND ALL APPLICABLE LOCAL ELECTRIC UTILITY CODES.
- THE FOLLOWING SHOULD BE NOTED REGARDING PIPE SIZING: IF A SECTION OF UNSIZED PIPE IS LOCATED BETWEEN TWO IDENTICALLY SIZED SECTIONS, THE UNSIZED PIPE IS THE SAME NOMINAL SIZE AS THE TWO SIZED SECTIONS. THE UNSIZED PIPE SHOULD NOT BE CONFUSED WITH THE DEFAULT PIPE SIZE NOTED IN THE LEGEND.
- INSTALL TWO (2) #14 AWG CONTROL WIRES ON STANDARD WIRE SYSTEMS OR ONE (1) #14 AWG TWO-WIRE PAIR ON TWO-WIRE SYSTEMS, FOR USE AS SPARES. INSTALL SPARE WIRES FROM CONTROLLER LOCATION TO EACH DEAD-END OF MAINLINE. COIL 3 FEET OF WIRE IN VALVE BOX.

CONCEPTUAL IRRIGATION LEGEND

	BED SPRAY (ORNAMENTAL BEDS) TO BE IRRIGATED WITH 12-INCH POP-UP SPRINKLERS WITH PRESSURE REGULATION, CHECK VALVES, AND HIGH EFFICIENCY NOZZLES
	BED SPRAY (SEDUM BEDS) TO BE IRRIGATED WITH 12-INCH POP-UP SPRINKLERS WITH PRESSURE REGULATION, CHECK VALVES, AND HIGH EFFICIENCY NOZZLES
	SHRUBS AND PERENNIALS TO BE IRRIGATED USING INLINE EMITTER DRIP TUBING WITH CHECK VALVES 0.6 GPM EMITTER, AT 12 INCHES ON CENTER TUBING ROWS SPACED 12 INCHES APART
	TREE BUBBLERS TO BE IRRIGATED WITH TWO (2) TREE BUBBLERS PER TREE

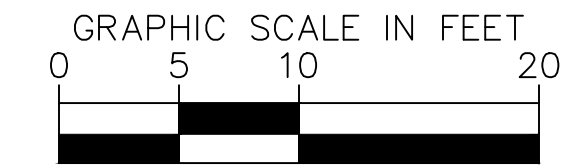
CONSTRUCTION NOTES

- THE IRRIGATION SYSTEM POINT-OF-CONNECTION (POC) SHALL BE DOWNSTREAM OF THE IRRIGATION WATER TAP AND METER INSTALLED BY OTHERS AT THE APPROXIMATE LOCATION SHOWN. INSTALL BACKFLOW PREVENTION UNIT AND MASTER VALVE ASSEMBLY AS INDICATED, SAME SIZE AS POC. VERIFY EXACT LOCATION OF POC WITH OWNERS REPRESENTATIVE.
- PEDESTAL / WALL MOUNT THE IRRIGATION CONTROLLER AT THE APPROXIMATE LOCATION SHOWN. COORDINATE ELECTRICAL POWER TO THE CONTROLLER WITH THE OWNERS REPRESENTATIVE. CARE SHOULD BE TAKEN TO INSTALL THE IRRIGATION CONTROLLER IN A LOCATION THAT IS ACCESSIBLE FOR MAINTENANCE, AND SCREENED FROM VIEW EITHER BEHIND ENTRY WALLS, NEXT TO BUILDINGS, OR BEHIND PLANT MATERIAL. FINAL LOCATION TO BE APPROVED BY OWNER'S REPRESENTATIVE.
- IRRIGATION SHOWN OUT OF LANDSCAPED AREA FOR CLARITY ONLY. INSTALL IRRIGATION COMPONENTS WITHIN LANDSCAPED AREA.
- MAINLINE AND LATERAL LINES ARE SHOWN IN SAME SLEEVE FOR CLARITY ONLY. MAINLINE, CONTROL WIRES, AND LATERAL PIPE SHALL BE INSTALLED IN SEPARATE SLEEVES.
- SLEEVES ARE SHOWN BROKEN-UP FOR CLARITY ONLY. MAINLINE, LATERALS, AND WIRES SLEEVES THAT CROSS EACH OTHER SHALL BE INSTALLED AS FULL SLEEVES. LINES SHOWN THROUGH OTHER LANDSCAPE FEATURES (POT LATERAL LINE THROUGH HANGING BASKET) SHALL BE ONE SOLID SLEEVE, NOT BROKEN UP AS SHOWN.



SITE WATER ENGINEERING SERVICES
323 W. DRAKE RD, SUITE 204
FORT COLLINS, COLORADO 80526
Telephone: 970.282.1800
Web: www.hinesinc.com

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02.10.2022

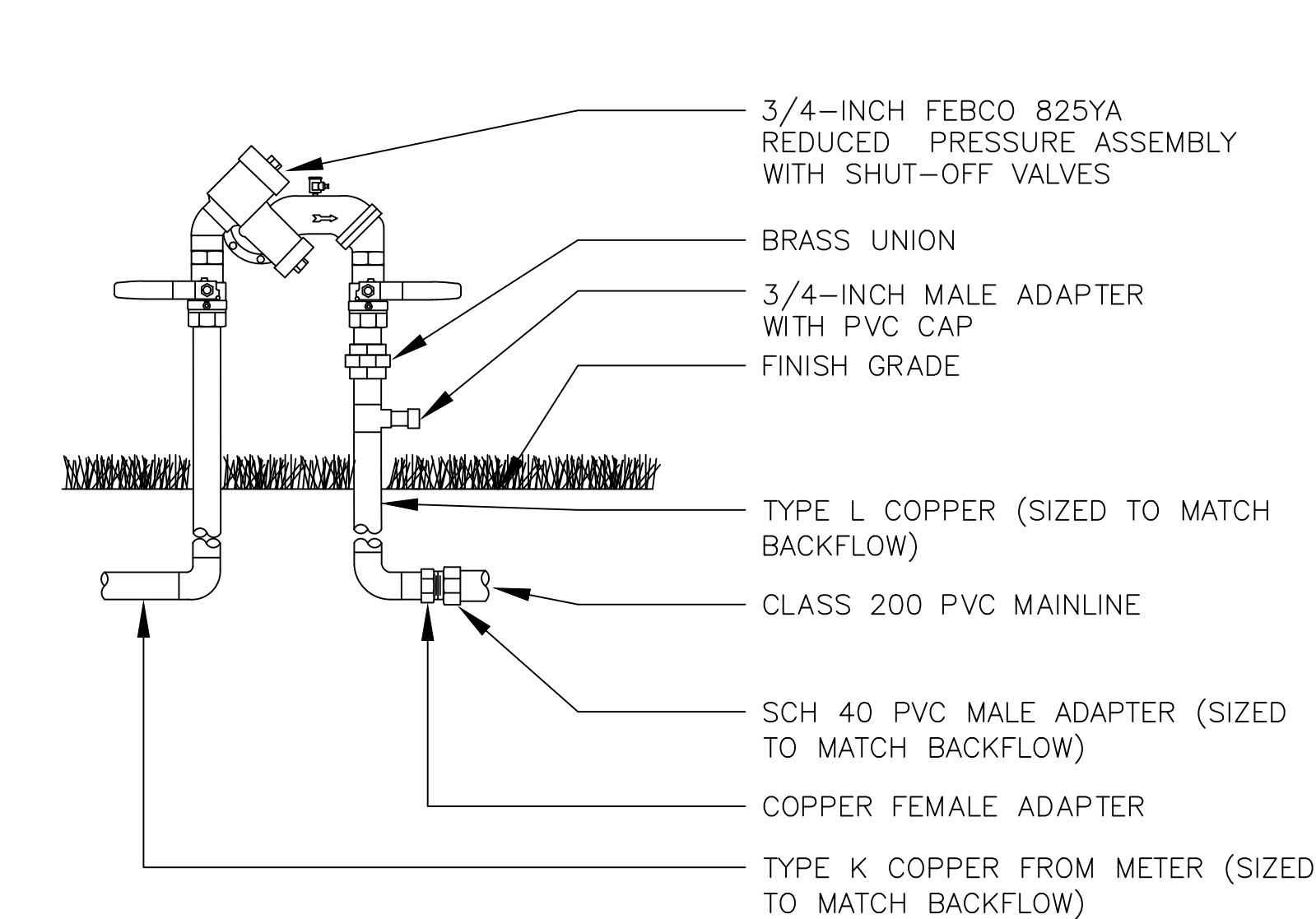
Project
CACHE AND PEARL

45 EAST PEARL AVE. JACKSON, WY 83001

2043	Project No.
JRS	Drawn By
MT	Checked By
Discipline	Drawing No.

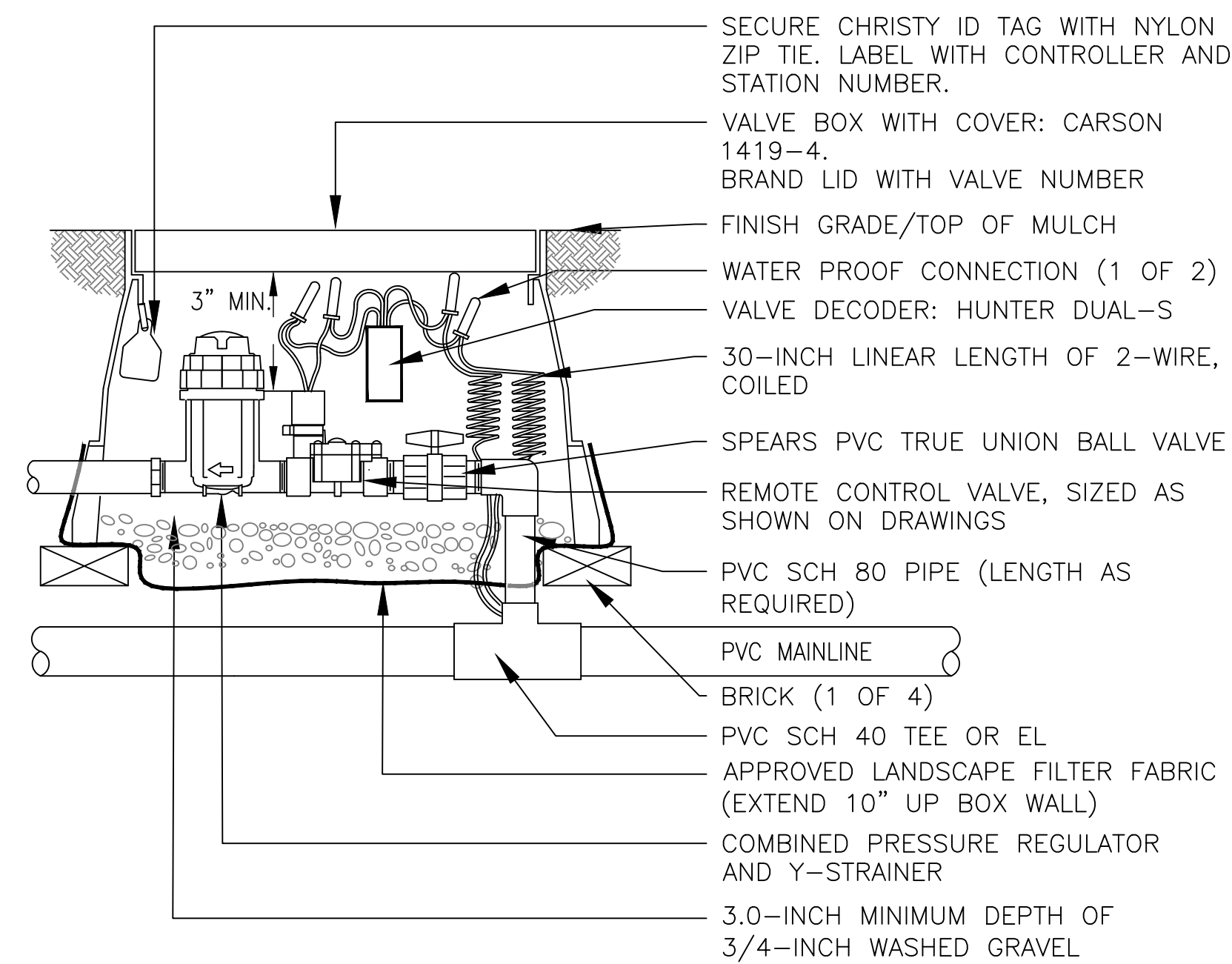
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Drawing Name
Irrigation Plan - Rooftop



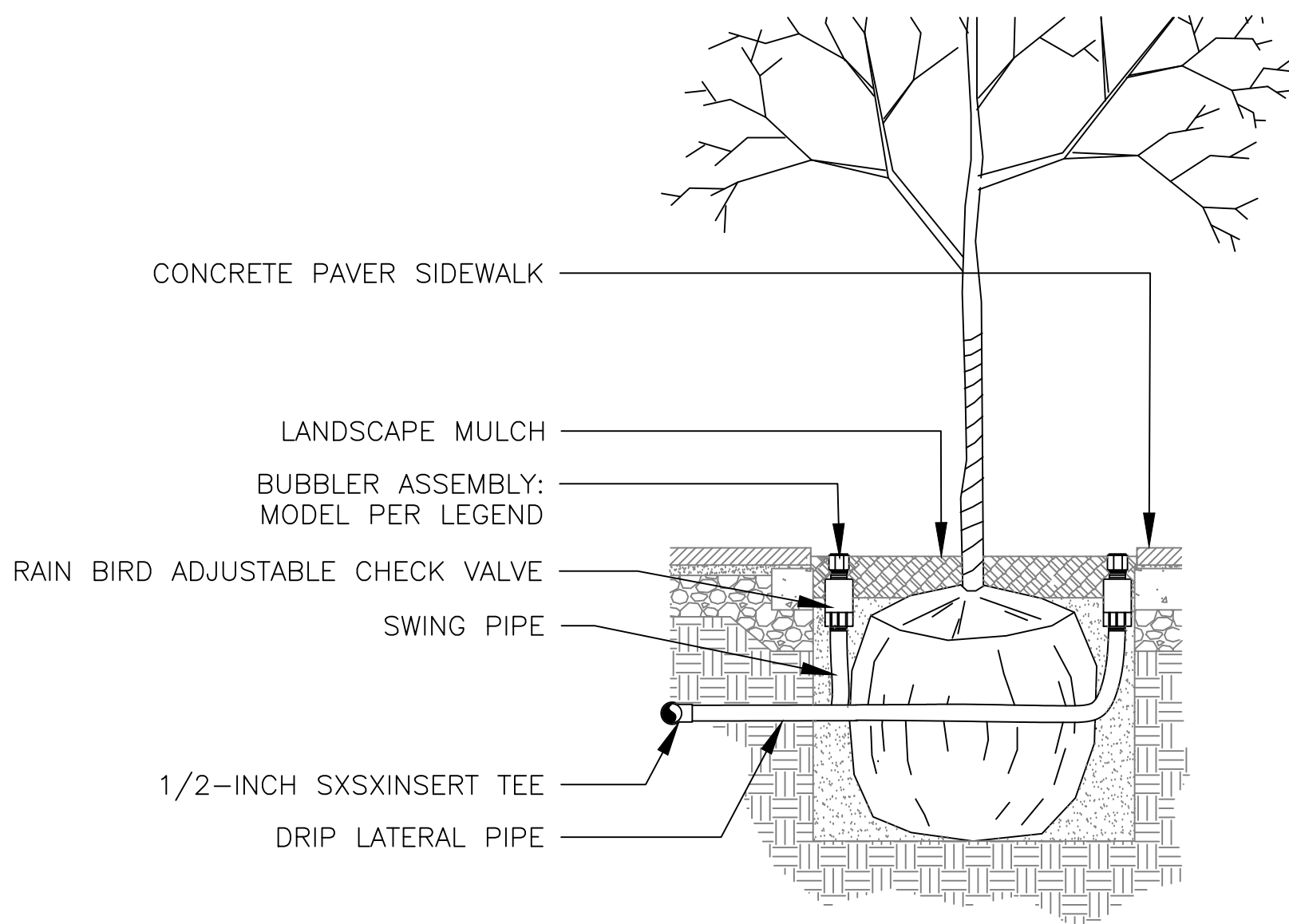
NOTES:
1. INSTALL BACKFLOW DEVICE IN ACCORDANCE WITH ALL STATE AND LOCAL CODE REQUIREMENTS.

1 BACKFLOW PREVENTION UNIT ASSEMBLY



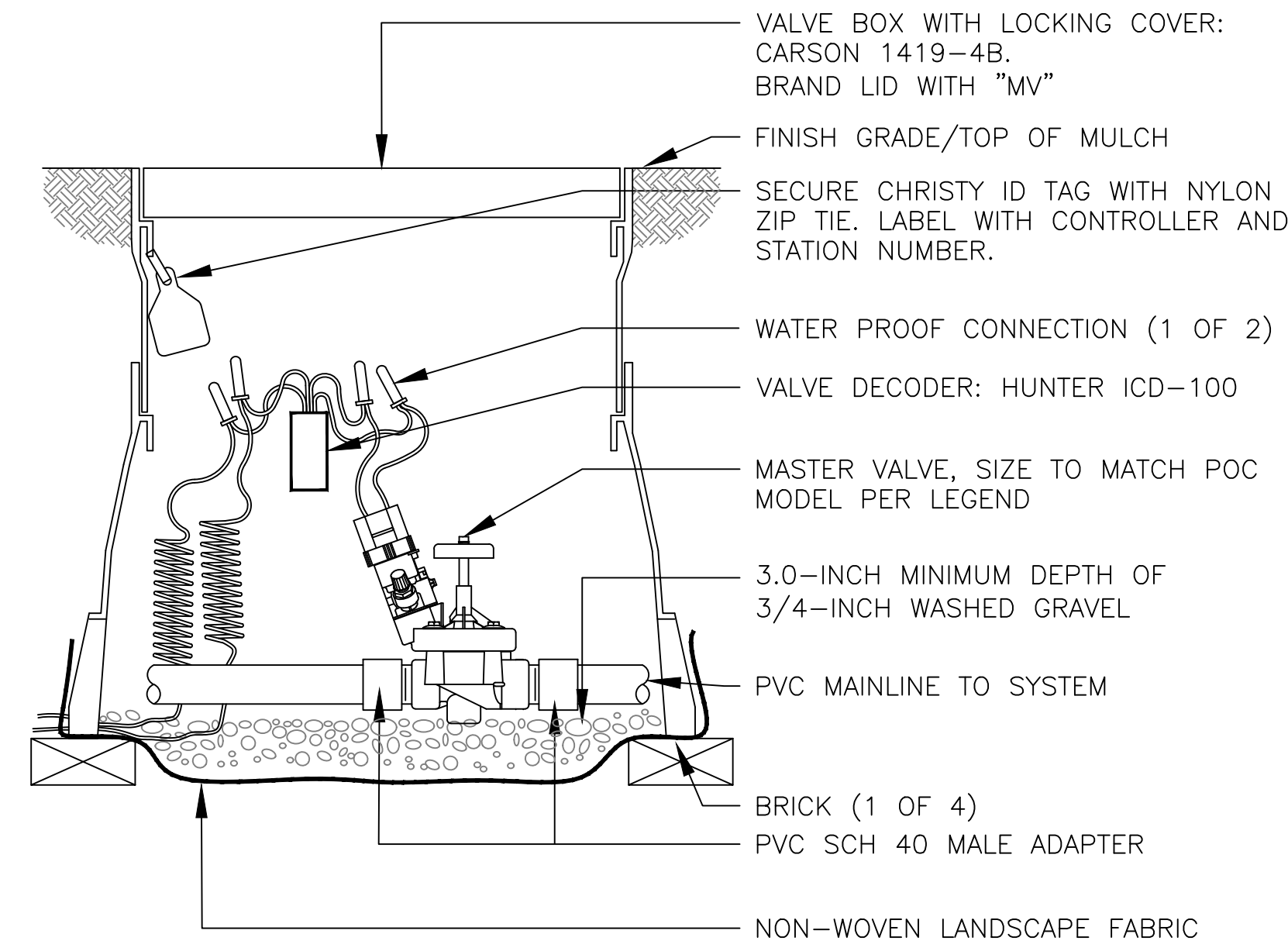
NOTE:
1. USE BARBED INSERT FITTINGS ON DRIP LATERAL PIPE WITH STAINLESS STEEL HOSE CLAMPS. PLACE CLAMPS ON DRIP TUBING DIRECTLY OVER BARBED AREA OF FITTING. PINCH CLAMPS ARE NOT ACCEPTABLE.

5 REMOTE CONTROL DRIP VALVE ASSEMBLY

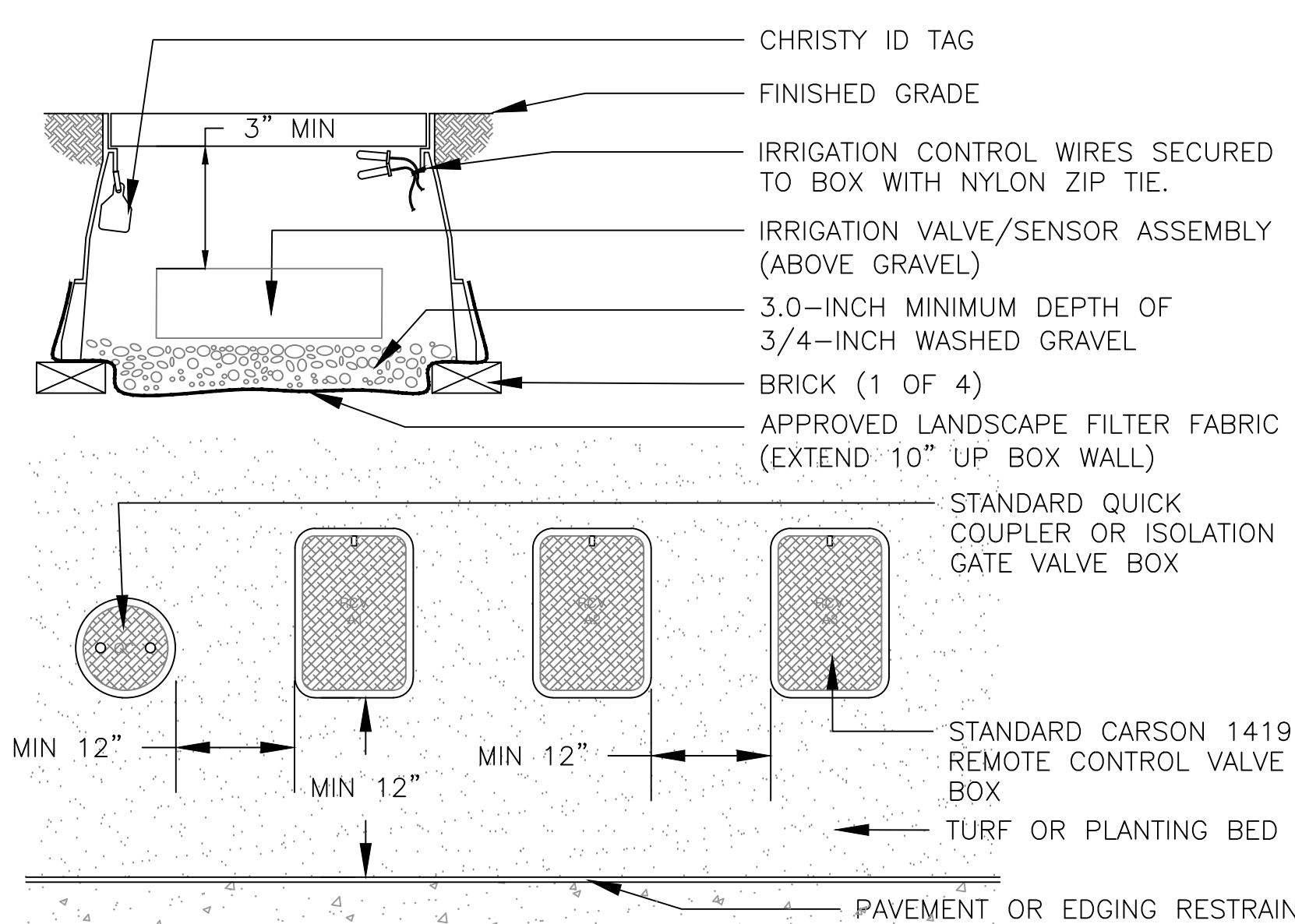


NOTES:
1. REFER TO LANDSCAPE PLANS FOR TREE GRATE INSTALLATION AND DETAILS.

9 BUBBLER ASSEMBLY FOR TREES IN SHRUB BEDS

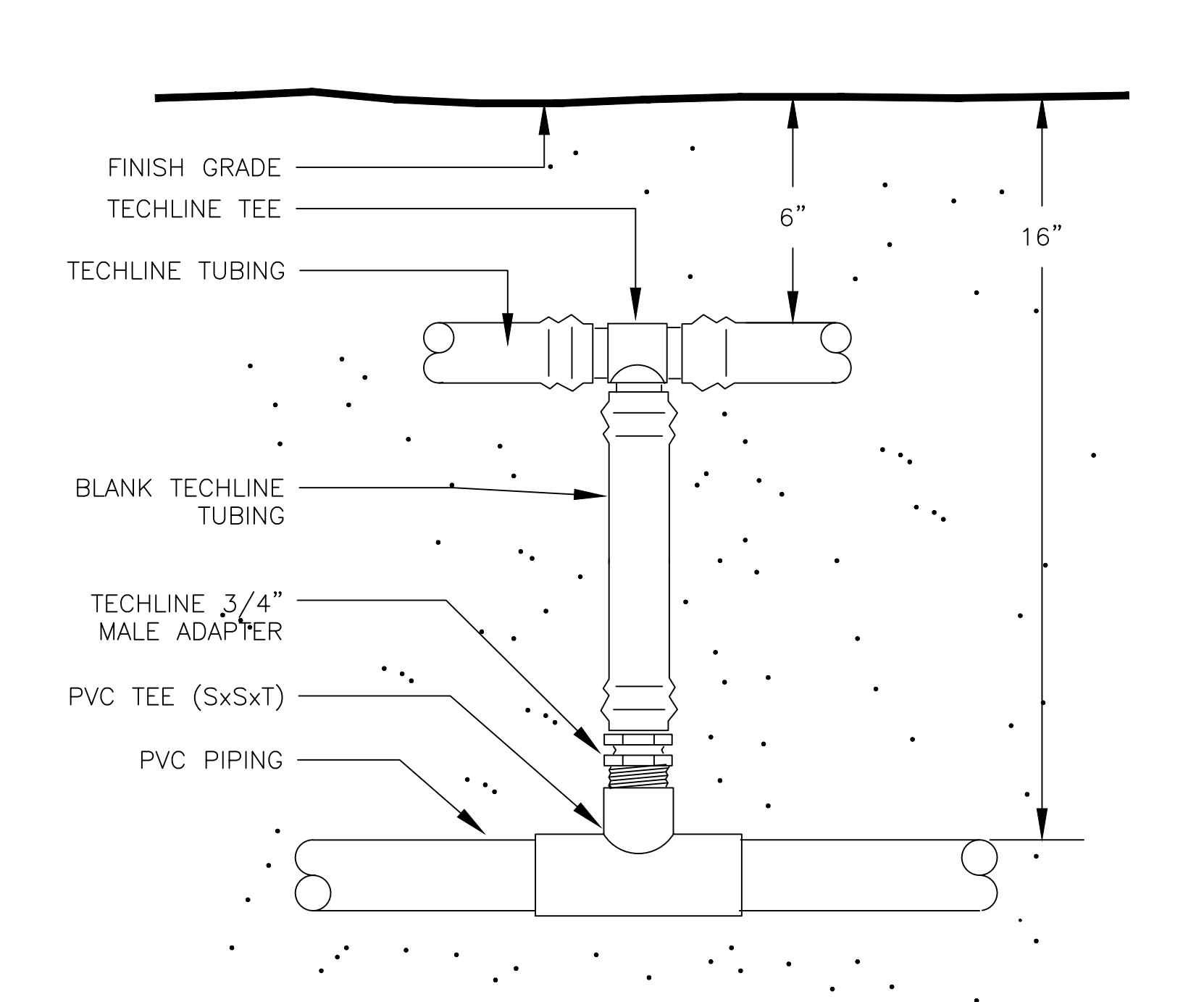


2 MASTER VALVE ASSEMBLY

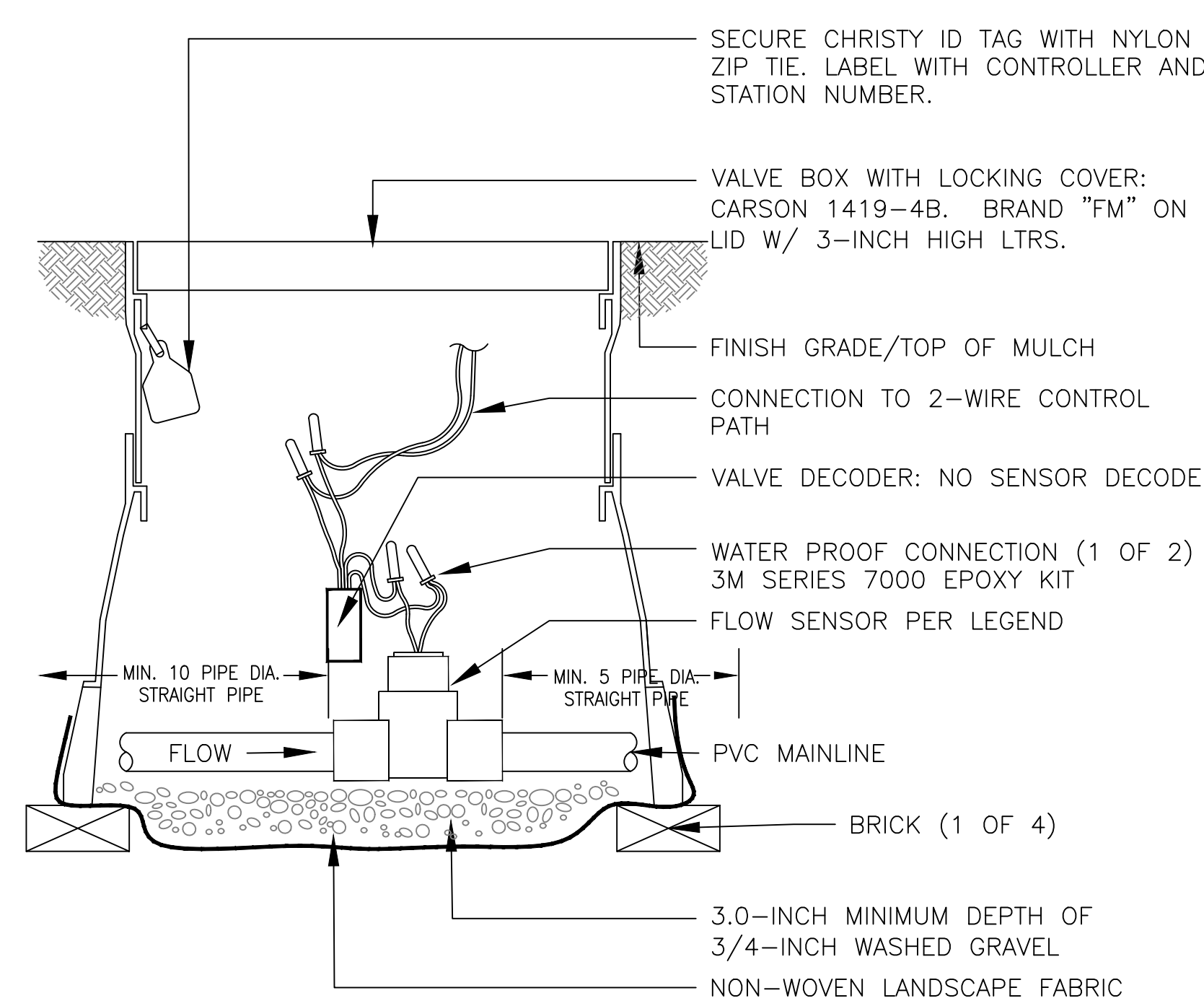


NOTES:
1. INSTALL ONLY ONE RCV TO VALVE BOX. LOCATE AT LEAST 12-INCHES FROM AND ALIGN WITH NEARBY WALLS OR EDGES OF PAVED AREAS. GROUP RCV ASSEMBLIES TOGETHER WHERE PRACTICAL.
4. GROUP RCV ASSEMBLIES TOGETHER WHERE PRACTICAL, BUT AVOID GROUPING MORE THAN THREE (3) STANDARD VALVE BOXES TOGETHER IN A SERIES.
5. ARRANGE GROUPED VALVE BOXES IN RECTANGULAR PATTERNS.

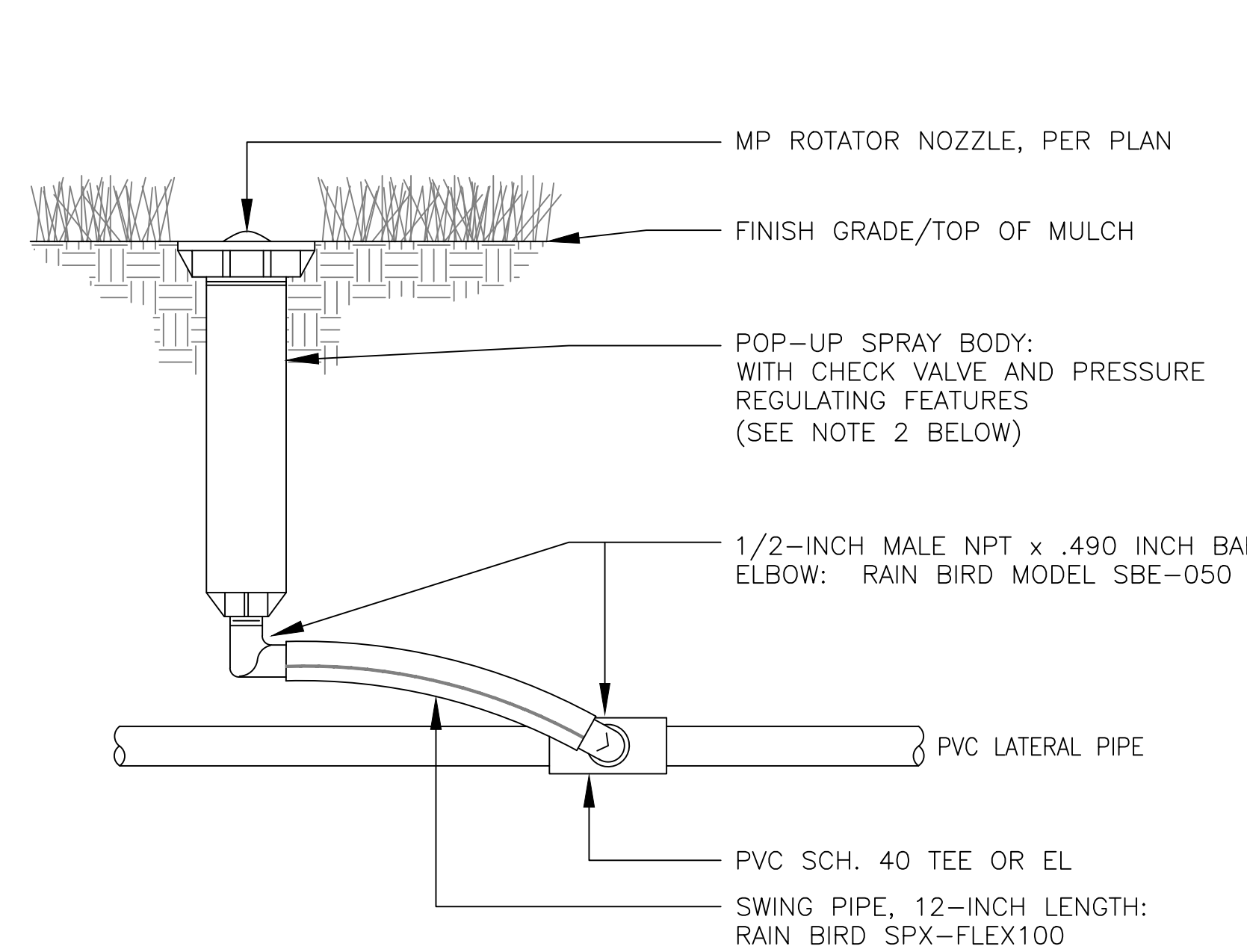
6 TYPICAL VALVE BOX INSTALLATION



10 PVC TECHLINE CONNECTION

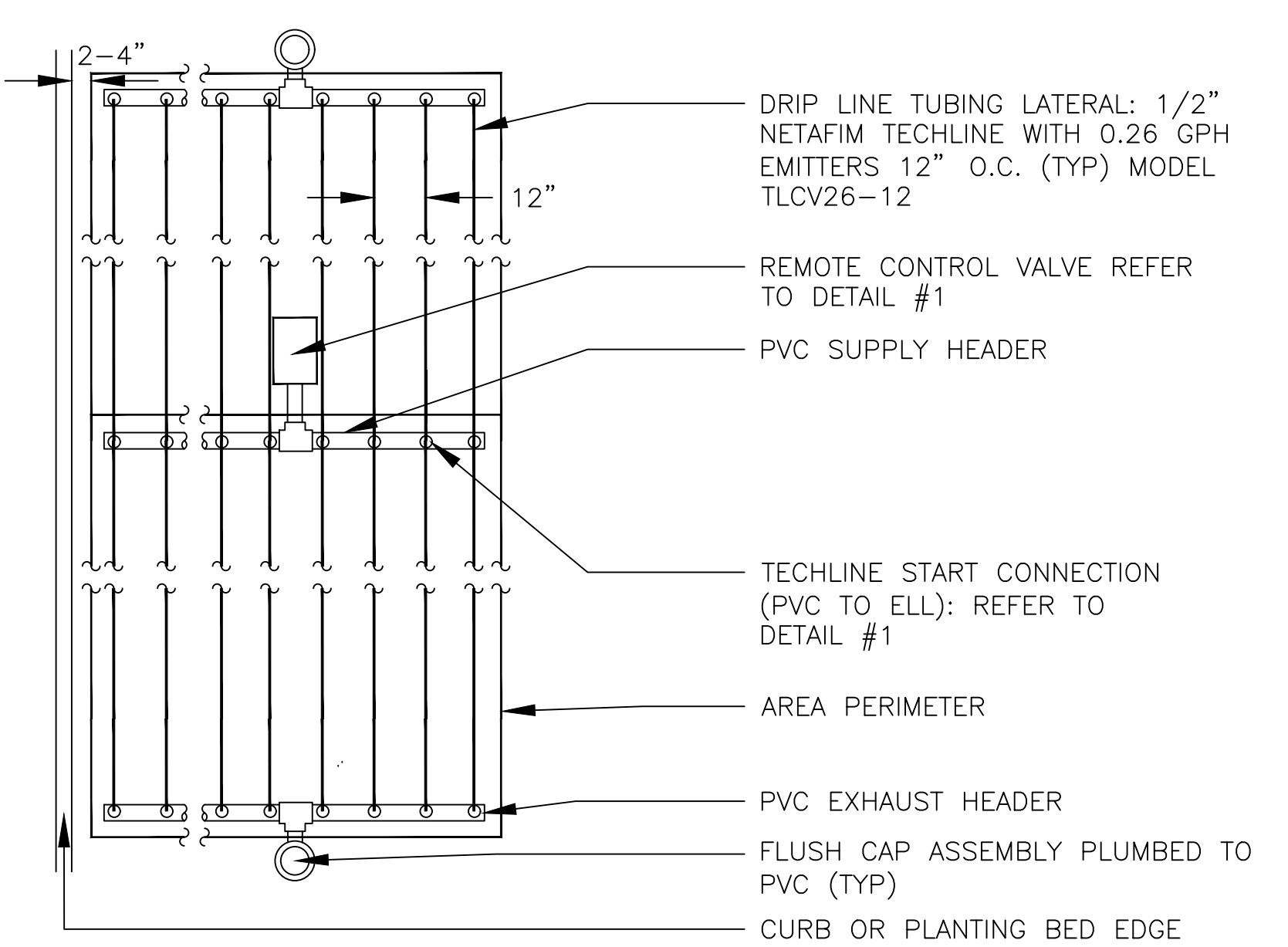


3 FLOW SENSOR ASSEMBLY



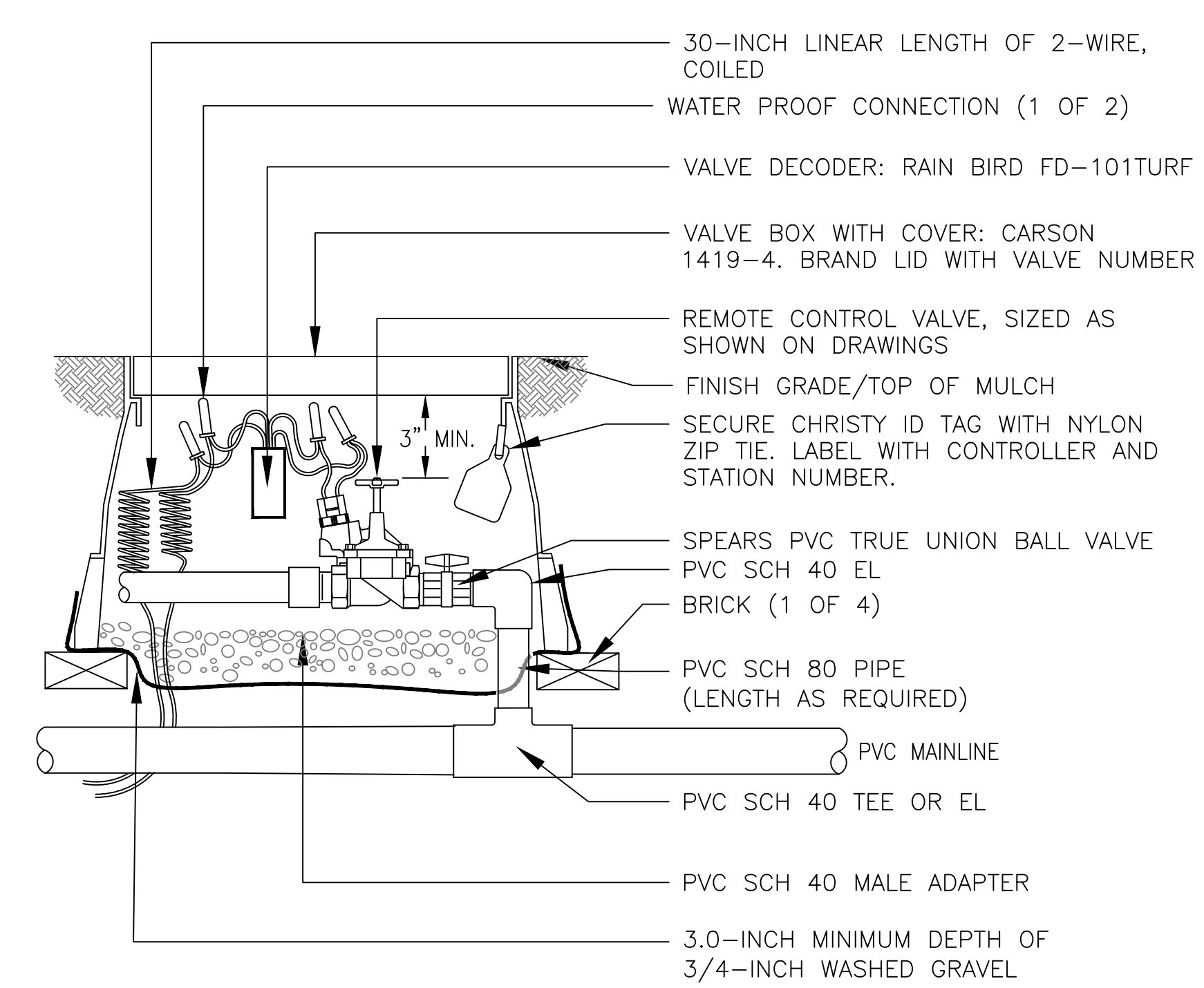
NOTES:
1. IF POLYETHYLENE PIPE IS USED FOR LATERAL PIPE, SUBSTITUTE INSERT TEE OR EL WITH STAINLESS STEEL CLAMPS FOR PVC SLIP TEE OR EL SHOWN ABOVE.
2. TO ACHIEVE MINIMUM RADIUS WITH ANY MP ROTATOR MODEL, USE 30 PSI PRESSURE REGULATING SPRAY BODY.

7 6-INCH POP UP MP-ROTATOR ASSEMBLY

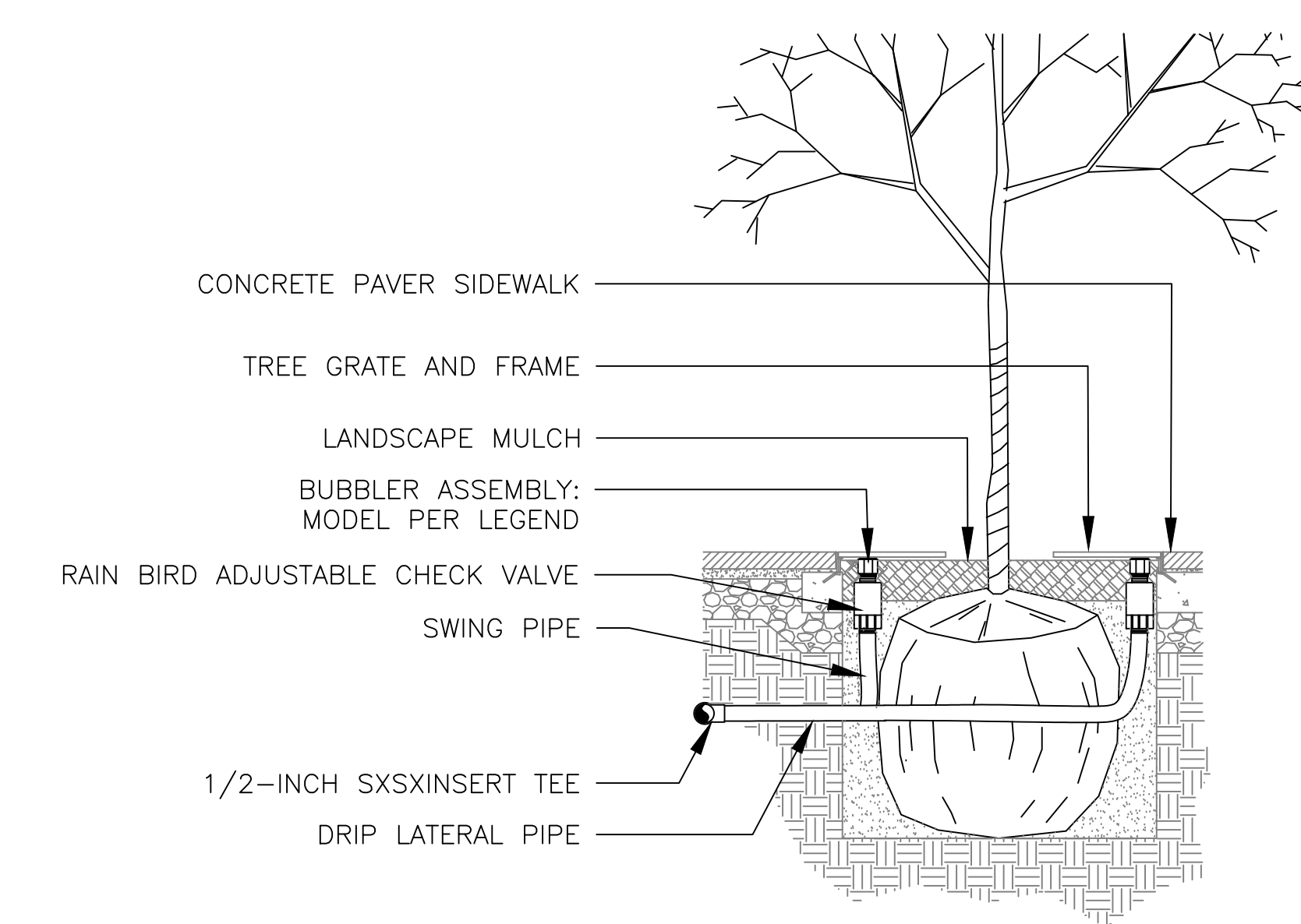


NOTES:
1. INSTALL SYSTEM PER MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS FOR EQUIPMENT APPLICATION AND INSTALLATION.
2. MAXIMUM FLOW FOR 1-INCH REMOTE CONTROL VALVE ASSEMBLY IS 10 GPM.
3. INSTALL AT A DEPTH OF 4"-6" IN UNIFORM SOIL.

11 SUBSURFACE DRIP ASSEMBLY IN SHRUB BEDS

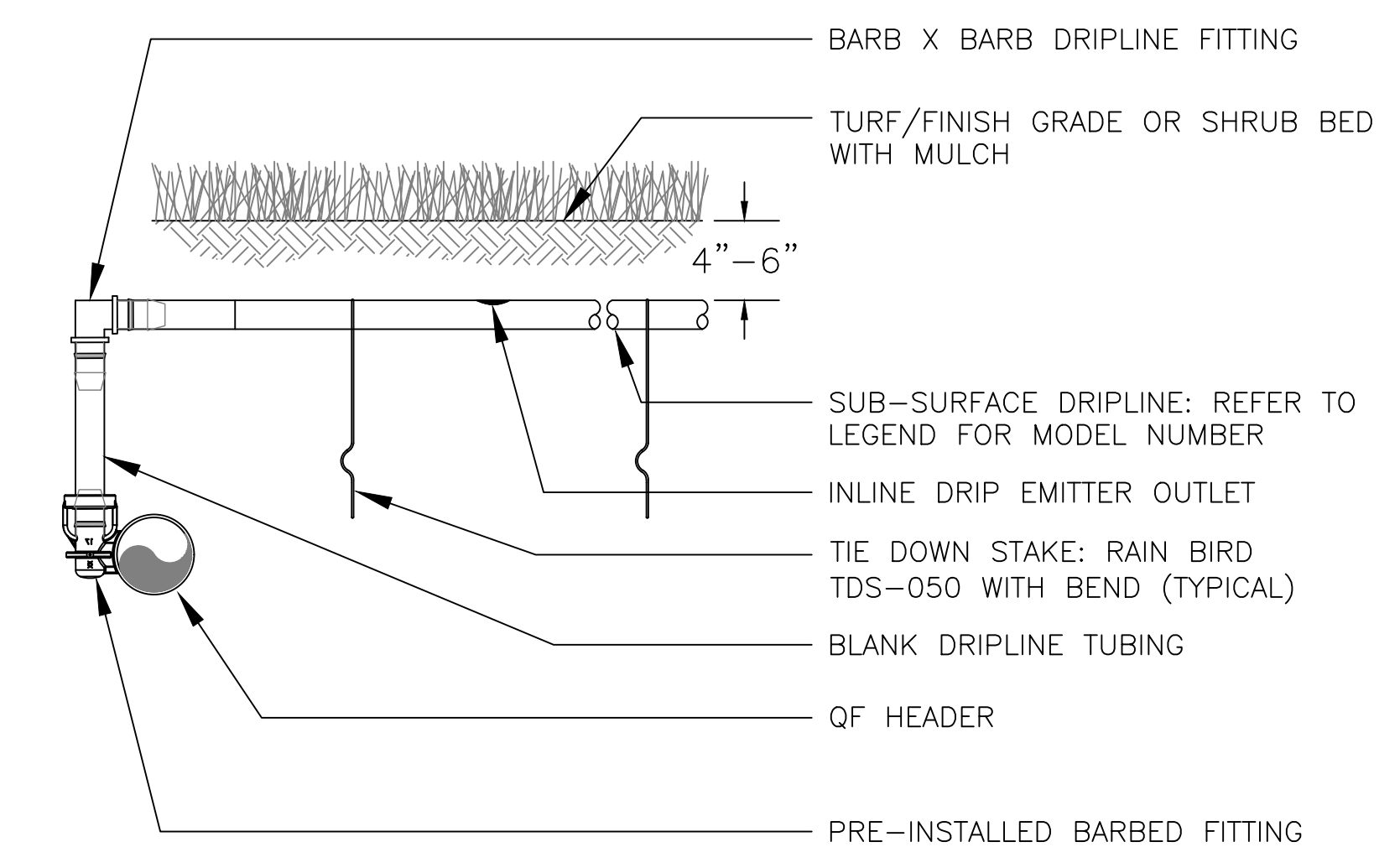


4 REMOTE CONTROL TURF VALVE ASSEMBLY



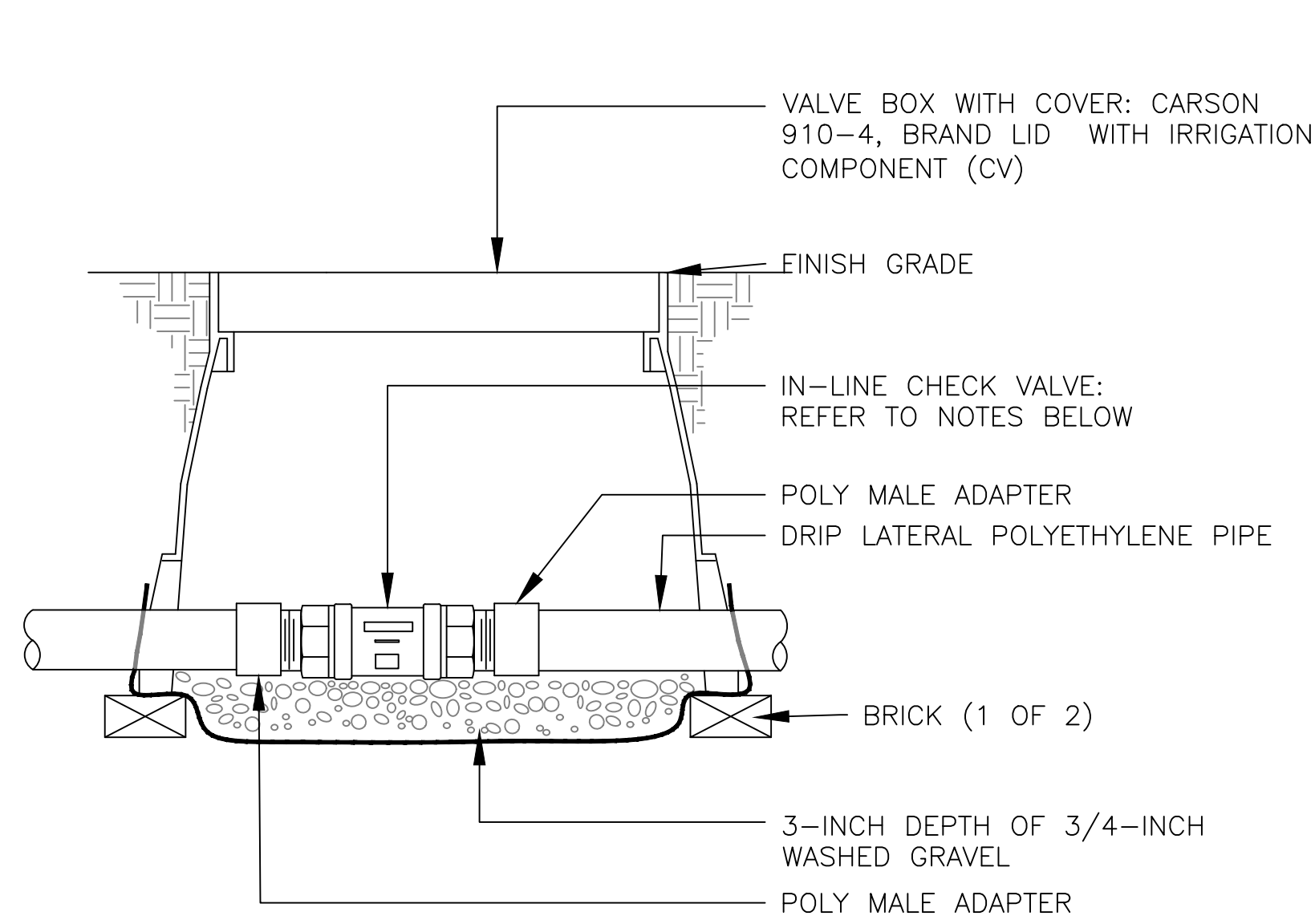
NOTES:
1. REFER TO LANDSCAPE PLANS FOR TREE GRATE INSTALLATION AND DETAILS.

8 BUBBLER ASSEMBLY FOR TREES IN GRATES



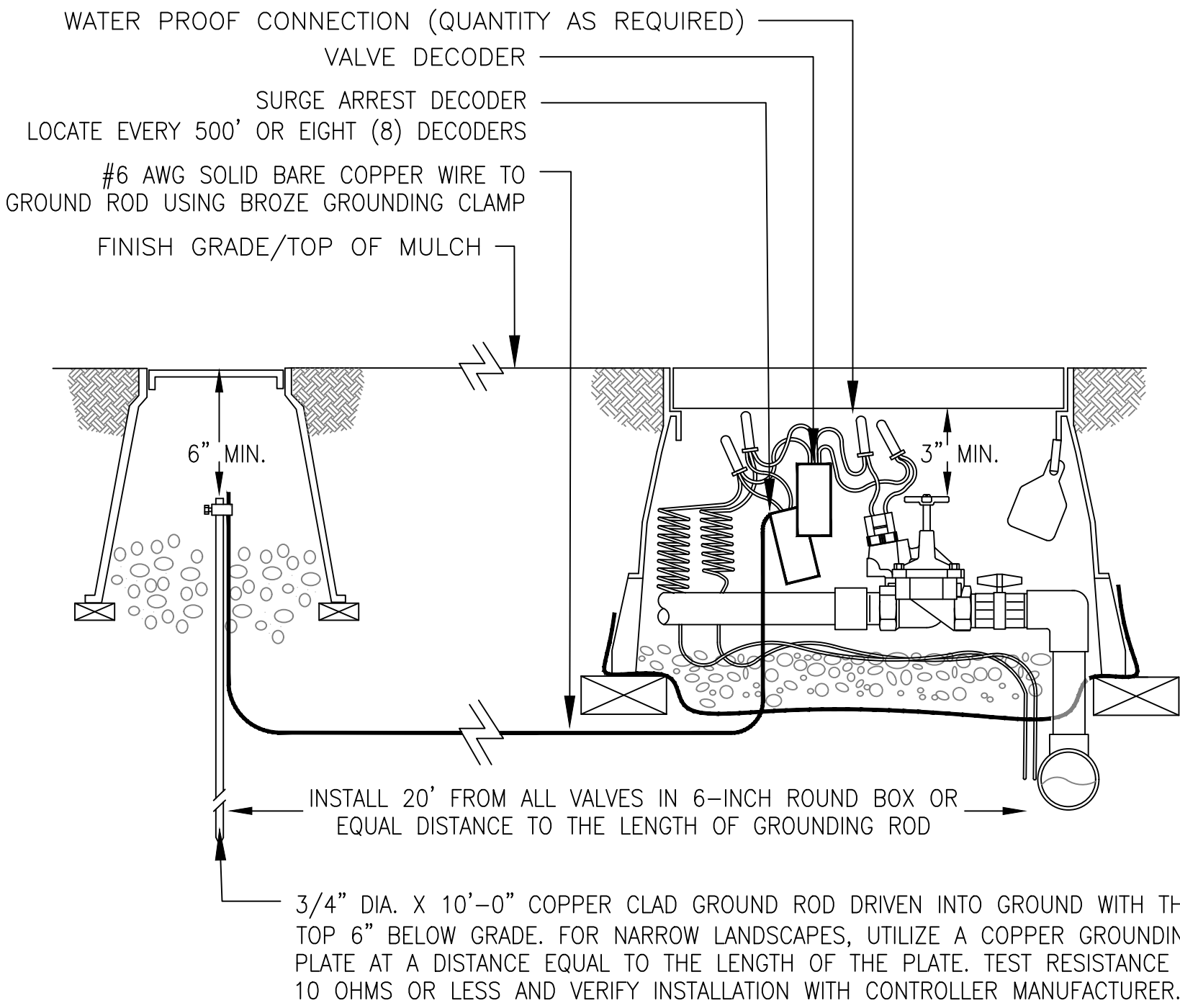
NOTES:
1. PLACE TIE-DOWN STAKES EVERY THREE FEET IN SAND, FOUR FEET IN LOAM, AND FIVE FEET IN CLAY.
2. AT FITTINGS WHERE THERE IS A CHANGE OF DIRECTION SUCH AS TEES OR ELBOWS, USE TIE-DOWN STAKES ON EACH LEG OF THE CHANGE OF DIRECTION.
3. INSERTION PLOW AND TRENCHED INSTALLATIONS DO NOT REQUIRE TIE-DOWN STAKES.

