

449 Lakeshore Boulevard Grading Special Use Permit



March 8, 2023

449 Lakeshore Boulevard – Grading Special Use Permit

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Washoe County Development Application
Special Use Permit Application

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Preliminary Civil Improvement Plans (by others)

449 Lakeshore Boulevard – Grading Special Use Permit

Introduction

This application includes the following request:

- A **Special Use Permit** to allow for grading of a driveway associated with a single family residence.

Project Location

The project site (APN # 123-250-08) consist of 1.32± acres located at 449 Lakeshore Boulevard in Incline Village. Specifically, the subject parcel is located on the shore of Lake Tahoe on the east side of Lakeshore Boulevard (State Route 28), southwest of Incline Village. Figure 1 (below) depicts the project location.

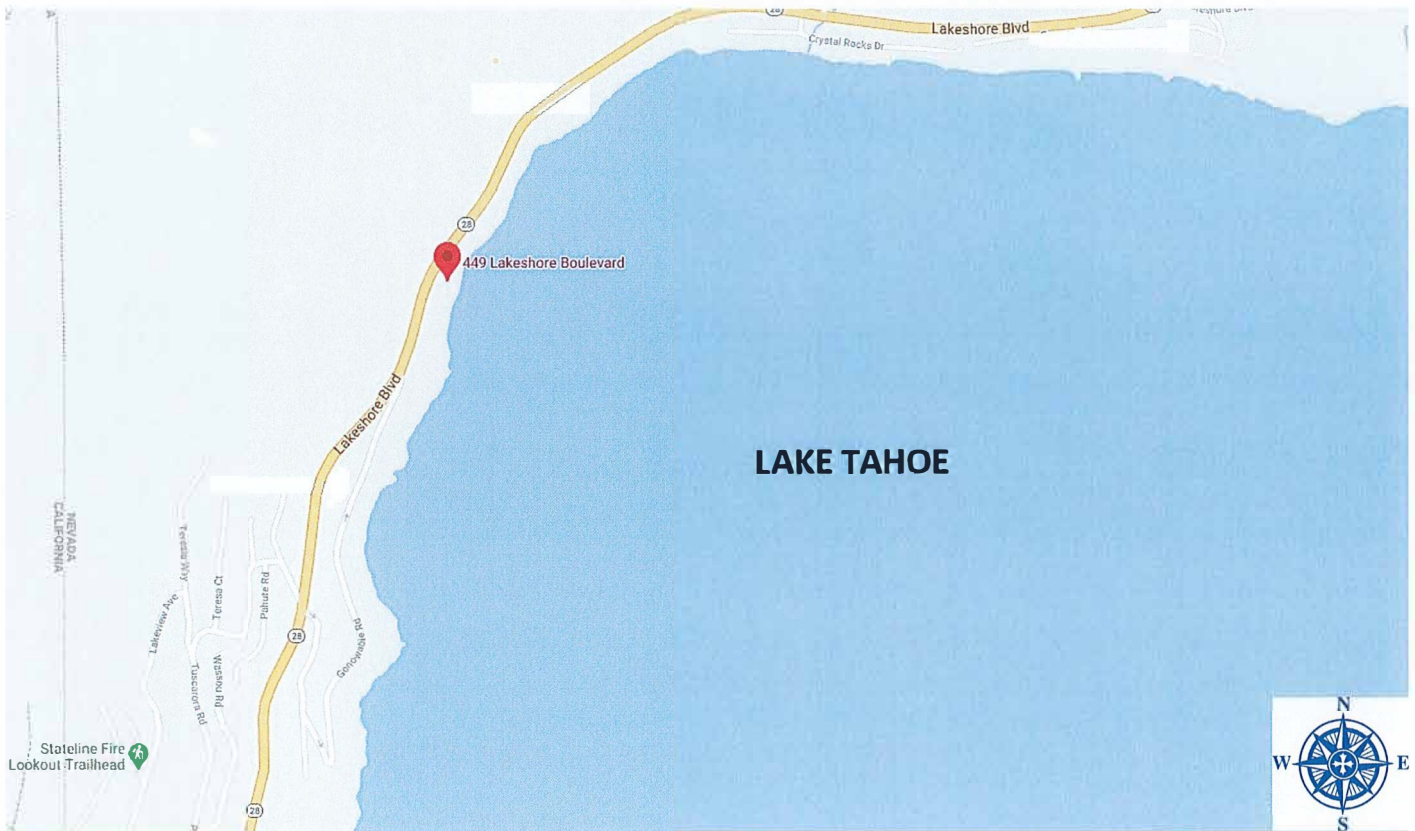


Figure 1 – Vicinity Map

449 Lakeshore Boulevard – Grading Special Use Permit

Project Background

The Washoe County Board of Adjustment approved the SUP request included herein in February 2021. However, due to unforeseen circumstances, construction of the project was delayed. Although the applicant has filed final grading plans/permits with Washoe County, the underlying SUP has expired.

This application simply requests that the approved SUP be reissued. No changes to the plans are proposed, and all applicable permits and approvals referenced in this report (i.e. TRPA, NDOT, etc.) remain valid.

Existing Conditions

The subject property is zoned Medium Density Suburban (MDS) and is currently vacant. The property slopes down from State Route 28 (Lakeshore Boulevard) to the shores of Lake Tahoe on the east side of the site. There is approximately 100± feet of grade differential between the west and east sides of the project site.

Figure 2 (below) provides an aerial overview of the property while Figure 3 (following page) depicts the view of the site from Lakeshore Boulevard.



Figure 2 – Aerial View

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Figure 3 – Street View

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Project Request

As noted previously, this application requests a Special Use Permit (SUP) to allow for driveway grading associated with a planned custom residence. Grading of the proposed driveway will trigger a SUP based on the following Washoe County Development Code criteria (as applied to grading of 15% slopes or greater):

- Section 110.438.35(2)(i)(A) – Grading of one-half (0.5) acre (21,780 square feet) or more on parcels six (6) in size.
- Section 110.438.35(2)(ii)(A) – Excavation of one thousand (1,000) cubic yards or more whether the material is intended to be permanently located on the project site or temporarily stored on a site for relocation to another, final site.
- Section 110.438.35(3) – Any driveway or road that traverses any slope of thirty (30) percent or greater (steeper).
- Section 110.438.35(4) – Grading to construct a permanent earthen structure greater than four and one-half (4.5) feet in height within the required front yard setback, or greater than six (6) feet in height on the remainder of the property. The height of the earthen structure is measured from existing grade at the time of permit issuance.

In addition to the criteria listed above, the SUP also requests that slopes up to 1:1 and increased wall heights be permitted to address the unique site characteristics and reduce onsite grading disturbance.

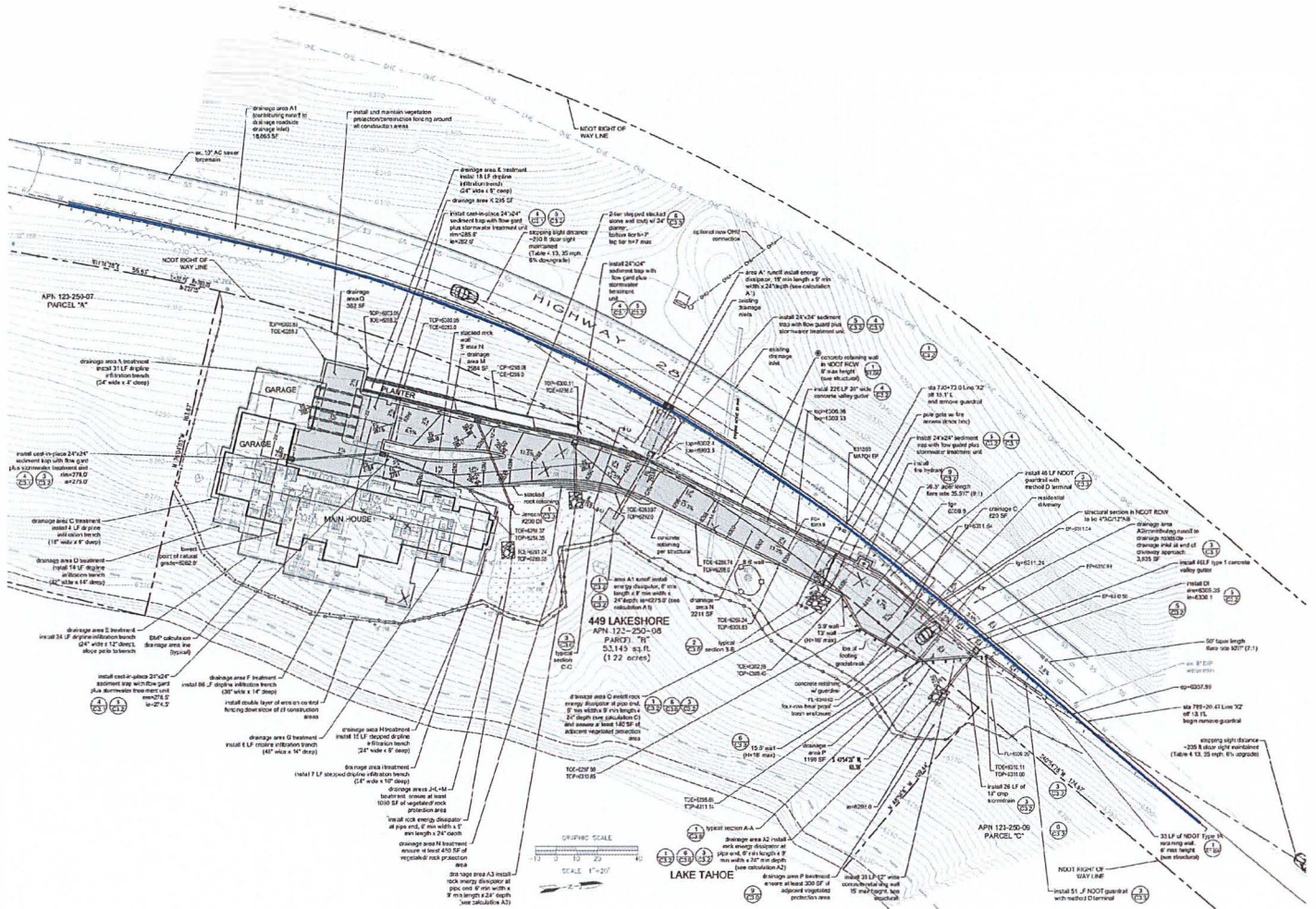
The proposed driveway will serve a new custom home to be constructed at the south side of the parcel and will connect to Lakeshore Boulevard (State Route 28) at the northern edge of the site. The proposed asphalt driveway will be 14 feet in width and will be gated with a Fire Department accessible gate. The gate is located to allow for stacking of up to 4 vehicles, ensuring that back-ups do not occur along Lakeshore Boulevard.

The proposed driveway widens at the northern end to allow for vehicle turning movements. Specifically, the widened driveway section accommodates a right-turn-in for cars entering the site from northbound lane of Lakeshore Boulevard. Additionally, the flared section allows for the location of a bear proof trash enclosure per Tahoe Regional Planning Agency (TRPA) standards. The driveway also splits as it approaches the proposed home on the south side to serve the split-garage design.

The proposed home and driveway design have been reviewed and approved by TRPA. Since Lakeshore Boulevard is a State Highway (State Route 28), the driveway is also subject to review and approval of the Nevada Department of Transportation (NDOT). As such, the plans presented herein reflect the TRPA approval conditions, as well as applicable NDOT standards. This includes the installation of a fire hydrant at the northern end of the driveway (prior to the entry gate), stormwater treatment/sediment trap facilities, and stormwater energy dissipaters within the project site.

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Figure 4 (below) depicts the project site plan while Figure 5 (following page) provides the site plan in context with an aerial view of the site.



Note: A full size plan is attached.

Figure 4 – Site Plan

449 Lakeshore Boulevard - Grading Special Use Permit

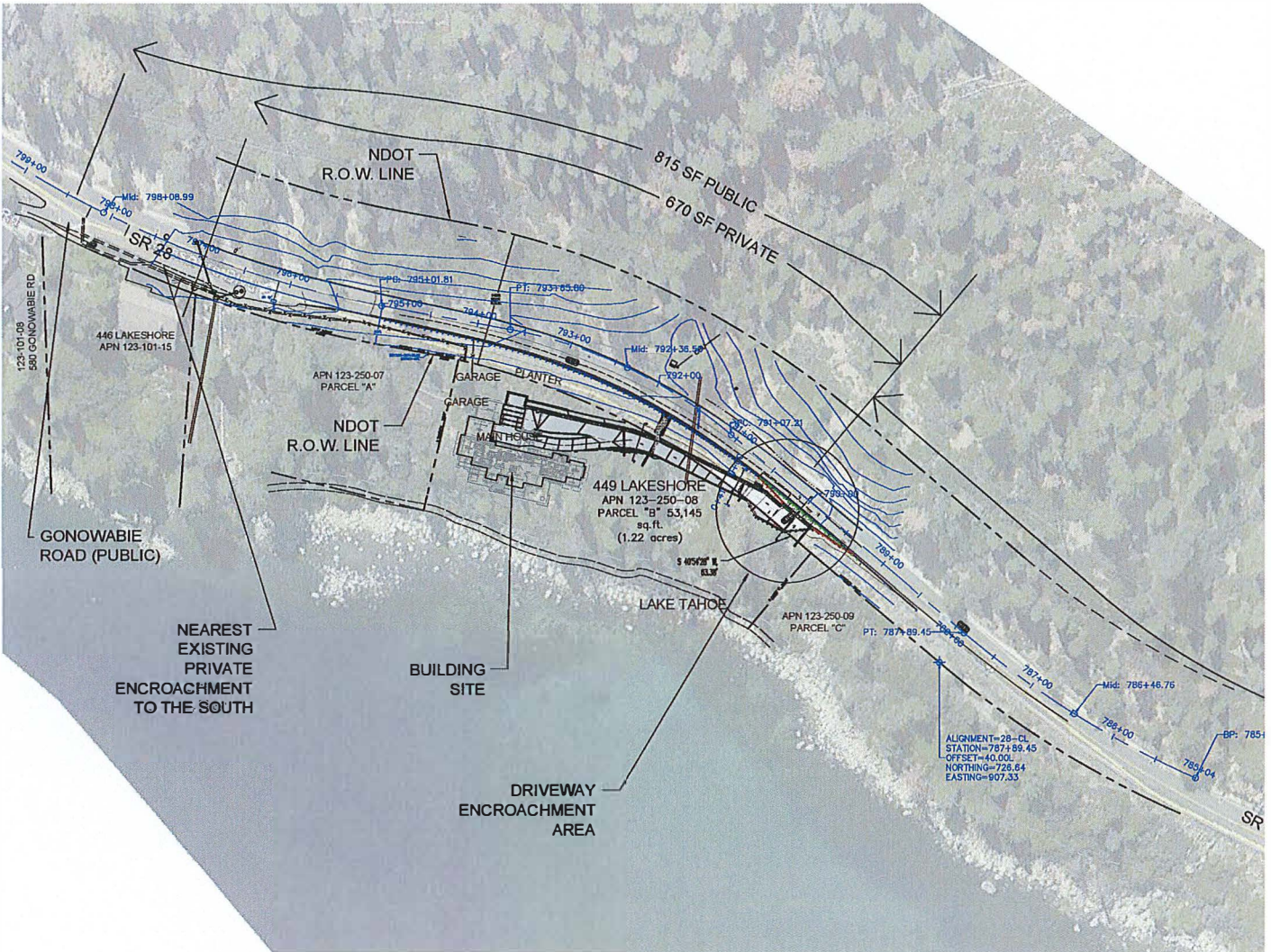


Figure 5 – Aerial Site Plan

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As depicted in Figures 4 and 5, it is proposed to improve the site frontage at the driveway connection to Lakeshore Boulevard in order to accommodate tapers that allow for vehicle deceleration and acceleration in and out of the site, per NDOT standards. Also, the driveway is located to ensure proper sight distance in and out of the driveway along with stopping-sight distance for cars travelling along Lakeshore Boulevard.

As noted previously, the subject property includes up to 100 feet of fall between the east and west sides. The proposed home lies roughly 50± feet below the existing roadway grade. In order to access the home and meet TRPA and NDOT requirements, grading that triggers the SUP thresholds previously noted will need to occur.

Each of the grading criteria previously identified is addressed below:

- Section 110.438.35(2)(i)(A) – Grading of one-half (0.5) acre (21,780 square feet) or more on parcels six (6) in size.

The proposed home and driveway will result in a total disturbed area of approximately 28,380± square feet which meets the threshold of Section 110.438.35(2)(i)(A). The grading is necessary to ensure safe access in and out of the site as well as provide a pad for the house itself. TRPA has reviewed the proposed disturbance in context with their coverage standards, grading and drainage standards, etc. and has approved the plan as presented.

- Section 110.438.35(2)(ii)(A) – Excavation of one thousand (1,000) cubic yards or more whether the material is intended to be permanently located on the project site or temporarily stored on a site for relocation to another, final site.

As proposed and approved by TRPA, there will be approximately 1,398 cubic yards of cut and 766 cubic yards of fill. Excess material will be exported in accordance with the attached grading and drainage plan.

- Section 110.438.35(3) – Any driveway or road that traverses any slope of thirty (30) percent or greater (steeper).

There is 50+ feet of grade separation between the proposed home and Lakeshore Boulevard. The slope from the roadway to the homesite does exceed 30% in some locations. As such, the SUP is included for Section 110.438.35(3) to ensure full compliance with Washoe County Development Code requirements.

- Section 110.438.35(4) – Grading to construct a permanent earthen structure greater than four and one-half (4.5) feet in height within the required front yard setback, or greater than six (6) feet in height on the remainder of the property. The height of the earthen structure is measured from existing grade at the time of permit issuance.

As depicted on the attached grading plan, the improvements associated with the proposed driveway will result in a permanent earthen structure greater than 4.5 feet along Lakeshore Boulevard (front setback). This is a result of the proposed retaining walls as detailed in this report.

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A combination of walls and revegetation will be used to stabilize slopes disturbed as a result of the driveway grading. This includes the use of rockery walls, poured-in-place concrete walls, native revegetation, erosion mats, and formal landscape improvements. Rock walls will not exceed 6-feet in height per the requirements of the Washoe County Development Code. In areas where taller walls are necessitated, the use of poured-in-place concrete walls will occur. By providing taller walls, the overall disturbance is reduced, and a more natural appearance is retained. The concrete walls will be screened through the use of natural vegetation and formal plantings.

Figure 6 (below) depicts the typical slope stabilization methods proposed, while Figure 7 (following page) depicts typical wall sections proposed for 449 Lakeshore Boulevard.

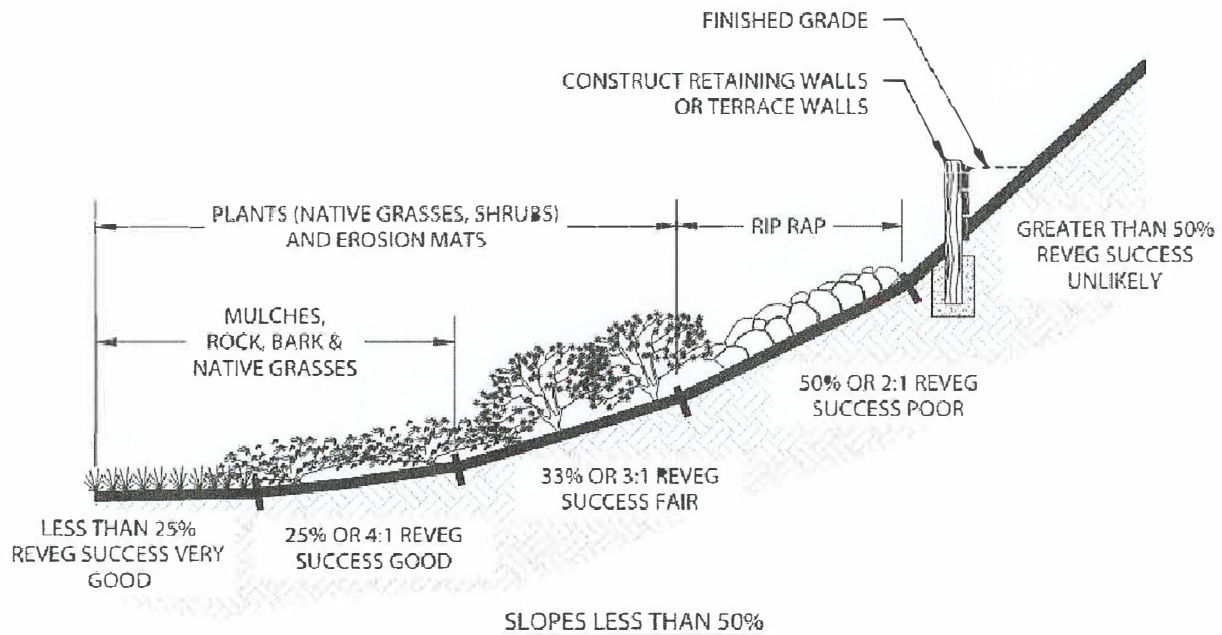


Figure 6 – Typical Slope Stabilization

449 Lakeshore Boulevard – Grading Special Use Permit

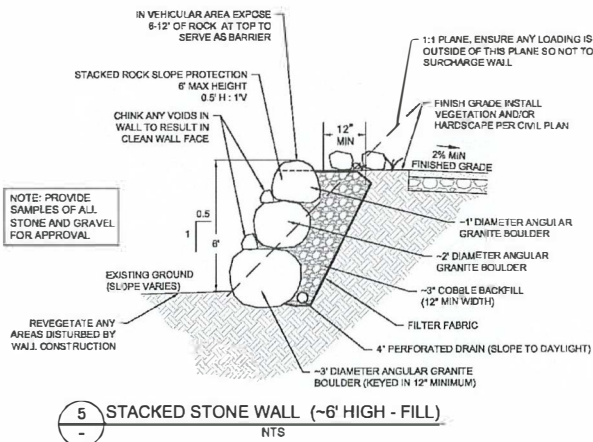
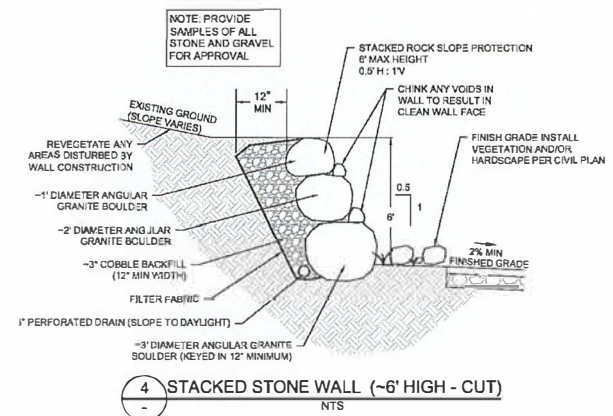
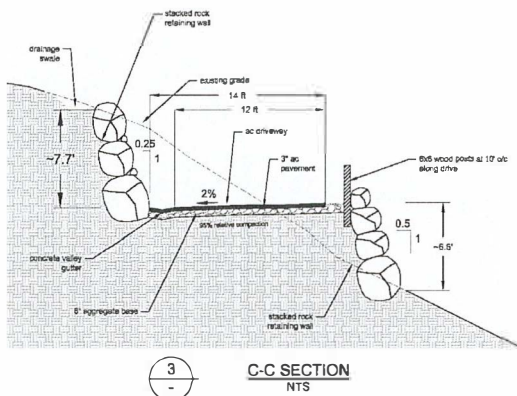
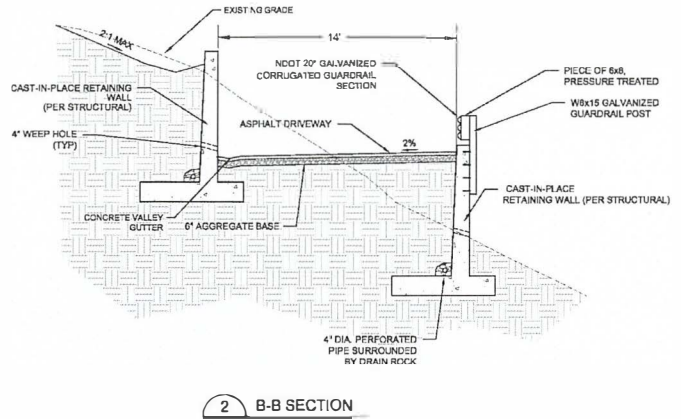
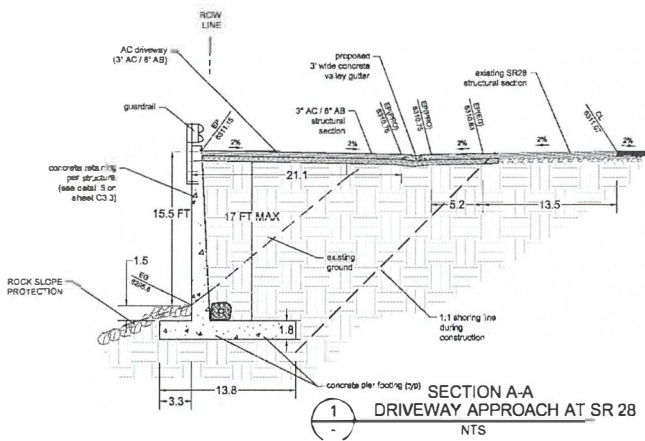


Figure 7 – Typical Wall Sections

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As proposed, the maximum height of concrete walls at 449 Lakeshore Boulevard will be approximately 15.5 feet. The proposed grading, including the walls included as part of this SUP, conform with applicable TRPA standards and plans have already been approved by TRPA.

