Community Services Department

Planning and Building

SPECIAL USE PERMIT

(see page 7)

SPECIAL USE PERMIT FOR GRADING

(see page 9)

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: Gail Willey Landscaping crop production of trees			
Project Description: Placement of loose fill material for crop production of specimen trees for landscape business			
Project Address: 190 US Hwy 395 South			
Project Area (acres or square feet): 3.76 acres			
Project Location (with point of reference to major cross streets **AND** area locator): US 395 South, 0.78 miles south of Eastlake Blvd on the southeast side of US 395			
Assessor's Parcel No.(s):	Parcel Acreage:	Assessor's Parcel No.(s):	Parcel Acreage:
050-220-37	3.76		
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: Gail Willey Landscaping		Name: Reno Tahoe Geo Associates, Inc.	
Address: 490 US Highway 395 South		Address: 12000 Old Virginia Road	
Reno, Nevada	Zip: 89704	Reno, Nevada	Zip: 89511
Phone: (775) 691-5297	Fax:	Phone: (775) 853-9100	Fax:
Email: john@gailwilley.com/suzanne@gailwilley.com		Email: ccarnes@rtgeo.com	
Cell:	Other:	Cell: (775) 741-2300	Other:
Contact Person: John Willey		Contact Person: Chad E. Carnes, P.E.	
Applicant/Developer:		**Other Persons to be Contacted:**	
Name: SAME AS OWNER		Name: Reno Tahoe Geo Associates, Inc.	
Address:		Address: 12000 Old Virginia Road	
	Zip:	Reno, Nevada	Zip: 89511
Phone:	Fax:	Phone: (775) 853-9100	Fax:
Email:		Email: ziler@rtgeo.com	
Cell:	Other:	Cell: (775) 391-6148	Other:
Contact Person:		Contact Person: Zach Iler	

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?

Grading and placement of loose fill material on a parcel intended for crop production of specemin trees for landscape business.

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.)

Civil improvement sheet C1.0 is attached with grading and drainage

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

Install temporary BMP's, clearing, landscape fill placement, restore temporary BMP's to post construction condition.

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?

Ease of access to the site from the highway, natural drainage paths, site shape and orientation, benefit to neighboring properties.

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

The planted trees and graded parcel will provide the Old Washoe Estates community with improved privacy, noise reduction, and aesthetic value. The project will also provide the community with trees for landscaping purposes.

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

None. On-site drainage will be changed from sheet flow across the site to low point where it ponds until it reaches the overflow in the natural drainage to directed flow in drainage swales intermittent with detention basins along edges of the property to mimic the natural detention time.

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.

Landscaping to be added throughout the project and continued into post project timelines.

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.)

❑ Yes	❑ No

9. Utilities:

a. Sewer Service	Provided by engineered on-site disposal system
b. Electrical Service	NV energy
c. Telephone Service	
d. LPG or Natural Gas Service	
e. Solid Waste Disposal Service	none
f. Cable Television Service	
g. Water Service	proposed well

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 #	N/A	acre-feet per year	
i. Certificate #	N/A	acre-feet per year	
j. Surface Claim #	N/A	acre-feet per year	
k. Other #	N/A	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).

N/A

10. Community Services (provided and nearest facility):

a. Fire Station	Truckee Meadows Fire Station 32
b. Health Care Facility	Renown Health (North), Carson Tahoe Regional Medical Center (South)
c. Elementary School	Pleasant Valley Elementary School
d. Middle School	Marce Herz Middle School
e. High School	Damonte Ranch High School
f. Parks	Pleasant Valley Park
g. Library	South Valleys Library
h. Citifare Bus Stop	Herze Boulevard and Mt. Rose Highway

Special Use Permit Application for Grading Supplemental Information

(All required information may be separately attached)

1. What is the purpose of the grading?

   Provide drainage for the site and proper tree planting.

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

   Landscaping to be added throughout the project and continued into post project timelines.

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

   163,785 sq. ft.

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

   Approximately 13,000 cubic yards of loose landscape fill will be imported.

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

   It is not possible as the middle portion of the site needs to be raised so water can drain to the existing natural drainage path without causing damage to the proposed access road and parking lot.

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.)

   No, the grading work has not been started.

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

   Yes, all areas of disturbance by grading have been shown on Plan Sheet C1.0.

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

Yes, the disturbed area can be seen from US Hwy 395 South and Old Washoe Drive however, the property is proposed to be screened from view by large trees. The disturbed areas can been seen from properties 144 Old Washoe Drive, 150 Old Washoe Drive and 220 US Hwy 395 South. Some areas are currently planted with trees and screen the property from the neighboring parcels.

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)?

No access needed for neighboring properties as they currently have existing access roads.

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?

The maximum slope of any cut and fill area is 6:1. The methods to prevent erosion are provided by the silt fence

11. Are you planning any berms?

Yes	No X	If yes, how tall is the berm at its highest?

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)?

A proposed rockery wall located at the southern boundary is a maximum of 6 ft tall.

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

N/A

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

No, the grading is intended to increase the survivability of trees planted on the property.

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?

The seed mix is call dryland wildflower mix by Comstock Feed. The recommended density is 1 lb per 3,000 sq foot.

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

Water truck and hose line.

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

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

Yes	No X	If yes, please attach a copy.

Special Use Permit Application for Stables Supplemental Information

(All required information may be separately attached)

1. What is the maximum number of horses to be boarded, both within stables and pastured?

Landscaping to be added throughout the project and continued into post project timelines.

2. What is the maximum number of horses owned/maintained by the owner/operator of the project, both within stables and pastured?

N/A

3. List any ancillary or additional uses proposed (e.g., tack and saddle sales, feed sales, veterinary services, etc.). Only those items that are requested may be permitted.

N/A

4. If additional activities are proposed, including training, events, competition, trail rides, fox hunts, breaking, roping, etc., only those items that are requested may be permitted. Clearly describe the number of each of the above activities which may occur, how many times per year and the number of expected participants for each activity.

N/A

5. What currently developed portions of the property or existing structures are going to be used with this permit?

N/A

6. To what uses (e.g., restrooms, offices, managers living quarters, stable area, feed storage, etc.) will the barn be put and will the entire structure be allocated to those uses? (Provide floor plans with dimensions).

N/A

7. Where are the living quarters for the operators of the stables and where will employees reside?

N/A

8. How many improved parking spaces, both on-site and off-site, are available or will be provided? (Please indicate on site plan.) Have you provided for horse trailer turnarounds?

N/A

9. What are the planned hours of operation?

N/A

10. What improvements (e.g. new structures including the square footage, roadway/driveway improvements, utilities, sanitation, water supply, drainage, parking, signs, etc.) will have to be constructed or installed and what is the projected time frame for the completion of each?

N/A

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

N/A

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

Ease of access to the site from the highway, natural drainage paths, site shape and orientation, benefit to neighboring properties.

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

N/A

14. What are the adverse impacts upon the surrounding community (including traffic, noise, odors, dust, groundwater contamination, flies, rats, mice, etc.) and what will you do to minimize the anticipated negative impacts or effects your project will have on adjacent properties?

No, the grading is intended to increase the survivability of trees planted on the property.

15. Please describe operational parameters and/or voluntary conditions of approval to be imposed on the administrative permit to address community impacts.

The seed mix is call dryland wildflower mix by Comstock Feed. The recommended density is 1 lb per 3,000 sq foot.

16. What types of landscaping (e.g. shrubs, trees, fencing, painting scheme, etc.) are proposed? (Please indicate location on site plan.)

N/A

17. What type of signs and lighting will be provided? On a separate sheet, show a depiction (height, width, construction materials, colors, illumination methods, lighting intensity, base landscaping, etc.) of each sign and the typical lighting standards. (Please indicate location of signs and lights on site plan.)

N/A

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

☐ Yes	■ No

19. Community Sewer

☐ Yes	■ No

20. Community Water

☐ Yes	■ No

Reno Tahoe Geo Associates, Inc.

PROJECT	190 US HIGHWAY 395 S	PROJECT NO.	21100.002
SUBJECT	ROCKERY WALL DESIGN BY J. ARCHULETA	DATE	12/6/2021
CALCULATION PACKAGE	REVIEWED BY J. PEASE	DATE	12/6/2021

PURPOSE

This package includes local and stability calculations and supporting data (strength data, loading types and data, etc).

SOIL PROPERTIES AND LOADS

Native soils are assumed to be silty gravelly sand to sandy gravel with shallow bedrock.
Assumed and calculated properties include:

Soil Unit Weight (γ)	=	128 pcf
Friction Angle (ϕ)	=	35 degrees
Active Earth Coefficient (Ka)	=	0.29
Pseudo-static Active Earth Coefficient (Kae)	=	0.93
Cohesion (c)	=	0 pcf

LOADS

Peak Ground Acceleration (use 50% for calculations) = 0.946 g

RESULTS

Local stability calculations show that the walls are stable with regard to sliding, overturning, and bearing capacity for static and seismic conditions per FHWA-CFL/TD-06-006, November 2006, *Rockery Design and Construction Guidelines.*

Wedge analysis was used to determine active earth coefficients Ka and Kae for all soils.

Global stability shows that the walls have the minimum factor of safety of at least 2.15 against static stability and the minimum factor of safety of at least 1.04 against seismic stability.

ATTACHMENTS:

Pages	Items
1	Summary
2 - 3	Local Wall Stability
4 - 5	Global Wall Stability
6 - 7	Active Pressure Coefficients
8 - 10	Seismic Parameters (ASCE 7 Hazards Report)
11	W1.0 Rockery Wall Details

PROFESSIONAL ENGINEER - STATE OF NEVADA
JONATHAN W. PEASE
Exp: 12-2023
CIVIL
No. 16296
12-6-21

Washoe County
Approved
07/12/2022
Community Services
Planning & Building

ROCKERY WALL CALCULATIONS

PROJECT :	190 US 395	**BY:**	JGA	**DATE:**	11/23/21
PROJECT NO:	21100.002	**CHECKED BY**	JWP	**DATE:**	11/24/2021
LOCATION:	Washoe Valley		Spreadsheet reviewed JWP 4/1/2015		
Notes:					

INPUT

MAXIMUM EXPOSED WALL HEIGHT 4 ft

Exposed Wall Height, h (ft)	4	**FHWA Design Comments**
Wall Crest Width, Cw (ft)	3.75	Method assumes back of wall/backfill is vertical. Method does
Wall Base Width, Bw (ft)	4.75	not presently account for angle of backfill behind wall (conservative)
Wall Embedment Depth, De (ft)	2	1.5 ft minimum on flat, FLH recommends on slopes, soil
Angle of Backfill Behind Wall, βr (deg)	18	cover extends downhill at least 6 feet from bottom of wall
Soil Unit Weight, Gamasoil (pcf)	128	
Back of Wall Soil Friction Angle, φr (deg)	35	Native soil.
Base Wall Soil Friction Angleφb (deg)	35	May use higher phi for sliding along base if base soils better
Wall Rock Unit Weight, Gamma rock Ψrb (pcf)	140	
Soil to Wall Contact Friction Angle, ξr (deg)	23	
Surcharge, q (lbf/ft)	0	
Static Active Earth Coefficient, Ka	0.29	
Pseudo-static Active Earth Coefficient, Kae	0.93	Based on half of the site PGA
Horizontal Seismic Coefficient, Kh	0.32	For seismic sliding and OT, Kh Is taken to be about one-third of the site PGA

Method generally but does not strictly follow Rockery Design and Construction Guidelines, 2006,Federal Lands Highway Division FHWA-CFL-TD-06-006

CALCULATIONS

L1 = 2/3 x (Bw - Cw), ft

L2 = Bw - 0.5 x Cw, ft

W1 = 0.5 x (Bw - Cw) x (h + De) x Gamarock, lbs

W2 = Cw x (h + De) x Gamarock, lbs

F1 = 0.5 x Ka(or Kae) x Gamasoil x (h+de)^2

F2 = q x (h+de) x Ka(or Kae)

Ea = F1 + F2

OVERTURNING FACTOR OF SAFETY

FSo = MR/MD=((W1 x L1) + (W2 x L2) + (Ea x Sin(ξr) x Bw)) /(F1 x Cos(ξr) x (h/3 + De) + F2 x Cos(ξr) x (h/2 + De))

plus for seismic MD includes +Kh*(W1*h/3 + W2*h/3)

SLIDING FACTOR OF SAFETY

FSs = ((tan(φr)) x [W1 + W2 + (Ea x sin(ξr))]) / (Ea x cos(ξr))

plus for seismic, FD includes +Kh*(F1+F2)

W1L1	W2L2	Ea x Sin(ξr) x Bw	F1 x Cos(ξr)	h/3 + De	F2 x Cos(ξr)	(h/2 + De)	Batter
281	9056	1240	615	3.3	0	4.0	4/1
		3977	1972		0		
L1	**L2**	**F1 (Static)**	**F2 (Static)**	**Frs**	**MR (Static)**	**MR (Seismic)**	**Ea (Static)**
0.67	2.875	668	0	3087	10578	13314	668
W1	**W2**	**F1 (Seismic)**	**F2 (Seismic)**	**Fds**	**MD (Static)**	**MD (Seismic)**	**Ea (Seismic)**
420	3150	2143	0	615	2050	10985	2143

*Seismic sliding and overturning assume no F2 surcharge

	FS Overturning (Static)	FS Overturning (Seismic)
	5.2	1.21
MIN FS	*1.5*	*1.1*

	FS Sliding (Static)	FS Sliding (Seismic)
	4.4	1.0
MIN FS	*1.5*	*1*

BEARING CAPACITY

WEIGHT OF WALL	BOTTOM WIDTH	BEARING PRESSURE (PSF)	ALLOWABLE BEARING (PSF)	BEARING RATIO >1
3570	4.75	752	4000	5

PASSWORD = ROCKERY

Reno Tahoe Geo Associates
P.O. Box 18449
Reno, NV 89511
Tel: 775-853 9100

ROCKERY WALL CALCULATIONS

PROJECT :	190 US 395	**BY:**	JGA	**DATE:**	11/23/21
PROJECT NO:	21100.002	**CHECKED BY**	JWP	**DATE:**	11/24/2021
LOCATION:	Washoe Valley		Spreadsheet reviewed JWP 4/1/2015		
Notes:					

INPUT

MAXIMUM EXPOSED WALL HEIGHT 6 ft

Exposed Wall Height, h (ft)	6	**FHWA Design Comments**
Wall Crest Width, Cw (ft)	4.5	Method assumes back of wall/backfill is vertical. Method does
Wall Base Width, Bw (ft)	6	not presently account for angle of backfill behind wall (conservative)
Wall Embedment Depth, De (ft)	2	1.5 ft minimum on flat, FLH recommends on slopes, soil
Angle of Backfill Behind Wall, βr (deg)	18	cover extends downhill at least 6 feet from bottom of wall
Soil Unit Weight, Gamasoil (pcf)	128	
Back of Wall Soil Friction Angle, φr (deg)	35	Native soil.
Base Wall Soil Friction Angleφb (deg)	35	May use higher phi for sliding along base if base soils better
Wall Rock Unit Weight, Gamma rock Ψrb (pcf)	140	
Soil to Wall Contact Friction Angle, ξr (deg)	23	
Surcharge, q (lbf/ft)	0	
Static Active Earth Coefficient, Ka	0.29	
Pseudo-static Active Earth Coefficient, Kae	0.93	Based on half of the site PGA
Horizontal Seismic Coefficient, Kh	0.32	For seismic sliding and OT, Kh Is taken to be about one-third of the site PGA

Method generally but does not strictly follow Rockery Design and Construction Guidelines, 2006,Federal Lands Highway Division FHWA-CFL-TD-06-006

CALCULATIONS

L1 = 2/3 x (Bw - Cw), ft

L2 = Bw - 0.5 x Cw, ft

W1 = 0.5 x (Bw - Cw) x (h + De) x Gamarock, lbs

W2 = Cw x (h + De) x Gamarock, lbs

F1 = 0.5 x Ka(or Kae) x Gamasoil x (h+de)^2

F2 = q x (h+de) x Ka(or Kae)

Ea = F1 + F2

OVERTURNING FACTOR OF SAFETY

FSo = MR/MD=((W1 x L1) + (W2 x L2) + (Ea x Sin(ξr) x Bw)) /(F1 x Cos(ξr) x (h/3 + De) + F2 x Cos(ξr) x (h/2 + De))

plus for seismic MD includes +Kh*(W1*h/3 + W2*h/3)