12 QF DRIPLINE HEADER ASSEMBLY

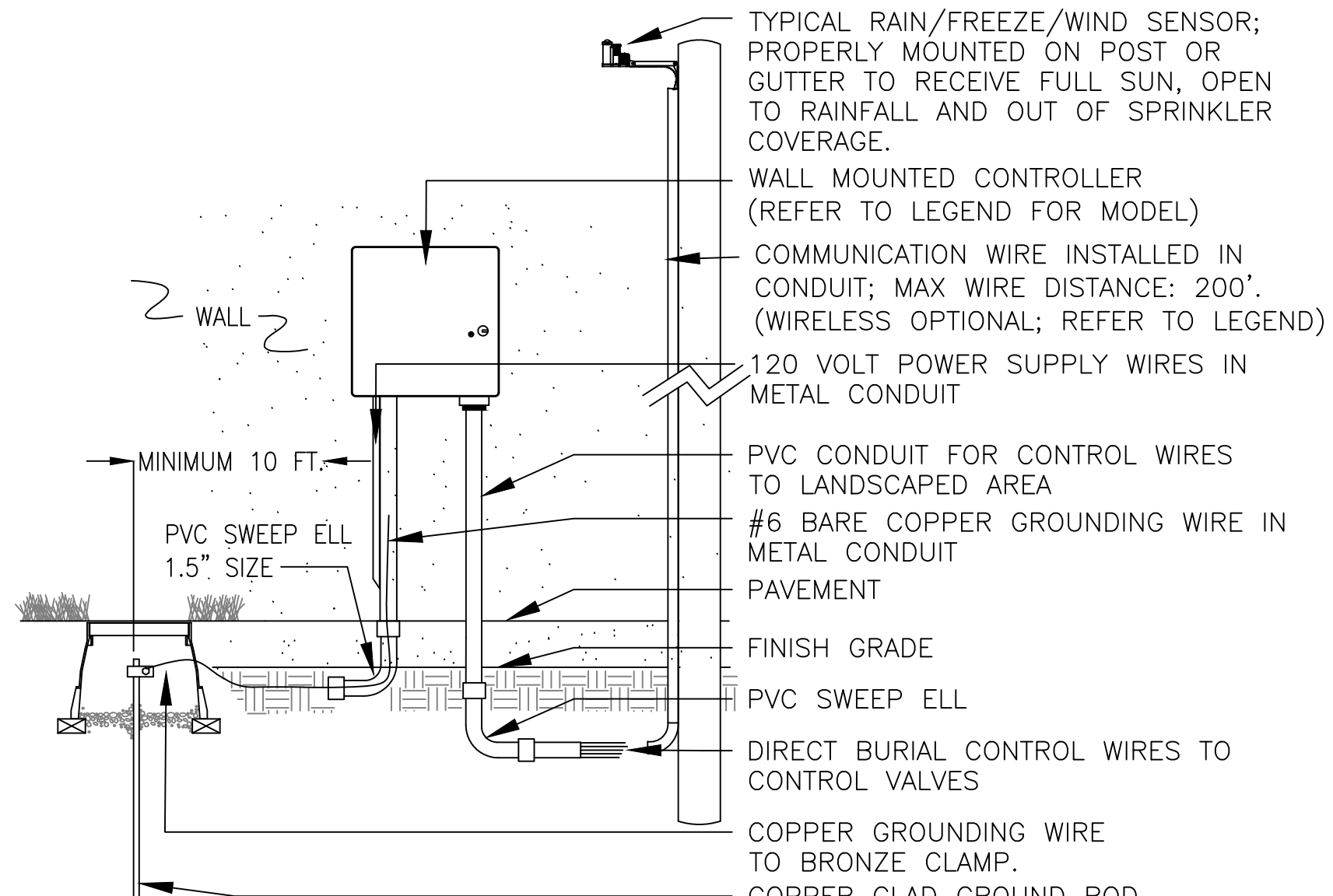


- NOTES:
1. DRIP LATERALS WITH MORE THAN 4 GPM SHALL UTILIZE THE HUNTER HCV IN-LINE CHECK VALVE.
 2. DRIP LATERALS WITH LESS THAN 4 GPM SHALL UTILIZE THE NETAFIM TLCV050M1-B IN-LINE CHECK VALVE.

13 IN-LINE DRIP CHECK VALVE ASSEMBLY

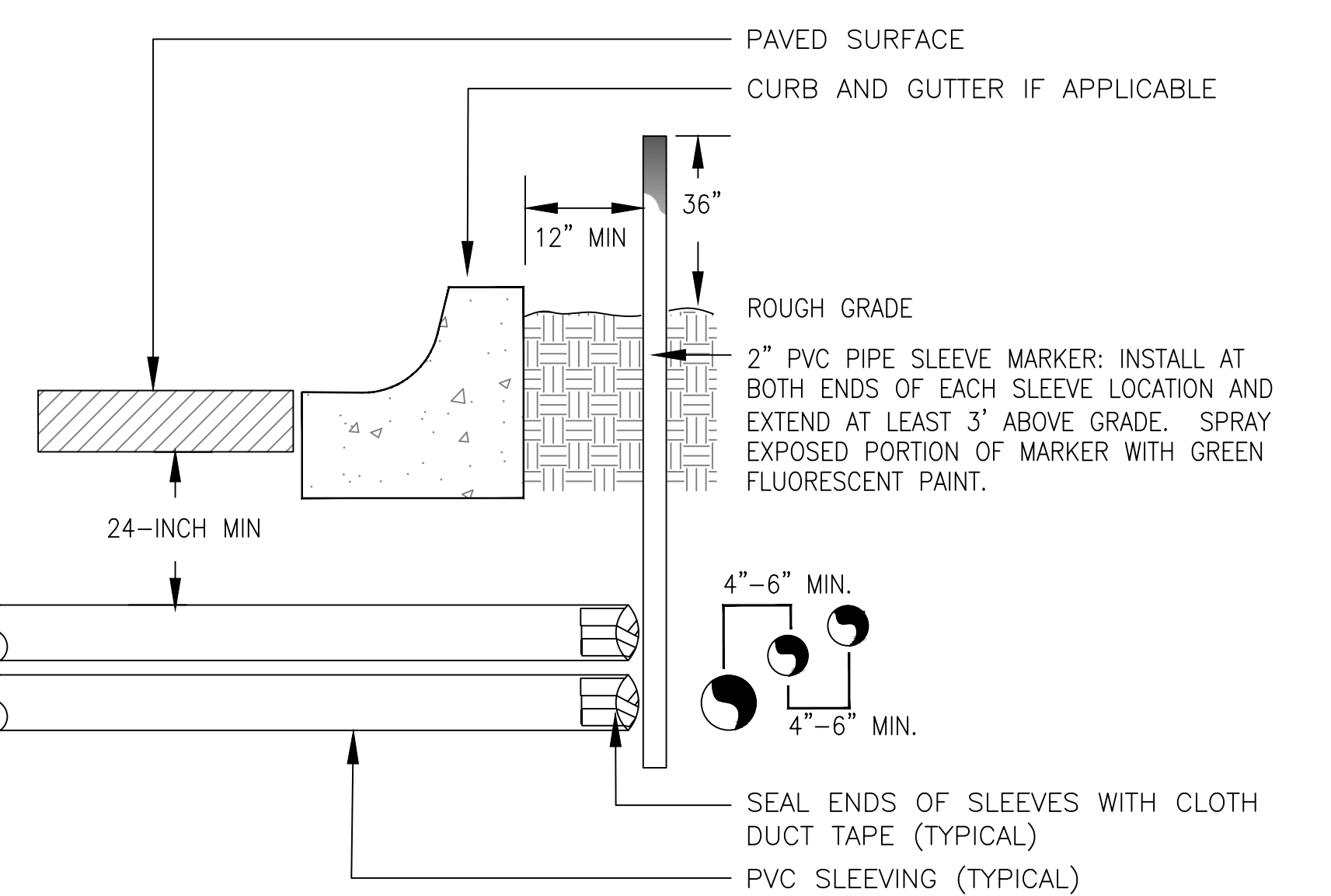


16 TYPICAL GROUNDING (AT VALVE) ASSEMBLY



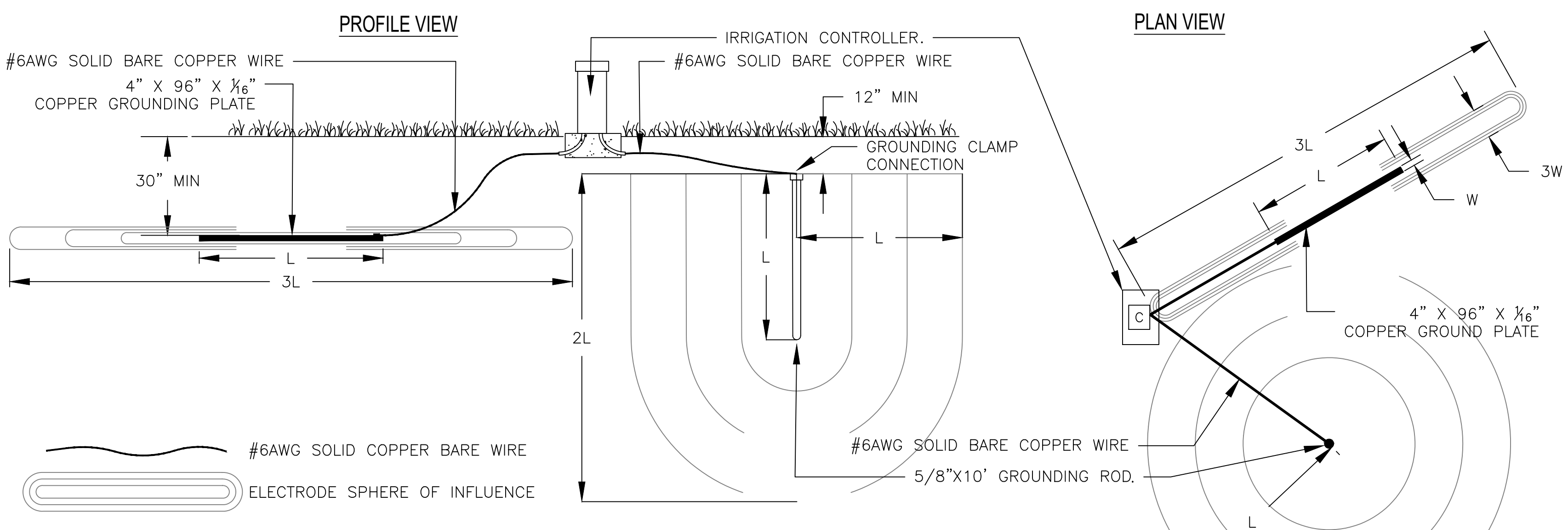
- NOTES:
1. INSTALL ALL WIRING PER LOCAL ELECTRICAL CODES.
 2. INSTALL GROUND ROD WITHIN IRRIGATED TURF AREA. IF IRRIGATED TURF AREA IS NOT IN CLOSE PROXIMITY TO CONTROLLER, INSTALL ONE (1) DRIP EMITTER FROM NEAREST DRIP VALVE IN VALVE BOX HOUSING GROUNDING ROD.

14 WALL MOUNT CONTROLLER ASSEMBLY



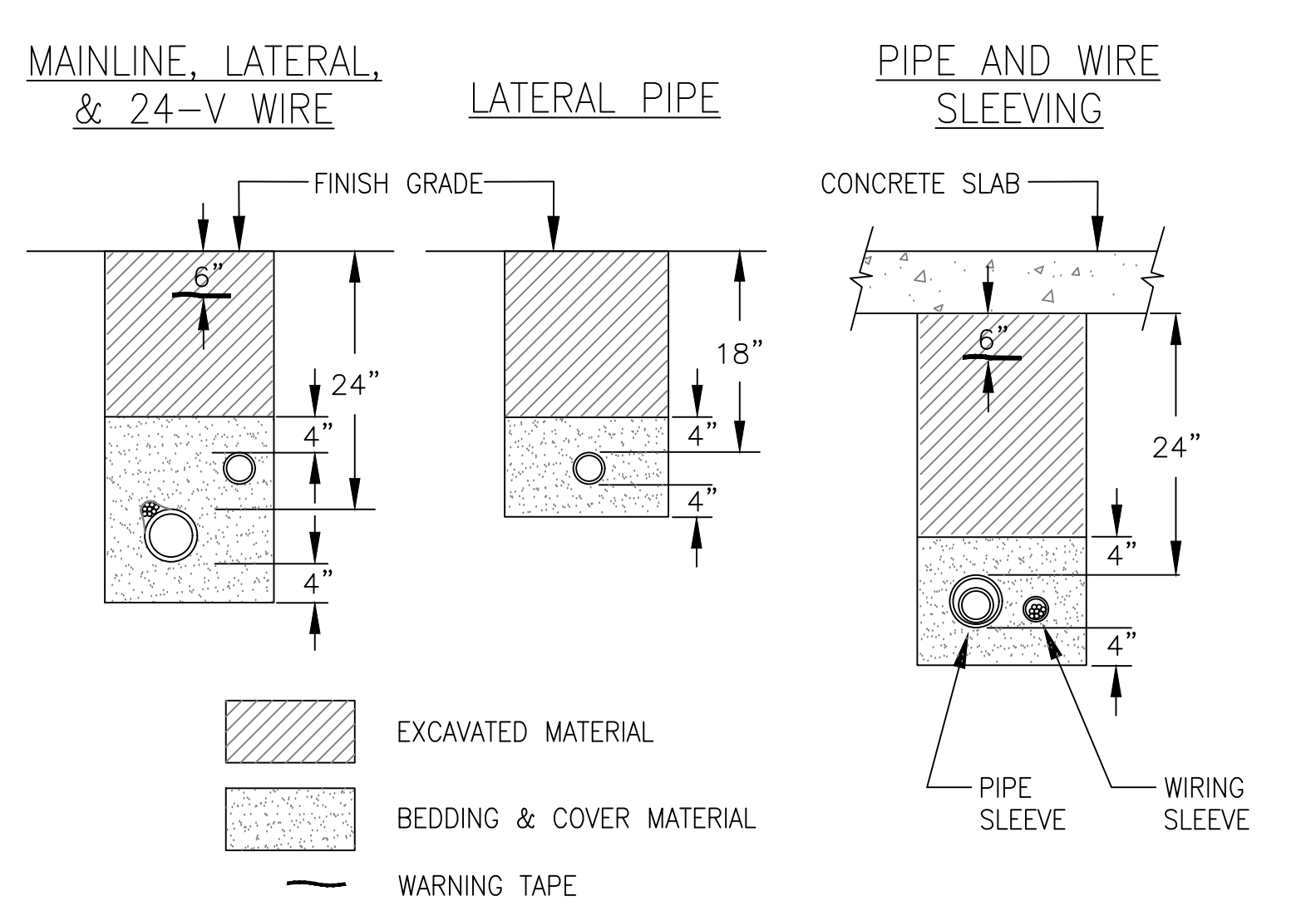
- NOTE:
- 1) ALL SLEEVING TO BE CLASS 200 BE PVC, SIZED AS NOTED.
 - 2) INSTALL SLEEVES IN SIDE-BY-SIDE CONFIGURATION WHERE MULTIPLE SLEEVES ARE TO BE INSTALLED. SPACE SLEEVES 4" TO 6" APART. DO NOT STACK SLEEVES VERTICALLY.

17 TYPICAL SLEEVING DETAIL



- NOTES:
1. INSTALL GROUNDING ROD OR PLATE BASED ON SITE CONDITIONS, DO NOT INSTALL BOTH.
 2. DO NOT INSTALL ANY OTHER WIRE OR CABLES INSIDE THE SPHERE OF INFLUENCE.
 3. INSTALL GROUNDING PLATE AT A MINIMUM OF 30-INCHES BELOW GRADE OR BELOW FROST-LINE, WHICHEVER IS DEEPER.
 4. TYPICAL INSTALLATION SHOWN FOR AN IRRIGATION CONTROLLER CAPACITY OF 64 STATIONS OR LESS, INSTALL AN ADDITIONAL GROUNDING ROD/PLATE PER 64 STATIONS.

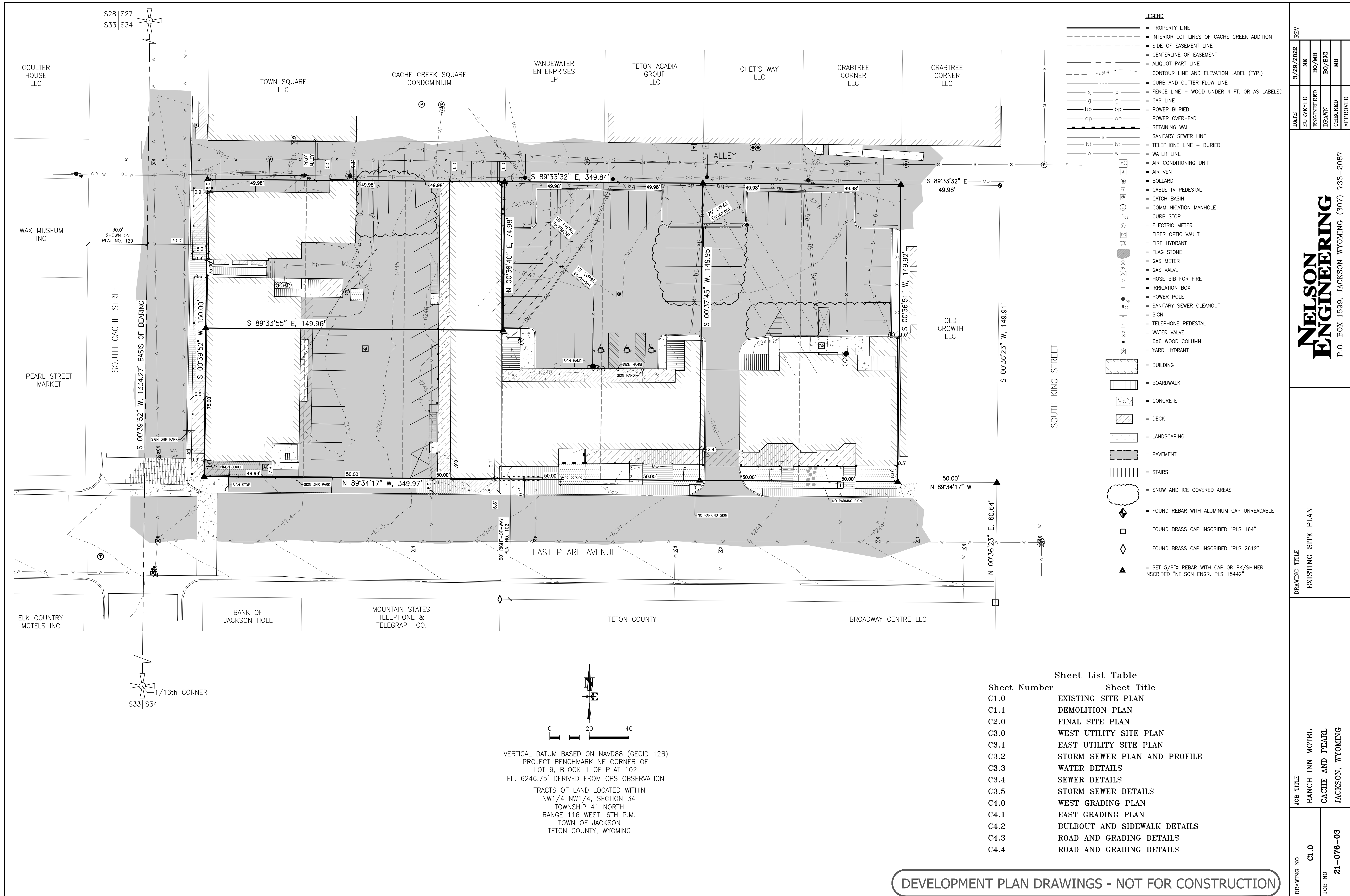
15 TYPICAL IRRIGATION CONTROLLER GROUNDING ROD OR PLATE INSTALLATION



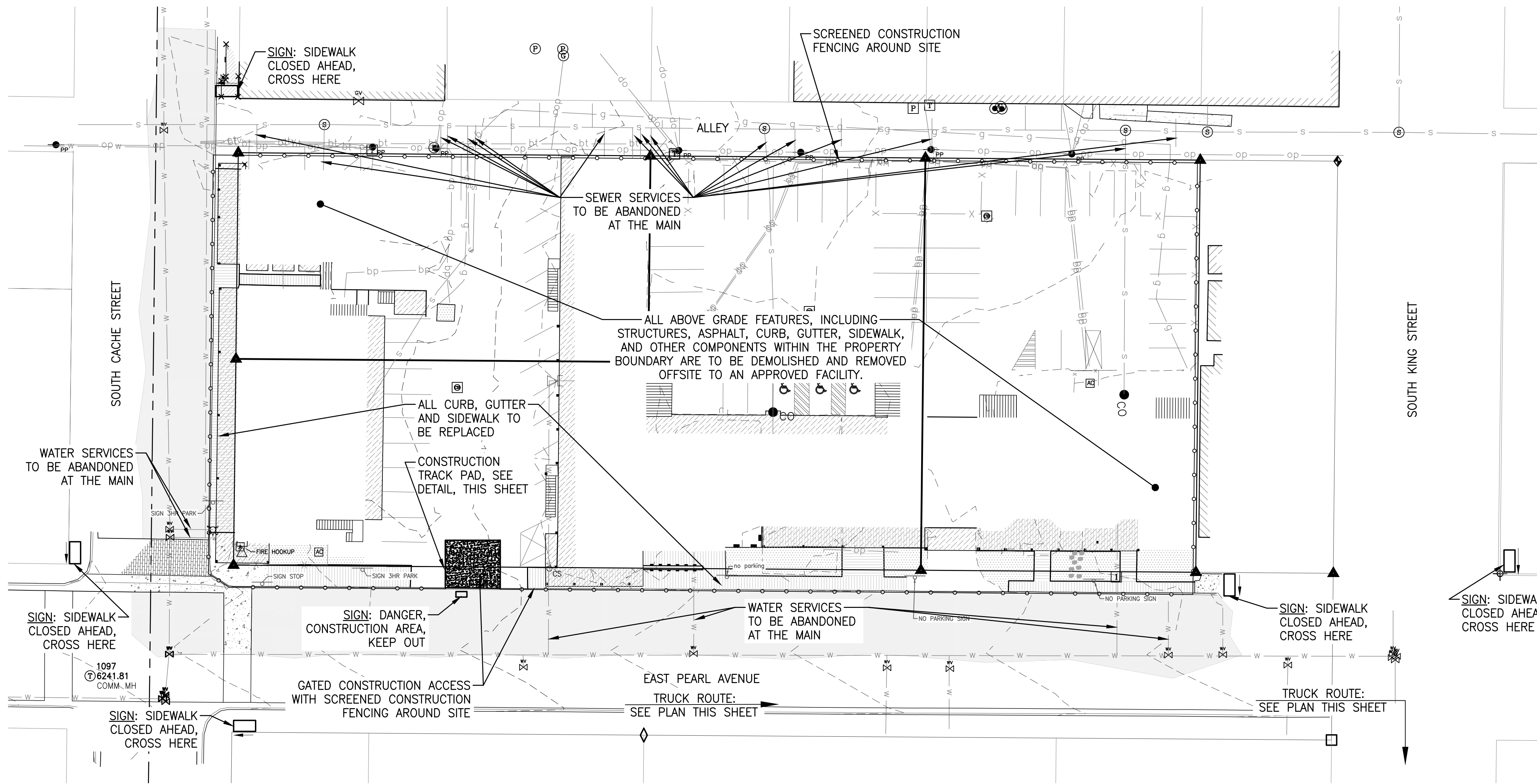
- NOTES:
1. SLEEVE ALL PIPE AND WIRE SEPARATELY.
 2. ALL PIPE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS."SNAKE" UNSLEEVED PLASTIC PIPE IN TRENCH. PROVIDE A MINIMUM OF 2" CLEARANCE TO SIDE OF TRENCH AND BETWEEN PIPES.
 3. ALL 120-V WIRING SHALL BE INSTALLED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS. PROVIDE LOOSE 20" LOOP OF 2-WIRE CABLE AT ALL CHANGES OF DIRECTION OVER 30 DEGREES.

18 TYPICAL TRENCHING DETAIL

CIVIL DRAWINGS



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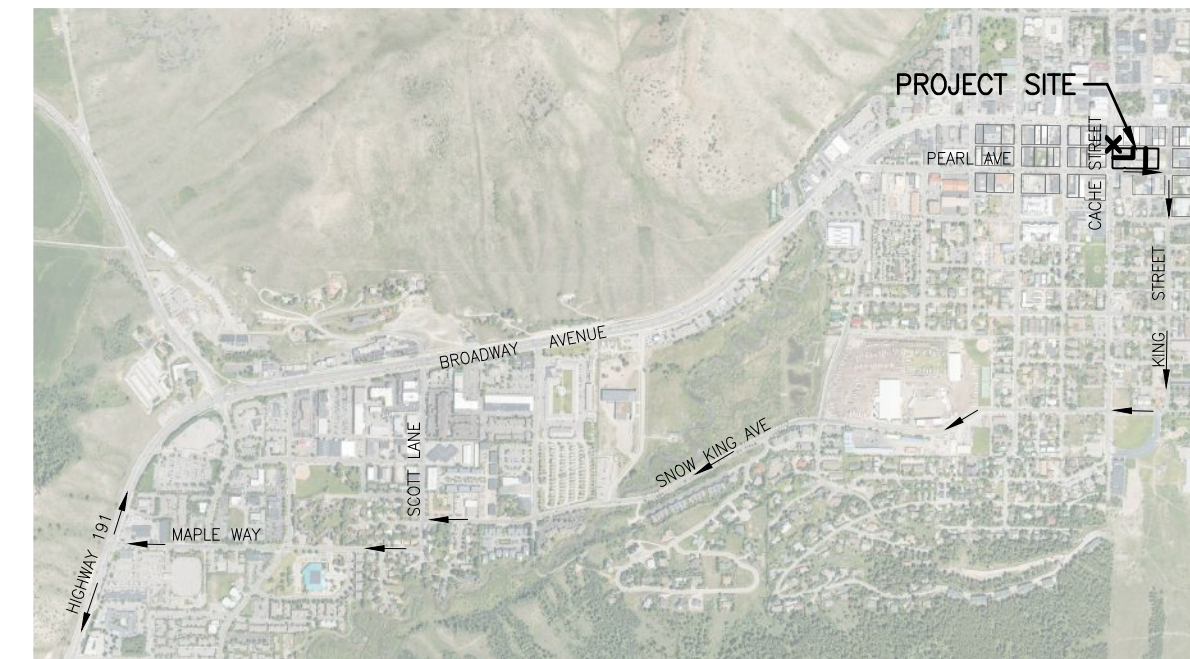


LEGEND	
	= PROPERTY LINE
	= INTERIOR LOT LINES OF CACHE CREEK ADDITION PLAT NO. 102
	= SIDE OF EASEMENT LINE
	= CENTERLINE OF EASEMENT
	= ALIQUOT PART LINE
	= CONTOUR LINE AND ELEVATION LABEL (TYP.)
	= CURB AND GUTTER FLOW LINE
	= FENCE LINE - WOOD UNDER 4 FT. OR AS LABELED
	= GAS LINE
	= POWER BURIED
	= POWER OVERHEAD
	= RETAINING WALL
	= SANITARY SEWER LINE
	= TELEPHONE LINE - BURIED
	= WATER LINE
	= AIR CONDITIONING UNIT
	= AIR VENT
	= BOLLARD
	= CABLE TV PEDESTAL
	= CATCH BASIN
	= COMMUNICATION MANHOLE
	= CURB STOP
	= ELECTRIC METER
	= FIBER OPTIC VAULT
	= FIRE HYDRANT
	= FLAG STONE
	= GAS METER
	= GAS VALVE
	= HOSE BIB FOR FIRE
	= IRRIGATION BOX
	= POWER POLE
	= SANITARY SEWER CLEANOUT
	= SIGN
	= TELEPHONE PEDESTAL
	= WATER VALVE
	= 6X6 WOOD COLUMN
	= YARD HYDRANT
	= BUILDING
	= BOARDWALK
	= CONCRETE
	= DECK
	= LANDSCAPING
	= PAVEMENT
	= STAIRS
	= SNOW AND ICE COVERED AREAS
	= FOUND REBAR WITH ALUMINUM CAP UNREADABLE
	= FOUND BRASS CAP INSCRIBED "PLS 164"
	= FOUND BRASS CAP INSCRIBED "PLS 2612"
	= SET 5/8" REBAR WITH CAP OR PK/SHINER INSCRIBED "NELSON ENGR. PLS 15442"

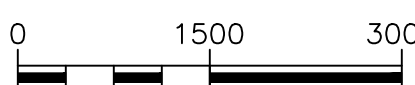
DEMOLITION PLAN

DEMOLITION NOTES

- CONSTRUCTION ACTIVITIES SHALL OCCUR 2022/2023.
- CONTRACTOR SHALL INSTALL CONSTRUCTION ACCESS TRACK PAD AT THE CONSTRUCTION ENTRANCE, SEE DETAIL 1 THIS SHEET.
- CONTRACTOR SHALL PREVENT TRACKING OF SOIL ONTO THE ROAD AND CLEAR ROAD OF ANY SOILS WHEN NECESSARY.
- ALL EXISTING UTILITY SERVICES TO BE ABANDONED AT THE MAIN. EXISTING UTILITIES WILL BE ABANDONED IN COORDINATION WITH THE UTILITY COMPANIES. EXISTING WATER AND SEWER SERVICES ARE INDICATED FROM THE TOWN OF JACKSON GIS. COORDINATION WITH TOJ PUBLIC WORKS WILL BE REQUIRED TO DETERMINE WHICH SERVICES ARE LIVE AND NEED TO BE ABANDONED PRIOR TO CONSTRUCTION.
- ASBESTOS CONTAINING MATERIALS MAY BE PRESENT. REFER TO TESTING REPORT.
- A TOJ ENCROACHMENT PERMIT WILL BE REQUIRED. PERMIT MUST BE SUBMITTED TO TOWN OF JACKSON PRIOR TO ANY WORK IN RIGHT-OF-WAY.
- TEMPORARY CONSTRUCTION FENCING TO BE SCREENED PER TOWN OF JACKSON REQUIREMENTS.
- GATED ENTRY TO REMAINED CLOSED AT ALL TIMES EXCEPT WHEN CONSTRUCTION EQUIPMENT AND/OR DEMOLITION DEBRIS IS BEING MOVED IN OR TRUCKED OUT.



TRUCK ROUTE/ VICINITY PLAN



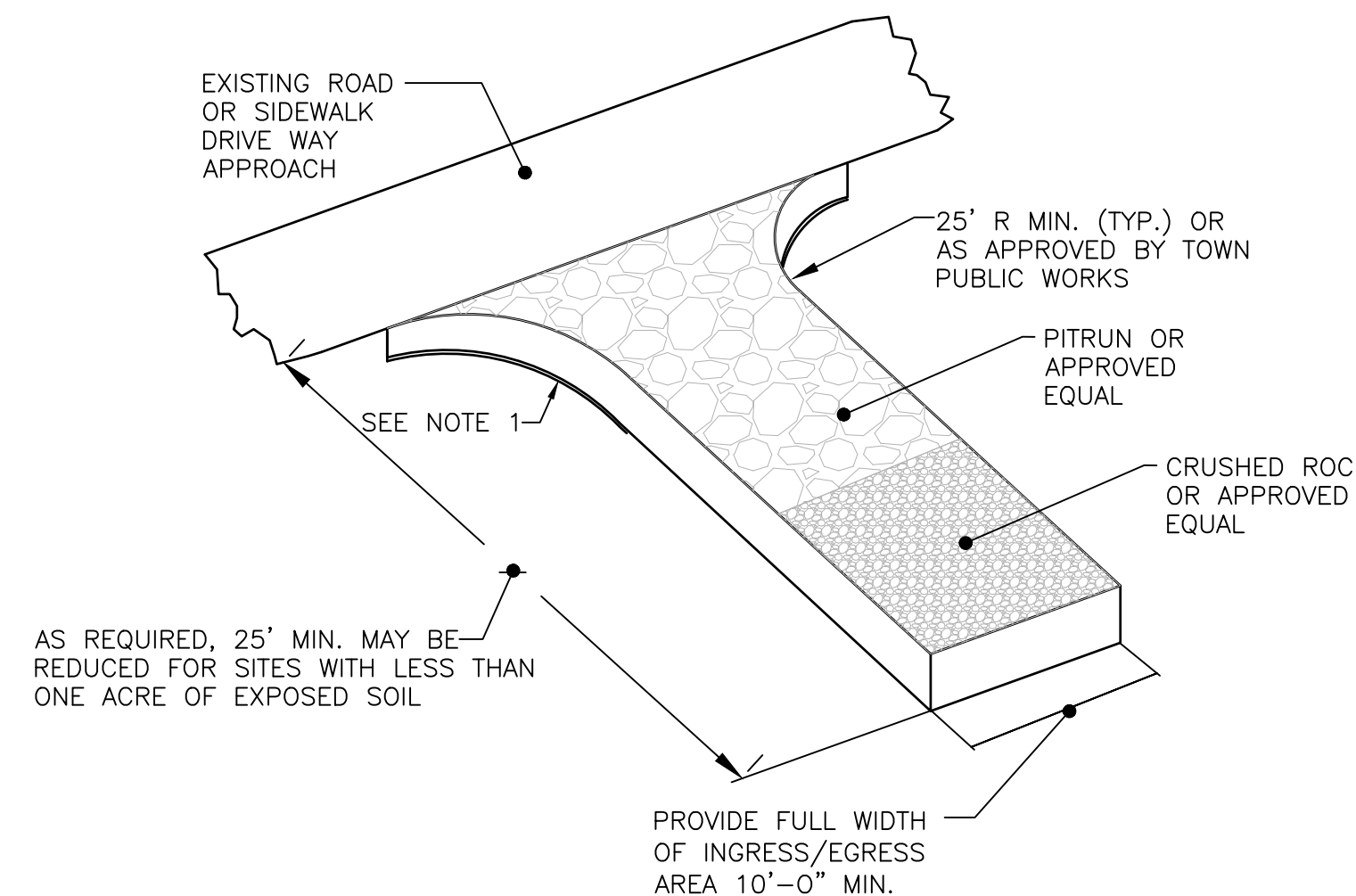
TRUCK ROUTE:
LEAVE SITE TO EAST ON PEARL AVENUE
TURN SOUTH ON TO SOUTH KING STREET
TURN WEST ON SNOW KING AVENUE
TURN SOUTH ON SCOTT LANE TO MAPLE WAY
TO ACCESS HIGHWAY 191 SOUTH OF TOWN



DANGER SIGN
(1 REQUIRED)



SIDEWALK
CLOSED SIGN
(4 REQUIRED,
2 LEFT, 2 RIGHT)



- NOTES:
- PLACE CONSTRUCTION GEOTEXTILE FOR SOIL STABILIZATION UNDER THE CRUSHED ROCK FROM THE EDGE OF THE EXISTING ROADWAY TO THE RADIUS RETURNS, OR AS DIRECTED BY PUBLIC WORKS.
 - ENTRANCE SHALL BE REMOVED AND RECONSTRUCTED AS REQUIRED TO PREVENT EXCESS TRACKING OF MATERIALS ONTO RIGHT-OF-WAY, OR WHEN DIRECTED BY THE TOWN PUBLIC WORKS DEPARTMENT.

1
C1.1

CONSTRUCTION TRACK PAD DETAIL

N.T.S.

DEVELOPMENT PLAN DRAWINGS - NOT FOR CONSTRUCTION

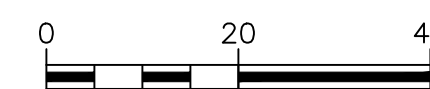
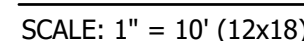
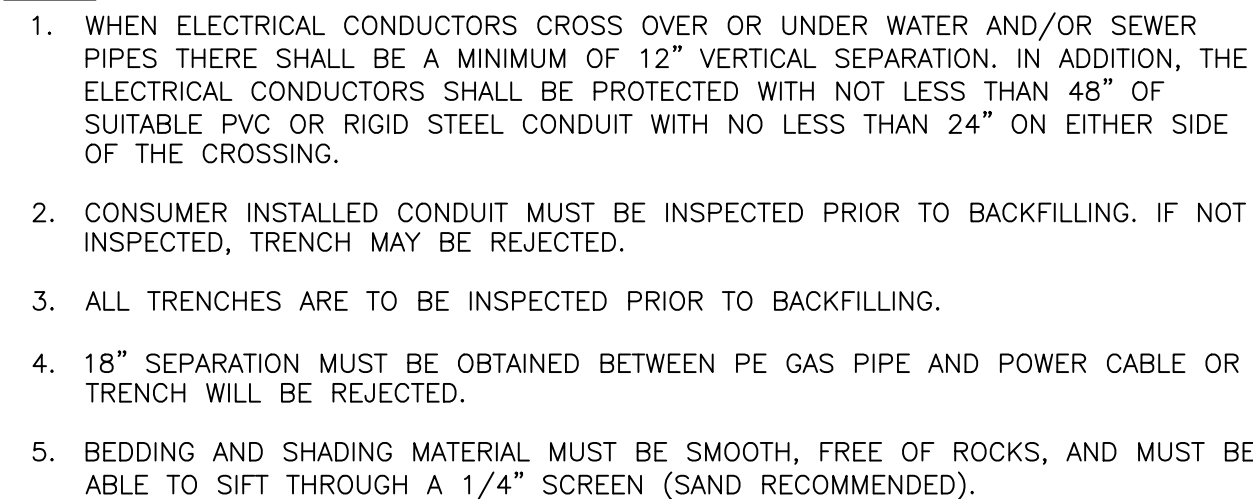
DRAWING TITLE
FINAL DEMOLITION PLAN

JOB TITLE
RANCH INN MOTEL
CACHE AND PEARL
JACKSON, WYOMING

DRAWING NO
C1.1
JOB NO
21-076-03

NELSON
ENGINEERING
P.O. BOX 1599, JACKSON WYOMING (307) 733-2087

DATE	3/29/2022	REV.
SURVEYED	NE	
ENGINEERED	BO/MB	
DRAWN	BO/BIG	
CHECKED	MB	
APPROVED		



(DEVELOPMENT PLAN DRAWINGS - NOT FOR CONSTRUCTION)

DATE	3/29/2022	REV.
SURVEYED	NE	
ENGINEERED	BO/MB	
DRAWN	BO/BJG	
CHECKED	MB	
APPROVED		

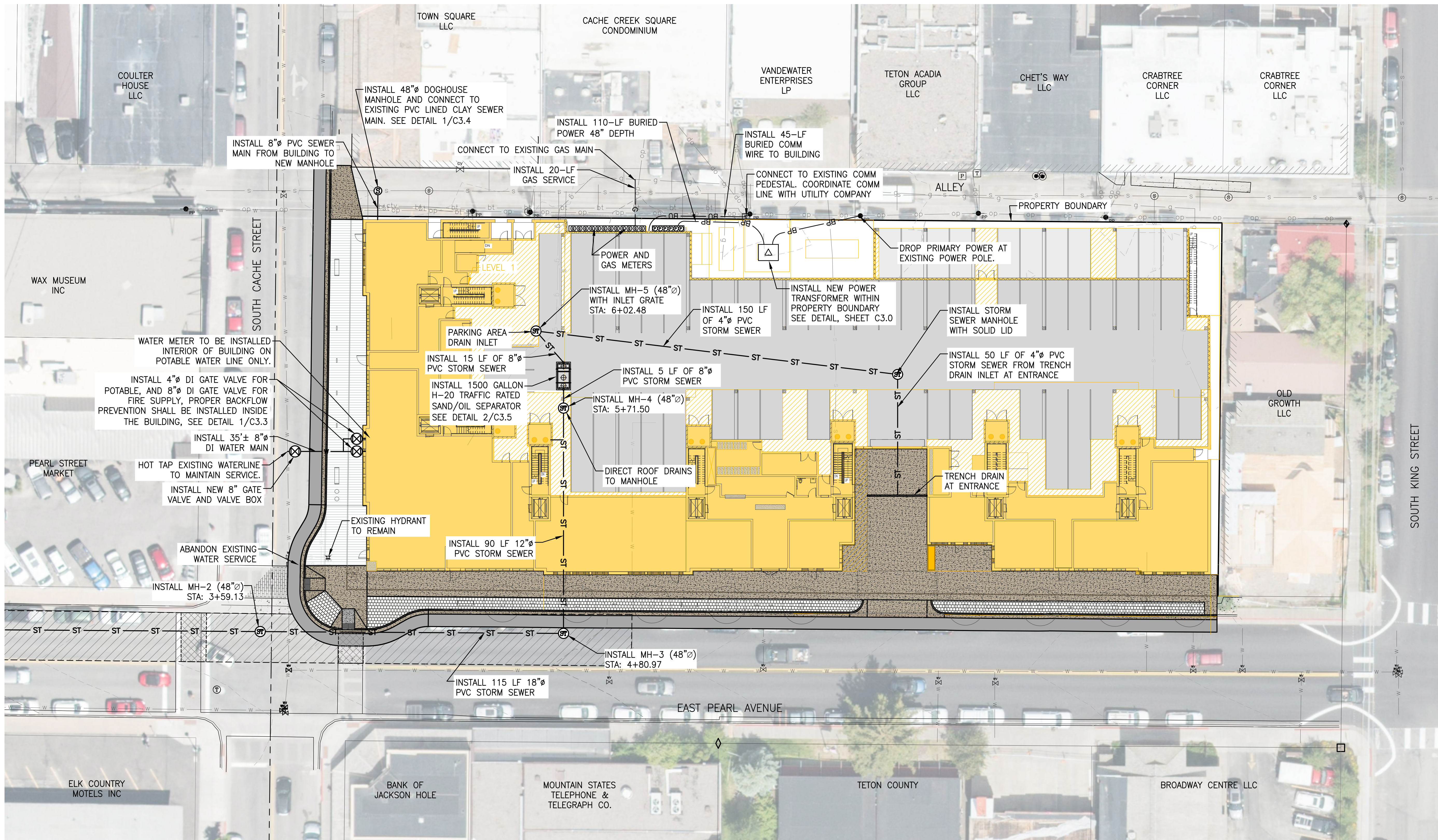
**NELSON
ENGINEERING**
P.O. BOX 1599, JACKSON WYOMING (307) 733-2087

DRAWING TITLE
WEST UTILITY SITE PLAN

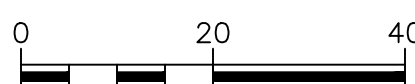
JOB TITLE
RANCH INN MOTEL
CACHE AND PEARL
JACKSON, WYOMING

DRAWING NO
C3.0
JOB NO
21-076-03

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EAST UTILITY SITE PLAN

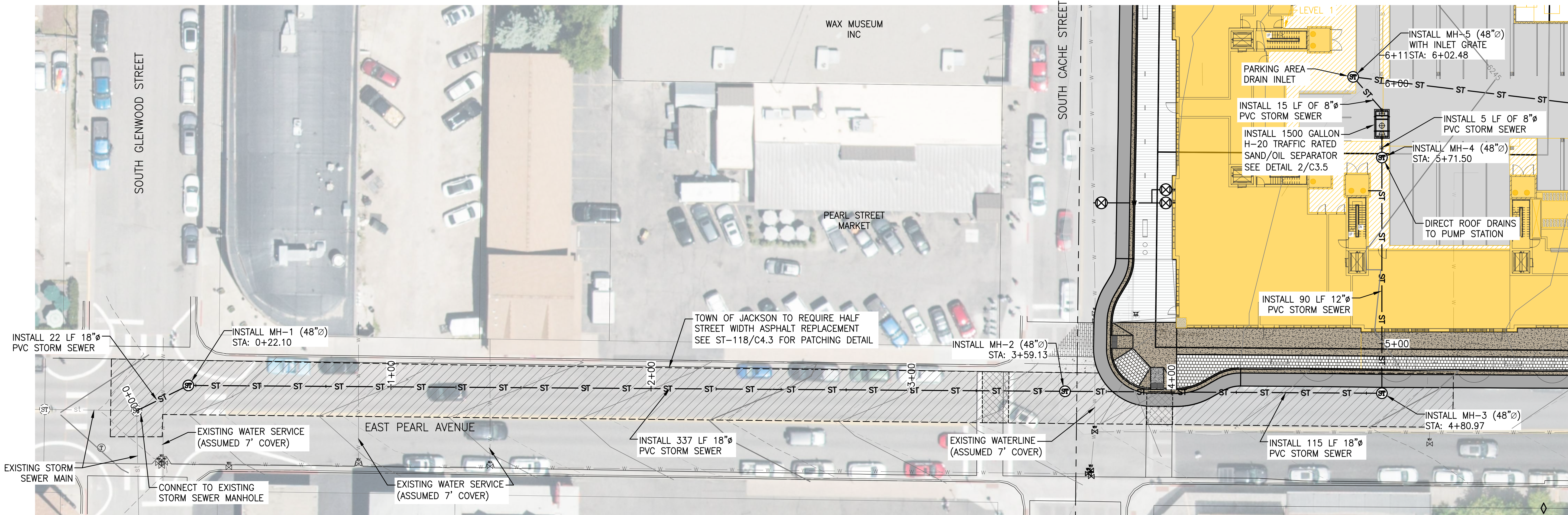
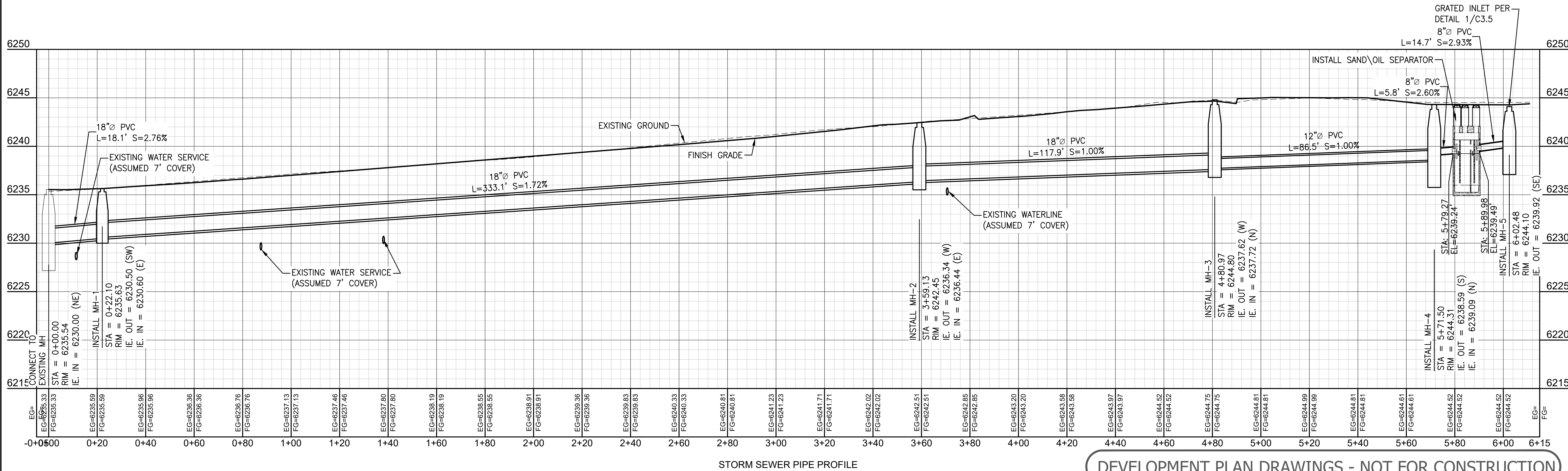


DEVELOPMENT PLAN DRAWINGS - NOT FOR CONSTRUCTION

DRAWING NO	JOB TITLE	DRAWING TITLE	REV.				
			DATE	SURVEYED	ENGINEERED	DRAWN	CHECKED
C3.1	RANCH INN MOTEL CACHE AND PEARL JACKSON, WYOMING	EAST UTILITY SITE PLAN	3/29/2022	NE	BO/MB	BO/BIG	MB
21-076-03							

**NELSON
ENGINEERING**
P.O. BOX 1599, JACKSON WYOMING (307) 733-2087

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DRAWING TITLE
STORM SEWER PLAN AND PROFILE

JOB TITLE
RANCH INN MOTEL
CACHE AND PEARL
JACKSON, WYOMING

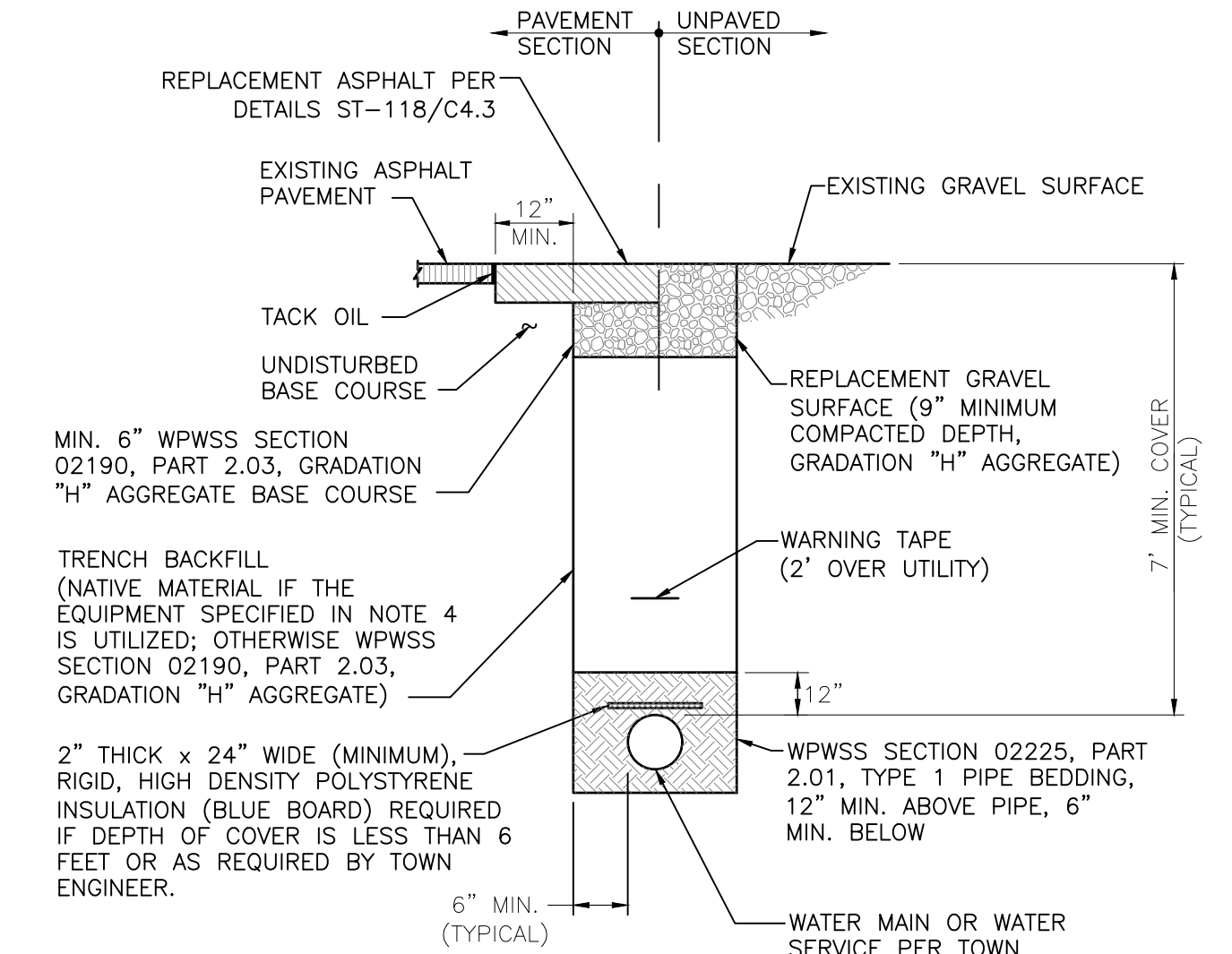
DRAWING NO
C3.2
JOB NO
21-076-03

DATE
3/29/2022
SURVEYED
NE
ENGINEERED
BO/MB
DRAWN
BO/BIG
CHECKED
MB
APPROVED

**NELSON
ENGINEERING**
P.O. BOX 1599, JACKSON WYOMING (307) 733-2087

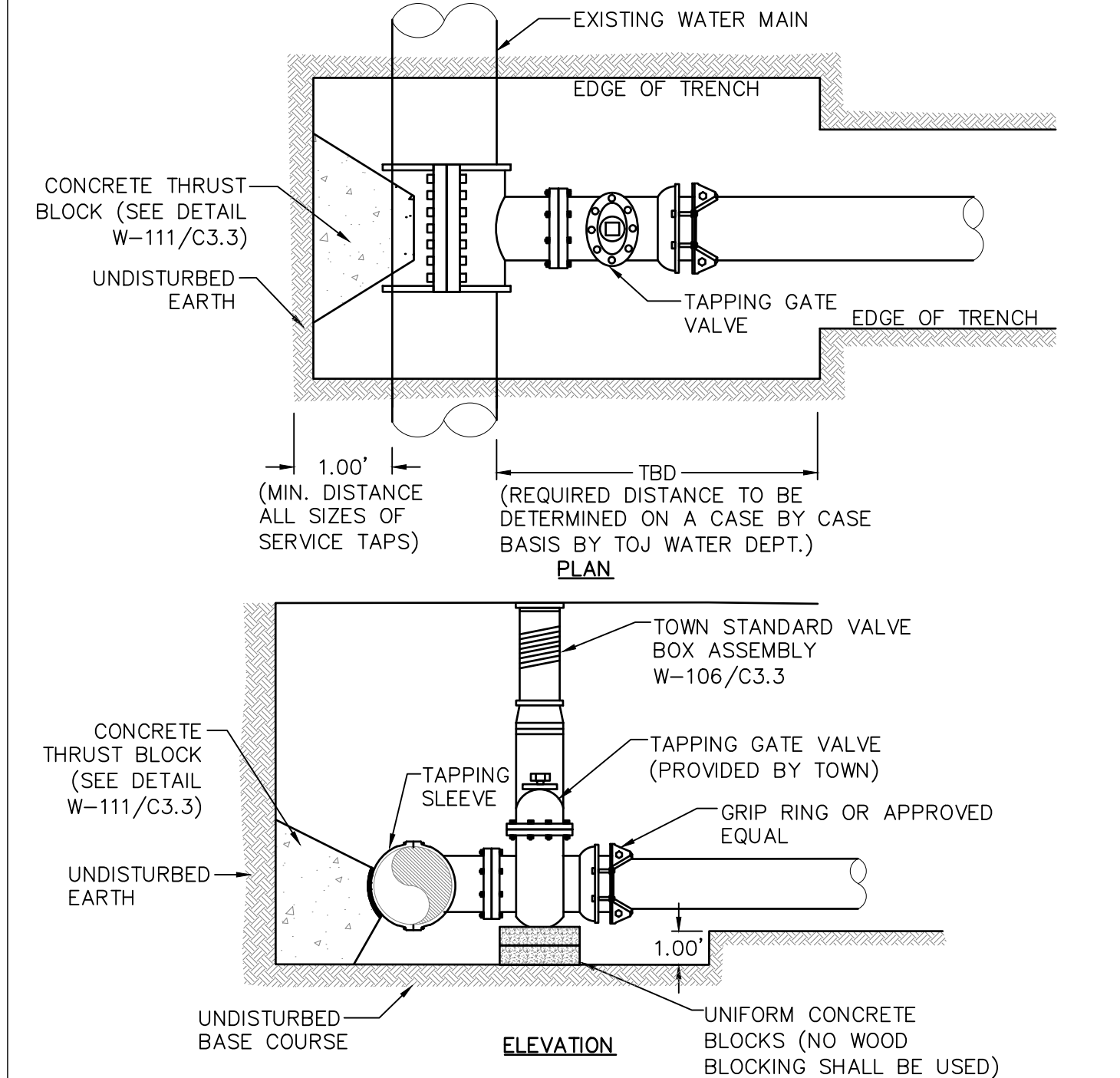
S:\Projects\2023\1016-03 RANCH INN MOTEL - CATCH AND PEARL - 21-076-03\Drawings\DETAILS-WATER-SERVICE\dwg WATER DETAILS.dwg DATE: 06/20/2023 PLOT: 06/20/2023 PLOTTER: B1, color DWG: 10/16/2023

W-100 WATER MAIN AND SERVICE LINE TRENCH
TOJ STD DETAIL
DATE: 1/16/13
SCALE: NTS



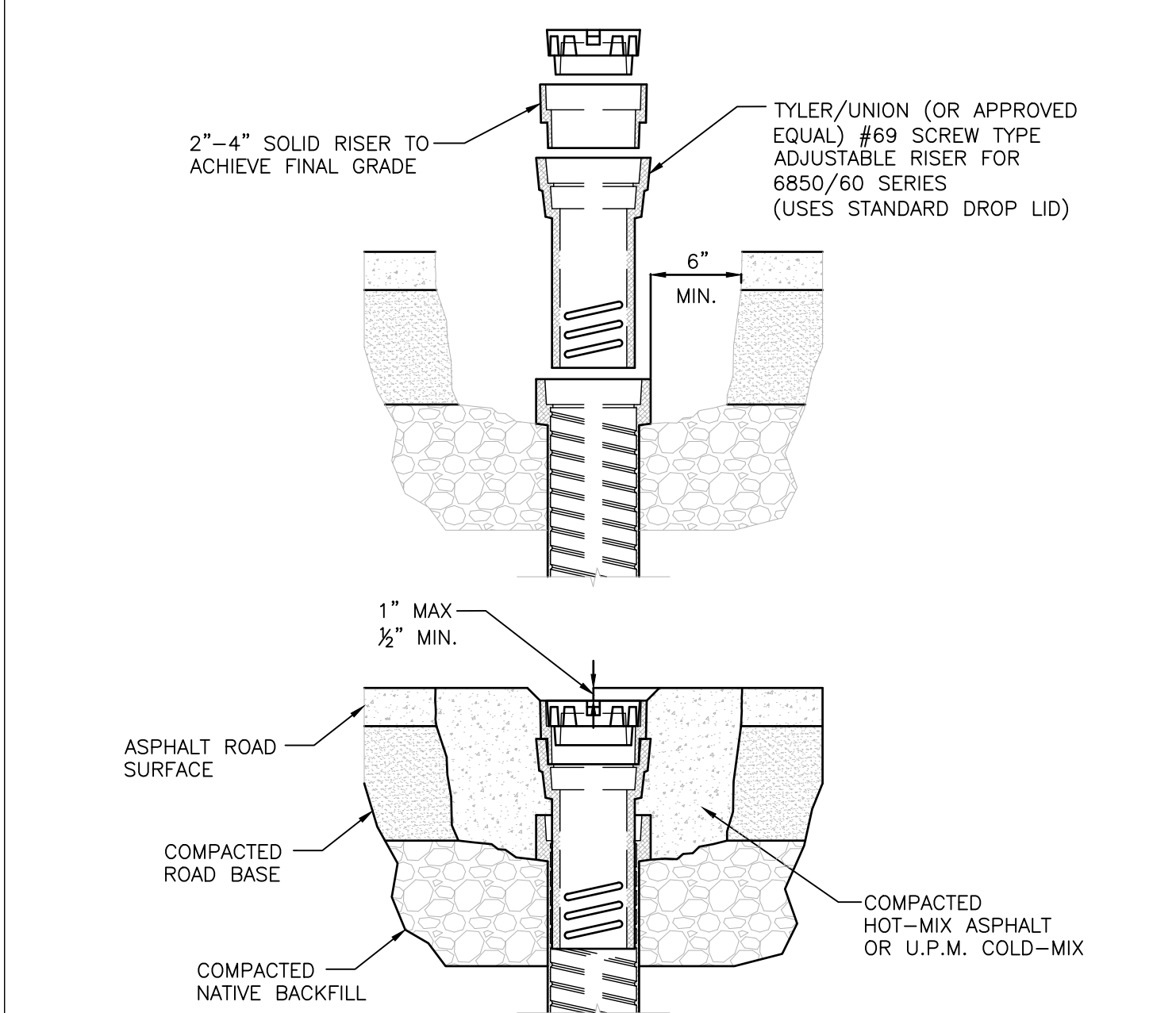
- NOTES:
- TRENCH BACKFILL BELOW THE SURFACE SHALL MEET THE FOLLOWING CRITERIA:
 - 95% MODIFIED PROCTOR DENSITY WITHIN STREET AND ALLEY RIGHTS-OF-WAY.
 - 90% MODIFIED PROCTOR DENSITY OUTSIDE STREET AND ALLEY RIGHTS-OF-WAY.
 - COMPACTION OF NATIVE TRENCH BACKFILL, WITH ALL ROCK LARGER THAN 6" REMOVED, SHALL BE CARRIED OUT IN 2' LIFTS WITH A HOE-PACK OR A VIBRATORY SHEEPS FOOT ROLLER (COMPACTION METHOD AND EQUIPMENT SHALL BE REVIEWED AND APPROVED BY TOWN ENGINEER PRIOR TO BACKFILLING).
 - PIPE BEDDING SHALL BE PLACED IN 6" LIFTS AND THOROUGHLY COMPACTED WITH A JUMPING JACK TO PROVIDE UNIFORM PIPE SUPPORT.
 - UNLESS OTHERWISE DIRECTED, ALL BASE COURSE AND GRAVEL SURFACE REPLACEMENT SHALL BE INSTALLED PER WPWSS SECTION 02231, PART 3.03.
 - ALL TRENCH EXCAVATION SHALL CONFORM TO WYOMING OCCUPATIONAL HEALTH AND SAFETY ADMINISTRATION (WYOSHA) REGULATIONS.