The project site includes steep terrain between Lakeshore Boulevard and the homesite adjacent to Lake Tahoe. This includes natural 1:1 slope in some locations. The Washoe County Development Code requires that graded slopes be rounded to 3:1 in order to prevent erosion. However, in the case of 449 Lakeshore Boulevard, 3:1 slopes would result in massive scarring and does not meet the stringent standards implemented by TRPA. Thus, this SUP requests that slopes up to 1:1 be permitted in order to match the natural topography of the site. The slopes will be stabilized through the use of walls, erosion mats, revegetation, and landscaping, as depicted on the attached plans. Furthermore, the grading and stabilization methods comply with stringent TRPA standards and have been reviewed and approved by TRPA.

By incorporating the use of walls, landscaping, and slopes proposed, disturbance of the site will be significantly reduced. It is anticipated that the new home will largely screen graded areas and that revegetation will ensure a natural appearance of graded slopes, as viewed from Lake Tahoe. Figure 8 (below) depicts a photo simulation of the developed site, as completed by the project architect.



Figure 8 – Photo Simulation

449 Lakeshore Boulevard – Grading Special Use Permit

Special Use Permit Findings

In order to approve a Special Use Permit, the following findings must be made. Responses are provided in **bold**.

1. Consistency. The granting of the special use permit is consistent with the policies and maps of the Comprehensive Plan Elements and the Area Plan in which the property is located.

The proposed use to be accommodated by the planned grading are permitted within the Medium Density Suburban zone and are consistent with the goals and policies of the Tahoe Area Plan. This SUP request provides for consistency with section 110.438.35 and application of Development Code standards further ensures consistency with all applicable policies, etc.

2. Adequate Public Facilities. Adequate utilities, roadway improvements, sanitation, water supply, drainage, and other necessary facilities must exist or will be provided.

All necessary infrastructure and services necessitated by the proposed residence are in place or will be extended at the expense of the developer. The project will connect with existing municipal water and sewer infrastructure. The proposed driveway encroachment will be reviewed by NDOT for a required encroachment permit. Grading and drainage plans have already been reviewed and approved by TRPA.

3. Site Suitability. The site must be physically suitable for the proposed use and for the intensity of development.

The proposed grading, homesite location, and associated improvements comply with TRPA standards for coverage, grading, site disturbance, tree removal, etc. TRPA standards are some of the most stringent in the nation in terms of environmental protection. The grading proposed, including the use of walls and erosion control measures, will result in minimal disturbance and allow for a natural post-development appearance.

4. Issuance Not Detrimental. Issuance of the permit may not be significantly detrimental to the public health, safety or welfare; have a detrimental impact on adjacent properties; or be detrimental to the character of the surrounding area.

No negative impacts are anticipated with the granting of this SUP request. All potential impacts will be properly mitigated, and the development proposed is directly consistent with surrounding parcels and uses.

APPENDICES

Community Services Department

Planning and Building

SPECIAL USE PERMIT

(see page 7)

SPECIAL USE PERMIT FOR GRADING

(see page 9)

SPECIAL USE PERMIT FOR STABLES

(see page 12)

APPLICATION



Community Services Department
Planning and Building
1001 E. Ninth St., Bldg. A
Reno, NV 89512-2845

Telephone: 775.328.6100

Washoe County Development Application

Your entire application is a public record. If you have a concern about releasing personal information, please contact Planning and Building staff at 775.328.6100.

Project Information		Staff Assigned Case No.: _____	
Project Name: 449 Lakeshore Boulevard Grading SUP			
Project Description: A SUP to allow for grading of a private driveway per Section 110.438.35 of the Washoe County Development Code.			
Project Address: 449 Lakeshore Blvd. Incline Village, NV 89451			
Project Area (acres or square feet): 57,323 square feet			
Project Location (with point of reference to major cross streets AND area locator): The site is located on the east side of Lakeshore Blvd., southwest of Incline Village (refer to attached map).			
Assessor's Parcel No.(s):	Parcel Acreage:	Assessor's Parcel No.(s):	Parcel Acreage:
123-250-08	1.32 acres		
Indicate any previous Washoe County approvals associated with this application: Case No.(s).			
Applicant Information (attach additional sheets if necessary)			
Property Owner:		Professional Consultant:	
Name: Myers Family Trust		Name: Christy Corporation, Ltd.	
Address: 565 Country Club Dr.		Address: 1000 Kiley Pkwy.	
Incline Village, NV	Zip: 89451	Sparks, NV	Zip: 89436
Phone: 520-400-4845	Fax:	Phone: 775-502-8552	Fax:
Email: jgm@blackstonedevelopmentgroup.com		Email: mike@christynv.com	
Cell: 520-400-4845	Other:	Cell: 775-250-3455	Other:
Contact Person: Josh Myers		Contact Person: Mike Railey	
Applicant/Developer:		Other Persons to be Contacted:	
Name: Same as Above		Name:	
Address:		Address:	
	Zip:		Zip:
Phone:	Fax:	Phone:	Fax:
Email:		Email:	
Cell:	Other:	Cell:	Other:
Contact Person:		Contact Person:	
For Office Use Only			
Date Received:	Initial:	Planning Area:	
County Commission District:		Master Plan Designation(s):	
CAB(s):		Regulatory Zoning(s):	

**Special Use Permit Application
Supplemental Information**
(All required information may be separately attached)

1. What is the project being requested?

This application requests a SUP to allow for grading of a private driveway, triggering the thresholds of Section 110.438.35. Refer to attached report for a detailed description.

2. Provide a site plan with all existing and proposed structures (e.g. new structures, roadway improvements, utilities, sanitation, water supply, drainage, parking, signs, etc.)

Refer to attached site plan.

3. What is the intended phasing schedule for the construction and completion of the project?

The project will be completed in a single phase.

4. What physical characteristics of your location and/or premises are especially suited to deal with the impacts and the intensity of your proposed use?

The grading proposed, including walls, revegetation, and erosion control mats are specifically designed to address the unique site characteristics. Refer to attached report for a detailed analysis.

5. What are the anticipated beneficial aspects or affects your project will have on adjacent properties and the community?

The project will be designed to complement adjoining properties and homes in the area. Refer to attached report for specifics.

6. What are the anticipated negative impacts or affect your project will have on adjacent properties? How will you mitigate these impacts?

All potential impacts are properly mitigated with the measures proposed. Refer to attached report for details.

7. Provide specific information on landscaping, parking, type of signs and lighting, and all other code requirements pertinent to the type of use being purposed. Show and indicate these requirements on submitted drawings with the application.

Approximatley 1,398 cubic yards of cut and 766 cubic yards of fill.

8. Are there any restrictive covenants, recorded conditions, or deed restrictions (CC&Rs) that apply to the area subject to the special use permit request? (If so, please attach a copy.)

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
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9. Utilities:

a. Sewer Service	IVGID
b. Electrical Service	NV Energy
c. Telephone Service	AT&T
d. LPG or Natural Gas Service	Southwest Gas
e. Solid Waste Disposal Service	Waste Management
f. Cable Television Service	AT&T, Charter Communications, or satellite providers
g. Water Service	IVGID

For most uses, Washoe County Code, Chapter 110, Article 422, Water and Sewer Resource Requirements, requires the dedication of water rights to Washoe County. Please indicate the type and quantity of water rights you have available should dedication be required.

h. Permit #		acre-feet per year	
i. Certificate #		acre-feet per year	
j. Surface Claim #		acre-feet per year	
k. Other #		acre-feet per year	

Title of those rights (as filed with the State Engineer in the Division of Water Resources of the Department of Conservation and Natural Resources).

Revegetation, walls, and the home itself will serve to screen disturbed areas.
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10. Community Services (provided and nearest facility):

a. Fire Station	North Lake Tahoe Fire Protection District - Station # 2
b. Health Care Facility	Incline Village Community Hospital
c. Elementary School	Incline Elementary School
d. Middle School	Incline Middle School
e. High School	Incline High School
f. Parks	Lake Tahoe State Park
g. Library	Washoe County - Incline Village Branch
h. Citifare Bus Stop	N/A

**Special Use Permit Application
for Grading
Supplemental Information**
(All required information may be separately attached)

1. What is the purpose of the grading?

The grading will allow for access to a single family residence. Refer to attached report for a detailed description.

2. How many cubic yards of material are you proposing to excavate on site?

Approximatley 1,398 cubic yards of cut and 766 cubic yards of fill.

3. How many square feet of surface of the property are you disturbing?

28,380 +/- square feet.

4. How many cubic yards of material are you exporting or importing? If none, how are you managing to balance the work on-site?

No import of material is proposed. Export may occur if material cannot be placed onsite. Refer to attached engineering plans.

5. Is it possible to develop your property without surpassing the grading thresholds requiring a Special Use Permit? (Explain fully your answer.)

No. Refer to attached report for a detailed analysis.

6. Has any portion of the grading shown on the plan been done previously? (If yes, explain the circumstances, the year the work was done, and who completed the work.)

Not applicable.

7. Have you shown all areas on your site plan that are proposed to be disturbed by grading? (If no, explain your answer.)

Yes. Refer to attached engineering plans.

8. Can the disturbed area be seen from off-site? If yes, from which directions and which properties or roadways?

The disturbed areas will be visible from Lake Tahoe. Refer to attached report for screening details.

9. Could neighboring properties also be served by the proposed access/grading requested (i.e. if you are creating a driveway, would it be used for access to additional neighboring properties)?

Not applicable.

10. What is the slope (horizontal/vertical) of the cut and fill areas proposed to be? What methods will be used to prevent erosion until the revegetation is established?

Slope varies from 15% to 50% +/-/. The use of walls and erosion mats will be implemented per TRPA standards. Refer to attached report and plans for further specifics.

11. Are you planning any berms?

YesX	No	If yes, how tall is the berm at its highest? Refer to attached plan.
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12. If your property slopes and you are leveling a pad for a building, are retaining walls going to be required? If so, how high will the walls be and what is their construction (i.e. rockery, concrete, timber, manufactured block)?

Refer to attached report and plans for a detailed analysis.

13. What are you proposing for visual mitigation of the work?

Revegetation, walls, and the home itself will serve to screen disturbed areas.

14. Will the grading proposed require removal of any trees? If so, what species, how many and of what size?

Pine trees will be removed per TRPA approved plans. Refer to attached engineering drawings.

15. What type of revegetation seed mix are you planning to use and how many pounds per acre do you intend to broadcast? Will you use mulch and, if so, what type?

Revegetation mix will be per approved TRPA standards.

16. How are you providing temporary irrigation to the disturbed area?

Temporary irrigation will be provided via a connection to the domestic supply for the home.

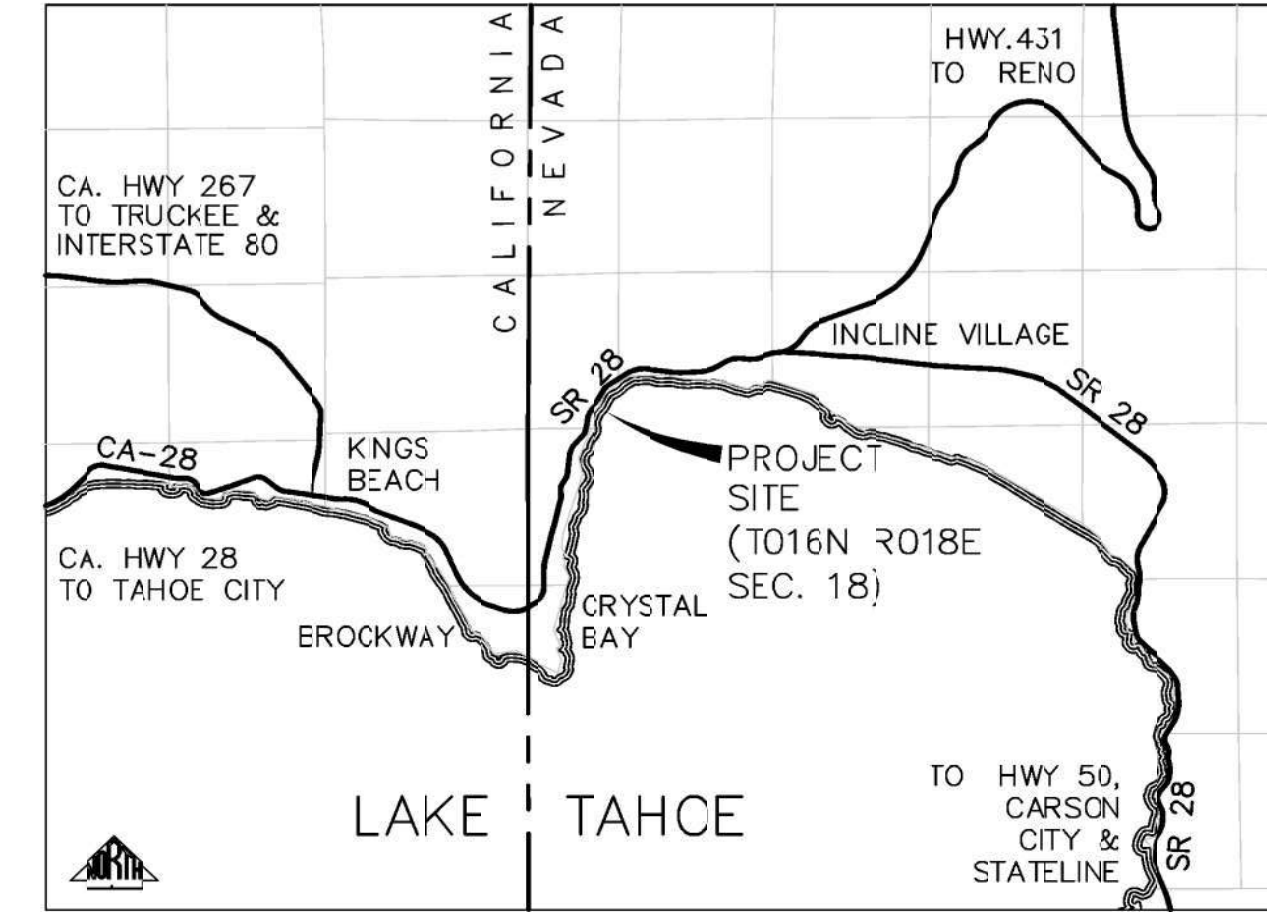
17. Have you reviewed the revegetation plan with the Washoe Storey Conservation District? If yes, have you incorporated their suggestions?

Not applicable. The property is subject to TRPA regulations.

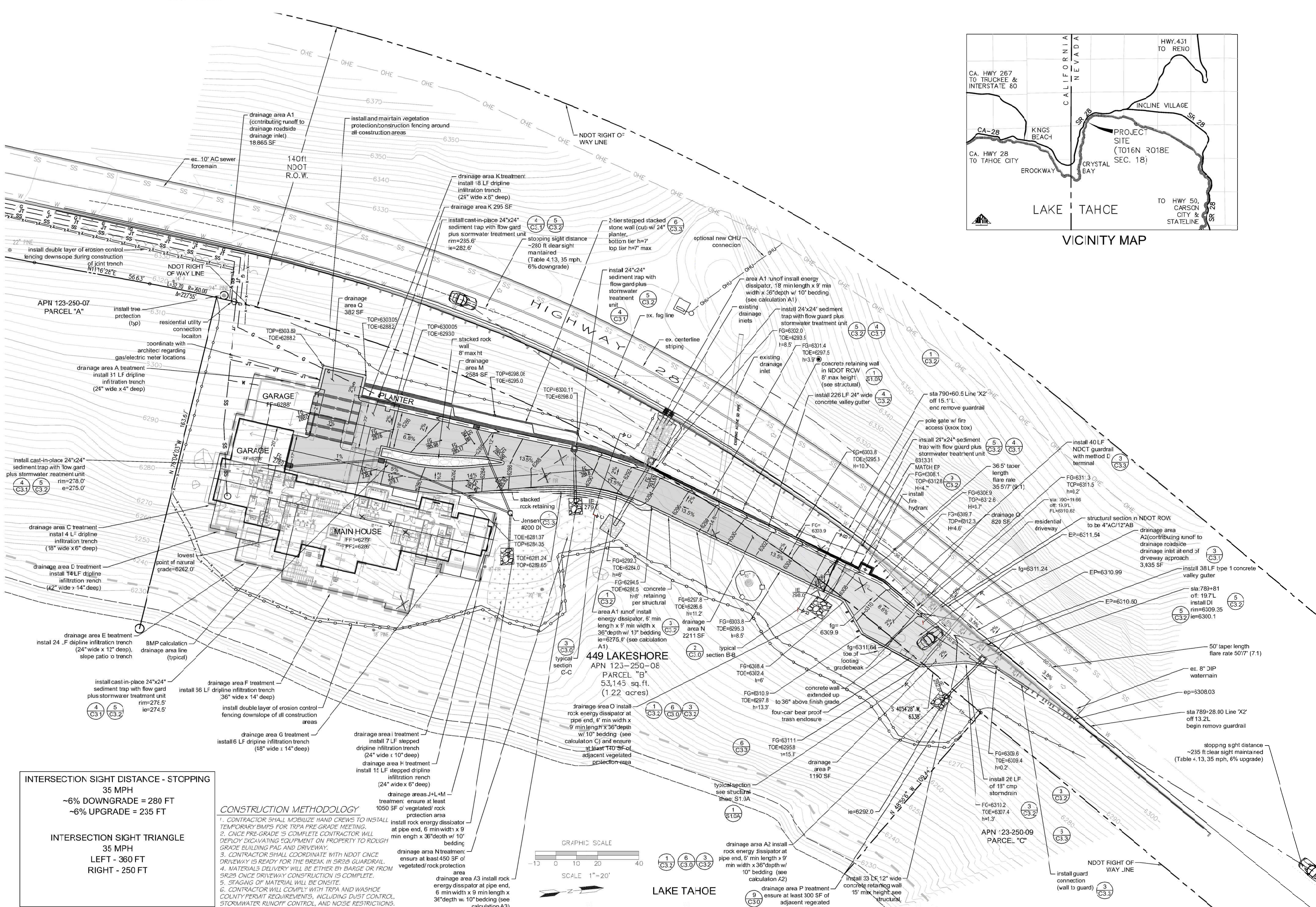
18. Are there any restrictive covenants, recorded conditions, or deed restrictions (CC&Rs) that may prohibit the requested grading?

Yes	NoX	If yes, please attach a copy.
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ESTIMATED EARTHWORK
 CUT=1,368 CY
 FILL=766 CY



VICINITY MAP



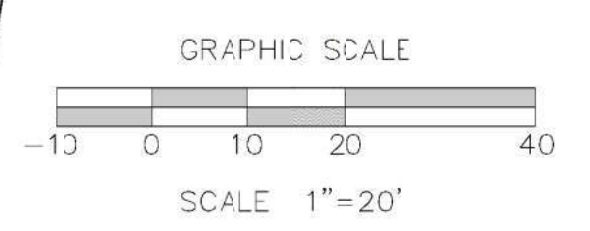
449 LAKESHORE
 APN 123-250-08
 PARCEL "B"
 53,145 sq. ft.
 (122 acres)

INTERSECTION SIGHT DISTANCE - STOPPING
 35 MPH
 ~6% DOWNGRADE = 280 FT
 ~6% UPGRADE = 235 FT

INTERSECTION SIGHT TRIANGLE
 35 MPH
 LEFT - 360 FT
 RIGHT - 250 FT

CONSTRUCTION METHODOLOGY

- CONTRACTOR SHALL MOBILIZE HAND CREWS TO INSTALL TEMPORARY BMPs FOR TRPA PRE-GRADING MEETING.
- ONCE PRE-GRADING IS COMPLETE, CONTRACTOR WILL DEPLOY EXCAVATING EQUIPMENT ON PROPERTY TO ROUGH GRADE BUILDING PAD AND DRIVEWAY.
- CONTRACTOR SHALL COORDINATE WITH NDOT ONCE DRIVEWAY IS READY FOR THE BREAK IN SR28 GUARDRAIL.
- MATERIALS DELIVERY WILL BE EITHER BY BARGE OR FROM SR28 ONCE DRIVEWAY CONSTRUCTION IS COMPLETE.
- STAGING OF MATERIAL WILL BE ON SITE.
- CONTRACTOR WILL COMPLY WITH TRPA AND WASHOE COUNTY PERMIT REQUIREMENTS, INCLUDING DUST CONTROL, STORMWATER RUNOFF CONTROL, AND NOISE RESTRICTIONS.