SLIDING FACTOR OF SAFETY

FSs = ((tan(φr)) x [W1 + W2 + (Ea x sin(ξr))]) / (Ea x cos(ξr))

plus for seismic, FD includes +Kh*(F1+F2)

W1L1	**W2L2**	**Ea x Sin(ξr) x Bw**	**F1 x Cos(ξr)**	**h/3 + De**	**F2 x Cos(ξr)**	**(h/2 + De)**	**Batter**
844	18900	2785	1093	4.0	0	5.0	4/1
		8930	3506		0		
L1	**L2**	**F1 (Static)**	**F2 (Static)**	**Frs**	**MR (Static)**	**MR (Seismic)**	**Ea (Static)**
1.005	3.75	1188	0	4704	22529	28675	1188
W1	**W2**	**F1 (Seismic)**	**F2 (Seismic)**	**Fds**	**MD (Static)**	**MD (Seismic)**	**Ea (Seismic)**
840	5040	3809	0	1093	4374	23022	3809

*Seismic sliding and overturning assume no F2 surcharge

	FS Overturning (Static)	**FS Overturning (Seismic)**
	5.2	**1.25**
MIN FS	*1.5*	*1.1*

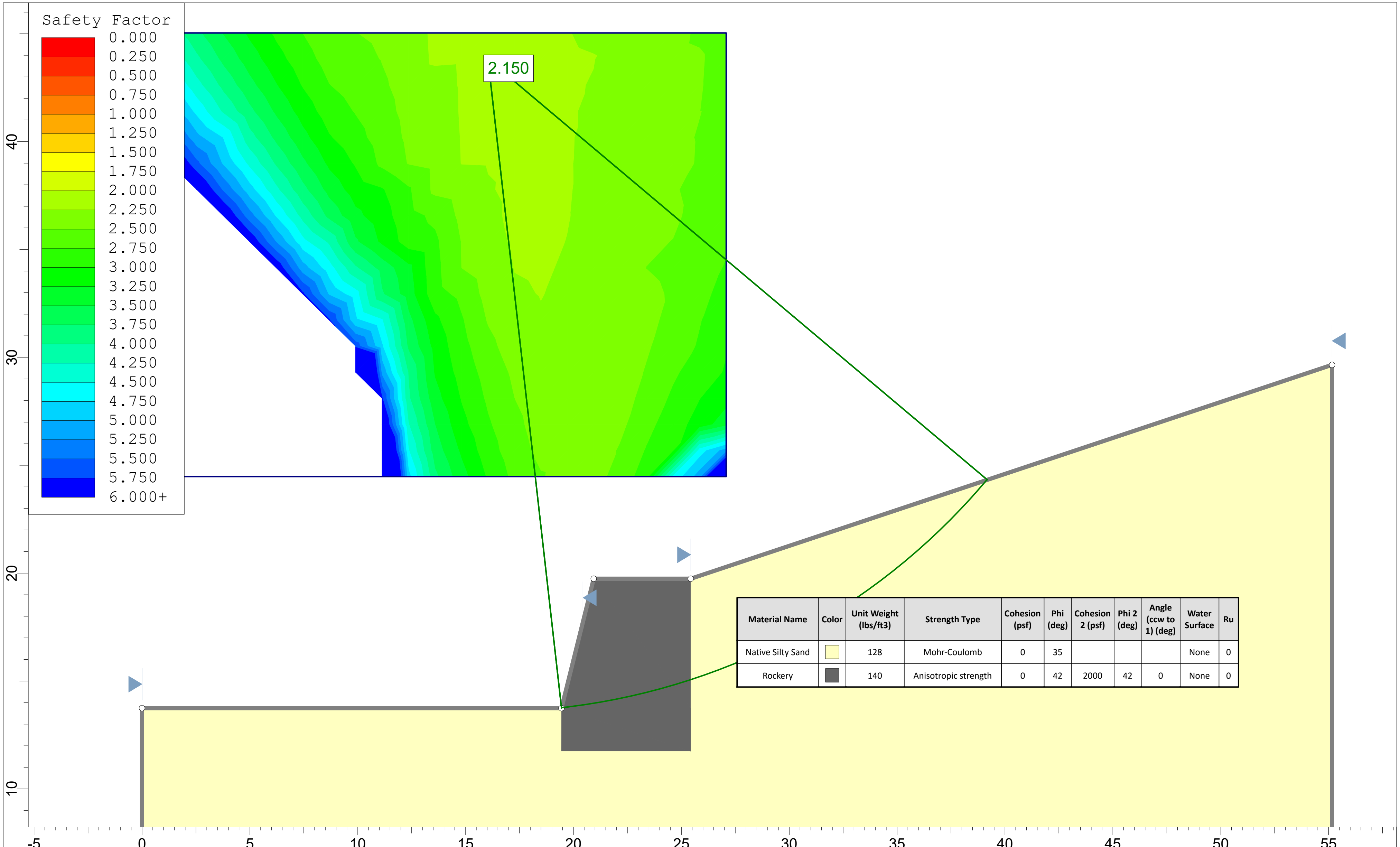
	FS Sliding (Static)	**FS Sliding (Seismic)**
	4.1	**1.0**
MIN FS	*1.5*	*1*

BEARING CAPACITY

WEIGHT OF WALL	BOTTOM WIDTH	BEARING PRESSURE (PSF)	ALLOWABLE BEARING (PSF)	BEARING RATIO >1
5880	6	980	4000	4

PASSWORD = ROCKERY

Reno Tahoe Geo Associates
P.O. Box 18449
Reno, NV 89511
Tel: 775-853 9100

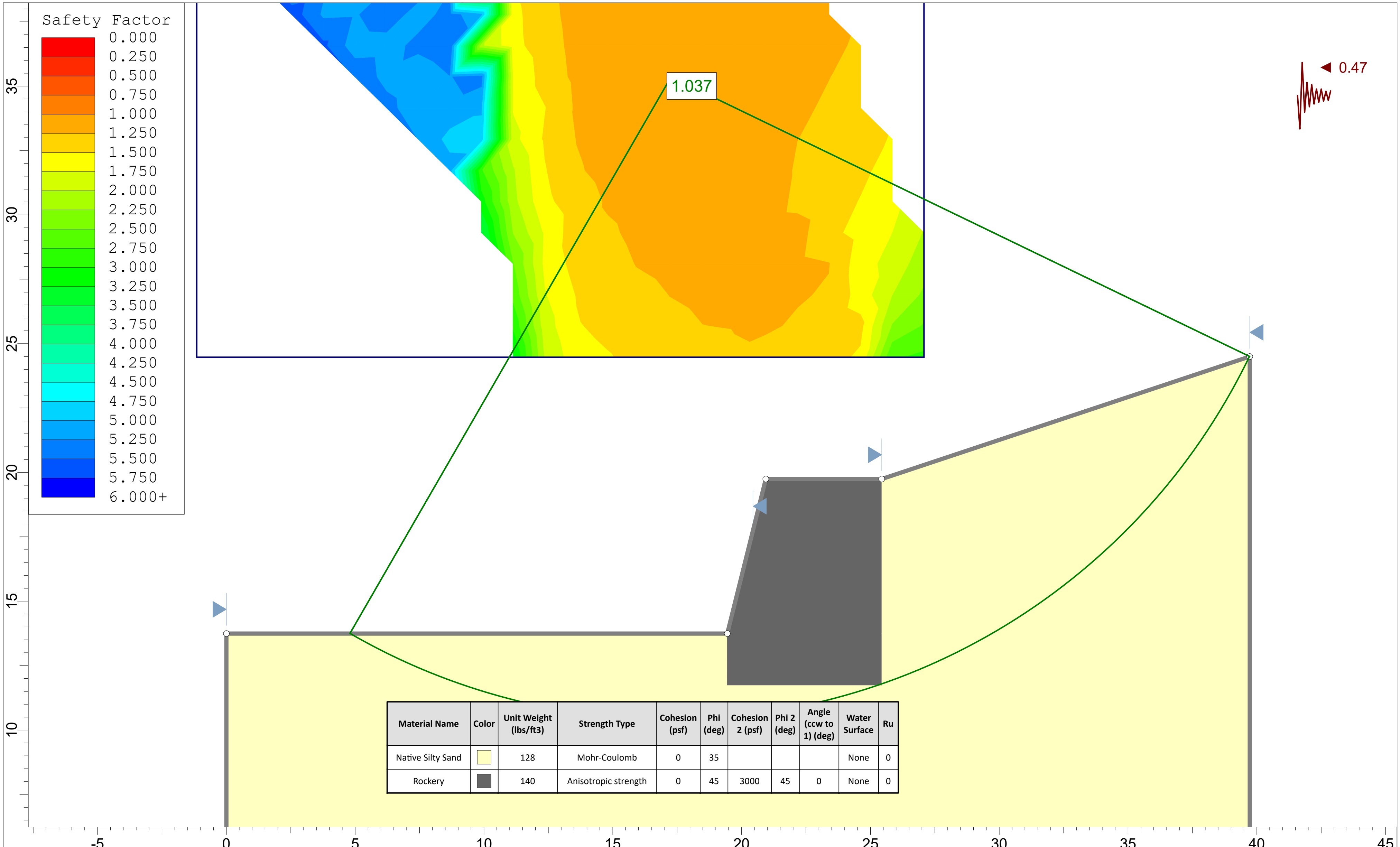


Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Cohesion 2 (psf)	Phi 2 (deg)	Angle (ccw to 1) (deg)	Water Surface	Ru
Native Silty Sand		128	Mohr-Coulomb	0	35				None	0
Rockery		140	Anisotropic strength	0	42	2000	42	0	None	0

rocscience

SLIDEINTERPRET 6.039

Project	190 US Highway 395 S		
Analysis Description	Static		
Drawn By	JGA	*Scale*	1:74
Company	Reno Tahoe Geo Associates		
Date	11/30/2021, 2:46:18 PM	*File Name*	Static.slim



Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Cohesion 2 (psf)	Phi 2 (deg)	Angle (ccw to 1) (deg)	Water Surface	Ru
Native Silty Sand		128	Mohr-Coulomb	0	35				None	0
Rockery		140	Anisotropic strength	0	45	3000	45	0	None	0

SLIDEINTERPRET 6.039

Project	190 US Highway 395 S		
Analysis Description	Seismic		
Drawn By	JGA	*Scale*	1:62
Company	Reno Tahoe Geo Associates		
Date	11/30/2021, 2:46:18 PM	*File Name*	Seismic.slim

WASP

Wedge Analysis of Seismic Pressure

Version: 1.1.0.005 (Built Aug 18 2014 17:29:14)
Force-equilibrium analysis of seismic active pressure

Description

Project	190 US Highway 395
Project Number	21100.002
Calculated by	JGA
Date Calculated	11/23/2021
Case	Static

Geometry

Vertical Wall Height	H_w	6.00	ft
Slope Angle	β	18.00	°
Maximum Slope Height	H_{smax}	7.00	ft
Slope Length	L_{smax}	3.18	ft
Wall Angle	ω	1.00	°
Wall Height above Heel	H	5.97	ft
Wedge Limit Length	L_{wlimit}	0.00	ft

Soil

Unit Weight	γ	128.00	lb/ft³
Cohesion	C	0.00	lb/ft²
Friction Angle	φ	35.00	°
Earth Pressure Rotation	δ	17.00	°
Crack Present		true	
Tension Crack Height	H_{tcr}	0	ft

Earthquake

Horizontal Acceleration	K_h	0.000	g
Vertical Acceleration	K_v	0.000	g

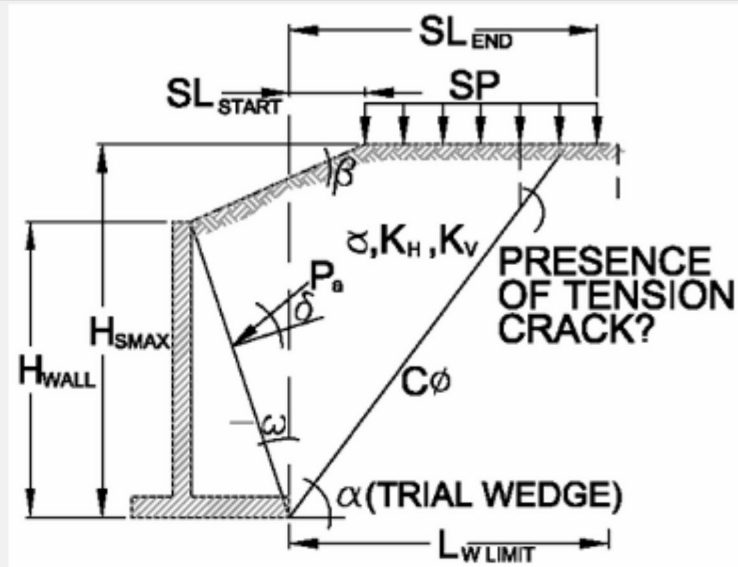
Surcharge Loads

Vertical Surcharge	SP	0.00	lb/ft²
SP Start Position	SL_{start}	0.00	ft
SP End Position	SL_{end}	0.00	ft
Horizontal Surcharge	P_{hl}	0.00	lb/ft
P_{hl} Horizontal Position	X_{hl}	0.00	ft
P_{hl} Vertical Position	Y_{hl}	0.00	ft

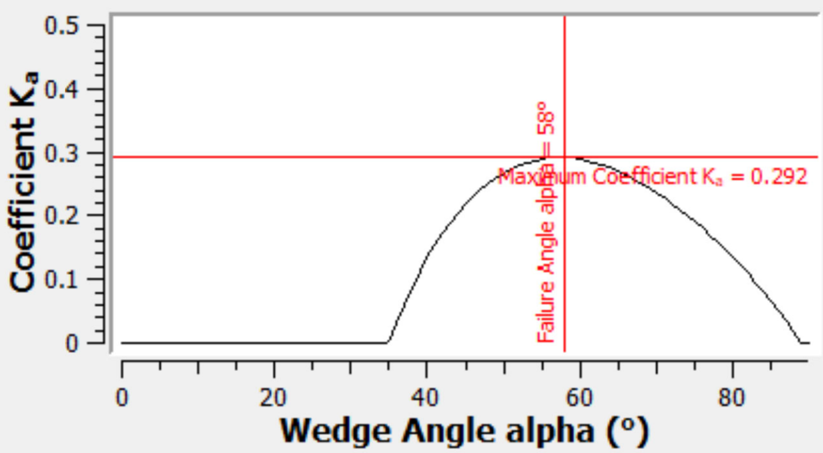
Displacement (Franklin && Chang, 1977)

Wall Seismic Resistance Coefficient	N	0	g
Peak Acceleration	A	0.100	g
Peak Velocity Normalized by A	VoverA	760.00	mm/s
Peak Velocity	V	2.99	in/s
Upper Bound Displacement	**D_{ub}**	**inf**	**in**
50% Displacement Estimate	**D_{50}**	**8.6**	**in**

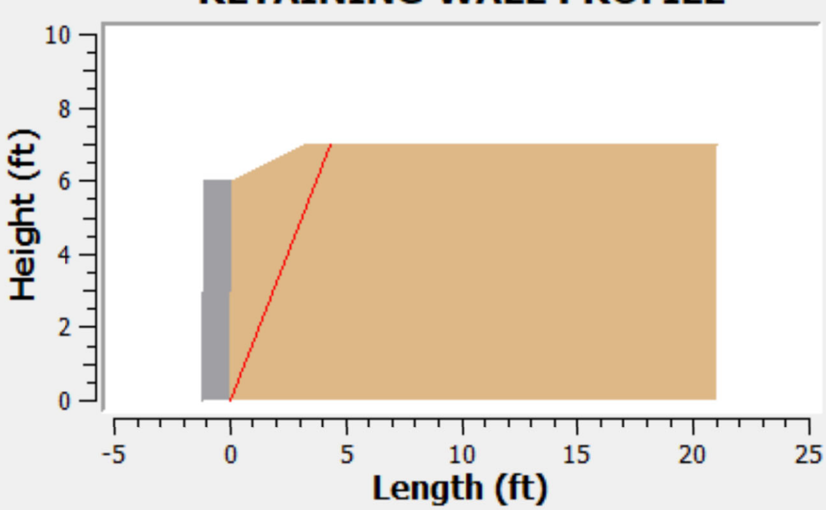
Diagram



ACTIVE EARTH PRESSURE COEFFICIENT



RETAINING WALL PROFILE



α = 58°, P_a = 673 lb/ft, K_a = 0.29 at 16.0° (+ ccw), $(K_a)_h$ = 0.28 , EFP_h = 36 lb/ft³