W-118 WATER MAIN TAPPING DETAIL
TOJ STD DETAIL
DATE: 1/17/13
SCALE: NTS



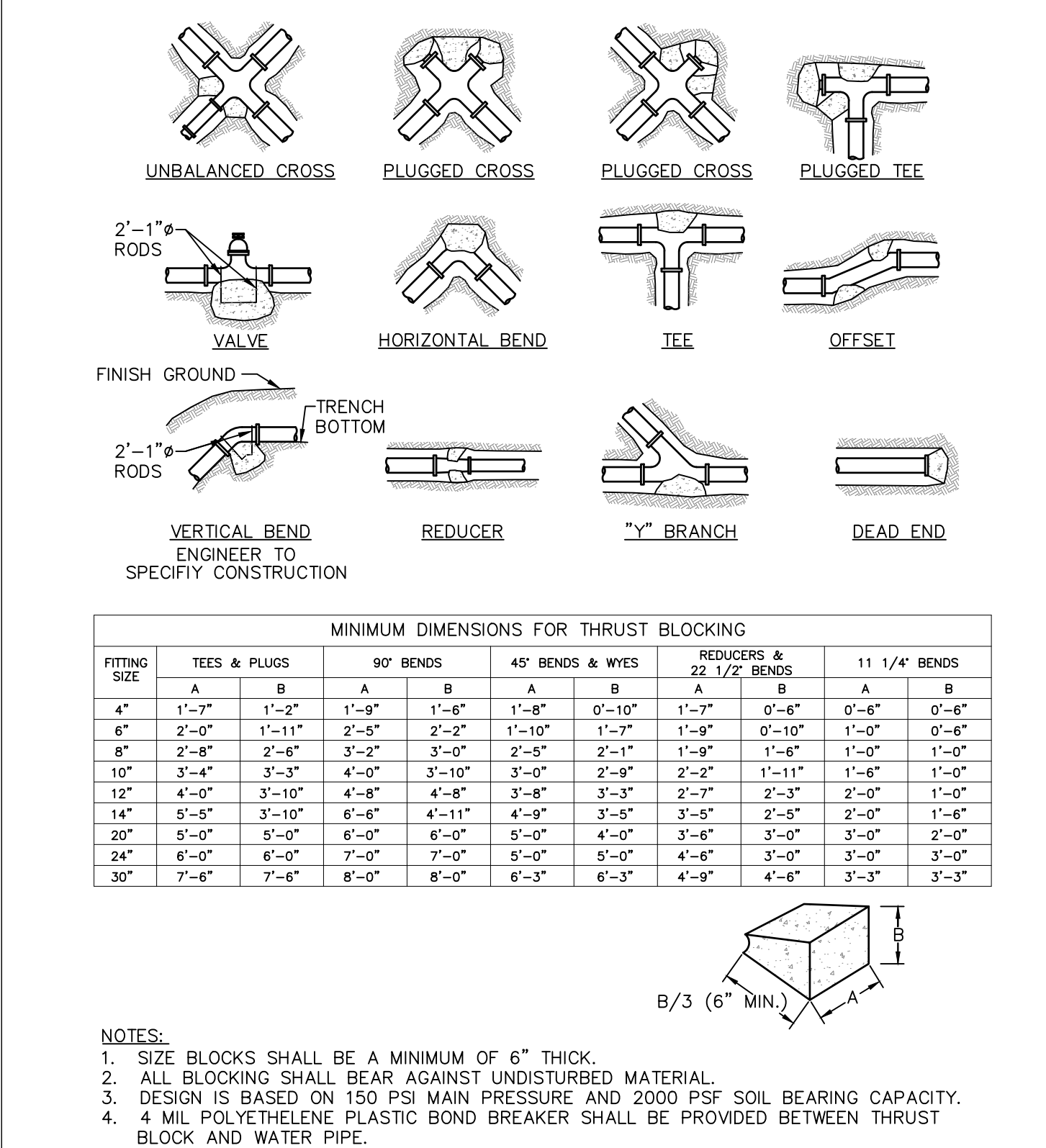
- NOTES:
- TRENCH WILL BE EXCAVATED TO MEET ALL WYOSHA STANDARDS PRIOR TO TAPPING.
 - EXCAVATION OF TAPPING LOCATION SHALL BE APPROVED BY TOJ WATER DEPARTMENT PRIOR TO TAPPING.
 - THE TOWN SHALL COMPLETE THE TAPPING OF THE MAIN. NO OTHER PERSONS SHALL COMPLETE TAP WITHOUT CONSENT OF TOWN. ALL OTHER WATER MAIN WORK SHALL BE THE RESPONSIBILITY OF THE OWNER/CONTRACTOR.

W-106 WATER VALVE COLLAR ASSEMBLY
TOJ STD DETAIL
DATE: 1/16/13
SCALE: NTS

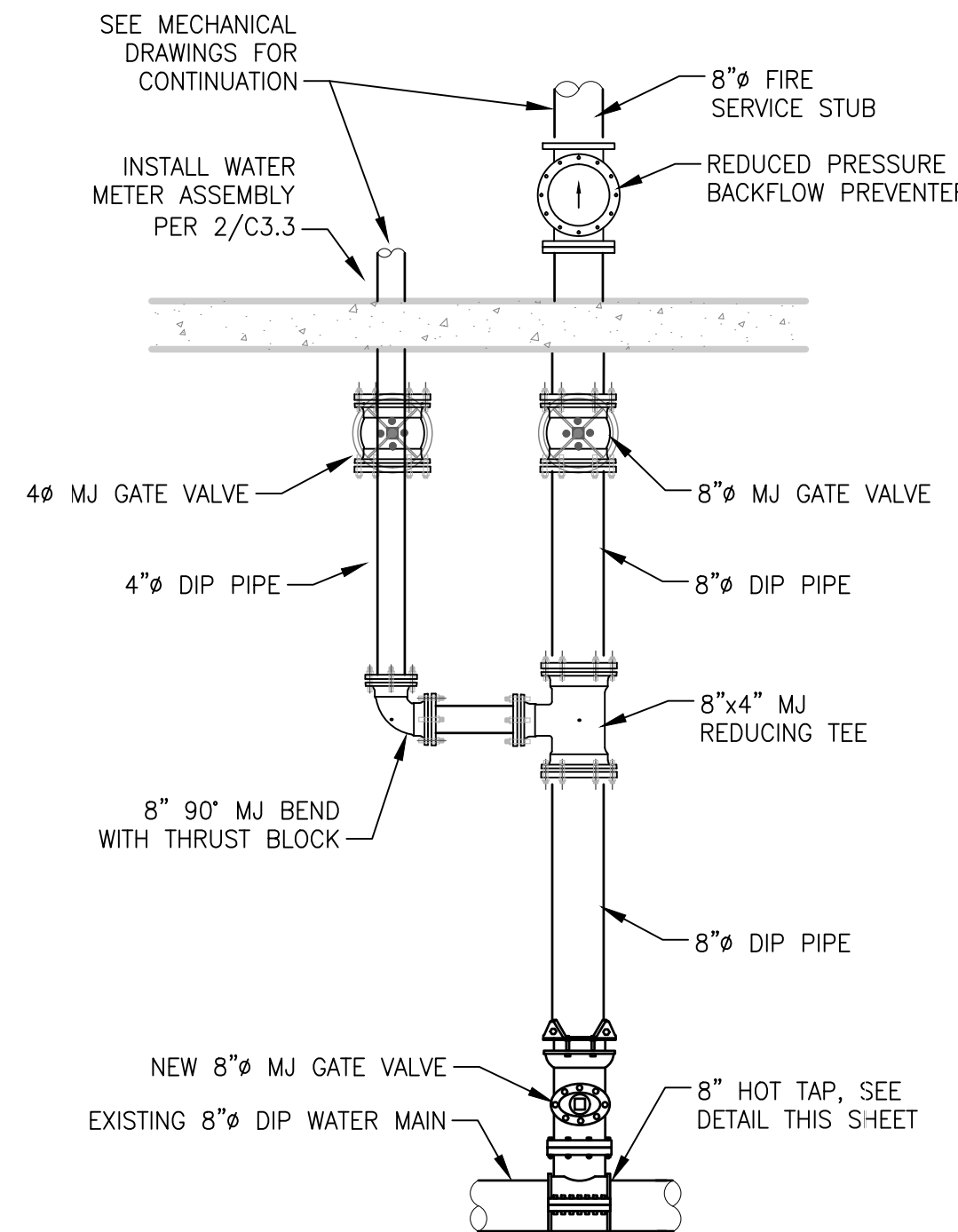


- NOTES:
- ADJUST WATER VALVES UPWARD OR DOWNWARD AS REQUIRED. FINAL ADJUSTMENT SHALL BE MADE AFTER PAVING AND BEFORE SEAL COATING.
 - THE TOWN SHALL INSPECT THE VERTICAL ALIGNMENT PRIOR TO AND POST BACKFILLING.
 - MUD PLUGS ARE REQUIRED TO BE PLACED IN ALL VALVE BOXES.

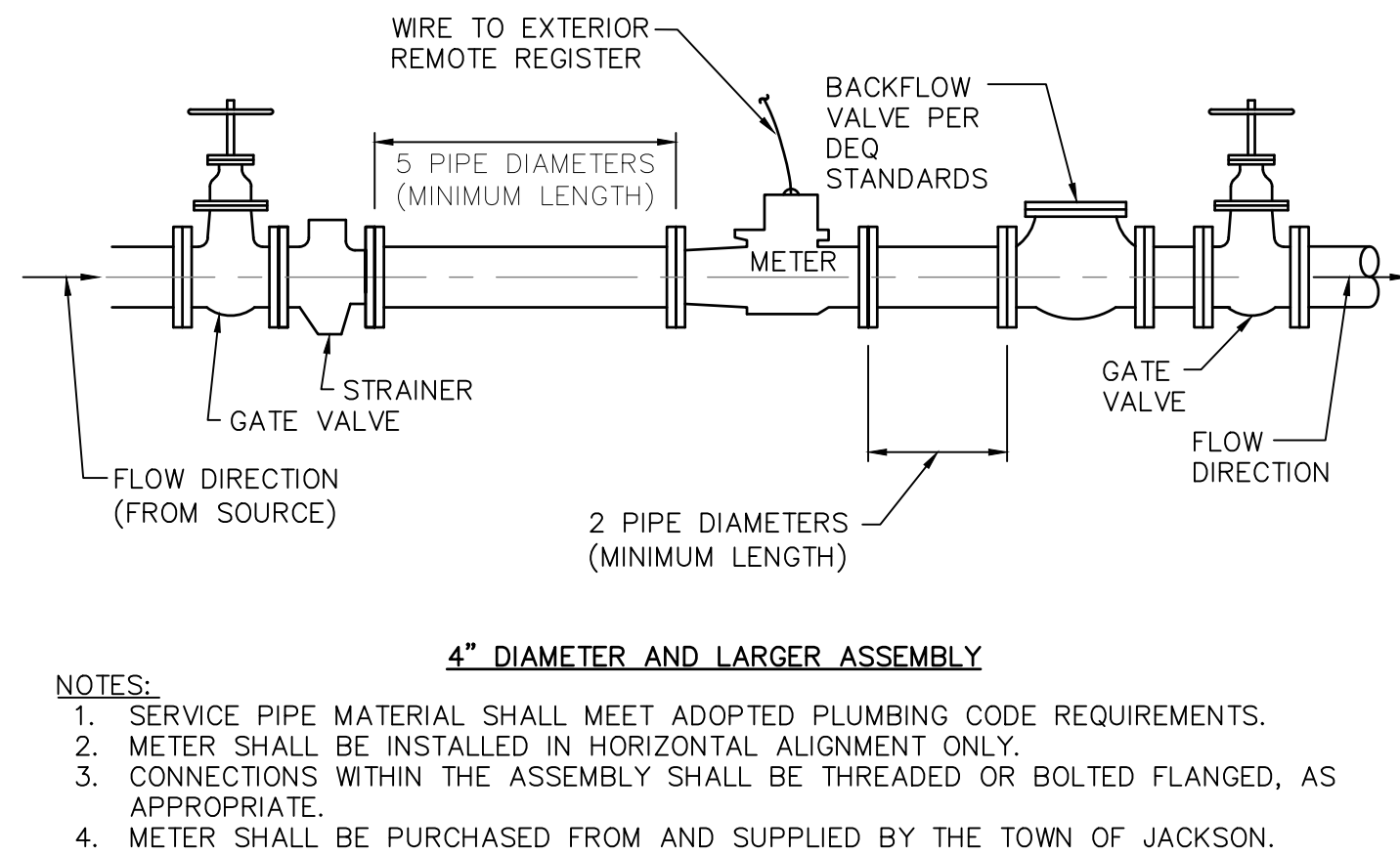
W-111 THRUST BLOCK DETAILS
TOJ STD DETAIL
DATE: 1/16/13
SCALE: NTS



1 WATER SERVICE CONNECTION DETAIL
C3.3

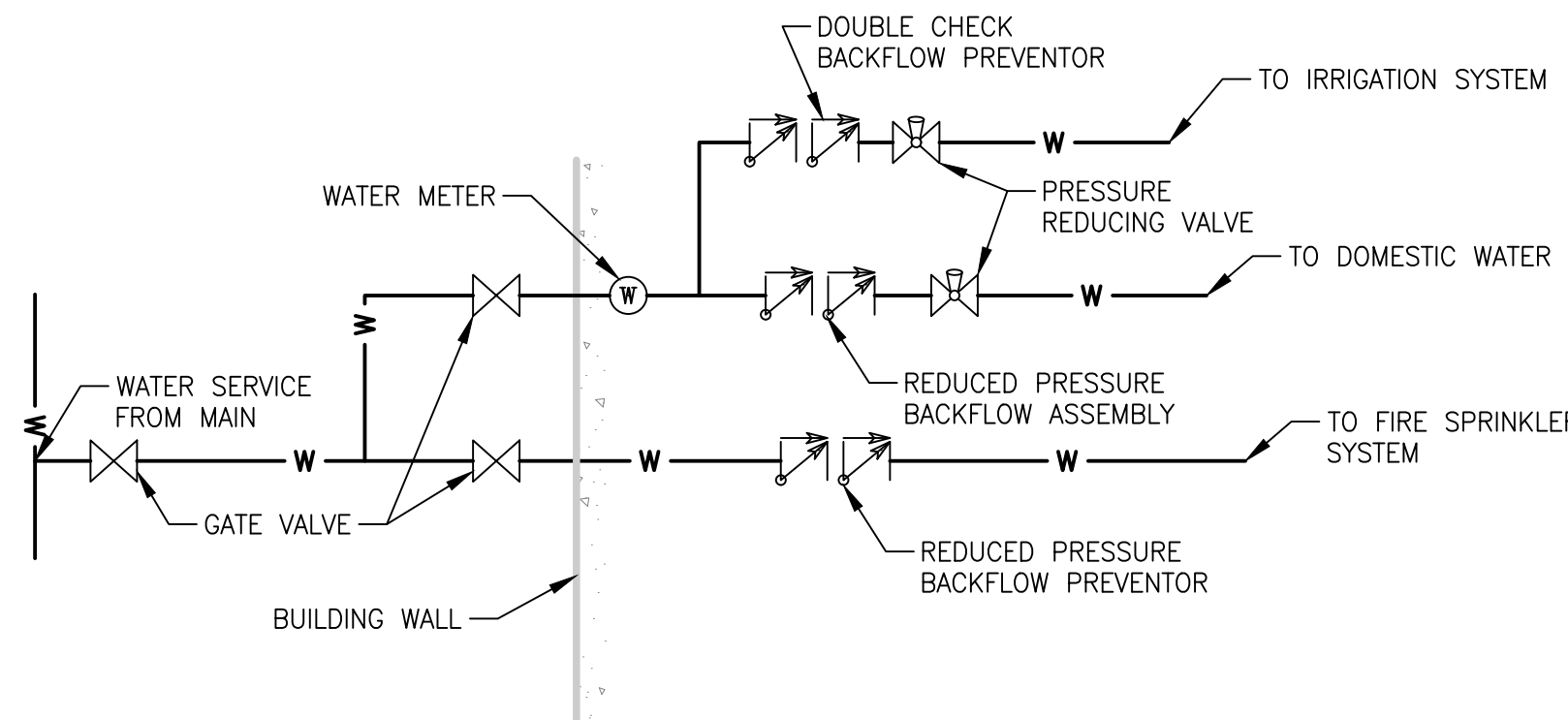


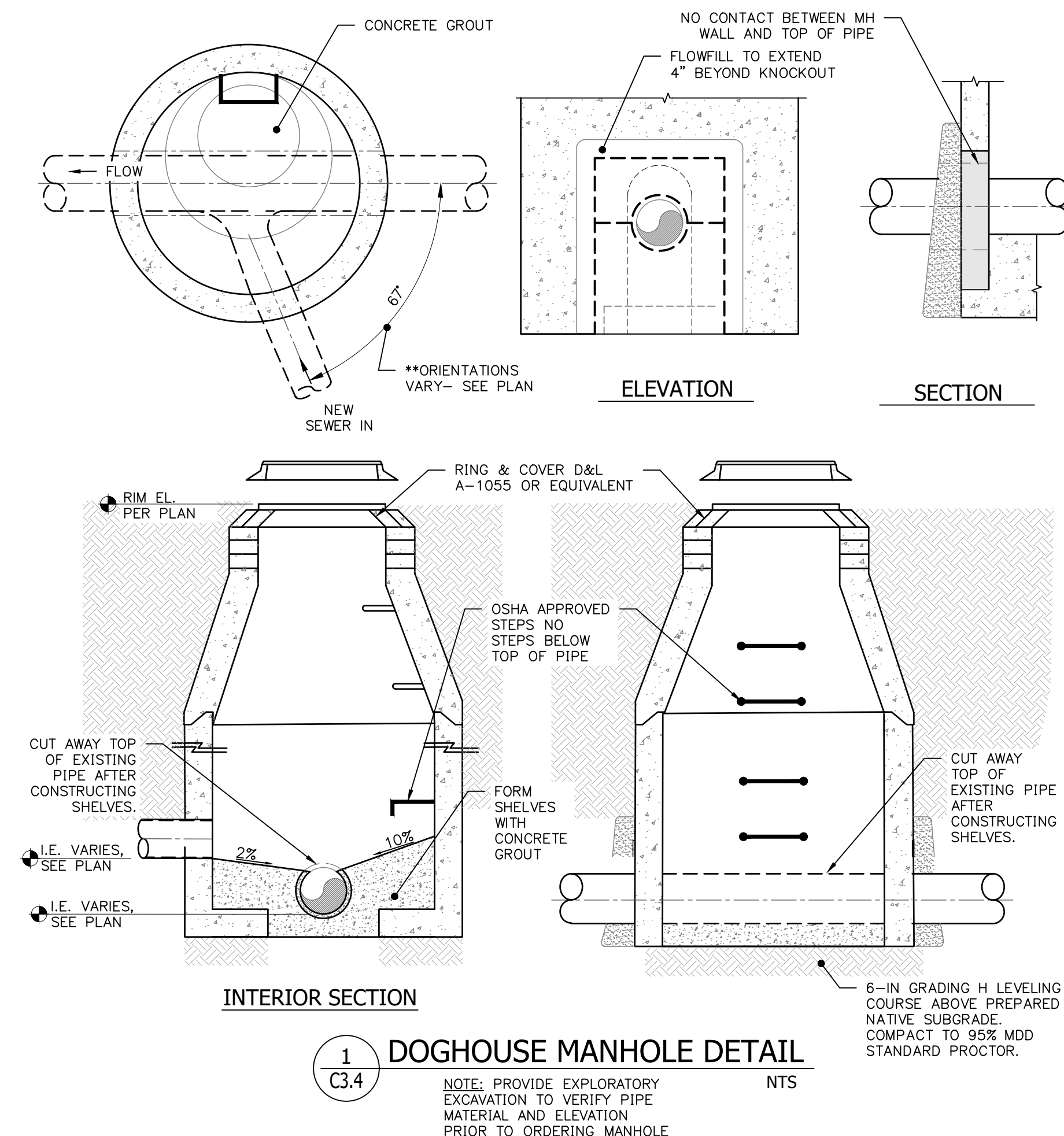
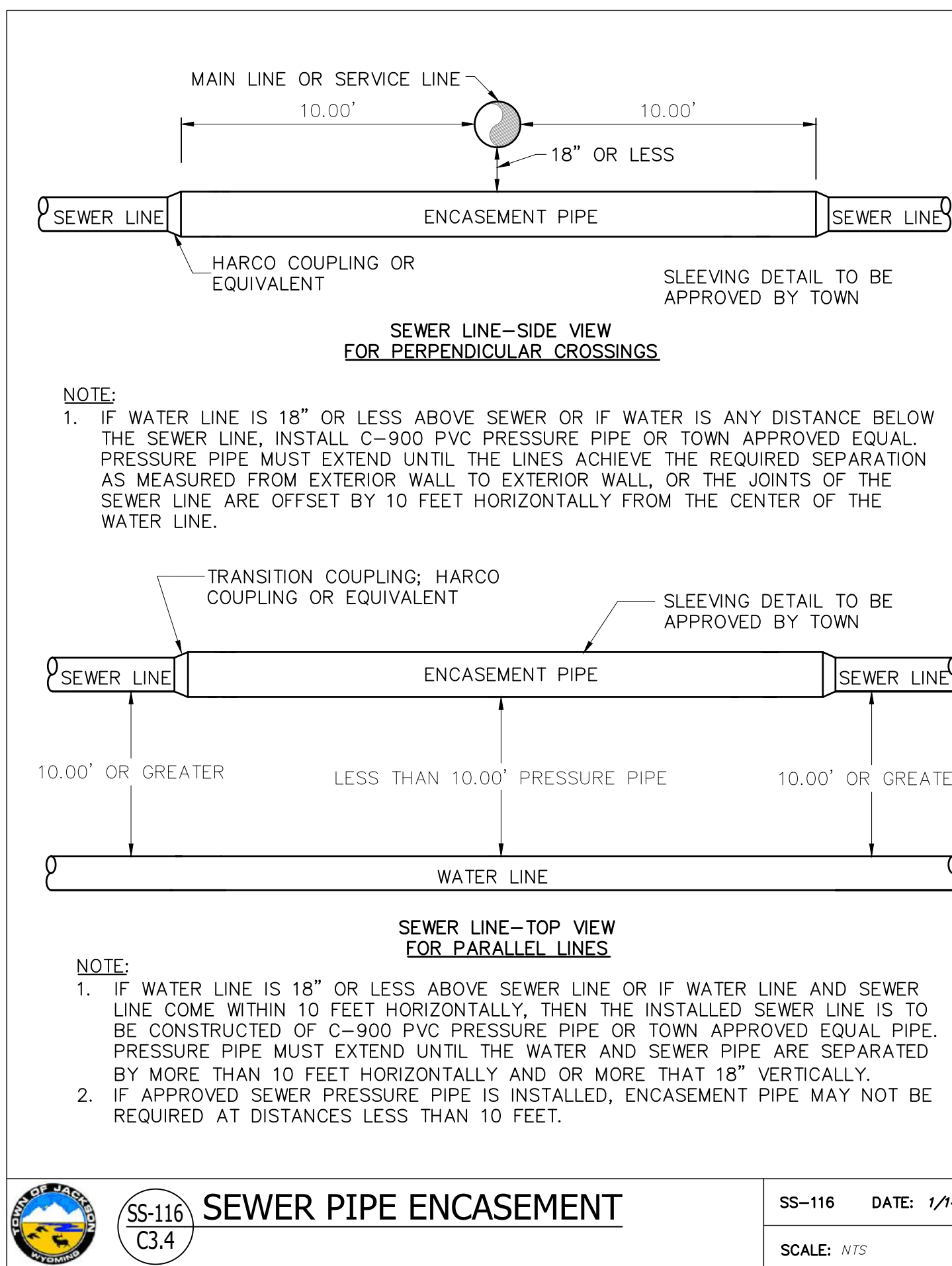
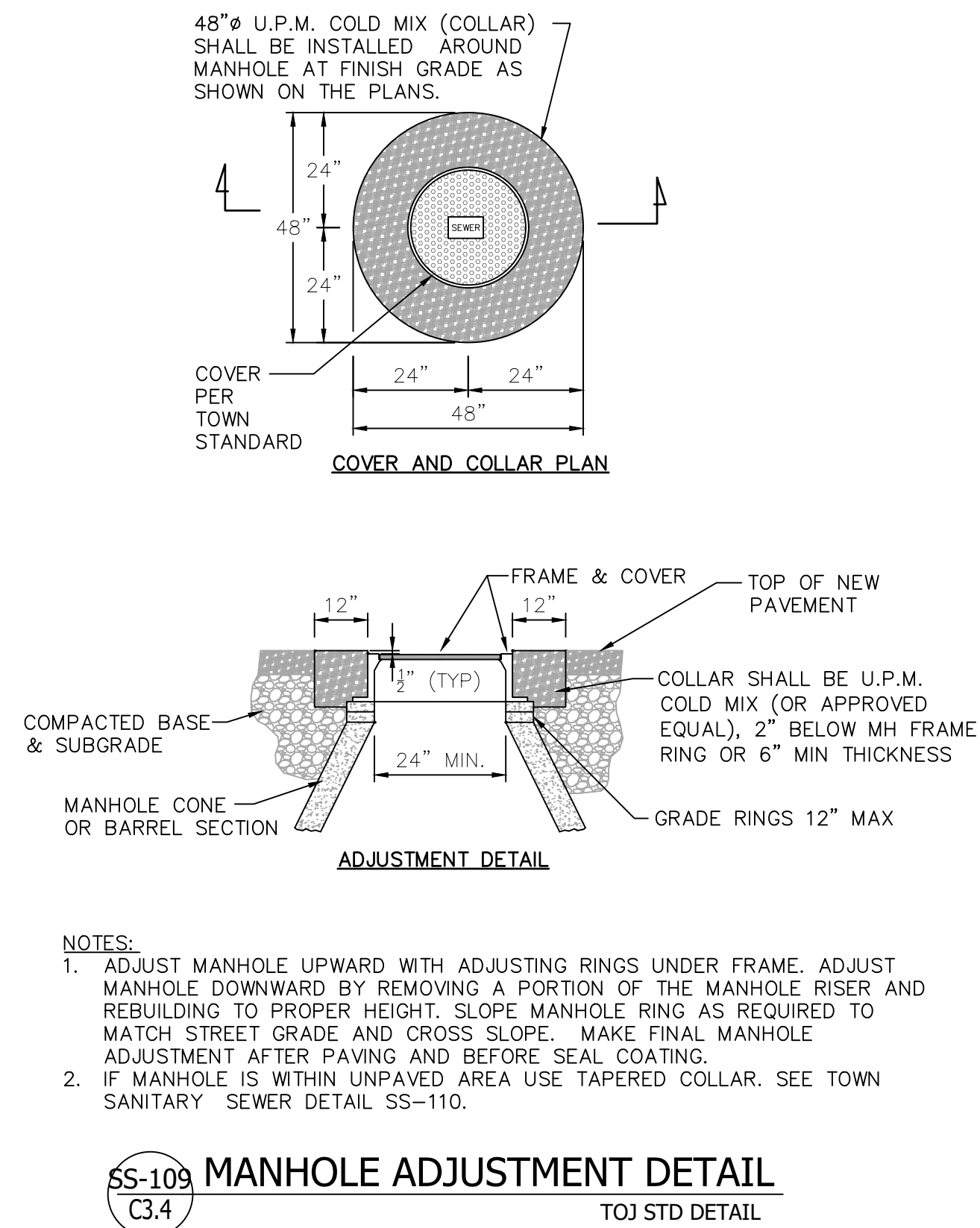
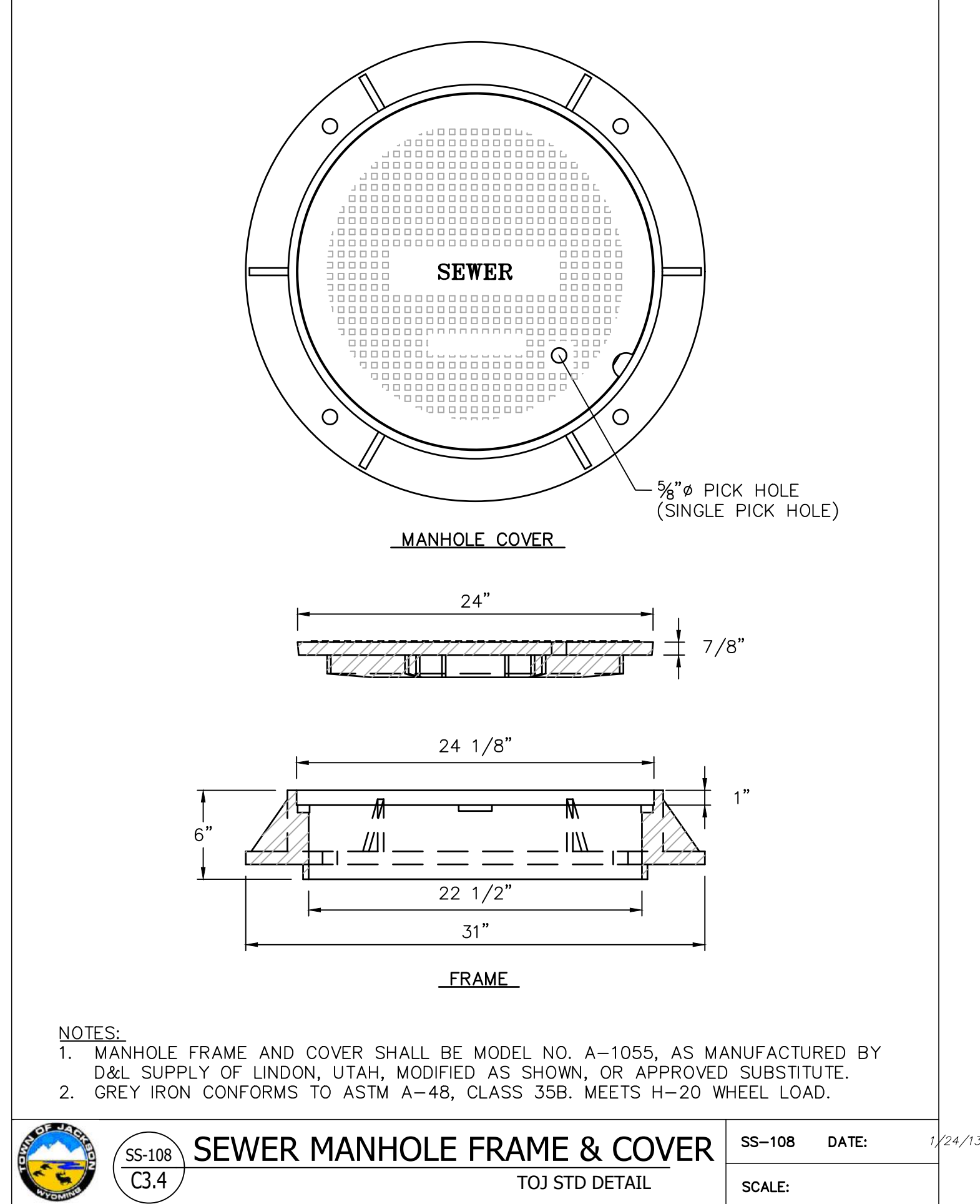
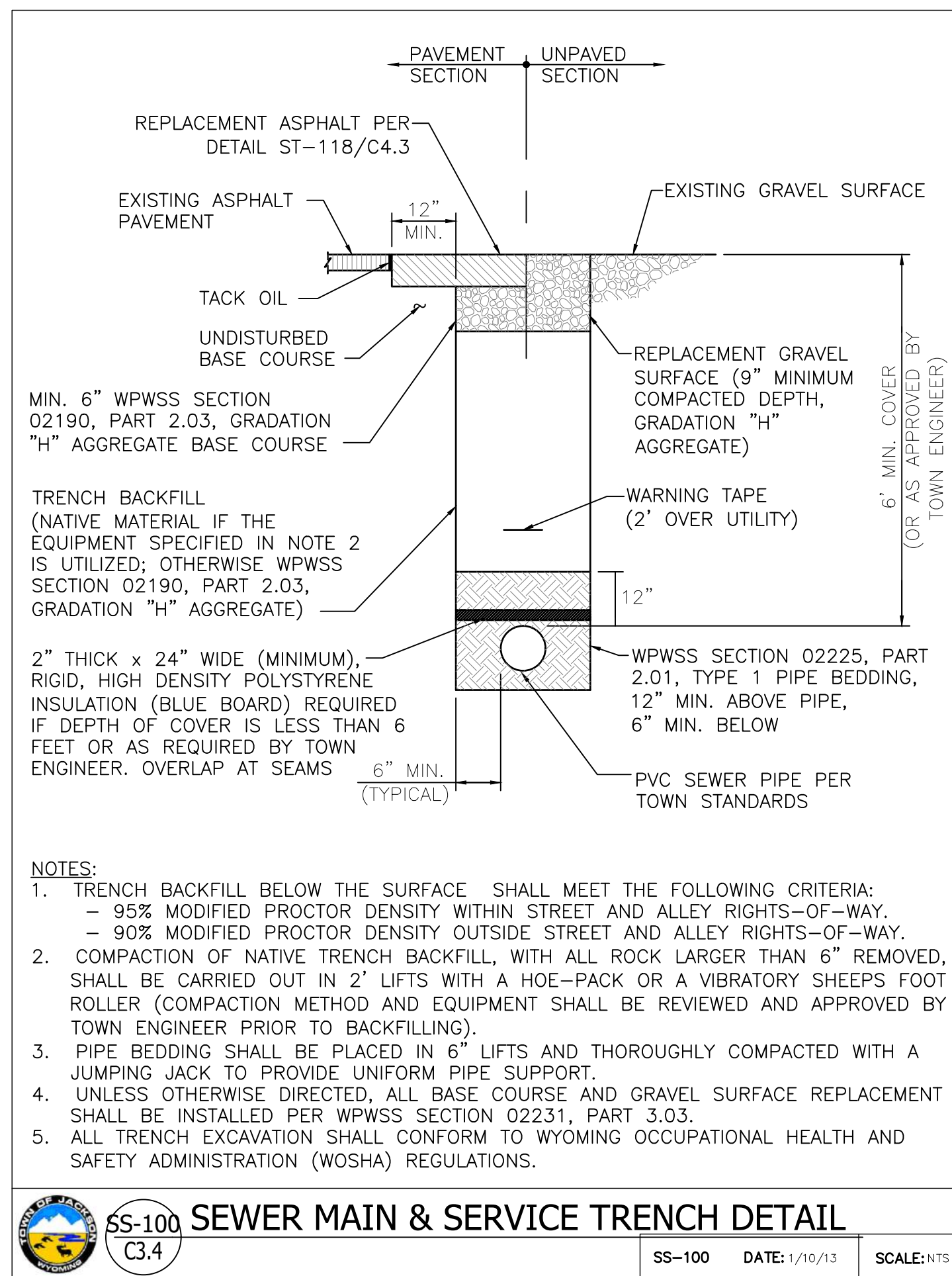
2 WATER METER INSTALLATION DETAIL
C3.3

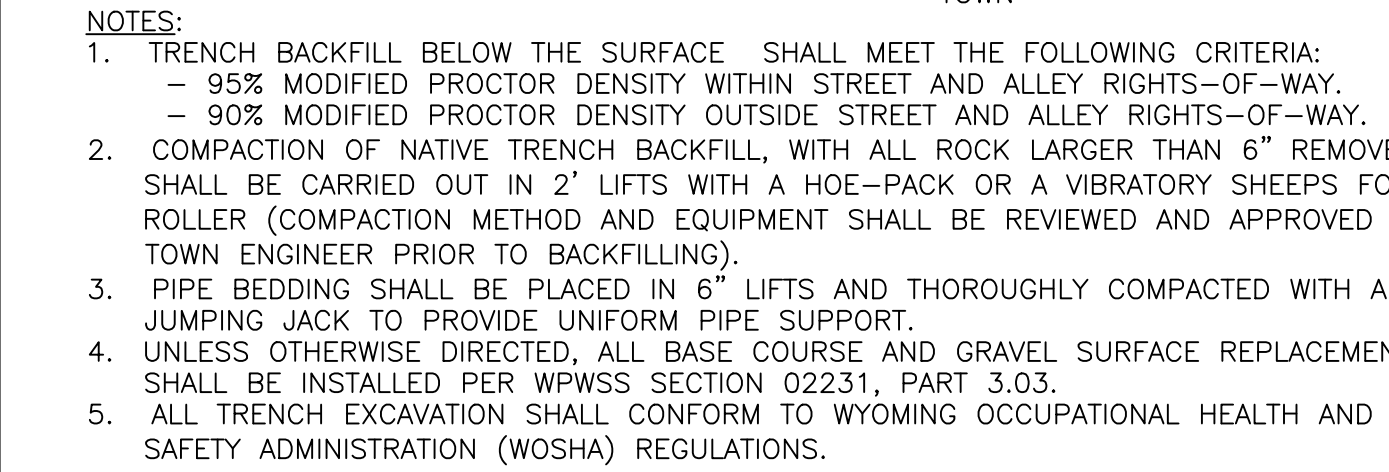


- NOTES:
- SERVICE PIPE MATERIAL SHALL MEET ADOPTED PLUMBING CODE REQUIREMENTS.
 - METER SHALL BE INSTALLED IN HORIZONTAL ALIGNMENT ONLY.
 - CONNECTIONS WITHIN THE ASSEMBLY SHALL BE THREADED OR BOLTED FLANGED, AS APPROPRIATE.
 - METER SHALL BE PURCHASED FROM AND SUPPLIED BY THE TOWN OF JACKSON.

3 WATER SERVICE FIRE ENTRY SCHEMATIC DETAIL
C3.3

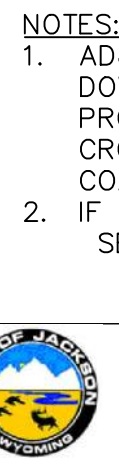






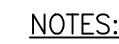
TOJ STD DETAIL

SCALE: *NTS*



C3.5

SCALE: *NTS*



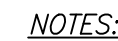
1. PROVIDE 0.1' DROP FROM INLET AND OUTLET PIPES.
2. MATCH PIPE INVERTS CALLED OUT IN PLAN.
3. GROUT BOTTOM OF MANHOLE, AS NECESSARY, TO OUTLET INVERT AND PROVIDE POSITIVE DRAINAGE.
4. TRENCH BACKFILL SHALL BE TYPE A FOR ALL STORM DRAIN WORK.

C3.5



CONTRACTOR TO ADJUST TO GRADE
WITH GRAD RINGS AND POUR
CONCRETE COLORS IN ACCORDANCE
WITH DETAIL SS-109/C3.5, TYP. 3 EA.

TRAFFIC RATED RING AND COVER,
D&L 1180, WITH SOLID LID
(A-1180) WITH WORDS "STORM
DRAIN" IMPRINTED



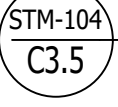
1. THE TANK SHALL BE HS-20 TRAFFIC RATED, OLDCASTLE PRECAST 5106-SA, OR APPROVED EQUAL
2. ALL BAFFLES AND WEIRS TO BE PRECAST CONCRETE
3. CONTRACTOR SHALL SUPPLY AND INSTALL PIPING AND SAMPLING TEES, AND GROUT IN ALL PIPES.

C3.5

SCALE: N.T.S.

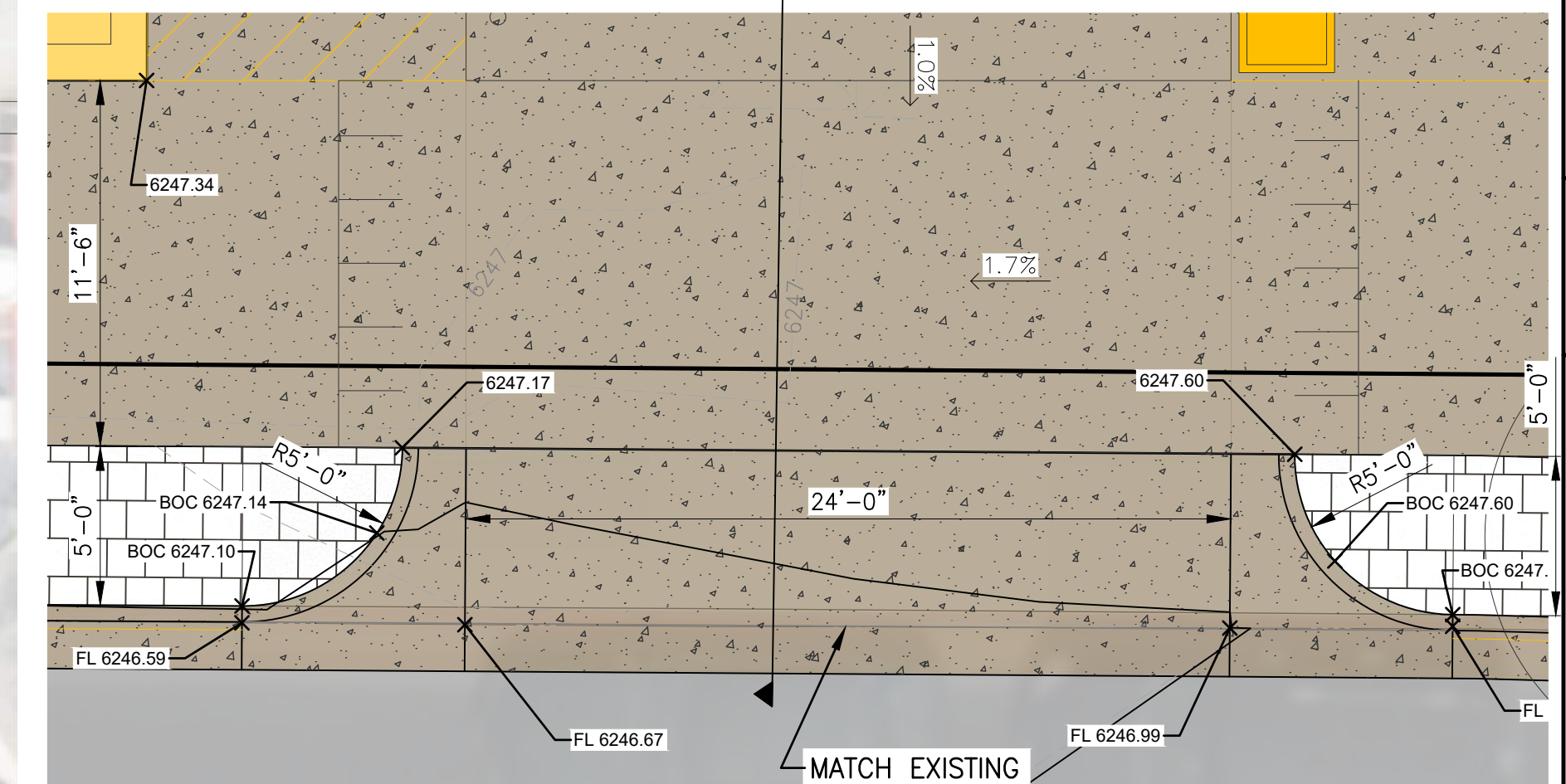
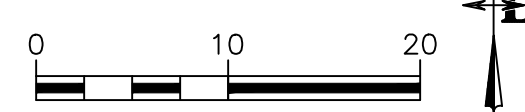


1. MANHOLE FRAME AND COVER SHALL BE MODEL NO. A-1055, AS MANUFACTURED BY D&L SUPPLY OF LINDON, UTAH, MODIFIED AS SHOWN, OR APPROVED SUBSTITUTE.
2. GREY IRON CONFORMS TO ASTM A-48, CLASS 35B. MEETS H-20 WHEEL LOAD.

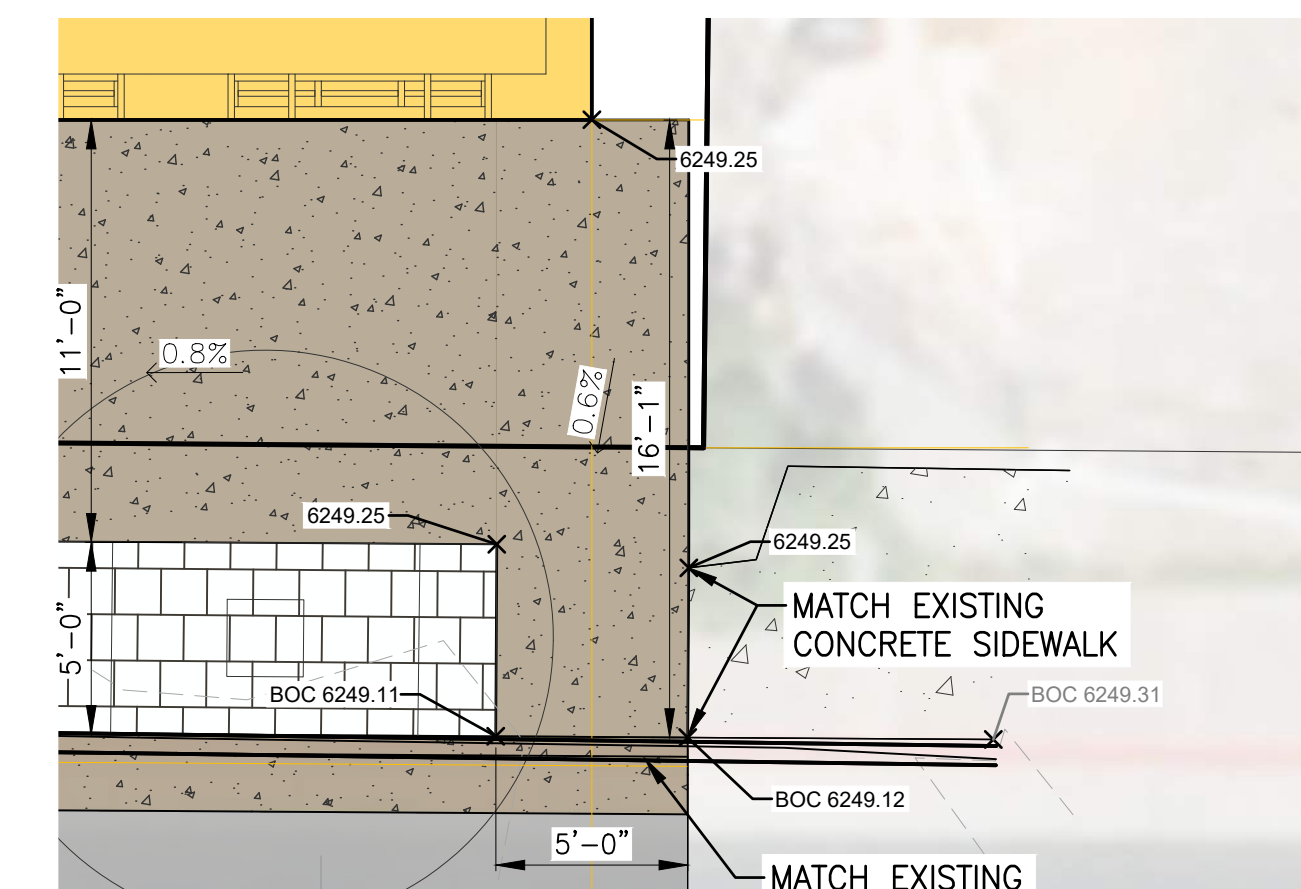
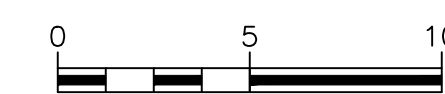




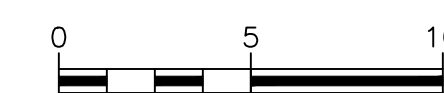
GRADING PLAN -EAST



ENTRY DETAIL

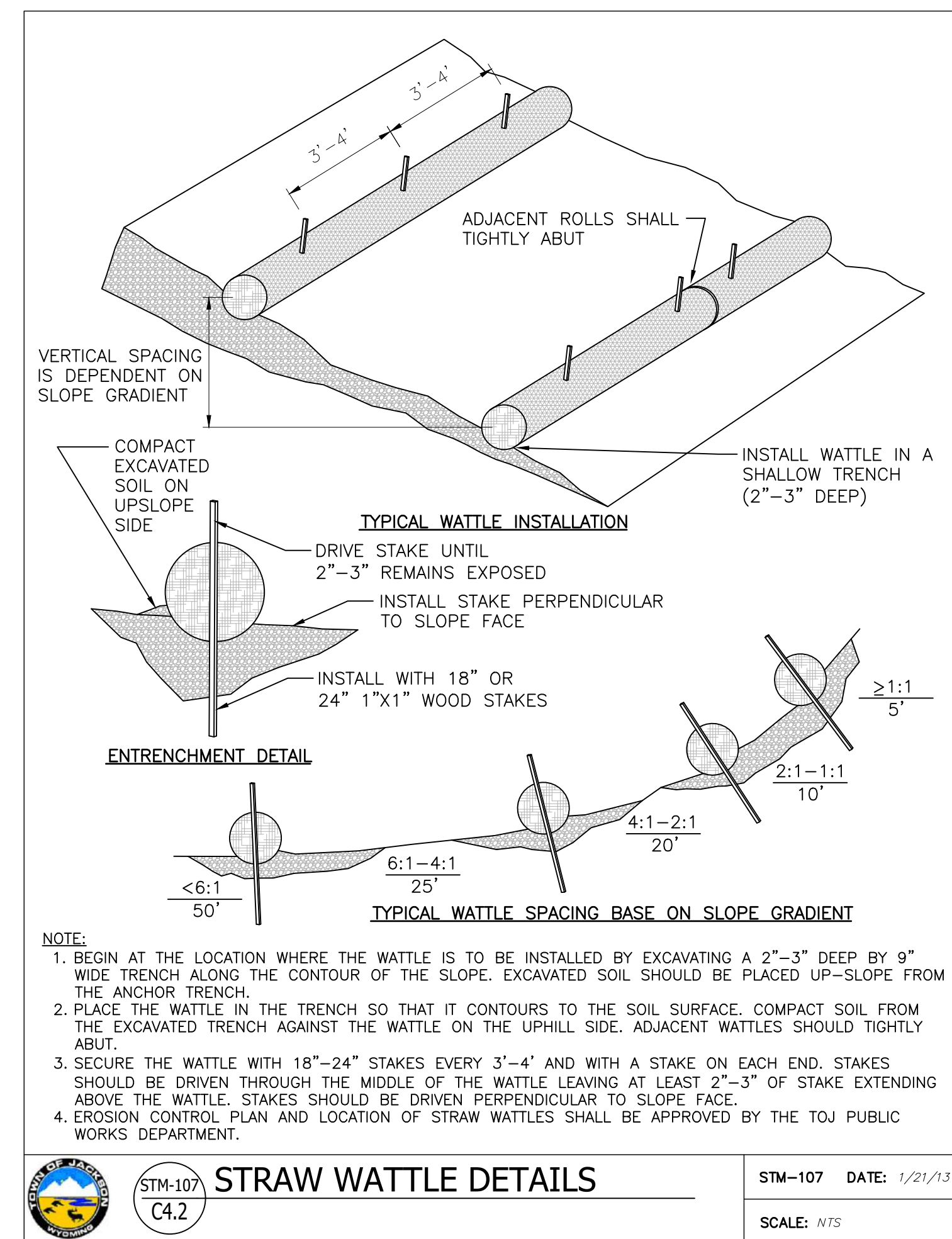
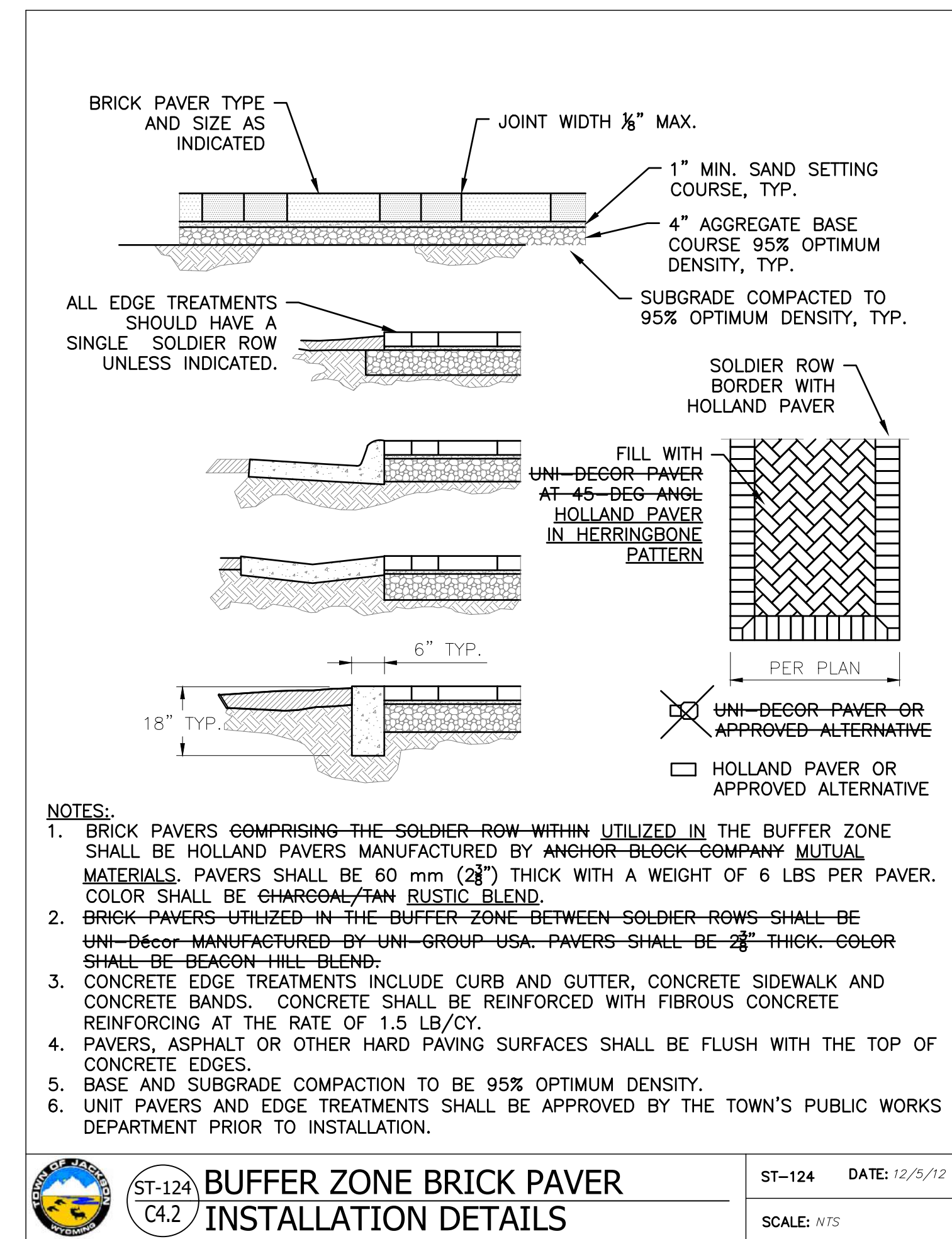
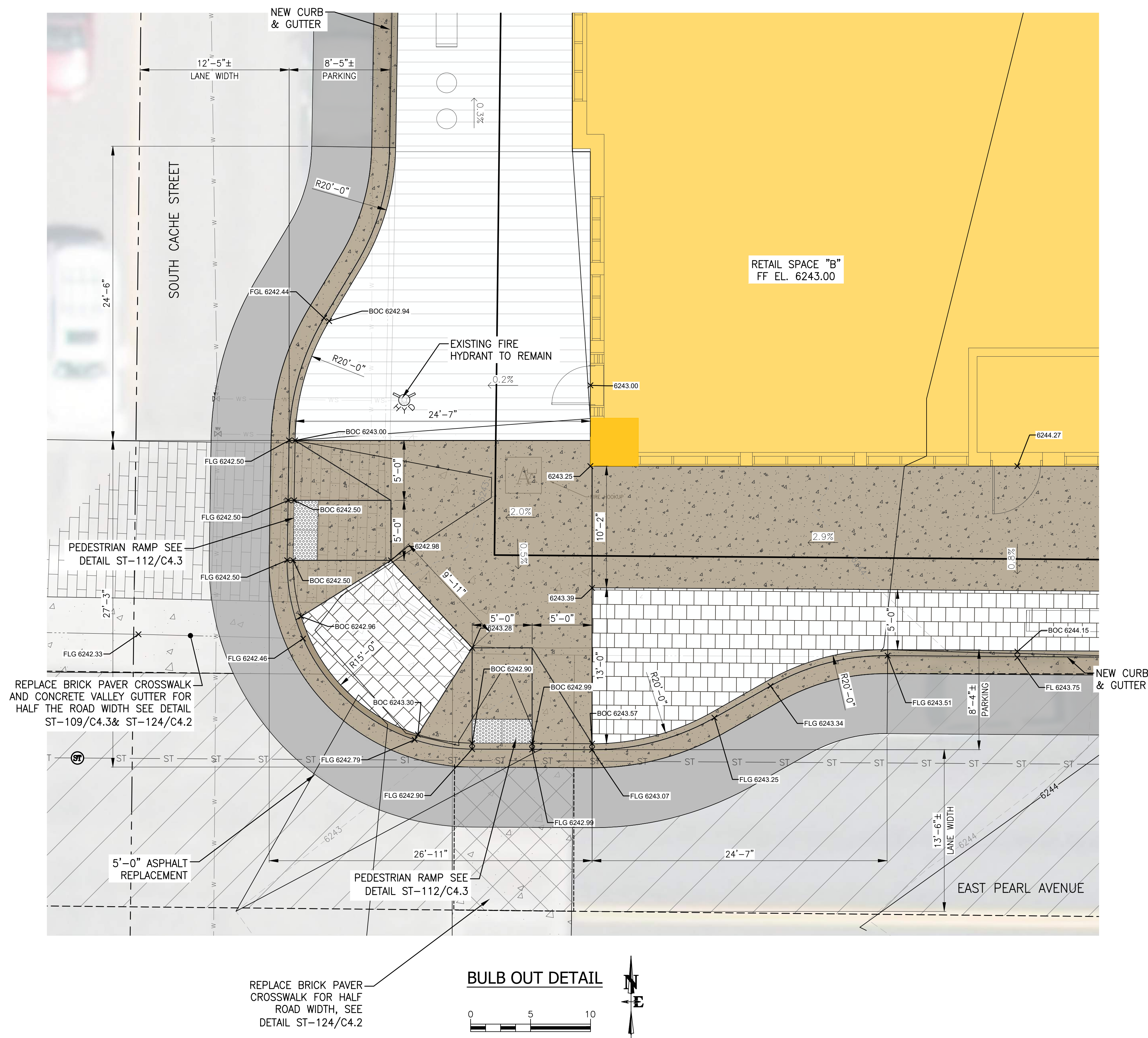


EAST SIDEWALK TIE-IN

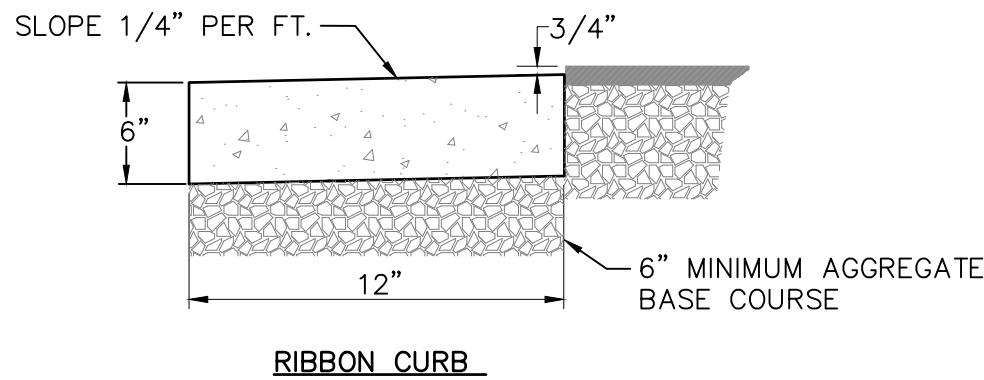
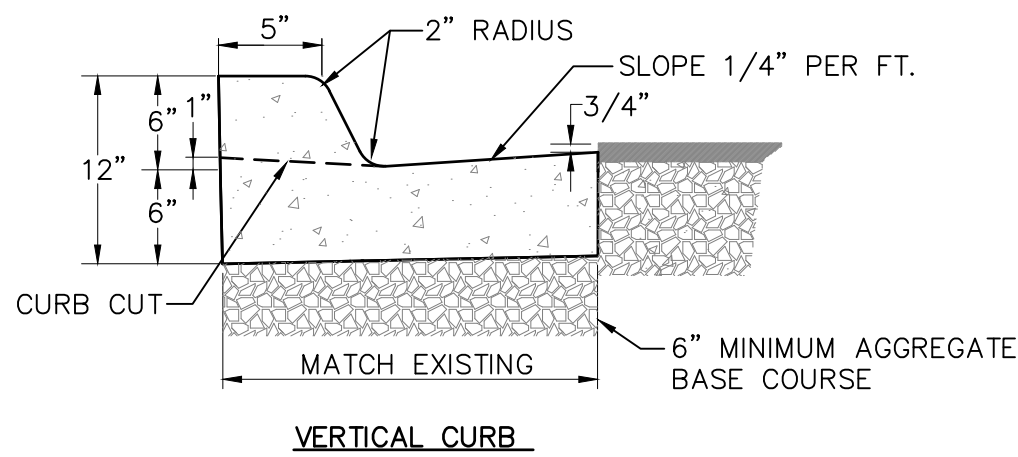


(DEVELOPMENT PLAN DRAWINGS - NOT FOR CONSTRUCTION)

DRAWING NO	JOB TITLE	DRAWING TITLE	REV.
C4.1	RANCH INN MOTEL CACHE AND PEARL JACKSON, WYOMING	EAST GRADING PLAN	
JOB NO			
21-076-03			



S:\Projects\2025\016-03 Ranch Inn Motel, Curb and Pavement - 04/14/25\Drawings\DETAILS-GRADING-ROADWAY\ROAD-GRADING-DETAILS.dwg - Plot: 25/03/2025 08:30:01 pm - PLOTTER: B7, color - DWG: 01/04/25 14:12

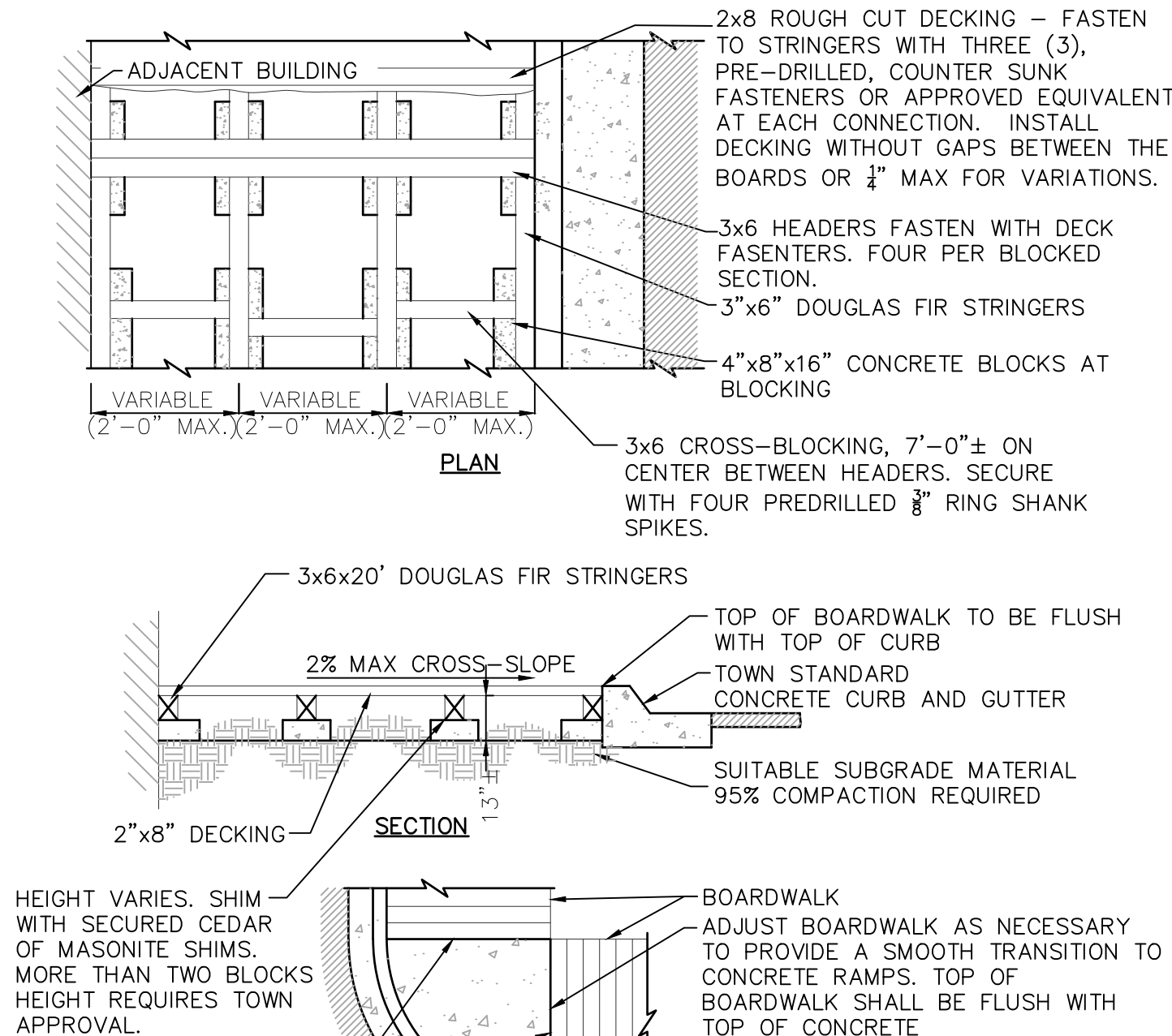


- NOTES:
- CURBS SHALL CONFORM TO WPSS SECTION 02525, EXCEPT THAT PORTLAND CEMENT CONCRETE SHALL BE FIBERMESH-REINFORCED CLASS 4000 CONCRETE CONFORMING WITH WPSS SECTION 03304, PART 2.07.
 - AGGREGATE BASE COURSE SHALL BE SIX INCH MINIMUM THICKNESS, CONFORM TO WPSS SECTION 02190, PART 2.03, GRADING H, AND BE INSTALLED PER WPSS SECTION 02231, PART 3.03.
 - REMOVAL AND REPLACEMENT OF CURB SHALL TAKE PLACE IN FULL PANELS.
 - ROLL CURB SHALL NOT BE ALLOWED.