REV	DATE	DESCRIPTION	APPROVED	DATE

TIESLAU CIVIL ENGINEERING, INC.
 3080 NORTH LAKE BLVD
 TAHOE CITY, CA 96145
 P.O. BOX 412
 TAHOE VISTA, CA 96145
 T:TAHOECOM
 (530) 546-4805

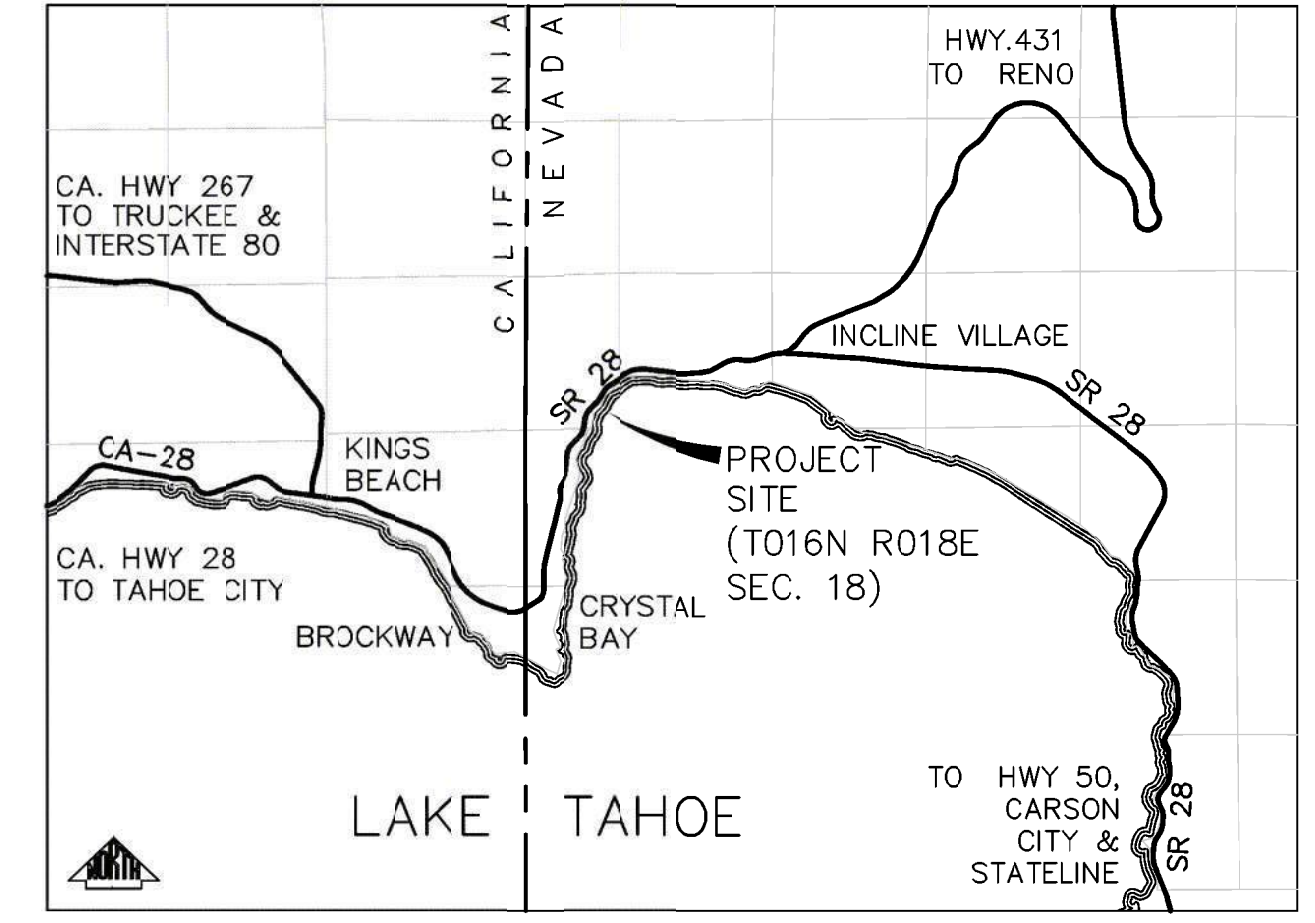
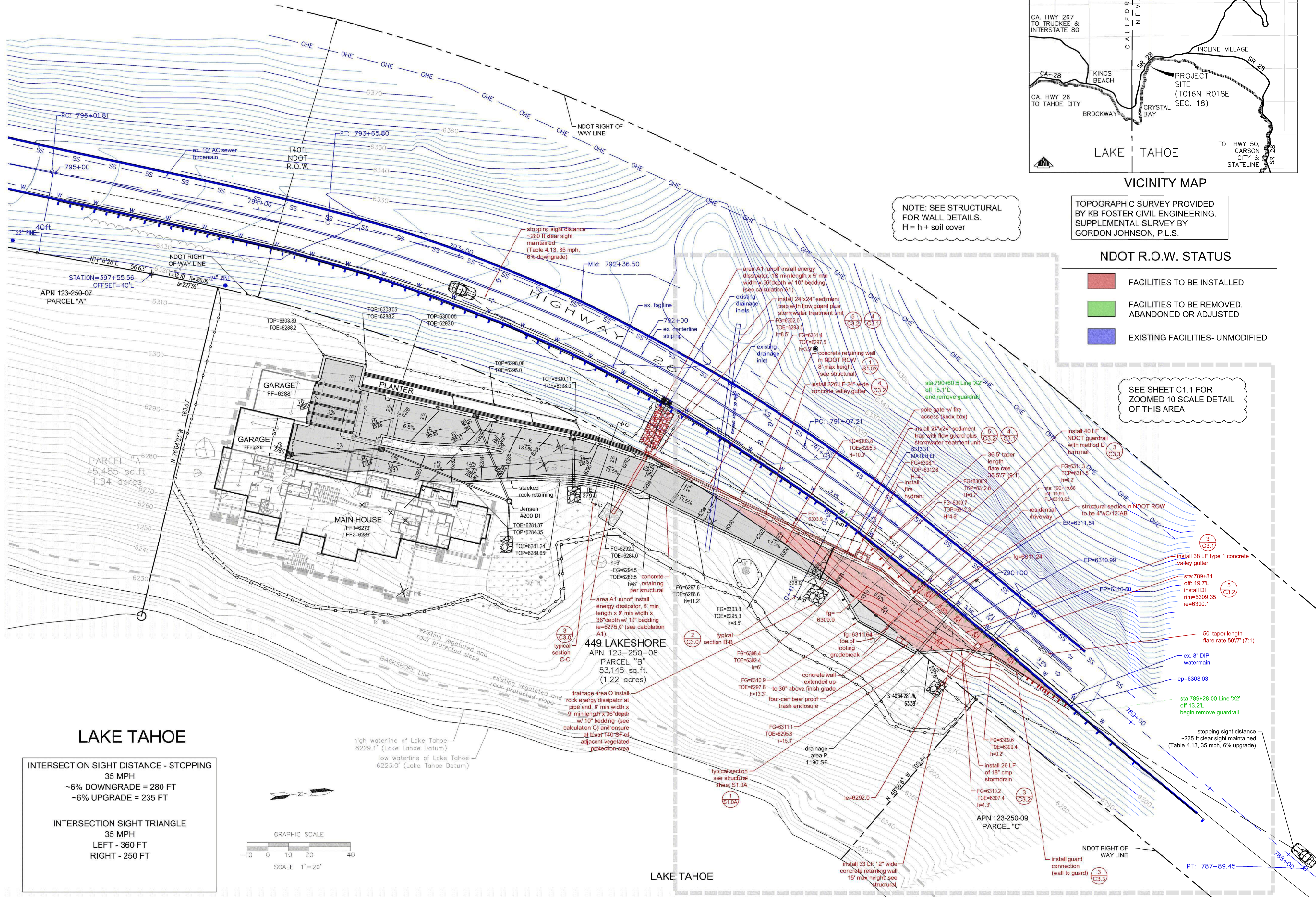


TRPA AND WASHOE BUILDING DEPT APPROVAL PENDING

CIVIL GRADING, BMP AND UTILITY PLAN
 TRPA SITE PLAN
 449 LAKESHORE
 APN 123-250-08

COMP: _____ DESIGN: _____
 DRWN: _____ PRJ. ENG: AT
 PROJECT #: 17.022
 SCALE: HORIZONTAL: 1"=20'
 VERTICAL: N/A
 DATE: 3-1-2023

C0.1



NOTE: SEE STRUCTURAL FOR WALL DETAILS.
H = h + soil cover

TOPOGRAPHIC SURVEY PROVIDED BY KB FOSTER CIVIL ENGINEERING. SUPPLEMENTAL SURVEY BY GORDON JOHNSON, P.L.S.

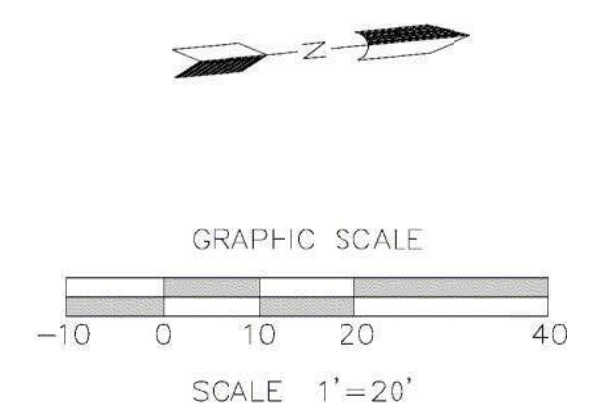
- NDOT R.O.W. STATUS**
- FACILITIES TO BE INSTALLED
 - FACILITIES TO BE REMOVED, ABANDONED OR ADJUSTED
 - EXISTING FACILITIES- UNMODIFIED

SEE SHEET C1.1 FOR ZOOMED 10 SCALE DETAIL OF THIS AREA

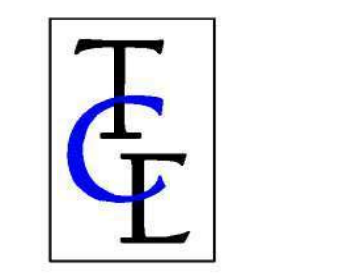
LAKE TAHOE

INTERSECTION SIGHT DISTANCE - STOPPING
35 MPH
~6% DOWNGRADE = 280 FT
~6% UPGRADE = 235 FT

INTERSECTION SIGHT TRIANGLE
35 MPH
LEFT - 360 FT
RIGHT - 250 FT



REV	DATE	DESCRIPTION	APPROVED	DATE



TIESLAU CIVIL ENGINEERING, INC.
3080 NORTH LAKE BLVD
TAHOE CITY, CA 96145
P.O. BOX 412
TAHOE VISTA, CA 96145
T: (775) 468-4805
F: (775) 468-4805



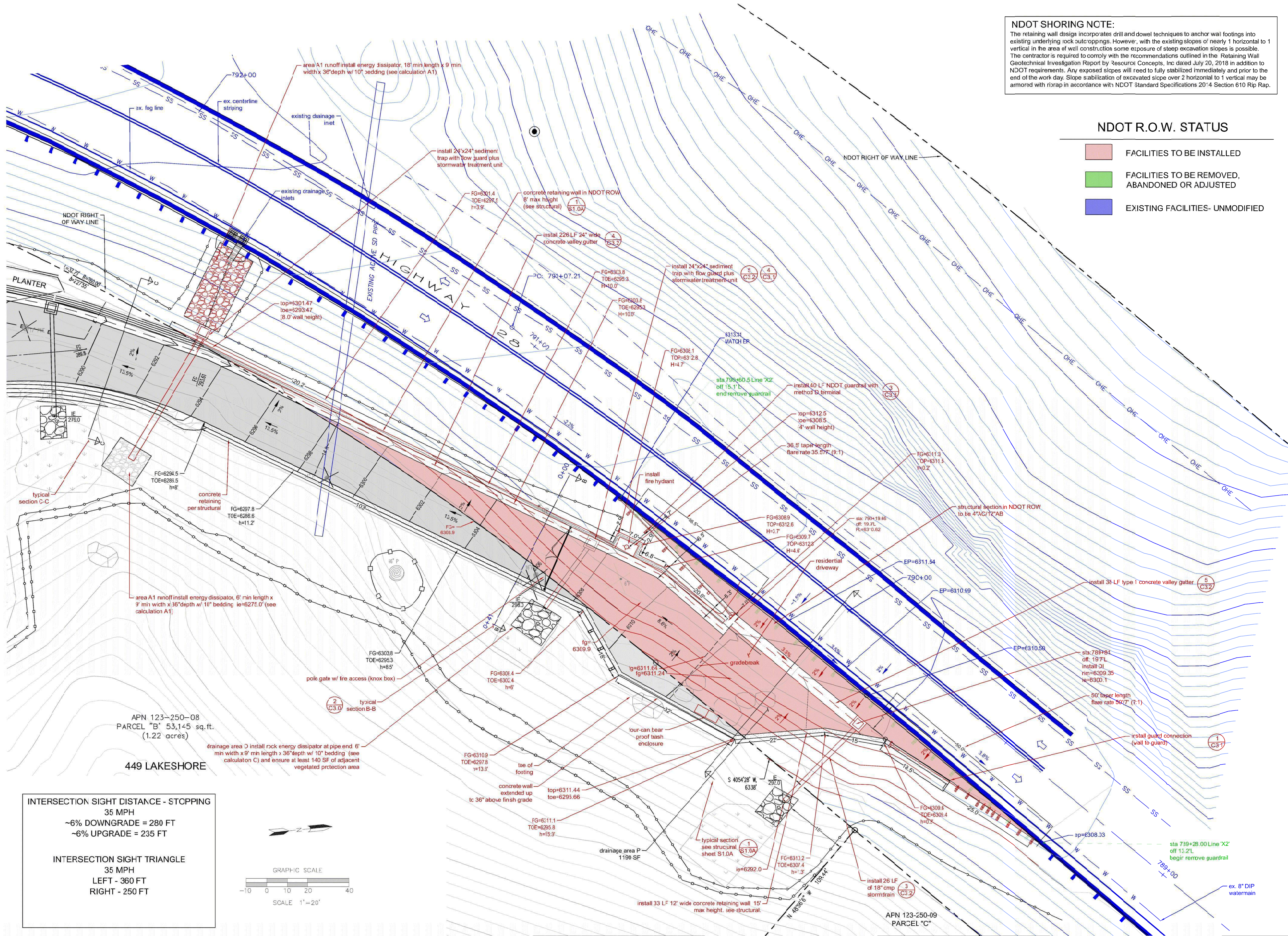
TRPA AND WASHOE BUILDING DEPT APPROVAL PENDING

CIVIL GRADING, BMP AND UTILITY PLAN
NDOT COLOR CODED LAYOUT
449 LAKESHORE
APN 123-250-08

COMP: _____ DESIGN: _____
DRWN: _____ PRJ.ENG: AT
PROJECT #: 17.022
SCALE: 1" = 20'
HORIZONTAL: N/A
VERTICAL: N/A

DATE: 3-1-2023

C1.0



NDOT SHORING NOTE:
 The retaining wall design incorporates drill and dowel techniques to anchor wall footings into existing underlying rock outcroppings. However, with the existing slopes of nearly 1 horizontal to 1 vertical in the area of wall construction some exposure of steep excavation slopes is possible. The contractor is required to comply with the recommendations outlined in the Retaining Wall Geotechnical Investigation Report by Resource Concepts, Inc. dated July 20, 2018 in addition to NDOT requirements. Any exposed slopes will need to be fully stabilized immediately and prior to the end of the work day. Slope stabilization of excavated slope over 2 horizontal to 1 vertical may be armored with riprap in accordance with NDOT Standard Specifications 2014 Section 610 Rip Rap.

NDOT R.O.W. STATUS

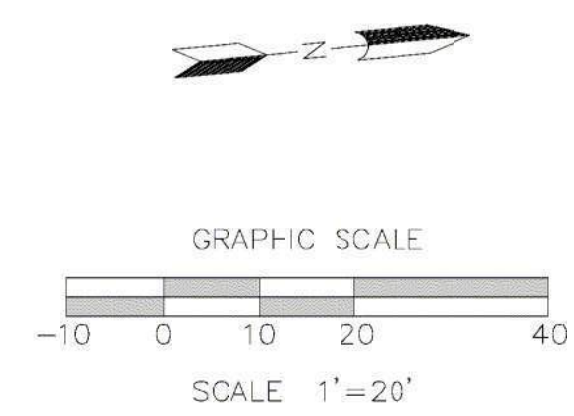
- FACILITIES TO BE INSTALLED
- FACILITIES TO BE REMOVED, ABANDONED OR ADJUSTED
- EXISTING FACILITIES- UNMODIFIED

APN 123-250-08
 PARCEL "B" 53,145 sq. ft.
 (1.22 acres)

449 LAKESHORE

INTERSECTION SIGHT DISTANCE - STOPPING
 35 MPH
 ~6% DOWNGRADE = 280 FT
 ~6% UPGRADE = 235 FT

INTERSECTION SIGHT TRIANGLE
 35 MPH
 LEFT - 360 FT
 RIGHT - 250 FT



REV	DATE	DESCRIPTION	APPROVED	DATE

TIESLAU CIVIL ENGINEERING, INC.
 3080 NORTH LAKE BLVD
 TAYLOR CITY, CA 98445
 P.O. BOX 412
 TETAHOECOM
 (530) 546-4805



TRPA AND WASHOE
 BUILDING DEPT
 APPROVAL PENDING

CIVIL GRADING, BMP AND UTILITY PLAN
 NDOT COLOR CODED DRIVEWAY-ROADWAY INTERSECTION
 449 LAKESHORE
 APN 123-250-08
 WASHOE COUNTY

COMP: _____ DESIGN: _____
 DRWN: _____ PRJ.ENG: AT

PROJECT #: 17.022
 SCALE: HORIZONTAL: 1" = 20'
 VERTICAL: N/A

DATE: 3-1-2023

C1.1

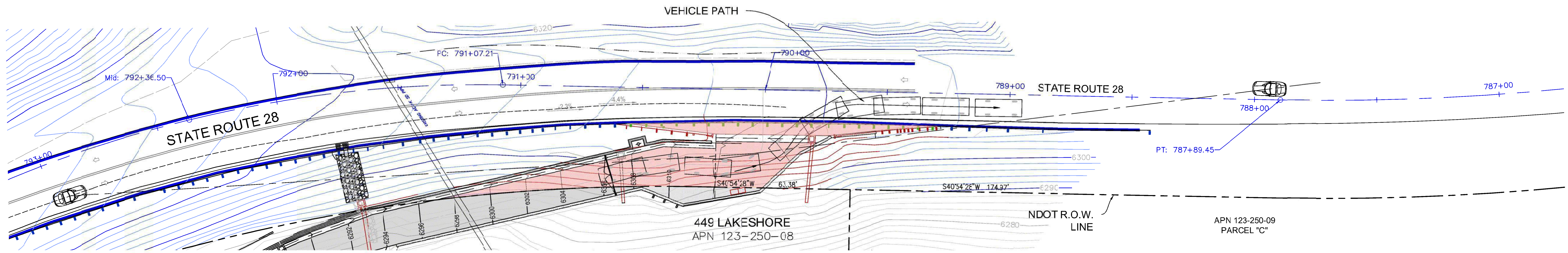


EXHIBIT A: DRIVEWAY EGRESS TO SR 28 EASTBOUND
SCALE: 1"=20'

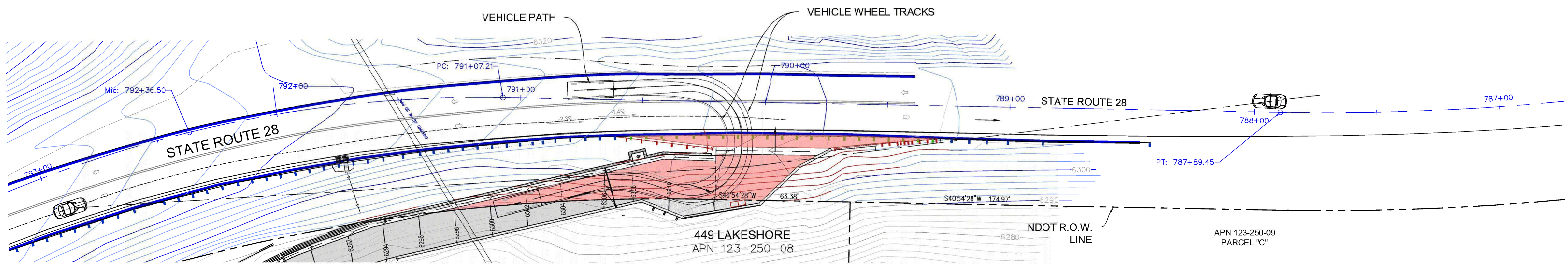


EXHIBIT B: DRIVEWAY EGRESS TO SR 28 WESTBOUND
SCALE: 1"=20'