WASP

Wedge Analysis of Seismic Pressure

Version: 1.1.0.005 (Built Aug 18 2014 17:29:14)
Force-equilibrium analysis of seismic active pressure

Description

Project	190 US Highway 395
Project Number	21100.002
Calculated by	JGA
Date Calculated	11/23/2021
Case	Seismic

Geometry

Vertical Wall Height	H_w	6.00	ft
Slope Angle	β	18.00	°
Maximum Slope Height	H_{smax}	7.00	ft
Slope Length	L_{smax}	3.18	ft
Wall Angle	ω	1.00	°
Wall Height above Heel	H	5.97	ft
Wedge Limit Length	L_{wlimit}	0.00	ft

Soil

Unit Weight	γ	128.00	lb/ft³
Cohesion	C	0.00	lb/ft²
Friction Angle	φ	35.00	°
Earth Pressure Rotation	δ	17.00	°
Crack Present		true	
Tension Crack Height	H_{tcr}	0	ft

Earthquake

Horizontal Acceleration	K_h	0.473	g
Vertical Acceleration	K_v	0.000	g

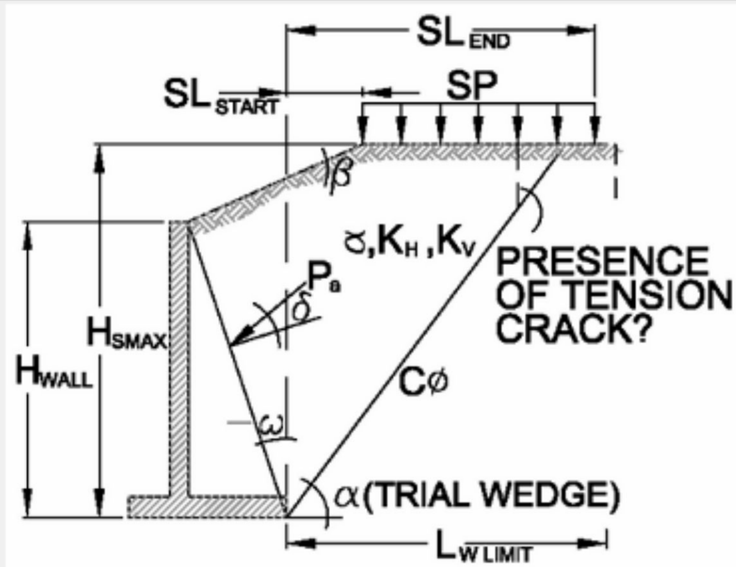
Surcharge Loads

Vertical Surcharge	SP	0.00	lb/ft²
SP Start Position	SL_{start}	0.00	ft
SP End Position	SL_{end}	0.00	ft
Horizontal Surcharge	P_{hl}	0.00	lb/ft
P_{hl} Horizontal Position	X_{hl}	0.00	ft
P_{hl} Vertical Position	Y_{hl}	0.00	ft

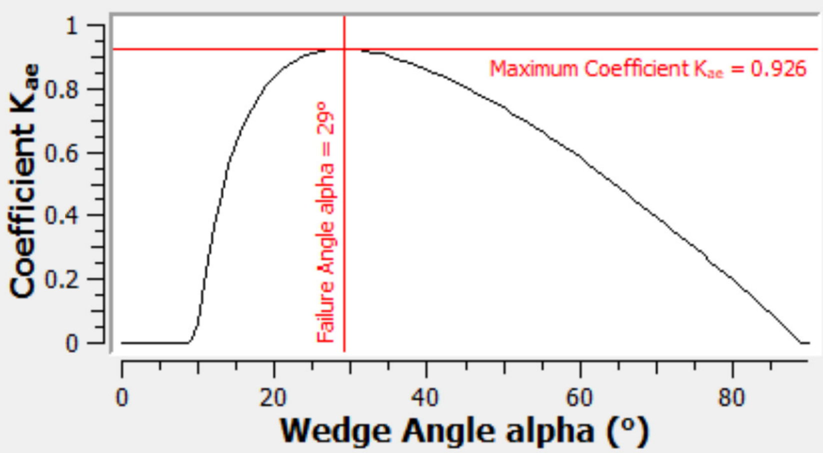
Displacement (Franklin && Chang, 1977)

Wall Seismic Resistance Coefficient	N	0.473	g
Peak Acceleration	A	0.100	g
Peak Velocity Normalized by A	VoverA	760.00	mm/s
Peak Velocity	V	2.99	in/s
Upper Bound Displacement	**D_{ub}**	**0.0**	**in**
50% Displacement Estimate	**D_{50}**	**0.0**	**in**

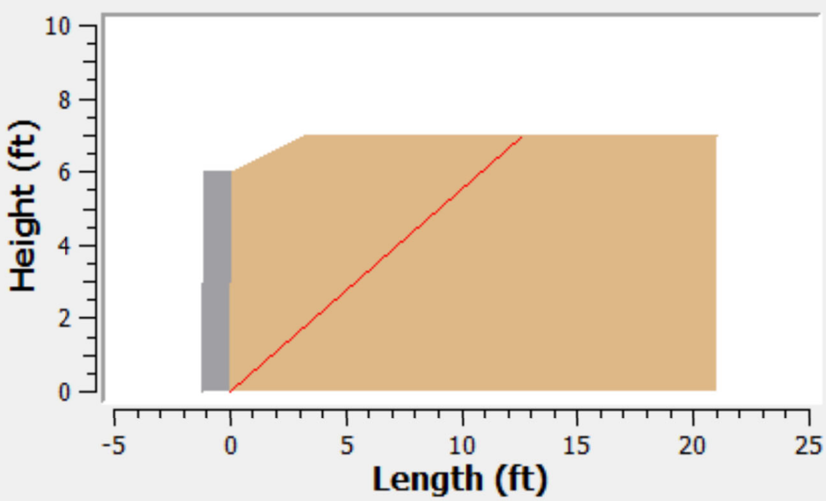
Diagram



ACTIVE EARTH PRESSURE COEFFICIENT



RETAINING WALL PROFILE



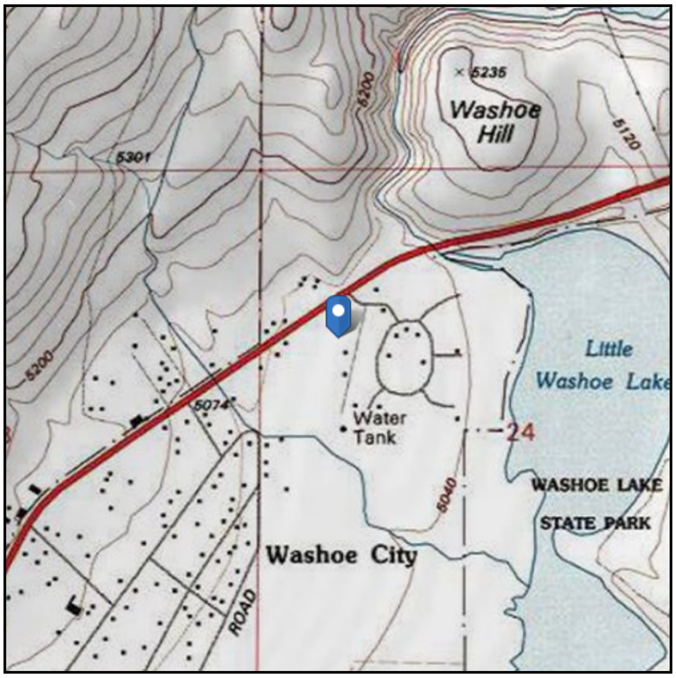
α = 29°, P_{ae} = 2.13e+03 lb/ft, K_{ae} = 0.93 at 16.0° (+ ccw), $(K_{ae})_h$ = 0.89 , EFP_h = 1.1e+02 lb/ft³

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-16
Risk Category: III
Soil Class: D - Default (see Section 11.4.3)

Elevation: 5060.75 ft (NAVD 88)
Latitude: 39.327005
Longitude: -119.805208



Seismic

Site Soil Class: D - Default (see Section 11.4.3)

Results:

S_S :	2.19	S_{D1} :	N/A
S_1 :	0.77	T_L :	6
F_a :	1.2	PGA :	0.946
F_v :	N/A	PGA_M :	1.135
S_{MS} :	2.628	F_{PGA} :	1.2
S_{M1} :	N/A	I_e :	1.25
S_{DS} :	1.752	C_v :	1.5

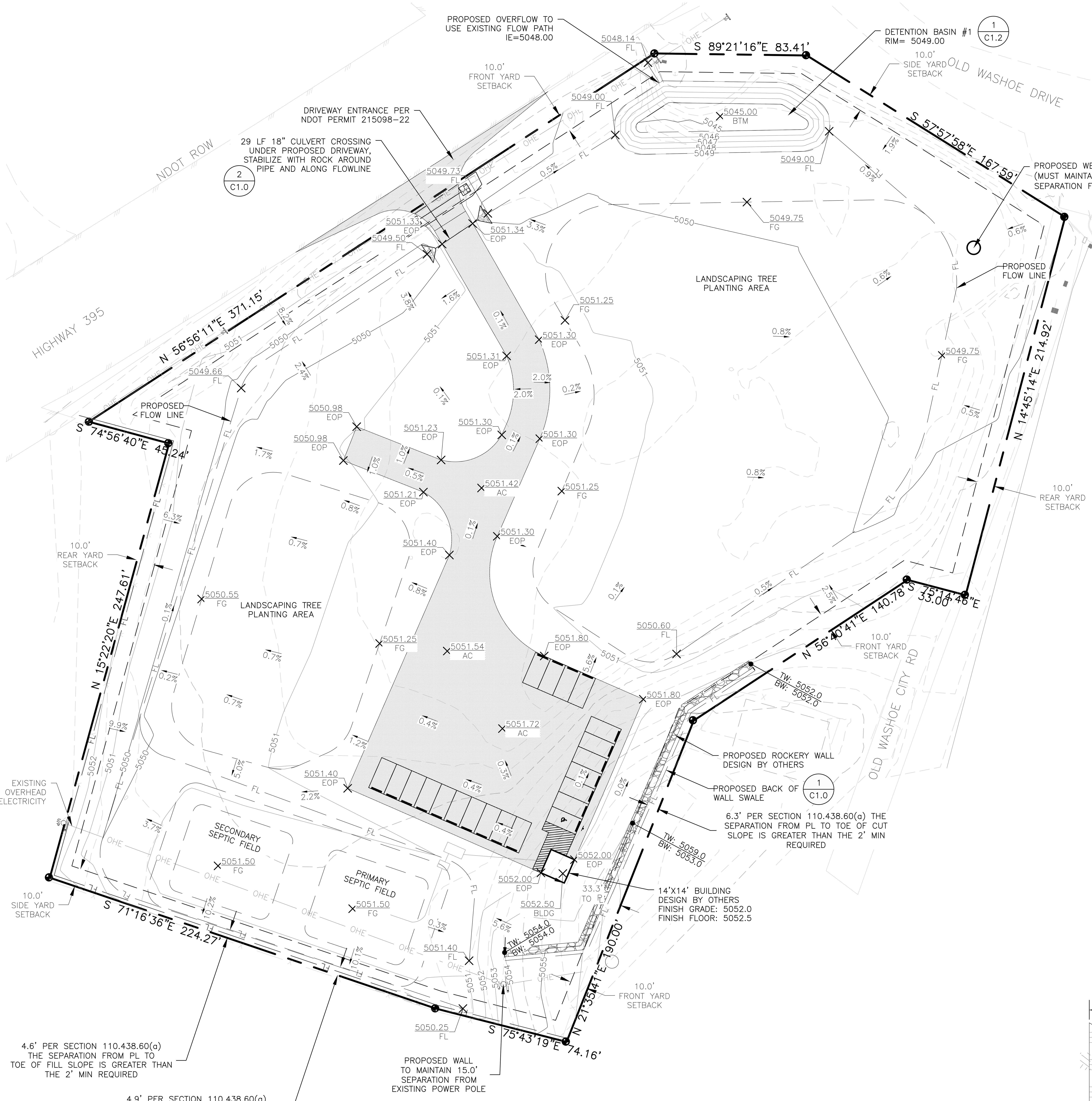
Ground motion hazard analysis may be required. See ASCE/SEI 7-16 Section 11.4.8.

Data Accessed: Tue Nov 23 2021

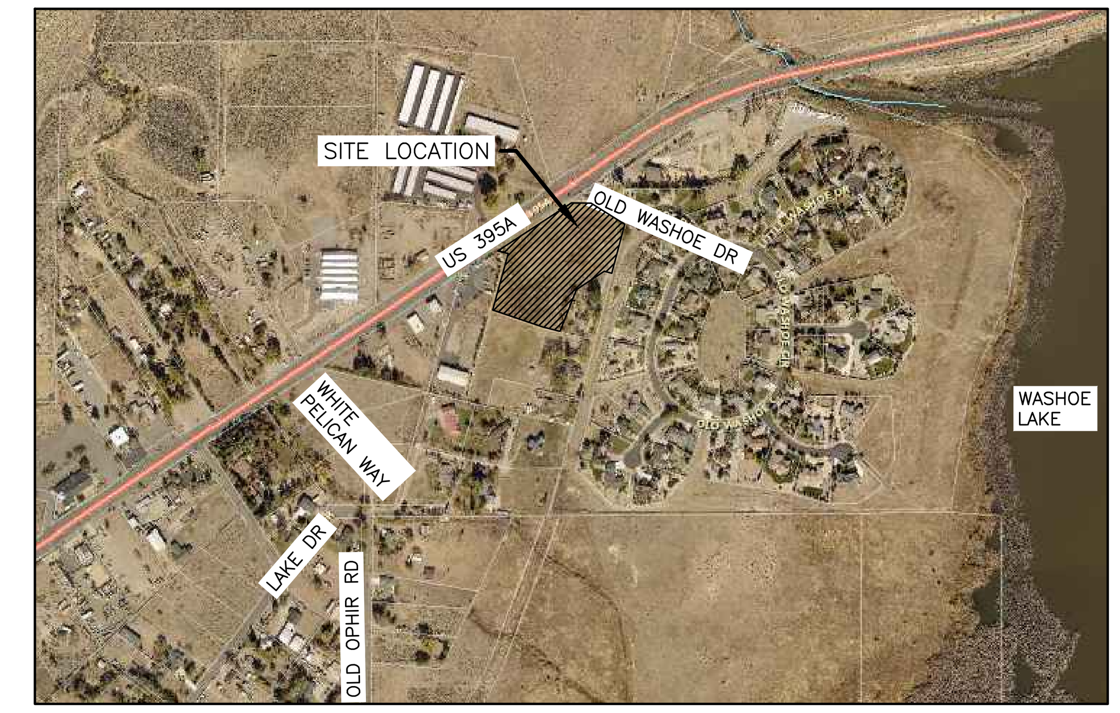
Date Source: USGS Seismic Design Maps

SCALE: 1" = 30'

30' 0 30' 60'



SITE/GRADING PLAN



VICINITY MAP

N.T.S.

IWUIC NOTES

FIRE HAZARD CLASSIFICATION: HIGH

DEFENSIBLE SPACE: CONFORMING TO 50 FEET, MUST MAINTAIN 50' FIRE BREAK

WATER SUPPLY: NON-CONFORMING

IGNITION RESISTANT CONSTRUCTION CLASSIFICATION: IR1 WITH CONFORMING DEFENSIBLE SPACE, IR2 WITH 105x DEFENSIBLE SPACE (75 FEET) PER TABLE 503.1 OF THE 2018 WILDLAND URBAN INTERFACE CODE

ACCESS SHALL BE PROVIDED PER SECTION 403 OF THE WUI CODE.