ST-110
C4.3 CURB SECTION DETAIL
TOJ STD DETAIL

ST-110 DATE: 12/4/12
SCALE: NTS

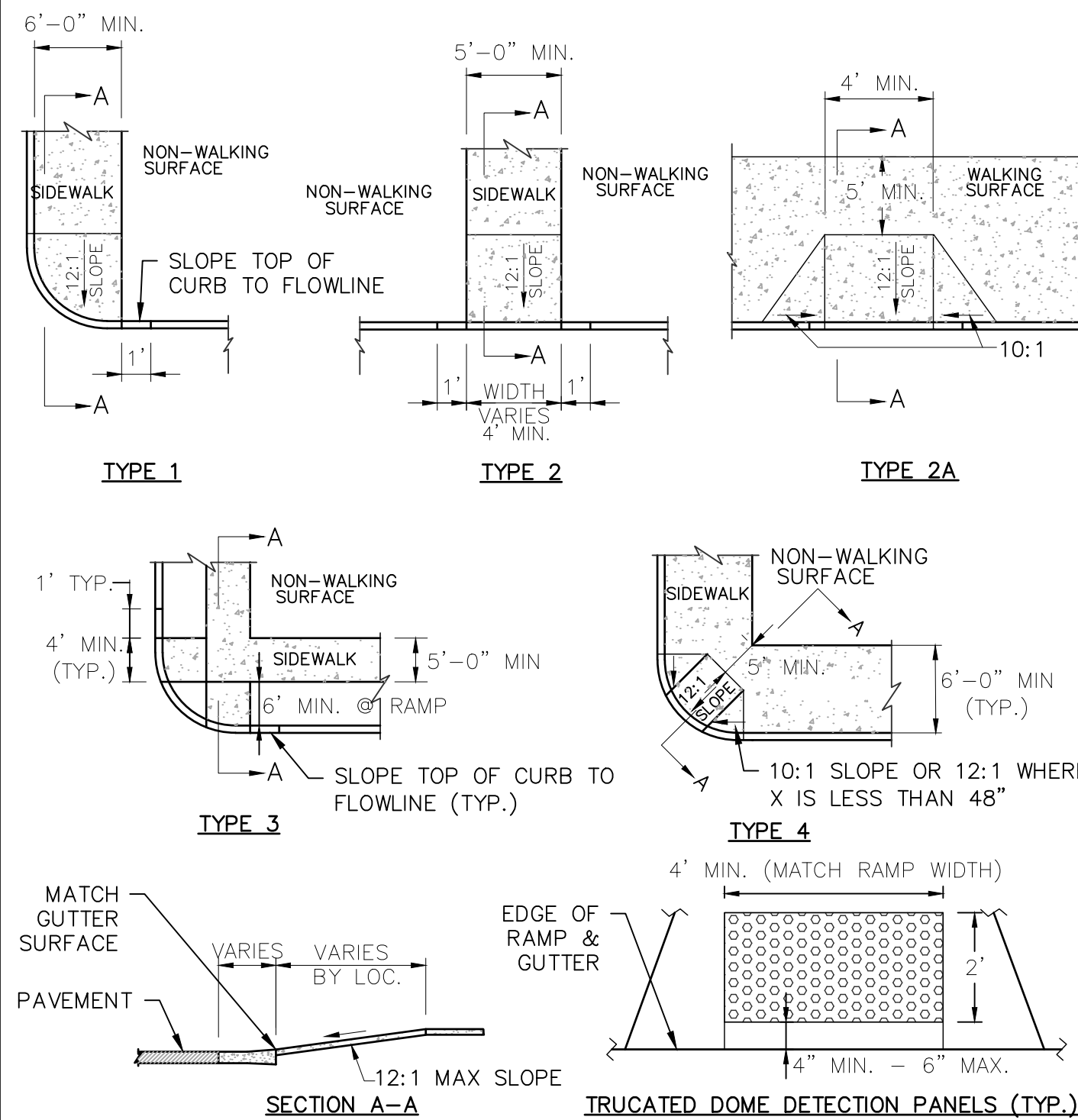


- NOTES:
- UNLESS OTHERWISE APPROVED, ALL FASTENERS TO BE 5 1/8" LONG x 5/16" GRK RSS FASTENERS, T30, PRE-DRILLED, AND COUNTER SUNK (IN DECKING).
 - ALL SUB-STRUCTURE LUMBER TO BE DOUGLAS FIR OR PRESSURE TREATED.
 - ALL DECK LUMBER SHALL BE 2"x8" ROUGH CUT DOUGLAS FIR. FINISH WITH THREE COATS OF NATURAL STAIN.
 - TOWN MAY ADJUST MATERIALS AND DETAILS AS NECESSARY.
 - PEDESTRIAN RAMP TO BE PER TOWN STANDARD.



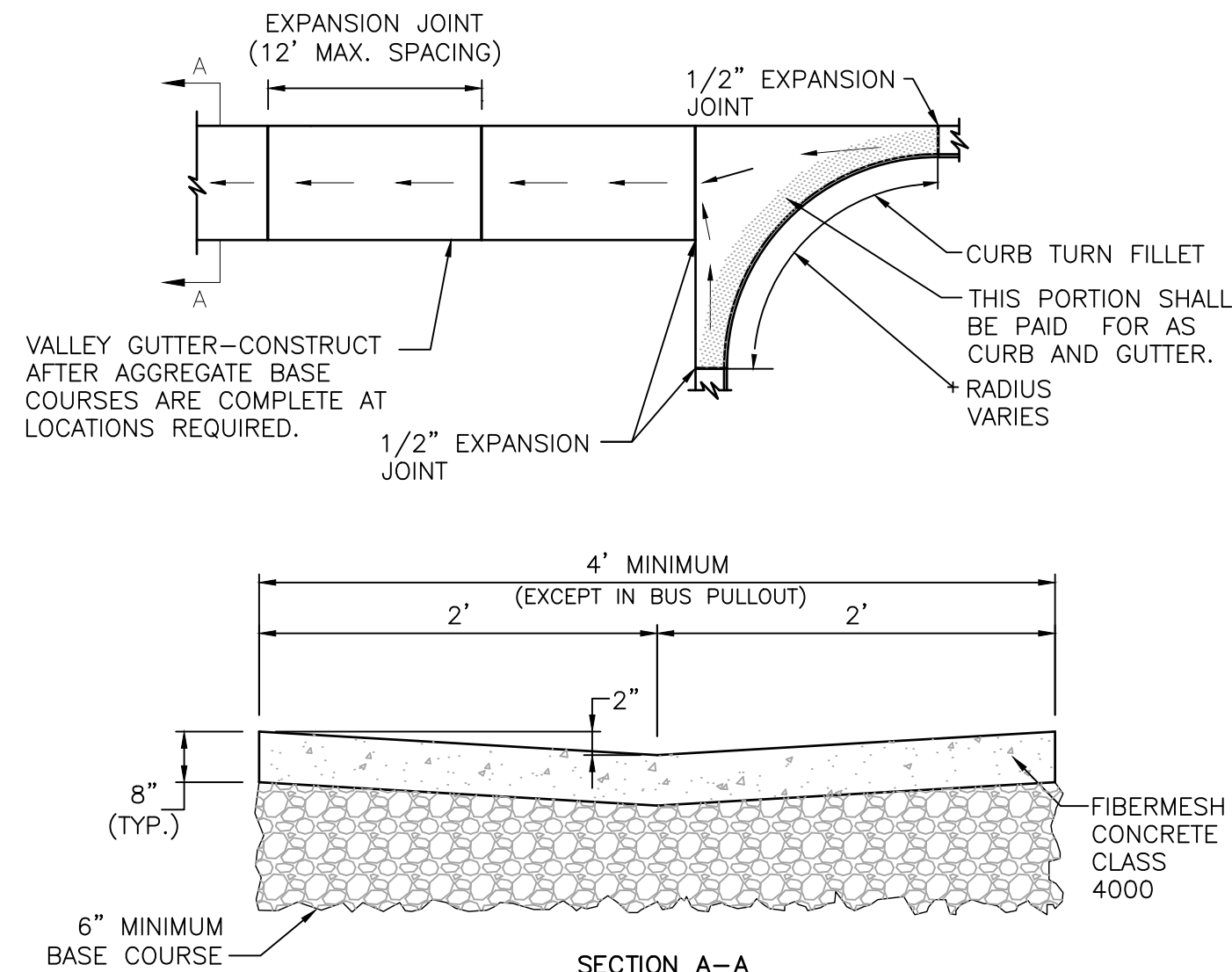
ST-111
C4.3 BOARDWALK DETAIL
TOJ STD DETAIL

ST-111A DATE:
SCALE:



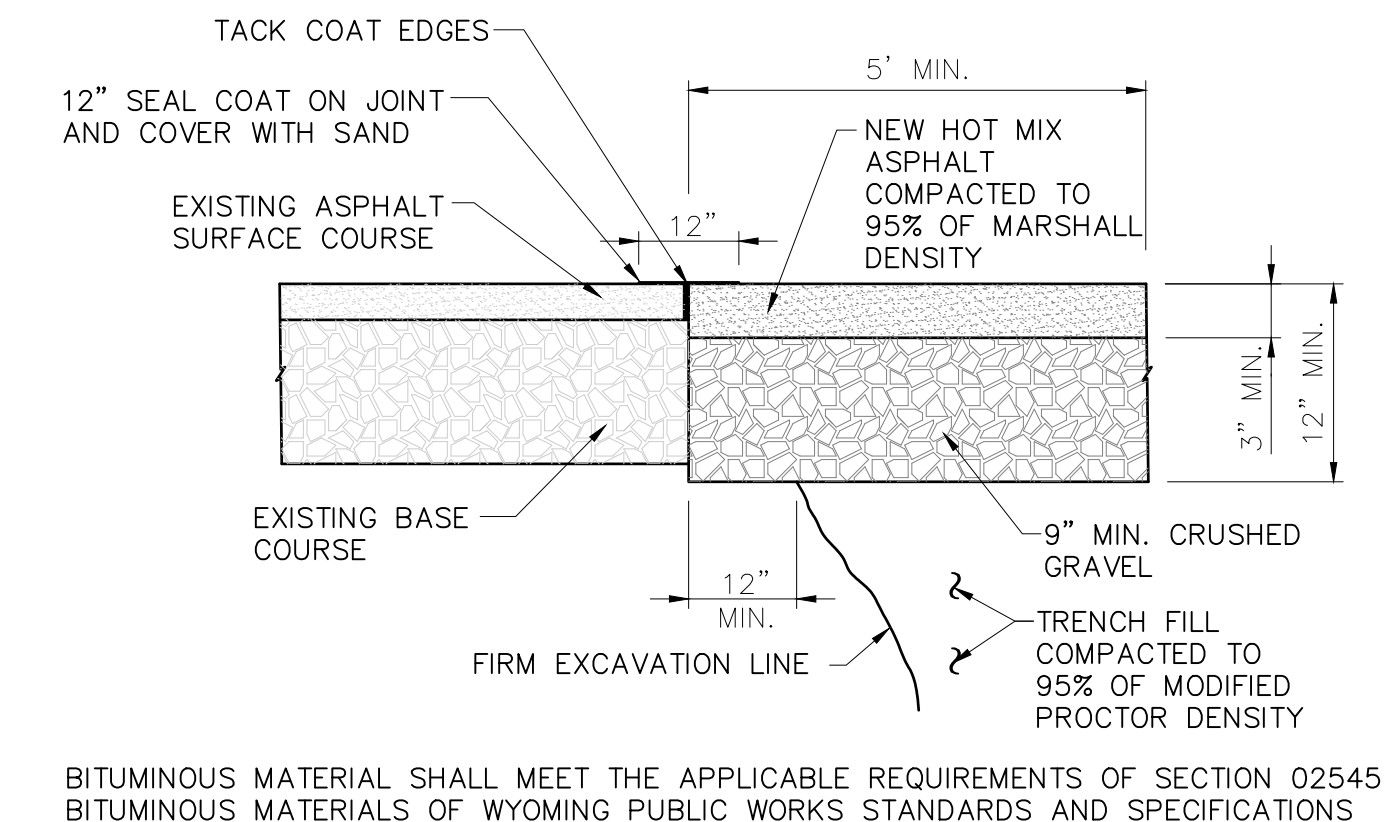
ST-112
C4.3 PEDESTRIAN RAMPS
TOJ STD DETAIL

ST-112 DATE: 12/4/12
SCALE: NTS



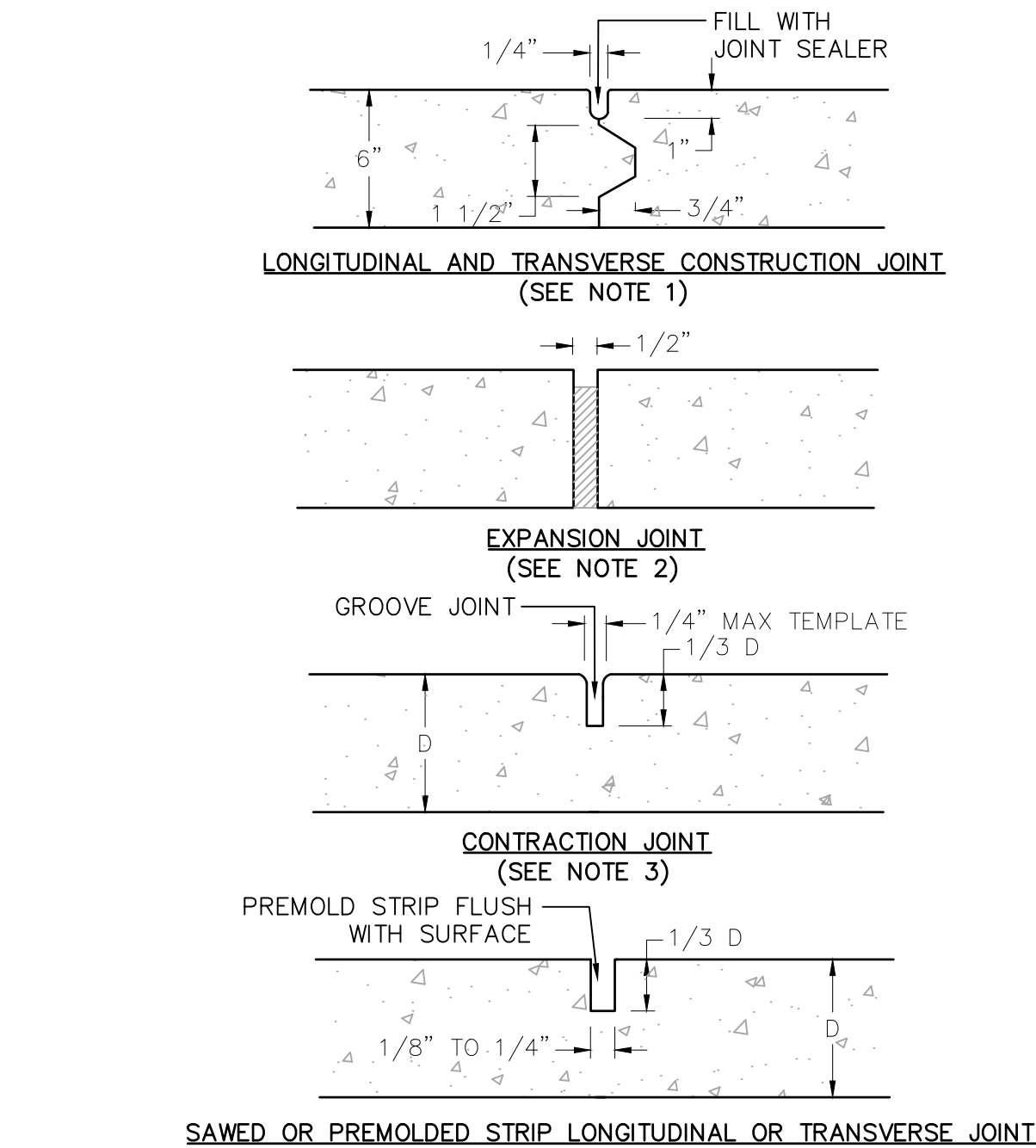
ST-109
C4.3 VALLEY GUTTER & CURB TURN FILLET
TOJ STD DETAIL

ST-109 DATE:
SCALE:



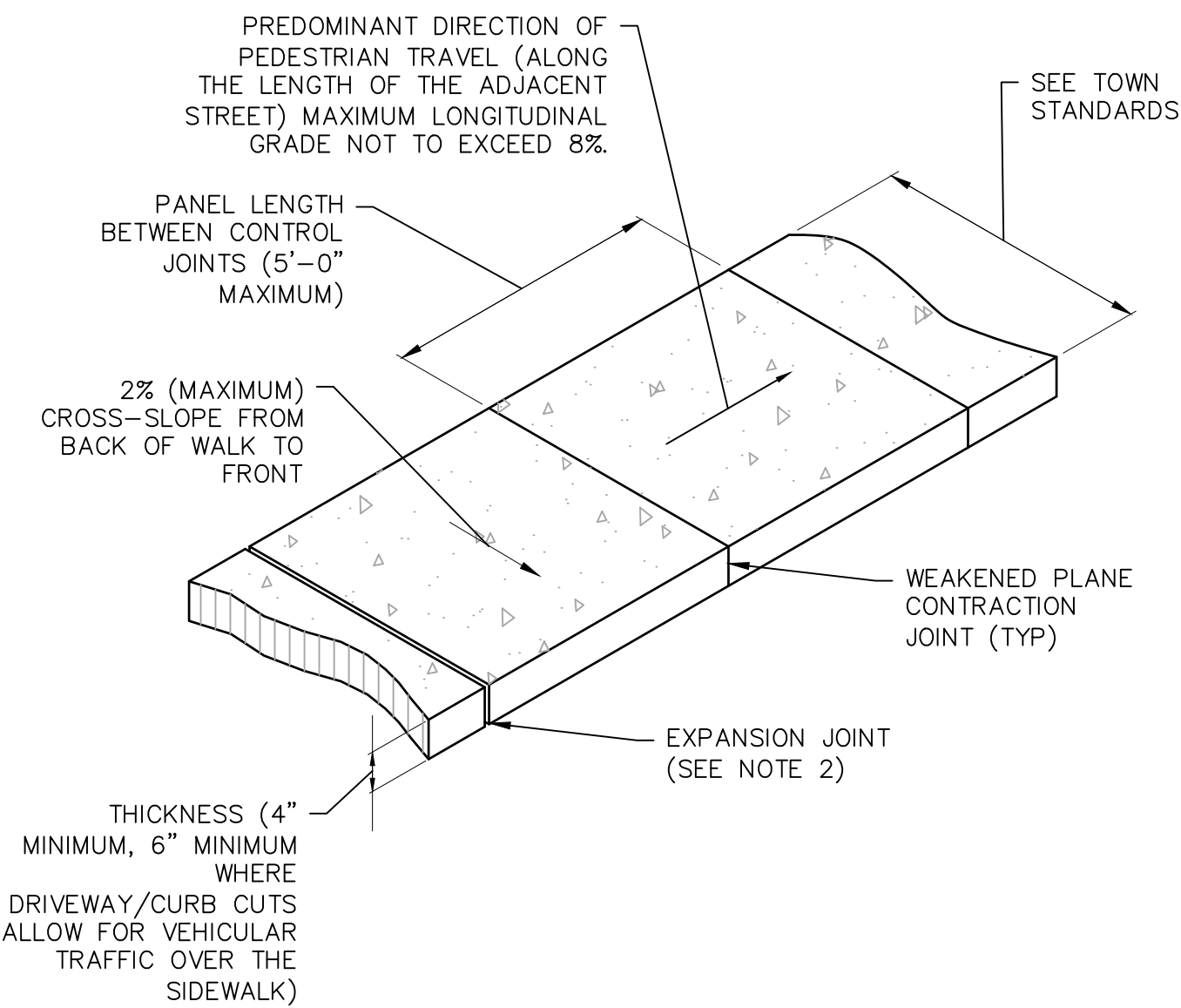
ST-118
C4.3 PATCH REPAIR SECTION
TOJ STD DETAIL

ST-118 DATE:
SCALE:



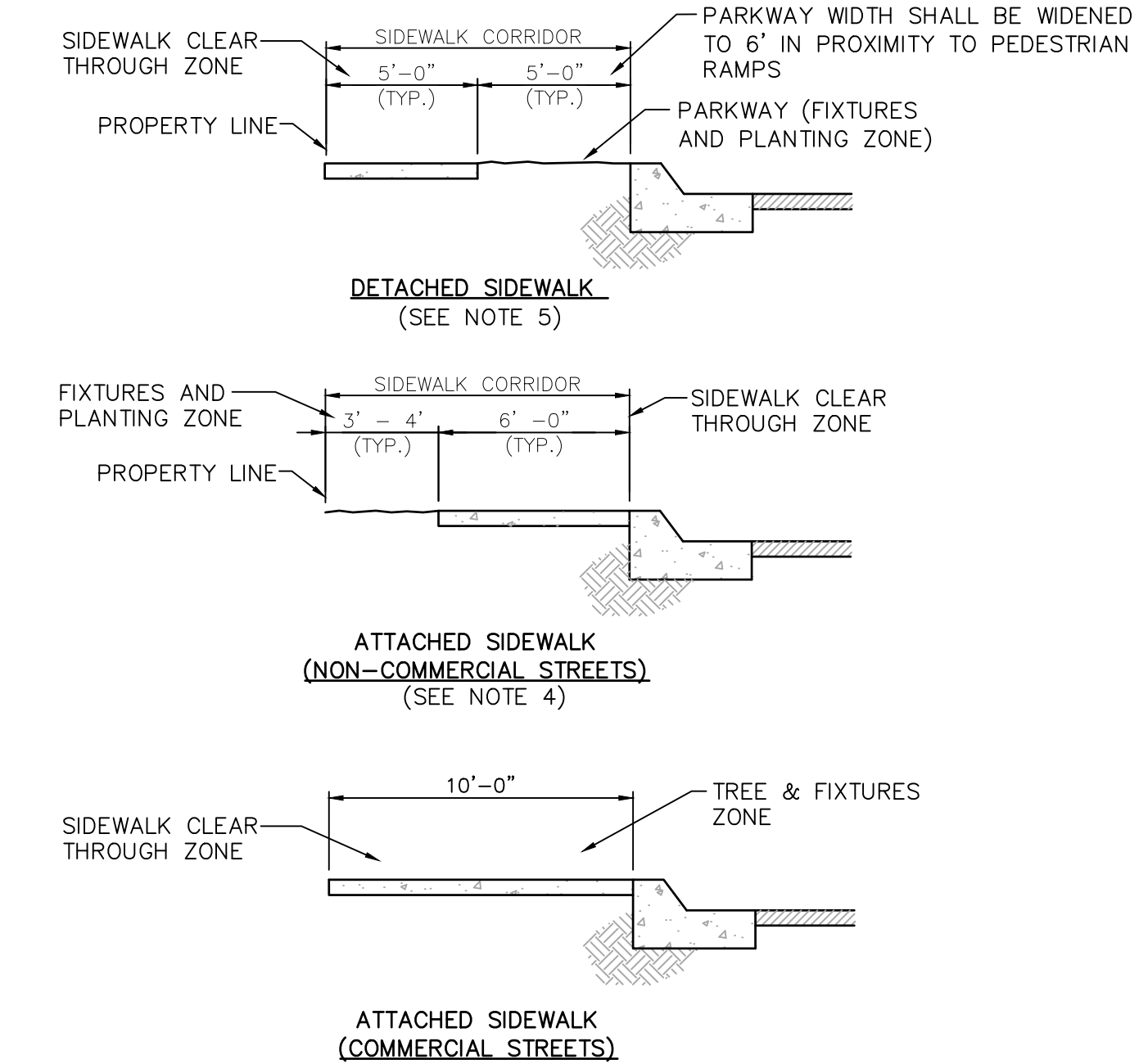
ST-123
C4.3 PAVING & CONCRETE JOINT DETAILS
TOJ STD DETAIL

ST-123 DATE: 12/6/12
SCALE: NTS



ST-127
C4.3 CONCRETE SIDEWALK
TOJ STD DETAIL

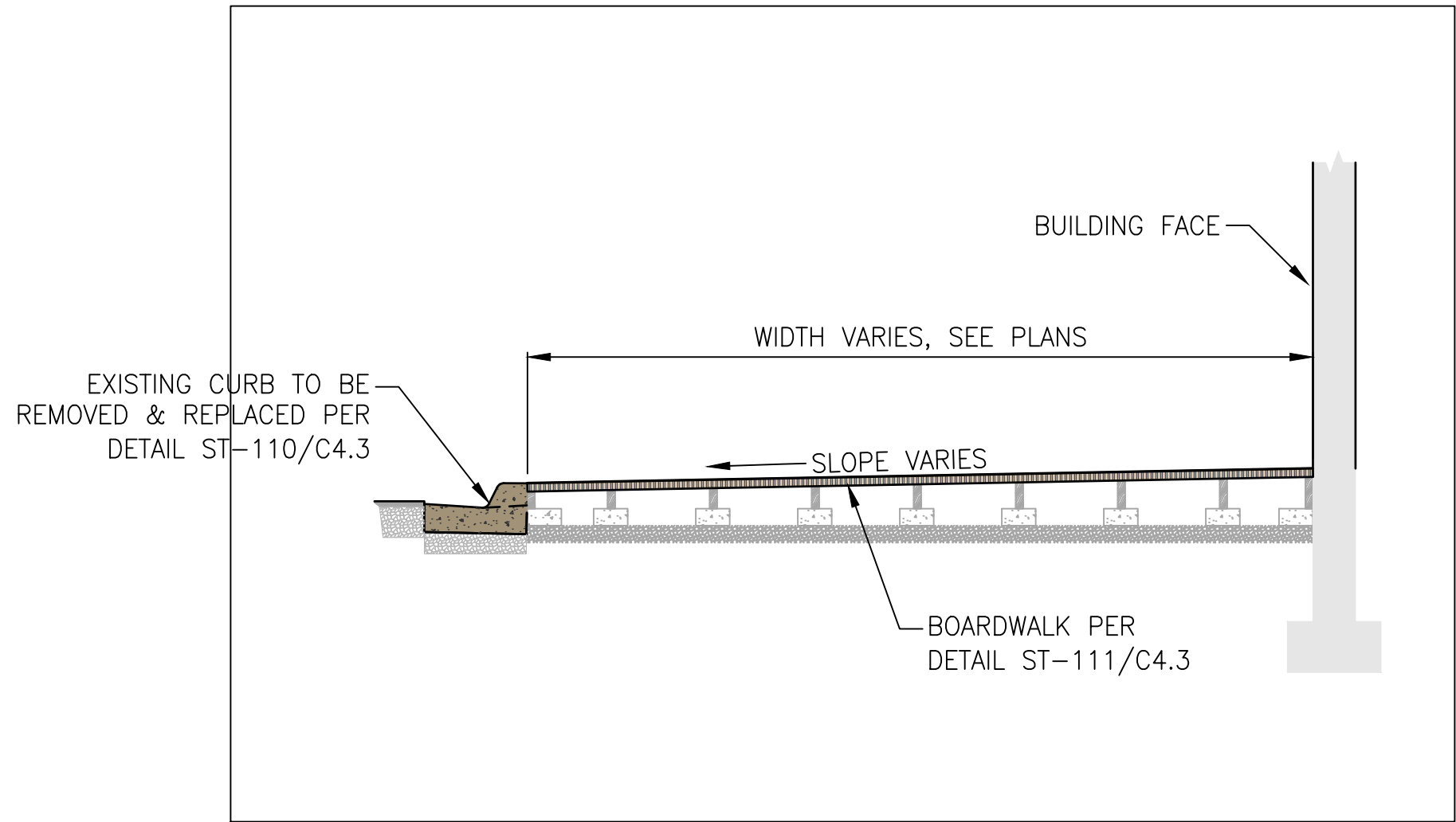
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SCALE: NTS



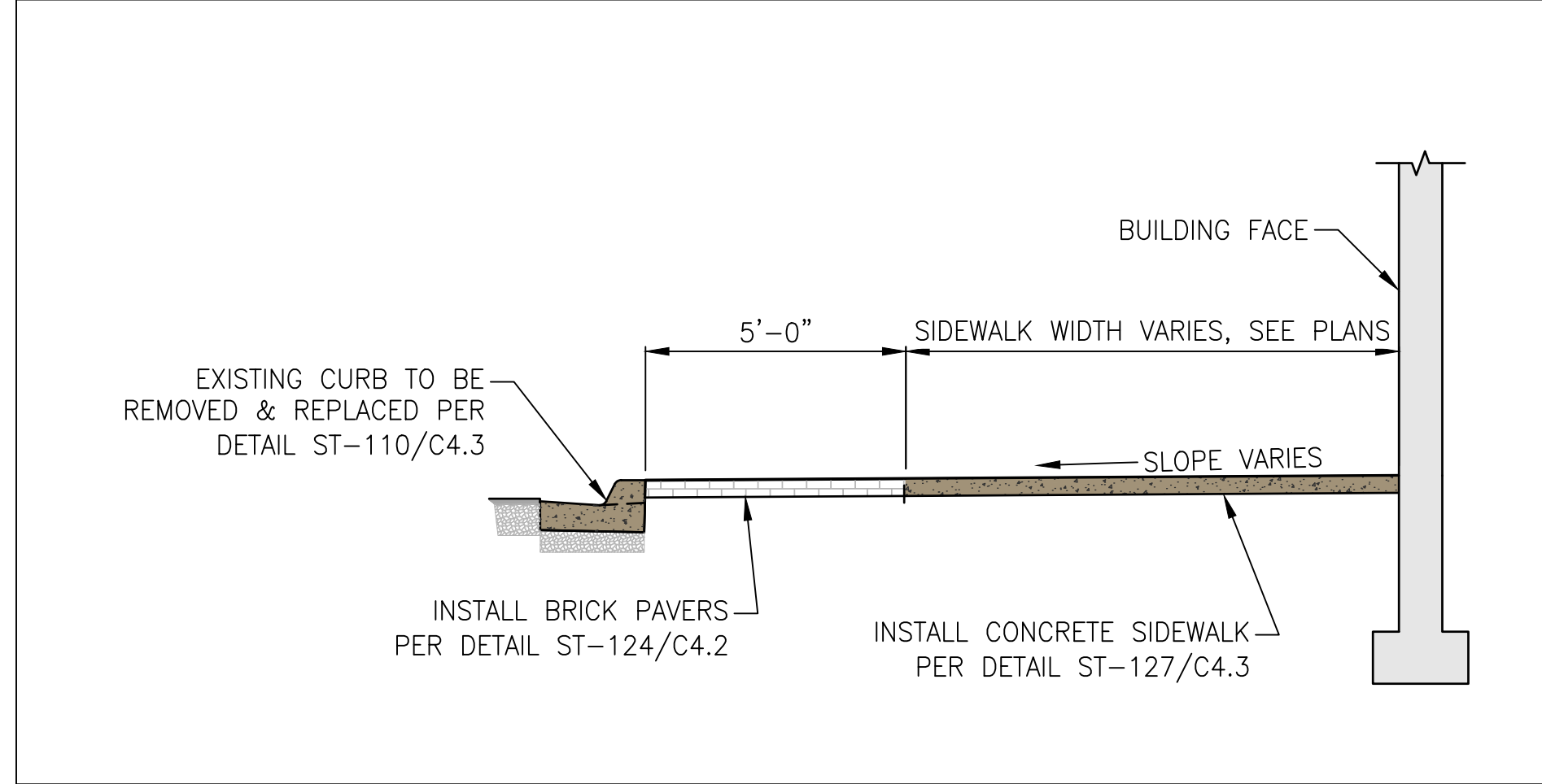
ST-128
C4.3 SIDEWALK CORRIDOR
TOJ STD DETAIL

ST-128 DATE:
SCALE:

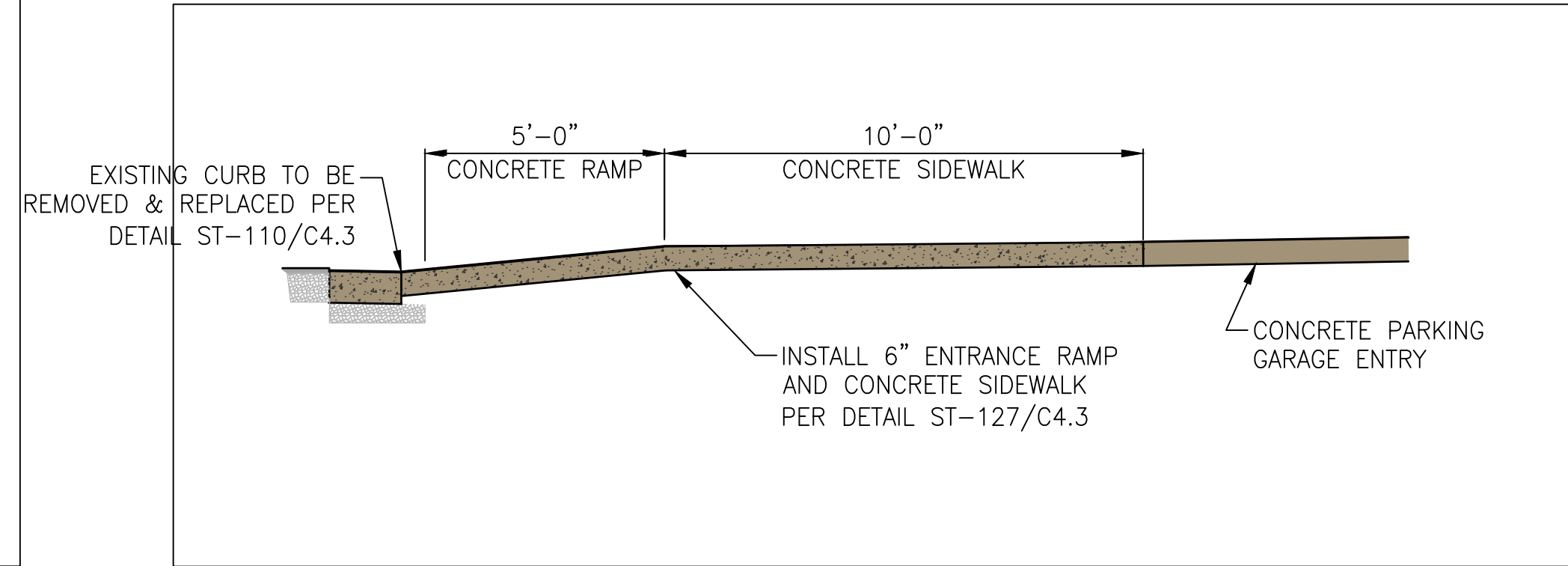
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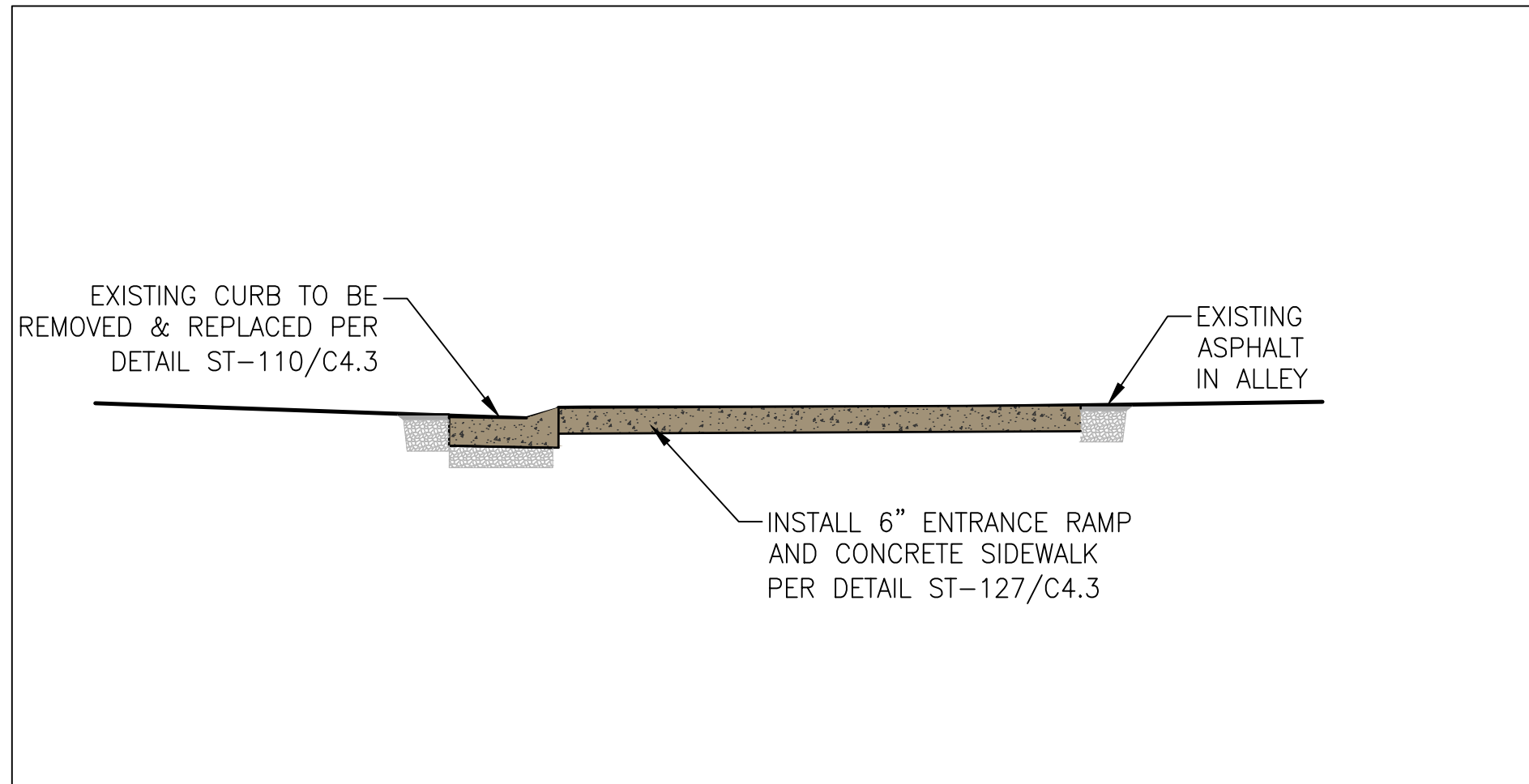
A
C4.4 **TYPICAL BOARDWALK SECTION (SOUTH CACHE)**
SCALE: NTS



B
C4.4 **TYPICAL SIDEWALK SECTION (EAST PEARL)**
SCALE: NTS



C
C4.4 **PARKING GARAGE ENTRY ON EAST PEARL**
SCALE: NTS



D
C4.4 **TYPICAL SIDEWALK SECTION (EAST PEARL)**
SCALE: NTS

DEVELOPMENT PLAN DRAWINGS - NOT FOR CONSTRUCTION

DRAWING NO	JOB TITLE	DRAWING TITLE	REV.				
			DATE	SURVEYED	ENGINEERED	CHECKED	APPROVED
C4.4	RANCH INN MOTEL CACHE AND PEARL JACKSON, WYOMING	ROAD AND GRADING DETAILS	3/29/2022	NE	BO/MB	BO/BIG	MB
21-076-03							

HOUSING MITIGATION PLAN

Note: Due to the significant reduction in units, this project generates three housing credits.



Jackson/Teton County Affordable Housing Checklist - Housing Mitigation Plan (LDR Division 6.3.6)

Every development application must include a Housing Mitigation Plan for sufficiency. Every Housing Mitigation Plan is required to contain the following information:

Applicability (LDR 6.3.6.A.3.a)

1. Does your development qualify for an exemption from a housing mitigation requirement? Yes ☐ No ☒
If yes, explain and refer to the proper LDR _____

2. Are there credits associated with your development? Yes ☒ No ☐ If yes, explain where the existing credits came from, provide the calculation, and refer to the proper LDR. _____
There are currently 10.428 housing credits associated with existing development on site.
Proposed use for the re-development requires 6.973 credits. There are 3+ credits remaining after the redevelopment. No units shall be required. See attached AFH Calculator Worksheet.

Calculation of Requirement (LDR 6.3.6.A.3.b)

3. Does your development require or are you otherwise requesting approval of an Independent Calculation (LDR section 6.3.3.B)? Yes ☐ No ☒
If yes, provide the calculation according to 6.3.3.B.2 along with impact analysis, verifiable local information, industry specific rather than business specific data, etc. The Planning Department is available to help with this calculation prior to submittal of your application. Attach as a separate sheet.

☐ I have attached a separate sheet with the calculation and supporting data for my Independent Calculation

Housing Mitigation Requirements Calculator. If no to 1 and 3 above, calculate your development's requirement, using the Housing Mitigation Requirements Calculator. The calculator can be found at this link: www.jacksonwy.gov/200/Planning Attach a copy of the first page of the calculator showing the calculations and requirements with your Housing Mitigation Plan. The Planning Department is available to help with this calculation prior to submittal of your application.

- ☒ I have attached a copy of the first page of the Housing Mitigation Requirements Calculator which includes my requirement and unit types.

Type of Affordable Housing Provided – Standard Restrictions. (LDR 6.3.4)

4. How many ownership or rental units are you proposing in which income ranges with how many bedrooms?
Please complete the matrix below:

Bedrooms	0 – 50%	50% - 80%	80% - 120%	Workforce	Ownership or Rental
1-bedroom					
2-bedroom					
3-bedroom					

Special Restriction. The Special Restriction is a contract between The Board of County Commissioners or the Town Council and the owner of real property developed or designated to satisfy the development requirements. The Special Restrictions will be recorded on the property. Appropriate restriction templates can be obtained from the Jackson/Teton County Affordable Housing Department or at this link:
www.tetonwyo.org/1856/Deed-Restriction-Templates .

☐ I have attached a draft of the Standard Restrictions for each unit.

Livability Standards (LDR 6.3.4.D and E) (Rules and Regs Section 2-3). Restricted housing must comply with the Livability Standards in the Jackson/Teton County Housing Department Rules and Regulations. The Livability Standards include amount of cabinetry/counter space, storage, closets, room sizes, appliances, laundry facilities, bathrooms, etc. The Rules and Regulations can be found at this link:
www.tetonwyo.org/1332/Housing-Rules-and-Regulations .

☐ I have reviewed the Livability Standards and understand the requirements. I have/will contact the Housing Department for approval of my units early in the design process to get their approval prior to submitting for building permit.

Method for Providing Required Housing (LDR 6.3.5):

One or a combination of the below methods may be proposed to satisfy your housing requirement. They are listed in the order of preference/priority. Highest priority must be used unless it is demonstrated that a higher priority is impracticable (LDR 6.3.5.C)

1. Construction of new units either on-site or off-site (LDR 6.3.5.D.1).
2. Conveyance of land for affordable/workforce housing (LDR 6.3.5.D.2).
3. Utilization of a banked affordable or workforce housing unit (LDR 6.3.5.D.3).
4. Restriction of an existing residential units as an affordable/workforce housing unit (LDR 6.3.5.D.4).
5. Payment of an in-lieu fee (LDR 6.3.5.D.5).

☐ I have attached a detailed explanation of my proposed method of providing Required Housing.

Phasing Plan (LDR 6.3.5.A.3). Restricted Housing Units shall be ready for occupancy no later than the free market portion of the development is occupied. If the free market portion is to be developed in phases, then the Restricted Housing Units shall be developed prior to or in proportion to the free market portion.

☐ I have attached a detailed description of my phasing plan as it pertains to Affordable/Workforce units.

Housing Mitigation Plan

updated 1/8/21

Development of a new house, hotel, or commercial space generates the need for employees. The construction workforce builds the space, the commercial workforce or residential service workforce works in the space, and first responders are needed to protect the space. Only about 27% of the employees generated by development can afford housing in the community, but the community's "community first" character goal is that 65% of employees live locally. To bridge this affordability gap, each development is required to include affordable workforce housing proportional to the employees it generates. These housing mitigation requirements are established in Division 6.3 of the Land Development Regulations. This worksheet is intended to assist in meeting the requirements for a project. However, an error in the worksheet does not amend the actual standard; if you find an error please notify the Planning Department. Fill in the highlighted cells, all the other cells will autopopulate.

Calculating the Requirement (Sec. 6.3.2 & 6.3.3)

Step 1: Location

Town of Jackson

The applicable regulations vary by jurisdiction please identify the location of your project using the above dropdown options.

The required housing is based on the existing and proposed use of the site. Step 2 is to enter the existing use and Step 3 is to enter the proposed use. Section 6.3.2 of the LDRs establishes the applicability of the affordable workforce housing standards and Section 6.3.3 establishes the specifics on calculation of the requirement. Enter each use in its own row, add rows if needed. If a building has multiple units with the same use, describe each unit in its own row. (For example: if a duplex is composed of a 2,300 sf attached unit and a 1,700 sf attached unit, put each unit in its own row do not put in 4,000 sf of attached single-family.) If a unit type (e.g. apartment floor plan, or commercial tennant space) is replicated exactly multiple times, you may use the "Use Quantity" column to avoid adding multiple rows.

Step 2: Existing Development

Housing is only required for new development. Please describe the existing use of the site so that it can be credited from the housing requirement. The definition of existing use is Section 6.3.2.A.1 of the LDRs. Generally, the existing use to enter is the use with the highest housing requirement that either existed in 1995, or has been permitted since 1995. Please attach proof of existence.

Existing Use (Sec. 6.3.2.A)	Housing Requirement (Sec. 6.3.3.A)	Use Size: bedrooms	Use Size: habitable sf	Use Quantity	Housing Required
Conventional Lodging	0.102*bedrooms	1	0	49	5.005
Conventional Lodging	0.102*bedrooms	1	0	8	0.817
Retail	0.000216*sf		3113	1	0.672
Retail	0.000216*sf		7584	1	1.636
Retail	0.000216*sf		2325	1	0.502
Restaurant/Bar	0.000599*sf		3000	1	1.796
Assembly	Independent Calculation		3000	1	
Apartment (Unrestricted)	$0.000017*sf+(Exp(-14.17+1.59*Ln(sf)))/2.176$	2	820	1	0.000
Apartment (Unrestricted)	$0.000017*sf+(Exp(-14.17+1.59*Ln(sf)))/2.176$	1	518	1	0.000
Apartment (Unrestricted)	$0.000017*sf+(Exp(-14.17+1.59*Ln(sf)))/2.176$	2	752	1	0.000
Existing Workforce Housing Credit					10.428

Ranch Inn

Ranch Square Building

Under the Willow Building Per TC GIS, including basement

Ranch Square Building Per TC GIS, including basement

Grace Spa including basement

Thai Me Up including basement

Conference Center per ZCV

Deed Restricted Unit per ZCV. Per Planning Dept unit shall not carry any credit

Apartment Per ZCV

Apartment Per ZCV

Step 3: Proposed Development

Please describe the proposed use of the site to determine if affordable workforce housing is required as part of the development. Describe the end result of the proposed development. (For example: in the case of an addition do not enter the square footage of the addition, enter the size of the unit upon completion of the addition.)

Proposed Use	Housing Requirement (Sec. 6.3.3.A)	Use Size: bedrooms	Use Size: habitable sf	Use Quantity	Housing Required
Retail	0.000216*sf		1316	1	0.284
Retail	0.000216*sf		3447	1	0.744
Retail	0.000216*sf		2427	1	0.524
Retail	0.000216*sf		493	1	0.106
Retail	0.000216*sf		585	1	0.126
Retail	0.000216*sf		509	1	0.110
Retail	0.000216*sf		1766	1	0.381
Assembly				1	
Short-Term Rental Unit	0.102*bedrooms	2	2041	1	0.204
Short-Term Rental Unit	0.102*bedrooms	4	3512	1	0.409
Short-Term Rental Unit	0.102*bedrooms	3	3352	1	0.306
Short-Term Rental Unit	0.102*bedrooms	2	1976	1	0.204
Short-Term Rental Unit	0.102*bedrooms	2	1968	1	0.204
Short-Term Rental Unit	0.102*bedrooms	2	1909	1	0.204
Short-Term Rental Unit	0.102*bedrooms	2	1868	1	0.204
Short-Term Rental Unit	0.102*bedrooms	2	1913	1	0.204
Short-Term Rental Unit	0.102*bedrooms	2	1853	1	0.204
Short-Term Rental Unit	0.102*bedrooms	4	3690	1	0.409
Short-Term Rental Unit	0.102*bedrooms	2	1998	1	0.204
Short-Term Rental Unit	0.102*bedrooms	2	2111	1	0.204
Short-Term Rental Unit	0.102*bedrooms	3	2637	1	0.306
Short-Term Rental Unit	0.102*bedrooms	3	3163	1	0.306
Short-Term Rental Unit	0.102*bedrooms	3	3024	1	0.306
Short-Term Rental Unit	0.102*bedrooms	3	2939	1	0.306
Short-Term Rental Unit	0.102*bedrooms	3	2835	1	0.306
Short-Term Rental Unit	0.102*bedrooms	2	1903	1	0.204
Circulation or Nonhabitable Space	exempt		6518	1	0.000
Affordable Workforce Housing Required:					6.973
Fee-in-Lieu Amount:					\$ -

If the amount of required affordable workforce housing is less than one unit, you may pay the above fee in-lieu of providing the required housing. If you elect to pay the fee, your Housing Mitigation Plan is complete. If the requirement is greater than one unit, or you would like to provide a unit to meet the requirement, please proceed to the [Unit Type Sheet](#).

PARKING CALCULATIONS

Note: The proposed development provides 69 parking spaces, 27 are required.

PARKING CALCULATIONS

As indicated in the calculations below, we are required to provide 24 parking spaces (before applying any credits) for the retail spaces and 27 spaces for the residential short-term rental units. As noted in the Planning Department Staff report from the previously approved Sketch Plan, the subject property has 33.38 historical parking credits available. Additionally, there will be 11 on-street parking spaces available for use. All of the required retail parking can be met by the 11 on-street parking spaces and a portion of the available historical parking credits. As a result, the only required on-site parking is for the 27 residential short-term rental units. Nonetheless, the proposed development will provide significantly more parking than the minimum required: 11 covered outdoor parking spaces on the North side of the building that are intended to be used by retail employees and their customers, and an additional 58 parking spaces within the enclosed parking garage, for a total of 69 covered on-site parking spaces.

Commercial Use	Square Footage	Parking Required	Number of Spaces	Notes
Retail A	1316	2.25 spaces per 1,000 sf	2.961	
Retail B	3447	2.25 spaces per 1,000 sf	7.75575	
Retail C	2427	2.25 spaces per 1,000 sf	5.46075	
Retail D	493	2.25 spaces per 1,000 sf	1.10925	
Retail E	585	2.25 spaces per 1,000 sf	1.31625	
Retail F	509	2.25 spaces per 1,000 sf	1.14525	
Retail G	1766	2.25 spaces per 1,000 sf	3.9735	
TOTAL	10543		23.72175	

Residential Use	Square Footage	Parking Required	Number of Spaces	Notes
Unit A	2041	1.5 Per DU	1.5	*Short term rental not eligible to share parking with other uses
Unit B	3512	1.5 Per DU	1.5	
Unit C	3352	1.5 Per DU	1.5	
Unit D	1976	1.5 Per DU	1.5	
Unit E	1968	1.5 Per DU	1.5	
Unit F.1	1909	1.5 Per DU	1.5	
Unit F.2	1868	1.5 Per DU	1.5	
Unit G	1913	1.5 Per DU	1.5	
Unit H	1853	1.5 Per DU	1.5	
Unit I	3690	1.5 Per DU	1.5	
Unit J	1998	1.5 Per DU	1.5	
Unit K	2111	1.5 Per DU	1.5	
Unit L	2637	1.5 Per DU	1.5	
Unit M	3163	1.5 Per DU	1.5	
Unit N	3024	1.5 Per DU	1.5	
Unit O	2939	1.5 Per DU	1.5	
Unit P	2835	1.5 Per DU	1.5	
Unit Q	1903	1.5 Per DU	1.5	
TOTAL	44692		27	

Parking Type	Quantity	Notes
Total Parking Spaces Required (From Above By Use)	50.72175	27 spaces associated with short term rental cannot be offset with parking credits
On-Street Availability	11	22' linear feet per space. Added Curb Bulb-Outs reduced available street parking.
Total Available Parking Credits	33.38	Existing historical credits associated with subject site
Allocated Parking Credits	23.72175	Each proposed retail space shall utilize existing credits based on the required parking for their current proposed use and square footage. See above for the required parking for each retail space. Final parking spaces and credits will be assigned to individual units upon sale.
Remaining Excess Parking Credits	9.65825	Excess parking credits will be assigned to individual units upon sale.
Required On-Site Parking	27	Required amount is short-term rental parking only, which cannot be offset with parking credits. All required commercial parking can be met with on-street availability and historical parking credits.
Provided On-Site Parking	69	Includes 11 covered outdoor parking spaces accessed from the alley that are intended to be used by retail employees and their customers. All other parking spaces are located within the enclosed garage.