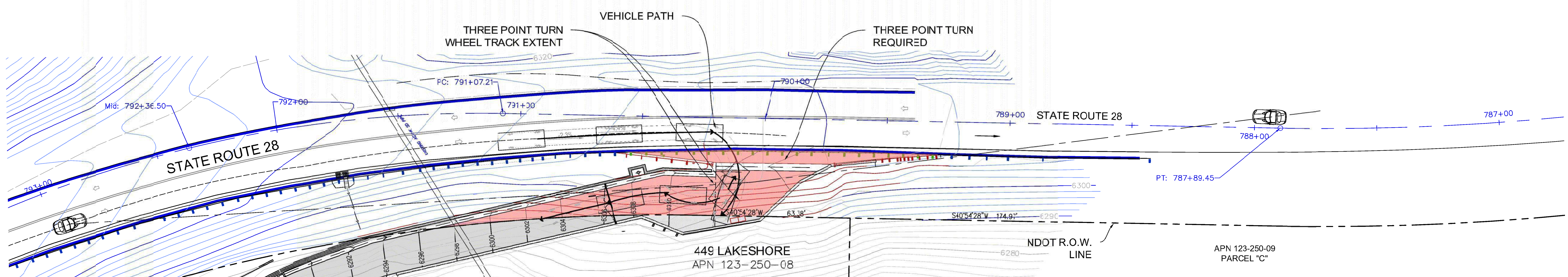
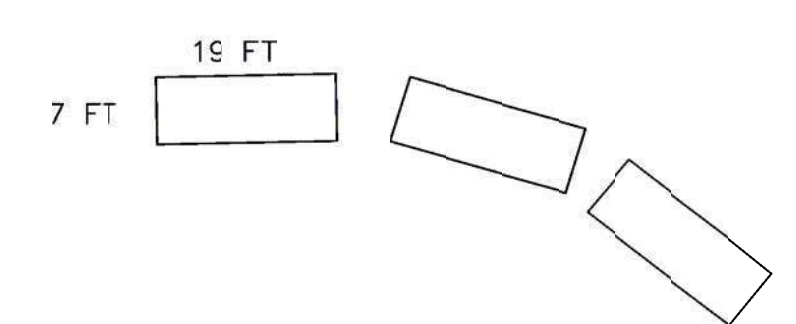
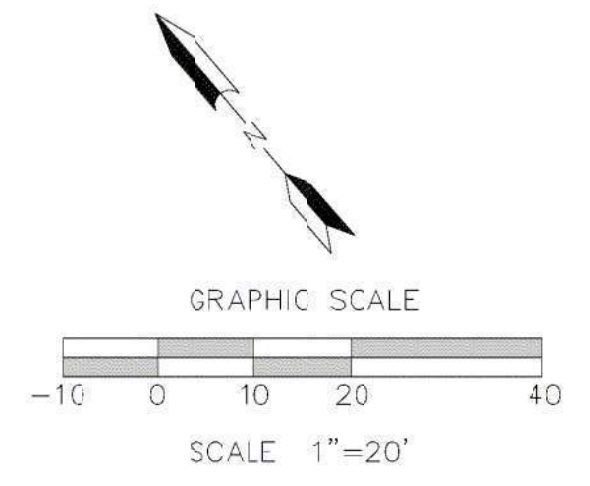


EXHIBIT C: INGRESS TO DRIVEWAY FROM SR 28 EASTBOUND
SCALE: 1"=20'

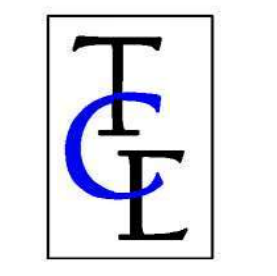


PASSENGER VEHICLE
TURNING MOVEMENTS

NDOT R.O.W. STATUS

- FACILITIES TO BE INSTALLED
- FACILITIES TO BE REMOVED, ABANDONED OR ADJUSTED
- EXISTING FACILITIES- UNMODIFIED

REV.	DATE	DESCRIPTION	APPROVED	DATE



TIESLAU
CIVIL
ENGINEERING, INC.
3080 NORTH LAKE BLVD
TAHOE CITY, CA 96145
P.O. BOX 412
TAHOE VISTA, CA 96145
T: (530) 546-4805
F: (530) 546-4805



TRPA AND WASHOE
BUILDING DEPT
APPROVAL PENDING

TURNING TEMPLATE EXHIBIT

449 LAKESHORE
APN 123-250-08

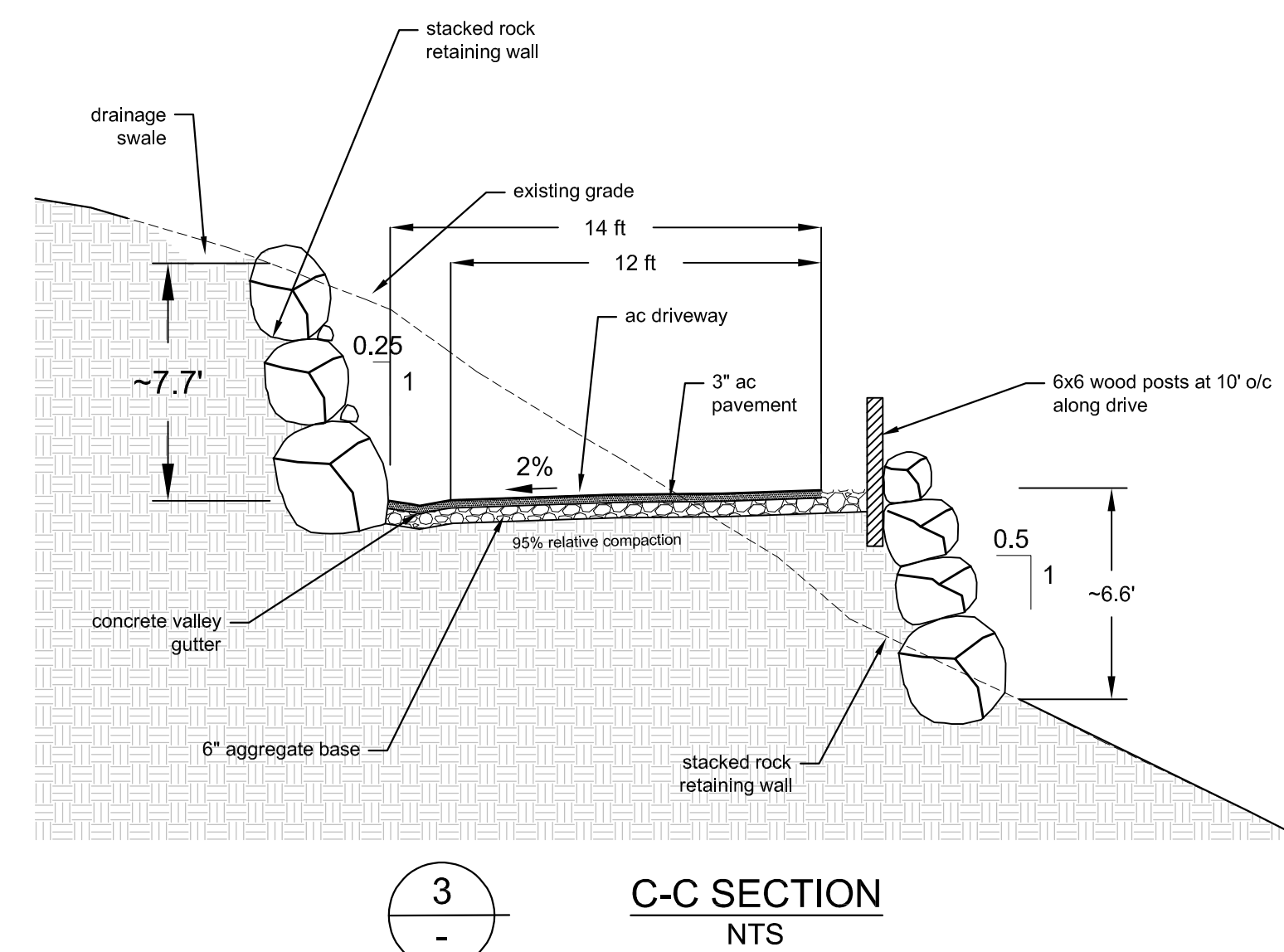
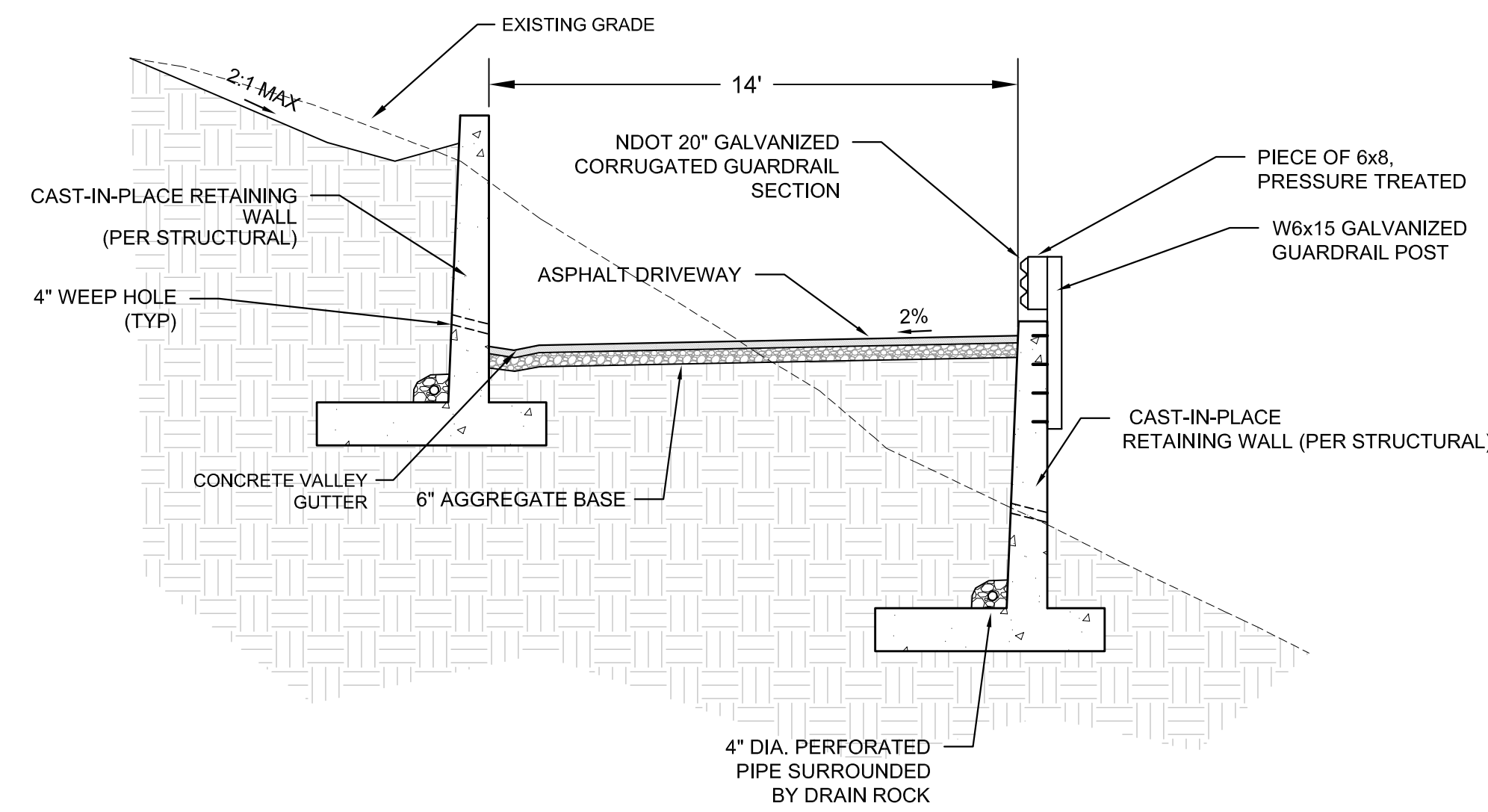
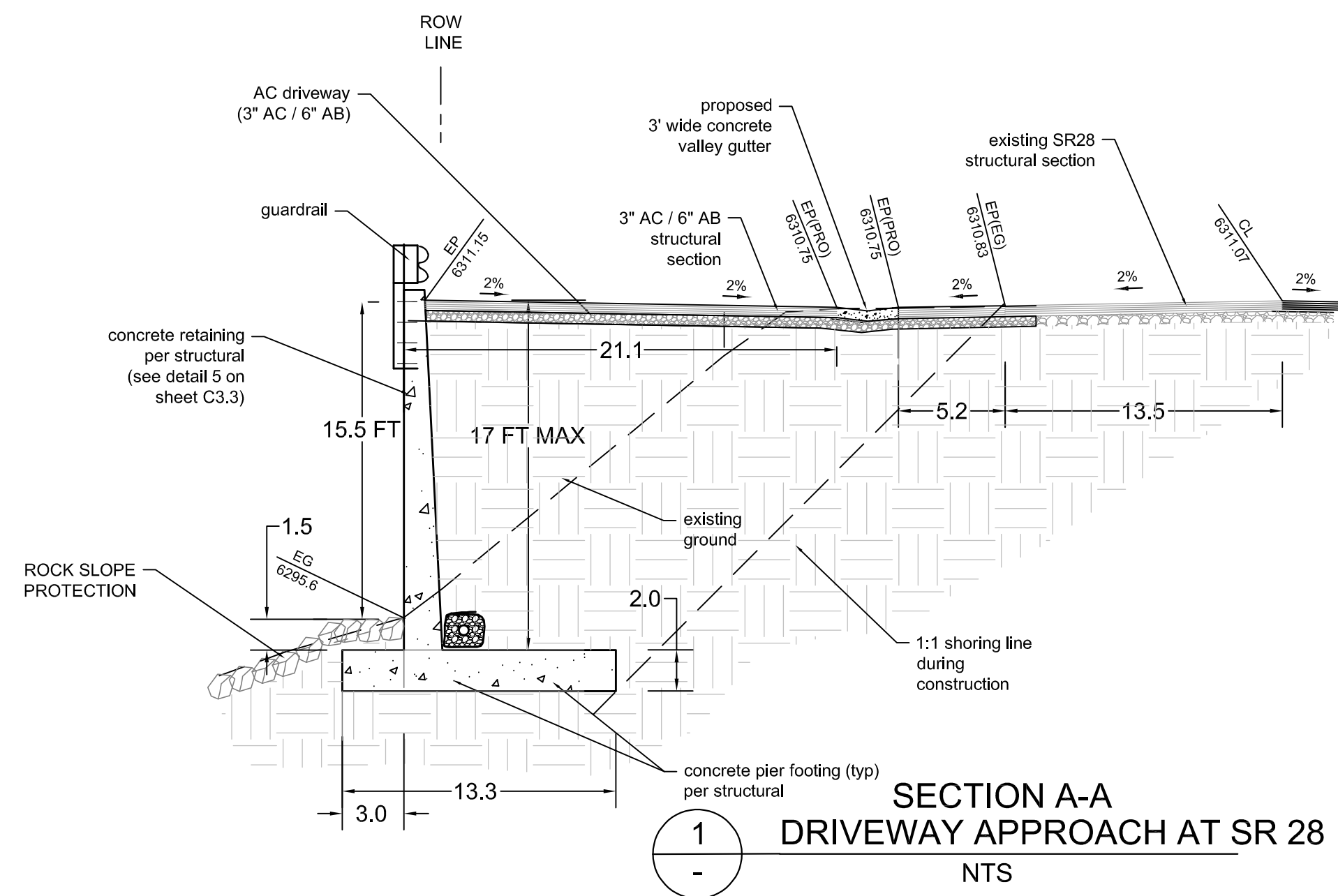
NEVADA

WASHOE COUNTY

COMP: _____ DESIGN: _____
DRWN: _____ PRJ.ENG: AT
PROJECT #: 17.022
SCALE: 1"=20'
HORIZONTAL: N/A
VERTICAL: N/A

DATE: 3-1-2023

C2.0



TRENCH SPECIFICATIONS

If the gas line is to be alone in the trench, the MINIMUM dimensions should be:

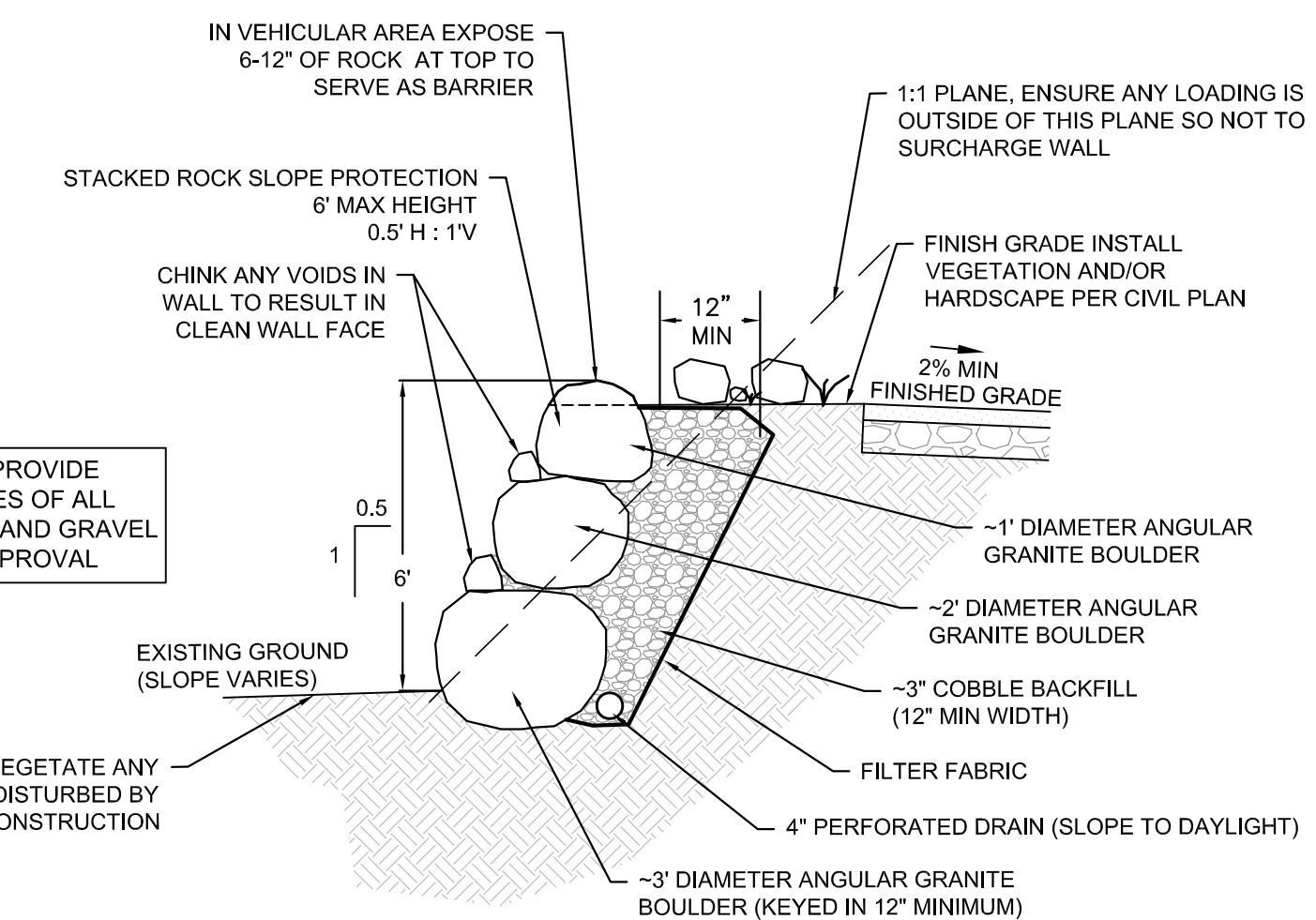
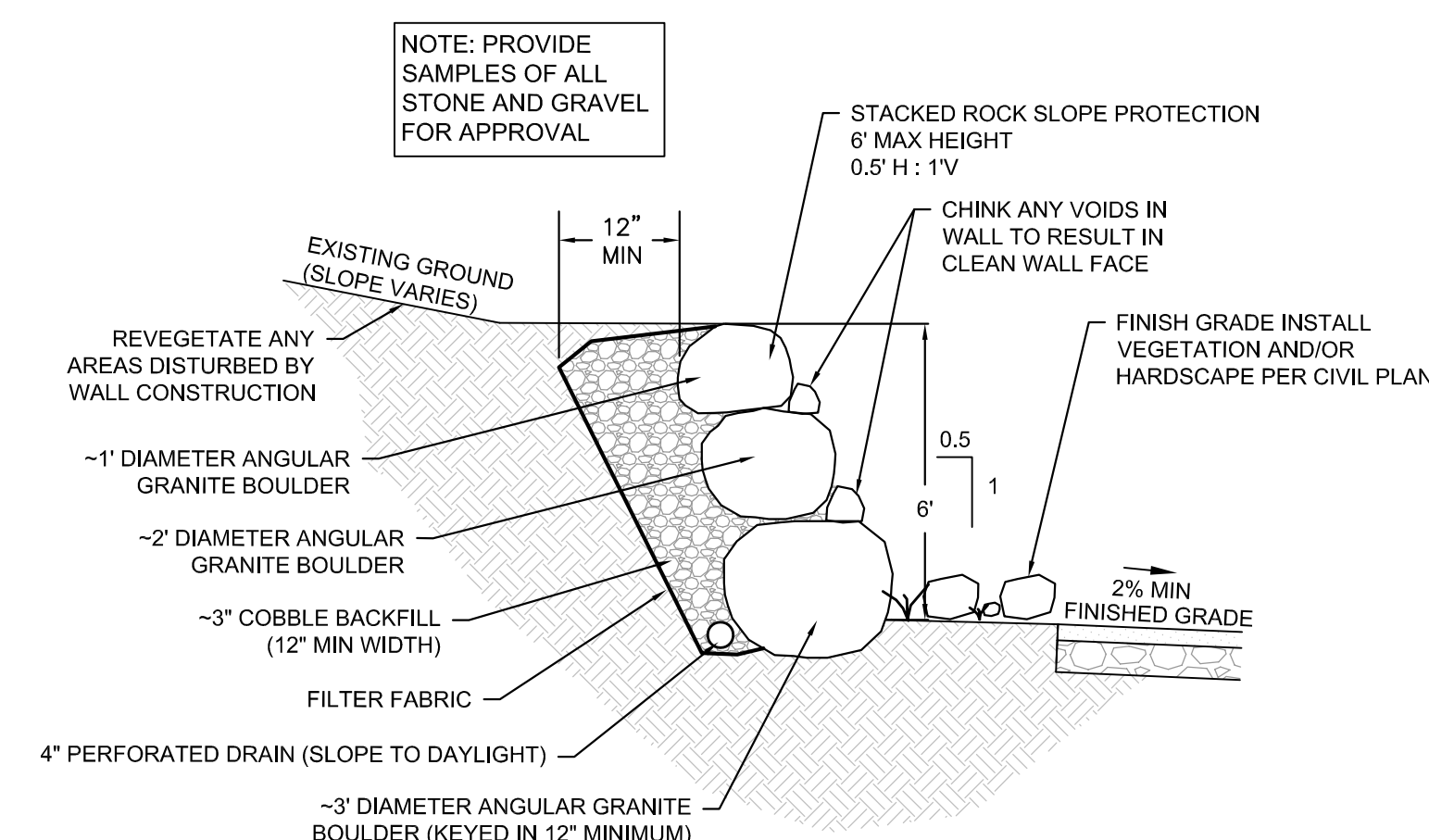
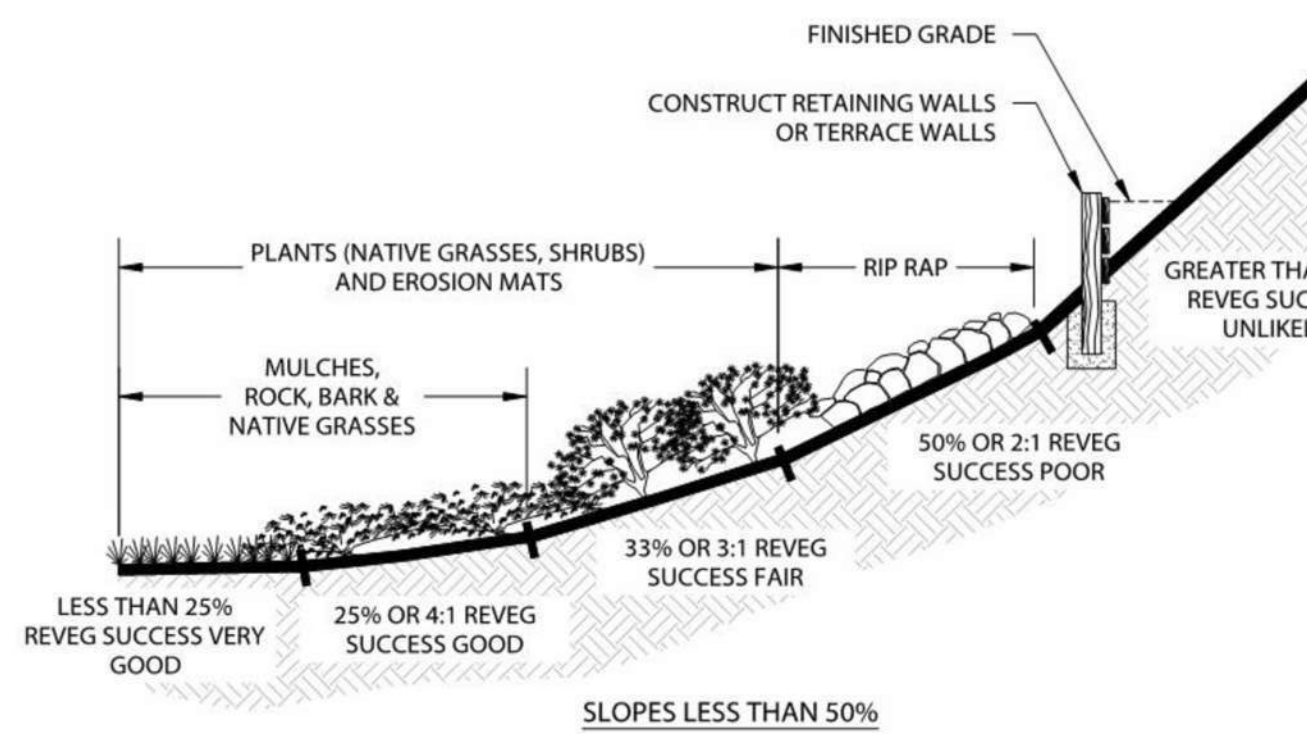
- Service Line (on property): 32" deep x 12" wide
- Main Line (off site): 44" deep x 12" wide