PROPERTY INFORMATION:

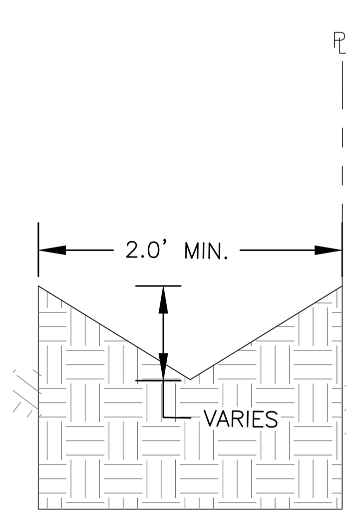
PROPERTY INFORMATION:
190 US HIGHWAY 395 S
WASHOE COUNTY, NEVADA 89704
APN: 050-220-37
ZONING: GC (GENERAL COMMERCIAL)
USE TYPE: COMMERCIAL PARKING
LOT SIZE: 3.76 ACRES OR 163,785.6 sq.ft.

OWNER:
WILLEY LAND, LLC.
490 US 395 SOUTH
WASHOE VALLEY, NEVADA 89704
(775) 691-5297
E-MAIL: JOHN@GAILWILLEY.COM

DESIGN ENGINEER:
CHRISTINA BRENNAN P.E.
RENO TAHOE GEO ASSOCIATES, INC.
P.O. BOX 18449
RENO, NEVADA 89511
(775) 853-9100
E-MAIL: CBRENNAN@RTGEO.COM

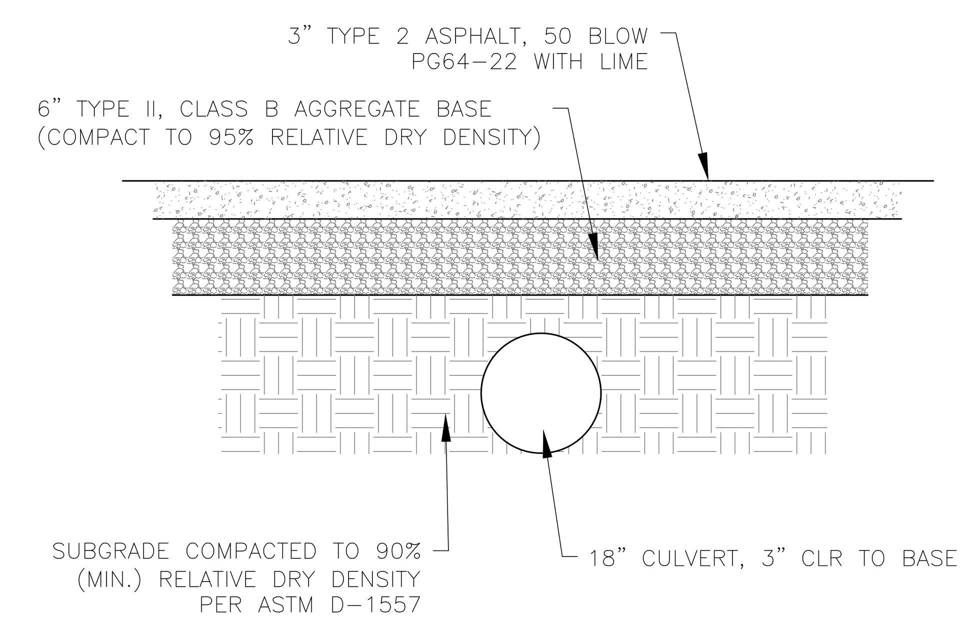
GRADING NOTES:

1. CONTRACTOR SHALL MAINTAIN AN ADEQUATE DUST CONTROL PROGRAM TO INCLUDE WATERING OF OPEN AREAS. THE CONTRACTOR SHALL MAINTAIN CONFORMITY WITH ALL APPLICABLE HEALTH AND AIR POLLUTION REGULATIONS.
2. ALL GRADING WORK SHALL CONFORM TO CURRENT PROVISIONS OF THE WASHOE COUNTY GRADING ORDINANCE AND MAINTAIN CONFORMITY WITH ALL OTHER APPLICABLE AGENCIES.
3. THE CONTRACTOR SHALL VERIFY IN THE FIELD, ALL ELEVATIONS, DIMENSIONS, FLOW LINES, EXISTING CONDITIONS, AND POINTS OF CONNECTION WITH ADJOINING PROPERTIES (PUBLIC OR PRIVATE).
4. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL EXISTING UTILITIES WITHIN THE LIMITS OF CONSTRUCTION, WHETHER OR NOT SAID UTILITIES ARE SHOWN ON THE PLANS. THIS RESPONSIBILITY INCLUDES CONTRACTING UTILITY COMPANIES FOR LOCATIONS OR POT HOLING PRIOR TO CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. NATURAL GROUND SLOPE AWAY FROM STRUCTURE IS REQUIRED TO BE 5% FOR 10 FEET MIN. IMPERVIOUS SURFACE SLOPE AWAY FROM STRUCTURE SHALL BE 2% FOR 10 FEET, UNLESS APART OF AN EGRESS PATH.
6. SITE EARTHWORK: CUT=1,670 CUBIC YARDS; FILL=15,103 CUBIC YARDS; NET FILL=13,433 CY. STRUCTURAL FILL TO BE APPROVED BY THIS ENGINEER PRIOR TO USE. EXCESS TO BE USED FOR LANDSCAPE FEATURES. MAXIMUM HEIGHT OF CUT = 4.8', MAXIMUM HEIGHT OF FILL = 4.5'.
7. ALL DISTURBED AREAS WILL BE OCCUPIED BY PERMANENT STRUCTURES OR FLATWORK IMPROVEMENTS (DRIVEWAYS, ETC.) OR RECEIVE LOCALIZED LANDSCAPING. AREAS WHICH ARE NOT LANDSCAPED MAY BE REVEGETATED THE APPLICATION OF SEED MIXTURES OF SODAR WHEATGRASS, SAGEBRUSH, RYEGRASS AND/OR PLANT MIX IN ACCORDANCE WITH THE TRUCKEE MEADOWS STRUCTURAL CONTROLS DESIGN AND LOW IMPACT DEVELOPMENT MANUAL PREPARED BY NCE, DATED APRIL 2015.



1 C1.0 BACK OF WALL SWALE DETAIL

NOT TO SCALE



2 C1.0 DRIVEWAY CROSS SECTION

NOT TO SCALE

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CONSULTING CIVIL ENGINEERS
P.O. Box 18449
Reno, Nevada 89511
TEL (775)853-9100
FAX (775)853-9199

SITE IMPROVEMENT PLAN

GAIL WILLEY LANDSCAPING, INC
190 US HWY 395 SOUTH
APN: 050-220-37

WASHOE COUNTY NEVADA

PROFESSIONAL ENGINEER - STATE OF NEVADA
CHRISTINA A. BRENNAN
Exp. 12/31/24
CIVIL
No. 24133
SIGNED: 6/13/23

DATE: JUNE 13, 2023
JOB NUMBER: 21100.004
DESIGNED BY: CEC
DRAWN BY: CAB
CHECKED BY: CEC

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C1.0

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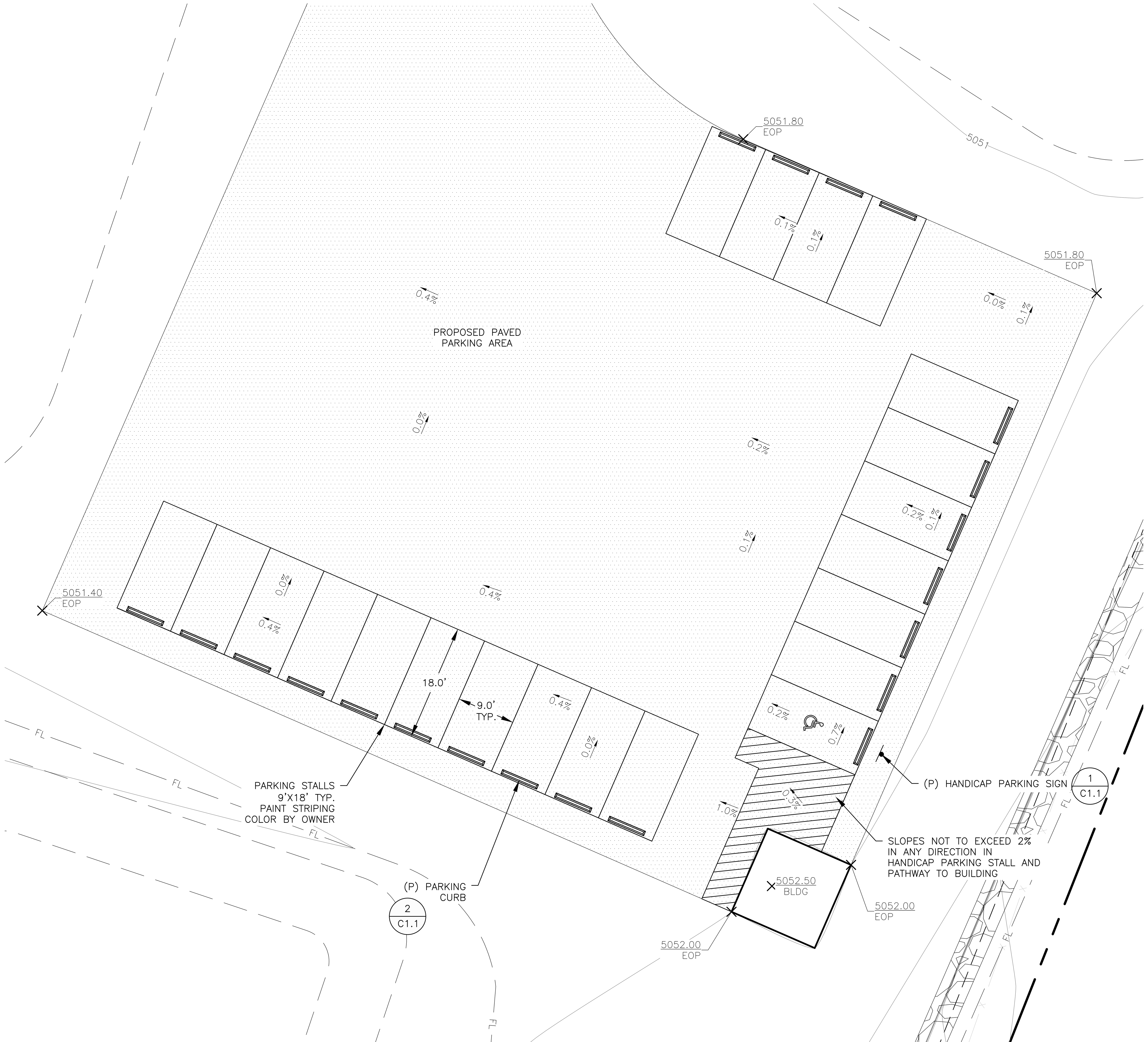
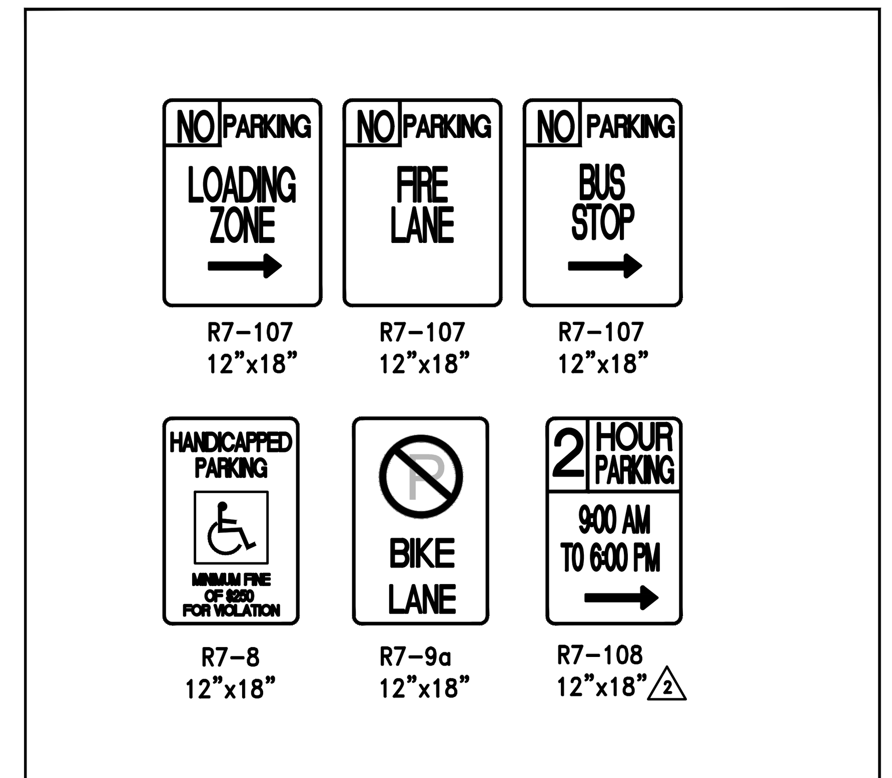


PARKING LOT PLAN

SCALE: 1" = 30'

30' 0 30' 60'

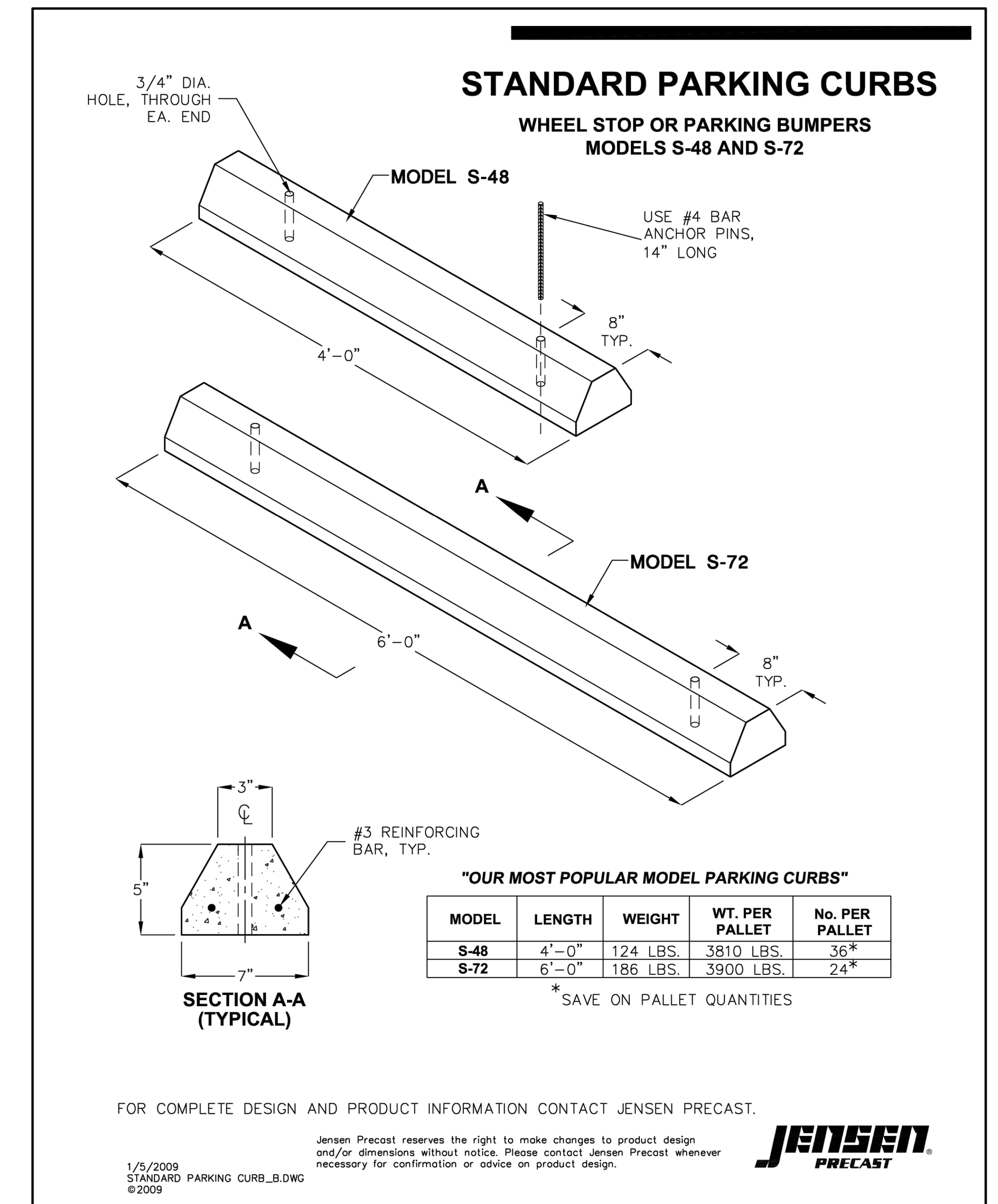


NOTES:

1. SIGN LETTERS, COLORS AND PLACEMENT SHALL BE IN CONFORMANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
2. TIME RESTRICTED PARKING SIGNS ARE AVAILABLE IN 30 MINUTE, 1 HOUR, 2 HOUR, AND 5 HOUR INCREMENTS.
3. REFER TO STANDARD DETAIL DRAWING NO. R-415 FOR MOUNTING AND POLE REQUIREMENTS, UNLESS OTHERWISE SPECIFIED.

STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION — TRAFFIC PARKING SIGNS — DRAWING No. R-414 — APPROVED BY: JF — DATE: 1/2013

1 / C1.1 HANDICAP PARKING SIGN
NOT TO SCALE



"OUR MOST POPULAR MODEL PARKING CURBS"

MODEL	LENGTH	WEIGHT	WT. PER PALLET	No. PER PALLET
S-48	4'-0"	124 LBS.	3810 LBS.	36*
S-72	6'-0"	186 LBS.	3900 LBS.	24*

*SAVE ON PALLET QUANTITIES

2 / C1.1 STANDARD PARKING CURB
NOT TO SCALE

REV.	DATE	BY	APP'D

Reno Tahoe Geo Associates, Inc.
CONSULTING CIVIL ENGINEERS
P.O. Box 18449
Reno, Nevada 89511
TEL (775)853-9100
FAX (775)853-9199

PARKING STALL PLAN

GAIL WILLEY LANDSCAPING, INC
190 US HWY 395 SOUTH
APN: 050-220-37
WASHOE COUNTY NEVADA

PROFESSIONAL ENGINEER STATE OF NEVADA — CHRISTINA A. BRENNAN — Exp. 12/31/24 — CIVIL — No. 24133
SIGNED: 6/13/23

DATE: JUNE 13, 2023
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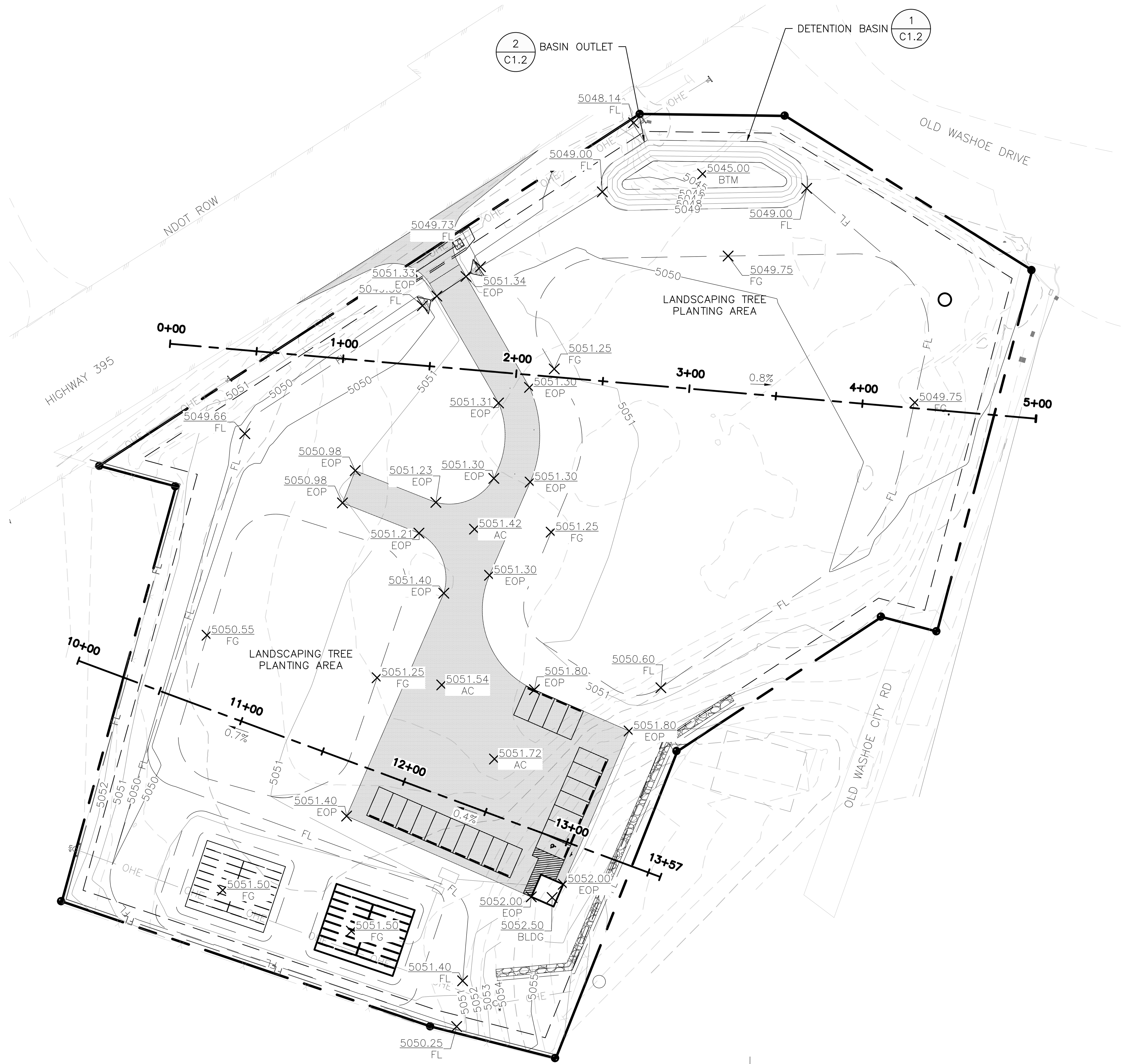
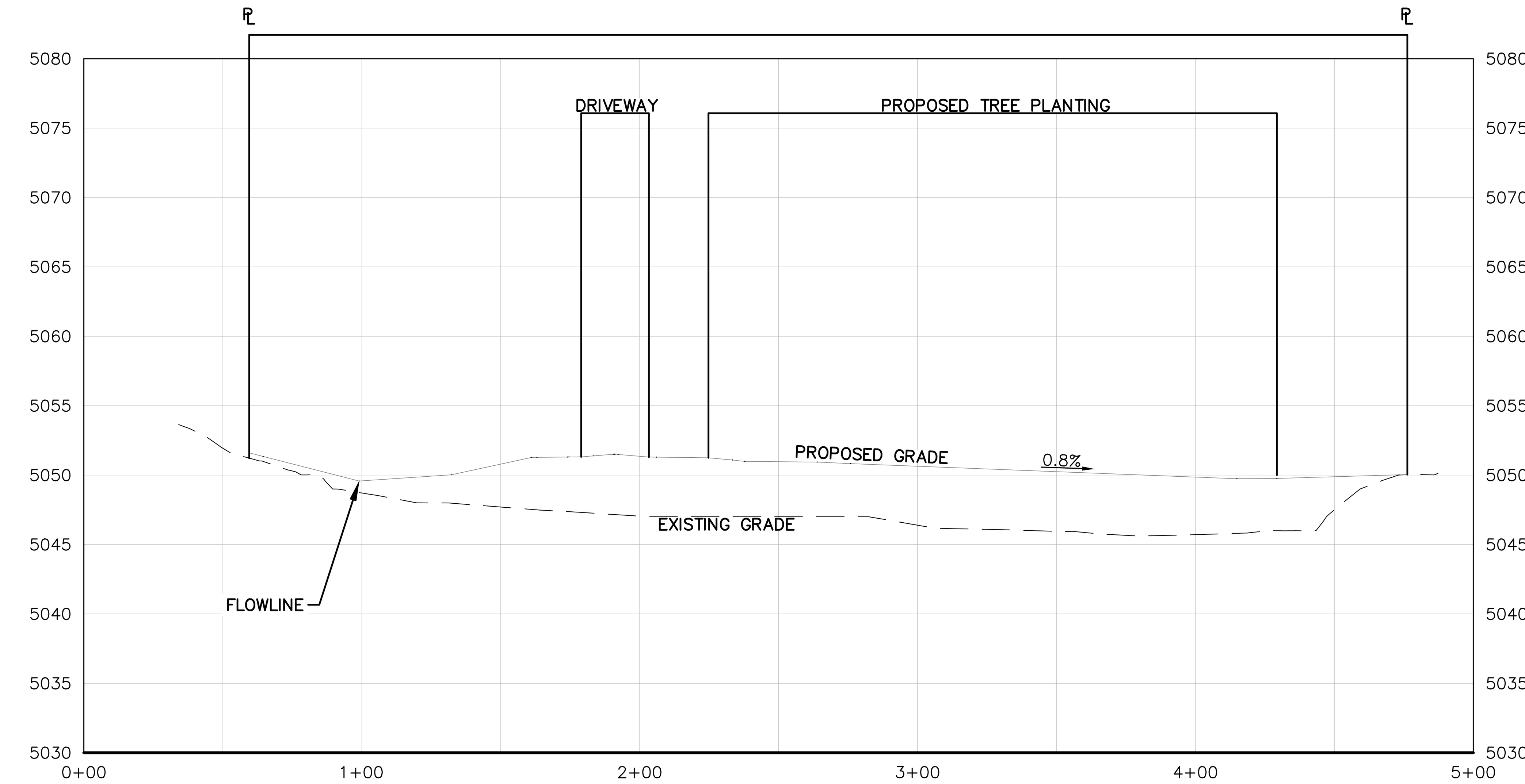


CROSS SECTION LAYOUT

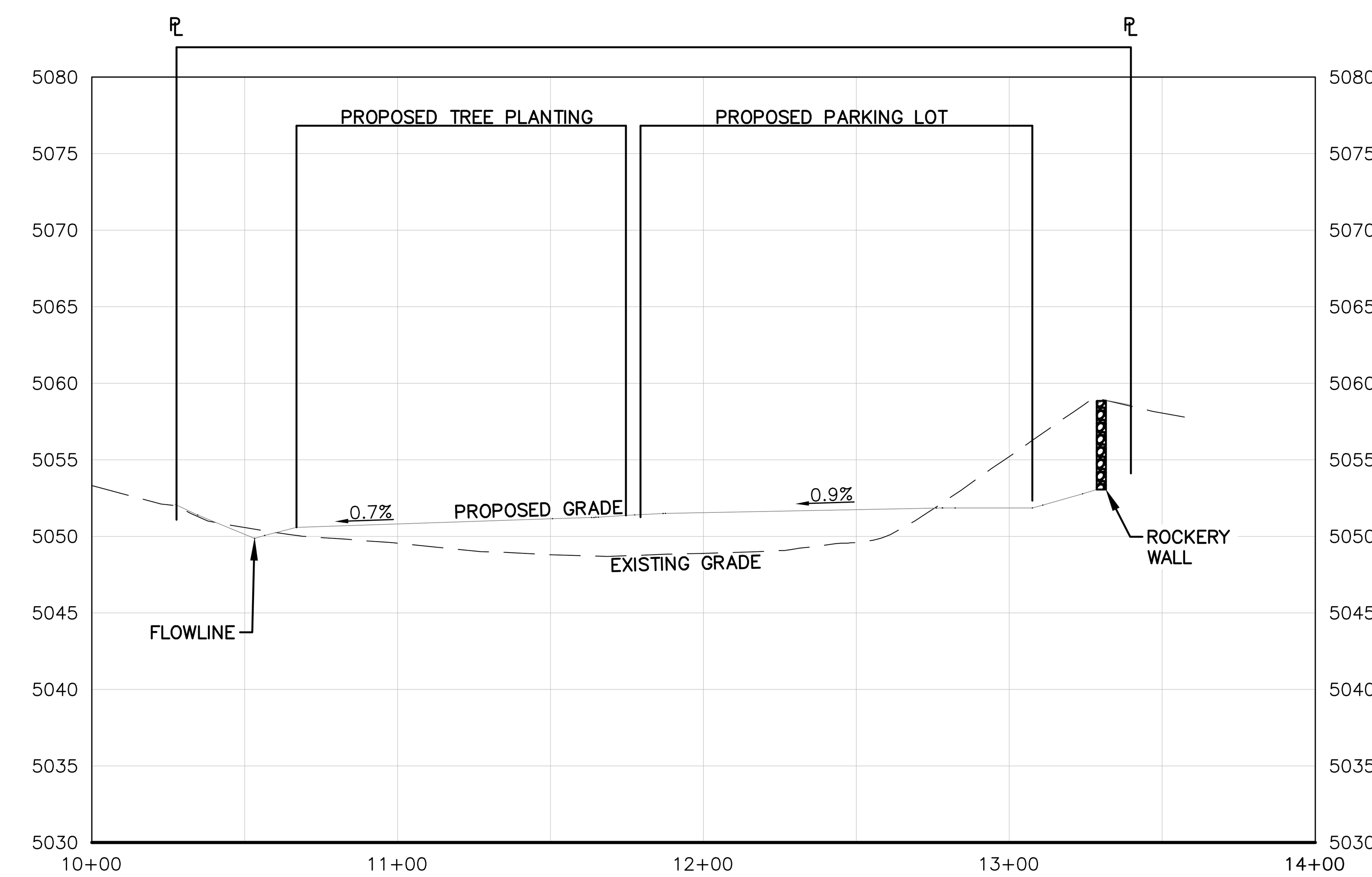
SCALE: 1" = 40'

40' 0 40' 80'



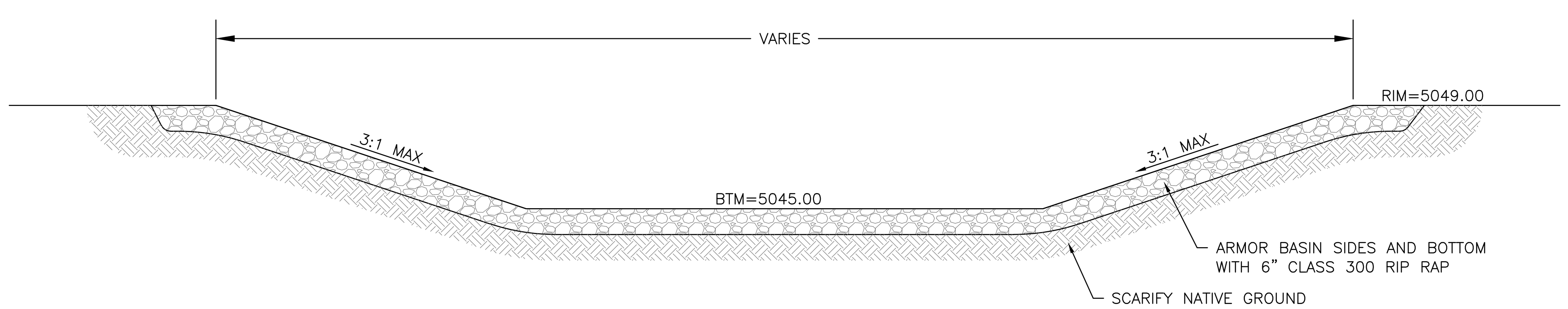
"NORTH" CROSS SECTION

HORZ SCALE: 1"=40"
VERT SCALE: 1"=10"



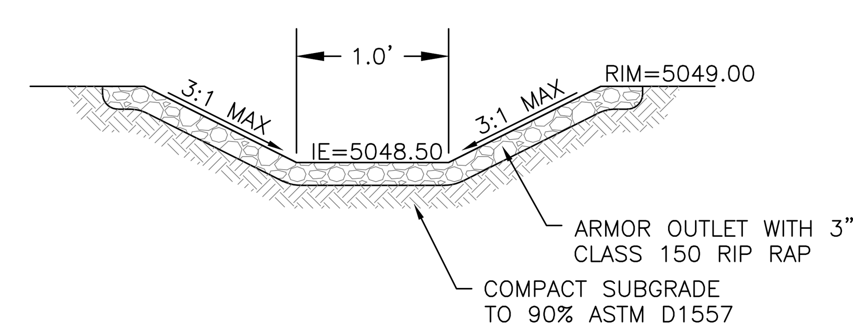
"SOUTH" CROSS SECTION

HORZ SCALE: 1"=40"
VERT SCALE: 1"=10"