ENGINEERING REPORT

ENGINEERING REPORT

Introduction

This engineering report provides the basis for design and addresses the engineering related issues for the proposed multi use development. The existing site contains several structures, a parking area, and asphalt parking. The site is completely developed with little to no existing pervious surfacing or landscaping. There are several existing buried and overhead utilities along the property. Water and sanitary sewer facilities are provided to the property through Town of Jackson (TOJ) Systems. The level of detail includes the basic layout and general design elements. Design detail will advance as the plan moves into the construction permitting and construction phases of the project.

Soils and Groundwater Conditions

A geotechnical investigation was performed by Nelson Engineering in 2021. This report noted that gravel, clay and sand down to 20' exist on site. No groundwater was found in the borings.

Access and Parking

Access to the site will be from Pearl Avenue via the main development entrance. This access is proposed as a 24' wide driveway to a garage door into the covered parking area. Parking for the development will be located internal to the building through the main Pearl Avenue entrance.

There will be on street parking along Cache Street and Pearl Avenue with the exception of the no parking zone along Pearl Avenue across from the fire hall.

The street frontage along Cache Street will include boardwalk as indicated on the drawings. Street frontage along Pearl Avenue will include detached sidewalk with a paver strip and tree wells as required. Also included in the design is the installation of a pedestrian bulbout at the corner of Cache Street and Pearl Avenue, consistent with the complete streets guidelines. It is assumed that since the existing use is commercial and lodging, and the proposed used is to be commercial and residential, that the vehicle trips will remain much the same.

Grading, Drainage, and Stormwater Management

Grading of the site will not alter the grades along Cache Street or Pearl Avenue. Curb and gutter will be removed in all the locations along the roadways. In addition all sidewalks will be removed and replaced. Grades of the replaced curb and gutter will match the existing asphalt paving. Development of the site will leave little to no pervious surface as currently exists. Storm water will be collected on the roofs and terraces of the development and conveyed to a central collection system internal to the site. All grading in the alley and along the east side will match existing grades.

The existing site contains 2 separate structures along with asphalt paving and parking. All existing stormwater runoff from the site sheet flows onto neighboring parcels and TOJ roadways and alley. Based on TOJ regulations the proposed development is required to detain any additional runoff above

and beyond the existing conditions. Preliminary stormwater calculations were performed and are included in the Appendix. Due to the proposed development having a longer time of concentration prior to leaving the site, the estimated runoff from a 100 yr storm event is just slightly lower than the existing 3.0 cfs compared to 3.5 cfs. As stated above, storm water will be collected on the roofs of the structures and various locations on the site, collected to a central collection system internal to the site, and conveyed to the TOJ storm pipe. Currently, the nearest TOJ stormwater collection system is in Pearl Avenue at the Glenwood intersection. An extension of the storm water in Pearl Street to the development is being proposed. In addition to the collection network gathering stormwater from the building roofs and surface drainage, snow melt and general drainage from the covered parking areas will have to be collected and conveyed to the stormwater system. All stormwater within the parking area will be collected and conveyed to a 1500 gallon sand/oil separator to be installed within the garage area. The calculations included in the Appendix along with grading and stormwater management plans will be refined through the Grading and Erosion Control Permit process as the project develops.

Water System

The site is surrounded on two sides by TOJ Water System Facilities. The TOJ has 8-inch water mains both streets. Due to the location of the project being near the downtown core of the TOJ, all water main facilities are adequately sized and looped.

To verify the existing water facilities are sized adequately, proposed water flows, both domestic and fire were estimated for the development. Current proposed programming values for the development were utilized for the estimates. Per mechanical engineer calculations the domestic demand for the development will be 172 gpm, requiring a 4" main and meter to serve the structure. Based on water system modeling it is expected that adequate capacity is available from the Town's water system.

Due to the size and proposed use of the development, the structures will require automatic fire sprinkler systems. Fire flow requirements were noted above as 498 gpm. Because of the location of the development being in the core downtown area, it was assumed that additional exterior flow requirements would be needed in the event of a fire. It is assumed that 2 additional fire flows of 1000 gpm would be required on adjacent fire hydrants. The building fire flow, along with the 2 exterior fire hydrant flows were simulated in the TOJ Water Model. Results of the modeling are included in the Appendix, which indicate that residual pressure within the water system at adjacent fire hydrants never dropped below 35 psi during a fire flow scenario.

Using the projected fire sprinkler flow demands, the water service supplying the development will need to be an 8-inch pipe to keep velocities within the pipeline below 6 feet per second during a fire flow scenario. To comply with the TOJ's conventional practice that a single development be supplied water through one location from the TOJ's system, a single connection will be constructed from Cache Street. This connection will then split at the property line with one connection feeding the fire suppression system and the other supplying domestic water to the development. To provide the

maximum domestic water demand a four-inch potable main will be installed to the development from the water main branch at the property line. All proposed water system requirements are indicated on the Proposed Utility Plan located in the Development Plan Drawings. As the project advances the project team will coordinate with the fire sprinkler designer and the Fire Department to ensure adequate fire protection measures and equipment are in place.

Sewer System

The proposed development will be connected to the TOJ sewer collection system in the alley. A new doghouse manhole will be constructed over the sewer main with a new 8-inch main serving the development. Based on conservative calculations from the mechanical engineers, the development will result in a maximum flow of approximately 100 gpm based on proposed fixture units. At this maximum flow the 8-inch service will have capacity to convey flows to the TOJ sewer main. No commercial cooking facilities are planned, therefore no grease interceptor is planned for the development.

Wire Utilities and Gas

Power and communication facilities are readily available throughout the area and to this specific location. Currently all wire utilities are served from the alley to the north. The proposed plan is to serve wire utilities from an existing power pole underground to the development. A new transformer will be installed with proper clearances on the north side of the building, within the property boundary. Gas and power meters will be installed in banks along the north side of the building. Included in the Development Plan Drawings is a utility plan indicating the proposed location of the facilities.

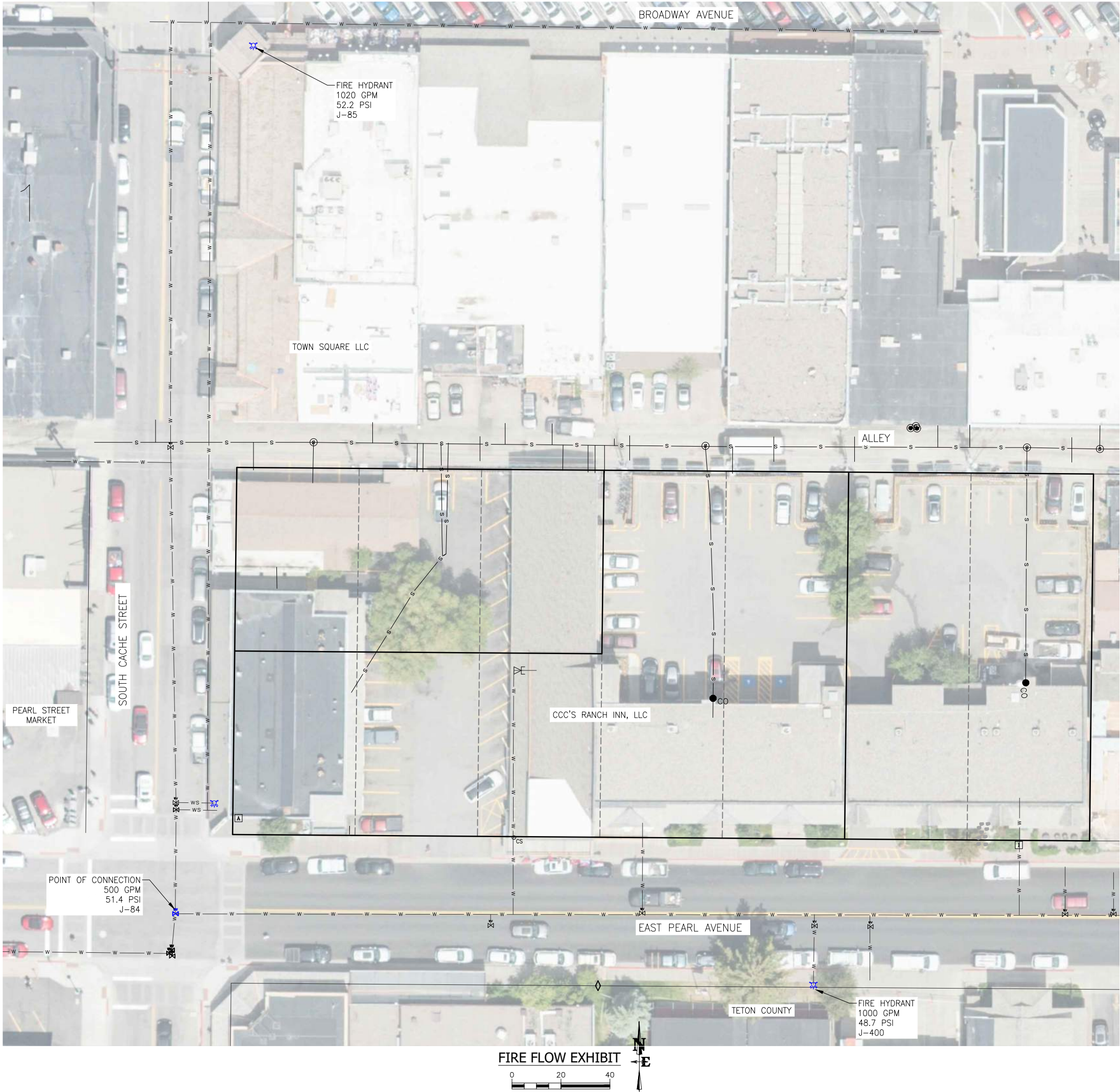
Refuse, Garbage, Trash, and Recycling

Refuse, garbage, trash, and recycling will be kept in covered containers at all times within the covered garage. All containers will be kept within enclosed structures as indicated on the proposed site plan.

Snow Storage

Due to the proposed scale of the development, there is very little area on the site which is not covered by roofs or decks. The only area on the site where snow removal will be required is the area of the drive lanes accessing the development which is very minimal. Due to the nature of the development and the proposed amenities, all snow will be removed from the site in an expedited manner.

S:\Proj\2024\036-03 Ranch Inn Motel, Cache and Pearl - NWKS - CadA4 Brwng\036-03 FIRE FLOW EXHIBIT.dwg EXISTING SITE PLAN - File 09/2022 10:18:06 pm PLOTTED BY: jng DWG FORMAT: 241



LEGEND

- = PROPERTY LINE
- = EDGE OF CONCRETE
- S — S — = SANITARY SEWER LINE
- W — W — W — = WATER LINE

Summary of Hydraulic Model Results

WaterCAD V8i - Town of Jackson 2013 model

Ranch Inn Fire Flow

Location	Total Demand gpm	Residual Pressure psi	Junction Label
Corner of Cache and Broadway	1,020	52.2	J-85
Point of connection	500	51.4	J-84
Front of Fire Station on Pearl	1,000	48.7	J-400

DRAWING NO

C1.0

JOB NO

21-076-03

JOB TITLE

RANCH INN MOTEL
CACHE AND PEARL
JACKSON, WYOMING

DRAWING TITLE

FIRE FLOW EXHIBIT

DATE

SURVEYED

ENGINEERED

DRAWN

CHECKED

APPROVED

02/09/2022

NE

AK

AK

REV.

**NELSON
ENGINEERING**
P.O. BOX 1599, JACKSON WYOMING (307) 733-2087

EXHIBIT - NOT FOR CONSTRUCTION

PRE-DEVELOPMENT

ROOF CALCULATIONS

ROOF AREA (FT^2)=	18287	
C-VALUE =	0.9	
S =	33%	assume 4/12 pitch
L (ft) =	20	ridge pitch
tc (min) =	0.50	tc = 1.8(1.1 - C)L^0.5/S^0.3333, (Corps of Eng. Eqn.)

DRIVEWAY CALCULATIONS

DRIVEWAY AREA (FT^2)=	32904	
C-VALUE =	0.9	assumed for asphalt surface
S =	3%	based on surface slopes
L (ft) =	115	
tc (min) =	2.68	tc = 1.8(1.1 - C)L^0.5/S^0.3333, (Corps of Eng. Eqn.)

LANDSCAPING CALCULATIONS

LANDSCAPING AREA (FT^2)	1281	
C-VALUE =	0.3	
S =	2%	
L (ft) =	0	
tc (min) =	0.00	tc = 1.8(1.1 - C)L^0.5/S^0.3333, (Corps of Eng. Eqn.)

Total Time of Conc., Tc = 3.18 min
Composite Cc = 0.89
Total Area, At = 52472 ft^2

TABLE 4920.B JACKSON IDF* CURVE DATA - 100-YR STORM EVENT

DURATION, Td (min)	INTENSITY, I (in/hr)	
0	3.70	assumes this portion of graph is linear
5	3	
10	2.33	
15	1.9	
20	1.65	
30	1.3	
40	1.08	
50	0.95	
60	0.82	
70	0.74	
80	0.65	
90	0.61	
100	0.56	
110	0.52	
120	0.48	

Initial Flow Rate, Qi (cfs) = 3.50 cfs at tc= 4.7 min

$$Q_i = C_c * I * A_t / (43200)$$

where,
 Composite Cc = 0.89
 Intensity, I = 3.24 in/hr at Td = 4.7 min
 Total Area, At = 52472 ft^2

POST-DEVELOPMENT

ROOF CALCULATIONS

ROOF AREA (FT^2)	24519	
C-VALUE =	0.9	
S =	2%	
L (ft) =	30	assumed longest run to roof drain
tc (min) =	1.57	tc = 1.8(1.1 - C)L^0.5/S^0.3333, (Corps of Eng. Eqn.)

DRIVEWAY CALCULATIONS

DRIVEWAY AREA (FT^2)	26672	
C-VALUE =	0.9	
S =	4%	
L (ft) =	260	
tc (min) =	3.66	tc = 1.8(1.1 - C)L^0.5/S^0.3333, (Corps of Eng. Eqn.)

LAWN CALCULATIONS

LAWN AREA (FT^2)	1281	
C-VALUE =	0.3	
S =	2%	
L (ft) =	0	
tc (min) =	0.00	tc = 1.8(1.1 - C)L^0.5/S^0.3333, (Corps of Eng. Eqn.)

Tc Pipe flow (min)= 1.31 tc= L(ft)/V(fps)/60 10" and 4" segments assumed

Total Time of Conc., Tc = 6.53 min
Composite Cc = 0.89
Total Area, At = 52472 ft^2

TABLE 4920.B
JACKSON IDF* CURVE DATA - 100-YR STORM EVENT

DURATION, Td (min)	INTENSITY, I (in/hr)	
0	3.70	assumes this portion of graph is linear
5	3	
10	2.33	
15	1.9	
20	1.65	
30	1.3	
40	1.08	
50	0.95	
60	0.82	
70	0.74	
80	0.65	
90	0.61	
100	0.56	
110	0.52	
120	0.48	

Final Flow Rate, Qf (cfs) = 3.00 cfs at tc = 3.33 min

$$Q_f = C_c * I * A_t / (43200)$$

where,

Composite Cc = 0.89
Intensity, I = 2.79 in/hr at Td = 3.33 min
Total Area, At = 52472 ft^2

Post and Pre-Development Diff = **-0.50** cfs

TABLE 1

DURATION, T _d (min)	INTENSITY, I (in/hr)	Design Flow, Q _d (ft ³ /s)	Design Storage Volume, V _d (ft ³)
2	3.40	3.658	-40
3	3.27	3.514	-3
4	3.13	3.370	22
5	3	3.226	34
6	2.87	3.082	36
7	2.73	2.938	26
8	2.60	2.794	8
9	2.46	2.650	-19
10	2.33	2.506	-52
15	1.9	2.043	-333
20	1.65	1.774	-737
30	1.3	1.398	-1722
40	1.08	1.161	-2851
50	0.95	1.022	-4108

TABLE 1 EQUATIONS: $Q_d = C_c \cdot I \cdot A_t / (43200)$

$$V_d = (Q_d - Q_i) \cdot ((Q_d - Q_i) / Q_r \cdot T_d) \cdot 60$$

Where,

Composite C_c = 0.89
Intensity, I = 2.79 in/hr
Total Area, A_t = 52472 ft²
Final Flow Rate, Q_d (cfs) = 3.00 cfs at t_c = 3.33 min
Initial Flow Rate, Q_i (cfs) = 3.50 cfs at t_c = 4.7 min
Duration, T_d = 6.53 (min)

Storage Volume = 22 ft³, or 163 gallons
Dry Bottom Basins to be Utilized for Stormwater Detention

CONSTRUCTION MANAGEMENT PLAN

CONSTRUCTION MANAGEMENT PLAN CACHE & PEARL PROJECT

Project Narrative

Overview:

The proposed project will re-develop a 1.29-acre seven lot parcel within the DC-2 zoning district located in the Town of Jackson. The site is bordered on the west by Cache Street, on the south by Pearl Avenue, on the east by a previously developed 0.17-acre DC-2 zoned site, and on the north by an alley which connects Cache Street and King Street.

Existing Site:

Currently, there are three major structures that exist on the site. These include the Ranch Inn, the Ranch Square Building and the Under the Willow Building. All above grade structures will be demolished. The new development will utilize approximately 68,000 total square feet (approximately 65,000 SF FAR area) of the total 71,219 square feet allowable within the 1.29-acre site. Some of the existing basements will remain in order to minimize earth work and shoring.

Background:

Since the proposed development exceeds 39,000 square feet, a development permit is required. The proposed development received unanimous approval from the Design Review Committee on 10/13/2021, as well as Sketch Plan approval from the Planning Commission on 12/01/2021 and from the Town Council on 01/18/2022. To address a “condition for approval” created during the Sketch Plan approval from the Town Council, the applicant changed the project design significantly. The applicant created two separate design options, both of which met the criteria to address “Condition 7” and submitted these two options to the Design Review Committee (“DRC”) for their review, comment, and ultimate recommendations for approval. Both options, “Options A & B” were well-received by DRC members although “Option B” was approved by a vote of 5-1. The single DRC member who voted “no” was generally supportive of the proposed design changes that were presented, but preferred Option A which is what prompted their dissenting vote. As a result, this application contains the “Option B” design as a result of DRC’s recommendation for approval. It also incorporates the recommendations from DRC to change the railings on the eastern building to be consistent with the remainder of the project as well as slight modifications to the chimneys. The Development Plan Review will be followed by a Grading Permit Pre-Application, and ultimately a Building Permit Application.

The Program:

The 68,000 square foot redevelopment will include commercial space at the street level, and 18 two, three, and four-bedroom condominium units on the second and third levels. 58 parking spaces are located in a covered garage located at grade level directly behind (north of) the redevelopment, and 11 outdoor

covered spaces are located north of the parking garage and accessed from the alley bordering the property. To access the garage, one will drive through a curb cut located on Pearl Avenue. To note, we are eliminating one large existing curb cut on Pearl Avenue and relocating the smaller existing curb cut that is currently located within the fire lane approximately 40 feet west to serve as the access point for the proposed parking garage. The proposed curb cut has been closely coordinated with Teton County Fire/EMS to ensure that the access and use of the fire station across Pearl Avenue is not impeded whatsoever.

Conclusion:

This Development Plan application complies with the Land Development Regulations, the Design Guidelines, the Comprehensive Plan and is being recommended for approval by Planning staff and the DRC. As noted above, the Development Plan submittal contains a number of design revisions that were informed by the Sketch Plan Conditions for Approval, as well as past commentary from Town staff, the Design Review Committee, the Planning Commission, and Town Council.

Scheduling (26 Month Construction Schedule):

March 2023 – May 2023	Demolition of Existing Structures
May 2023 – July 2023	Excavation / Shoring
April 2024 – June 2024	Utilities (or sooner. During Summer Month)
July 2023 – February 2025	Above Grade Vertical Construction Activities
August 2024 – September 2024	Sitework (During Summer Months)

Public Impact:

Below please find the Construction Management Plan and associated narrative breakdowns for review. Also provided within this package is the current Project Staging Plan and Shoring program narrative. Crystal Creek Capital (CCC) recognizes the importance of minimizing impacts during the summer seasons. During the first summer and fall (2023), construction activity will primarily involve existing building demolition, shoring, building excavations and completion of building foundation systems. During the second summer, the project will be in full construction with vertical assemblies being installed such as structural steel, steel stud framing and envelope enclosure consisting of windows/storefront, roofing and insulation. Interior construction will also be started at this time so full rough in of mechanical/electrical/plumbing/fire sprinkler as well as interior framing, drywall and interior finishes will be continuing through final completion date.

The final couple of months, the majority of the sitework will be completed including the new curb and gutter, sidewalks/boardwalks, approaches and hardscape. This work will be scheduled with the TOJ at the end of the summer 2024.

CCC is also aware that the right-of-way- is a shared use area, including community events, Town capital improvements and will work with the Town of Jackson to reduce impact in these situations as much as possible.

CCC has provided a list of the surrounding properties and businesses that will be most impacted by the construction activities. Please see Exhibit A at the end of this CMP for the list and sample Construction Neighborhood Meeting Notice. The complete list of names and emails will be emailed per the CMP checklist to the email address provided (townengineering@jacksonwy.gov) prior to construction.

Self-Enforced Parking Plan / Construction Parking:

For the duration of the project, it will be clearly stated in all subcontracts that construction related parking (employee and construction personnel) will not be allowed per the CMP checklist. Contractor shall implement a clear and self-enforcing construction parking plan that does not use/or encumber downtown on street and/or public parking lot parking spaces. The plan specifies that employee or contractor parking within the time restricted parking zones, the Home Ranch, East Deloney, Miller Park and/or the Parking Garage lots is not allowed.

Site Logistics:

Work Hours:

Standard work hours for project are Monday-Friday 7:00 AM to 5:00 PM with limited work on Holidays and weekends between 8:00 AM-5:00 PM.

The Contractor will also work with the TOJ to schedule special accommodations for events requiring extended working hours such as erection and dismantling of the tower crane and early morning concrete placements.

See attached Staging Plan.

Temporary Facilities / Staging:

All temporary facilities including construction trailers, trash, recycling, bathrooms, concrete washout, etc. will be located within the fenced areas of the project.

The project site will be fenced with an 8' tall, screened fence to limit viewing of construction activities.

A tower crane will be utilized during the construction of the project. The crane will be located within the property lines and will follow industry safety standards. At times, the crane boom will extend beyond the project limits, but all picks and delivery of materials will take place within the construction fence and/or unloading zone on Pearl Ave. If material picks are necessary outside of the construction fence, the activity will be coordinated with the TOJ and any lane closures and Right of Way permitting will be completed with TOJ prior to the completion of the activity. Cranes will be operated by a certified operator and follow industry and OSHA standards.

TOJ Street and Sidewalk Maintenance:

Construction Access and Exit tracking pads will be utilized at the site entrance off of Pearl as well as an additional location for site exiting into the existing alley to minimize any dirt being tracked onto neighboring streets. Street sweeping and cleaning will also be provided when necessary. Snow removal will be coordinated to not impact snow plowing of city streets. The sidewalk and site snow removal will be removed by DAC/CCC and trucked off site to a suitable location.

Traffic Control:

The contractor will provide traffic control for the duration of the activities within the public right of way and/or specific activities that require lane closures. All utility work in the right of way will require submission of a public right of way permit allowing the ability to coordinate utility installations and minimize impact. Utility work will be scheduled during summer months to ensure batch plants are operating. Work to be completed between the months of May - October.

Shoring:

The shoring plan is a delegated design that will be finalized prior to the construction start. The initial review of the shoring requirements for the project indicate that soil nails will not be required and that any shoring required will be a piling and cribbing system. At piling locations (approximately every 15' on center), a 24" to 30" caisson is drilled double the height of excavation (bottom of footing elevation) and a steel piling profile installed with lean concrete fill. Between the piling verticals, the shoring walls will be either wooden or concrete lagging. Final design will dictate this selection of lagging; however, all piling, and lagging will be within the property lines, so no shoring is anticipated outside of the property lines. Shoring plan will be provided once design and field investigations are finalized and will be submitted to TOJ in later submittals.

Project Access & Material Deliveries:

The main project access will be located off of Pearl Ave. All major deliveries will be received at this location if the delivery trucking cannot access the site through the existing alley. The proposed location for unloading is located along Pearl Ave. Large deliveries will be off loaded using a tower crane whenever possible to pick from the unloading zone and place materials within the staging area defined. Per correspondence with Kathy Clay, Battalion Chief Fire Marshall, as long as unloading zone is outside of the "red curb" locations along Pearl Ave, this activity will be acceptable. For any loads requiring forklift unloading, a vehicle tracking pad that is TOJ approved, will be installed at the entry/exit to the staging area off of Pearl Ave. See Staging Plan

The secondary project access will utilize the one-way alley to the north of the project site. Use of this access will be limited so existing business deliveries and traffic are affected to the least impact as possible. Again, DAC will install the necessary construction access profile to mitigate dirt and materials being transferred to TOJ streets.

Protection of Pedestrians:

CACHE STREET – Due to the volume of foot traffic on Cache Street, a covered pedestrian walkway will be provided from the alley to the corner of Pearl Ave and Cache Street. This will allow uninterrupted pedestrian traffic the full run of the project site along Cache Street.

PEARL AVE – The proposed plan for Pearl Ave. has been designed around the necessity to have an "Unloading Zone" for material deliveries. The proposed plan would divert all pedestrian traffic away from the "front" of the project on Pearl Avenue. Signage would be located at the corner of King/Pearl directing pedestrians to the south side of Pearl Ave. Signage would also be located on the west corners of Cache/Pearl closing indicating a sidewalk closure on Pearl with directions arrows for clarity. This approach was taken for multiple reasons:

- The unloading zone will be a very busy area and with the necessary crane picks over the building from Pearl, we will have to close these areas for pedestrian safety. This is also defined in the CMP checklist that “No moving of materials over an open to the public area is allowed”.
- There is only one business located outside the project limits on King/Pearl which will have full access to their street front per this design. All other existing businesses/structures on the north side of Pearl Ave will be part of this project.
- Both facades of the building along Cache and Pearl will require scaffolding along the exterior face of construction. Materials will have to be loaded to the scaffolding using the tower crane and reducing/eliminating pedestrians along Pearl will ensure a much safer experience for pedestrians.

Crane:

Finalized location of the tower crane will be defined with size, pick radius and limits in future submittal. This will allow for the selected crane company to provide the necessary input to finalize the crane selection. A tentative location has been shown on the Staging Plan.

Storm Water Management:

A comprehensive Storm Water Management Plan will be developed and submitted to the TOJ for review and acceptance during the grading permit process. Scope will include storm drain treatments, barriers, concrete washout profile, best management practices (BMP's), installation, maintenance, and inspection plan.

Performance Bond and Guarantee:

All necessary bonds and guarantees will be put in place with the Town of Jackson for all permitting and right of way work for the project. These measures will be established prior to starting work on the project.

PROJECT NAME: CACHE & PEARL

DATE: 3/28/2022

Exhibit A

SURROUNDING PROPERTIES & BUSINESSES

Name	Address 1	Address 2
36 EAST BROADWAY, LLC C/O KUVINKA & KUVINKA, PC	PO BOX 3007	JACKSON, WY 83001-3007
50 KING STREET BUILDING, LLC	PO BOX 2812	JACKSON, WY 83001-2812
BANK OF JACKSON HOLE C/O BANK OF ALPINE, ACCTS PAYABLE	PO BOX 3709	ALPINE, WY 83128-0709
BIG MOUNTAIN ENTERPRISES, LLC	PO BOX 1513	JACKSON, WY 83001-1513
BLUE JAY CORPORATION	PO BOX 1677	JACKSON, WY 83001-1677
BOYER, JOHN R. & JRB DESCENDANTS TRUST	PO BOX 882	JACKSON, WY 83001-0882
BOYER, SKIPPY LTD. PART. C/O PINK GARTER PLAZA	PO BOX 189	MEXICO, MO 65265-0189
BROADWAY CENTRE LLC	PO BOX 489	JACKSON, WY 83001-0489
CHET'S WAY, LLC	PO BOX 694	JACKSON, WY 83001-0694
COULTER HOUSE, LLC	PO BOX 694	JACKSON, WY 83001-0694
CRABTREE CORNER, LLC	PO BOX 3767	JACKSON, WY 83001-3767
ELK COUNTRY MOTELS, INC.	PO BOX 575	JACKSON, WY 83001-0575
ETOILE HOLDINGS, LLC	PO BOX 37	PENNS PARK, PA 18943-0037
GARAMAN, INC.	PO BOX 36	JACKSON, WY 83001-0036
HARGER, DONALD K. ET UX	PO BOX 2826	JACKSON, WY 83001-2826
JOURDAN FAMILY LIMITED PART.	PO BOX 3159	JACKSON, WY 83001-3159
LENZ, INC.	PO BOX 2530	JACKSON, WY 83001-2530
MADRIGAL, JOSE MIGUEL & FAVIOLA H	49 W MAIN ST	LOVELL, WY 82431
MARTIN, YVONNEDA M. TRUSTEE	PO BOX 11780	JACKSON, WY 83002-1780
MONROE NEEDLE ROCK LLC	PO BOX 8615	JACKSON, WY 83002-8615
MOUNTAIN STATES TELEPHONE & TELEGRAPH CO	501 E MONROE	RIVERTON, WY 82501
OLD GROWTH, LLC	PO BOX 12801	JACKSON, WY 83002-2801
OLD WEST CORP. (THE)	PO BOX 575	JACKSON, WY 83001-0575
PECK, JAMES M. & YOUNGBLOOD, KAREN M.	PO BOX 1233	JACKSON, WY 83001-1233
RIDGE CREEK INVESTMENT CO.	PO BOX 1	JACKSON, WY 83001-0001
ROOSEVELT, GAYLE L.	PO BOX 4091	JACKSON, WY 83001-4091
RTN-PSN TRUST, THE	PO BOX 6754	JACKSON, WY 83002-6754
TETON ACADIA GROUP, LLC C/O JDHCO	PO BOX 3369	JACKSON, WY 83001-3369
TETON COUNTY	PO BOX 1727	JACKSON, WY 83001-1727
TOWN SQUARE, LLC C/O WILLIAM LEE GARDNER	PO BOX 159	TETON VILLAGE, WY 83025-0159
VANDEWATER ENTERPRISES LP	1815 POPLAR ST	BUHL, ID 83316-1728
WAX MUSEUM, INC.	PO BOX 2393	JACKSON, WY 83001-2393

Date TBD

Ranch Inn: Construction Logistics Informational Meeting

Dear Neighbors,

Crystal Creek Capital (CCC) is planning to begin construction on The Cache & Pearl Project and we are looking forward to becoming an integral part of the neighborhood. We would like to inform our neighboring property owners and business owners of our construction logistics plan during a pre-construction open house on _____ from ____ MST ____ MST. The open house will be held at the _____ meeting space located at _____.

CCC recognizes the importance of minimizing impacts to our neighbors and the surrounding area. Demolition is currently scheduled to begin _____. During the first phase of the project, construction activity primarily involves excavation and completion of the building foundation. The second phase involves the completion of the building systems, exterior siding and hardscape. Covered walkways will be provided during various times of the project for public access and safety.

For any questions or concerns during the project our contact information is listed below:

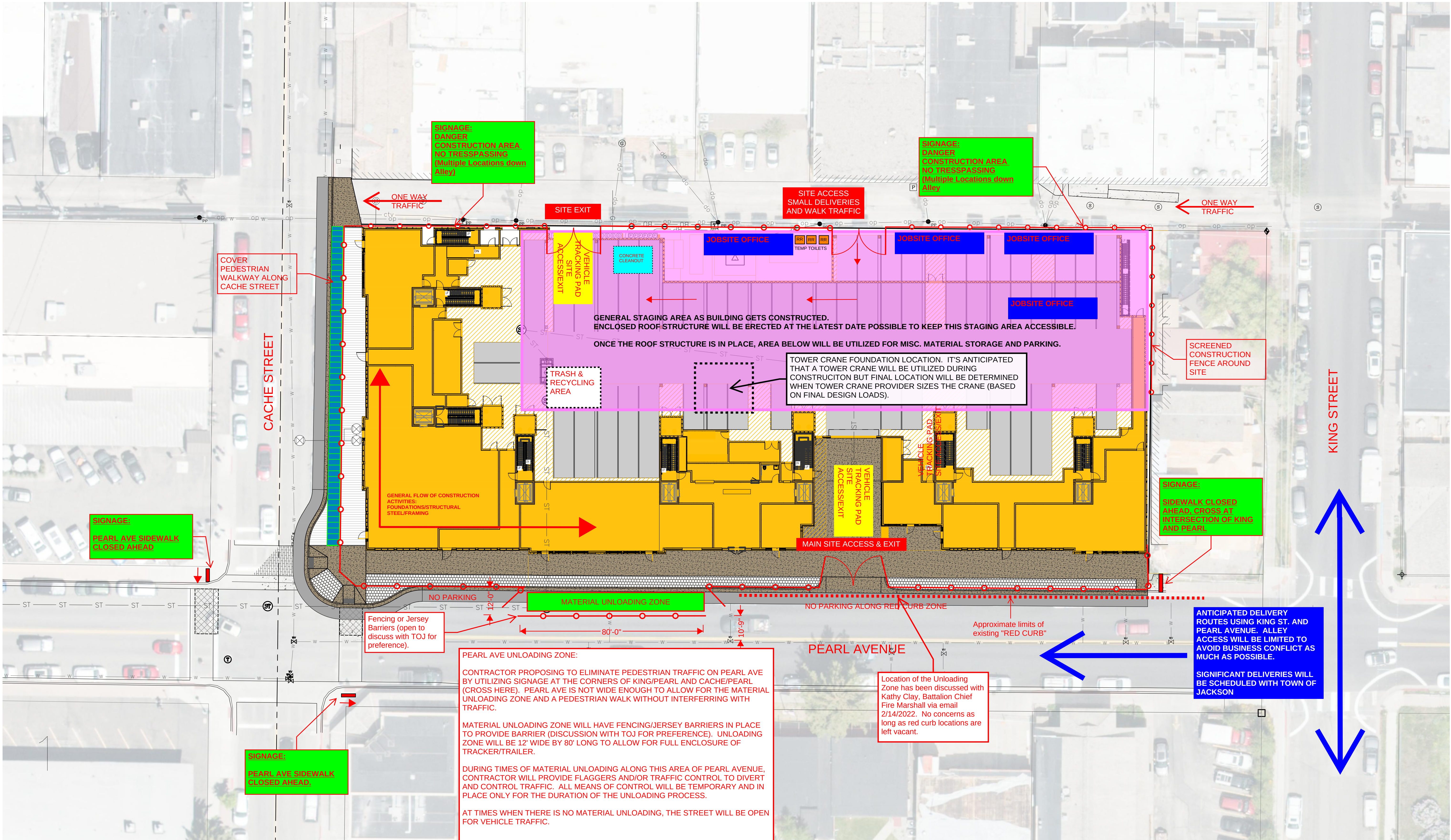
DAC contact info

CCC contact info

Best,

Adrian Barton
Crystal Creek Capital Real Estate Advisors, LL

STAGING PLAN



PEARL AVE UNLOADING ZONE:

CONTRACTOR PROPOSING TO ELIMINATE PEDESTRIAN TRAFFIC ON PEARL AVE BY UTILIZING SIGNAGE AT THE CORNERS OF KING/PEARL AND CACHE/PEARL (CROSS HERE). PEARL AVE IS NOT WIDE ENOUGH TO ALLOW FOR THE MATERIAL UNLOADING ZONE AND A PEDESTRIAN WALK WITHOUT INTERFERING WITH TRAFFIC.

MATERIAL UNLOADING ZONE WILL HAVE FENCING/JERSEY BARRIERS IN PLACE TO PROVIDE BARRIER (DISCUSSION WITH TOJ FOR PREFERENCE). UNLOADING ZONE WILL BE 12' WIDE BY 80' LONG TO ALLOW FOR FULL ENCLOSURE OF TRACKER/TRAILER.

DURING TIMES OF MATERIAL UNLOADING ALONG THIS AREA OF PEARL AVENUE, CONTRACTOR WILL PROVIDE FLAGGERS AND/OR TRAFFIC CONTROL TO DIVERT AND CONTROL TRAFFIC. ALL MEANS OF CONTROL WILL BE TEMPORARY AND IN PLACE ONLY FOR THE DURATION OF THE UNLOADING PROCESS.

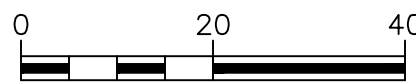
AT TIMES WHEN THERE IS NO MATERIAL UNLOADING, THE STREET WILL BE OPEN FOR VEHICLE TRAFFIC.

Location of the Unloading Zone has been discussed with Kathy Clay, Battalion Chief Fire Marshall via email 2/14/2022. No concerns as long as red curb locations are left vacant.

General Notes:

Secondary Staging location for material storage being located as necessary.

CONSTRUCTION PLAN EXHIBIT



DEVELOPMENT PLAN DRAWINGS - NOT FOR CONSTRUCTION

S:\Proj\2021\076-03 Ranch Inn Motel, Cache and Pearl - NWCE - CadVA Perminga\050N GRADING, PLANNING, CONSTRUCTION PLAN EXHIBIT - Feb 18 2022 07:54:05 pm - ELUTED BY: dson - DWG: EXHIBIT 241

DRAWING NO EXH	JOB TITLE RANCH INN MOTEL CACHE AND PEARL JACKSON, WYOMING	DRAWING TITLE CONSTRUCTION PLAN EXHIBIT	NELSON ENGINEERING P.O. BOX 1599, JACKSON WYOMING (307) 733-2087					
			DATE			02/10/2022	REV.	
			SURVEYED			NE		
			ENGINEERED			BO/MB		
			DRAWN			BO/BIG		
JOB NO 21-076-03			CHECKED			MB		
			APPROVED					

GEO TECHNICAL REPORT

GEOTECHNICAL INVESTIGATION
MULTI-USE COMMERCIAL DEVELOPMENT
LOTS 10 THROUGH 16, BLOCK 1
CACHE-1 SUBDIVISION
JACKSON, WYOMING

PREPARED
FOR
CRYSTAL CREEK CAPITAL REAL ESTATE ADVISORS
JACKSON, WYOMING

PREPARED
By
NELSON ENGINEERING
JACKSON, WYOMING

SD DRAFT AUGUST 10, 2021

Project No. 21-076-02

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GENERAL AND PROJECT DESCRIPTION

A geotechnical investigation was performed for a mixed-use development at Lots 10 through 16, Block 1 of the Cache-1 Subdivision in Jackson Wyoming. A three-story mixed-use building with partial basement parking is planned. Geotechnical recommendations in this report are based on schematic design level plans as of July 2021 prepared by Northworks Architects and subconsultants.

Scope of Services

The scope of services for this investigation was to provide geotechnical recommendations based on a subsurface investigation and soils laboratory testing for the proposed mixed-use development. The purpose of the subsurface investigation was to determine soil and groundwater characteristics. The results of the subsurface investigation and subsequent laboratory testing were utilized in engineering analysis for recommendations pertaining to structural foundations, drive and parking areas, retaining walls, and general earthwork. It is our engineering judgment that the existing and proposed slope geometry and composition indicate stability therefore slope stability analyses were not conducted. Specific recommendations for drainage and surface water conveyance are not within the scope of work.

Foundation analysis and resulting recommendations are based on typical loads for the type of structure proposed. Prior to finalization of project plans, foundation plans and loads should be sent to this office for review to ensure compliance with this report. Recommendations assume foundation elements are not subjected to unusual loading conditions such as eccentric loads or vibratory equipment. Lateral earth pressure recommendations contained herein are general in nature; it is critical that retaining wall designs are reviewed by the geotechnical engineer.

SITE CONDITIONS

Description

The project is located at the corner of East Pearl Avenue and South Cache Street, Lots 10 through 16, Block 1 of the Cache-1 Subdivision. Existing structures include three Ranch Inn buildings and an older commercial building fronting Cache Street. There are two interior parking areas accessed from Pearl Avenue. Adjoining to the east are developed commercial lots along King Street. To the north is an alley.

The three Ranch Inn buildings have full basements, the older commercial building has a partial basement. Local topography is relatively flat with very gentle slopes to the west/northwest.

Geology and Soil Mapping

The area's surface geology is mapped on the USGS "Geologic Map of the Jackson Quadrangle, Teton County, Wyoming," J.D. Love and H.F. Albee, 2004. The map shows "Qf-Alluvial Fan Deposits-Water-laid gravel, sand, silt, and clay spreading out from mouths of ravines and canyons" throughout the site.

The US Natural Resources Conservation Service's Soil Survey of Teton County has mapped the Greyback gravelly loam at the site. The soils are alluvial and/or glaciofluvial deposits located on 0 to 3 percent slopes. This soil is described as very deep, somewhat excessively

drained, and composed of gravelly loam, very gravelly sandy loam, and very gravelly loamy sand. Depth to water table is indicated to be deeper than 80 inches.

Seismic Hazard

Jackson Hole is located within the Intermountain Seismic Belt, a zone extending from southern Utah through eastern Idaho and western Montana, and encompassing western Wyoming and the Teton Range as referenced by Robert B. Smith and Walter J. Arabasz in "Seismicity of the Intermountain Seismic Belt, Neotectonics of North America," 1991. The USGS Earthquake Hazards Program has mapped Quaternary faults and folds in the United States as displayed on Google Earth with the following active faults near the site: the Teton Fault, the Phillips Valley Fault, and secondary faults within the Jackson Hole Valley. In particular, the Teton Fault is thought to be capable of producing major earthquakes of a magnitude of six or greater. The portion of the Teton Fault mapped as active in the Quaternary is approximately 6.7 miles northwest of the site.

The USGS "Geologic Map of the Jackson Quadrangle, Teton County, Wyoming," J.D. Love and H.F. Albee, 2004, shows the postulated trace of the Cache Creek Thrust Fault 500 feet south of the site and the East Gros Ventre Fault 2000 feet northwest of the site. The Cache Creek Thrust Fault is not classified by the USGS as active. The East Gros Ventre fault is a Class B fault. Class B is defined as "geologic evidence demonstrates the existence of a fault or suggests Quaternary deformation, but either (1) the fault might not extend deeply enough to be a potential source of significant earthquakes or (2) the currently available geologic evidence is too strong to confidently assign the feature to Class C [which show insufficient evidence of faulting or deformation] but not strong enough to assign it to Class A [evidence demonstrates Quaternary faulting of tectonic origin]."

SITE INVESTIGATIONS

Field Investigations

In March and July of 2021, nine borings were advanced at the locations shown on Drawing 2 in the Appendix. Borings were approximately located with a Leica Zeno 20 GPS unit to within 3 feet and with a tape measure from existing site features. Boring locations and depths were selected to best determine subsurface conditions throughout the project. All borings were backfilled with drilling spoils after logging was completed, asphalt/concrete patch was installed on the surface of BH-1, BH-2, BH-4, and BH-6. Flush mounted monitoring wells were installed in BH-3, BH-5, BH-7, and BH-8.

IME of Riverton, Wyoming, drilled borings with a truck-mounted Mobile B-57 drill rig. All borings were advanced using a 7-inch outer-diameter (O.D.) hollow stem auger. Sampling was performed with 2-inch and 3-inch split-barrel (split-spoon) samplers per ASTM D1586. Andy Pruett, a Professional Geologist at Nelson Engineering logged the borings and directed the sampling. Soils were classified in the field and logged by the geologist. The soil classifications, moisture conditions, and presence of organic or other notable features were recorded in the field logs. Bulk samples were sealed in plastic bags and transported to our laboratory for testing and further classification. Undisturbed samples of fine-grained soils were obtained in Dames and Moore liners for consolidation and unconfined compressive strength testing. Groundwater observations were made at the time of the boring advancement based on field observations of soil moisture conditions. Field observations and laboratory testing results are presented both on the boring logs and in the Laboratory Results sheets in the Appendix.

The stratification lines shown on the boring logs represent the approximate boundary between soil types. The actual in-situ transition may be either gradual or abrupt. Due to the nature and depositional characteristics of natural soils and fills, care should be taken in interpolating subsurface conditions beyond the location of the boreholes. Soil conditions can change rapidly in both the lateral and vertical directions. Groundwater conditions shown on the logs are only for the dates indicated.

The subsurface conditions were interpreted from the described boreholes at the site. The soil properties inferred from the field and laboratory analyses supported by our experience formed the basis for developing our conclusions and recommendations.

Samples obtained during the field investigation were taken to the laboratory where they were visually classified in accordance with ASTM Test Method D-2487-93, which is based on the Unified Soils Classification System. The soil samples stored in our laboratory will be discarded after 30 days from the date this report is submitted unless we receive a specific request to retain them.

SUBSURFACE CONDITIONS

Soil Profiles

Soil profiles consisted of imported landscaping topsoil or surficial asphalt and parking lot sections overlying gravelly alluvial fan deposits. In BH-3 and BH-7 strata of sand silt and clay were encountered in intervals at depth. Borings in paved areas showed a paved section of 2 inches of asphalt over 4-inches of crushed gravel with sand. Surficial soils in BH-8 and BH-9 in unpaved landscaping areas encountered dry dark brown imported silt topsoil overlying dark brown silty gravel with sand deposits to depths of 3 to 4 feet. Underlying native soils were alluvial fan deposits composed of clayey gravels (GC) and gravel with sand (GP), with frequent cobbles and occasional boulders. Alluvial fan deposit samples contained angular to round gravels with numerous freshly fractured gravels indicating the presence of larger gravels and cobbles. Alluvial fan gravels were dense to very dense at all sampling intervals below 3-foot depth. Interbedded deposits of poorly-graded, fine sand, sandy silt, sandy lean clay, lean clay and clayey gravel were encountered from about 29- to 40-foot depth in BH-3 and from 35- to 43-foot depth in BH-7.

Groundwater

Groundwater was only observed in saturated sand lenses within interbedded sand, silt, and clay deposits from 35- to 43-foot depth in BH-7. Groundwater measurements on July 28, 2021 revealed groundwater at 44.5-foot depth in BH-7 and dry monitoring wells in BH-3 to 41.5-foot depth, BH-5 to 30.5-foot depth, and BH-8 to 41.3-foot depth. The existing structures on the site contain full and partial basements with no known history of flooding. Wyoming DEQ records for Leaky Underground Storage Tank remediation for the Bill's Standard site for monitoring wells located along South Glenwood Street, approximately 450 ft to the west, show seasonal high levels of about 26 feet depth.

GEOTECHNICAL ANALYSIS & RECOMMENDATIONS

General

This report addresses schematic design level plans prepared in July 2021 by Northworks and subconsultant structural designers, DCI Engineers. All above grade structures will be

demolished and removed. Basements of the commercial structure on Cache and portions of the Rancher Inn may be backfilled forming the subgrade for footings. Lot line to lot line construction is proposed. From DCI Engineers structural narrative for schematic design:

"The new Cache & Pearl building is planned to provide two stories of luxury residential over ground floor commercial space and parking, as well as a roof deck with spa area. The existing basements for the Ranch Inn and Ranch Square are intended to remain and be used for storage. Currently, the intent is to move forward with design option 2: demolition of the existing structures on the lot and expanding the new building. Schematic plans of design Option 2 provided to date show a three-story structure with an approximate footprint of 30,500 square feet, excluding the at-grade parking. Also added in Option 2 is a nearly 12,000 square foot landscaped courtyard to enclose the parking below. It is anticipated that the new building will be designed and constructed as a traditional steel post and beam structure."

Seismic Design Parameters

The 2018 International Building Code (IBC) designates site class per ASCE 7 Chapter 20. Data obtained in this investigation is not sufficient to determine soil parameters as required by ASCE 7; therefore, the IBC directs that seismic coefficients and design spectra shall be determined using **Site Class D**, Latitude of **43.479°** and Longitude of **-110.761°**.

Abandoned Basements

Existing basement areas supporting hardscapes, paved areas, or structure slabs and footings shall be backfilled with structural fill.

Spread Footings

Spread footings bearing on dense, cobble and gravel deposits are appropriate foundation elements. If pockets of sand/silt/or clay are found at bottom of footing and slabs, these soils shall be removed until competent cobble and gravel alluvium is exposed. Backfill of existing foundations may be poorly compacted or composed of unsuitable soils, where this occurs, unsuitable backfill shall be evaluated by this office. Where required, structural fill shall be placed to achieve footing grade. Subgrades beneath all footings and fills below foundations shall be compacted to a depth of 8 inches to 95% of maximum density per ASTM D698 (Standard Proctor).

A net allowable bearing capacity of **7000 PSF is appropriate**. The net allowable soil pressure includes dead load plus maximum live load. The above analysis assumes a **maximum width of 8.0 feet** for continuous footings and a **maximum dimension of 18 feet** for isolated footings. The net allowable soil pressure includes dead load plus maximum live load. These calculations assume a **minimum footing depth of 3 feet and a maximum footing depth of 15 feet below existing grade** and that a maximum total settlement of 0.5 inches be tolerated on any one footing and the maximum differential settlement between footings that can be tolerated is 0.25 inches.

Bearing capacity values and settlement shall be checked for each combination of load to determine whether settlement or bearing capacity will control the response of the footing. Foundation elements supporting large concentrated loads should be analyzed on an individual basis to determine settlement and bearing characteristics. Other foundation parameters and restrictions are given below:

1. **Existing Footing Loading:** Proposed footings shall be located to avoid loading of existing basement level footings and walls. Footings should be located beyond a line drawn upward from the edge of existing footings at 1(H):2(V). This office should be consulted in instances where this restriction cannot be met.
2. A one-third increase in allowable bearing capacity may be used for short duration loads such as wind or seismic.
3. Backfill against shallow foundations and stem walls shall conform to Drawing 3 in the Appendix. In no case shall material greater than 6 inches in diameter bear directly on or against foundation elements. Placing oversized material against rigid surfaces can damage the structure and interferes with proper compaction.

Any soil type encountered at the bottom of footing excavations other than those described above should be analyzed by Nelson Engineering. Isolated boulders at footing grade should be excavated and removed unless approved by Nelson Engineering. Any excessively loose material or soft spots encountered in the footing subgrade will require over-excavation and backfilling with structural fill. All footings shall be suitably reinforced to make them as rigid as possible.

Lateral Earth Pressure

For this analysis, it is assumed that 1) all foundation or retaining walls are founded on compacted, native colluvium or structural fills, 2) all foundation and retaining walls will be backfilled Drawing #3. The lateral earth pressures given here are NOT APPLICABLE to walls retaining slopes of greater than 10%, these walls shall be evaluated on an individual basis. For foundation or stem walls restrained from movement such that active earth pressures will not be allowed to develop, an at-rest equivalent fluid pressure of **60 PCF** is appropriate. For foundation or stem walls with active earth pressure loading, an equivalent fluid pressure of **45 PCF** is appropriate.

The Mononobe-Okabe (M-O) equations are often used to estimate dynamic forces against retaining walls. The M-O analysis is theoretically derived using active earth pressure conditions. Although there is debate about the theoretical applicability of this methodology to restrained or rigid walls, the method has been used for many years for the seismic design of such walls. The performance record of underground walls during earthquakes has generally been good. Appropriate parameters for the M-O analysis are: 1) soil unit weight 135 pounds per cubic foot, 2) Internal Friction Angle= 35°. The more limiting case, at-rest or active seismic pressure, shall be utilized in the structural design of restrained or rigid retaining walls.

Shoring, Underpinning, Excavation Slopes

Stabilizing underground utilities, adjacent foundations, excavation slopes, and other features will be required for foundation and basement construction. Loads and location of the foundation elements of all adjacent structures and infrastructure should be thoroughly researched and understood by project designers. Utility location should be thoroughly researched and understood by project designers

Shoring and underpinning design and construction is typically delivered by specialty design-build contractors. Shoring and underpinning designs should be performed by

engineers licensed in Wyoming with experience in this type of work. Shoring and underpinning should be performed by experienced geotechnical contractors.

Shoring will be required for excavations occurring near property lines. Soil nail walls or soldier pile walls with tiebacks are commonly utilized for this purpose. Underground easements for shoring elements extending into neighboring properties will be required.

Conservatively assigned soil properties appropriate for shoring and underpinning design based on soil properties found the borings. Note that soil profiles may vary from those found in the borings. Shoring designers are responsible for designs that address all aspects and may determine that additional investigations may be necessary for adequate shoring design.

Table 1: Soil Properties for Shoring and Underpinning

Soil Type:	Medium Dense Clayey Gravel w/Cobble	Dense to Very Dense Clayey Gravels w/Cobble
Moist Unit Weight (γ) =	135 lbs./ft ³	135 lbs./ft ³
Cohesion (c) =	25 lbs./ft ²	25 lbs./ft ²
Effective Friction Angle (ϕ') =	34°	38°

Interior Slabs-On-Grade

Interior slabs shall be founded upon the following section from top to bottom: 1) a leveling course mat 4 inches in thickness composed of clean pea gravel or WYDOT Grade GR or equivalent compacted to a minimum of 95% of maximum density as determined by ASTM D 698, 2) 12 inches of structural fill, 3) native subgrade compacted to >95% of Standard Proctor maximum density. Where suitably dense gravels are found at subgrade, structural fill thickness may be reduced if approved by this office.

Concrete slab-on-grade control joints should be saw-cut as early as possible. Nelson Engineering recommends the use of a soft cut system, which allows saw cutting as soon as the concrete can support foot traffic. Successful crack control is dependent upon proper joint spacing. Control joints should be placed in accordance with current Portland Cement Concrete Paving Association guidelines.

Sidewalks and Exterior Slabs

Sidewalks and exterior concrete slabs for foot traffic shall be placed upon a minimum of 4 inches of ¾-inch minus crushed gravel placed on 8 inches of structural fill. Any excessively loose material or soft spots encountered in slab subgrade will require over-excavation and backfilling with structural fill. Where suitably dense gravels are found at subgrade, structural fill thickness may be reduced if approved by this office. All fill material within 2 feet of the slabs must be compacted to a minimum 95% of the maximum density as determined by ASTM D698.

Roadway and Parking Lot Sections

The section given here is based on providing a stable surface for construction traffic and will provide a satisfactory final paved section based on the assumed traffic loading. Design traffic loading is estimated as no traffic data is available. Existing paved areas may have an adequate section. The section given may be reduced where more competent subgrade is found after consultation with this office.

PAVEMENT SECTION COMPONENTS	Existing Paved Areas*	Newly Paved Areas
Asphalt	3 inches	3 inches
Grade GR Crushed Aggregate Compacted to 95% Max. Per ASTM D698	4 inches	4 inches
6 inch minus Clean Pit Run Structural Fill subbase	N/A	10 inches
Compacted Subgrade	Surficial 8 inches of native soil compacted to the maximum moisture and subgrade conditions permit	

*See Discussion above

CONSTRUCTION CONSIDERATIONS

Earthwork and Site Grading

Excavation work and heavy equipment access will be difficult due to soft to very soft subgrades. During wet conditions, conditions will deteriorate. A protracted period of wet conditions can be expected during and after seasonal snowmelt. **Placement of imported gravels supported by geotextiles and/or geogrid will be required to provide construction access and to provide platforms for equipment.** Utility trenches will encounter groundwater at shallow depths. General recommendations for earthwork suitability, placement, and compaction procedures are provided below:

- Within the building footprints and areas to be paved, a minimum of 6 inches of material shall be stripped and removed. Beneath all footings, a minimum of 1 foot of material shall be stripped and removed. All organic material, deleterious undocumented fill, and debris shall be removed regardless of depth below the surface. Loose and disturbed native soils should be scarified, moisture-conditioned, and compacted. Finish surfaces shall be sloped away from foundations.
- Fill materials shall not be placed, spread, or compacted while the ground is frozen or during unfavorable weather conditions. Fill materials shall be at the proper moisture content prior to compaction and shall contain no frozen soil.
- Native subgrade shall be compacted with vibratory equipment appropriate for the soil types. Where soft and loose or over moist areas are encountered that do not improve with repeated compactive effort, replace native soils with structural fill.
- Moisture shall be prevented from saturating clay containing subgrades and bearing soils during construction. Measures to prevent moisture infiltration include grading

during construction to drain storm water from exposed excavations during precipitation and snowmelt events, tenting, or tarping. In the event that moisture has been allowed to infiltrate and soften subgrade or bearing soils, excavation and backfill operations should cease and not resume until Nelson Engineering approves the moisture and density conditions of the soils.

- **Structural Fill** shall consist of Clean Rock Fill or Crushed Concrete, or gravels (USCS classification GW or GP).

Gravels shall have the following characteristics: 6-inch maximum particle size with no more than 40% oversize (greater than $\frac{3}{4}$ ") and no more than 5% fines passing the #200 sieve. Structural fill shall be placed in layers of not more than 8 inches in thickness. Each layer of structural fill should be moisture conditioned to within 2% of optimum moisture content and compacted to a minimum density of 95% of the maximum dry density as determined by ASTM Designation D 698. The maximum density of material containing more than 30% oversize (greater than $\frac{3}{4}$ " diameter) cannot be determined by use of the ASTM Designation D 698. In this case, a field maximum density may be determined by a test strip method. The material shall be compacted at or near optimum moisture content and a field density test shall be taken after each pass of the compaction equipment. This sequence shall continue until the maximum field density is achieved. This maximum field density shall be used for subsequent field compaction tests. Enough density tests should be taken to monitor proper compaction.

Crushed Concrete shall meet the gradation requirements of gravels and shall be free of all debris and rebar. Proposed gradation, source, and compaction methods shall be submitted to Nelson Engineering for approval prior to use.

Clean Rock fill consisting of hard durable crushed or screened rock of $\frac{3}{4}$ "-4" size. Proposed gradation, source, and compaction methods shall be submitted to Nelson Engineering for approval prior to use.

Crushed Concrete and Clean Rock fill compaction testing shall consist of proof rolling with loaded rubber-tired equipment observed and approved of by Nelson Engineering.

- Safety of construction personnel including safe trenches and excavations are the responsibility of the contractor. Excavations for retaining walls and foundations shall conform to the applicable OSHA and Wyoming safety standards. Excavations and utility trenches shall be laid back to safe slopes or properly shored. Excavations and shoring operations shall be conducted in accordance with the most recent versions of the OSHA Construction Standards for Excavations, Part 1926, Subpart P and Wyoming Public Works Standard Specifications. Excavations for utilities shall be shored if the proper slope cannot be maintained.
- During earthwork phases of the project, a representative of Nelson Engineering shall be present to observe exposed native soils and fill materials for suitability and consistency. A documented testing program should be conducted to determine that soil compaction is in accordance with requirements.

- Backfill placed against structures (i.e., pipes and walls) shall be of a character and in a manner that will not damage that structure. In no case shall material greater than 6 inches in diameter bear directly on or against these structures. Placing oversized material against rigid surfaces can damage the structure and interferes with proper compaction.

GENERAL COMMENTS

This report is preliminary for use in due diligence investigations. Project designers should consult with this office to ensure compliance with this report when project plans are formulated. Additional or supplementary recommendations concerning foundations and earthwork may be required at that time. It is critical that the structural engineer, civil engineer and other project designers review this report.

Monitoring and testing should be performed to verify that suitable materials are used for structural fills and backfills and that fills are properly placed and compacted. Concrete testing and special inspections should be performed prior to and during placement of all concrete to ensure concrete and reinforcing steel bar comply with project plans and specifications.