In cases where the builder would like to put other utilities in the same trench with gas, the trench MUST be provided, with the gas line installed last. MINIMUM dimensions should be:

- Service Line (on property): 43" deep x 12" wide
- Main Line (off site): 56" deep x 12" wide

GUIDELINES FOR JOINT TRENCH

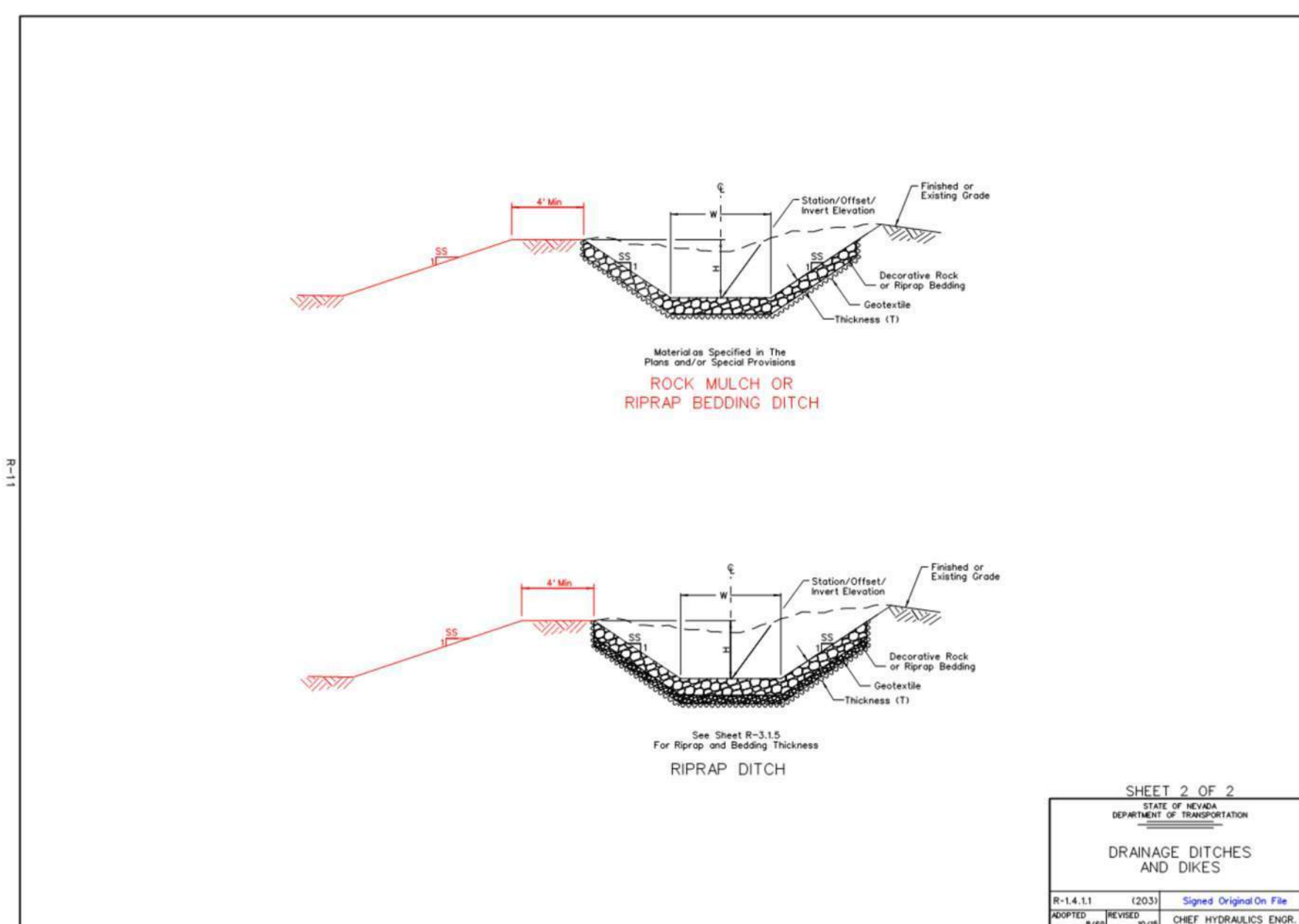
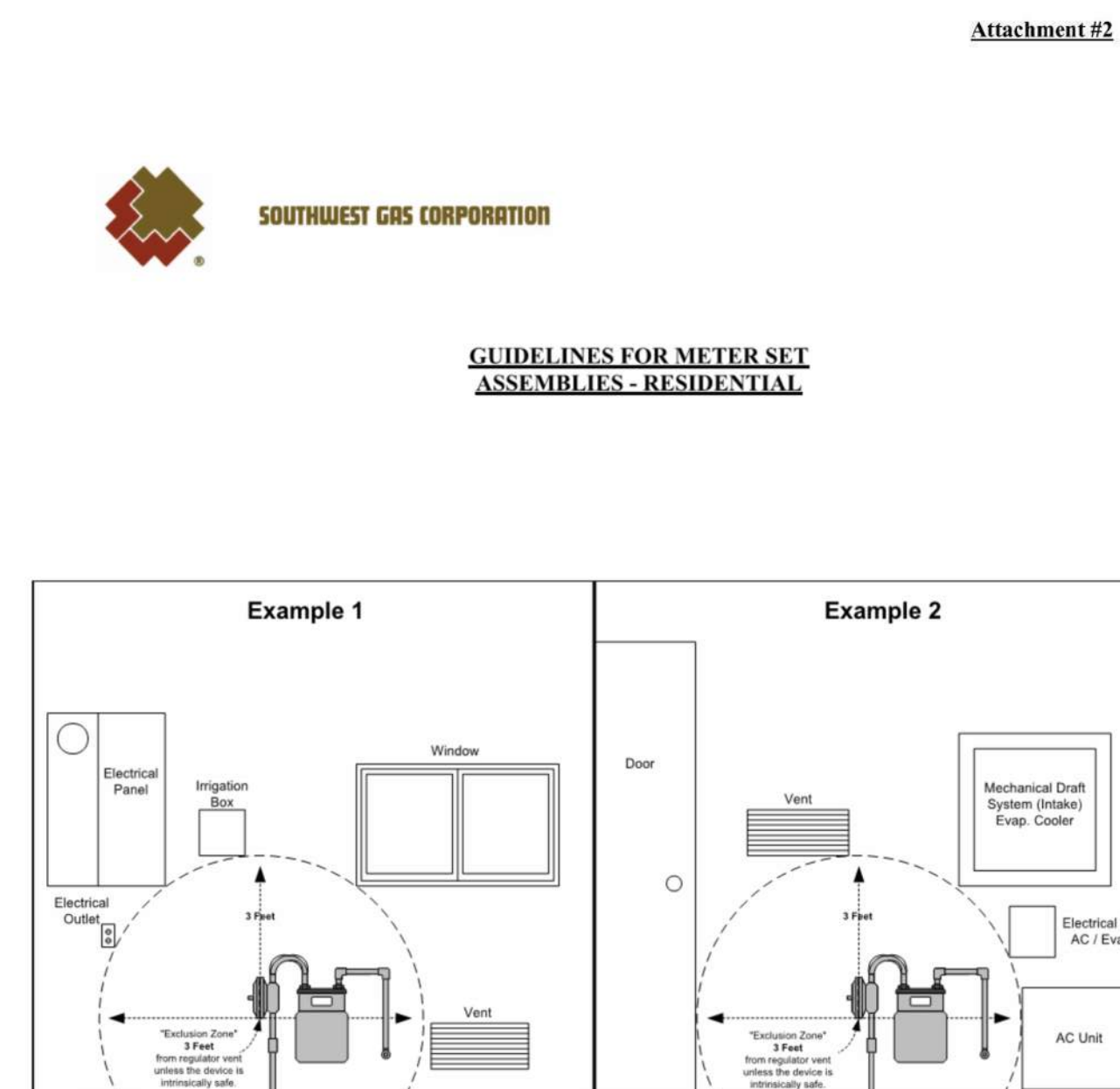
- All depths are from FINISHED or FINAL grade.
- Trenching should be done parallel or at the right angle to property lines for right-of-way whenever possible.
- Spoil should be a minimum of two feet from the trench.
- Gas lines and sewer lines CANNOT share a trench.
- A MINIMUM clearance of 12" is required between all utilities. Clearance may be horizontal or vertical.
- Gas MUST be the last utility in the trench.
- Some water companies will not allow their facilities to share a trench with gas. Contact your water company to confirm their policy.
- Southwest Gas provides 6" of bedding and shading material.
- The excavator is responsible for backfill, compaction, pavement or concrete cuts and repairs, permits, and BLUE STAKE unless otherwise agreed upon.



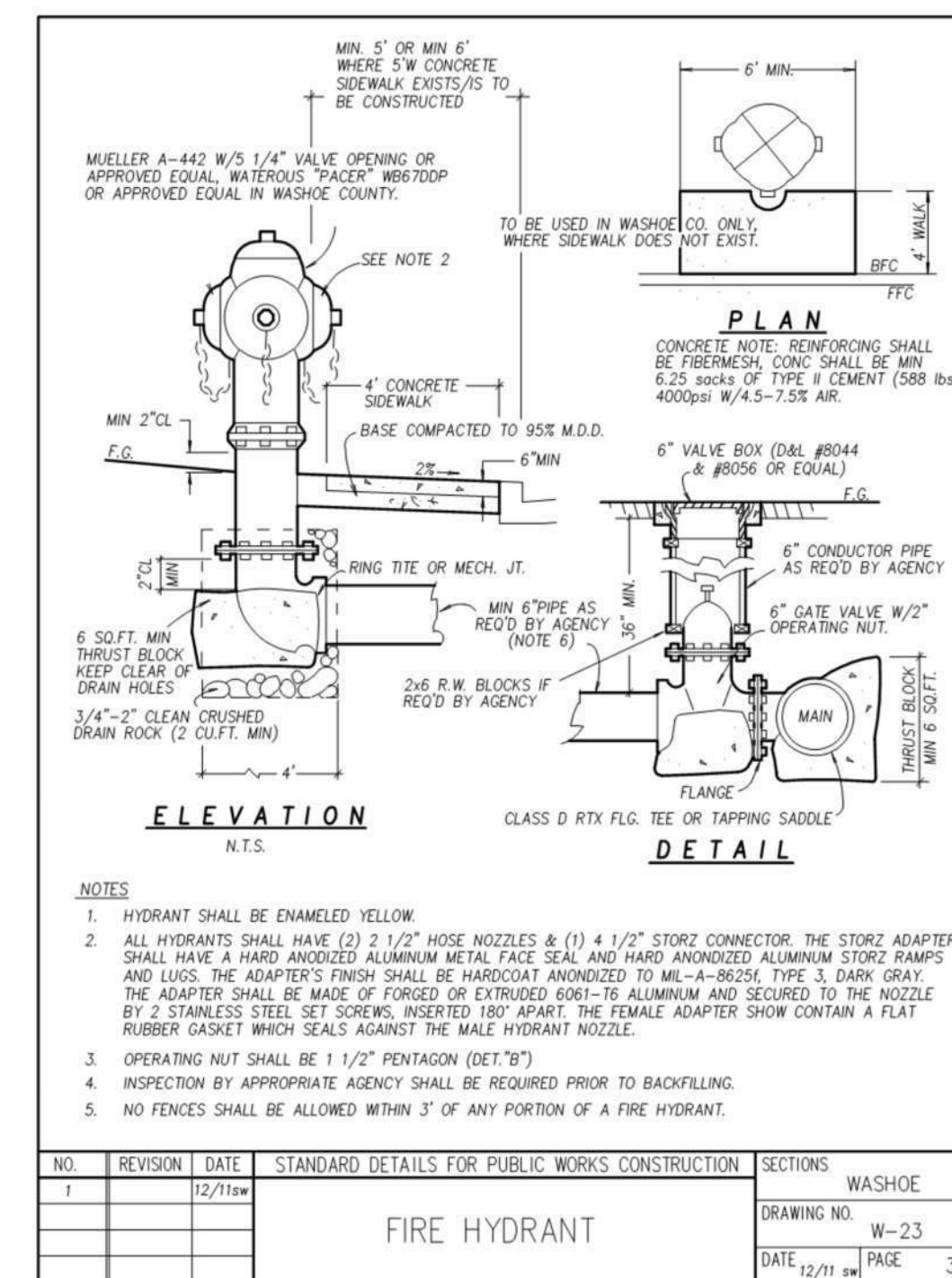
9 SLOPE STABILIZATION NTS

4 STACKED STONE WALL (~6' HIGH - CUT) NTS

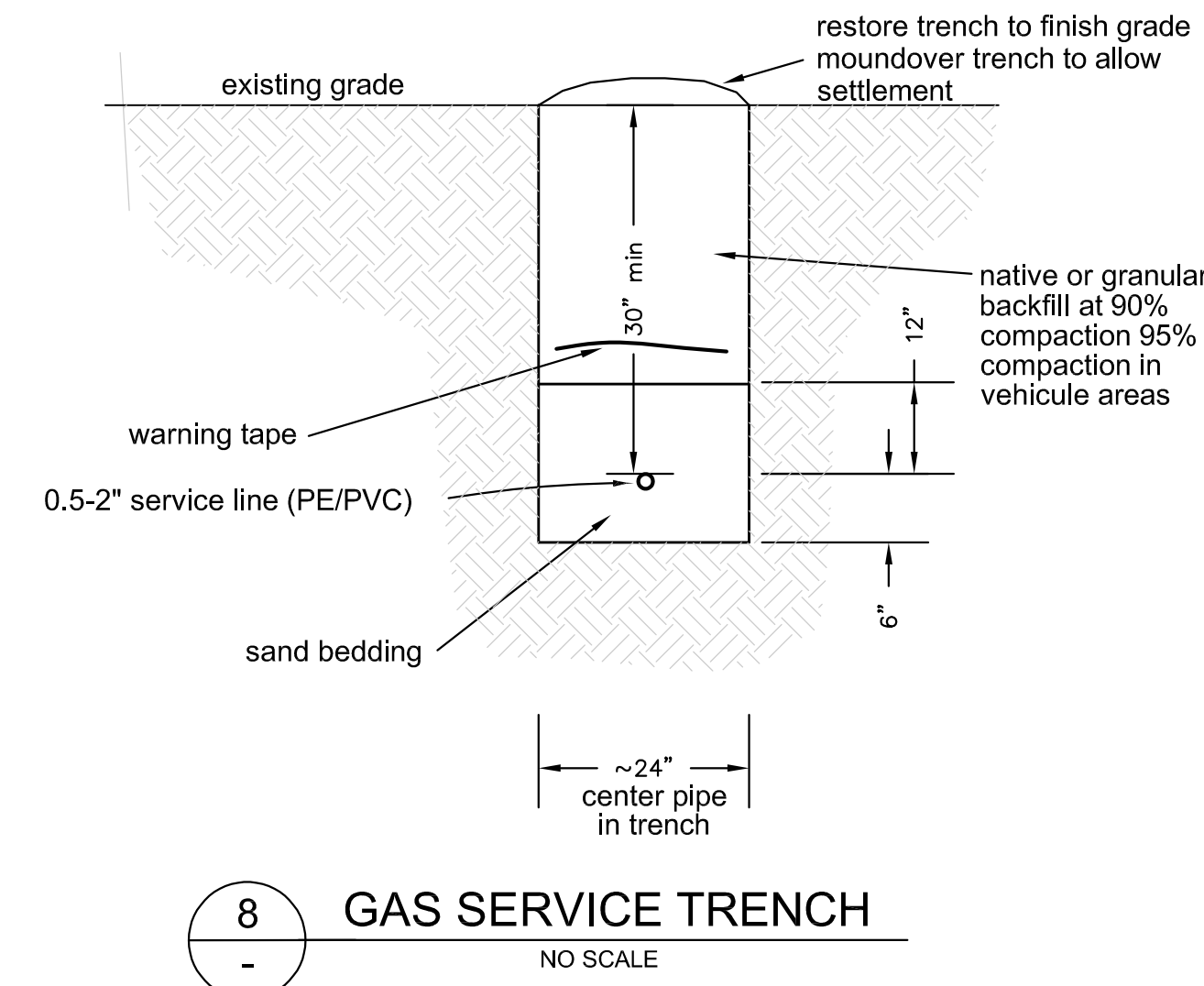
5 STACKED STONE WALL (~6' HIGH - FILL) NTS



6 RIPRAP DITCH

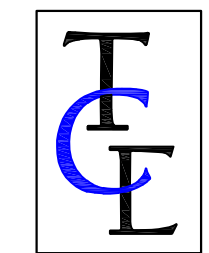


7 FIRE HYDRANT



8 GAS SERVICE TRENCH NO SCALE

DATE	
APPROVED	
DESCRIPTION	
REV.	DATE



TIESLAU CIVIL ENGINEERING, INC.
3080 NORTH LAKE BLVD
TAHOE CITY, CA 96145
P.O. BOX 412
TAHOE VISTA, CA 96145
TCETAHOE.COM
(530) 546-4805