1 C1.2 DETENTION BASIN

NOT TO SCALE



2 C1.2 BASIN OUTLET

NOT TO SCALE

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CONSULTING CIVIL ENGINEERS
P.O. Box 18449
Reno, Nevada 89511
TEL (775)853-9100
FAX (775)853-9199

CROSS SECTIONS

GAIL WILLEY LANDSCAPING, INC
190 US HWY 395 SOUTH
APN: 050-220-37

WASHOE COUNTY NEVADA

PROFESSIONAL ENGINEER STATE OF NEVADA
CHRISTINA A. BRENNAN
Exp. 12/31/24
CIVIL
No. 24133
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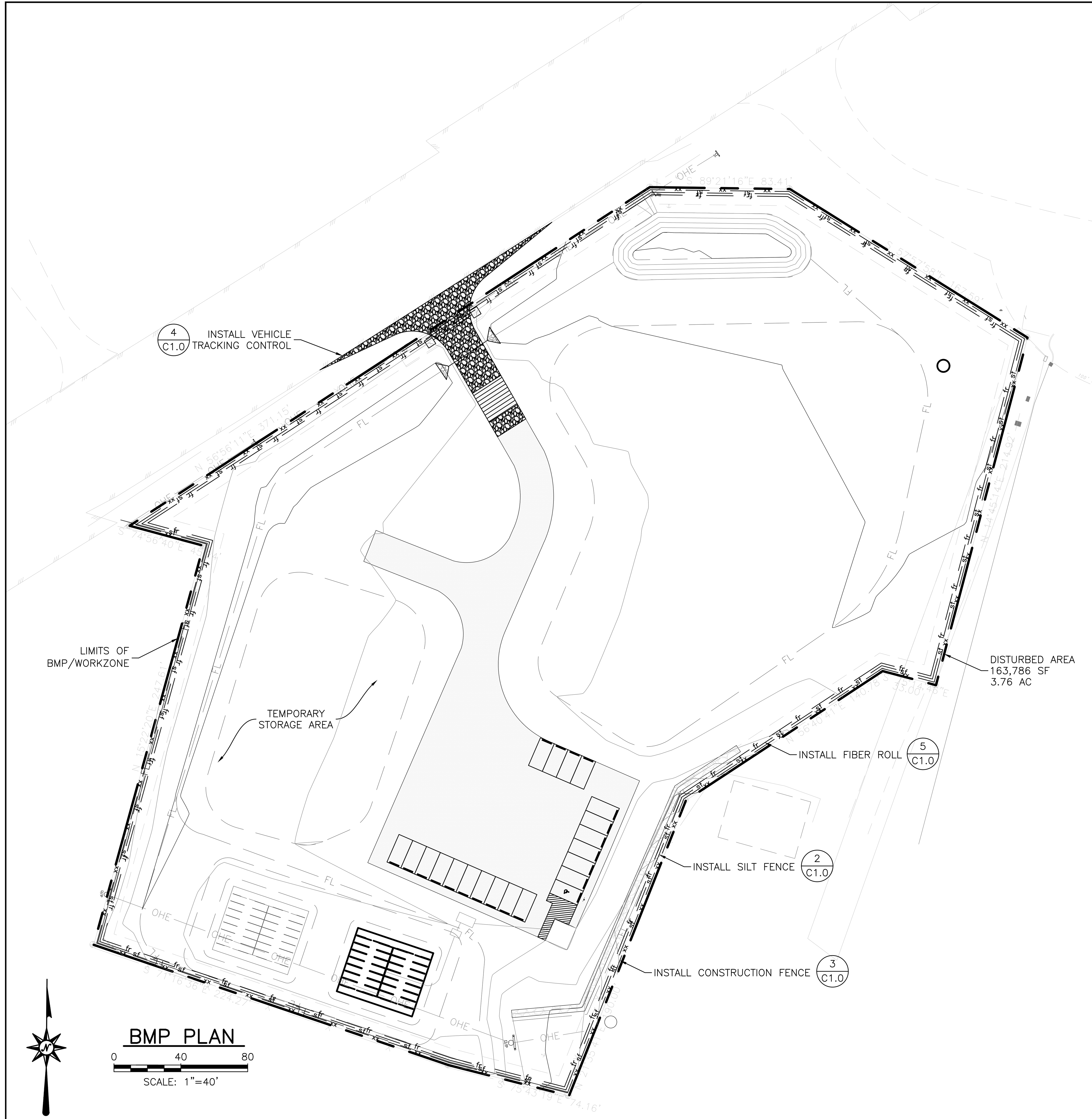
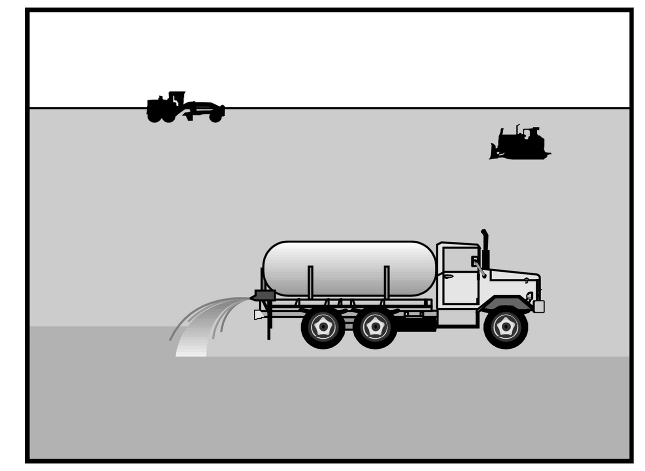
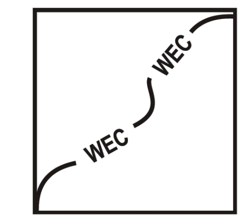


Wind Erosion and Dust Control EC-5





Map Symbol

Graphics used with permission of Caltrans

Purpose: Storm water runoff, wind, erosion, and vehicle trackout from construction sites can re-disperse sediments to the air by high winds and traffic. Therefore, the purpose of dust control is to minimize these effects.

Applications:

- All construction sites having exposed soils must perform dust control measures.
- Wind erosion and dust control is important in arid and windy regions.
- Areas with soils with fine particles (silts and clay) are more prone to dust if the surface is disturbed.
- Dust control is a permanent or treatment between but must be adequate upon project completion.
- Dust control methods can help to minimize pollutants in the storm drain system, are generally inexpensive.
- Wind fence (snow fence) are applicable in arid regions where large areas of cleared land are susceptible to blowing sand and dust.

Limitations:

- During construction dust control measures are only temporary and may require reapplication.
- Incorrect usage of chemical stabilizers can have adverse effects on water quality.

1 C1.0 WIND EROSION AND DUST CONTROL
NOT TO SCALE

Wind Erosion and Dust Control EC-5

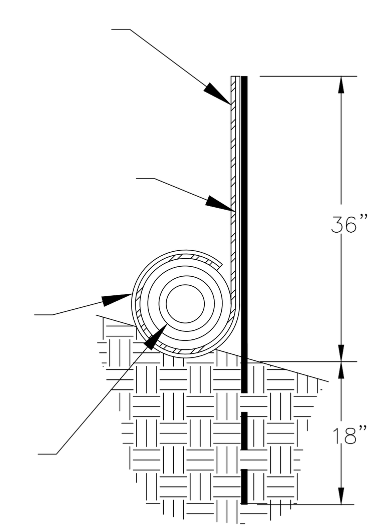
- Discharges from the site can occur if excessive water is applied resulting in runoff.
- Factors such as soil type, temperature, humidity, and wind velocity will impact the effectiveness of the dust control measures.
- Wind fences do not control sediment carried in storm water runoff. Install additional sediment and erosion control measures to capture sediment in runoff (see Section 9).

Standards and Specifications:

- Follow District Health Department standards and specifications when applying dust control measures at construction sites.
- Wind fences are barriers made of small, evenly spaced wooden slats or fabric. They are erected to reduce wind velocity and to trap blowing sand.
- Erect wind fences perpendicular to the prevailing wind source. Multiple fences may be erected to help prevent wind erosion. Software packages are available to assist with proper design.
- Reduce disturbance of soil crust.
- Other techniques used to control and minimize dust include the application of coarse gravel.
- Magnesium chloride, resins, and lignin sulfonate may be used on roads where revegetation will not occur as these products inhibit plant establishment.

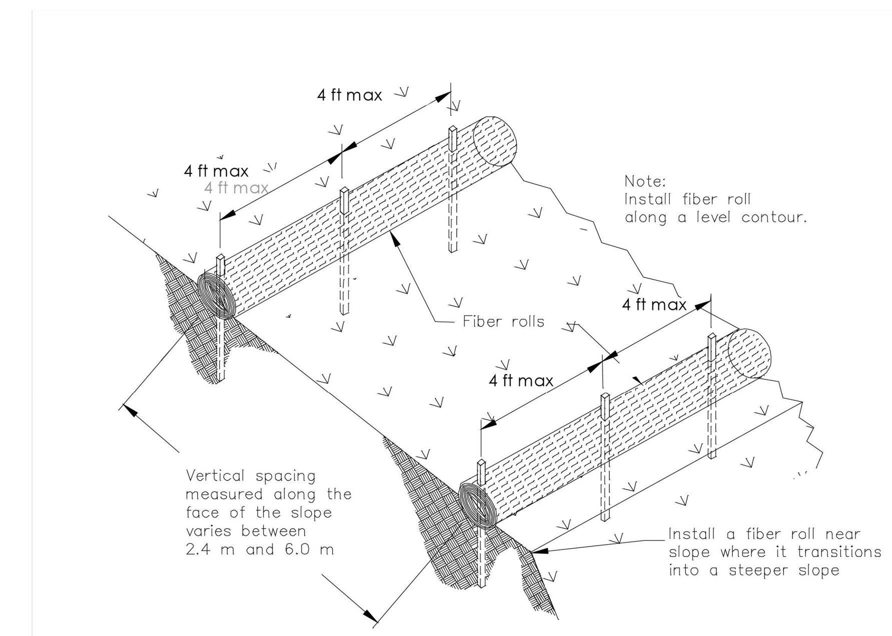
o Application

- Moistening road surfaces is an effective dust control method for traffic routes.
- This technique is short term and requires constant reapplication especially in windy areas.
- Apply 0.03 - 0.3 gal/yd^2 uniformly to pre-wet the soil surface.
- Apply 0.125 gal/yd^2 every 20-30 minutes.
- Reactivate chemicals in dry climates by rewetting with 0.1 - 0.2 gal/yd^2.
- Avoid ponding.
- Use a pressure-type distributor or a pipeline equipped with a spray system to evenly distribute water for dust control.
- Provide a positive means to shutoff distribution equipment.
- Provide at least one water truck or hydroseeder to apply water or dust palliative to the construction site.
- If non-potable water is used for dust control, all tanks, pipes, and other conveyances shall be clearly marked with "NON-POTABLE WATER – DO

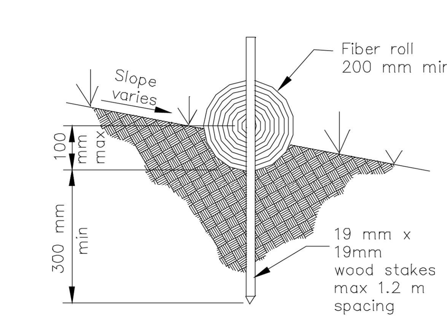


2 C1.0 SILT FENCE DETAIL
NOT TO SCALE

Fiber Rolls SC-1



TYPICAL FIBER ROLL INSTALLATION
N.T.S.



ENTRENCHMENT DETAIL
N.T.S.

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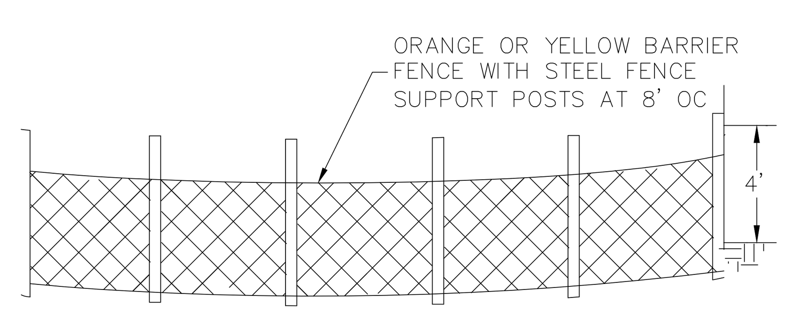
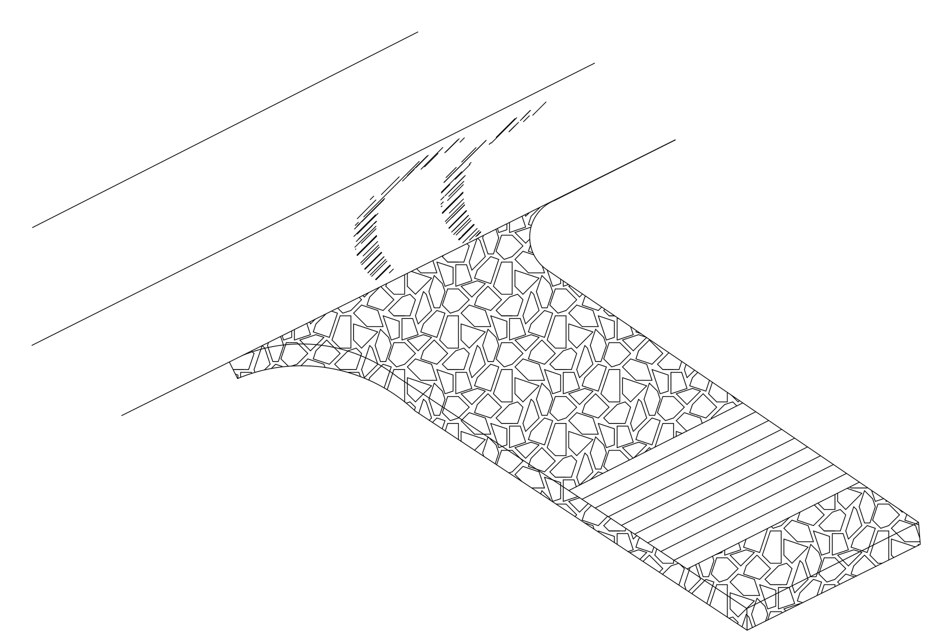
5 C1.0 FIBER ROLL DETAIL
NOT TO SCALE



3 C1.0 TEMPORARY CONSTRUCTION FENCING
NOT TO SCALE



4 C1.0 TYPICAL VEHICLE TRACKING CONTROL
NOT TO SCALE

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CONSULTING CIVIL ENGINEERS
P.O. Box 18449
Reno, Nevada 89511
TEL (775)853-9100
FAX (775)853-9199