WARRANTY AND LIMITING CONDITIONS

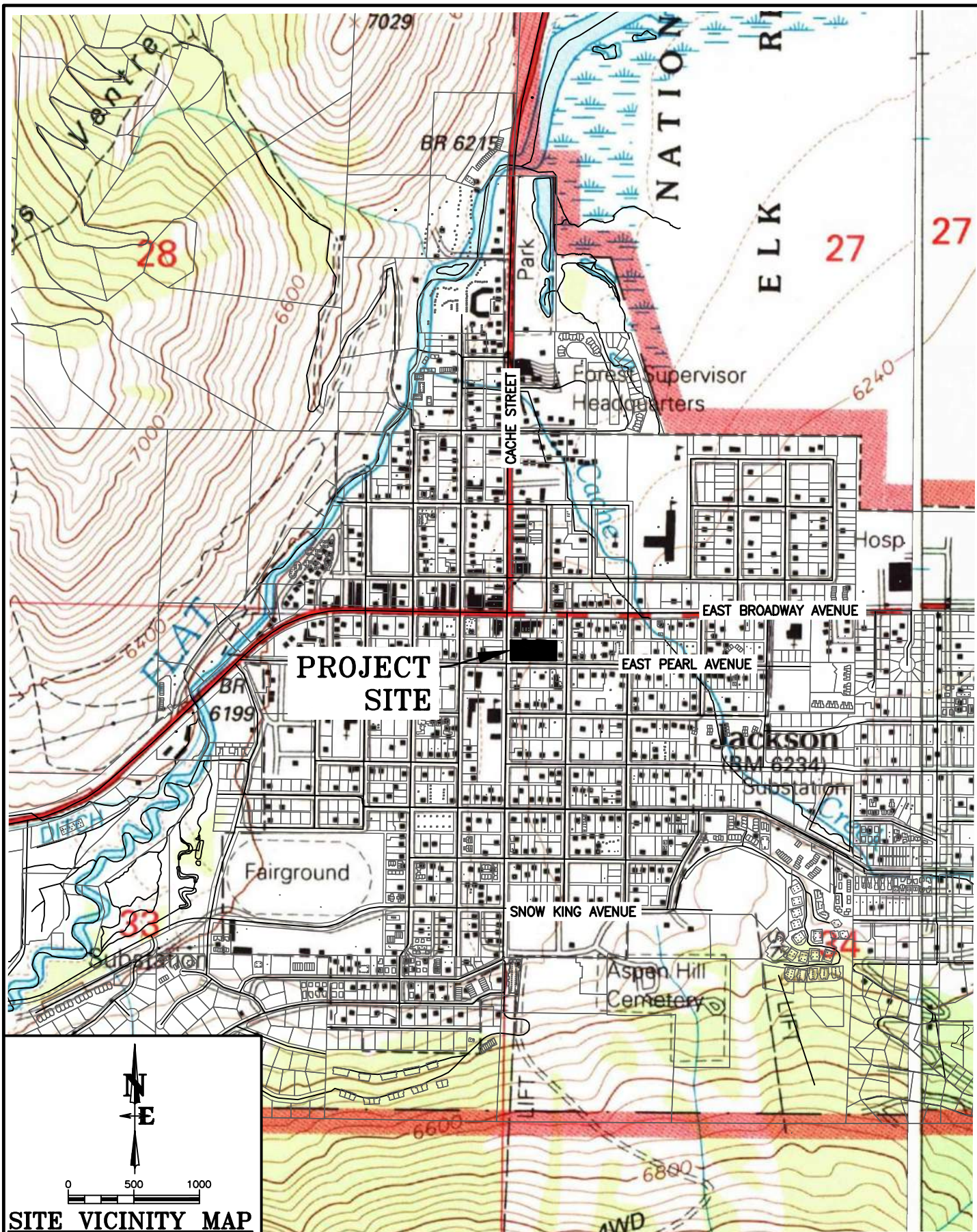
The field observations and research reported herein are considered sufficient in detail and scope to form a reasonable basis for the purposes cited above. Nelson Engineering warrants that the findings and conclusions contained herein have been promulgated in accordance with generally accepted professional engineering practice in the fields of foundation engineering, soil mechanics, and engineering geology, only for the site described in this report. No other warranties are implied or expressed.

These engineering methods have been developed to provide the client with information regarding apparent or potential engineering conditions relating to the subject property within the scope cited above and are limited to the conditions observed at the time of the site visit and research. There is a distinct possibility that conditions may exist which could not be identified within the scope of the investigation or which were not apparent during the site investigation. The report is also limited to the information available at the time it was prepared. In the event additional information is provided to Nelson Engineering following this report, it will be forwarded to the client in the form received for evaluation by the client. This report was prepared for use by Crystal Creek Capital Real Estate Advisors ("Client") and the conclusions and recommendations presented in this report are based on the agreed-upon scope of work outlined in the report and the contract for professional services between Client and Nelson Engineering ("Consultant"). Use or misuse of this report, or reliance upon the findings hereof by any parties other than the Client, is at their own risk. Neither the Client nor Consultant may make any representation of warranty to such other parties as to the accuracy or completeness of this report or the suitability of its use by such other parties for any purpose whatsoever, known or unknown, to the Client or Consultant. Neither Crystal Creek Capital Real Estate Advisors nor Nelson Engineering shall have any liability to or indemnifies or holds harmless third parties for any losses incurred, by the actual or purported use or misuse of this report. No other warranties are implied or expressed.

Philip Gyr, PE, Geotechnical Engineer

APPENDIX

DRAWINGS



SITE VICINITY MAP

DRAWING NO

1

JOB NO

21-076-02

TITLE

45 E PEARL AVE & 50 S CACHE ST
LOTS 10-16, BLOCK 1, CACHE 1
GEOTECHNICAL INVESTIGATION

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DATE

4/15/2021

REV.

SURVEYED

-

DRAWN

AP

CHECKED

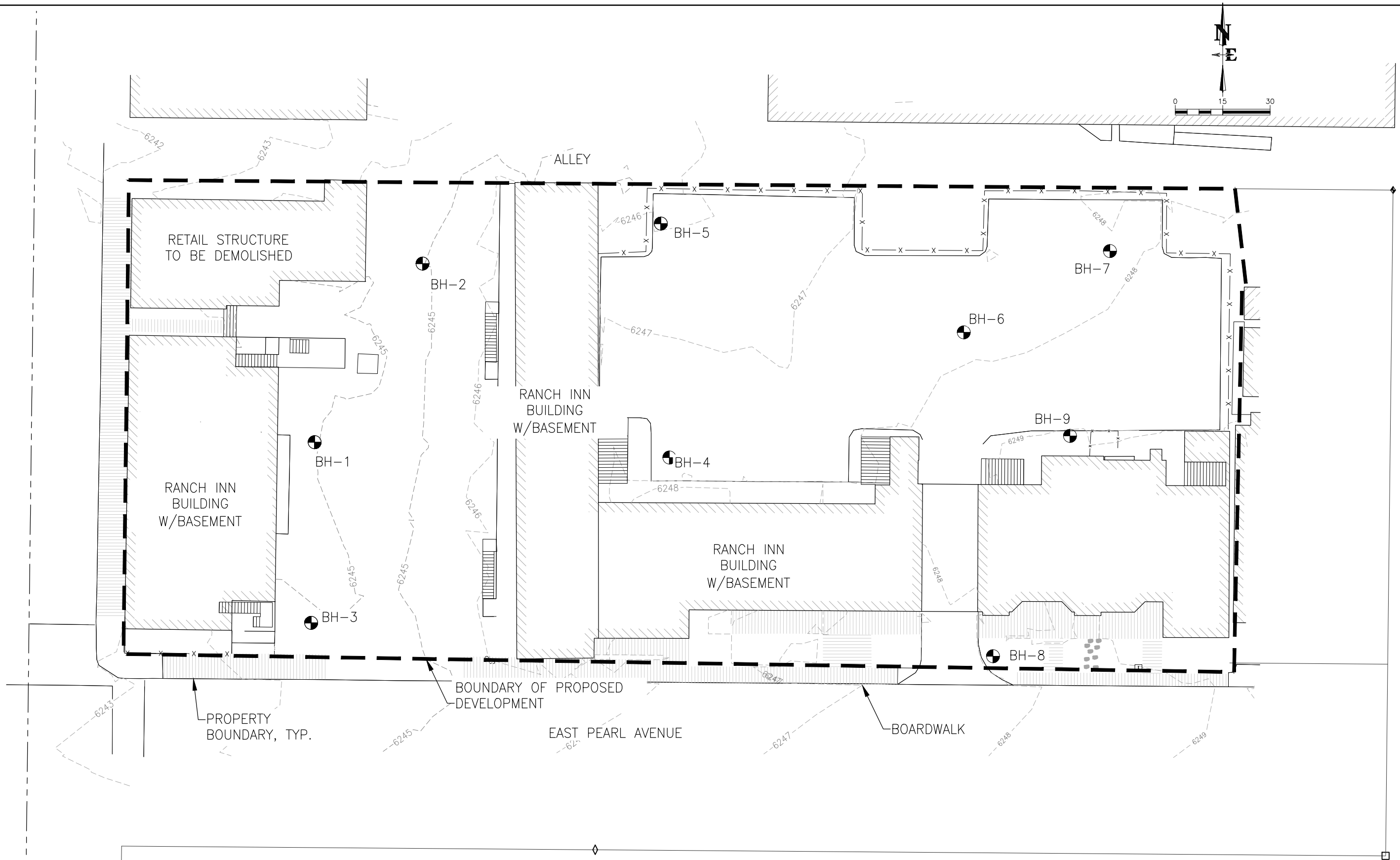
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APPROVED

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S:\Pro\2021\07-02 Cache and Pearl - Geotech\Drawings\Cache-Pearl\BOLDMap.dwg (BOLDMAP) - Aug 10 2021 08:10:02 pm PLOTTED BY: gyt DWG FORMAT: 220

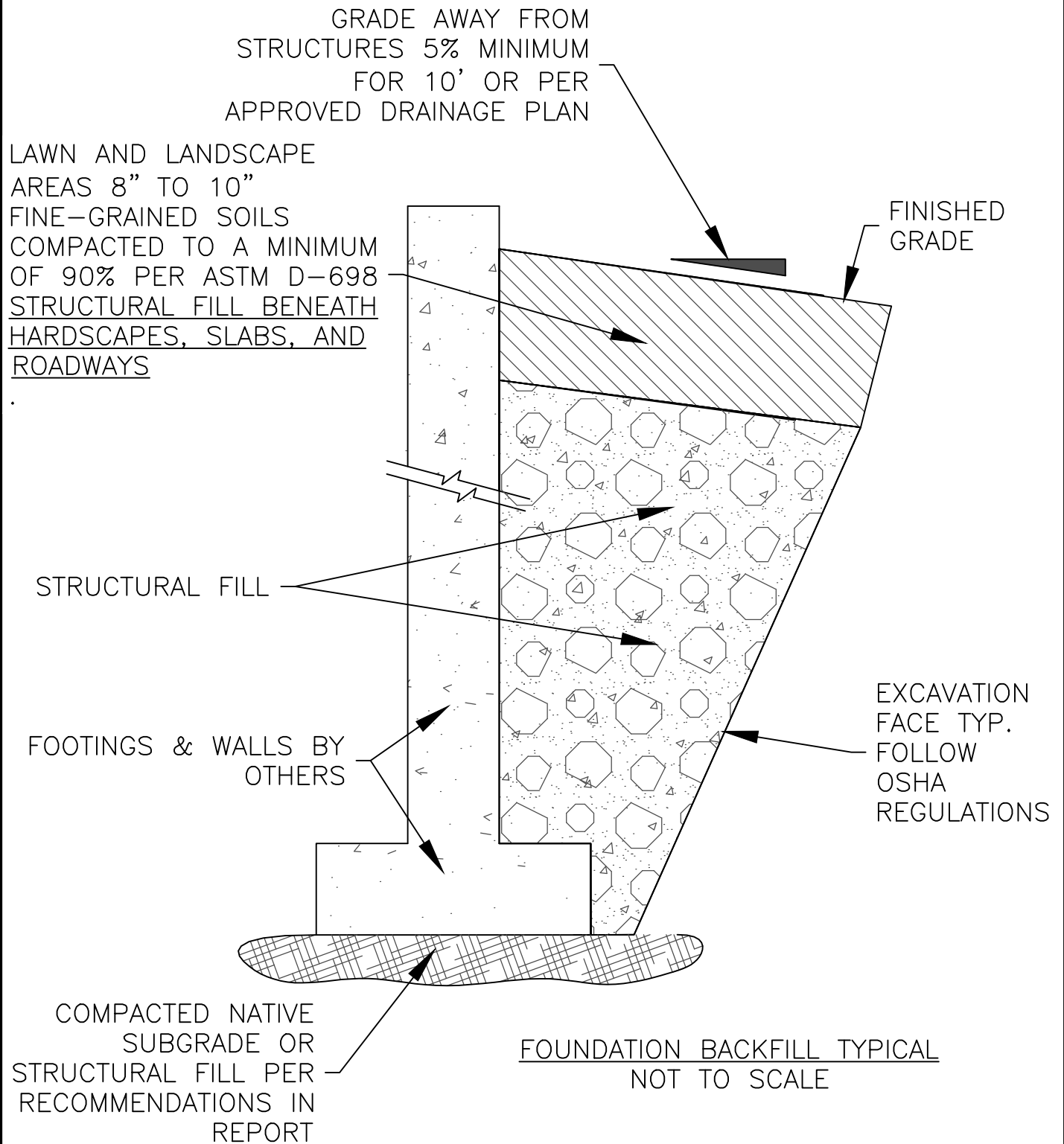
SOUTH CACHE STREET



PROPERTY BOUNDARIES APPROX. FROM TETON COUNTY GIS. SITE SURVEY BY NELSON ENGINEERING. BOREHOLES LOCATED WITHIN ± 3 FEET BY GPS. MONITORING WELLS INSTALLED IN BH-3, BH-5, BH-7, AND BH-8.

DRAWING NO	JOB TITLE	DRAWING TITLE				DATE		8/10/21		REV.	
		BOREHOLE LOCATION MAP				DATE	SURVEYED	ENGINEERED	DRAWN	CHECKED	APPROVED
XXXX	45 E PEARL AVE & 50 S. CACHE ST LOTS 14-16, BLOCK 1 CACHE-1 GEOTECHNICAL INVESTIGATION						NE	AP	AP	PG	PG
JOB NO	21-076-02										

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DRAWING NO	TITLE	 P.O. BOX 1599, JACKSON WYOMING (307) 733-2087	DATE	4/21/21	REV.
3	CACHE AND PEARL MIXED USE BUILDING		SURVEYED	N/A	
JOB NO	FOUNDATION BACKFILL TYPICAL		DRAWN	PG	
21-072-2			CHECKED	PG	
			APPROVED	PG	

BORING LOGS

GEOTECHNICAL GENERAL NOTES

CORRECTED SPT: Standard Penetration Test values corrected to N_{160} correcting for theoretical free-fall hammer energy and overburden pressure per 7th edition of the AASHTO Bridge Design Specifications.

DRILLING, SAMPLING, AND SOIL PROPERTIES ABBREVIATIONS AND SYMBOLS

N: Standard Penetration Test

U_c : Unconfined compressive strength, Pounds/ft² (PSF)

Pp: Pocket Penetrometer values, Ton/ft² (TSF)

FILGC: Fragments indicate gravels and cobbles larger than split spoon diameter.

w: Water content, %

LL: Liquid limit, %

PI: Plasticity index, %

gd: In-situ dry density, lbs/ft³ (PCF)

: Ground water level

SS: Split-Spoon Sample

ST: Shelby Tube Sampler

CS: Cylindrical Brass Lined Sample



Monitoring Well, diagonal hatching indicates screen and sand packed interval

SOIL RELATIVE DENSITY AND CONSISTENCY CLASSIFICATION

Non-Cohesive Soils		SPT	Cohesive Soils		Pp-(tons/ft ²)
Very Loose		0 - 4	Very Soft		0 - 0.25
Loose		4 - 10	Soft		0.25 - 0.50
Slightly Compact		8 - 15	Medium Stiff		0.50 - 1.00
Medium Dense		10 - 30	Stiff		1.00 - 2.00
Dense		30 - 50	Very Stiff		2.00 - 4.00
Very Dense		50+	Hard		4.00+

PARTICLE SIZE

Boulders:	12 in.+	Coarse Sand:	5 mm(#4)-2 mm(#10)	Silts and Clays: <#200
Cobbles:	12 in.-3in.	Medium Sand:	2 mm(#10)-0.4mm(#40)	
Gravel:	3in.-5mm(#4)	Fine Sand:	0.4mm(#40)-0.075mm(#200)	

SOIL GRAPHICS

<i>GW</i>		<i>SC</i>	
<i>GP</i>		<i>ML</i>	
<i>GM</i>		<i>CL</i>	
<i>GC</i>		<i>ML-CL</i>	
<i>SW</i>		<i>OL</i>	
<i>SP</i>		<i>MH</i>	
<i>SM</i>		<i>CH</i>	
<i>BEDROCK</i>		<i>OH</i>	
<i>COBBLES/BOULDERS</i>		<i>PT</i>	

NOTE: ANGLED DEMARCATIONS ON THE LOGS INDICATE APPROXIMATE OR POORLY DEFINED BOUNDARIES BETWEEN SOIL TYPES.

PROJECT NAME: LOTS 10-16, BLOCK 1, CACHE 1	DRILL HOLE No. BH-1	PAGE: 1 OF 2
DATE STARTED / FINISHED: 3/22/2021	DRILLER: IME	
LOGGED BY: ANDY PRUETT	DRILL TYPE: MOBILE B57 TRUCK-MOUNTED	
BOREHOLE LOCATION/ELEVATION: SEE BOREHOLE LOCATION MAP/6245.1'	HOLE DIAMETER: 7" O.D. HSA (HOLLOW STEM AUGER)	
	HAMMER TYPE: 140# AUTOMATIC	

WELL LOG	GRAPHIC LOG	DEPTH (FT)	SAMPLES			RECOVERY %	This log is part of a report prepared by Nelson Engineering for this project and should be read with the report. This summary applies only at the location of the boring and at the time of the drilling. Subsurface conditions may differ at other locations and may change at this location with passage of time. The data presented is a simplification of actual conditions encountered.	LIQUID LIMIT	PLASTIC LIMIT	CORRECTED SPT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
			DRIVE	UNDISTURBED	BULK								
							MATERIAL DESCRIPTION						
		1					SURFACE: 2" ASPHALT PAVEMENT OVERLYING 4" OF CRUSHED BASE						ASPHALT PARKING LOT
		2											
		3											
		4											
		5	6				5.0'-6.5' DRY, BROWN/GRAY, GRAVEL WITH CLAY AND SAND, ROUND TO ANGULAR AND FRACTURED GRAVELS, F.I.L.G.C, POORLY-GRADED, VERY DENSE			103			EASY TO MODERATE DRILLING CONSTANT BIT GRINDING FROM 0' TO 6.5'
		6	26			BH1-1 2" SS 61							
		7	33										BIT GRINDING ON COBBLE AT 6.5' TO 7.5'
		8											
		9											
		10	27				10.0'-11.5' SAME AS ABOVE			103			MODERATE TO HARD DRILLING WITH CONSTANT BIT GRINDING FROM 6.5' TO 12'
		11	33			BH1-2 2" SS 83							
		12	37										
		13	32				13.0'-14.5' SAME AS ABOVE						SMOOTH, HARD DRILLING FROM 12' TO 13'
		14	38			BH1-3 2" SS 67				118			MODERATE TO HARD DRILLING WITH CONSTANT BIT GRINDING FROM 13' TO 15'
		15	49				15.0'-16.5' SAME AS ABOVE						
		16	16							126			SLOW, HARD DRILLING WITH CONSTANT BIT GRINDING FROM 15' TO BOH
		17	47			BH1-4 2" SS 89							
		18	50										
		19											20 MINS TO DRILL FROM 15'-20'
		20	16				20.0'-21.5' SAME AS ABOVE			98			
		21	43			BH1-5 2" SS 78							

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JACKSON, WYOMING**

WELL LOG	GRAPHIC LOG	DEPTH (FT)	SAMPLES			RECOVERY (%)	MATERIAL DESCRIPTION	LIQUID LIMIT	PLASTIC LIMIT	CORRECTED SPT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
			DRIVE	UNDISTURBED	BULK								
		40				BH1-5 2" SS 78	20.0'-21.5' SAME AS ABOVE			98			10 MINS TO DRILL FROM 20'-25'
		22											
		23											
		24											SLOW, HARD DRILLING WITH CONSTANT BIT GRINDING FROM 15' TO BOH
		25	50/6			BH1-6 2" SS 100	25.0'-25.5' SAME AS ABOVE			>50			18 MINS TO DRILL FROM 25'-30'
		26											
		27											
		28											
		29											
		30	20			BH1-7 2" SS 67	30'-31.5' MOIST, COMPOSITION AS ABOVE			58			22 MINS TO DRILL FROM 30'-35'
		31	28										
		32	30										
		33											
		34											
		35					CUTTINGS ARE MOIST						
		36											
		37											
		38											20 MINS TO DRILL FROM 35'-40'
		39											
		40	34				40.0'-41.0' SAME AS ABOVE, MOIST						BORING CAVED TO 35'-7" AFTER HSA REMOVAL
		41	50/6			BH1-8 2" SS 83	B.O.H. = 41.0' NO GROUNDWATER			>50			
		42											
		43											
		44											

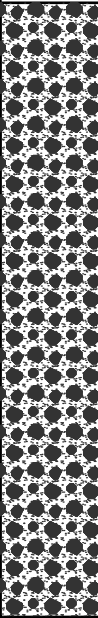
PROJECT NAME: LOTS 10-16, BLOCK 1, CACHE 1	DRILL HOLE No. BH-2	PAGE: 1 OF 2
DATE STARTED / FINISHED: 3/23/2021	DRILLER: IME	
LOGGED BY: ANDY PRUETT	DRILL TYPE: MOBILE B57 TRUCK-MOUNTED	
BOREHOLE LOCATION/ELEVATION: SEE BOREHOLE LOCATION MAP/6245.0'	HOLE DIAMETER: 7" O.D. HSA (HOLLOW STEM AUGER)	
	HAMMER TYPE: 140# AUTOMATIC	

WELL LOG	GRAPHIC LOG	DEPTH (FT)	SAMPLES		SAMPLE ID	RECOVERY %	This log is part of a report prepared by Nelson Engineering for this project and should be read with the report. This summary applies only at the location of the boring and at the time of the drilling. Subsurface conditions may differ at other locations and may change at this location with passage of time. The data presented is a simplification of actual conditions encountered.	LIQUID LIMIT	PLASTIC LIMIT	CORRECTED SPT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
			DRIVE	UNDISTURBED									
							MATERIAL DESCRIPTION						
		1					SURFACE: 2" ASPHALT PAVEMENT OVERLYING 4" OF CRUSHED BASE						ASPHALT DRIVEWAY
		2											
		17											
		29			BH2-1	67	2.5'-4.0' DRY, BROWN/GRAY, GRAVEL WITH CLAY AND SAND, ROUND TO ANGULAR AND FRACTURED GRAVELS, F.I.L.G.C, POORLY-GRADED, VERY DENSE			121			MODERATE DRILLING WITH CONSTANT BIT GRINDING FROM 0' TO 5'
		32											
		4											
		5											
		6											
		7											
		8											SLOW HARD DRILLING WITH CONSTANT BIT GRINDING FROM 5' TO 8'
		9											11 MINS TO DRILL FROM 5'-10'
		10					10.0'-11.5'						
		11			BH2-2	78	0"-4" DRY, BROWN, CLAYEY GRAVEL, FRACTURED GRAVELS, F.I.L.G.C			75			MODERATE DRILLING WITH INTERMITTENT BIT GRINDING FROM 8' TO 17'
		22					4"-14" DRY, BROWN/GRAY, GRAVEL WITH CLAY AND SAND, ROUND TO ANGULAR AND FRACTURED GRAVELS, F.I.L.G.C, POORLY-GRADED, VERY DENSE						
		29											
		12											
		13											
		14											4 MINS TO DRILL FROM 10'-15'
		15					15.0'-16.5'						
		27			BH2-3	83	0"-2" DRY, BROWN, CLAYEY GRAVEL			99			SLOW, HARD DRILLING WITH CONSTANT BIT GRINDING FROM 17' TO BOH
		41					2"-15" DRY, BROWN/GRAY, GRAVEL WITH CLAY AND SAND, ROUND TO ANGULAR AND FRACTURED GRAVELS, F.I.L.G.C, POORLY-GRADED, GRAVEL LODGED IN TIP OF SS, VERY DENSE						
		35											
		16											
		17											
		18											
		19											9 MINS TO DRILL FROM 15'-20'
		20											
		32			BH2-4	59	20.0'-21.4' SAME AS ABOVE			>50			
		46											
		21											

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JACKSON, WYOMING**

WELL LOG	GRAPHIC LOG	DEPTH (FT)	SAMPLES			RECOVERY (%)	MATERIAL DESCRIPTION	LIQUID LIMIT	PLASTIC LIMIT	CORRECTED SPT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
			DRIVE	UNDISTURBED	BULK								
		50/5				BH2-4 2" SS 59	20.0'-21.4' SAME AS ABOVE			>50			SLOW, HARD DRILLING WITH CONSTANT BIT GRINDING FROM 17' TO BOH
		22											
		23											
		24											
		25											
		26											LITTLE TO NO PROGRESS FOR 15 MINUTES FROM 27.5'-28'
		27											
		28					28.0'-29.5' SAME AS ABOVE						
		26				BH2-5 2" SS 72				77			
		31											
		29											BORING CAVED TO 22'-4" AFTER HSA REMOVAL
		43											
		30					B.O.H. = 29.5' NO GROUNWATER						
		31											
		32											
		33											
		34											
		35											
		36											
		37											
		38											
		39											
		40											
		41											
		42											
		43											
		44											

PROJECT NAME: LOTS 10-16, BLOCK 1, CACHE 1	DRILL HOLE No. BH-3	PAGE: 1 OF 2
DATE STARTED / FINISHED: 3/23/2021	DRILLER: IME	
LOGGED BY: ANDY PRUETT	DRILL TYPE: MOBILE B57 TRUCK-MOUNTED	
BOREHOLE LOCATION/ELEVATION: SEE BOREHOLE LOCATION MAP/6244.8'	HOLE DIAMETER: 7" O.D. HSA (HOLLOW STEM AUGER)	
	HAMMER TYPE: 140# AUTOMATIC	

WELL LOG	GRAPHIC LOG	DEPTH (FT)	SAMPLES		SAMPLE ID	RECOVERY %	This log is part of a report prepared by Nelson Engineering for this project and should be read with the report. This summary applies only at the location of the boring and at the time of the drilling. Subsurface conditions may differ at other locations and may change at this location with passage of time. The data presented is a simplification of actual conditions encountered.	LIQUID LIMIT	PLASTIC LIMIT	CORRECTED SPT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
			DRIVE	UNDISTURBED			MATERIAL DESCRIPTION						
		1					SURFACE: 2" ASPHALT PAVEMENT OVERLYING 4" OF CRUSHED BASE						ASPHALT PARKING AREA WITH PEARL ST BOARDWALK ~ 10' SOUTH
		2											COBBLES FROM 2'-3'
		3	26				3.0'-3.67' MOIST, BROWN/GRAY, GRAVEL WITH CLAY AND SAND, ROUND TO ANGULAR AND FRACTURED GRAVELS, F.I.L.G.C, POORLY-GRADED, VERY DENSE			>50			MODERATE TO HARD DRILLING WITH CONSTANT BIT GRINDING FROM 0' TO 8'
		4	50/2		BH3-1 2" SS	100							8 MINS TO DRILL FROM 5'-10'
		5											
		6											
		7											
		8											
		9											
		10	20				10.0'-11.5' SAME AS ABOVE						MODERATE DRILLING WITH INTERMITTENT BIT GRINDING FROM 8' TO 29'
		11	29		BH3-2 2" SS	78				101			
		12	40										
		13											
		14											
		15	16				15.0'-16.5' SAME AS ABOVE, GRAVEL LODGED IN TIP OF SS						4 MINS TO DRILL FROM 10'-15'
		16	23		BH3-3 2" SS	67				64			
		17	26										8 MINS TO DRILL FROM 15'-20'
		18											
		19											
		20	13				20.0'-20.75' MOIST, BROWN CLAYEY GRAVEL, ROUND TO ANGULAR AND FRACTURED GRAVELS, F.I.L.G.C.						
		21	50/3		BH3-4 2" SS	89				>50			

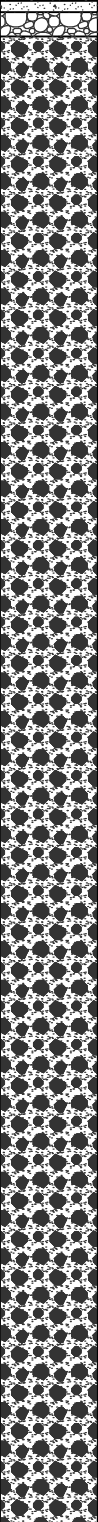
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CLIENT: **CYRSTAL CREEK CAPITAL
REAL ESTATE ADVISORS, LLC
JACKSON, WYOMING**

WELL LOG	GRAPHIC LOG	DEPTH (FT)	SAMPLES			SAMPLE ID	RECOVERY (%)	MATERIAL DESCRIPTION	LIQUID LIMIT	PLASTIC LIMIT	CORRECTED SPT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
			DRIVE	UNDISTURBED	BULK									
		22												
		23												
		24												
		25	18			BH3-5	72	25.0'-26.5' SAME AS ABOVE, MINOR ORANGE OXIDATION, STAINING ON CLAY MATRIX			72			MODERATE DRILLING WITH INTERMITTENT BIT GRINDING FROM 8' TO 29'
		26	30			2" SS								8 MINS TO DRILL FROM 20'-25'
		27	36											3 MINS TO DRILL FROM 25'-30'
		28												
		29												
		30	4			BH3-6	100	30.0'-31.5' 0"-10", MOIST, BROWN, POORLY-GRADED, FINE-GRAINED SAND WITH CLAY, MEDIUM DENSE			15			SMOOTH, EASY DRILLING FROM 29' TO 32.5'
		31	6			2" SS		10"-15", MOIST, BROWN LEAN CLAY, PP=2.5 TSF, VERY STIFF						
		32	9					15"-18", SAME AS FROM 0"-10"						
		33	9			BH3-7	100	32.5'-33.5' SAME AS ABOVE, MEDIUM DENSE			27			SMOOTH, EASY DRILLING, WITH MINOR INTERMITTENT BIT GRINDING FROM 32.5' TO BOH
		34	32			3" DM								
		35												
		36												
		37												
		38												
		39												
		40	23			BH3-8	83	40.0'-41.5' 0"-1", SAME AS ABOVE			63			
		41	38			2" SS		1"-15", MOIST, BROWN/GRAY GRAVEL WITH SAND, CLAY, ROUND TO ANGULAR GRAVELS, POORLY-GRADED, VERY DENSE						
		42	33					B.O.H. = 41.5'						
		43						NO GROUNDWATER						
		44						MONITORING WELL CONSTRUCTION: LENGTH OF PIPE = 41.3' (1.5"Ø PVC, FLUSH MOUNTED) SLOTTED EVERY 6" FROM 21.5' TO 41.5' PIPE STICKUP = -0.2'						

PROJECT NAME: LOTS 10-16, BLOCK 1, CACHE 1	DRILL HOLE No. BH-4	PAGE: 1 OF 2
DATE STARTED / FINISHED: 3/23/2021	DRILLER: IME	
LOGGED BY: ANDY PRUETT	DRILL TYPE: MOBILE B57 TRUCK-MOUNTED	
BOREHOLE LOCATION/ELEVATION: SEE BOREHOLE LOCATION MAP/6247.8'	HOLE DIAMETER: 7" O.D. HSA (HOLLOW STEM AUGER)	
	HAMMER TYPE: 140# AUTOMATIC	

WELL LOG	GRAPHIC LOG	DEPTH (FT)	SAMPLES		SAMPLE ID	RECOVERY %	This log is part of a report prepared by Nelson Engineering for this project and should be read with the report. This summary applies only at the location of the boring and at the time of the drilling. Subsurface conditions may differ at other locations and may change at this location with passage of time. The data presented is a simplification of actual conditions encountered.	LIQUID LIMIT	PLASTIC LIMIT	CORRECTED SPT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
			DRIVE	UNDISTURBED			MATERIAL DESCRIPTION						
													
		1					SURFACE: 2" ASPHALT PAVEMENT OVERLYING 4" OF CRUSHED BASE						ASPHALT PARKING LOT
		2											
		3											
		4	4		BH4-1	44	3.0'-4.5' MOIST, BROWN/GRAY GRAVEL WITH SAND AND CLAY, ROUND TO ANGULAR AND FRACTURED GRAVELS, F.I.L.G.C., POORLY-GRADED, MEDIUM DENSE, TOP 2" SATURATED DUE TO SNOW MELT INTO BOREHOLE, GRAVEL LODGED IN TIP OF SS			21			EASY TO MODERATE DRILLING WITH INTERMITTENT BIT GRINDING THRU FINE GRAVELS FROM 0' TO 10'
		5											
		6											
		7											
		8											
		9											
		10	15		BH4-2	67	10.0'-11.5' SAME AS ABOVE, VERY DENSE, BOTTOM 4" AND TIP OF SPLIT SPOON IS PULVERIZED LIMESTONE COBBLE			103			MODERATE DRILLING WITH INTERMITTENT BIT GRINDING THROUGH FINE GRAVELS & COBBLES FROM 10' TO BOH
		11	23										
		12	47										
		13											
		14											5 MINS TO DRILL FROM 10'-15'
		15											
		16											
		17											
		18											6 MINS TO DRILL FROM 15'-20'
		19											
		20	21		BH4-3	67	20.0'-21.5' SAME AS ABOVE						
		21	32							>50			

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JACKSON, WYOMING**

WELL LOG	GRAPHIC LOG	DEPTH (FT)	SAMPLES			RECOVERY (%)	MATERIAL DESCRIPTION	LIQUID LIMIT	PLASTIC LIMIT	CORRECTED SPT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
			DRIVE	UNDISTURBED	BULK								
		50/6				BH4-3 2" SS 67	20.0'-21.5' SAME AS ABOVE			>50			MODERATE DRILLING WITH INTERMITTENT BIT GRINDING THROUGH FINE GRAVELS & COBBLES FROM 10' TO BOH 5 MINS TO DRILL FROM 20'-25'
		22											
		23											
		24											
		25											
		26											
		27											
		28											
		29											
		30					30.0'-31.5' SAME AS ABOVE						6 MINS TO DRILL FROM 25'-30'
		29											
		37				BH4-4 2" SS 83				69			
		31											
		32											8 MINS TO DRILL FROM 30'-35'
		32											
		33											
		34											
		35											
		36					B.O.H. = 35.5' UNABLE TO SAMPLE AT 35.5', TRANSMISSION ISSUES ON DRILLING RIG PREVENTED DRILLING TO 40'						
		37					NO GROUNDWATER						
		38											
		39											
		40											
		41											
		42											
		43											
		44											

PROJECT NAME: LOTS 10-16, BLOCK 1, CACHE 1	DRILL HOLE No. BH-5	PAGE: 1 OF 2
DATE STARTED / FINISHED: 3/24/2021	DRILLER: IME	
LOGGED BY: ANDY PRUETT	DRILL TYPE: MOBILE B57 TRUCK-MOUNTED	
BOREHOLE LOCATION/ELEVATION: SEE BOREHOLE LOCATION MAP/6245.9'	HOLE DIAMETER: 7" O.D. HSA (HOLLOW STEM AUGER)	
	HAMMER TYPE: 140# AUTOMATIC	

WELL LOG	GRAPHIC LOG	DEPTH (FT)	SAMPLES			RECOVERY %	This log is part of a report prepared by Nelson Engineering for this project and should be read with the report. This summary applies only at the location of the boring and at the time of the drilling. Subsurface conditions may differ at other locations and may change at this location with passage of time. The data presented is a simplification of actual conditions encountered.	LIQUID LIMIT	PLASTIC LIMIT	CORRECTED SPT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
			DRIVE	UNDISTURBED	BULK								
							MATERIAL DESCRIPTION						
							SURFACE: 2" ASPHALT PAVEMENT OVERLYING 4" OF CRUSHED BASE						ASPHALT PARKING LOT
		1											
		2											
		3					2.5'-4.0' MOIST, BROWN/GRAY CLAYEY GRAVEL WITH ROUND TO ANGULAR AND FRACTURED GRAVELS, F.I.L.G.C., VERY DENSE			59			MODERATE DRILLING WITH CONSTANT BIT GRINDING FROM 0' TO 8'
		4											
		5											
		6											
		7											7 MINS TO DRILL FROM 5'-10'
		8											
		9											EASY TO MODERATE DRILLING WITH INTERMITTENT BIT GRINDING THRU FINE GRAVELS AND SMALL COBBLES FROM 8' TO BOH
		10					10.0'-11.5' DRY, BROWN/GRAY GRAVEL WITH SAND AND CLAY, ROUND TO ANGULAR AND FRACTURED GRAVELS, F.I.L.G.C., POORLY-GRADED, PULVERIZED COBBLE IN BOTTOM 4" OF SPLIT SPOON			>50			6 MINS TO DRILL FROM 10'-15'
		11											
		12											
		13											
		14											
		15											
		16											
		17											7 MINS TO DRILL FROM 15'-20'
		18											
		19											
		20					20.0'-21.5' SAME AS ABOVE						
		21								65			

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WELL LOG	GRAPHIC LOG	DEPTH (FT)	SAMPLES			RECOVERY (%)	MATERIAL DESCRIPTION	LIQUID LIMIT	PLASTIC LIMIT	CORRECTED SPT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
			DRIVE	UNDISTURBED	BULK								
		25				BH5-3 2" SS 83	20.0'-21.5' SAME AS ABOVE			65			7 MINS TO DRILL FROM 20'-25'
		22											
		23											
		24											
		25											
		26											
		27											
		28											
		29											
		30											
		21				BH5-4 2" SS 67	30.0'-31.5' SAME AS ABOVE			62			
		32											
		31											
		30											
		32					B.O.H. = 31.5' NO GROUNDWATER						
		33					MONITORING WELL CONSTRUCTION: LENGTH OF PIPE = 30.25' (1.5"Ø PVC, FLUSH MOUNTED) SLOTS EVERY 6" FROM 20.5' TO 30.5' PIPE STICKUP = -0.25'						
		34											
		35											
		36											
		37											
		38											
		39											
		40											
		41											
		42											
		43											
		44											

PROJECT NAME: LOTS 10-16, BLOCK 1, CACHE 1	DRILL HOLE No. BH-6	PAGE: 1 OF 2
DATE STARTED / FINISHED: 7/26/2021	DRILLER: IME	
LOGGED BY: ANDY PRUETT	DRILL TYPE: MOBILE B57 TRUCK-MOUNTED	
BOREHOLE LOCATION/ELEVATION: SEE BOREHOLE LOCATION MAP/6247.8'	HOLE DIAMETER: 7" O.D. HSA (HOLLOW STEM AUGER)	
	HAMMER TYPE: 140# AUTOMATIC	

WELL LOG	GRAPHIC LOG	DEPTH (FT)	SAMPLES			RECOVERY %	This log is part of a report prepared by Nelson Engineering for this project and should be read with the report. This summary applies only at the location of the boring and at the time of the drilling. Subsurface conditions may differ at other locations and may change at this location with passage of time. The data presented is a simplification of actual conditions encountered.	LIQUID LIMIT	PLASTIC LIMIT	CORRECTED SPT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
			DRIVE	UNDISTURBED	BULK								
							MATERIAL DESCRIPTION						
		1					SURFACE: 2" ASPHALT PAVEMENT OVERLYING 4" OF CRUSHED BASE						ASPHALT PARKING LOT
		2											MINOR BIT GRINDING TO 2'
		3					2.5'-4.0' DRY, BROWN/GRAY, GRAVEL WITH SILT AND SAND, ROUND TO ANGULAR AND FRACTURED GRAVELS, F.I.L.G.C, POORLY-GRADED, VERY DENSE			105			
		4											MODERATE TO HARD DRILLING WITH CONSTANT BIT GRINDING FROM 2'-10'
		5					5.0'-6.25' SAME AS ABOVE			>50			
		6											
		7											
		8											
		9											
		10					10.0'-10.9' SAME AS ABOVE, WITH CLAY, NO SILT			>50			HARD DRILLING WITH CONSTANT BIT GRINDING FROM 10'-BOH
		11											9 MINS TO DRILL FROM 10'-15'
		12											
		13											
		14											
		15					15.0'-16.5' SAME AS ABOVE			86			
		16											
		17											
		18											8 MINS TO DRILL FROM 15'-20'
		19											
		20					20.0'-21.5' SAME AS ABOVE, BOTTOM 5" IS PULVERIZED GRAY LIMESTONE COBBLE			76			
		21											

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WELL LOG	GRAPHIC LOG	DEPTH (FT)	SAMPLES			RECOVERY (%)	MATERIAL DESCRIPTION	LIQUID LIMIT	PLASTIC LIMIT	CORRECTED SPT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
			DRIVE	UNDISTURBED	BULK								
		31				BH6-5 2" SS 67	20.0'-21.5' SAME AS ABOVE, BOTTOM 5" IS PULVERIZED GRAY LIMESTONE COBBLE			76			7 MINS TO DRILL FROM 20'-25'
		22											
		23											
		24											HARD DRILLING WITH CONSTANT BIT GRINDING FROM 10' TO BOH
		25	50/6"			BH6-6 2" SS 83	25.0'-25.5' SAME AS ABOVE			>50			8 MINS TO DRILL FROM 25'-30'
		26											
		27											
		28											
		29											
		30	17			BH6-7 2" SS 89	30'-31.5' MOIST, COMPOSITION AS ABOVE			60			
		31	30										
		32	30										
		33											7 MINS TO DRILL FROM 30'-35'
		34											
		35	29			BH6-8 2" SS 100	35.0'-35.9' SAME AS ABOVE			>50			
		36	50/5"										
		37											
		38											6 MINS TO DRILL FROM 35'-40'
		39											
		40	25			BH6-9 2" SS 83	40.0'-41.5' SAME AS ABOVE			63			BORING CAVED TO 28'-4" AFTER HSA REMOVAL
		41	33										
		42	38				B.O.H. = 41.5' NO GROUNDWATER						
		43											
		44											

PROJECT NAME: LOTS 10-16, BLOCK 1, CACHE 1	DRILL HOLE No. BH-7	PAGE: 1 OF 3
DATE STARTED / FINISHED: 7/26/2021	DRILLER: IME	
LOGGED BY: ANDY PRUETT	DRILL TYPE: MOBILE B57 TRUCK-MOUNTED	
BOREHOLE LOCATION/ELEVATION: SEE BOREHOLE LOCATION MAP/6247.9'	HOLE DIAMETER: 7" O.D. HSA (HOLLOW STEM AUGER)	
	HAMMER TYPE: 140# AUTOMATIC	

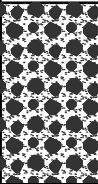
WELL LOG	GRAPHIC LOG	DEPTH (FT)	SAMPLES			RECOVERY %	This log is part of a report prepared by Nelson Engineering for this project and should be read with the report. This summary applies only at the location of the boring and at the time of the drilling. Subsurface conditions may differ at other locations and may change at this location with passage of time. The data presented is a simplification of actual conditions encountered.	LIQUID LIMIT	PLASTIC LIMIT	CORRECTED SPT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
			DRIVE	UNDISTURBED	BULK								
							MATERIAL DESCRIPTION						
		1					SURFACE: 2" ASPHALT PAVEMENT OVERLYING 4" OF CRUSHED BASE						ASPHALT PARKING LOT
		2											MINOR BIT GRINDING TO 2'
		26											
		3					2.5'-4.0' DRY, BROWN/GRAY, GRAVEL WITH SILT AND SAND, ROUND TO ANGULAR AND FRACTURED GRAVELS, F.I.L.G.C, POORLY-GRADED, VERY DENSE			168			MODERATE TO HARD DRILLING WITH CONSTANT BIT GRINDING FROM 2'-5'
		41											
		44											
		4											
		5					5.0'-6.5' SAME AS ABOVE						
		21											
		36								122			
		6											
		34											
		7											
		8											
		9											
		10					10.0'-11.5' SAME AS ABOVE						
		17											
		29											
		11								93			
		34											
		12											
		13											
		14											
		15					15.0'-16.5' SAME AS ABOVE. WITH CLAY, NO SILT, GRAVEL LODGED IN TIP OF SS						
		12											
		20								53			
		21											
		16											
		17											
		18											
		19											
		20					20.0'-21.5' SAME AS ABOVE, DENSE						
		20											
		17											
		21								44			
		20											
		21											

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WELL LOG	GRAPHIC LOG	DEPTH (FT)	SAMPLES			RECOVERY (%)	MATERIAL DESCRIPTION	LIQUID LIMIT	PLASTIC LIMIT	CORRECTED SPT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
			DRIVE	UNDISTURBED	BULK								
		20				BH7-5 2" SS 94	20.0'-21.5' SAME AS ABOVE, DENSE			44			7 MINS TO DRILL FROM 20'-25'
		22											
		23											
		24											
		25				BH7-6 2" SS 83	25.0'-26.5' SAME AS ABOVE, VERY DENSE			56			HARD DRILLING WITH CONSTANT BIT GRINDING FROM 5' TO 35'
		30											
		29											
		23											8 MINS TO DRILL FROM 25'-30'
		27											
		28											
		29											
		30				BH7-7 2" SS 100	30'-31.5' MOIST, COMPOSITION AS ABOVE, DENSE			46			
		14											
		21											
		25											
		32											
		33											7 MINS TO DRILL FROM 30'-35'
		34											
		35				BH7-8 2" SS 100	35.0'-36.5' MOIST, BROWN INTER-TONGUING LENSES OF SANDY SILT, SANDY LEAN CLAY, AND POORLY-GRADED FINE SAND, SILT AND CLAY PP=1-3.5 TSF, STIFF TO VERY STIFF, SAND IS MEDIUM DENSE			16			SMOOTH, EASY DRILLING FROM 35' TO 43'
		3											
		5											
		12											
		37											
		38				BH7-9 3" DM 100	38.0'-39.0' SAME AS ABOVE, MOIST TO SATURATED SAND LENSES, ADDITIONAL LENS OF MOIST, CLAYEY GRAVEL, SILT AND CLAY ARE STIFF TO VERY STIFF, SAND AND GRAVEL ARE MEDIUM DENSE			15			
		14											
		11											
		39											
		40											
		41											
		42											
		43											
		44											

WELL LOG	GRAPHIC LOG	DEPTH (FT)	SAMPLES			RECOVERY (%)	MATERIAL DESCRIPTION	LIQUID LIMIT	PLASTIC LIMIT	CORRECTED SPT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
			DRIVE	UNDISTURBED	BULK								
		45	15			BH7-10 2" SS 88	GROUNDWATER MEASURED AT 44.5' BGS ON 7/28/2021 45.0'-46.3' MOIST, BROWN/GRAY, GRAVEL WITH SILT AND SAND, ROUND TO ANGULAR AND FRACTURED GRAVELS, F.I.L.G.C, POORLY-GRADED, VERY DENSE B.O.H. = 46.3' MONITORING WELL CONSTRUCTION: LENGTH OF PIPE = 45.7' (1.5"Ø PVC, FLUSH MOUNTED) SLOTS EVERY 6" FROM 26.0' TO 46.0' PIPE STICKUP = -0.3'						MODERATE DRILLING WITH CONSTANT BIT GRINDING FROM 43' TO BOH
		46	40										
		50	4"							>50			BORING CAVED TO 27'-4" AFTER HSA REMOVAL
		47											
		48											
		49											
		50											
		51											
		52											
		53											
		54											
		55											
		56											
		57											
		58											
		59											
		60											
		61											
		62											
		63											
		64											
		65											
		66											
		67											

PROJECT NAME: LOTS 10-16, BLOCK 1, CACHE 1	DRILL HOLE No. BH-8	PAGE: 1 OF 2
DATE STARTED / FINISHED: 7/27/2021	DRILLER: IME	
LOGGED BY: ANDY PRUETT	DRILL TYPE: MOBILE B57 TRUCK-MOUNTED	
BOREHOLE LOCATION/ELEVATION: SEE BOREHOLE LOCATION MAP/6247.9'	HOLE DIAMETER: 7" O.D. HSA (HOLLOW STEM AUGER)	
	HAMMER TYPE: 140# AUTOMATIC	

WELL LOG	GRAPHIC LOG	DEPTH (FT)	SAMPLES			RECOVERY %	This log is part of a report prepared by Nelson Engineering for this project and should be read with the report. This summary applies only at the location of the boring and at the time of the drilling. Subsurface conditions may differ at other locations and may change at this location with passage of time. The data presented is a simplification of actual conditions encountered.	LIQUID LIMIT	PLASTIC LIMIT	CORRECTED SPT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
			DRIVE	UNDISTURBED	BULK								
							MATERIAL DESCRIPTION						
		1					IMPORTED SILT TOPSOIL G.S.						LANDSCAPING AREA, ~5 WEST OF THAI ME UP SIGN
		2					FROM 1'-5', C.I. DK BROWN SILTY GRAVEL WITH SAND						MODERATE TO HARD DRILLING WITH CONSTANT BIT GRINDING FROM 1'-5'
		3											
		4											
		5	16				5.0'-6.0' DRY, LT BROWN/GRAY, GRAVEL WITH SILT AND SAND, ROUND TO ANGULAR AND FRACTURED GRAVELS, F.I.L.G.C, POORLY-GRADED, VERY DENSE			>50			HARD DRILLING WITH CONSTANT BIT GRINDING FROM 5'-30'
		6	50/6"			BH8-1 2" SS 25							
		7											
		8											7 MINS TO DRILL FROM 5'-10'
		9											
		10	20				10.0'-11.5' SAME AS ABOVE			69			
		11	24			BH8-2 2" SS 78							
		12	23										
		13											8 MINS TO DRILL FROM 10'-15'
		14											
		15	15				15.0'-16.5' SAME AS ABOVE, WITH CLAY, NO SILT			51			8 MINS TO DRILL FROM 15'-20'
		16	18			BH8-3 2" SS 94							GRINDING ON COBBLE FROM 17'-17.5'
		17	21										
		18											
		19											
		20	10				20.0'-21.5' SAME AS ABOVE, DENSE			33			
		21	14			BH8-4 2" SS 83							
		22	14										

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WELL LOG	GRAPHIC LOG	DEPTH (FT)	SAMPLES			RECOVERY (%)	MATERIAL DESCRIPTION	LIQUID LIMIT	PLASTIC LIMIT	CORRECTED SPT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
			DRIVE	UNDISTURBED	BULK								
		14				BH8-4 2" SS 83	20.0'-21.5' SAME AS ABOVE, DENSE			33			10 MINS TO DRILL FROM 20'-25'
		22											
		23											
		24											
		25				BH8-5 2" SS 83	25.0'-26.5' SAME AS ABOVE			40			HARD DRILLING WITH CONSTANT BIT GRINDING FROM 5' TO 30'
		19											
		17											
		26											
		20											11 MINS TO DRILL FROM 25'-30'
		27											
		28											
		29											
		30				BH8-6 2" SS 94	30'-31.5' MOIST, COMPOSITION AS ABOVE			40			
		16											
		19											
		31											
		21											
		32											
		33											7 MINS TO DRILL FROM 30'-35'
		34											
		35											HARD DRILLING WITH INTERMITTENT BIT GRINDING FROM 30' TO BOH
		36											
		37											
		38											9 MINS TO DRILL FROM 35'-40'
		39											
		40				BH8-7 2" SS 94	40.0'-41.5' SAME AS ABOVE, VERY DENSE			61			BORING CAVED TO 25'-8" AFTER HSA REMOVAL
		23											
		29											
		41											
		40											
		42					B.O.H. = 41.5' NO GROUNDWATER						
		43					MONITORING WELL CONSTRUCTION: LENGTH OF PIPE = 41.1' (1.5"Ø PVC, FLUSH MOUNTED) SLOTS EVERY 6" FROM 21.3' TO 41.3' PIPE STICKUP = -0.2'						
		44											

PROJECT NAME: LOTS 10-16, BLOCK 1, CACHE 1	DRILL HOLE No. BH-9	PAGE: 1 OF 2
DATE STARTED / FINISHED: 7/27/2021	DRILLER: IME	
LOGGED BY: ANDY PRUETT	DRILL TYPE: MOBILE B57 TRUCK-MOUNTED	
BOREHOLE LOCATION/ELEVATION: SEE BOREHOLE LOCATION MAP/6249.1'	HOLE DIAMETER: 7" O.D. HSA (HOLLOW STEM AUGER)	
	HAMMER TYPE: 140# AUTOMATIC	

WELL LOG	GRAPHIC LOG	DEPTH (FT)	SAMPLES			RECOVERY %	This log is part of a report prepared by Nelson Engineering for this project and should be read with the report. This summary applies only at the location of the boring and at the time of the drilling. Subsurface conditions may differ at other locations and may change at this location with passage of time. The data presented is a simplification of actual conditions encountered.	LIQUID LIMIT	PLASTIC LIMIT	CORRECTED SPT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
			DRIVE	UNDISTURBED	BULK								
							MATERIAL DESCRIPTION						
		1					IMPORTED SILT TOPSOIL G.S.						LANDSCAPING AREA BETWEEN PARKING LOT AND BUILDING
		2					FROM 1'-5', C.I. DK BROWN SILTY GRAVEL WITH SAND						
		3											
		4											
		5					5.0'-6.2' DRY, LT BROWN/GRAY, GRAVEL WITH SILT AND SAND, ROUND TO ANGULAR AND FRACTURED GRAVELS, F.I.L.G.C, POORLY-GRADED, VERY DENSE			>50			HARD DRILLING WITH CONSTANT BIT GRINDING FROM 1'-25'
		6											
		7											
		8											14 MINS TO DRILL FROM 5'-10'
		9											
		10					10.0'-11.5' SAME AS ABOVE			90			15 MINS TO DRILL FROM 10'-15'
		11											
		12											
		13											GRINDING ON COBBLES/BOULDER FROM 13.5'-15'
		14											
		15					15.0'-16.5' SAME AS ABOVE, WITH CLAY, NO SILT			70			9 MINS TO DRILL FROM 15'-20'
		16											
		17											
		18											
		19											
		20					20.0'-21.5' SAME AS ABOVE			58			
		21											
		22											
		23											
		24											
		25											

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STAFF REPORT



Meeting Date:	June 1, 2022	Meeting Title:	Regular Planning Commission
Submitting Department:	Community Development	Presenter:	Tyler Valentine
Agenda Item:	SUBJECT: ITEM P22-015: Request for a Land Development Regulation (LDR) Text Amendment to the exterior lighting standards for private development lighting, signage lighting, and public right-of-way lighting.	Public Comment:	Yes

Purpose & Policy Considerations.

All Text Amendments to the Town of Jackson Land Development Regulations (LDRs) require review and recommendation by the Planning Commission according to LDR Section 8.7.1. The Town Council makes the final decision on all LDR Text Amendments.

Requested Action.

The applicant, Wyoming Stargazing, is proposing an LDR Text Amendment to the Town of Jackson's exterior lighting standards relating to private development lighting, signage lighting, and publicly owned lighting (i.e., public right-of-way (ROW) lighting and lighting on publicly owned buildings). Below are the LDR Sections that require text amendments:

1. Division 1.9 Nonconformities
2. Division 2.2 Complete Neighborhood Character Zones
3. Division 2.3 Complete Neighborhood Legacy Zones
4. Division 3.3 Rural Area Legacy Zones
5. Division 4.2 Civic Zones
6. Section 5.3.1 Exterior Lighting Standards
7. Section 5.6.1 Town Sign Standards
8. Division 9.5 Defined Terms

Recommendation.

The Community Development Director recommends **approval** of LDR Text Amendment P22-015 as modified by staff and shown in this staff report.

Background.

The applicant (Samuel Singer), on behalf of Wyoming Stargazing, first brought the issue of light pollution to the attention of Town Council and the Board of County Commissioners at the July 2015 Joint Information Meeting (JIM). Wyoming Stargazing proposed the amendment to reduce light pollution in the Jackson/Teton County community and to improve the nighttime natural environment. Wyoming Stargazing is a nonprofit, educational organization that facilitates public and private stargazing programs throughout the community. The organization is running a 'Save Our Night Skies' campaign to reduce light pollution in the community.

After receiving positive feedback at the July 2015 JIM meeting, the applicant pursued an LDR Text Amendment, which was submitted in January 2016. On August 1, 2016, the Town and County both approved an LDR Text Amendment (P16-051) to their jurisdiction's exterior lighting standards.

It is important to note that the text amendment did not apply to signage lighting or publicly owned lighting (i.e., lighting in the public ROW or lighting on publicly owned buildings). At that time staff and the applicant agreed to divide the amendment into two parts – Part 1 being an amendment that addresses exterior lighting on private property, and Part 2 being a separate amendment that would address signage lighting and publicly owned lighting at a later date. The intention

behind separating the amendment into two parts was to allow time for staff to more carefully consider, at a later date, the safety implications associated with exterior lighting standards in the public ROW.

The main changes that occurred with the Part 1 amendment (P16-051) can be summarized below:

- Changed the measurement of light from footcandle to lumens because lumens are easier to measure.
- Set maximum illumination standards per site based on the site development.
- Set maximum light color standards (measured in Kelvin) which reduce nighttime glare.
- Introduced adaptive controls to save energy and extinguish lights when not needed.
- Set new standards for lighting associated with outdoor recreation, special events, and complex uses (i.e., ball fields, stadiums, etc.).

Proposed Text Amendment

The applicant, Wyoming Stargazing, is proposing an LDR text amendment (Part 2) geared at further modernizing and enhancing the Town's current exterior lighting regulations for not only signage lighting and publicly owned lighting as originally intended but for lighting on private property as well. In total, there are over 50 proposed changes to the LDRs which are summarized below under the **Staff Analysis** section. The intention of this amendment is to further protect dark skies by addressing areas of lighting that remain less regulated (i.e., signage lighting and publicly owned lighting) and potentially make the Town of Jackson eligible for accreditation as an International Dark Sky Community (IDSC) by the International Dark-Sky Association (IDA). There are currently 35 cities worldwide that are certified as an IDSC, 24 of which are located within the United States. The IDSC certification does not qualify the Town for any known funding or grants by state or federal governments but would serve as a testament to Jackson's efforts to protect dark nights. According to the applicant, stargazing is a small but growing niche in the travel industry and certain stargazing and astronomy enthusiasts are making conscious choices to travel to communities that are IDSC certified to enjoy the benefits of dark skies. The applicant has submitted this same text amendment with Teton County which is being reviewed separately.

Staff Analysis

Below is a summary analysis of the proposed changes that shows current regulations (if any), proposed changes, the applicant's justification, and staff's recommendation. Please refer to the applicant's submittal for the specific language as the summary below is mostly intended to simplify the proposed changes. Certain proposed changes (20 in total) are required for IDA eligibility and those are identified as ***Requirement for IDA eligibility** under the **"Applicant's Justification"** column.

Regardless of which direction the Town Council chooses to go, whether IDA certified or not, the proposed lighting changes will effectively be setting high standards for the protection of dark skies which lines up with the goals of the following Comprehensive Plan language:

Policy 1.3.d states – "The prominence of nature over the built environment should extend beyond daytime viewsheds. The lighting of individual developments cumulatively impacts the ability to see dark and starry night skies. Although lighting is required for public safety, especially along pedestrian corridors, non-essential lighting will be limited and all lighting will be designed to meet dark skies best practices. Existing development will also be encouraged to implement best practices."