TRPA AND WASHOE BUILDING DEPT APPROVAL PENDING

CIVIL DETAILS
449 LAKESHORE
APN 123-250-08

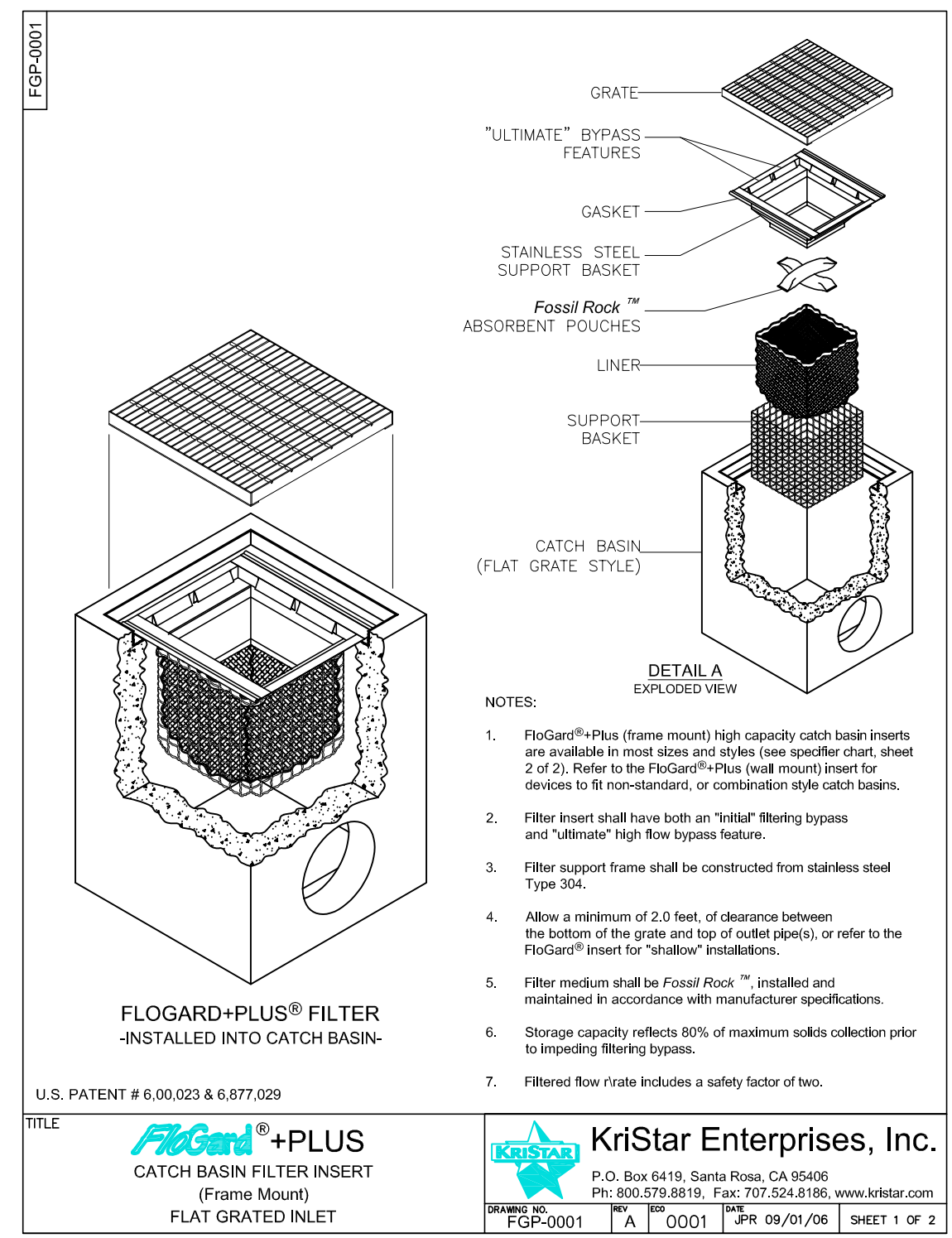
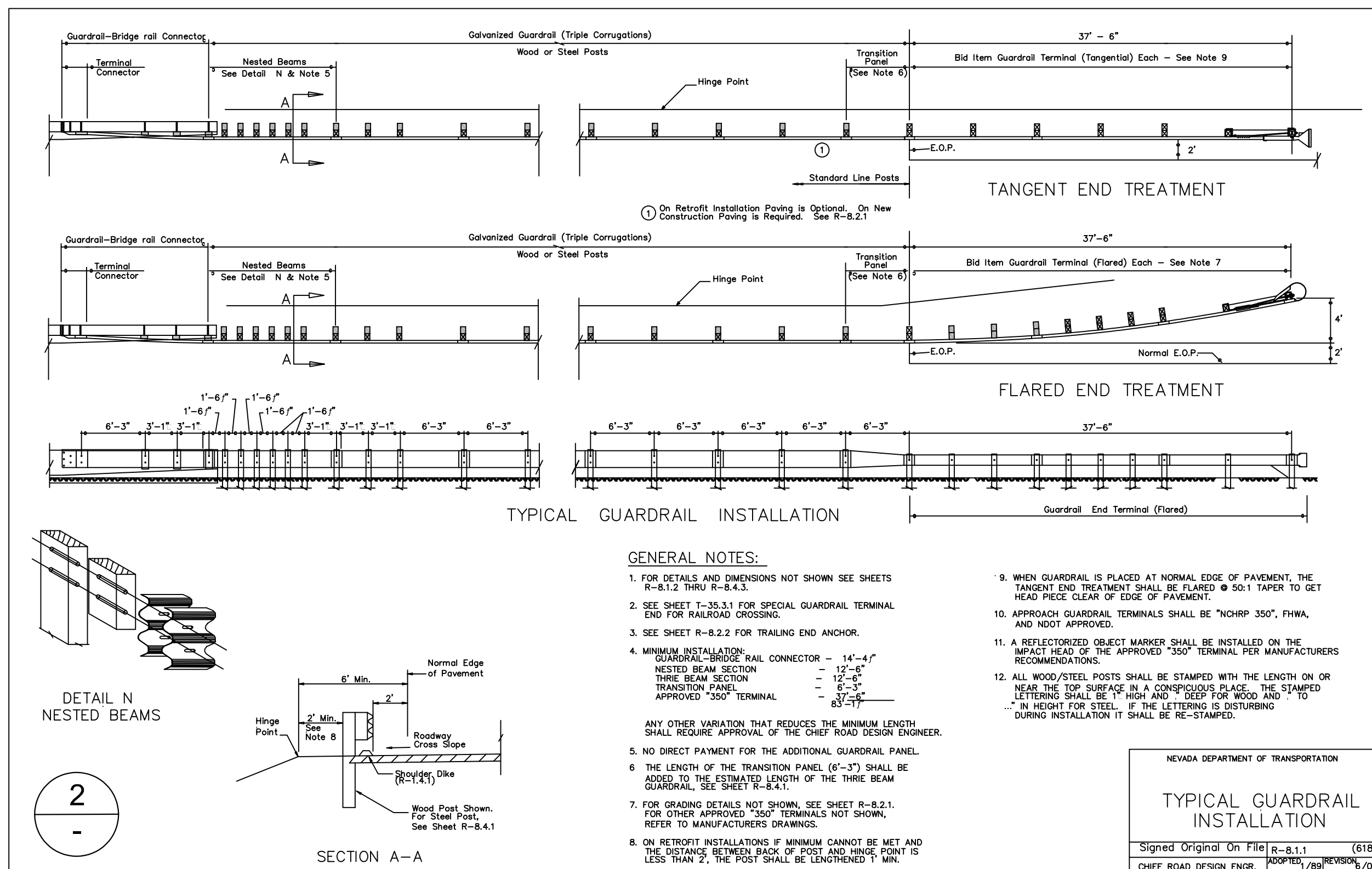
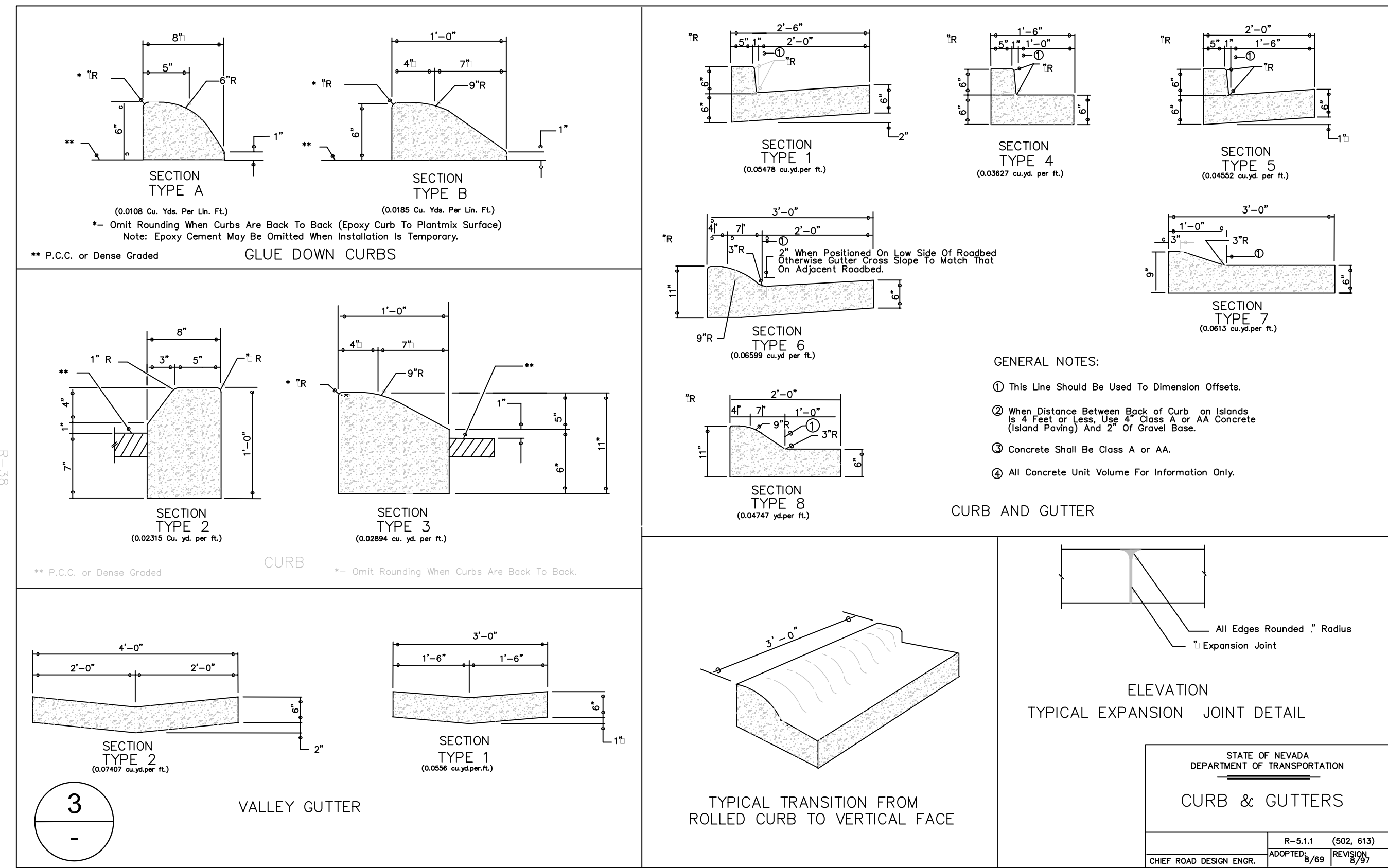
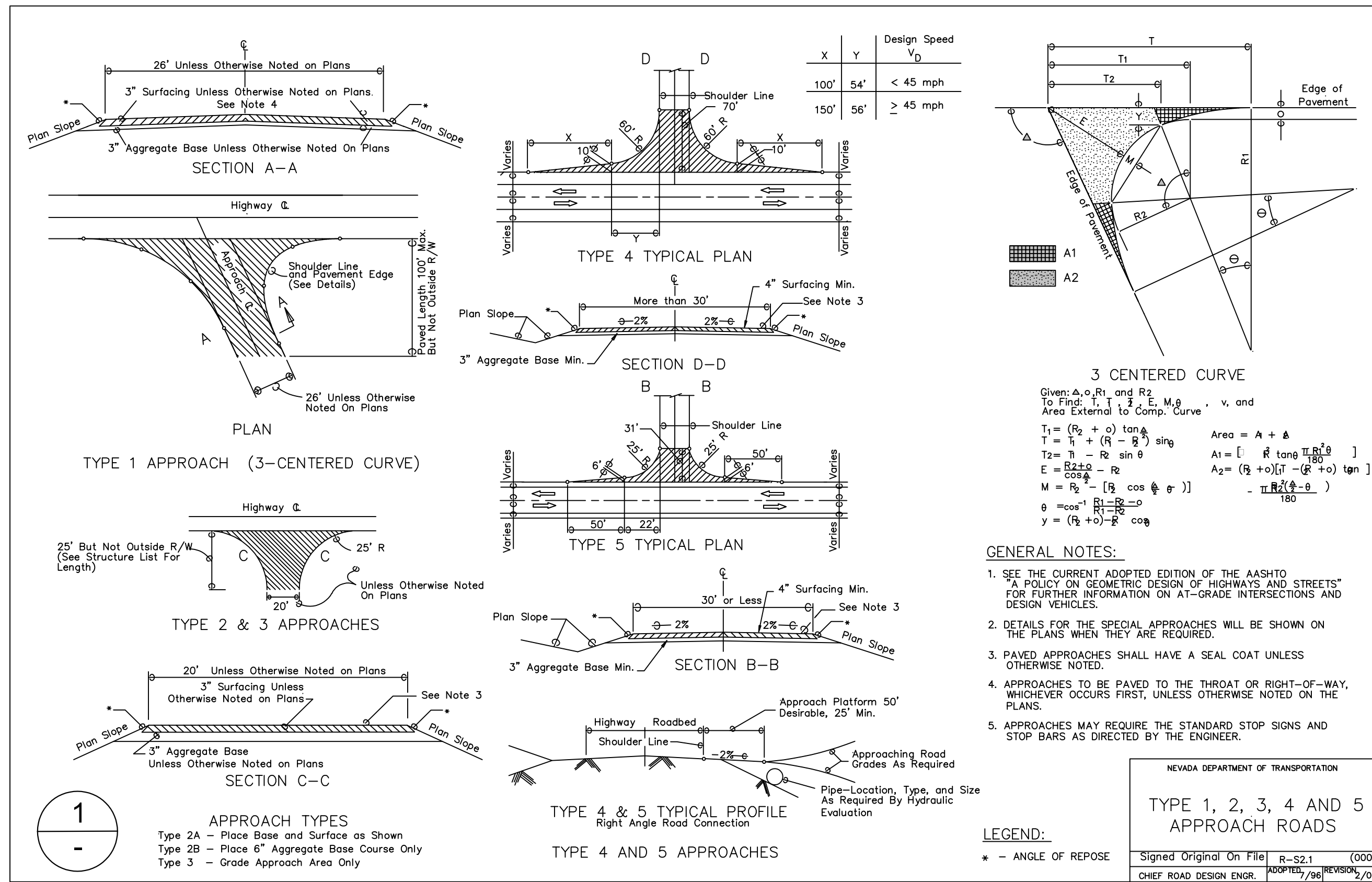
COMP: _____ DESIGN: _____
DRWN: _____ PRJ.ENG: AT
PROJECT #: 17.022
SCALE: HORIZONTAL: N/A
VERTICAL: N/A

DATE: 3-1-2023

C3.0

NEVADA

WASHOE COUNTY



DETAIL B SECTION VIEW FLOGARD+PLUS FILTER - INSTALLED
 "ULTIMATE" BYPASS FEATURE (LOWERS & OPENINGS) SEE DETAIL C
 DEPTH STANDARD = 20 INCHES
 SHALLOW = 12 INCHES
 *CUSTOM

DETAIL C "ULTIMATE" BYPASS FEATURES

SPECIFIER CHART
 (Data in these columns is the same for both STANDARD & SHALLOW models)
 (Data in these columns is the same for both STANDARD & SHALLOW models)

MODEL NO.	STANDARD & SHALLOW DEPTH				STANDARD DEPTH >20 INCHES		SHALLOW DEPTH 12 INCHES	
	INLET ID Inside Dimension (inch x inch)	GRATE OD Dimension (inch x inch)	TOTAL BYPASS CAPACITY (cu. ft.)	SOLIDS STORAGE CAPACITY (cu. ft.)	FILTERED FLOW CAPACITY (cu. ft./sec.)	MODEL NO.	SOLIDS STORAGE CAPACITY (cu. ft.)	FILTERED FLOW CAPACITY (cu. ft./sec.)
FGP-12F	12 X 12	12 X 14	2.8	0.3	0.4	FGP-12FB	.15	.25
FGP-1530F	15 X 30	15 X 35	6.9	2.3	1.6	FGP-1530FB	1.3	.9
FGP-16F	16 X 16	16 X 19	4.7	0.8	0.7	FGP-16FB	.45	.4
FGP-1624F	16 X 24	16 X 26	5.0	1.5	1.2	FGP-1624FB	.85	.7
FGP-18F	18 X 18	18 X 20	4.7	0.8	0.7	FGP-18FB	.45	.4
FGP-1820F	18 X 18	18 X 21	5.9	2.1	1.4	FGP-1820FB	1.2	.8
FGP-1824F	18 X 22	18 X 24	5.0	1.5	1.2	FGP-1824FB	.85	.7
FGP-1836F	18 X 36	18 X 40	6.9	2.3	1.6	FGP-1836FB	1.3	.9
FGP-2024F	18 X 22	20 X 24	5.9	1.2	1.0	FGP-2024FB	.7	.55
FGP-21F	22 X 22	22 X 24	6.1	2.2	1.5	FGP-21FB	1.25	.85
FGP-2142F	21 X 40	24 X 40	9.1	4.3	2.4	FGP-2142FB	2.45	1.35
FGP-2148F	19 X 46	22 X 48	9.8	4.7	2.6	FGP-2148FB	2.7	1.5
FGP-24F	24 X 24	24 X 27	6.1	2.2	1.5	FGP-24FB	1.25	.85
FGP-2430F	24 X 30	26 X 30	7.0	2.8	1.8	FGP-2430FB	1.6	1.05
FGP-2436F	24 X 36	24 X 40	8.0	3.4	2.0	FGP-2436FB	1.95	1.15
FGP-2448F	24 X 48	26 X 48	9.3	4.4	2.4	FGP-2448FB	2.5	1.35
FGP-28F	28 X 28	32 X 32	6.3	2.2	1.5	FGP-28FB	1.25	.85
FGP-2440F	24 X 36	28 X 40	8.3	4.2	2.3	FGP-2440FB	2.4	1.3
FGP-30F	30 X 30	30 X 34	8.1	3.6	2.0	FGP-30FB	2.05	1.15
FGP-36F	36 X 36	36 X 40	9.1	4.6	2.4	FGP-36FB	2.65	1.35
FGP-3648F	36 X 48	40 X 48	11.5	6.8	3.2	FGP-3648FB	3.9	1.85
FGP-48F	48 X 48	48 X 54	13.2	9.5	3.9	FGP-48FB	5.45	2.25
FGP-SD24F	24 X 24	28 X 28	6.1	2.2	1.5	FGP-SD24FB	1.25	.85
FGP-1836FGO	18 X 36	20 X 40	6.9	2.3	1.6	FGP-1836FGO	1.3	.9
FGP-2436FGO	20 X 36	24 X 40	8.0	3.4	2.0	FGP-2436FGO	1.95	1.15
FGP-48FGO	18 X 48	20 X 54	6.3	2.2	1.5	FGP-48FGO	1.25	.85

U.S. PATENT # 6,000,023 & 6,877,029
Flogard+PLUS
 CATCH BASIN FILTER INSERT
 (Frame Mount)
 FGP-0001

KriStar Enterprises, Inc.
 P.O. Box 6419, Santa Rosa, CA 95408
 PH: 800.579.8819, Fax: 707.524.8186, www.kristar.com

REV.	DATE	DESCRIPTION	APPROVED

TIESLAU CIVIL ENGINEERING, INC.
 3080 NORTH LAKE BLVD
 TAHOE CITY, CA 96145
 P.O. BOX 412
 TAHOE VISTA, CA 96145
 TCTAHOE.COM
 (530) 546-4805



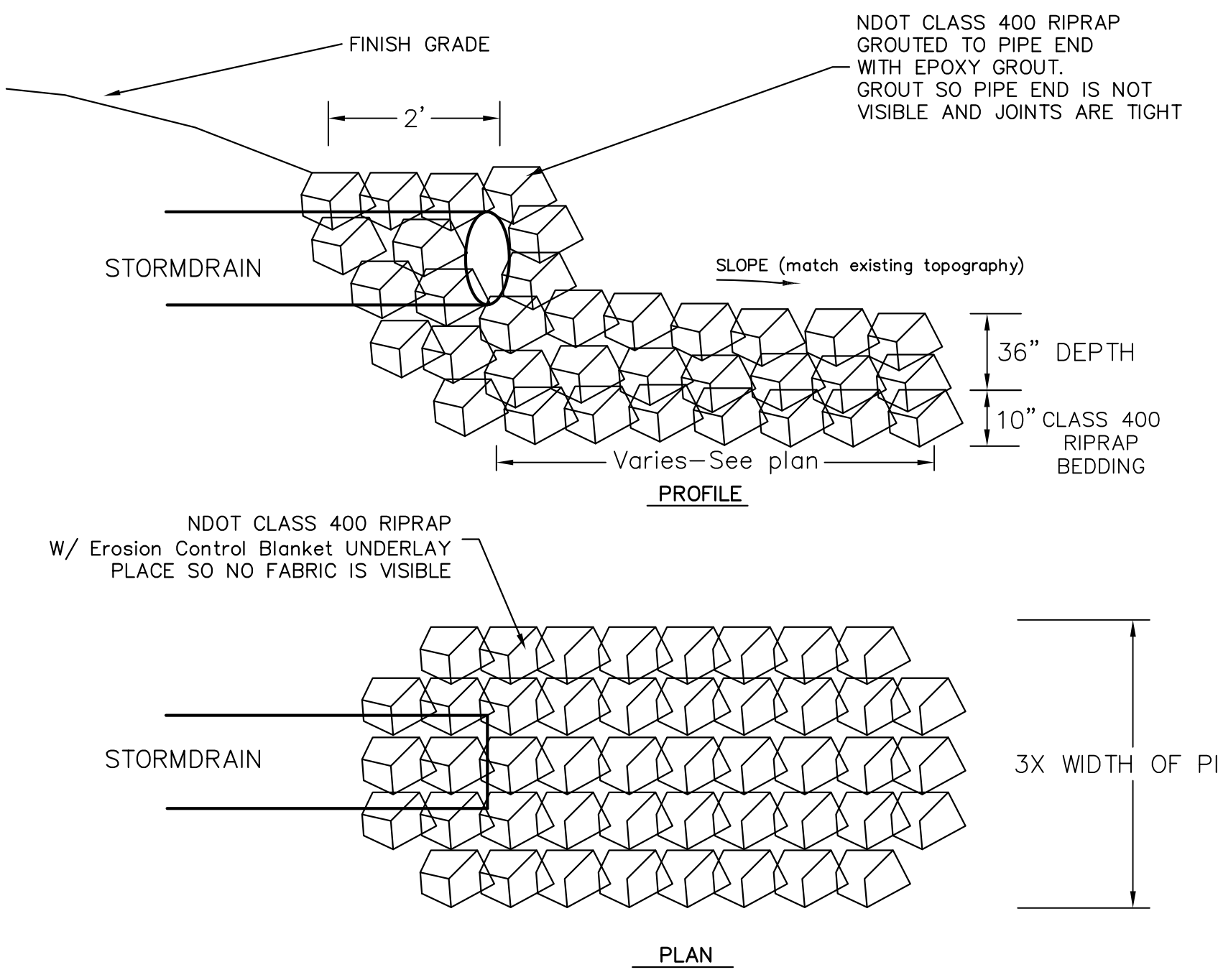
TRPA AND WASHOE BUILDING DEPT APPROVAL PENDING

CIVIL DETAILS
449 LAKESHORE
APN 123-250-08

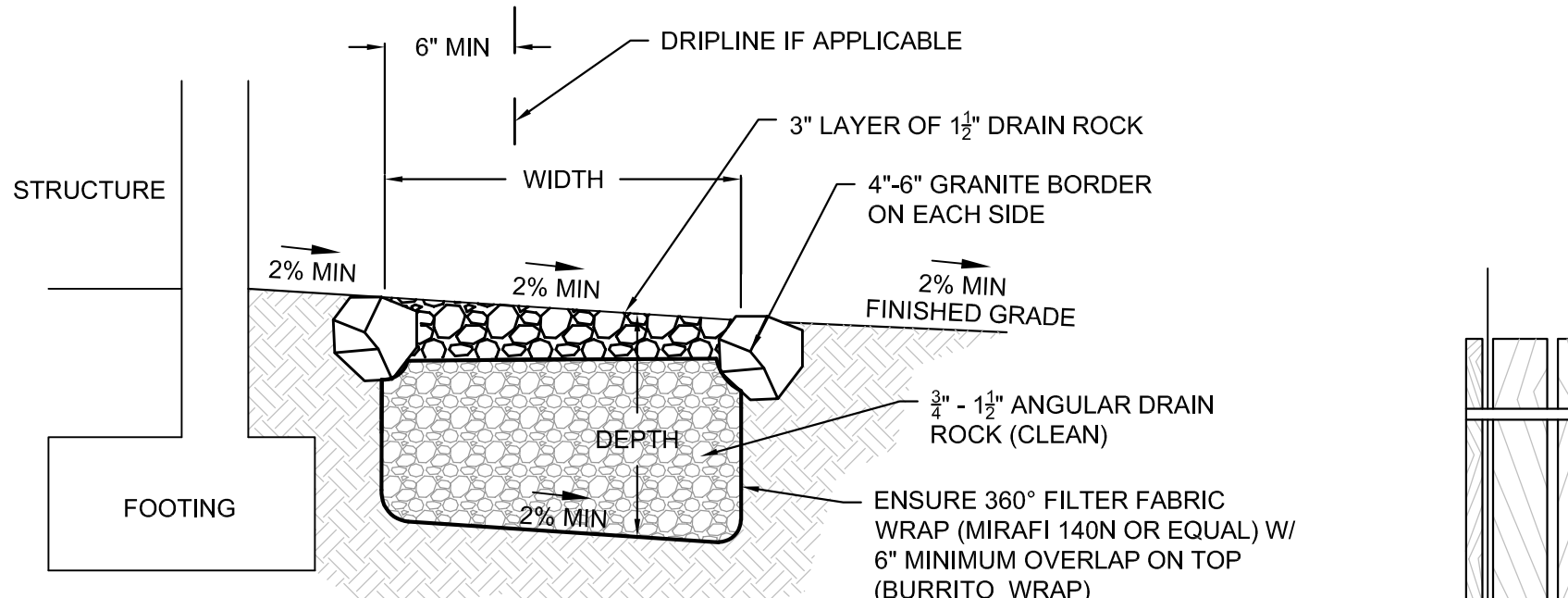
COMP: _____ DESIGN:
 DRWN: _____ PRJ.ENG: AT