TEMPORARY BMP PLAN
GAIL WILLEY LANDSCAPING, INC
190 US HWY 395 SOUTH
APN: 050-220-37
WASHOE COUNTY NEVADA

PROFESSIONAL ENGINEER STATE OF NEVADA
CHRISTINA A. BRENNAN
Exp. 12/31/24
CIVIL
No. 24133

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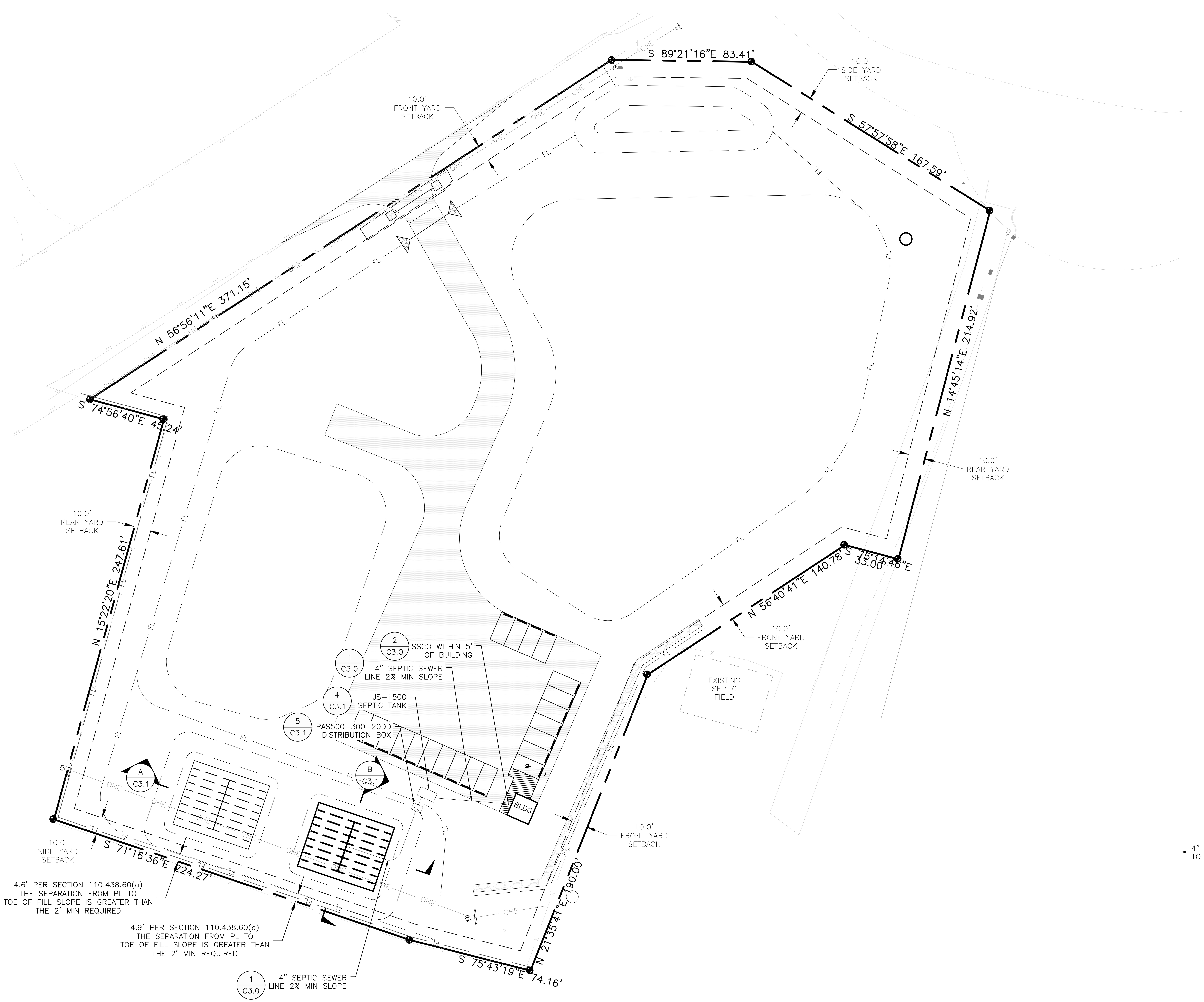
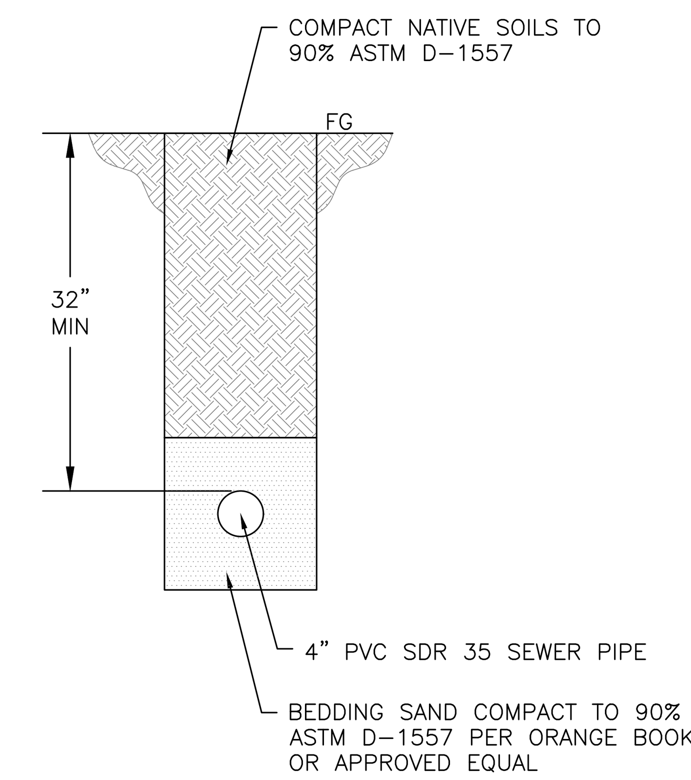
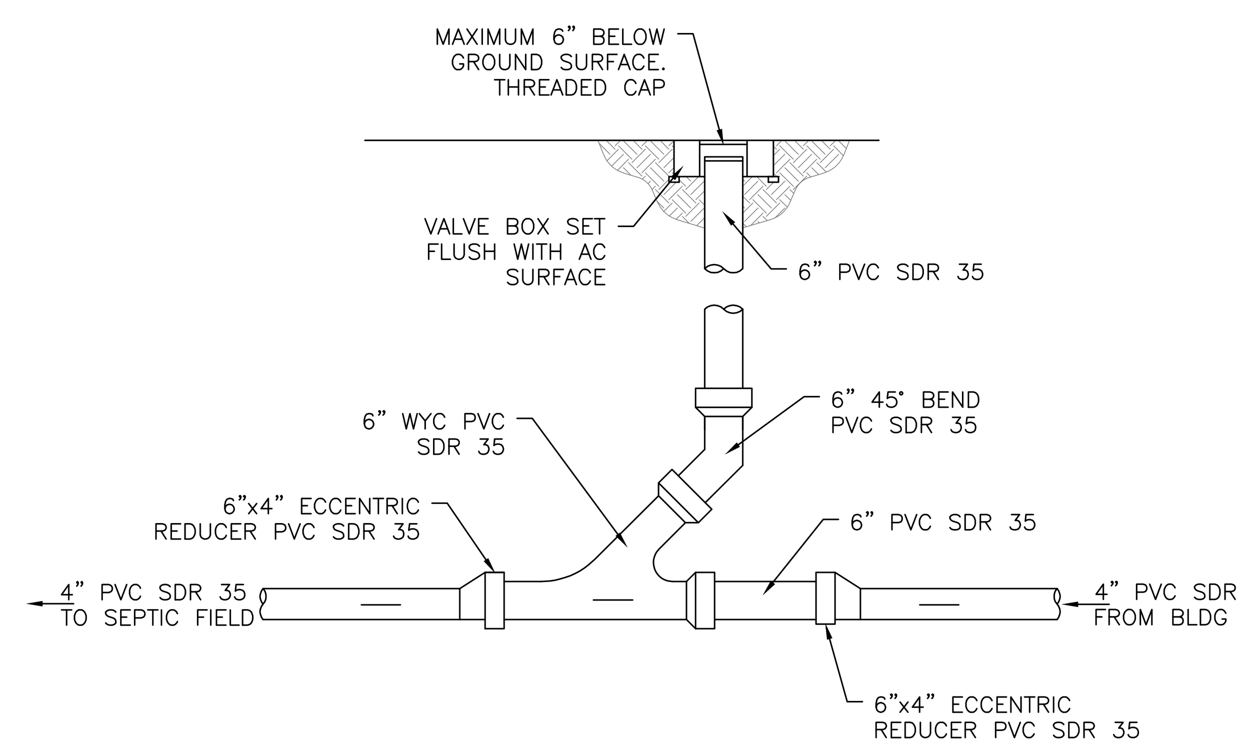


ON-SITE DISPOSAL PLAN



1 C3.0 SEWER TRENCH DETAIL

NOT TO SCALE



2 C3.0 SEWER CLEANOUT

NOT TO SCALE

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CONSULTING CIVIL ENGINEERS
P.O. Box 18449
Reno, Nevada 89511
TEL (775)853-9100
FAX (775)853-9199

ON-SITE DISPOSAL PLAN

GAIL WILLEY LANDSCAPING, INC
190 US HWY 395 SOUTH
APN: 050-220-37

WASHOE COUNTY NEVADA

PROFESSIONAL ENGINEER STATE OF NEVADA
CHRISTINA A. BRENNAN
Exp. 12/31/24
CIVIL
No. 24133
SIGNED: 6/13/23

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C3.0

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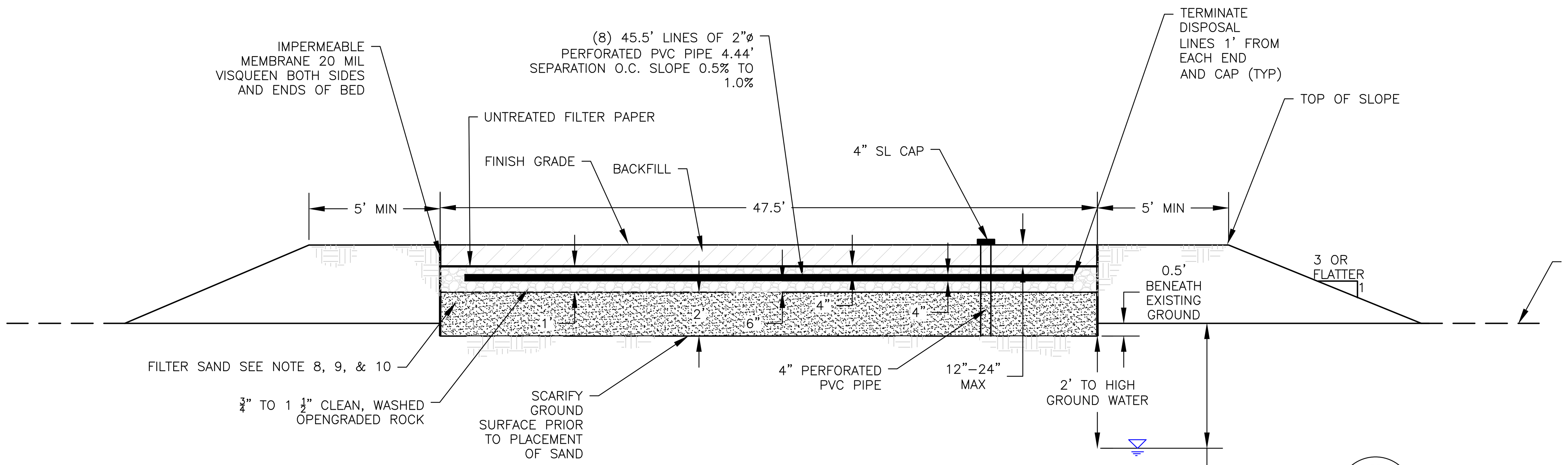
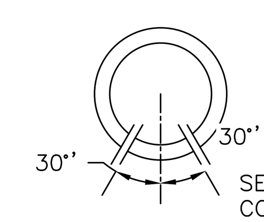
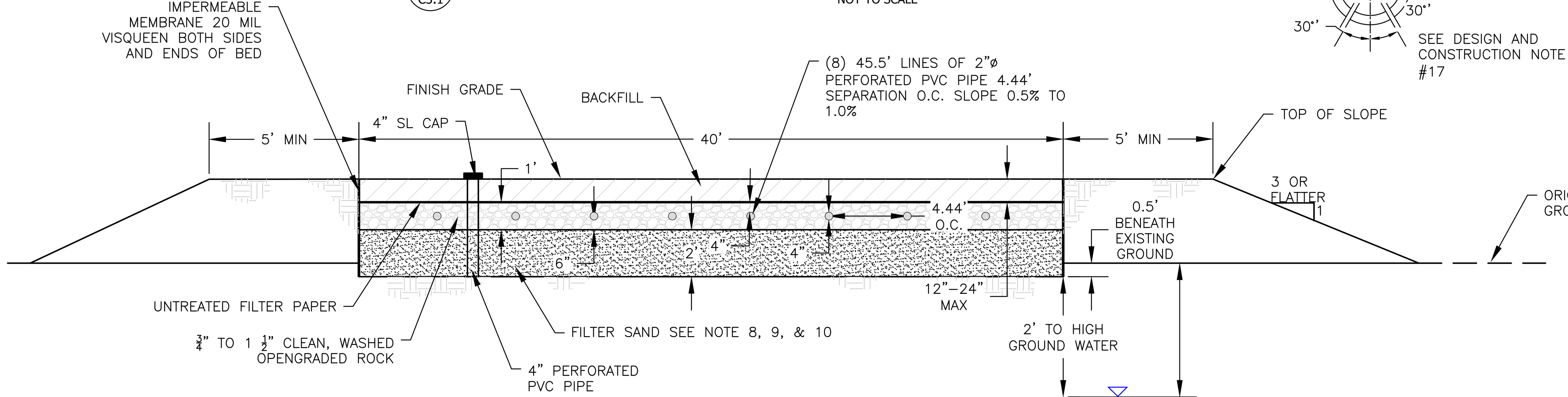


1 C3.1 DISPOSAL BED CROSS SECTION A-A'

NOT TO SCALE





2 C3.1 DISPOSAL BED CROSS SECTION B-B'

NOT TO SCALE

DESIGN AND CONSTRUCTION NOTES:

BUILDING TYPE: SMALL COMMERCIAL OFFICE BUILDING WITH FOLLOWING FIXTURES:

(2) TOILETS = 6 FU
(2) SINK = 2 FU
(1) COMMERCIAL SINK = 4 FU
(1) WASHING MACHINE = 8 FU

TOTAL FU = 20 X 2.5 GAL (EA X 3) = 1500 GALLONS

BASED ON FIXTURE UNITS A 1500 GALLON SEPTIC TANK IS REQUIRED

SOIL TYPE: SILTY SAND (SM)

GROUND WATER SEASONAL MAX.: 2.5 FEET

DEPTH TO IMPERVIOUS SOIL: NOT APPLICABLE

DESIGN PERCOLATION RATE: 40 minutes per inch

LEACH FIELD TYPE: MOUNDED SAND FILTER BED SYSTEM

DESIGN: $Q = \frac{5}{\sqrt{t}}$ WHERE Q=APPLICATION RATE (gpd/sq.ft.)
t=DESIGN PERCOLATION RATE (minutes/inch)

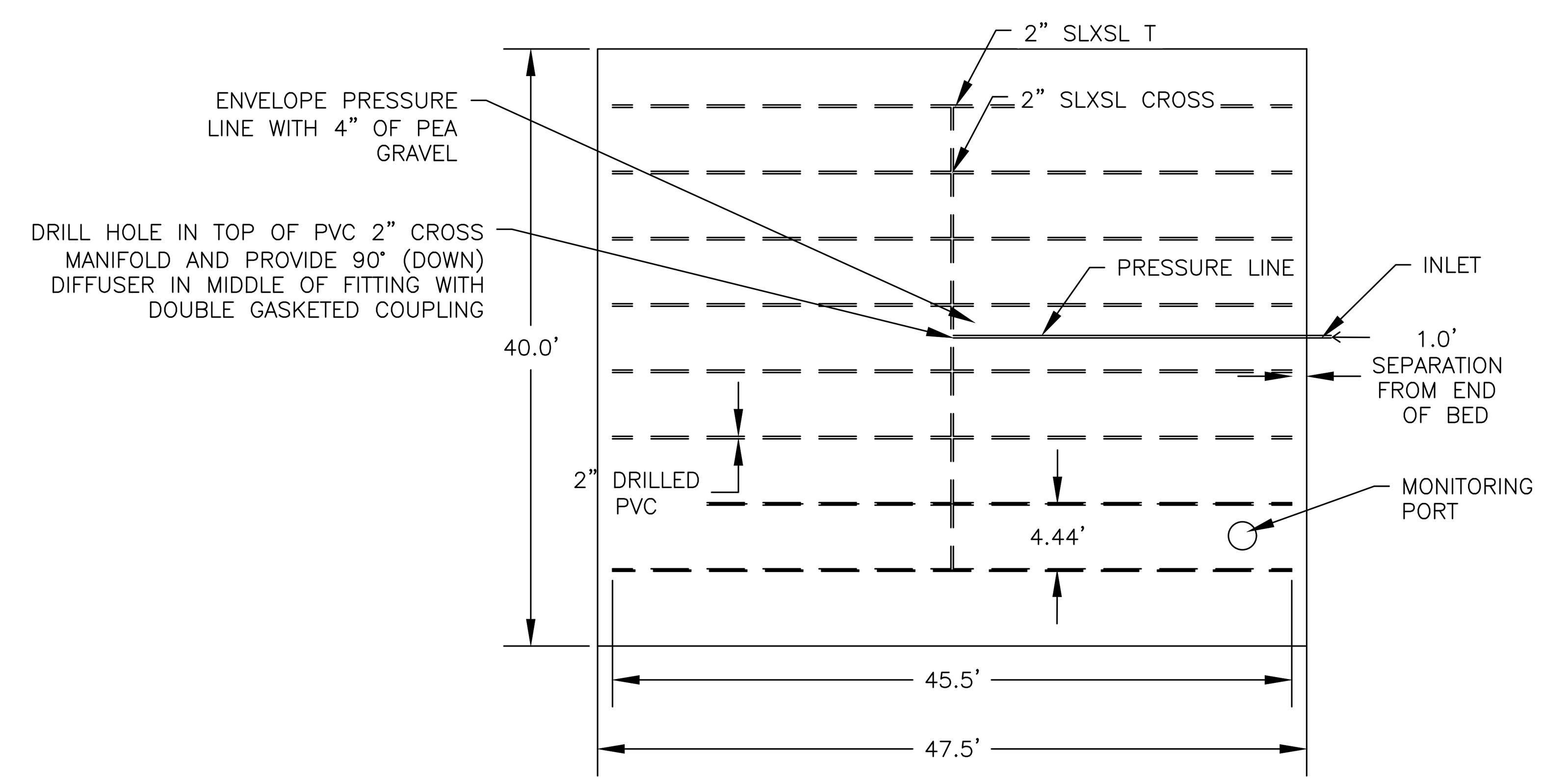
(BED SIZING WILL BE CONTROLLED BY PERCOLATION RATE)

$Q = \frac{5}{\sqrt{40}} = 0.791$ gpd/sq.ft.