Proposed Changes to Exempt Lighting (Sec 5.3.1.A.1)

#	Current	Proposed	Applicant's Justification
1	Section 5.3.1.A.1.a - Lighting in the public ROW is currently exempt.	Lighting in the public ROW, and lighting on publicly owned buildings, are no longer exempt. A new section is created for requirements specific to publicly owned lighting.	Sets up a process for when public lighting is necessary and ensures that publicly owned lighting meets dark sky standards. *Requirement for IDA eligibility.
Staff Recommendation: Staff <u>supports</u> the idea of no longer exempting publicly owned lighting. However, it is confusing to the reader to list public lighting as exempt but then reference a separate section that implies public lighting is not in fact exempt. Staff recommends simply removing "lighting in the public ROW, and lighting on publicly owned buildings" from the applicability section.			
2	Section 5.3.1.A.1.c - Flagpole lighting is currently exempt provided the lighting is shielded and directed downward from the top of the flagpole.	Keep current language but add a maximum lumen provision (e.g., lighting cannot exceed 75 lumens per linear foot of pole height or cannot exceed 100 lumens per sf of flag surface when unfolded).	Prevents the over-lighting of flagpoles.
Staff Recommendation: Staff <u>supports</u> this change and finds that a lumen maximum will complement the Town's current standard to prevent the over-lighting of flagpoles. With that being said, most flagpoles in Town are up-lit rather than down-lit which is usually a result of improper light installation by the property owner. Moving forward, staff is comfortable with allowing up-lighting for flagpoles provided that the lights comply with the standards for unshielded lights which already allow a limited amount of unshielded lighting in all zones for lights that are less than 600 lumens. Staff recommends the following modified language: <i>"Flagpole lighting that is shielded and directed downward from the top of the flagpole, and that does not exceed 75 lumens per linear foot of pole height above grade or does not exceed 100 lumens per sf of flag surface when unfolded, whichever is less. Unshielded lights are permitted provided each luminaire is less than 600 lumens and complies with the maximum lumens per site for unshielded lights."</i>			
3	Section 5.3.1.A.1.e - Lighting for emergency response is currently exempt.	Add language that emergency response lighting can remain exempt so long as emergency conditions continue to exist as deemed appropriate by qualified personnel.	Clarifies that the emergency lighting is related to qualified personnel such as Fire/EMS, Police, Search and Rescue, etc., and not the general public
Staff Recommendation: Staff <u>supports</u> this change provided that it is merged with #6 below which is a similar exemption for the general public. Two separate sections on "emergency lighting" are not necessary. Staff recommends the following modified language: <i>"Temporary lighting used by qualified personnel or the general public during emergency conditions to save life, limb or property from imminent peril"</i>			

#	Current	Proposed	Applicant's Justification
4	Section 5.3.1.A.1.h - Lighting for repairs of roads, utilities, and similar infrastructure is currently exempt.	Add language that such lighting shall not be positioned to result in glare directed toward a road or highway.	Seeks to avoid a public safety issue involving excessive glare on vehicular drivers.
Staff Recommendation: Staff <u>supports</u> this change with modified language. WYDOT would be exempt from following this standard. Based on comments from Town Engineering, it would be difficult to achieve this requirement as written even though the Town makes every effort to avoid glare onto roads and highways during necessary road work. Staff recommends the following modified language: <i>"Lighting employed during repairs of roads, utilities, and similar infrastructure, including unshielded lighting, provided that the greatest reasonable effort is made to avoid glare on drivers on any roadway or highway."</i>			
5	No exemptions exist for lighting employed by higher levels of government than the Town.	Section 5.3.1.A.1.i - Adds an exemption for lighting required by a government higher than the Town.	Creates an exemption for lighting required by higher levels of government.
Staff Recommendation: Staff <u>supports</u> this change with modified language that states: <i>"Any form of lighting mandated or otherwise governed by a legal jurisdiction beyond the authority of the Town."</i>			
6	No exemption exists for the general public in the event lighting is needed to save life, limb, or private property.	Section 5.3.1.A.1.j - Adds an exemption for temporary lighting to save life, limb, or property from imminent peril for the general public. Different from the exemption above for qualified personnel.	An exemption already exists for qualified personnel. This exemption is for the same purpose but serves the general public.
Staff Recommendation: Staff <u>supports</u> this language provided that it is merged with #3 above which is a similar exemption for qualified personnel. Two separate sections on "emergency lighting" are not necessary. Staff recommends the following modified language: <i>"Temporary lighting used by qualified personnel or the general public during emergency conditions to save life, limb or property from imminent peril"</i>			
7	No exemption exists for temporary lighting.	Section 5.3.1.A.1.k - Adds an exemption for temporary lighting approved through a new temporary lighting permit process.	Establishes a temporary lighting permit process for situations or events not covered by these LDRs.
Staff Recommendation: Staff <u>does not support</u> creating a temporary lighting permit process due to impacts on staff resources and due to lack of necessity. Nearly all temporary lighting is associated with a special event on public property or a construction site (private or public), both of which are already covered in Section 5.3.1.D – Complex Uses. Staff is supportive, however, of working with the appropriate departments to make changes/updates to the Special Event Permit and Construction Management Plans to ensure temporary lighting complies with the LDRs and does not become a public nuisance.			

#	Current	Proposed	Applicant's Justification
8	No exemption exists for lighting required by the Building Code.	Section 5.3.1.A.1.l - Adds an exemption for lighting required by the Building Code.	The Building Code often supersedes the LDRs and an exemption should be provided for any required lighting.
Staff Recommendation: Staff <u>supports</u> this change. An exemption should exist for lighting required by the Building Code.			
9	No exemption exists for lighting deemed necessary by the Planning Director.	Section 5.3.1.A.1.m - Adds a catch-all exemption allowing the Planning Director to approve lighting that preserves public safety or prohibit lighting that may constitute a public hazard.	Gives authority to the Planning Director to approve or deny certain lighting related to public safety or nuisances.
Staff Recommendation: Staff <u>supports</u> this change. This can be used in scenarios where existing nonconforming lighting is clearly a public nuisance or hazard and would expand the Town's current triggers for compliance with certain nonconforming lights.			

Proposed Amortization (Sec 5.3.1.A.2)

#	Current	Proposed	Applicant's Justification
10	Nonconforming light fixtures and bulbs can remain so long as the fixtures or bulbs are not willfully removed and replaced. If removed and replaced, they must comply with the current regulations.	Section 5.3.1.A.2 - Approve an amortization on nonconforming lighting that requires all private and publicly owned lighting to comply with these regulations within 10 years of adoption, unless exempted.	Besides this being an effective method for compliance, the main reason for this change is due to the IDA eligibility requirement. *Requirement for IDA eligibility.
Staff Recommendation: Both Planning and Engineering <u>do not support</u> adopting an amortization on legal nonconforming lighting due to the significant need for increased code compliance staff time to implement this change. Although potentially effective, amortization is a stringent approach to obtaining compliance on existing nonconforming lights as it sets a community-wide deadline for compliance, in this case, 10 years. Unless the Council desires IDA certification, staff finds that there are other effective methods to obtain compliant lighting outside of amortization even though those methods do not gain compliance as quickly as amortization. Instead of amortization, staff proposes that all nonconforming lighting be triggered into compliance when the landowner applies for a development permit or building permit from the Town. For example, a house that has multiple nonconforming flood lights in their driveway must fix the lights as a condition of approval for any new building permit to add, for instance, a bedroom or make any other structural change that requires a building permit. The same would apply if that same property applied for a Development Plan, Basic Use Permit, Conditional Use Permit, Variance, etc., or a sign permit if the nonconforming lighting related to a sign, This approach would be a significant departure from the Town's current procedures because the Town only requires lighting compliance when the landowner either replaces the nonconforming light bulb or light fixture or expands the structure containing the nonconforming light source by 20% or more of the existing floor area or use. The first factor is essentially unenforceable because staff is rarely made aware of when a landowner replaces a light bulb or fixture given that no permit is required, thus compliance is usually gained through expansions of existing buildings. The Town's current "reactive" approach to nonconforming lighting isn't overly forceful or heavy-handed. This approach is also mindful of staff capacity in that it does not require a large amount of staff time compared to the "active" enforcement			

approach of amortization which would be much more time-consuming given the large number of existing nonconforming lights in the Town and the large amount of staff time needed to obtain compliance. Staff recommends keeping our current approach but is supportive, as mentioned above, of expanding the current compliance triggers by creating a new nonconforming lighting section in Division 1.9. The new section would be Section 1.9.6 – Nonconforming Lighting. The applicant has already provided suggestions on additional triggers, and those are listed below starting on Page #15 of this report. Amongst those triggers, staff is supportive of adopting the following: • Compliance for nonconforming lighting is required upon approval for a Development Plan, Conditional Use Permit, Variance, Sign Permit, or a building permit on the same property as the nonconforming lighting. • Compliance for nonconforming lighting is required after a structure is removed, demolished, or destroyed, whether intentionally or by casualty loss, such as fire, earthquake, or another unforeseen occurrence. • Compliance for nonconforming lighting is required if a building or site is unoccupied or nonoperational for at least 365 days. • Compliance for nonconforming lighting is required after the replacement of any non-conforming lighting fixture or equipment, not including the bulb. If the Town Council desires to be eligible as an IDSC, staff recommends adopting the applicant’s proposed amortization requirement. The Town Attorney has indicated that State law permits the Town of Jackson to adopt amortization for nonconformities if it so chooses. For the private sector, this means enforcement of all nonconforming lighting on private property within 10 years of adoption. Staff does not have an estimate on the number of properties with nonconforming lighting, but the number is likely large being that there are well over 4,500 addresses in town limits. If approved, the enforcement would require substantial staff time (Planning and Code Enforcement) and would also require funding for the public outreach and education. Staff cannot estimate the amount of staff time or funding needed to accomplish the enforcement. Applying amortization to existing lighting in the public ROW and to Town-owned property would require Public Works to conduct an inventory of all town-owned lighting, run a cost analysis for the replacement of nonconforming lights, and ensure that such costs are budgeted. At this time staff cannot estimate the amount of staff time or funding needed to accomplish this effort.

Proposed Changes to Lighting Standards (Sec 5.3.1.B.)

#	Current	Proposed	Applicant’s Justification
11	Section 5.3.1.B.1 - “Lumens” are referenced as the measurement for shielded light fixtures.	Change “lumens” to “initial lumens”. This would also require adding a new definition later in Division 9.5 – Defined Terms.	Initial lumens refer to the brightness of the bulb when it is new and is essentially the same as the lumens referenced on lighting cut sheets. *Requirement for IDA eligibility.
	Staff Recommendation: Staff <u>supports</u> this change. Although most lighting cut sheets label the light output in lumens, it has been interpreted by the applicant that lumens and initial lumens are generally the same.		
12	Section 5.3.1.B.1 - Current language requires that any structural part of the luminaire providing full shielding needs to be attached.	Keep current language but remove a redundant sentence pertaining to light emission above the horizontal plane of the fixture.	Removes redundant language that is already addressed in the definition of “fully shielded.”
	Staff Recommendation: Staff <u>supports</u> this change.		

#	Current	Proposed	Applicant's Justification
13	Section 5.3.1.B.1 - Current language allows unshielded lights provided that an architectural feature, such as a roof eave, serves as the shielding element.	Keep current language but remove a reference to a diagram (Bob Crelin diagram) reflecting examples of unshielded and fully shielded lights. Applicant plans to relocate the Bob Crelin diagram, along with the definition of "fully shielded" to Division 9.5 – Defined Terms.	Moves definitions to Division 9.5 for consistency purposes.
Staff Recommendation: Staff <u>supports</u> this change. The Bob Crelin diagram and definition of fully shielded should live in Division 9.5 - Definitions.			
14	Section 5.3.1.B.2 - Currently, maximum lumens are "per site"	Remove "per site" and replace it with "per net acre". A definition of net acre will be added in Division 9.5 – Defined Terms.	Ensures that only the developed portions of a property are used to determine the maximum lumens. Net acre is essentially the same as site development, which is defined in Division 9.4.
Staff Recommendation: Staff <u>supports</u> replacing "per site", but not with "net acre". Staff recommends replacing "per site" with "per acre of site development". Because "site development" is essentially the same as "net acre", adding a new definition is redundant.			
15	Section 5.3.1.B.2 - Current max lumens per site (shielded): 100,000 (DC, CR-1, CR-2, CR-3, OR, TS, UC, BP-ToJ, MHP-ToJ, P/SP, P-ToJ, NL-5, NM-2, NH-1) 60,000 (R-ToJ, NL-1, NL-2, NL-3, NL-4, NM-1) Current max lumens per site (unshielded): 5,500 (DC, CR-1, CR-2, CR-3, OR, TS, UC, BP-ToJ, MHP-ToJ, P/SP, P-ToJ, NL-5, NM-2, NH-1) 4,000 (R-ToJ, NL-1, NL-2, NL-3, NL-4, NM-1)	Proposed max lumens per net acre (shielded): 50,000 (DC-1, DC-2, CR-1, CR-2, CR-3, OR, TS-1, TS-2, BP-ToJ, MHP-ToJ, P/SP, P-ToJ, NL-5, NM-2, NH-1) 20,000 (R-ToJ, NL-1, NL-2, NL-3, NL-4, NM-1) Proposed max lumens per net acre (unshielded): 2,000 (DC-1, DC-2, CR-1, CR-2, CR-3, OR, TS-1, TS-2, BP-ToJ, MHP-ToJ, P/SP, P-ToJ, NL-5, NM-2, NH-1) 1,000 (R-ToJ, NL-1, NL-2, NL-3, NL-4, NM-1)	Lowens the allowances per acre to numbers that are more consistent with lighting expectations for a town the size of Jackson and the kinds of land uses that the LDRs envision. IDA prescribes no specific values for these numbers, but if their values are high it may raise questions from IDA during the IDSC application review process.
Staff Recommendation: <u>Shielded fixtures</u> Staff <u>supports</u> reducing the 100k and 60k maximums provided that the method for measurement is changed from "per site" to "per acre of site development" (and not per "net acre" as proposed by the applicant). Currently, most development lighting plans do not come near the 100k or 60k maximums. However, larger sites such as Albertsons, Smiths, Target, etc., that have expansive parking lots are most impacted by the current 100k-maximum as it does not provide a sufficient amount of lumens to safely, but reasonably, light the entire site. By changing the methodology to "acre of site development", larger sites will be treated more fairly in that lighting will be based on actual site development versus an arbitrary 100k maximum per site. Staff finds that the proposed 50k maximum per acre of site development will provide a sufficient amount of lumens for commercial and high-density residential zones. As it relates to the proposed 20k reduction which applies to the low-mid density residential			

	zones, staff is comfortable with this change because most of the sites in these zones are +/-7,500 sf with a maximum allowed lumens ranging from 5,000-7,000 lumens, which is well within the proposed 20k maximum. <u>Unshielded Fixtures</u> Regarding the proposed changes on “unshielded” fixtures, staff supports the proposed reduction in lumens to 2,000 and 1,000 since this change only affects lights that are less than 600 lumens and are not required to be fully shielded. Staff is comfortable further limiting the number of lumens for unshielded lights because these lights can still be a significant source of complaints from neighbors. Note: If either of the above changes is approved, it will require amending the zone-specific exterior lighting standards for all Town zones because each zone lists the old standards. Effectively it would require changes to the following sections: 1. Division 2.2 Complete Neighborhood Character Zones 2. Division 2.3 Complete Neighborhood Legacy Zones 3. Division 3.3 Rural Area Legacy Zones 4. Division 4.2 Civic Zones		
16	Section 5.3.1.B.4 - Currently, light trespass is not allowed to fall onto adjacent properties.	Remove existing language but state that “no luminaire shall create conditions of light trespass”. A new definition of light trespass will be added to Division 9.5 – Defined Terms. The light trespass visual should also be moved to Division 9.5.	Seeks to keep definitions in Division 9.5. The new definition of light trespass is more elaborate.
	Staff Recommendation: Staff supports this change provided that language is added requiring the applicant to demonstrate that light trespass is not occurring at the time of the Building Permit submittal. This can be done through photometric maps or statements from a qualified professional. In addition, the Engineering Department has requested that lighting in the public ROW be exempt from this requirement. Town Engineering is committed to installing dark sky compliant lighting that is fully shielded and is willing to make every effort to comply with the light trespass standard. However, Engineering cannot guarantee that all lighting in the ROW will not create some conditions of light trespass. Lighting in the ROW is intended to provide safety to all users of the ROW and so this could provide a justifiable reason to deviate or be exempt from the trespass standard. In this case, the Public Works Department is asking for the same type of exemption that is provided for lighting required by the building or fire codes. Staff recommends the following language: <i>“No luminaire installed within Town limits shall create conditions of light trespass, except those installed in the public ROW. The applicant shall demonstrate that all proposed lighting does not create conditions of light trespass at the time of building permit submittal. Lighting in the public ROW shall be installed to avoid light trespass to the greatest extent possible.”</i>		
17	Section 5.3.1.B.6.a.i & ii - Under lighting controls, lighting that is required by the building code, and lighting for public safety are exempt.	Remove both exemptions since these two exemptions have been moved to the general lighting exemption section (shown above under Exempt Lighting).	Building code lighting and public safety lighting have been moved to a different exemption section, thus they are not needed here.
	Staff Recommendation: Staff supports this change.		
18	Section 5.3.1.B.6.a.iv - Under lighting controls, lighting for tunnels, parking garages and garage entrances are exempt.	Remove this exemption.	Removes redundant language since this type of lighting is addressed in the Applicability section, specifically Section 5.3.1.A.1 Exempt Lighting.
	Staff Recommendation: Staff supports this change. The Building Code has requirements for lighting in tunnels, parking garages, and garage entryways, thus this exemption is already covered in the exemption Section 5.3.1.A.1.		

#	Current	Proposed	Applicant's Justification
19	Section 5.3.1.B.7.a.i - Under the lighting reduction, motion-activated lighting is exempt.	Keep motion-activated lighting provided the lights shut off after 5 minutes of inactivity.	Sets a limit for how long lights remain on after being triggered. Ensures that after a triggering event, lights are not left on excessively long.
Staff Recommendation: Staff supports this change.			
20	Section 5.3.1.B.7.a.ii & iii - Under lighting reduction, lighting that is required by the building code, and lighting for public safety are exempt.	Remove both exemptions since these two exemptions have been moved to the general lighting exemption section (shown above under Exempt Lighting).	Building code lighting and public safety lighting have been moved to a different exemption section, thus they are not needed here.
Staff Recommendation: Staff supports this change.			

Proposed Section on Publicly Owned Lighting (Sec 5.3.1.B.8)

#	Current	Proposed	Applicant's Justification
21	N/A	Section 5.3.1.B.8.a - Warranting. New installations of outdoor lighting will only be installed on public properties and rights-of-way upon a determination by the Town Manager that a public safety hazard exists in the area to be lit, and that the hazard can only be effectively mitigated through the use of outdoor lighting and not through some other passive means, such as reflectorized roadway paint or markers.	Establishes a process for when publicly owned lighting is needed. *Requirement for IDA eligibility.
Staff Recommendation: Staff does not support the proposed warranting section. For starters, the Town has no regulatory requirements for when/where exterior lighting is required other than by our Building or Fire codes relating to safety and egress. That type of lighting is typically associated with a building or physical development and not in the public ROW. In situations where the Town installs lighting in the public ROW, the process can vary. In some cases, lighting is approved through a Capital Improvement Project (CIP) which involves the neighborhood owners and Town Council. No single person is making the decision, rather the Town is working with the neighborhood and Town Council to install appropriate lighting in conjunction with a new sidewalk or pathway project. In other cases, public ROW lighting is reviewed and approved by Engineering not as part of a CIP but in conjunction with a new downtown development that is required to install new pedestrian sidewalks than can include lighting. But again, there is no regulatory requirement stating which developments require lighting and which ones do not. Regardless of how public ROW lighting is approved, the Town is already determining a need for lighting based mostly on the issue of safety so, in one sense, we already have an informal "warranting" for public ROW lighting. This issue raises the possibility that the Town might want to have a larger conversation about where lighting in the public ROW (and other public property) is necessary or desired, so that there is clear guidance to the Public Works Department, the general public, and private landowners or developers on when and where public lighting is to be expected and who has the responsibility to install and/or maintain it.			

#	Current	Proposed	Applicant's Justification
22	N/A	Section 5.3.1.B.8.b - Curfew. All lighting not adaptively controlled must be fully extinguished by 11 P.M., or within one hour of the end of occupancy of the structure or area to be lit, whichever is later.	*Requirement for IDA eligibility if the adaptive controlling (below) is not approved.
Staff Recommendation: Staff does not support this change. Since publicly owned lighting will no longer be exempt, our current LDRs (Section 5.3.1.B.7) already have a curfew that requires all nonresidential lights to be fully extinguished after 12 AM or be reduced by 30% after 12 AM. Below is the current lighting reduction curfew: <i>Lighting Reduction. After 12:00 AM nonresidential sites shall extinguish or reduce their total exterior lighting by at least 30%.</i> <i>a. Exceptions:</i> <i>i. Motion-activated lighting</i> <i>ii. Lighting required by Building Code</i> <i>iii. Lighting necessary for public safety</i> <i>iv. Lighting governed by a conditional use permit in which times of operation are specifically identified</i> <i>v. When the exterior lighting consists of only one luminaire</i>			
23	N/A	Section 5.3.1.B.8.c - Adaptive controlling. All new installations of outdoor lighting on public properties and rights of way must be regulated with adaptive controls such that the lighting of areas is restricted to times, places and amounts required for safe occupancy.	*Requirement for IDA eligibility if the curfew (above) is not adopted.
Staff Recommendation: Staff supports this change. Including adaptive controls on all new publicly-owned lighting is in the Town's best interest as it relates to dark skies and energy efficiency. Based on the comments from Town Engineering, adaptive controls are already being used (i.e., Rancher Street project) and can be accommodated in future installations. In the event the above 2 standards are not approved, staff recommends that this change be moved to Section 5.3.1.B.6 – Controls which already addresses controls on all nonresidential lighting.			

Proposed Section on Outdoor Sports Lighting (OSL) (Sec 5.3.1.B.9)

#	Current	Proposed	Applicant's Justification
24	N/A	Section 5.3.1.B.9.a - Purpose. Field lighting shall be provided exclusively for illumination of the surface of play and adjacent viewing stands, and not for any other application, such as lighting a parking lot.	Limits lighting to only the field of play and adjacent viewing stands. *Requirement for IDA eligibility.
Staff Recommendation: Staff supports this change. Although parking lots would not be covered by the OSL section, parking lots associated with an outdoor sports field would be permitted to be lit through the normal lighting standards for that zone.			
25	N/a	Section 5.3.1.B.9.b - Class of play. The design and installation of lighting for outdoor sports and similar activities shall follow the illuminance and uniformity guidelines of the IES according to the appropriate class of play.	*Requirement for IDA eligibility.
Staff Recommendation: Staff supports this change provided that the language is modified. Wyoming State Statute allows the Town to reference in our LDRs certain codes such as national fire or building codes. However, referencing other standards such as the Illuminating Engineering Society (IES) would need to be done through a separate resolution stating what the standard is and defining IES. Staff is supportive of creating a separate resolution and will work with the Town Attorney on the final language for this change.			

#	Current	Proposed	Applicant's Justification
26	N/a	Section 5.3.1.B.9.c - Shielding. OSL shall be exempt from the general shielding requirement of this section, although site plans must demonstrate that shielding is implemented to the greatest practical extent.	*Requirement for IDA eligibility.
Staff Recommendation: Staff <u>supports</u> this change.			
27	N/A	Section 5.3.1.B.9.d - Illuminance levels. Illuminance levels provided by OSL systems shall be adjustable according to task, allowing for IES-recommended values during active play as well as for lower output during other times, such as when field maintenance is being actively performed.	*Requirement for IDA eligibility.
Staff Recommendation: Staff <u>supports</u> this change provided the language is modified. As mentioned above in #25, the Town can only adopt language referencing IES through a separate resolution of which staff is supportive. Regarding the requirement for adjustable lighting according to task, Parks and Recreation states that this standard would be difficult to implement being that they design their facilities for the highest uses for safety reasons. Staff recommends modifying the language to require the consideration for adjustable lighting controls based on the user.			
28	N/A	Section 5.3.1.B.9.e - Curfew. All OSL must be extinguished by 11 P.M. or within one hour of the end of active play, whichever is later. The OSL system shall be fitted with mechanical or electronic timers to prevent lights being left on accidentally overnight by enabling them to be automatically extinguished.	*Requirement for IDA eligibility.
Staff Recommendation: Staff <u>supports</u> this change. Parks and Recreation already has an 11 PM curfew for all outdoor sports fields.			
29	N/A.	Section 5.3.1.B.9.f - Off-site impacts. Impacts of OSL to any other properties shall be limited to the greatest practical extent possible. The maintained vertical illuminance at the property line shall not exceed 1 foot-candle at any time.	*Requirement for IDA eligibility.
Staff Recommendation: Staff <u>supports</u> this change.			

Proposed Changes to Prohibited Lighting (Sec 5.3.1.C)

#	Current	Proposed	Applicant's Justification
30	Section 5.3.1.C.3 – Strings of lights are prohibited except for holidays displayed between November 1 and April 15. No single luminaire shall exceed 20,000 lumens.	Remove the sentence that prohibits a single luminaire from exceeding 20,000 initial lumens and make it its own separate item under prohibited types of lighting.	This is intended to be a separate prohibited type of lighting and should not be tied only to strings of lights.
Staff Recommendation: Staff <u>supports</u> this change. Staff notes that over the past several years an increasing number of properties have installed decorative strings of lights that remain up year-round. This is one area of lighting violations that does not receive much enforcement unless staff receives a complaint. Staff is seeking direction from Council as to whether they would like staff to step up enforcement and take a more active approach to these types of violations. Although staff is not supportive of the proposed amortization of all lighting, staff is open to increasing enforcement on certain violations such as strings of lights if these are deemed especially harmful. Alternatively, if the Council finds that such lighting adds character to the downtown commercial area, then such lighting can			

	be allowed under certain limits. Otherwise, this type of violation falls mostly under the category of illegal lighting since most properties have not legally had strings of lights on their property continually since the adoption of the 1994 LDRs.
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Proposed Changes to Complex Uses (Sec 5.3.1.D)

#	Current	Proposed	Applicant's Justification
31	Section 5.3.1.D – Complex Uses	Remove references to outdoor sports lighting (i.e., stadiums, ball diamonds, playing fields, outdoor rinks, tennis courts) since those have been moved to their own new section: Section 5.3.1.B.9 Outdoor Sports Lighting.	Removes references that are addressed under a new outdoor sports lighting section.
Staff Recommendation: Staff <u>supports</u> this change. However, since all of the “outdoor sports” uses are proposed to be removed and relocated to a new section, the title of the section should change from “Complex Uses” to “Civic and Special Uses” to better describe the section.			
32	Section 5.3.1.D.4 – Currently complex use lighting must be extinguished by 10 PM or at the conclusion of the event. Lighting cannot remain on overnight.	Add a sentence that lighting must be equipped with timers to ensure lights are not accidentally left on overnight.	Ensure lights are not left on accidentally overnight.
Staff Recommendation: Staff <u>supports</u> this change. Although this will be very difficult to enforce on construction sites where most lighting is manually controlled.			

Proposed Changes to Town Sign Standards (Sec 5.6.1)

#	Current	Proposed	Applicant's Justification
33	N/A	Section 5.6.1.E.a.iv (Exterior Lit Signs) - “Light sources shall be extinguished completely after 11 PM or at the end of normal business hours, whichever is later, and remain off until one (1) hour before sunrise”	Limits lighting of signs overnight. *Requirement for IDA eligibility.
Staff Recommendation: Staff <u>supports</u> this change provided that an exemption be included for businesses open 24 hours to the public. The applicant states in their application that IDA has interpreted the above language to include 24-hour businesses, but staff prefers to make it clear that all businesses regardless of their hours are accommodated fairly. Staff recommends the following language: <i>(Exterior Lit Signs) – “Light sources shall be extinguished completely after 11 PM or at the end of posted business hours, whichever is later and shall remain off until one (1) hour before sunrise. Businesses open 24 hours shall be exempt from this standard.”</i>			
34	N/A	Section 5.6.1.E.a.v (Exterior Lit Signs) - “The illuminated surface area of an individual sign shall not exceed 200 square feet”	*Requirement for IDA eligibility.
Staff Recommendation: Staff <u>does not support</u> this change. Our current sign regulations limit the square footage of signs to 150 sf per street frontage which is already more restrictive than the proposed 200-sf rule. Essentially, there is no scenario where a property would be allowed 200 sf for a single sign. Thus, there is no need for this standard as the current standard is self-regulating as it relates to maximum size of signs. However, staff is comfortable with having a maximum lumen standard and recommends the following language:			

	<i>"Section 5.6.1.E.a.v (Exterior Lit Signs) - Illuminance levels during permitted operating hours shall not exceed 1,000 lumens per sign."</i>	
35	Section 5.6.1.E.b.iv (Internally Lit Signs) – Florescent and neon lighting is no permitted for internally lit signs.	Correct spelling of "Florescent" to "Fluorescent". Corrects spelling.
	Staff Recommendation: Staff <u>supports</u> this change.	
36	N/A	Section 5.6.1.E.b.vii (Internally Lit Signs) – "Illuminance levels during permitted operating hours shall not exceed 1,000 lumens. For electronic displays, this figure is to be measured under conditions of a full white display" *Requirement for IDA eligibility.
	Staff Recommendation: Staff <u>support</u> this change.	
37	N/A	Section 5.6.1.E.b.viii (Internally Lit Signs) – "Light sources shall be extinguished completely after 11 PM or at the end of normal business hours, whichever is later, and shall remain off until one (1) hour before sunrise" Limits lighting of signs late into the night. *Requirement for IDA eligibility.
	Staff Recommendation: Staff <u>supports</u> this change provided that an exemption be included for businesses open 24 hours to the public. The applicant states in their application that IDA has interpreted the above language to include 24-hour businesses, but staff prefers to make it clear that all businesses regardless of their hours are accommodated fairly. Staff recommends the following language: <i>(Internally Lit Signs) – "Light sources shall be extinguished completely after 11 PM or at the end of normal business hours, whichever is later and shall remain off until one (1) hour before sunrise. Businesses open 24 hours shall be exempt from this standard."</i>	
38	N/A.	Section 5.6.1.E.b.ix (Internally Lit Signs) - "The illuminated surface area of an individual sign shall not exceed 200 square feet" *Requirement for IDA eligibility.
	Staff Recommendation: Staff <u>does not support</u> this change. Our current sign regulations limit the amount of internally lit signage to no more than 15% of the surface of the sign. Since the allowed signage is capped at 150 sf per street, the current rules are far more restrictive than the proposed language and not needed. However, staff is comfortable with having a maximum lumen standard and recommends the following language: <i>"Section 5.6.1.E.b.ix (Internally Lit Signs) - Illuminance levels during permitted operating hours shall not exceed 1,000 lumens per sign."</i>	
39	Section 5.6.1.E.c.ii (Backlit Signs) – Florescent and neon lighting	Correct spelling of "Florescent" to "Fluorescent". Corrects spelling.
	Staff Recommendation: Staff <u>supports</u> this change.	

#	Current	Proposed	Applicant's Justification
40	N/A	Section 5.6.1.E.c.vii (Backlit Signs) – “Light sources shall be extinguished completely after 11 PM or at the end of normal business hours, whichever is later, and shall remain off until one (1) hour before sunrise”	Limits lighting of signs late into the night. *Requirement for IDA eligibility.
Staff Recommendation: Staff <u>supports</u> this change provided that an exemption be included for businesses open 24 hours to the public. The applicant states in their application that IDA has interpreted the above language to include 24-hour businesses, but staff prefers to make it clear that all businesses regardless of their hours are accommodated fairly. Staff recommends the following language: <i>(Backlit Signs) – “Light sources shall be extinguished completely after 11 PM or at the end of normal business hours, whichever is later and shall remain off until one (1) hour before sunrise. Businesses open 24 hours shall be exempt from this standard.”</i>			
41	N/A	Section 5.6.1.E.c.viii (Backlit Signs) – “The illuminated surface area of an individual sign shall not exceed 200 square feet”	*Requirement for IDA eligibility.
Staff Recommendation: Staff <u>does not support</u> this change. Our current sign regulations limit the square footage of signs to 150 sf per street frontage which is already more restrictive than the proposed 200-sf rule. Essentially, there is not a scenario where a property would even be allowed 200 sf for a single sign. However, staff is comfortable with having a maximum lumen standard and recommends the following language: <i>“Section 5.6.1.E.b.ix (Internally Lit Signs) - Illuminance levels during permitted operating hours shall not exceed 1,000 lumens per sign.”</i>			

Proposed Changes to Defined Terms (Division 9.5)

#	Current	Proposed	Applicant's Justification
42	N/A	Adaptive controls. Adaptive controls mean mechanical or electronic devices, when used in the context of outdoor lighting systems, intended to actively regulate the switching, duration, and/or intensity of light emitted by such systems. Examples of adaptive controls include timers, dimmers, and motion-sensing switches.	Adaptive controls are required by IDA. This adds a clear definition of what adaptive controls are. *Requirement for IDA eligibility.
Staff Recommendation: Staff <u>supports</u> this change. Having a definition of adaptive controls is necessary since the verbiage is used throughout the proposed amendment.			
43	N/A	Backlit sign. A backlit sign is any sign or display, whether on- or off-premise, whose message or design is indicated by the use of opaque materials situated in front of a luminous background as viewed by an observer. Sometimes referred to as a “reverse pan channel” sign.	Provides a definition of backlit signs which currently does not exist.
Staff Recommendation: Staff <u>supports</u> this change but recommends removing the words “off-premise”. Off-premise signs are prohibited and there should not be any contradicting language that suggests that off-premise signs are allowed.			

#	Current	Proposed	Applicant's Justification
44	N/A	Foot-candle. A foot-candle is a non-SI unit of illuminance or light intensity. The foot-candle is defined as the intensity of one lumen of light falling with uniform distribution on a surface with an area of one square foot.	The term footcandle is referenced in other locations and should have its own definition.
Staff Recommendation: Staff <u>supports</u> this change. Footcandle needs to be defined since photometric maps usually measure light shed in footcandles.			
45	N/A	Fully Shielded. Fully shielded means an outdoor luminaire constructed so that in its installed position all of the light emitted by the luminaire is projected below the horizontal plane passing through the lowest light-emitting part of the luminaire. Examples of Unshielded (Prohibited) and Fully Shielded (Allowed) lights and luminaires limiting light to the horizontal plane are shown below.	Replaces the existing definition that is proposed to be removed from Section 5.3.1.B.1.
Staff Recommendation: Staff <u>supports</u> this change.			
46	N/A	Illuminating Engineering Society (IES). Illuminating Engineering Society or IES means an industry-supported, nonprofit learned society headquartered at 120 Wall Street, New York City, New York, recognized as an authoritative body on the science and application of lighting that publishes and promotes recommended practices for a variety of specific lighting applications.	Defines IES which is referenced in the proposed text for Section 5.3.1.B.9.b.
Staff Recommendation: Staff <u>support</u> this change provided it is located within a separately adopted resolution. Please see #25 & #27 above.			
47	N/A.	Initial lumens. The number of lumens of light emitted by a luminaire when the lamp is new, not accounting for any depreciation due to the age of the lamp or environmental conditions that may be detrimental to its performance.	Initial lumens are the metric of measurement required by IDA. This adds a clear definition of initial lumens. *Requirement for IDA eligibility.
Staff Recommendation: Staff <u>supports</u> this change.			
48	N/A	Internally illuminated. Internally illuminated refers to any sign or display, whether on- or off-premise, consisting of (1) translucent surfaces whose message is designed to be made visible by means of lamps or other light sources concealed with such surfaces; or (2) a sign whose content is made visible by means of luminous elements under active electronic control and therefore subject to alteration in order to vary the color, content and/or brightness of the message displayed.	Provides a definition of internally lit signs which currently does not exist.
Staff Recommendation: Staff <u>supports</u> this change.			
49	N/A	Light Trespass. Light trespass means a condition in which an illuminated luminaire (turned on light bulb) on one property is directly visible on any part of any other property. For the purposes of this chapter, light trespass is declared to be a form of public nuisance.	Defines light trespass.
Staff Recommendation: Staff <u>supports</u> including a definition of light trespass but with modified language. The language as written suggests that if a light bulb can be seen from an adjacent property at any point or any elevation, it constitutes light trespass. Staff finds this to be problematic because many exterior lights can be seen at some point from a non-adjacent property (e.g., a property located below another property). Staff recommends using language that can be measured, such as			

	using a maximum footcandle standard that is applied at the property line only, not from well beyond the property line as the “visible” standard sometimes includes. By using a measurable standard, the Town can review photometric maps prepared by lighting professionals to ensure that light trespass is not occurring. Staff recommends the following language: <i>“Light Trespass. Light trespass shall mean a condition in which an illuminated luminaire on one property creates a vertical illuminance at the property line that exceeds 1 foot-candle.”</i>		
50	N/A	Luminance. Luminance is the amount of light that passes through, is emitted, or reflected, from a particular area, and that falls within a given solid angle. Luminance is a measure of light emitted by or from a surface. The SI unit of luminance is candela per square meter (cd/m²), also known as a “nit.”	Needed to explain new language in Section 5.6.1.E relating to limits on surface brightness on signs. Also adds a definition of nit.
Staff Recommendation: Staff does not support this change. After speaking with the applicant, this definition is not needed since a definition for Initial Lumens is being added.			
51	N/A	Net acre. A net acre is an acre of any land parcel that is developed, consisting of structures and/or hardscape. The net acreage of a parcel is the gross acreage of that parcel less any acres that are considered undeveloped.	Supports the previously proposed language relating to the maximum lumens per site.
Staff Recommendation: Staff does not support this change. This definition is redundant. The Town already has a definition of site development which is the same as net acre.			

Other Proposed Changes

#	Current	Suggested Change	Applicant’s Justification
52	N/A	The applicant suggests adding “findings of fact” language that elaborates on the purposes of these lighting rules and regulations.	Provides More specific findings of fact and statements of purpose in the preamble to 5.3.1 and can help guide future interpretations of the statutory language.
Staff Recommendation: Staff does not support this change. Staff finds that the current purpose statement at the beginning of the lighting section is sufficient in describing the intent of the lighting standards.			
53	N/A	The applicant suggests establishing lighting zones.	The use of Lighting Zones in municipal land use ordinances is becoming increasingly common as many users of such codes inherently understand the notion of zone-based allowances and prohibitions. Lighting Zones could be easily mapped to existing Town land-use zones, with final determinations left to the Planning Director or designee.
Staff Recommendation: Staff does not support this change. Essentially, lighting is already somewhat broken up into zones as Section 5.3.1.B.2 limits the maximum lumens based on zoning.			
54	N/A	The applicant suggests establishing a temporary lighting approval process.	Language is suggested here that, if enacted, would establish a clear process by which the Town would permit installations of lighting for temporary uses that (1) avoids a tendency for “temporary” installations to become permanent over time; and (2) ensures reasonable compliance with the LDRs to the greatest practical extent possible.
Staff Recommendation: Staff does not support this change. Nearly all temporary lighting is already being addressed either through special events or the Civic and Special Uses section and there is no need to create another process. Staff finds that all other lighting should meet the standards for permanent lighting.			

#	Current	Proposed	Applicant's Justification
55	N/A	Division 1.9 Nonconformities - The applicant suggests 8 new ways to increase compliance on legal nonconforming lighting.	In addition to the language required by IDA that amortizes non-conforming lighting installations within ten years of the enactment date of the statute, it is now considered best practice to include other situations and circumstances that automatically trigger compliance while otherwise extending indefinite grandfather protection. These include items like changes of use, destruction of property, new construction or renovation of existing facilities, and more.
a. An application for a Town Planning Department design review, conditional use, subdivision permit, or building permit; Staff Recommendation: Staff <u>supports</u> this trigger, but not for a subdivision permit. Applications that involve the Design Review Committee, a Conditional Use Permit, or a building permit signify that physical changes/improvements will be made to the interior and/or exterior of the building. This would be an ideal time to gain compliance with nonconforming lighting. With that being said, staff can see this as being too burdensome in situations such as if a business owner wanted to remove or add an interior wall, which would require a building permit. For the building permit trigger, staff recommends that it only applies to building permits related to a change of use. b. A change of use of the property; Staff Recommendation: Staff <u>supports</u> this change only if the building permit is triggered by a change in use or an expansion. Without triggering a building permit, this trigger could over-burden small business owners who are already struggling to conduct business in Jackson as rental rates and inflation continue to increase. Requiring a tenant to fix the lighting on a building they likely do not own if a building permit is required to make necessary code improvements. c. Any renovation to the property equal to or exceeding twenty (20) percent of its assessed value; Staff Recommendation: Staff <u>does not support</u> introducing a trigger based on assessed value. It would require an appraisal with every renovation or expansion. d. More than fifty (50) percent of the total appraised value of a structure, as determined from the records of the county's appraisal district, is destroyed; Staff Recommendation: Staff <u>does not support</u> introducing a trigger based on assessed value. It would require an appraisal any time a destructive disaster occurs. Staff does support a trigger upon a total disaster that requires the entire building or site to be rebuilt. e. A determination by the Planning Director that the legal nonconforming luminaire constitutes a public hazard or nuisance; Staff Recommendation: Staff <u>supports</u> this change. In situations where no other trigger applies to a light(s) that is clearly a public nuisance, there should be a provision that allows the Planning Director to enforce the nonconforming light(s). f. A certificate of occupancy is issued for a property previously determined by the Planning Director to be abandoned for at least six (6) months; Staff Recommendation: Staff <u>supports</u> this change provided that the language be modified to require compliant lighting in the event that a building or site is abandoned for more than 365 days. g. The replacement of any legal non-conforming luminaire with new lighting equipment, not inclusive of lamps or similar consumable parts; or Staff Recommendation: Staff <u>supports</u> this change. h. Ten (10) years after the effective date of this section. Staff Recommendation: Staff <u>does not support</u> this change as previously mentioned above under the Proposed Amortization section.			

In addition to the above text changes, the applicant is requesting a fee waiver for the \$1,803.00 Text Amendment fee. Per Resolution 21-08 (Fee Schedule), the Town Council may reduce, defer, or waive application fees upon request if the proposed project advances significant community goals, which include projects that provide an extraordinary charitable, civic, educational, or similar benefit. Staff is supportive of the fee waiver being that the proposed text amendment furthers the community-wide goal of protecting dark skies.

Staff Factors

Pursuant to Section 8.7.1.C of the Town of Jackson Land Development Regulations, the advisability of amending the text of these LDRs is a matter committed to the legislative discretion of the Town Council and is not controlled by any one factor. In deciding to adopt or deny a proposed LDR text amendment the Town Council shall consider factors including, but not limited to, the extent to which the proposed amendment:

1. Is consistent with the purposes and organization of the LDRs;

Complies. The purposes of the LDRs per Division 1.3 and are generally to implement the Comprehensive Plan and to promote the health, safety, and general welfare of the present and future inhabitants of the community. This amendment is consistent with those purposes in that it considers the impacts of light pollution on the health of residents and wildlife in the community.

2. Improves the consistency of the LDRs with other provisions of the LDRs;

Complies. The amendment proposes more specific, more comprehensive standards for exterior lighting. This improves the consistency of the exterior lighting standards with Div. 5.3. Scenic Standards, which states that “dark skies are vital to the community’s natural character.” The current standards, which were amended last in 2016, did not address public-owned lighting and signage lighting and do not achieve the same level of protection of this vital resource that the proposed amendment will do.

3. Provides flexibility for landowners within standards that clearly define desired character;

Complies. The amendment more clearly defines the regulations for outdoor lighting and thus helps landowners understand where flexibility exists in terms of selecting outdoor lighting for their property. It also empowers landowners to understand their compliance with the regulation.

4. Is necessary to address changing conditions, public necessity, and/or state or federal legislation;

Complies. As development in the Town of Jackson continues to increase, efforts to protect our dark skies are warranted. Staff finds that the proposed Text Amendment fills the gaps in our current lighting standards by addressing signage and public lighting

5. Improves implementation of the Comprehensive Plan; and

Not Applicable per Wyoming State statute.

6. Is consistent with other adopted Town Ordinances.

Complies. The proposed amendment does not conflict with any other Town Ordinances.

FISCAL IMPACT

None.

STAFF IMPACT

Staff has spent approximately 60 hours to complete research on this topic and prepare this staff report.

ATTACHMENTS OR LINKS

Application packet

Departmental reviews

SUGGESTED MOTION

I move to recommend **approval** to the Town Council of the proposed text amendment P22-015, based upon factors 1-6 in Section 8.7.1.C of the Land Development Regulations as presented and conditioned by staff in the June 1, 2022, staff report.



PLANNING PERMIT APPLICATION
Planning & Building Department

150 E Pearl Ave. | ph: (307) 733-0440
P.O. Box 1687 | www.townofjackson.com
Jackson, WY 83001

For Office Use Only

Fees Paid _____ Date & Time Received _____
Application #s _____

Please note: Applications received after 3 PM will be processed the next business day.

PROJECT.

Name/Description: Exterior Lighting Standard and Sign Standard Proposed Text Amendments
Physical Address: Teton County and Town of Jackson
Lot, Subdivision: _____ PIDN: _____

PROPERTY OWNER.

Name: _____ Phone: _____
Mailing Address: _____ ZIP: _____
E-mail: _____

APPLICANT/AGENT.

Name: Wyoming Stargazing / Samuel Singer Phone: 307-413-4779
Mailing Address: PO Box 9584 Jackson, WY ZIP: 83002
E-mail: Samuel@wyomingstargazing.org

DESIGNATED PRIMARY CONTACT.

_____ Property Owner ☒ Applicant/Agent

TYPE OF APPLICATION. Please check all that apply; review the type of application at www.townofjackson/200/Planning

Use Permit

_____ Basic Use
_____ Conditional Use
_____ Special Use

Relief from the LDRs

_____ Administrative Adjustment
_____ Variance
_____ Beneficial Use Determination
_____ Appeal of an Admin. Decision

Physical Development

_____ Sketch Plan
_____ Development Plan
_____ Design Review

Subdivision/Development Option

_____ Subdivision Plat
_____ Boundary Adjustment (replat)
_____ Boundary Adjustment (no plat)
_____ Development Option Plan

Interpretations

_____ Formal Interpretation
_____ Zoning Compliance Verification

Amendments to the LDRs

☒ LDR Text Amendment
_____ Map Amendment

Miscellaneous

_____ Other: _____
_____ Environmental Analysis

PRE-SUBMITTAL STEPS. To see if pre-submittal steps apply to you, go to www.townofjackson.com/200/Planning and select the relevant application type for requirements. Please submit all required pre-submittal steps with application.

Pre-application Conference #: _____ Environmental Analysis #: _____
Original Permit #: _____ Date of Neighborhood Meeting: _____

SUBMITTAL REQUIREMENTS. Please ensure all submittal requirements are included. The Planning Department will not hold or process incomplete applications. Partial or incomplete applications will be returned to the applicant. Go to www.townofjackson.com/200/Planning and select the relevant application type for submittal requirements.

Have you attached the following?

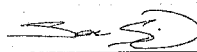
_____ **Application Fee.** Fees are cumulative. Go to www.townofjackson.com/200/Planning and select the relevant application type for the fees.

_____ **Notarized Letter of Authorization.** A notarized letter of consent from the landowner is required if the applicant is not the owner, or if an agent is applying on behalf of the landowner. Please see the Letter of Authorization template at <http://www.townofjackson.com/DocumentCenter/View/845/LetterOfAuthorization-PDF>.

_____ **Response to Submittal Requirements.** The submittal requirements can be found on the TOJ website for the specific application. If a pre-application conference is required, the submittal requirements will be provided to applicant at the conference. The submittal requirements are at www.townofjackson.com/200/Planning under the relevant application type.

Note: Information provided by the applicant or other review agencies during the planning process may identify other requirements that were not evident at the time of application submittal or a Pre-Application Conference, if held. Staff may request additional materials during review as needed to determine compliance with the LDRs.

Under penalty of perjury, I hereby certify that I have read this application and associated checklists and state that, to the best of my knowledge, all information submitted in this request is true and correct. I agree to comply with all county and state laws relating to the subject matter of this application, and hereby authorize representatives of Teton County to enter upon the above-mentioned property during normal business hours, after making a reasonable effort to contact the owner/applicant prior to entering.



Signature of Property Owner or Authorized Applicant/Agent
Samuel Singer

Name Printed

01/25/2022

Date
Executive Director

Title

Application for a
Land Development Regulation
Amendment

Submittal date: January 25, 2022

Applicant:

Wyoming Stargazing
PO Box 9584
Jackson, WY 83002
307-413-4779
samuel@wyomingstargazing.org

Prepared by:

John Barentine
Dark Sky Consulting, LLC
PMB 237
9420 E. Golf Links Rd. Ste 108
Tucson, AZ 85730-1317
512-983-1075
john@darkskyconsulting.com

Introduction

This application proposes to amend the following components of the Teton County/Town of Jackson Land Development Regulations Article 5 ('Physical Development Standards Applicable in All Zones'):

- Div. 5.3. ('Scenic Standards'), §5.3.1. ('Exterior Lighting Standards')
- Div. 5.6. ('Sign Standards'), §5.6.1. ('Town Sign Standards')

We propose a series of changes to the County/Town Exterior Lighting Standards and the Town Sign Standard in order to make Jackson eligible for accreditation as an International Dark Sky Community (IDSC) by the International Dark-Sky Association (IDA). The IDA policy standard for IDSC eligibility reflects established and internationally recognized standards for dark-sky protections. The proposed amendments would bring the Town and County into alignment with these standards, consistent with the goals of Policy 1.3.d ("Maintain dark night skies") in the Jackson/Teton County Comprehensive Plan's 'Environmental Stewardship' section.

In accordance with requirements set forth in the Land Development Regulations (LDRs) this application will outline here how the proposed amendment to the exterior lighting standard:

- Is consistent with the purposes and organization of the LDRs;
- Improves the consistency of the LDRs with other provisions of the LDRs;
- Provides flexibility for landowners within standards that clearly define desired character;
- Is necessary to address changing conditions;
- Improves implementation of the Comprehensive Plan; and
- Is consistent with other adopted Town and County Ordinances.

Overview: Maintaining Dark Skies

Preserving Jackson's natural character is central to the 'Vision and Common Values' of the Comprehensive Plan, which emphasizes that "to achieve our desired community character, the community must protect and enhance the ecosystem in which we live." Maintaining the region's dark night skies is enumerated as a specific goal of the Plan. It specifically calls for looking "beyond daytime viewsheds" in guiding sensible development in the future:

Lighting of individual developments cumulatively impacts the ability to see dark and starry night skies. Although lighting is required for public safety, especially along pedestrian corridors, non-essential lighting will be limited and all lighting will be designed to meet dark skies best practices. Existing development will also be encouraged to implement best practices.

In order to fully modernize the Jackson/Teton County codes and enable the Town to be accredited as an IDSC, we propose specific changes to two sections of the LDRs.

The purpose of the Exterior Lighting Standard (§5.3.1.) is “to allow necessary and reasonable lighting of public and private property for the safety, security, and convenience of occupants and the general public, while eliminating or reducing the nuisance and hazards of light pollution, including, but not limited to: glare, light trespass, sky glow, energy waste, and negative impacts on the nocturnal environment.” It is housed in the County/Town LDRs’ ‘Scenic Standards’ Division (5.3), which finds that “dark skies are vital to the community’s natural character.”

Among other purposes, the Jackson Town Sign Standards (§5.6) is intended to “to protect and enhance the community character and visual environment; to preserve the right of the citizens to enjoy our Town’s scenic beauty; to improve pedestrian and traffic safety; [and] to minimize the possible adverse effect of signs on nearby public and private property.” It aims to achieve these goals while ensuring that Jackson businesses and residents are afforded “equal and fair opportunity to advertise and promote its products and services without discrimination” and enabling “the the fair and consistent enforcement” of sign regulations.

Due to the advent of electronic message centers (EMCs), also known as ‘digital signs’, illuminated signs are quickly becoming a significant contributor to light pollution in many communities. Unlike conventional, externally illuminated signs, their light cannot be shielded. This advance in technology brings with it new challenges involving the balance between resident and business interests and preserving community character. We aim to incorporate new EMC regulatory best practices into the LDRs in order to reset that balance in a way that benefits all of Jackson.

In addition to the overarching goal of enabling Jackson’s designation as an IDSC, the following principles of all three Common Values within the Comprehensive Plan support and are supported by the LDR revisions we propose:

- Maintain healthy populations of all native species (Principle 1.1)
- Protect and steward open space (Principle 1.4)
- Reduce consumption of non-renewable energy (Principle 2.1)
- Promote vibrant, walkable mixed use areas (Principle 4.2)
- Enhance civic spaces, social functions, and environmental amenities to make Town a more desirable Complete Neighborhood (Principle 4.4)
- Measure prosperity in natural and economic capital (Principle 6.1)
- Promote a stable and diverse economy (Principle 6.2)

Proposed Exterior Lighting Standard Amendments Overview

The Exterior Lighting Standard (§5.3.1.) was last updated in 2017, which resulted in substantive improvements to its provisions. Proponents at the time identified a number of shortcomings of the existing Standard that were addressed and resolved in the amendment process. The Town Sign Standard (§5.6.1.) was also last updated in 2017, relatively early in the deployment history of EMCs. As the outdoor advertising industry increasingly looks to a future in which this type of changeable copy sign dominates the market, it behooves the Town to adapt its sign code accordingly in order to provide regulatory certainty to residents and businesses.

We now recommend a series of additional changes to update and further modernize the LDRs that will bring them into alignment with the policy standards of the International Dark-Sky Association, the recognized global authority on outdoor lighting policy for protecting the nighttime environment. These are:

1. Add the following definitions to Div. 9.5: “adaptive controls”, “backlit sign”, “foot-candle”, “fully shielded”, “Illuminating Engineering Society”, “initial lumens”, “internally illuminated”, and “light trespass.
2. Clarify that the lumens restriction in §5.3.1(B)(1) refers to initial lumens.
3. Decide whether to keep the illumination standards (lm/SF) in §5.3.1(B)(2) or the overall site limits. The existing language does not indicate whether these are either/or propositions or instead if both must be observed simultaneously. If the latter, the language inadvertently caps the size of a fully developed parcel that may be lighted.
4. If the site limits are kept in §5.3.1(B)(2), consider capping unshielded site lumens on a per-net-acre basis rather than the existing per-parcel basis. Doing so would further require defining “net acre” in Div. 9.5.
5. Decide similarly whether to keep the illumination standards (lm/SF) in §5.3.1(D)(5) for “complex uses” or the overall site limits.
6. If the site limits are kept in §5.3.1(D)(5), consider capping total light emissions on a per-net-acre basis rather than the existing per-parcel basis.
7. Reconsider maximum lumens limits given typical lot sizes in Jackson; i.e., limits may either be too high or too low now, given that allowances do not scale with lot size but rather only with land-use zones.
8. Eliminate outdoor sports lighting (OSL) as a defined “Complex Use” under §5.3.1(D) and instead treat it as a separate lighting application in its own subsection, subject to restrictions consistent with IDA requirements.
9. Add reasonable lumens limits to flagpole lighting that scales according to pole height and/or flag size. Suggestions are 75 lumens per linear foot of pole height, or 100 lumens per square foot of flag surface area when fully unfolded.

10. Add additional language to the exemptions in §5.3.1(A)(1), including: lighting used during road and infrastructure repairs; lighting required by legal jurisdictions higher than the Town; lighting required by the Building Code; and temporary lighting used during undeclared emergencies constituting an “imminent peril”.
11. Add a section detailing a process for permitting temporary installations of outdoor lighting.
12. Add a subsection to §5.3.1(A) requiring the amortization of non-conforming lighting installations within ten years of the enactment of the updated ordinance.
13. Replace the existing language on light trespass in §5.3.1(B)(4) with a definition of the term in Div. 9.5 and new language that refers to the defined term. Also, move the cartoon diagram in that section to the definitions.
14. Add 11 p.m. curfews for all illuminated signs in the subsections of §5.6.1(E).
15. Add surface area limits to all types of illuminated signs in the subsections of §5.6.1(E).
16. Add a luminance limit for internally illuminated signs in §5.6.1(E)(b).
17. Add general exemptions for lighting required by Building Code and lighting identified by the Planning Director as required to preserve public safety and eliminate their references elsewhere in the code.
18. Add a policy governing the use of publicly owned lighting (i.e., lighting in public rights-of-way) establishing installation warranting, curfews, and the use of adaptive lighting controls.

Consistency with LDRs

Our proposed amendments retain the core content and structure of both the Exterior Lighting Standard and the Town Sign Standards so as to adhere to the original purposes and organization of the LDRs. These purposes include:

§1.3.1.: *“Preserve and protect the area’s ecosystem in order to ensure a healthy environment, community, and economy for current and future generations.”* Given the rapidly maturing scientific understanding of the problem of light pollution and the ecological consequences of artificial light at night, sufficient evidence exists to support the proposition that a healthy and resilient environment requires accessible nighttime darkness. In particular, given the rural nature of the predominantly public lands surrounding and adjacent to Jackson Hole, its nighttime light impact is outsized compared to more urban communities of its size.

§1.3.2.(A)(2): *“Consume less nonrenewable energy as a community in the future than we do today.”* While modern lighting technologies are highly energy efficient, a lower total cost of ownership may promote unnecessary use of light at night. This may undermine or even erase the environmental benefits of modern, energy-efficient lighting. Better outdoor lighting practices that make use of the full range of capabilities of these new

technologies naturally lead to lower light consumption and further energy savings without any obvious negative consequences.

§1.3.2.(A)(3): *“Residents and visitors will safely, efficiently, and economically move within our community and throughout the region using alternative modes of transportation.”*

One goal of this proposal is to enhance nighttime visibility in Jackson so as to improve public safety. The pursuit of dark skies in Jackson does not entail accepting compromised safety and security; ‘dark skies’ doesn’t mean ‘dark ground’. Nighttime hazards will be more visible, reducing the risk associated with transit under such conditions.

§1.3.4.(A): *“Ensure standards are consistently applied to similar applications and circumstances.”* Another goal of this proposal is to more precisely delineate the Exterior Lighting and Town Sign Standards; add detail to elicit more voluntary compliance with the LDRs; tighten technical definitions to better articulate the intended effects of the LDRs; and provide better outdoor lighting guidance to homeowners, business owners, and public officials.

Clear Definitions and Flexibility

Our proposal strengthens and clarifies technical terms related to outdoor lighting so as to ensure more consistency and predictability of LDR enforcement. The nature of the new definitions is aimed at helping developers, property owners, plan reviewers and code enforcement officials better understand the technical requirements of §§5.3.1. and 5.6.1., making it easier for them to comply with the requirements of those sections. Furthermore, new or updated provisions for lighting applications such as outdoor athletic fields and flagpoles better accommodate the needs and desires of property owners.

Necessity of Addressing Changing Conditions

As Jackson continues to grow in coming decades, the need to balance development pressures with the purpose and vision of the LDRs in creating consistent community character, preserving a healthy environment, and cultivating a sustainable regional economy drives an equally significant need to reduce light pollution and maintain the area’s dark night skies. Innovation in lighting design and technology enables addressing this need while ensuring public safety and respecting property rights. The ongoing conversion of existing outdoor lighting stock in Jackson to highly energy-efficient light-emitting diode (LED) technology helps reduce electricity consumption and reduce Jackson’s carbon footprint, but the tendency toward overconsumption of progressively cheaper resources threatens to wipe out these gains.¹ It may further create new social and environmental problems through the poor application of light at night relative to the needs of property owners and the community as a whole. Our proposal addresses these

¹ Kyba, C. C. M., *et al.* (2017). Artificially lit surface of Earth at night increasing in radiance and extent. In *Science Advances* (Vol. 3, Issue 11, p. e1701528). <https://doi.org/10.1126/sciadv.1701528>

concerns and seeks a sensible solution, the goal of which is to improve nighttime visibility in Jackson by targeting and reducing wasted light at night.

Improved Implementation of the Comprehensive Plan

The Comprehensive Plan is clear and direct in its intent to maintain dark night skies as part of preserving ecological aspects of Jackson's community character. Its Policy 1.3.d. directly calls for this:

The prominence of nature over the built environment should extend beyond daytime viewsheds. The lighting of individual developments cumulatively impacts the ability to see dark and starry night skies. Although illumination is required for public safety, especially along pedestrian corridors, non-essential lighting should be limited, and all lighting will be designed to meet dark skies best practices. Existing development will also be encouraged to implement best practices.

Previous efforts to modernize the Exterior Lighting Standards, consistent with this Policy, were aimed at improving compliance with the LDRs at the plan review stage, in particular, ensuring that the worst of outdoor lighting designs were never approved. There is evidence that the strategy worked; although the population of Jackson grew by about 10% in the decade 2010-2020, the emission of light from within city limits measured from space during the same time is almost unchanged.