PROJECT #: 17.022
 SCALE: HORIZONTAL: N/A
 VERTICAL: N/A

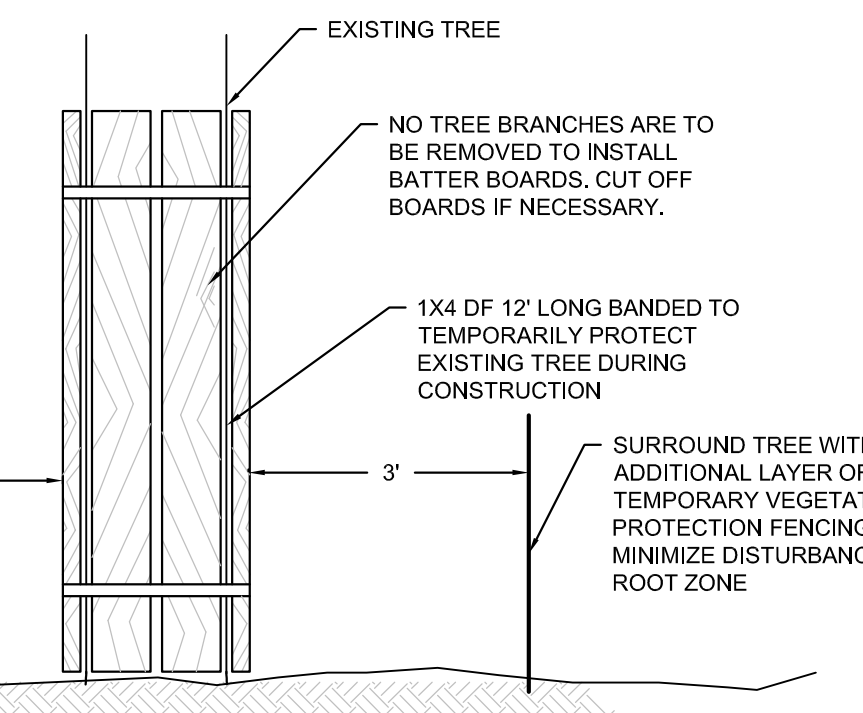
DATE: 3-1-2023



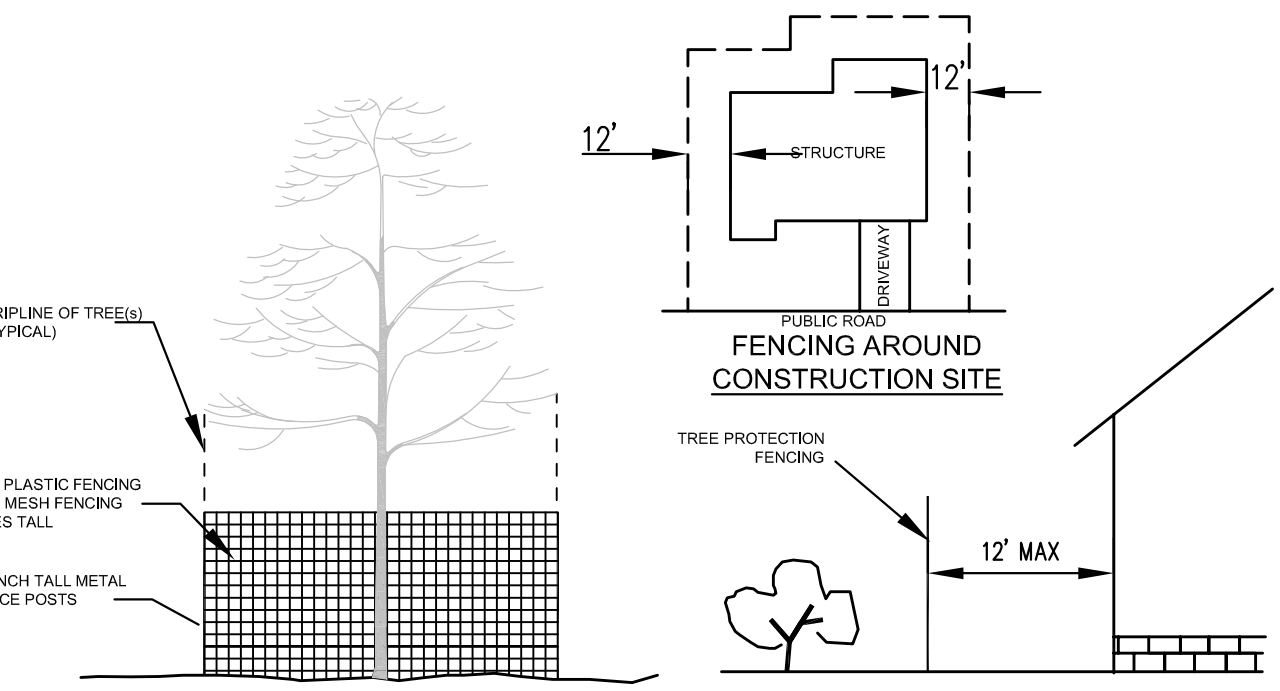
1 ENERGY DISSIPATOR
NO SCALE



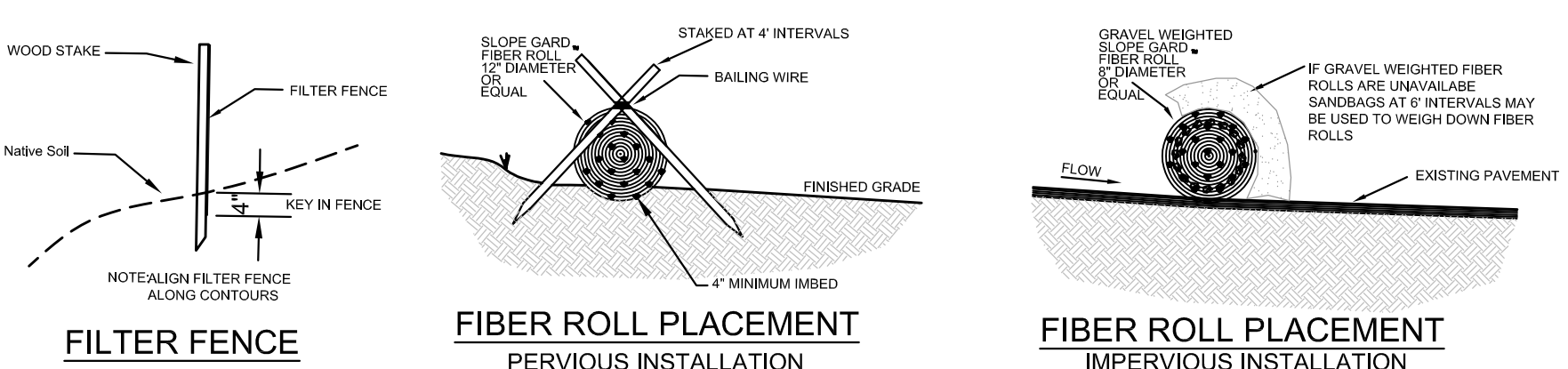
2 DRIPLINE INFILTRATION TRENCH
NTS



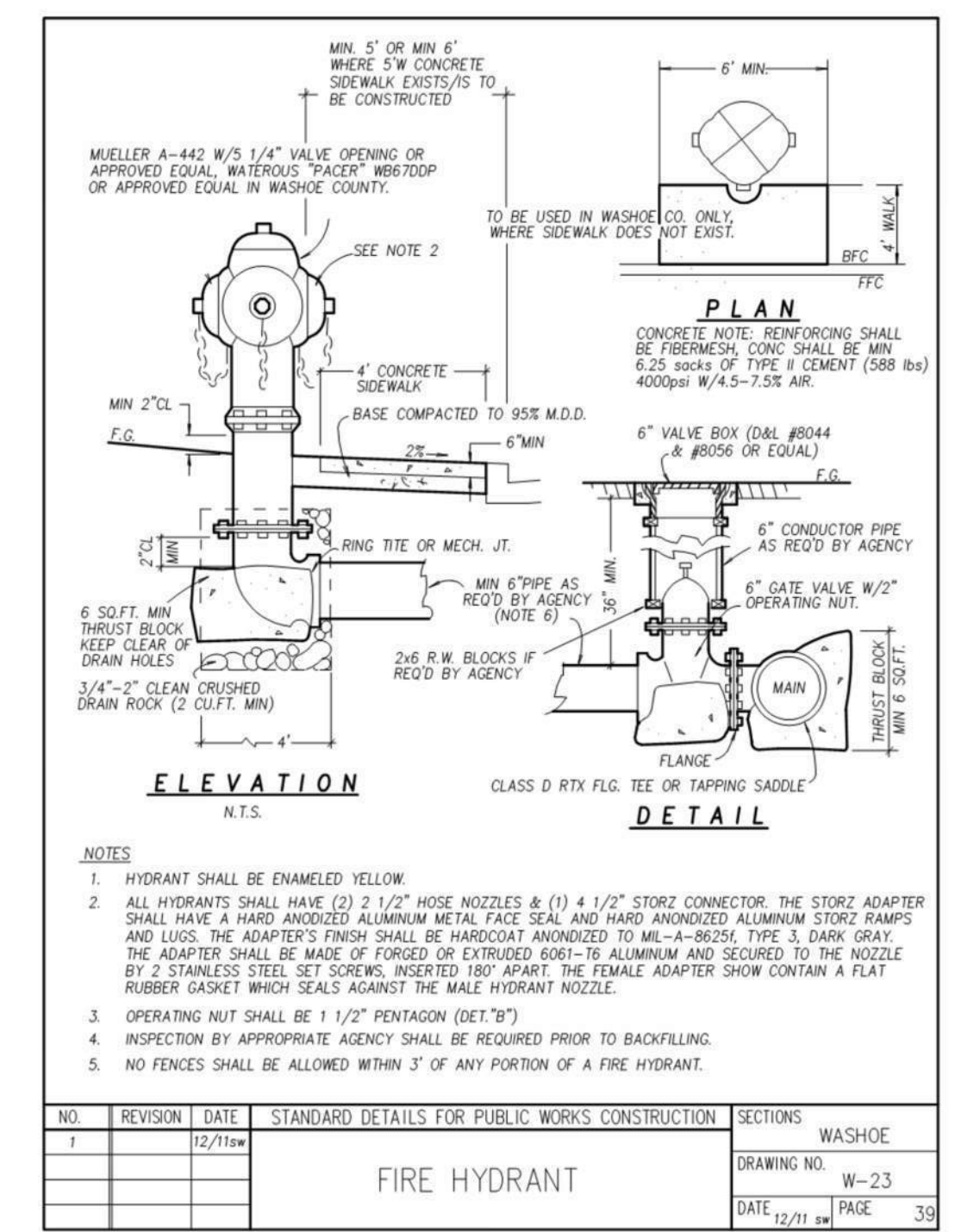
6 TREE PROTECTION FOR CONSTRAINED CONSTRUCTION AREAS
NTS



VEGETATION PROTECTION FENCING



7 SOIL PROTECTION DETAILS
NTS



9 FIRE HYDRANT

NOTE: LOCATE 0.5 IN. TRANSVERSE EXPANSION JOINTS AT 20 FT. INTERVALS AT ALL CURB RETURNS AND OTHER TRANSITION POINTS. WEAKENED PLANE JOINTS SHALL BE INSTALLED WITH A CONCRETE TOOL AT 5 FT. INTERVALS, 1.5 IN. DEEP. ALL EDGES OF JOINTS SHALL BE ROUNDED. ALL CONCRETE TO BE CLASS "A".

4 24" CONCRETE VALLEY GUTTER
NTS

TRENCH WIDTHS	1 STORY	2 STORY	3 STORY
	18" MIN	24" MIN	30" MIN

- NOTES:
- LENGTH, WIDTH, AND DEPTH OF INFILTRATION TRENCHES SHALL BE DESIGNED TO STORE THE 20-YEAR 1-HOUR STORM EVENT. THE BMP CALCULATION SPREADSHEET AVAILABLE AT WWW.TAHOEBMP.ORG MAY BE USED TO SIZE INFILTRATION TRENCHES.
 - PROPRIETARY PRODUCTS MAY BE USED TO PROVIDE ADDITIONAL STORAGE CAPACITY RELATIVE TO DRAIN ROCK. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
 - FIRE DEFENSIBLE SPACE GUIDELINES FOR LAKE TAHOE RECOMMEND A 5' NON-COMBUSTIBLE ZONE AROUND THE BUILDING PERIMETER. SEE "LIVING WITH FIRE" AT WWW.LIVINGWITHFIRE.INFO



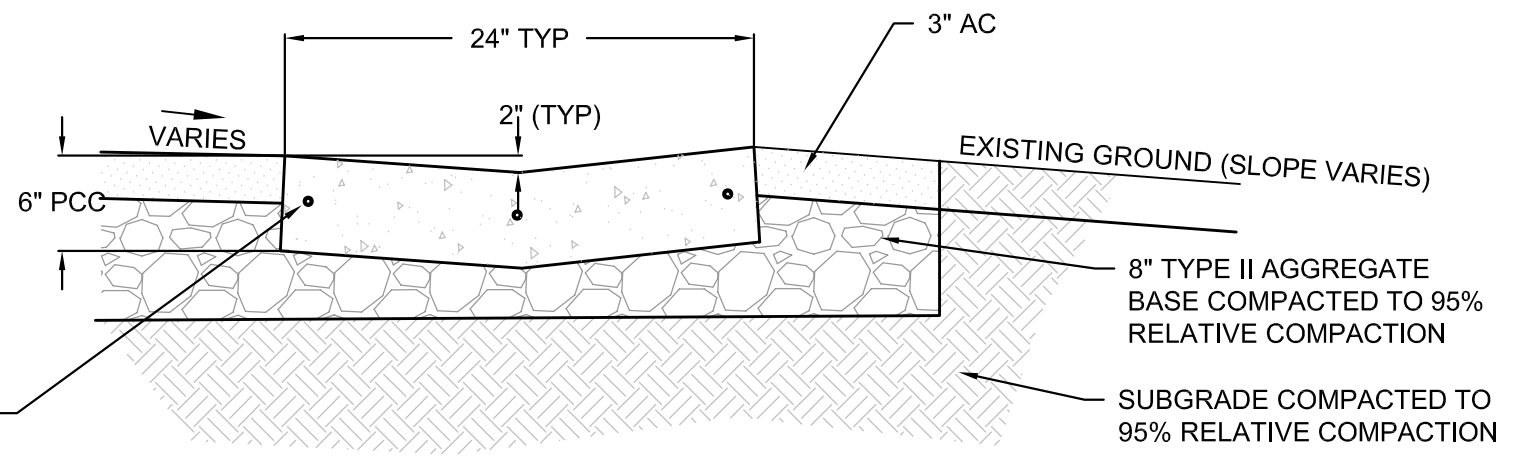
8 TRPA STEPPED INFILTRATION TRENCH
N.T.S.

3 TYPICAL STORM DRAIN PIPE
NTS

	A1	A2	O	A3
Drainage Area (ft ²)	18865	3035	1563	2235
Culvert Diameter (ft)	1.5	1	1	1
Runoff Coefficient	0.9	0.9	0.9	0.9
Discharge (cfs)	2.343	0.377	0.194	0.278
Tailwater Depth (ft)	0.05	0.05	0.05	0.05
Recommended Riprap Size (D ₅₀ inches)	8.5927	1.2910	0.5329	0.8585
Design Riprap Size (D ₅₀ inches)	10	6	6	6
Adequately Sized?	YES	YES	YES	YES

FHWA Riprap Class	5	1	1	1
Min Apron Length	6 ft	6 ft	6 ft	6 ft
Min Apron Depth	2 ft	2 ft	2 ft	2 ft
Min Width	9 ft	9 ft	9 ft	9 ft

ROCK ENERGY DISSIPATOR CALCULATIONS



NOTE: ENSURE 1% MINIMUM LONGITUDINAL SLOPE AND ENSURE SWALE BOTTOM IS BELOW THE LOW SIDE OF SWALE TO ENSURE FLOW DOESN'T BYPASS SWALE

BMP Calculation Spreadsheet

Estimated Soil Erosion Savings of 161.7 pounds per year by doing your BMPs. Soil erosion is estimated by the treatment volume multiplied by a 250 mg/l concentration plus contributions of source control and deck treatments calculated with the USLE.

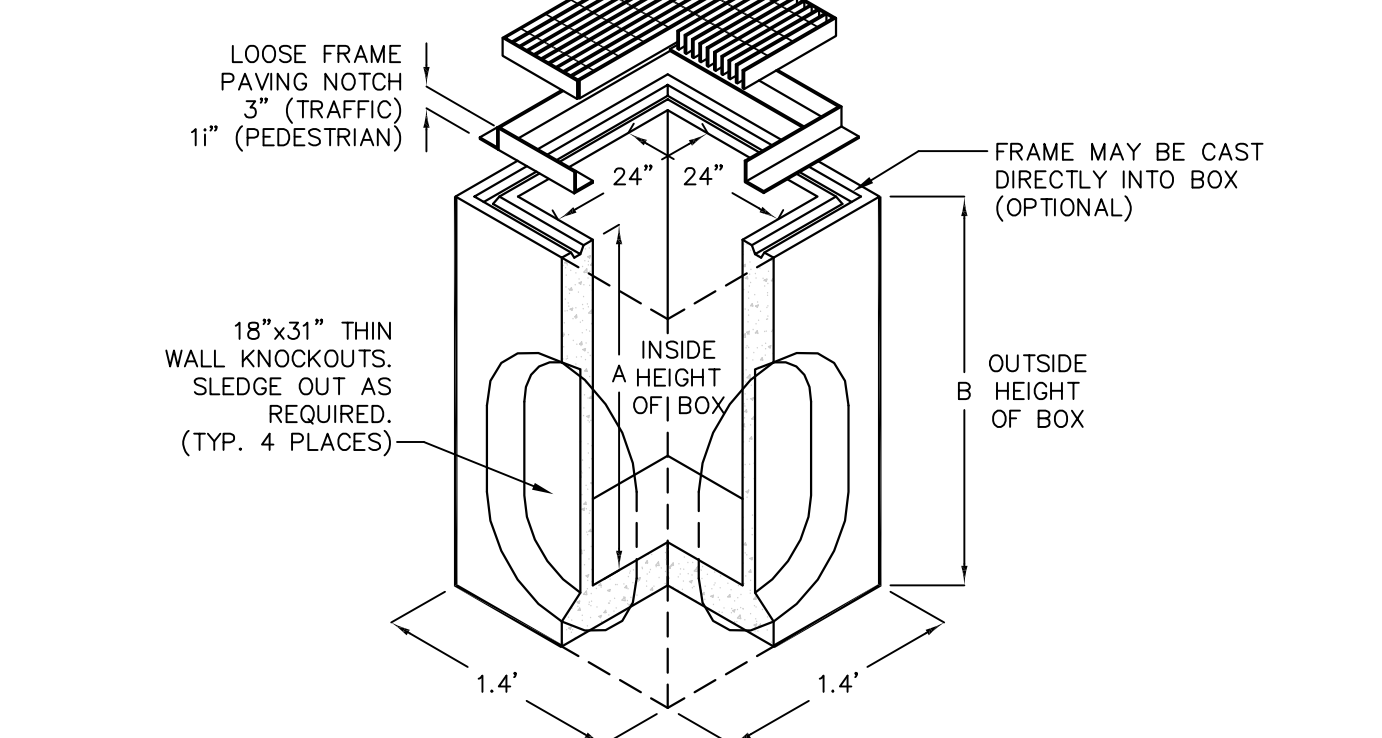
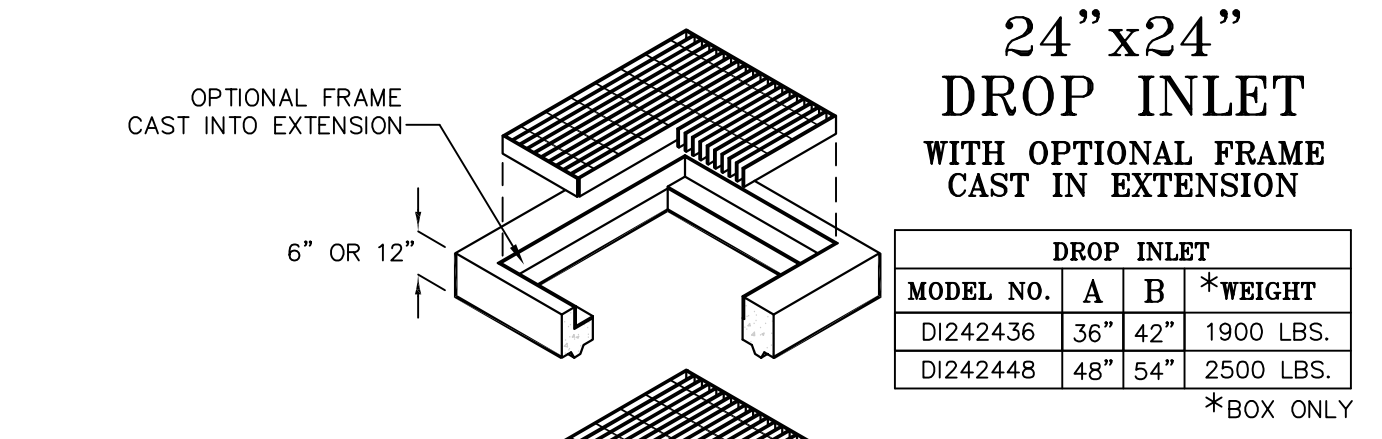
Property Address: APN: 123-250-08, Water Table: >5ft, MAP DATA: ON/ST/DP/PH, Total Drain Rock Quantity (yd³): 35.3

Date: 4/16/18, Restriction: 15 in, Total Runoff (ft³): 6668, Amount Treated (yd³): 1391.1

Designed By: AT, Max. Depth of Install: 15 in, Map Unit: 7413, Total Excavation (yd³): 173.1

Contributing Surface	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
# of Storm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Length (ft)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Width (ft)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Area (ft ²)	436	751	46	562	575	2362	283	218	142	0	295	6273	2211	0	820	1190
Runoff (ft ³)	66.3	62.6	3.8	49.3	47.8	188.5	23.6	18.2	11.6	0.0	24.6	522.8	136.3	767.6	65.3	99.2
Effective Volume (yd ³)	31.0	36.0	4.0	14.0	24.0	69.0	8.0	15.0	7.0	18.0	1050.0	450.0	0.0	140.0	300.0	0.0
Depth (ft)	24	24	18	42	24	36	48	24	24	24	12	12	12	12	12	12
On-Site Ksat (ft/d)	4	10	6	14	12	14	14	6	10	6	6	6	6	6	6	6
Predeposited Ksat (ft/d)	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
Average Void Space (%)	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%
Effective Volume (yd ³)	0.0	2.2	0.1	2.1	1.8	8.6	1.0	0.8	0.4	0.0	5.7	0.2	0.1	0.0	0.0	0.0
Treatment Capacity (yd ³)	0.0	67.8	4.7	61.2	48.4	219.2	34.7	23.8	13.1	0.0	38.3	488.8	213.8	712.6	66.5	142.5
Drain Rock Quantity (yd ³)	0.0	2.2	0.1	2.1	1.8	8.6	1.0	0.8	0.4	0.0	5.7	0.2	0.1	0.0	0.0	0.0
Excess Runoff (ft ³)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Excess Capacity (ft ³)	4.8	4.9	0.8	1.8	1.5	11.7	1.2	4.4	1.3	0.0	3.7	0.0	0.0	0.0	0.0	0.0

STORMWATER CALCULATIONS (20 YEAR-1 HOUR STORM)



MODEL NO.	A	B	*WEIGHT
DI242436	36"	42"	1900 LBS.
DI242448	48"	54"	2500 LBS.