FOR MAIN RESIDENCE

$\frac{1500\text{gpd}}{Q} = \frac{1500\text{gpd}}{0.791\text{gpd/sq.ft.}} =$ 1897 sq.ft. REQUIRED

BED SIZE: 40'X47.5' = 1900sq.ft. > 1897 sq.ft. "ok"



3 C3.1 DISPOSAL BED CROSS SECTION B-B'

NOT TO SCALE

DESIGN AND CONSTRUCTION NOTES:

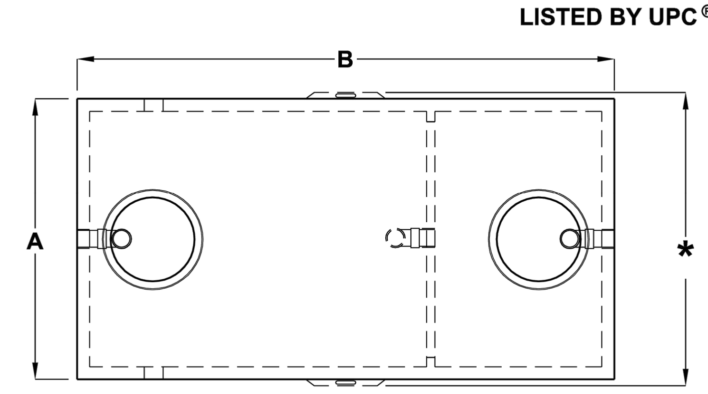
1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CURRENTLY ADOPTED WASHOE COUNTY DISTRICT HEALTH DEPARTMENT SEWAGE, WASTEWATER, AND SANITATION REGULATIONS (S.W.S.), AMENDED JULY 3, 2013, AS WELL AS NEVADA STATE HEALTH DEPARTMENT AT TIME OF THIS DESIGN.
2. NO PUBLIC SEWER IS AVAILABLE WITHIN 400 FEET OF THE SUBJECT PARCEL.
3. NO WELLS AND/OR ON-SITE SEWAGE DISPOSAL SYSTEMS ARE LOCATED WITH 200' OF THE SUBJECT PROPERTY OR AS SHOWN.
4. NO DOMESTIC WELLS ARE LOCATED WITHIN 100 FEET OF THE PROPOSED SYSTEM.
6. ALL HORIZONTAL SEPARATIONS SHALL BE IN ACCORDANCE WITH NAC: CHAPTER 444 – SANITATION SECTION 444.8361, NUMBER 6.
7. NAC: DISPOSAL BED DIMENSIONING SHALL BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 444 – SANITATION SECTION 444.8361, NUMBER 1.
8. DESIGN PERCOLATION RATE IS 40 minutes/inch.
8. FILTER SAND SHALL HAVE AN EFFECTIVE SIZE (D10) BETWEEN 0.3mm (No. 50 SIEVE APPROXIMATELY) AND 0.6mm (No. 30 SIEVE APPROXIMATELY) WITH 95% PASSING (D95), THE No. 4 SIEVE. UNIFORMITY COEFFICIENT (D60/D10) SHALL BE IN ACCORDANCE WITH CHAPTER 444 – SANITATION SECTION 444.8361, NUMBER 7.
9. A REPRESENTATIVE SAMPLE OF THE FILTER SAND SHALL BE TESTED BY A RECOGNIZED TESTING FACILITY AND CERTIFIED AS MEETING THE ABOVE REQUIREMENTS. THE SUPPLIER SHALL PROVIDE CERTIFICATION AS TO THE QUALITY OF THE SAND. IT IS RECOMMENDED THAT THE SAND BE TESTED PRIOR TO DELIVERY TO SITE.
10. SETTLE SAND BY FLOODING TRENCH BEFORE PLACEMENT OF GRAVEL AND DRAIN PIPE IN DISPOSAL FIELD.
11. ALL PIPE BENDS TO BE 45° OR LESS.
12. PLACE 1 FOOT OF SOLID PIPE FROM DISTRIBUTION BOX FEED LINES THRU EDGE OF DISPOSAL FIELD PRIOR TO USE OF PERFORATED PIPE. TERMINATE PERFORATED PIPES 1 FOOT FROM END OF FIELD AND CAP ALL ENDS.
13. MINIMUM BURY OVER SEWER SERVICE LINES (GRAVITY OR PRESSURE) IS 30 INCHES.
14. PROPOSED SEWAGE DISPOSAL SYSTEM AS SHOWN IS ORIENTED TO PROVIDE SUITABLE HORIZONTAL DISTANCE TO DAYLIGHT OF SLOPES. ANY MODIFICATIONS/CHANGES TO THE LOCATION OF SYSTEM COMPONENTS AS SHOWN WILL REQUIRE RE-EVALUATION OF SLOPE REQUIREMENTS AND POTENTIAL RE-DESIGN OF THE DISPOSAL SYSTEM.
15. DISTRIBUTION MANIFOLD SHALL BE CEMENTED TOGETHER AND BE PLACED IN SUCH A MANNER AS TO PROVIDE UNIFORM DISTRIBUTION TO EACH PERFORATED DISPOSAL LINE. PERFORATED DISPOSAL LINES SHALL BE LAID AT SLOPES WHICH PROVIDE FOR UNIFORM DISTRIBUTION OF EFFLUENT ACROSS THE DISPOSAL BED.
16. DISPOSAL SYSTEM DESIGN UTILIZES A SAND FILTER BED SYSTEM BASED ON A SEASONAL HIGH GROUNDWATER DEPTH OF 2.5 FEET BELOW GROUND SURFACE. BED EXCAVATION SHALL BE INSPECTED PRIOR TO PLACEMENT OF VISQUEEN OR SAND (SEE INSPECTION NOTES THIS SHEET).
17. DISTRIBUTION PIPING SHALL BE 2"ø SCHEDULE 40 PVC, AND SHALL BE STRAIGHT. 2 ROWS OF 3/8" DIAMETER HOLES SHALL BE DRILLED AT 6" O.C. ALONG THE BOTTOM OF THE PIPING AT 30° ON EITHER SIDE OF THE VERTICAL. PIPES SHALL BE LAID WITH HOLES DOWN AT A UNIFORM GRADIENT THAT WILL PROVIDE UNIFORM FLOW THRU HOLES.

INSPECTION NOTES:

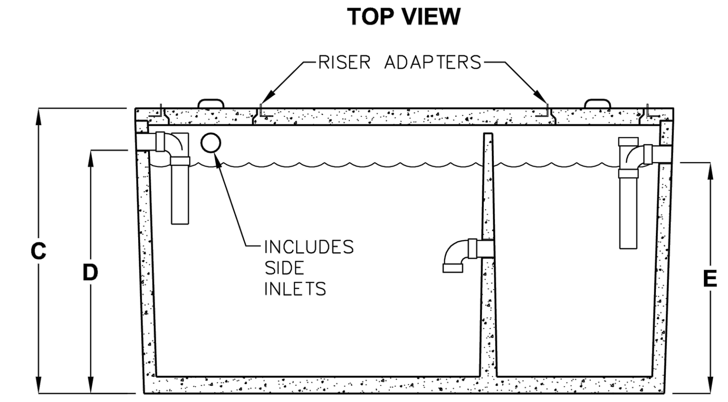
1. THIS IS AN ENGINEERED SEPTIC DISPOSAL SYSTEM AND INSPECTION IS REQUIRED DURING CONSTRUCTION. CONTRACTOR SHALL NOTIFY RENO TAHOE GEO & ASSOCIATES, INC. 48 HOURS (minimum) SUCH THAT THE FOLLOWING INSPECTIONS CAN BE COORDINATED:
   A. EXCAVATION OF DISPOSAL BED AND SCARIFICATION OF SOIL BOTTOM.
   B. PLACEMENT OF FILTER SAND AND INSPECTION OF MEMBRANE ON SIDEWALLS OF BED.
   C. PLACEMENT OF DRAINROCK AND PIPING ABOVE SAND.
   D. WET TEST OF PIPING PRIOR TO COVERING WITH DRAINROCK.
   E. WET TEST OF PUMP ACTIVATION SWITCHING AND ALARM.

RESIDENTIAL SEPTIC TANKS

LISTED BY UPC®



TOP VIEW



SIDE VIEW

MODEL NUMBER	LIQUID CAPACITY (GALLONS)	DIM A	DIM B	DIM C	DIM D	DIM E	MINIMUM EXCAVATION WIDTH*	MINIMUM EXCAVATION LENGTH
JS-1000	1000	5'-1"	8'-2"	5'-8"	4'-10"	4'-7"	6'-10"	9'-2"
JS-1200	1200	5'-9"	8'-6"	5'-8"	4'-10"	4'-7"	7'-6"	9'-6"
JS-1500	1500	5'-7"	10'-8"	5'-8"	4'-10"	4'-7"	7'-4"	11'-8"
JS-2000	2000	4'-11"	15'-11"	5'-8"	4'-10"	4'-7"	6'-8"	16'-11"
JS-2500	2500	5'-9"	16'-10"	5'-8"	4'-10"	4'-7"	7'-6"	17'-10"
JS-3000	3000	5'-9"	16'-10"	6'-5"	5'-7"	5'-4"	7'-6"	17'-10"

*OVERALL WIDTH CAN VARY WITH TANK MODEL. USE EXCAVATION WIDTH FOR SITE PLANNING.

DESIGN LOAD: NON-TRAFFIC WITH 3' EARTH COVER MAXIMUM AT 500 PSF.

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.

JENSEN PRECAST

4/10/2008
JS1000-JS3000_NONV_B.DWG
©2008

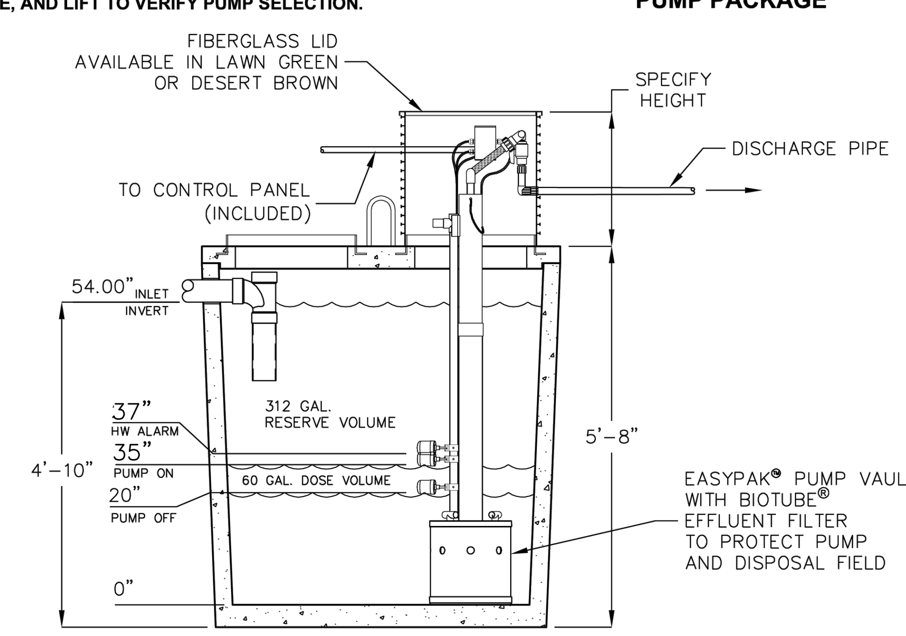
4 C3.1 SEPTIC TANK DETAIL

NOT TO SCALE

PUMP AND LIFT STATION DEMAND DOSE-RESIDENTIAL

300 GPD BIOTUBE® EASYPAK® PUMP PACKAGE

DESIGNED TO MEET MOST RESIDENTIAL DEMAND DOSE APPLICATIONS. CALL JENSEN PRECAST WITH YOUR TRANSPORT PIPE LENGTH, SIZE, AND LIFT TO VERIFY PUMP SELECTION.



ELEVATION SECTION

- 4" TURBINE EFFLUENT PUMP, WITH 5 YEAR WARRANTY, LASTS FOUR TIMES LONGER THAN CENTRIFUGAL PUMPS.
- FLOATS CAN BE EASILY ADJUSTED TO CHANGE DOSE VOLUME.
- SIMPLEX ELECTRO-MECHANICAL CONTROL PANEL WITH AUDIO AND VISUAL ALARM.
- POWER REQUIREMENTS: 120 VOLT, SINGLE PHASE AT 60 HZ.
- 12 GALLONS PER VERTICAL INCH.
- DESIGN LOAD: NON-TRAFFIC WITH 3 FOOT MAXIMUM SOIL COVER WITH WATER TABLE BELOW BOTTOM OF STRUCTURE. TRAFFIC RATED DESIGNS ARE AVAILABLE.
- FOR COMPLETE DESIGN AND PRODUCT INFORMATION CONTACT JENSEN PRECAST.

MODEL	DISCHARGE	MAX FLOW RATE
PAS500-300-10DD	STANDARD	10
PAS500-300-10DD-DB	DRAIN BACK*	10
PAS500-300-10DD-CW	COLD WEATHER	10
PAS500-300-15DD	STANDARD	15
PAS500-300-15DD-DB	DRAIN BACK*	15
PAS500-300-15DD-CW	COLD WEATHER	15
PAS500-300-20DD	STANDARD	20
PAS500-300-20DD-DB	DRAIN BACK*	20
PAS500-300-20DD-CW	COLD WEATHER	20

*ADJUST DOSE VOLUME TO INCLUDE TRANSPORT PIPE VOLUME

BIOTUBE® AND EASYPAK® ARE TRADEMARKS OF ORENCO SYSTEMS, INC.

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.

JENSEN PRECAST

4/12/2010
300-60_DEMAND_PUMP LIFT_AZ_A.DWG
©2010

5 C3.1 PUMP STATION DETAIL

NOT TO SCALE

REV.	DATE		BY	APP'D

Reno Tahoe Geo Associates, Inc.
CONSULTING CIVIL ENGINEERS
P.O. Box 18449
Reno, Nevada 89511
TEL (775)853-9100
FAX (775)853-9199

SEPTIC DETAILS AND NOTES

GAIL WILLEY LANDSCAPING, INC
190 US HWY 395 SOUTH
APN: 050-220-37

WASHOE COUNTY NEVADA

PROFESSIONAL ENGINEER STATE OF NEVADA
CHRISTINA A. BRENNAN
Exp. 12/31/24
CIVIL
No. 24133
SIGNED: 6/13/23

DATE: JUNE 13, 2023
JOB NUMBER: 21100.004
DESIGNED BY: CEC
DRAWN BY: CAB
CHECKED BY: CEC

SHEET
C3.1

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