The amendments in the current proposal further support and strengthen community commitment to realizing the aspirations Policy 1.3.d in particular. By reducing light waste and further lowering light consumption, the proposal also supports the broader Principles of the Comprehensive Plan, including:

- *"Maintain healthy populations of all native species"* (Principle 1.1): Reducing light waste prevents light at night from impinging on nocturnal wildlife habitat and promotes a healthy urban ecology.
- *"Maintain the scenic resources of the community"* (Principle 1.3): Dark night skies are among the signature natural resources of the Jackson Hole and Grand Teton National Park region.
- *"Reduce the consumption of non-renewable energy"* (Principle 2.1): Better and more precise application of outdoor light at night will naturally reduce the amount of light needed to get the job done, resulting in decreased electricity consumption.
- *"Increase energy efficiency in buildings"* (Principle 2.4): Similarly, more efficient use of outdoor light at night will reduce energy costs for building owners.
- *"Manage growth predictably and locally"* (Principle 3.3): The proposed amendments further articulate the responsibilities and privileges of property owners under the LDRs.

They clarify community expectations to ensure that the Town can continue to grow and develop without necessarily inflicting environmental harm as a consequence of doing so.

- *“Enhance civic spaces, social functions, and environmental amenities to make Town a more desirable Complete Neighborhood”* (Principle 4.4): Quality outdoor lighting improves nighttime visibility, enhancing public safety and promoting real security in Jackson. Coupled with the splendor of the region’s dark night skies, the result is outdoor spaces in which visitors and residents alike feel safe and secure at night, promoting community wellbeing.
- *“Measure prosperity in natural and economic capital”* (Principle 6.1): Jackson’s natural capital contributes to clean jobs and sustainable tourism that are both good for the community’s bottom line.
- *“Promote a stable and diverse economy”* (Principle 6.2): Increasingly, concern for and attention to dark skies mean rural economic development. One recent estimate put the economic impact from night-sky tourism on the Colorado Plateau alone at \$6 billion and 10,000 jobs in the decade of the 2020s.² As tourism is expected to ramp up quickly with the end of the COVID-19 pandemic in sight, the Town and County stand to benefit substantially from a robust ‘astrotourism’ sector.

Consistency with Town Ordinances

There are no known inconsistencies with the current proposal and either the LDRs or any other existing Town or County Ordinances.

Summary

Pursuit of the Comprehensive Plan’s Vision, Common Values, and specific policies relating to maintaining dark night skies in the region began with the 2017 update and continues with the further modernization of the Town/County code through the amendments in the current proposal. We suggest that obtaining International Dark Sky Community accreditation for Jackson is the most complete implementation of the Comprehensive Plan in this realm, and encourage the Town and County to make the suggested changes to the LDRs that enables Jackson’s recognition by the International Dark-Sky Association through this prestigious award.

In summary, approving this amendment:

- **Furtheres the objectives of the LDRs and Comprehensive Plan;**
- **Maintains the consistency among provisions of the LDRs;**
- **Provides flexibility for landowners within standards that clearly define desired character;**

² Mitchell, D. and Gallaway, T. (2019), "Dark sky tourism: economic impacts on the Colorado Plateau Economy, USA", *Tourism Review*, Vol. 74 No. 4, pp. 930-942. <https://doi.org/10.1108/TR-10-2018-0146>

- **Is necessary to address changing conditions brought on by the rapid adoption of LED lighting technology and the emerging market for Electronic Message Centers;**
- **Improves implementation of the Comprehensive Plan by adhering more closely to lighting design best practices;**
- **Is consistent with other adopted Town and County Ordinances; and**
- **Meets core outdoor lighting policy requirements for International Dark Sky Community accreditation.**



Town of Jackson Exterior Lighting Standard and Sign Standard Redline Versions with Explanatory Notes

This document adds further context to the accompanying “Town of Jackson Outdoor Lighting Policy Redline Version”, which proposes a series of amendments to the Town’s existing Land Development Regulations (LDRs). These are drawn from several sources, including the joint Illuminating Engineering Society (IES) and International Dark-Sky Association (IDA) [Model Lighting Ordinance](#), the 2018 IDA [International Dark Sky Community Program Guidelines](#) (IDSC), and exemplary U.S. outdoor lighting ordinances such as those of Tucson and Flagstaff, Arizona. The aim of the redline is to suggest a modernization of the Town of Jackson to align its outdoor lighting provisions with recognized best practices that reduce energy consumption and light pollution, improve nighttime visibility, enhance public safety, and contribute qualitatively to quality of life. It will also help “future-proof” the code as lighting technology evolves so as to minimize the need for future amendments.

We identify the following opportunities to improve the Town of Jackson LDRs as the centerpiece of a comprehensive Town policy strategy for improving the quality of outdoor lighting in the Jackson and making the town eligible for International Dark Sky Community designation:

1. Add the following definitions to Div. 9.5: “adaptive controls”, “backlit sign”, “foot-candle”, “fully shielded”, “Illuminating Engineering Society”, “initial lumens”, “internally illuminated”, and “light trespass.
2. Clarify that the lumens restriction in §5.3.1(B)(1) refers to initial lumens.
3. Decide whether to keep the illumination standards (lm/SF) in §5.3.1(B)(2) or the overall site limits. The existing language does not indicate whether these are either/or propositions or instead if both must be observed simultaneously. If the latter, the language inadvertently caps the size of a fully developed parcel that may be lighted.
4. If the site limits are kept in §5.3.1(B)(2), consider capping unshielded site lumens on a per-net-acre basis rather than the existing per-parcel basis. Doing so would further require defining “net acre” in Div. 9.5.
5. Decide similarly whether to keep the illumination standards (lm/SF) in §5.3.1(D)(5) for “complex uses” or the overall site limits. The existing language implies that both must be

observed simultaneously, which inadvertently caps the size of a fully developed parcel that may be lighted at 2.10 acres. A solution may require specifying maximum values for all types of common complex uses; i.e., a one-size-fits-all approach as it exists now may not work well.

6. If the site limits are kept in §5.3.1(D)(5), consider capping total light emissions on a per-net-acre basis rather than the existing per-parcel basis.
7. Reconsider maximum lumens limits given typical lot sizes in Jackson; i.e., limits may either be too high or too low now, given that allowances do not scale with lot size but rather only with land-use zones.
8. Eliminate outdoor sports lighting (OSL) as a defined “Complex Use” under §5.3.1(D) and instead treat it as a separate lighting application in its own subsection, subject to restrictions consistent with IDA requirements.
9. Add reasonable lumens limits to flagpole lighting that scales according to pole height and/or flag size. Suggestions are 75 lumens per linear foot of pole height, or 100 lumens per square foot of flag surface area when fully unfolded.
10. Add some additional language to the exemptions in §5.3.1(A)(1), including: lighting used during road and infrastructure repairs; lighting required by legal jurisdictions higher than the Town; lighting required by the Building Code; and temporary lighting used during undeclared emergencies constituting an “imminent peril”.
11. Add a section detailing a process for permitting temporary installations of outdoor lighting.
12. Add a subsection to §5.3.1(A) requiring the amortization of non-conforming lighting installations within ten years of the enactment of the updated ordinance.
13. Replace the existing language on light trespass in §5.3.1(B)(4) with a definition of the term in Div. 9.5 and new language that refers to the defined term. Also, move the cartoon diagram in that section to the definitions.
14. Add 11 p.m. curfews for all illuminated signs in the subsections of §5.6.1(E).
15. Add surface area limits to all types of illuminated signs in the subsections of §5.6.1(E).
16. Add a luminance limit for internally illuminated signs in §5.6.1(E)(b).
17. Add general exemptions for lighting required by Building Code and lighting identified by the Planning Director as required to preserve public safety and eliminate their references elsewhere in the code.
18. Add a policy governing the use of publicly owned lighting (i.e., lighting in public rights-of-way) establishing installation warranting, curfews, and the use of adaptive lighting controls.

In the remainder of this document, the existing text of the relevant LDRs and our proposed changes are shown in `black Courier New font`. Proposed changes required for IDA certification are noted in `plain red Courier New font`. Additional proposals relating to lighting best practice are in `italic red Courier New font`. Notes explaining the suggested changes are shown in `blue Arial font`.

5.3.1. Exterior Lighting Standards

The purpose of this Section is to allow necessary and reasonable lighting of public and private property for the safety, security, and convenience of occupants and the general public, while eliminating or reducing the nuisance and hazards of light pollution, including, but not limited to: glare, light trespass, sky glow, energy waste, and negative impacts on the nocturnal environment.

A. Applicability

All exterior lighting, unless exempted below, shall comply with the regulations set forth in this Section. This includes, but is not limited to: lighting attached to structures, poles, the earth, or any other location.

1. Exempt Lighting

a. Lighting in the public right of way. *See Section B, Subsection 8 for requirements specific to publicly owned lighting.*

This is suggested to make clear that public lighting is not simply exempt from all regulation, and points to an articulation of policies regarding this kind of lighting required for IDA eligibility.

b. Open flame gas lamps.

c. Flagpole lighting that is shielded and directed downward from the top of the flagpole, *and that does not exceed 75 lumens per linear foot of pole height above grade. [Alternately: "does not exceed 100 lumens per square foot of flag surface when fully unfolded."]*

In order to prevent over-lighting of flags, two possible prescriptions for lighting limits are suggested that yield approximately the same illumination level as seen from the ground.

d. Underwater lighting in swimming pools and other water features

e. Lighting that is only used by emergency response ~~personnel~~ *only for as long as emergency conditions so identified by qualified personnel continue to exist.*

Slightly clarifies the existing language and connects the situations under which emergency response is appropriate to the discretion of “qualified personnel” rather than the public. See the related suggestion in item (j) below that gives some leeway for private responses to emergency/disaster situations.

f. Lighting solely for signs (lighting for signs is regulated by Div. 5.6)

g. Lighting used solely for agricultural purposes.

h. Lighting employed during repairs of roads, utilities and similar infrastructure, including unshielded lighting, provided that such lighting is deployed, positioned and aimed such that the resulting glare is not directed toward any roadway or highway.

This suggestion intends to explicitly permit temporary lighting associated with construction while also insisting that it avoid creating a public safety issue involving excessive glare.

i. Any form of lighting whose use is mandated or otherwise governed by any legal jurisdiction higher than that of the Town.

An explicit recognition that some state/federal policies will supersede those in the LDRs. Generally these will be federal agency requirements, such as those of OSHA (workplaces) and the FAA (airports).

j. Temporary lighting required to save life, limb or property from imminent peril, provided that use persists only during the hours of the peril.

This provision enables non-public entities to use outdoor lighting in emergency/disaster situations while limiting that use to legitimate, related purposes.

k. Temporary lighting allowed under the permitting process described in Section X.

A clear process for obtaining permits for temporary lighting installations should be articulated somewhere in the LDRs, whether here or elsewhere. This item is simply a placeholder for a description of that process. Suggestions for such a policy include:

- Temporary lighting installations will be approved only by the Planning Director or designee
- Limits on the duration of permits; we suggest 30 calendar days, subject to no more than two 30-day renewals
- “Temporary” installations persisting after 90 days should be declared permanent and subject to all of the LDRs
- A statement of required permit application contents
- A statement describing how applications will be reviewed and approved/denied, as well as an appeals process for denials.

Sample language constituting a robust permitting process are suggested below (“Permitting of temporary lighting installations”).

1. Lighting required by the Building Code

An explicit recognition that the Building Code may involve requirements that supersede the LDRs.

m. Lighting determined necessary by the Planning Director to preserve public safety

This is a catch-all provision that retains discretion of the Town to prohibit outdoor lighting installations that may constitute a hazard to public safety, or to require appropriate modifications to lighting plans.

2. Amortization of non-conforming installations. All outdoor lighting luminaires that were lawfully installed prior to the effective date of this chapter, but that do not comply with the requirements of this chapter, are declared to be legal non-conforming luminaires. All legal non-conforming luminaires may continue to be used and maintained after the adoption of this Chapter, but shall be brought into compliance within ten (10) years after the effective date of this section.

Addresses the IDA requirement that the outdoor lighting policy “*affects an amortization period, applicable to ALL publicly AND privately owned lighting, to end not more than ten (10) years from the effective date of the outdoor lighting policy, after which all non-conforming lighting*

extant at the time of enactment must be brought into compliance with the policy.” (IDSC p. 6, item H)

B. Standards

1. Fully Shielded Light Fixtures. Any light source whose initial output exceeds 600 **initial** lumens shall be fully shielded.

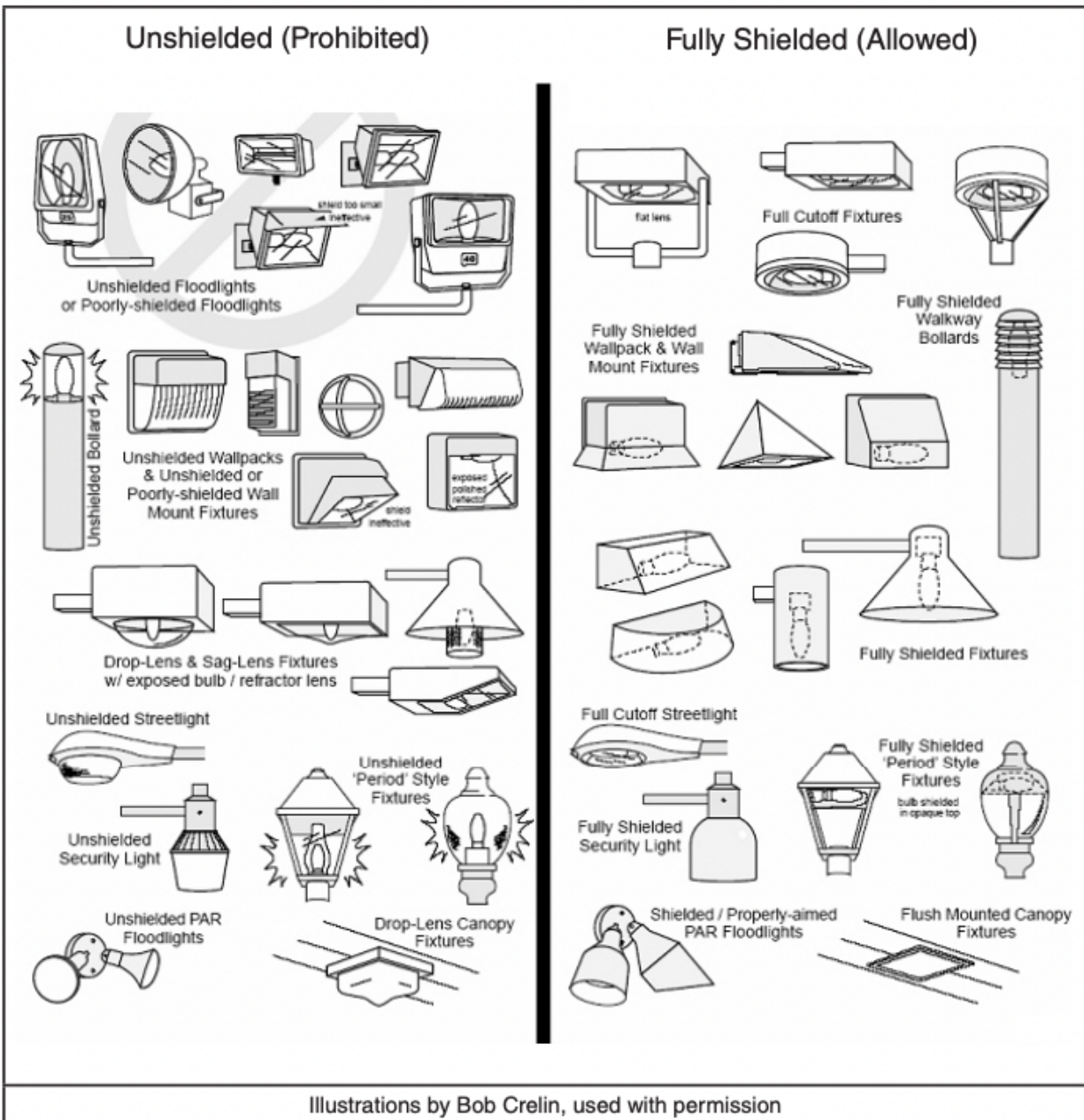
”Initial” must be added here in order to be consistent with the definition used in the IDA requirements (p. 4, item 1A)

Any structural part of the luminaire providing full shielding shall be attached. ~~Fixtures shall be mounted such that no light is emitted above the horizontal plane of the fixture.~~

This sentence is redundant given a freestanding definition of “fully shielded” suggested for addition to Div. 9.5.

Light fixtures that project light above the horizontal plane of the fixture may be used where the architecture of the building restricts light **emitted** above the horizontal plane. ~~Examples of Unshielded (Prohibited) and Fully Shielded (Allowed) lights and luminaires limiting light to the horizontal plane are shown below.~~

Clarifies the language (“emitted”). The struck-out sentence refers to the Bob Crelin diagram, which is moved here to Div. 9.5 along with the definition of “fully shielded”. The Crelin diagram (below) would be struck at this point in the text.



2. Total Exterior Light Output. Total exterior light output for light fixtures on a site shall not exceed the limits shown in the table below.

How much light is permitted?	All Fixtures	Unshielded Fixtures (for lights emitting fewer than
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		600 lumens)
Maximum lumens per sq ft of site development		
DC, CR-1, CR-2, CR-3, OR, TS, UC, BP-ToJ, MHP-ToJ, P/SP, P-ToJ, NL-5, NM-2, NH-1	3	Not applicable
R-ToJ, NL-1, NL-2, NL-3, NL-4, NM-1	1.5	Not applicable
Maximum lumens per site <i>net acre</i>		
DC, CR-1, CR-2, CR-3, OR, TS, UC, BP-ToJ, MHP-ToJ, P/SP, P-ToJ, NL-5, NM-2, NH-1	100,000 <i>50,000</i>	5,500 <i>2,000</i>
R-ToJ, NL-1, NL-2, NL-3, NL-4, NM-1	60,000 <i>20,000</i>	4,000 <i>1,000</i>

There are two types of change in the second part of the table suggested here. One is to assess site limits per net acre rather than per parcel such that only developed portions of parcels receive credit toward the site limits. A suggested definition of “net acre” is added here to Div. 9.5.

The other change is to lower the allowances per acre to numbers that are more consistent with lighting expectations for a town the size of Jackson and the kinds of land uses that the LDRs envision. IDA prescribes no specific values for these numbers, but if their values are high it may raise questions from IDA during the IDSC application review process.

a. These lumen limits are upper limits and not a design goal; the design goal should be the lowest levels of lighting possible.

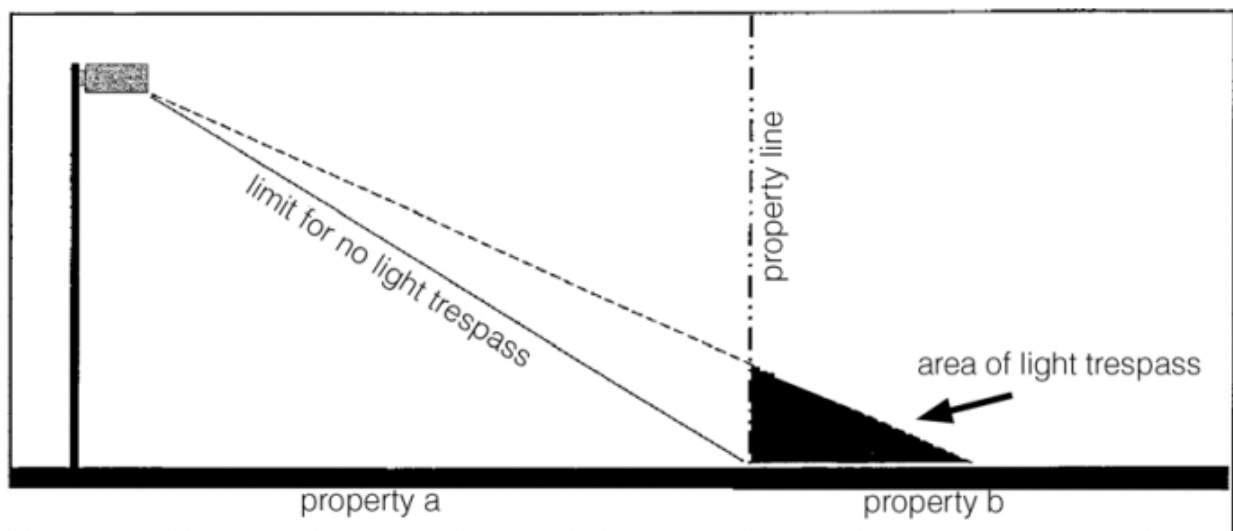
b. Individuals with visual impairments and organizations that primarily serve individuals with visual impairments (e.g. retirement communities, hospices, and hospitals) may use up to 4 times the illumination allowed by this section.

3. Light Color. Correlated color temperature of any exterior light source shall not exceed 3000 Kelvin.

EXAMPLE: Many light bulb manufacturers include correlated color temperature on packaging. Where packaging does not indicate light color in Kelvins, it is often indicated in descriptive terms. Lights with a “cool” quality typically exceed 3000 Kelvin in color temperature. Light bulbs that create a more “warm” tone are typically under 3000 K.

4. Light Trespass. ~~All lighting fixtures shall limit horizontal light levels such that no light falls onto the adjacent property as shown in the diagram below.~~ *No luminaire installed within Town limits shall create conditions of light trespass.*

The suggested replacement language here refers to the definition of “light trespass” added in Div. 9.5. The figure below would be struck and instead appear together with that definition.



5. Maximum Pole Height of Light Fixture.

Zone	Maximum Pole Height of Light Fixtures
DC, CR-1, CR-2, CR-3, OR, TS, UC, BP-ToJ, MHP-ToJ, P/SP, P-ToJ, NL-5, NM-2, NH-1	18 feet

R-ToJ, NL-1, NL-2, NL-3, NL-4, NM-1	15 feet
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6. Controls. All nonresidential lighting fixtures shall employ automatic lighting controls that extinguish exterior lighting when sufficient daylight is available. Such controls include, but are not limited to: timers, wireless remote monitoring with turn on/off capabilities, photosensitive light controls, photoelectric switches, astronomic time switches or equivalent functions from a programmable lighting controller, building automation system or lighting energy management system, all with battery or similar backup power or device.

a. Exceptions:

~~i. Lighting required by Building Code~~

~~ii. Lighting necessary for public safety~~

iii. Lighting under canopies

~~iv. Lighting for tunnels, parking garages, garage entrances, and similar conditions.~~

7. Lighting Reduction. After 12:00 AM nonresidential sites shall extinguish or reduce their total exterior lighting by at least 30%.

a. Exceptions:

i. Motion activated lighting, *provided that the equipment is set and maintained such that light is extinguished within five (5) minutes of a triggering event.*

~~ii. Lighting required by Building Code~~

~~iii. Lighting necessary for public safety~~

Struck-out sentences in these subsections have been relocated to Applicability, and are hence redundant here. The language added to 7.i intends to enforce a reasonable limit to the amount of time that lighting controlled by motion sensors can remain activated after being triggered.

iv. Lighting governed by a conditional use permit in which times of operation are specifically identified

v. When the exterior lighting consists of only one luminaire

8. Publicly Owned Lighting.

This new subsection directly relates to IDA requirements that are core to IDSC eligibility.

- a. Warranting. New installations of outdoor lighting will only be installed on public properties and rights-of-way upon determination by the Town Manager that a public safety hazard exists in the area to be lit, and that the hazard can only be effectively mitigated through the use of outdoor lighting and not through some other passive means, such as reflectorized roadway paint or markers.

IDA requirement: *“A provision that clearly indicates where, when, and under what circumstances new publicly owned outdoor lighting, including street lighting, is warranted and will be permitted.”* (p. 5, item E.i)

- b. Curfew. All lighting not adaptively controlled must be fully extinguished by 11 P.M., or within one hour of the end of occupancy of the structure or area to be lit, whichever is later.
- c. Adaptive controlling. All new installations of outdoor lighting on public properties and rights of way must be regulated with adaptive controls such that the lighting of areas is restricted to times, places and amounts required for safe occupancy.

IDA requirement: *“A provision that requires that adaptive controls and/or curfews be employed in all future installations of public outdoor lighting.”* (p. 5, item E.ii) Because this is an and/or statement in the IDA guidelines, either item (b) or (c) above, alone, would suffice. We recommend enacting both provisions.

9. Outdoor sports lighting (OSL). The following provisions shall apply exclusively to facilities built to host outdoor athletic events.

This new subsection directly relates to IDA requirements that are core to IDSC eligibility.

- a. Purpose. Field lighting shall be provided exclusively for illumination of the surface of play and adjacent viewing stands, and not for any other application, such as lighting a parking lot.

IDA requirement: “*Field lighting is provided exclusively for illumination of the surface of play and viewing stands, and not for any other applications.*” (p. 6, item G.ii)

- b. Class of play. The design and installation of lighting for outdoor sports and similar activities shall follow the illuminance and uniformity guidelines of the IES according to the appropriate class of play.

IDA requirement: “*Illuminating Engineering Society (IES) lighting guidelines (RP-6) are followed according to the appropriate class of play.*” (p. 6, item G.i) A definition for “Illuminating Engineering Society” is suggested here in Div. 9.5.

- c. Shielding. OSL shall be exempt from the general shielding requirement of this section, although site plans must demonstrate that shielding is implemented to the greatest practical extent.

While not a strict IDA requirement, this language intends to make clear that partially shielded or unshielded lighting may be used when fully shielded designs are impractical, provided that every effort is made to reasonably shield luminaires.

- d. Illuminance levels. Illuminance levels provided by OSL systems shall be adjustable according to task, allowing for IES-recommended values during active play as well as for lower output during other times, such as when field maintenance is being actively performed.

IDA requirement: “*Illuminance levels must be adjustable based on the task (e.g., active play vs. field maintenance).*” (p. 6, item G.iii)

- e. Curfew. All OSL must be extinguished by 11 P.M. or within one hour of the end of active play, whichever is later. The OSL system shall be fitted with mechanical or electronic timers to prevent lights being left on accidentally overnight by enabling them to be automatically extinguished.

IDA requirement: *"A strict curfew requirement (e.g., lights must be extinguished by 10pm/2200h or one hour after the end of play, whichever is later) is observed"* (p. 6, item G.v) and *"Timers must be installed to prevent lights being left on accidentally overnight by automatically extinguishing them."* (p. 6, item G.vi)

- f. Off-site impacts. Impacts of OSL to any other properties shall be limited to the greatest practical extent possible. The maintained vertical illuminance at the property line shall not exceed 1 foot-candle at any time.

IDA requirement: *"Off-site impacts of the lighting will be limited to the greatest practical extent possible."* (p. 6, item G.iv)

C. Prohibited Lighting

The following lighting systems are prohibited from being installed or used.

1. Flickering or Flashing Lights. No flickering or flashing lights shall be permitted.
2. Searchlights. No searchlights, laser lights, aerial lasers, or holograms are permitted.
3. Strings of Lights. Strings or strands of lights used to highlight a sign, perimeter of a sign, or any portion of a building are not permitted, except for holiday-type decorative lighting displayed between November 1 and April 15. ~~Lighting in which any single luminaire exceeds 20,000 initial lumens.~~
4. *Lighting in which any single luminaire exceeds 20,000 initial lumens.*

The struck-out statement appears to have been intended as a separate item. It is restored to that position here.

D. Complex Uses

1. Complex uses such as ~~stadiums, ball diamonds, playing fields, outdoor rinks,~~ ski areas, ~~rodeo grounds,~~ special events, ~~tennis courts,~~ construction sites, parking structures, urban parks, theme and amusement parks, ornamental and architectural lighting of bridges, public monuments, statuary and public buildings, correctional facilities, and industrial sites all have unique requirements for nighttime visibility and often have limited hours of operation. They shall be exempted from the above standards of this Section, if the below standards are met or if their lighting has been approved via issuance of a Conditional Use Permit or Special Event Permit.

Struck-out language above refers to various types of outdoor sports lighting, which is covered under the language above suggested in §5.3.1(B)(9).

2. Maximum height. Exterior luminaires shall not exceed a maximum post height of 60 feet.

3. Fully Shielded. Each luminaire shall be fully shielded in either its orientation or by landscaping to prohibit glare and light trespass to adjacent residential property and must be installed and maintained with minimum aiming angles of 25 degrees downward from the horizontal.

4. Lights Extinguished. Lights shall be extinguished by 10:00 PM or at the conclusion of the event, whichever is later. Lighting is not allowed to remain on overnight. *Such lighting shall be fitted with mechanical or electronic timers to prevent lights being left on accidentally overnight by enabling them to be automatically extinguished.*

Suggested language here mirrors that in the new OSL section above such that complex uses involving lighting related to the occupation of the area being illuminated are fitted with equipment to ensure that lighting is shut off after events.

5. Maximum lumens. Overall site illumination for a complex use shall not exceed 6 lumens per square foot of site development, nor shall it exceed a total of 550,000 lumens.

5.6.1. Town Sign Standards

E. Sign Materials and Design

The following section describes the types of lighting and the criteria for lighting signs within the Town.

a. Exterior Lighting. Exterior lighting may be permitted, provided that the following criteria is satisfied:

i. Lights shall be designed, located, shielded and directed in such a manner that the light source is fixed and is not directly visible from, and does not cast glare or direct light upon any adjacent public right-of way, surrounding property, residential property or motorist's vision.

ii. At the Planning Director's discretion, any proposed external lighting application may be required to submit professional Engineering and/or Architect plans and photometric maps depicting the types of lighting to be used.

iii. All signs containing electrical wiring shall be subject to the provisions of the Electrical Code in place at that time and the electrical components shall bear the label of an approved testing agency. Said wiring components shall be submitted to the Electrical Inspector for review and approval.

iv. Light sources shall be extinguished completely after 11 P.M. or at the end of normal business hours, whichever is later, and remain off until one (1) hour before sunrise.

IDA requirement: "*Sign illumination shall be extinguished completely one (1) hour after sunset, and remain off until one (1) hour before sunrise.*" (p. 5, item F.ii). Note that IDA has interpreted this rule to take into account ordinary operating hours of businesses and allow signs to remain illuminated for wayfinding purposes up to one hour after the close of business, exempting establishments that are open to the public 24 hours a day. The proposed language here fits the current IDA interpretation.

v. The illuminated surface area of an individual sign shall not exceed 200 square feet.

IDA requirement: "*The luminous/illuminated surface area of an individual sign shall not exceed*

200 square feet (18.6 square meters)." (p. 6, item F.iii)

b. Internally Lighted. Internal lighting may be permitted, provided that the following criteria are satisfied:

i. The total surface area of the sign that emits lighting shall not exceed 15% of the overall surface of the sign. A two-sided freestanding sign shall be permitted 30% of total surface area of both sides of the sign.

ii. Plastics, polymers, acrylics, and like materials may be used for letters, with the exception of white plastics, provided that the plastic exceeds no more than 15% of the total surface area of the sign or 30% of a 2 sided sign.

iii. The proposed light source shall not be visible from the exterior of the sign, which shall include the back, edges, and sides.

iv. ~~Florescent~~ Fluorescent and/or neon lighting is not permitted as a source of internal lighting.

Corrects a spelling mistake.

v. Any proposed internally lighted sign application shall submit professional Engineering and/or Architect plans and photometric maps depicting the types of lighting to be used. The percentage of lighting, not to exceed 15%, shall be depicted on the plans.

vi. All signs containing electrical wiring shall be subject to the provisions of the Electrical Code in place at that time and the electrical components shall bear the label of an approved testing agency. Said wiring components shall be submitted to the Electrical Inspector for review and approval.

vii. Luminance levels during permitted operating hours shall not exceed 100 nits. For electronic displays, this figure is to be measured under conditions of a full white display.

IDA requirement: For internally illuminated signs, including electronic displays, “*luminance levels for operation between sunset and sunrise shall not exceed 100 nits (100 candelas per square meter) as measured under conditions of a full white display.*” (p. 5, item F.i)

viii. Light sources shall be extinguished completely after 11 P.M. or at the end of normal business hours, whichever is later, and remain off until one (1) hour before sunrise.

IDA requirement: “*Sign illumination shall be extinguished completely one (1) hour after sunset, and remain off until one (1) hour before sunrise.*” (p. 5, item F.ii). Note that IDA has interpreted this rule to take into account ordinary operating hours of businesses and allow signs to remain illuminated for wayfinding purposes up to one hour after the close of business, exempting establishments that are open to the public 24 hours a day. The proposed language here fits the current IDA interpretation.

ix. The luminous surface area of an individual sign shall not exceed 200 square feet.

IDA requirement: “*The luminous/illuminated surface area of an individual sign shall not exceed 200 square feet (18.6 square meters).*” (p. 6, item F.iii)

c. Backlit Signs. Backlit signs may be permitted, provided that the following criteria are satisfied:

i. Signs shall be lighted from a source mounted on the wall behind the proposed sign and shall not be visible through the sign. Lighting shall be visible only along the edges of the sign and light shall not extend more than 3 inches beyond the sign edges.

ii. ~~Florescent~~ **Fluorescent** and/or neon lighting is not permitted as a source for backlighting.

Corrects a spelling mistake.

iii. Plastics, polymers, acrylics, and like materials may be used for letters, with the exception of white plastics, provided that the plastic exceeds no more than 15% of the total surface area of the sign or 30% of a 2 sided sign.

iv. Any proposed backlit sign application shall submit professional Engineering and/or Architect plans and photometric maps depicting the types of lighting to be used.

v. All signs containing electrical wiring shall be subject to the provisions of the Electrical Code in place at that time and the electrical components shall bear the label of an approved testing agency. Said wiring components shall be submitted to the Electrical Inspector for review and approval.

vii. Light sources shall be extinguished completely after 11 P.M. or at the end of normal business hours, whichever is later, and remain off until one (1) hour before sunrise.

IDA requirement: *"Sign illumination shall be extinguished completely one (1) hour after sunset, and remain off until one (1) hour before sunrise."* (p. 5, item F.ii). Note that IDA has interpreted this rule to take into account ordinary operating hours of businesses and allow signs to remain illuminated for wayfinding purposes up to one hour after the close of business, exempting establishments that are open to the public 24 hours a day. The proposed language here fits the current IDA interpretation.

viii. The luminous surface area of an individual sign shall not exceed 200 square feet.

IDA requirement: *"The luminous/illuminated surface area of an individual sign shall not exceed 200 square feet (18.6 square meters)."* (p. 6, item F.iii)

Div. 9.5. ("Defined Terms")

Adaptive controls. Adaptive controls means mechanical or electronic devices, when used in the context of outdoor lighting systems, intended to actively regulate the switching, duration, and/or intensity of light emitted by such systems. Examples of adaptive controls include timers, dimmers and motion-sensing switches.

This definition is consistent with IDA's understanding of the language.

Backlit sign. A backlit sign is any sign or display, whether on- or off-premise, whose message or design is indicated by the use of

opaque materials situated in front of a luminous background as viewed by an observer. Sometimes referred to as a “reverse pan channel” sign.

Suggested to clearly differentiate between these signs and front-illuminated signs.

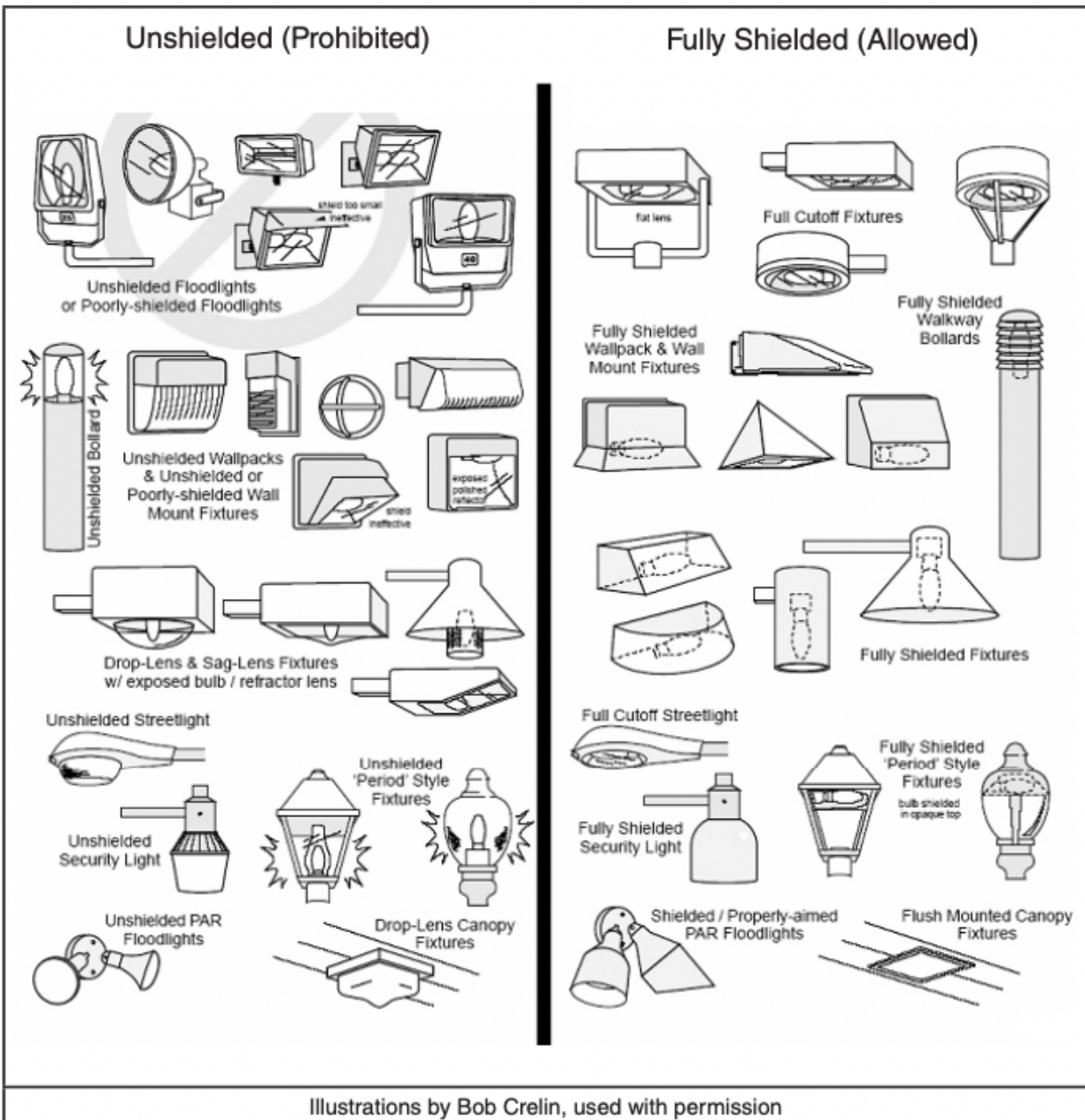
Correlated color temperature. Correlated color temperature indicates the ‘warmth’ or the ‘coolness’ of a light’s appearance (see image below). Color temperature is generally indicated on light bulb packaging. Specifically, correlated color temperature is defined as the absolute temperature of a blackbody radiator whose chromaticity most nearly resembles that of the light source.

Foot-candle. A foot-candle is a non-SI unit of illuminance or light intensity. The foot-candle is defined as the intensity of one lumen of light falling with uniform distribution on a surface with an area of one square foot.

This term appears in the existing definition of “Maximum Permitted Illumination” and in some text suggested in this redline, but it otherwise is not defined.

Fully Shielded. Fully shielded means an outdoor luminaire constructed so that in its installed position all of the light emitted by the luminaire is projected below the horizontal plane passing through the lowest light-emitting part of the luminaire. Examples of Unshielded (Prohibited) and Fully Shielded (Allowed) lights and luminaires limiting light to the horizontal plane are shown below.

Replaces the existing language in §5.3.1(B)(1) with a more precise definition, and moves the Crelin shielding diagram here, below.



Illuminating Engineering Society (IES). Illuminating Engineering Society or IES means an industry-supported, nonprofit learned society headquartered at 120 Wall Street, New York City, New York, recognized as an authoritative body on the science and application of lighting that publishes and promotes recommended practices for a variety of specific lighting applications.

Defines “Illuminating Engineering Society”, which is referenced in suggested new text in §5.3.1(B)(9)(b).

Initial lumens. The number of lumens of light emitted by a luminaire when the lamp is new, not accounting for any depreciation due to the age of the lamp or environmental conditions that may be detrimental to its performance.

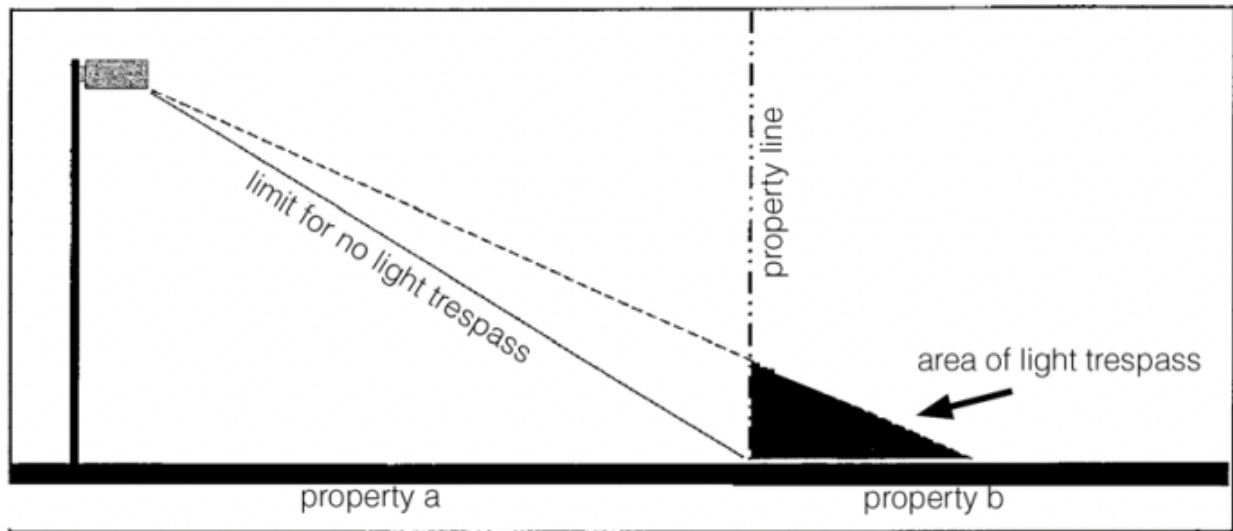
Added to match a change to the text in §5.3.1(B)(1), consistent with IDA requirements, and to refer to the number of lumens a lamp emits as referenced to conditions in which the lamp is new and not accounting for field losses due to aging equipment.

Internally illuminated. Internally illuminated refers to any sign or display, whether on- or off-premise, consisting of (1) translucent surfaces whose message is designed to be made visible by means of lamps or other light sources concealed with such surfaces; or (2) a sign whose content is made visible by means of luminous elements under active electronic control and therefore subject to alteration in order to vary the color, content and/or brightness of the message displayed.

Suggested to clarify the term and to account for the two main types of such signs: “cabinet”-type signs and electronic displays.

Light Trespass. Light trespass means a condition in which artificial light emitted from a luminaire on one property, not inclusive of light incidentally scattered or reflected from adjacent surfaces, is directed in such a manner that it is visible from any other property as indicated in the diagram below. For the purposes of this chapter, light trespass is declared to be a form of public nuisance.

Replaces and clarifies language in §5.3.1(B)(4). The accompanying diagram from that section is moved below.



Lumen. Lumen is a measure of light emission. Lumen measurements are commonly indicated on light bulb packaging. Specifically, a lumen is the amount of light emitted per second in a unit solid angle of one steradian from a uniform source of one candela.

Luminaire. Luminaire means a complete lighting unit consisting of a light source and all necessary mechanical, electrical, and decorative parts.

Luminance. Luminance is the amount of light that passes through, is emitted, or reflected, from a particular area, and that falls within a given solid angle. Luminance is a measure of light emitted by or from a surface. The SI unit of luminance is candela per square meter (cd/m^2), also known as a "nit."

Defined here in order to properly explain added language in §5.6.1(E) that prescribes limits for the surface brightness of certain illuminated signs, and defines the unit of measurement (the "nit") used there.

Maximum Permitted Illumination. Maximum permitted illumination means the maximum illumination measured in footcandles at the street, side, and rear setbacks at ground level.

Net acre. A net acre is an acre of any land parcel that is developed, consisting of structures and/or hardscape. The net acreage of a parcel is the gross acreage of that parcel less any acres that are considered undeveloped.

Supports the suggested change in §5.3.1(B)(2) that ensures that undeveloped portions of land parcels do not receive credit toward site lighting limits and therefore prevents inappropriate over-lighting of parcels at night.

Suggested additional provisions

Elaborate on purposes of the ordinance

More specific findings of fact and statements of purpose in the preamble to §5.3.1 can help guide future interpretations of the statutory language. Suggestions include:

Findings of fact. The Jackson Town Council hereby finds and determines that:

- 1. The welfare and enjoyment of the Town is associated with its character, including its nighttime ambience;*
- 2. Preserving and protecting the night sky enhances the use and enjoyment of property through the use of appropriate lighting practices;*
- 3. The Town values the practice of energy conservation, and because of the Town's devotion to energy conservation, emphasis on responsible lighting practices is desired to decrease the human impact on the environment; and*
- 4. Lighting systems should be designed, constructed, and installed to:*
 - a. preserve the Town's existing character;*
 - b. minimize impacts on adjacent property owners;*
 - c. control glare and light trespass;*
 - d. conserve energy;*
 - e. maintain safety and security of people and wildlife; and*
 - f. maintain the view of the stars in the night sky.*

Purpose. The purposes of this Section are to:

- 1. Minimize light pollution and glare resulting from the use of outdoor lighting;*

2. *Protect residents from unwanted light that would enter homes and businesses at night;*
3. *Provide adequate light for the safe performance of outdoor tasks at night;*
4. *Enable planning for lighting at the design stage with appropriate design guidelines before lighting becomes a statutory nuisance;*
5. *Promote efficient and cost-effective lighting and to conserve energy;*
6. *Encourage preservation, to the greatest practical extent, of natural nighttime darkness;*
7. *Create environmentally sensitive nighttime conditions that include the ability to view the stars against a dark sky;*
8. *Prevent inappropriate, poorly designed or installed outdoor lighting; and*
9. *Encourage quality outdoor lighting design.*

Establishment of Lighting Zones (LZs)

(N.B.: if the Town elects to use Lighting Zones, other changes to existing provisions would be required to enable progressive lighting allowances by LZ.)

The use of Lighting Zones in municipal land use ordinances is becoming increasingly common as many users of such codes inherently understand the notion of zone-based allowances and prohibitions. Lighting Zones could be easily mapped to existing Town land-use zones, with final determinations left to the Planning Director or designee.

Establishment of Lighting Zones.

A. The Lighting Zones (LZs) shall be as follows:

1. *LZ0: No ambient lighting. Areas where the natural environment will be seriously and adversely affected by lighting. Impacts include disturbing the biological cycles of flora and fauna and/or detracting from human enjoyment and appreciation of the natural environment. Human activity is subordinate in importance to nature. The vision of human residents and users is adapted to the darkness, and they expect to see little or no lighting.*
2. *LZ1: Low ambient lighting. Areas where lighting might adversely affect flora and fauna or disturb the character of the area. The vision of human residents and users is adapted to low light levels. Lighting may be used for safety and*

convenience but it is not necessarily uniform or continuous. After curfew, most lighting should be extinguished or reduced as activity levels decline.

- 3. LZ2: Moderate ambient lighting. Areas of human activity where the vision of human residents and users is adapted to moderate light levels. Lighting may typically be used for safety and convenience but it is not necessarily uniform or continuous. After curfew, lighting may be extinguished or reduced as activity levels decline.*

B. A parcel located in more than one of the described zones shall be subject to the requirements of the most restrictive zone.

Permitting of temporary lighting installations

Language is suggested here that, if enacted, would establish a clear process by which the Town would permit installations of lighting for temporary uses that (1) avoids a tendency for “temporary” installations to become permanent over time; and (2) ensures reasonable compliance with the LDRs to the greatest practical extent possible.

A. Lighting allowed by temporary exemption. Temporary lighting that does not conform to the provisions of this Section may be approved at the discretion of the Planning Director subject to submission of an acceptable Outdoor Lighting Permit.

B. Permit term and renewal. Permits issued shall be valid for no more than thirty (30) calendar days and subject to no more than one renewal, at the discretion of the Planning Director, for an additional thirty (30) calendar days.

C. Conversion to permanent status. Any lighting allowed through by permit that remains installed after sixty (60) calendar days from the issue date of the permit is declared permanent, and is immediately subject to all of the provisions of this Chapter.

D. Permit contents. A request for temporary exemption to any provision of this Chapter shall contain minimally the following listed information:

- 1. Specific exemptions requested;*
- 2. Previous temporary exemptions, if any;*

3. Duration of time requested exemption;
4. Type and use of exterior light involved;
5. Type and initial lumens of proposed lamps;
6. A plan with proposed luminaire locations; and
7. Manufacturer data sheets for proposed luminaires.

E. In addition to the above data, the Planning Director may request any additional information which would enable a reasonable evaluation of the request for temporary exemption.

Additional conditions triggering the replacement of existing non-conforming outdoor lighting

In addition to the language required by IDA that amortizes non-conforming lighting installations within ten years of the enactment date of the statute, it is now considered best practice to include other situations and circumstances that automatically trigger compliance while otherwise extending indefinite grandfather protection. These include items like changes of use, destruction of property, new construction or renovation of existing facilities, and more.

All legal non-conforming luminaires may continue to be used and maintained after the adoption of this Chapter, but shall be brought into compliance with its requirements upon the first to occur of any of the following:

- a. An application for a Town Planning Department design review, conditional use, subdivision permit, or building permit;*
- b. A change of use of the property;*
- c. Any renovation to the property equal to or exceeding twenty (20) percent of its assessed value;*
- d. More than fifty (50) percent of the total appraised value of a structure, as determined from the records of the county's appraisal district, is destroyed;*
- e. A determination by the Planning Director that the legal non-conforming luminaire constitutes a public hazard or nuisance;*

- f. A certificate of occupancy is issued for a property previously determined by the Planning Director to be abandoned for at least six (6) months;*
- g. The replacement of any legal non-conforming luminaire with new lighting equipment, not inclusive of lamps or similar consumable parts; or*
- h. Ten (10) years after the effective date of this section.*

It's my understanding that fee waivers are granted for proposed land development regulation text amendments are in the general public interest. Such is the case with our proposed amendments to the current exterior lighting standard and sign standard. The proposed amendments will result in benefits to our entire community in the following ways:

1. They will make our community a safer place for wildlife, pedestrians, and for commuters. By reducing and eliminating glare from lights along roadways, it will be easier for commuters to see pedestrians and wildlife crossing roadways. That reduced glare will also make it easier for wildlife to safely cross roadways.
2. The proposed amendments will make our ecological community healthier by reducing skyward facing lights at night. Artificial light at night has been shown to have detrimental effects on the populations of migratory bird species, several species of bats, large and small terrestrial mammals, as well as for insects and even plants. Less light pollution means a healthier ecosystem.
3. The proposed amendments will provide better protection to one piece of our community character, namely dark night skies, which are highlighted in the comprehensive plan and the scenic standards of the town and County LDRs. In the past, across the country, dark night skies have been one of the most commonly overlooked natural resources, but those days are over. Today, they are more commonly seen as the National Parks above our heads.
4. The proposed amendments will create a stronger appeal to visit Jackson, particularly in the shoulder seasons, by creating the opportunity for Teton County to be recognized as a Dark Sky Community.
5. The proposed amendments will over time save our community money and will reduce energy consumption. Properly shielded lights with adaptive controls consume fewer watts to illuminate the ground beneath them at the required times.

Town of Jackson
Project Plan Review History
PLANNING

Project Number P22-015 **Applied** 1/25/2022 **AL**
Project Name LDR Text Amend - Exterior Lighting & Sign **Approved**
Type LAND USE PERMITS **Closed**
Subtype TEXT AMENDMENT **Expired**
Status STAFF REVIEW **Status**

Applicant Wyoming Stargazing - Samuel Singer

Owner

Site Address

City

State

Zip

Engineering /Capital/Streets/P22-015

Subdivision

Parcel No

General Plan

Type of Review	Status	Dates			Remarks
		Sent	Due	Received	
Contact Notes					
Legal	<none>	1/25/2022	2/16/2022	2/25/2022	
Lea Colasuonno					

Parks and Rec APPROVED W/CONDITI 5/16/2022 5/16/2022
 Steve Ashworth
 (5/16/2022 9:49 AM TV)

We are generally comfortable with the language that they are suggesting. Our policy is that lights are to be off by 11:00 already. We would need to have the ability for exemption per special event permit. For example the cancer walk that takes place once a year is a 24 hour event and governed by special event permit. As per the standards for lighting, All new sports lights are dark sky compliant LED lights and meet the standard they suggest. We would need to grandfather existing facilities, and apply the new standards to new or replacement systems. Lastly, the comment regarding class of play may be difficult. Our facilities are multi-purpose, therefore they are designed for High school and Recreational Competitive play. We often have other uses that may need less illumination on the field but must design for the highest use for safety.

Thanks, Steve Ashworth

Planning 1/25/2022 2/16/2022
 Tyler Valentine

Police APPROVED W/CONDITI 2/2/2022 2/16/2022 4/14/2022 No concerns
 Michelle Weber

Type of Review	Status	Dates			Remarks
		Sent	Due	Received	
Contact Notes (4/14/2022 1:59 PM TV) I support Adaptive Controlling but do not support the curfew language. Do I think the LED's need to be on all night over at public works? No. Do I think the LED's need to be on all night at Town Hall? No Do I think the LED's need to be on the Elk Antler Arches all night? No, I support the way they are now. They turn off at 2am Consistent with when the bars close. Do I think the LED's need to be on the Parking Structure? Yes ... this is a high traffic area 24/7. And particularly at night, we would want it lit for safety reasons when employees are walking to their cars late at night. Do I think the street-lights that line Broadway need to be on at night? Absolutely. I have data, however since the installation of those lights I would wager that our vehicle vs. deer collision have dropped significantly. It also makes it safer to walk the dark stretch of Broadway between the Centennial Building and the Virginian. Some of our worst car vs. pedestrian accidents have occurred on Broadway/S. Hwy 89 where the lighting is very low. The two that come to mind occurred at approximately 5am when people were headed to work. It was pitch black and the drivers did not see the pedestrian/bicyclist. Here is a study that says street lights reduce crime: https://urbanlabs.uchicago.edu/attachments/e95d751f7d91d0bcfeb209ddf6adcb4296868c12/store/cca92342e666b1ffb1c15be63b484e9b9687b57249dce44ad55ea92b1ec0/lights_04242016.pdf I like the adaptive controls idea, but I don't like the curfew since it is a bright line rule. My thoughts, thanks! Public Works Scott Mohror					
		5/10/2022			
..... Public Works Scott Mohror	APPROVED W/CONDITI	1/25/2022	2/16/2022	2/21/2022	See Comments

Type of Review	Status	Dates			
		Sent	Due	Received	Remarks
Contact					
Notes					
Tyler –					
Public Works has provided our comments regarding the exterior lighting standard text amendment. For clarification, we do not recommend amortizing our light inventory at this time. As we install new lights and/or replace old lights we do so with dark sky compliant fixtures.					
Please let us know if you need any further information.					
Thank you,					
Brian Lenz, PE					
Town Engineer					

(2/21/2022 10:21 AM SM)
 PLANNING PERMIT APPLICATION – ENGINEER REVIEW COMMENTS

P21-015 Land Development Regulation Amendment
 ADDRESS: TETON COUNTY / TOWN OF JACKSON
 AGENT: SAMUEL SINGER
 APPLICANT: WYOMING STARGAZING

2/7/2022
 Scott Mohror, (307) 733-3079

DATE OF SUBMITTAL: 01/25/2022
 DATE OF MATERIALS: 01/25/2022
 REVISION NO.: 00

The engineering division has reviewed your application for a LDR AMENDMENT submitted on and with application materials as dated above.

PURPOSE:
 Propose LDR amendments to exterior lighting standards and Town sign standards in order to make the Town of Jackson eligible for accreditation as an International Dark Sky Community (IDSC) by the International Dark Sky Association (IDA).

ENGINEER REVIEW COMMENTS:

1. Add the following definitions to Div. 9.5: “adaptive controls”, backlit sign”, “foot-candle”, “fully shielded”...

ENGINEER RESPONSE:

Fully shielded is defined in their proposed definitions. In layman’s terms, fully shielded prohibits light going up. Has nothing to do with adding side shields.

2. Clarify that lumens restriction in 5.3.1(B)(1) refers to initial lumens.

ENGINEER RESPONSE:

Fully shielded is required if “initial output exceeds 600 lumens”. Looking at the technical and specification sheets on the IDA certified King luminaire, Initial lumens are not listed on either sheet. How do you approve during the submittal approval process? Granted our street lights well exceed the 600 lumens limit which requires being fully shielded.

10. Add additional language to the exemptions in 5.3.1(A)(1)...

ENGINEER RESPONSE:

5.3.1(A)(1)h.Lighting employed during repairs of roads, utilities, and similar infrastructure, including unshielded lighting...such that the resulting glare is not directed toward any roadway or highway. With utilities under our streets/highways, this language would be difficult to abide to.

12. Add a subsection to 5.3.1(A) requiring the amortization of non-conforming lighting installations withinten years...

ENGINEER RESPONSE:

Do we know how many non-conforming lights are in service? ToJ will need to budget for the number. Lighting on the highway would be WYDOT’s responsibility to bring into conformance?

13. Replace the existing language on light trespass in 5.3.1(B)(4)...

ENGINEER RESPONSE:

Been discussing with our streetlighting supplier if there is a way to show the light distribution area on the ground. It is a very difficult process, and he was not able to develop a model with his software. Approval of a light during the submittal process would have to be contingent on light trespass after installation.

Type of Review	Status	Dates			
		Sent	Due	Received	Remarks
Contact					
Notes					
18.					Add a policy governing the use of publicly owned lighting (i.e. lighting in public rights-of-way) establishing installation warranting, curfews, and the use of adaptive lighting controls.
ENGINEER RESPONSE:					
					Warranting. Should the language state “by the Planning Director” rather than “by the Town Manager”?
					Curfew. Will this affect the fair when in town or would this be exempt somewhere? That is just one example that I can think of. The library parking lot follows this. Lights turn back on at 5:30 AM.
					Adaptive lighting controls. For our Rancher project we are implementing Bluetooth technology to control the lights. We will be able to manage all those lights as a group and not individually.
					We also looked at manual controls that each light would have. You could preset prior to installation but if changes need to be made, that will require accessing the control in the fixture to adjust.
					Another type of control out there is creating a network for all the lights and control of the lights can be accomplished at your desktop.
					Should the Town implement amortization of their non-conforming lights, this technology may make sense in the long run. One thing about technology, it is expensive and always changing.
5.3.1.B.(2)(b)					provides for individuals with visual impairments and organizations may use up to 4 times the illumination allowed by this section.
ENGINEER RESPONSE:					
					Does this mean if there is a residential neighborhood with a visually impaired resident they can petition for more lighting? If so, what criteria would ToJ have to agree or disagree with a petition of being visually impaired?
5.3.1.C.(2)					Searchlights. No searchlights, laser lights, aerial lasers...
ENGINEER RESPONSE:					
					Prohibit these or make them exceptions for special occasions? EMS may need to utilize searchlights occasionally. The Dog Sled race used a large digital sign (electronic message center) at the beginning of the race.
5.6.1.E(a)(ii)					would require professional engineering and/or architectural plans and photometric maps...
ENGINEER RESPONSE:					
					What parameters do we set/use for submittal review on what the photometric maps are indicating?
5.6.1.E(b)(vii)					luminance levels during permitted operating hours shall not exceed 100 nits.
ENGINEER RESPONSE:					
					I have not investigated illuminated sign submittals. Would this requirement be listed on a technical or specification cut sheet?
Div. 9.5 (Defined Terms)					
ENGINEER RESPONSE:					
					Adaptive controls. Motion-sensing switches are listed as a means to control. These can be quite problematic. Not sure IDA would allow omitting them from the definition or not.
					Maximum Permitted Illumination. Measured in footcandles at the street. During the submittal review Planning would be limited to technical and specification cut sheets to approve. Verification would need to be contingent on field measurements at the street.
Permitting of temporary lighting installations					
D. (7.)					Manufacturer data sheets for proposed luminaires.
ENGINEER RESPONSE:					
					We have several data sheets for street luminaires that do not provide all the compliance information required for approval.