*BOX ONLY

5 DRAINAGE INLET

TIESLAU CIVIL ENGINEERING, INC.
3080 NORTH LAKE BLVD
TAHOE CITY, CA 96145
P.O. BOX 412
TAHOE VISTA, CA 96145
TCTAHOE.COM
(530) 546-4805

ADRIAN TIESLAU CIVIL
PROFESSIONAL ENGINEER - STATE OF NEVADA
LICENSE NO. 14886

TRPA AND WASHOE BUILDING DEPT APPROVAL PENDING

CIVIL DETAILS
449 LAKESHORE
APN 123-250-08

COMP: _____ DESIGN: _____
DRWN: _____ PRJ.ENG: AT

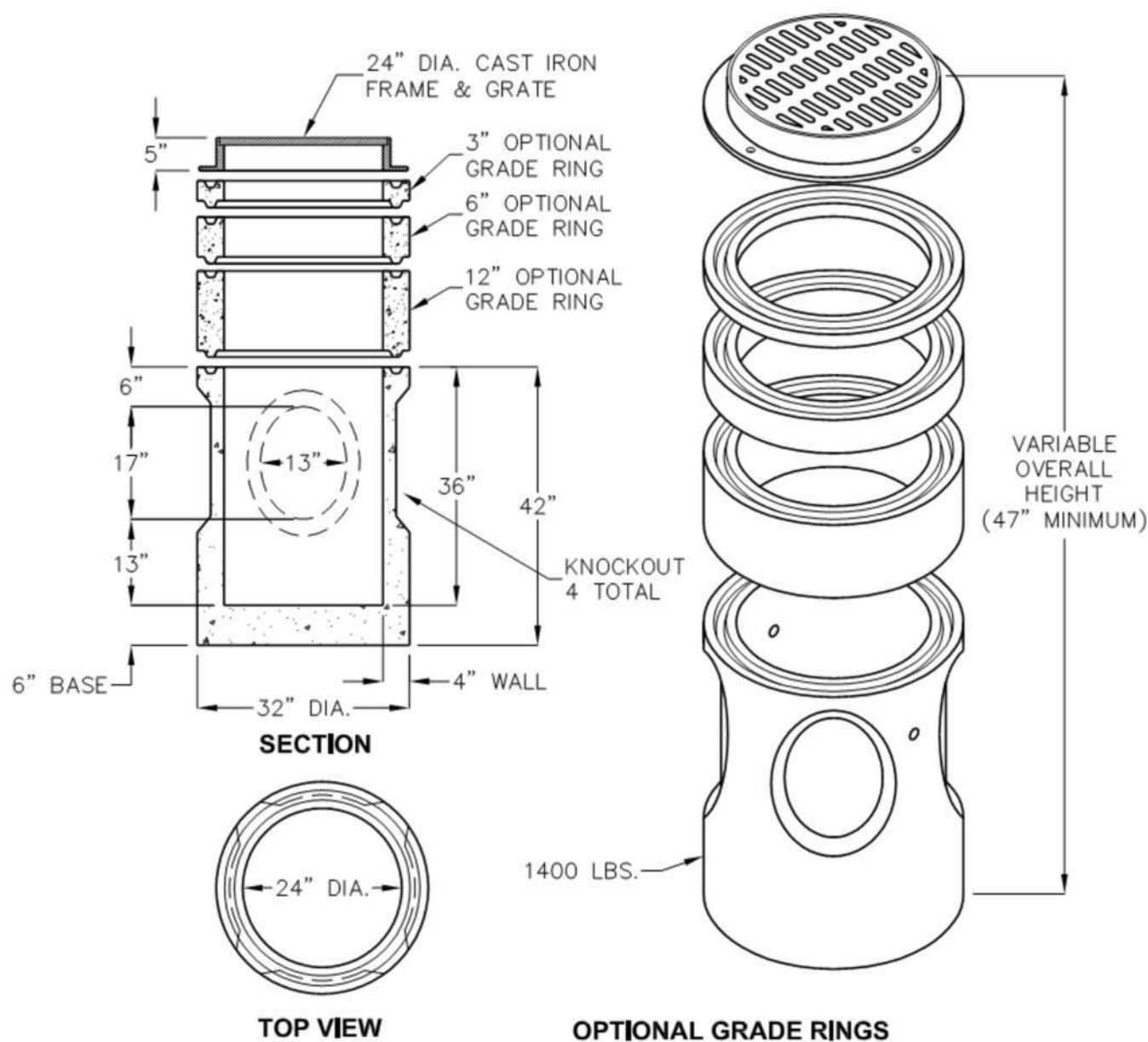
PROJECT #: 17.022
SCALE: HORIZONTAL: N/A
VERTICAL: N/A

DATE: 3-1-2023

C3.2

MEETS REQUIREMENTS FOR STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION
TYPE 3 CATCH BASIN

NO. 200 DROP INLET



DESCRIPTION	APPROX. WT.
2432 GR-03 GRADE RING	92 LBS.
2432 GR-06 GRADE RING	183 LBS.
2432 GR-12 GRADE RING	366 LBS.

DESIGN LOAD: H-20 TRAFFIC.

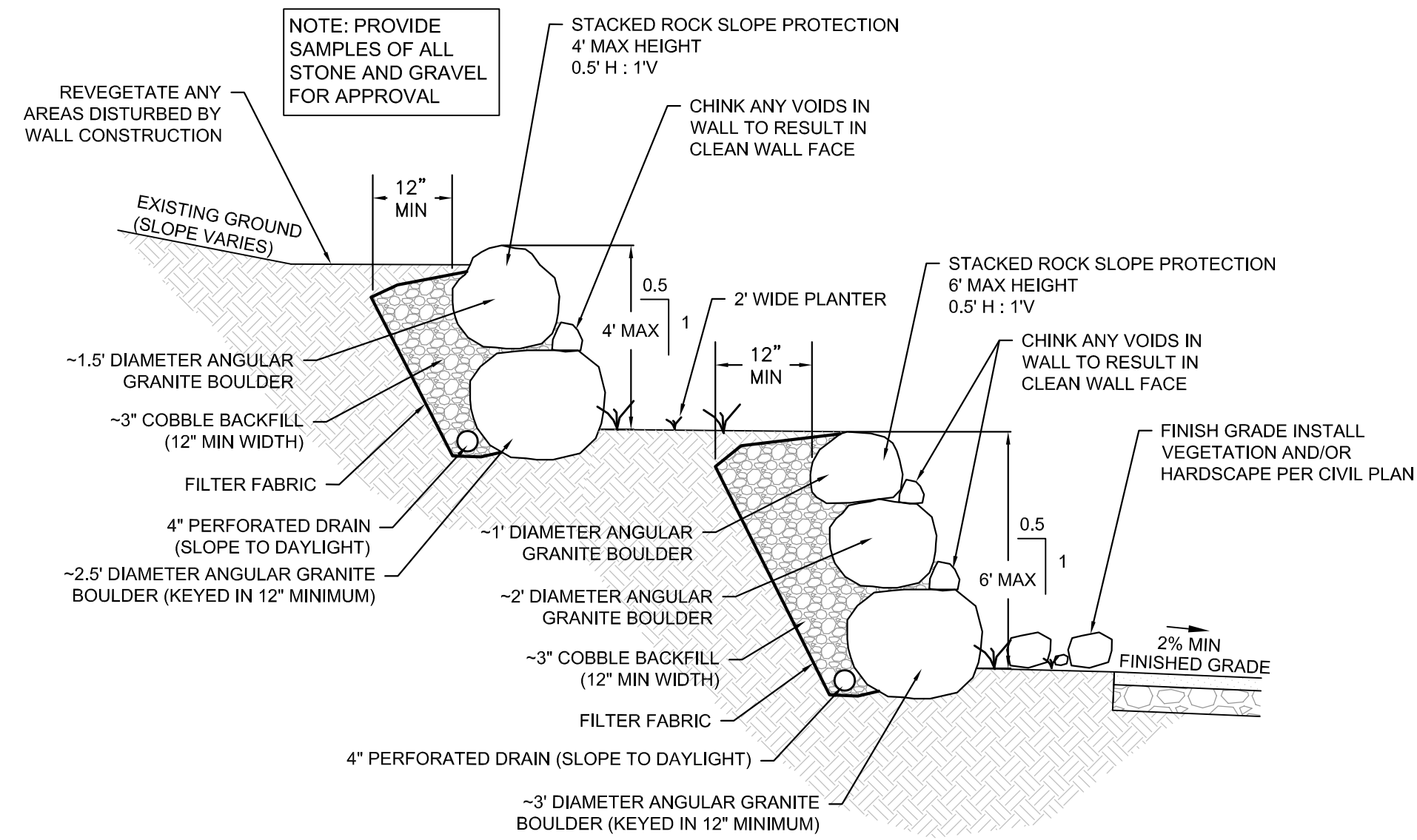
FOR COMPLETE DESIGN AND PRODUCT INFORMATION CONTACT JENSEN PRECAST.

Jensen Precast reserves the right to make changes to product design and/or dimensions without notice. Please contact Jensen Precast whenever necessary for confirmation or advice on product design.



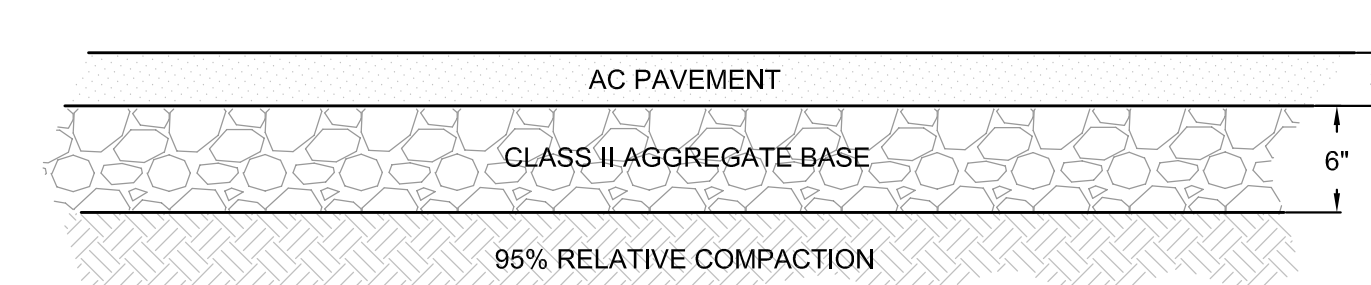
4/2/2008
D200_NONV_B.DWG
©2008

1 - JENSEN PRECAST #200
- NTS

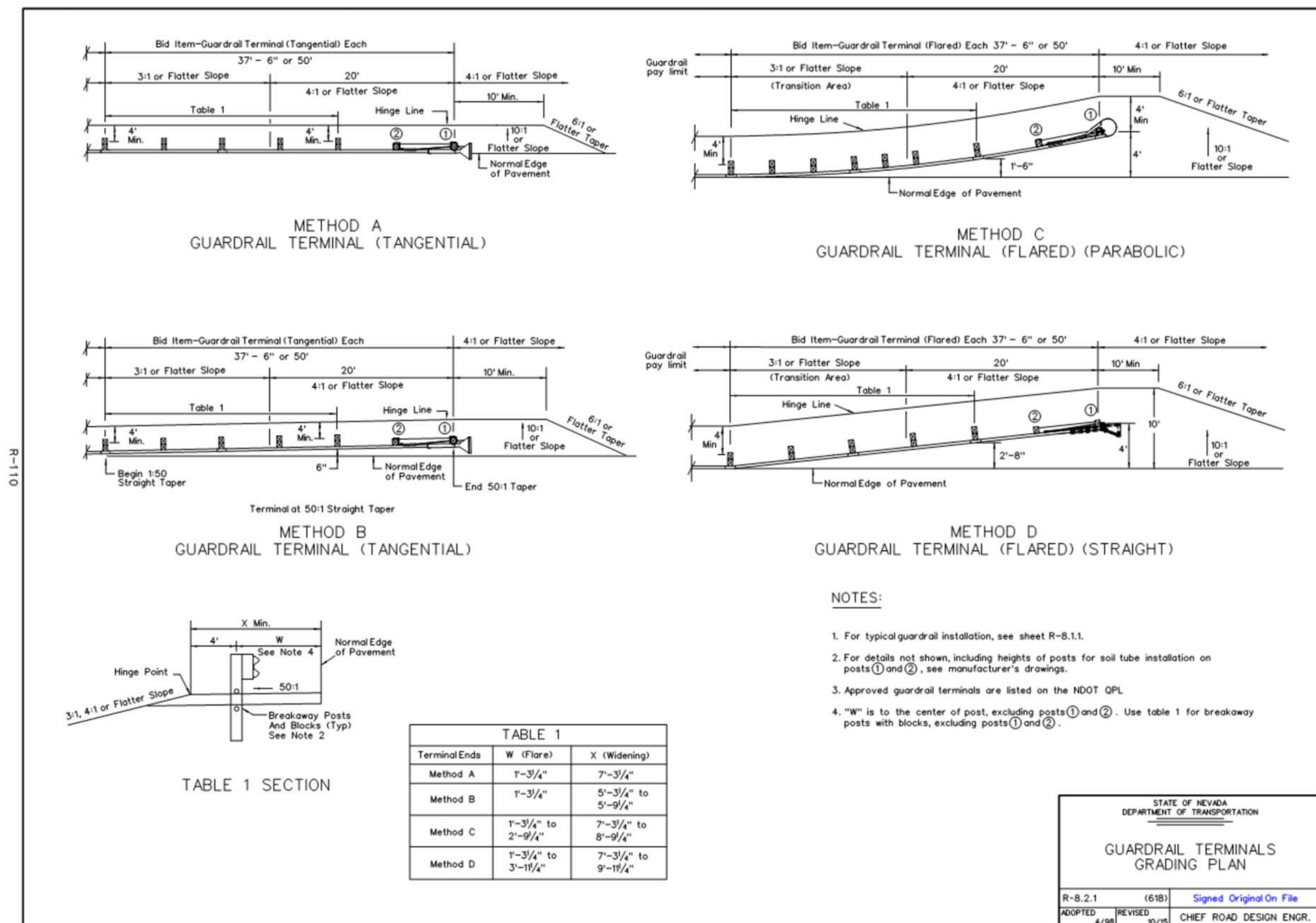


2 - STEPPED STACKED STONE WALL
- NTS

3 -

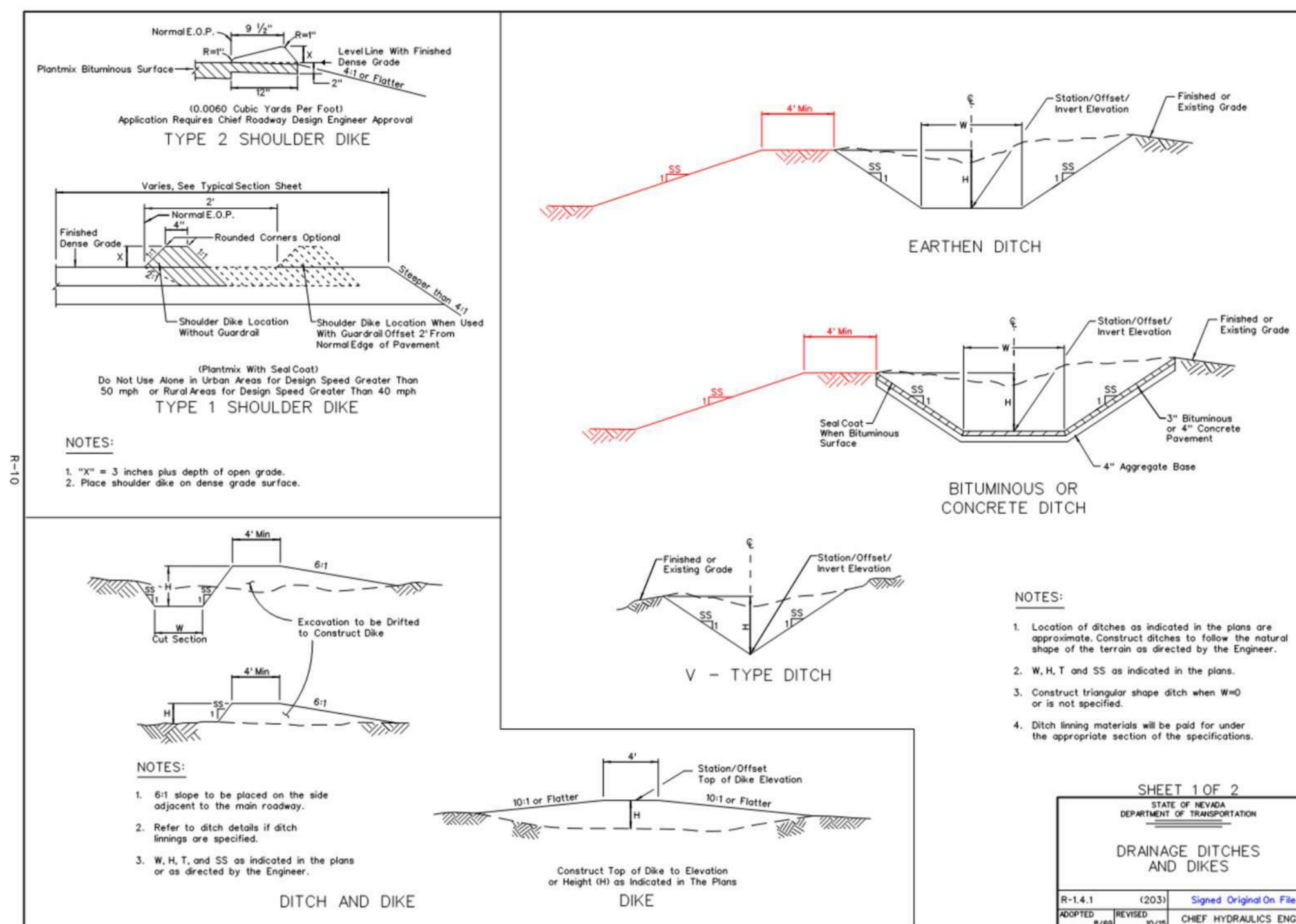


4 - ASPHALT PAVEMENT SECTION
- NTS



Terminal Ends	W (Flare)	X (Widening)
Method A	1'-3/4"	7'-3/4"
Method B	1'-3/4"	5'-3/4" to 9'-9/4"
Method C	1'-3/4" to 2'-9/4"	7'-3/4" to 8'-9/4"
Method D	1'-3/4" to 3'-11/4"	7'-3/4" to 9'-11/4"

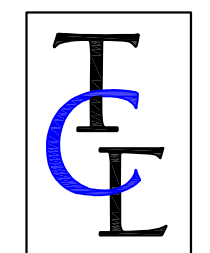
STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION
GUARDRAIL TERMINALS
GRADING PLAN
R-8.2.1 (6/98) Signed Original On File
ADOPTED 8/98 REVISION 8/03 CHIEF ROAD DESIGN ENGR.



SHEET 1 OF 2
STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION
DRAINAGE DITCHES
AND DIKES
R-14.1 (2013) Signed Original On File
SOP: 8/01 REVISION: 8/01 CHIEF HYDRAULICS ENGR.

6 - DRAINAGE DITCHES AND DIKES
- NTS

REV.	DATE	DESCRIPTION	APPROVED



TIESLAU
CIVIL
ENGINEERING, INC.
3080 NORTH LAKE BLVD
TAHOE CITY, CA 96145
P.O. BOX 412
TAHOE VISTA, CA 96145
TCETAHOE.COM
(530) 546-4805



TRPA AND WASHOE
BUILDING DEPT
APPROVAL PENDING

CIVIL DETAILS
449 LAKESHORE
APN 123-250-08

COMP: _____ DESIGN:
DRWN: _____ PRJ.ENG: AT
PROJECT #: 17.022
SCALE: NA
HORIZONTAL: N/A
VERTICAL: N/A

DATE: 3-1-2023

C3.3

NEVADA

WASHOE COUNTY