Special Use Permits

Washoe County Code (WCC) Chapter 110, Article 810, Special Use Permit, provides a method of reviewing proposed uses as listed in Article 302, Allowed Uses, which possess characteristics that require special appraisal in order to determine if the uses have the potential to adversely affect other land uses, transportation systems, or public facilities in the vicinity. The Planning Commission, Board of Adjustment, or Hearing Examiner may require conditions of approval necessary to eliminate or minimize, to an acceptable level, any potentially adverse effects of the use. See WCC 110.810, for further information

Development Application Submittal Requirements

Applications are accepted on the 8th of each month. If the 8th falls on a non-business day, applications will be accepted on the next business day.

If you are submitting your application online, you may do so at OneNV.us

---

1. **Fees:** See Master Fee Schedule. **Most payments can be made directly through the OneNV.us portal.** If you would like to pay by check, please make the check payable to Washoe County and bring your application and payment to the Community Services Department (CSD).
2. **Development Application:** A completed Washoe County Development Application form.
3. **Owner Affidavit:** The Owner Affidavit must be signed and notarized by all owners of the property subject to the application request.
4. **Proof of Property Tax Payment:** The applicant must provide a written statement from the Washoe County Treasurer's Office indicating all property taxes for the current quarter of the fiscal year on the land have been paid.
5. **Neighborhood Meeting:** This project may require a Neighborhood Meeting to be held prior to application submittal. Please contact Washoe County Planning at Planning@washoecounty.gov or by phone at 775-328-6100 to discuss requirements.
6. **Application Materials:** The completed Special Use Permit Application materials.
7. **Proposed Site Plan Specifications (Special Use Permit and Stables):**
   a. Lot size with dimensions drawn using standard engineering scales (e.g. scale 1" = 100', 1" = 200', or 1" = 500') showing all streets and ingress/egress to the property.
   b. Show the location and configuration of all existing and proposed buildings (with distances from the property lines and from each other), all existing buildings that will remain (with distances from the property lines and from each other), all existing buildings that will be removed, and site improvements on a base map with existing and proposed topography expressed in intervals of no more than five (5) feet.
   c. Show the location and configuration of wells and well houses, septic systems and leach fields, overhead utilities, water and sewer lines, and all existing and proposed easements.
   d. Show locations of parking, landscaping, signage and lighting.
   e. The cross sections of all rights-of-way, streets, alleys or private access ways within the proposed development, proposed name and approximate grade of each, and approximate radius of all curves and diameter of each cul-de-sac.
   f. Property boundary lines, distances and bearings.
   g. Contours at five (5) foot intervals or two (2) foot intervals where, in the opinion of the County Engineer, topography is a major factor in the development.
   h. Indication of prominent landmarks, rock outcroppings, and natural foliage which will be deciding considerations in the design of the development.

i. If any portion of the land within the boundary of the development is subject to inundation or storm water overflow, as shown on the adopted Federal Emergency Management Agency's Flood Boundary and Floodway Maps, that fact and the land so affected shall be clearly shown on the map by a prominent note on each sheet, as well as width and direction of flow of each water course within the boundaries of the development.

j. Existing and proposed roads, trails or rights-of-way within the development shall be designated on the map. Topography and existing developments within three hundred (300) feet must also be shown on the map.

k. Vicinity map showing the proposed development in relation to Interstate 80, Highway 395, I-580, or a major arterial. The vicinity map shall also include a north arrow.

l. Date, scale, and number of each sheet in relation to the total number of sheets, and the name of the person preparing the plans.

m. Location of snow storage areas sufficient to handle snow removed from public and private street, if above 5,500 feet.

n. All known areas of potential hazard (and the basis for delineation) shall be clearly designated on the map. Additionally, active fault lines (post-Holocene) shall be delineated on the map.

o. Location of areas with slopes greater than fifteen percent (15%) and thirty percent (30%).

p. Boundary of any wetland areas and/or floodplains within the project site.

q. Note by the project engineer or design professional indicating compliance with all applicable provisions of the Washoe County Development Code.

r. Significant Hydrological Resources. Indicate the critical and sensitive buffer zones according to Article 418 of the Washoe County Development Code.

8. **Site Plan Specifications for Grading:**

a. Location and limits of all work to be done.

b. Existing contours and proposed contours.

c. Location of any structures on adjacent parcels that are within fifteen (15) feet of the work site's parcel boundary.

d. Existing draining (natural and man-made) and proposed drainage patterns.

e. Sufficient elevation data to show the drainage will work as proposed.

f. Quantities of excavation fill and disturbed surface area shall be calculated and shown on the site plan. **Areas under buildings and pavement need not be included in these calculations.**

g. Quantities of material proposed to be removed from the site must be shown. The proposed disposal area and the disposition of fill must be noted on the plan.

h. Limiting dimensions of cut and fill.

i. Proposed BMPs (Best Management Practices) for controlling water and wind erosion if a disturbed area is left undeveloped for more than thirty (30) days.

j. Cut and fill slopes setback from the property boundary.

k. Structure setbacks from a slope.

9. **Grading:** In accordance with the grading provisions of Washoe County Code, Article 438, if the thresholds for a grading permit are met or exceeded, the grading plans shall indicate the existing and proposed grades, slope treatments (i.e. rip rap, erosion control, etc.) and drainage channels and the direction of flow. **Cross sections must be provided at a minimum of two key locations.**

9. **Traffic Impact Report (Special Use Permit and Stables):** Traffic impact reports are required whenever the proposed development project will generate 80 or more weekday peak hour trips as determined using the latest edition Institute of Transportation Engineers (ITE) trip generation rates or other such sources as may be accepted by Washoe County Engineering. Projects with less than 200 peak hour trips may not need to perform an impact analysis for future years. Traffic consultants are

encouraged to contact Washoe County Engineering and Capital Projects staff prior to preparing a traffic impact report.

10. **Landscaping:** Landscape plans may be required, for **stables**. Landscape plans may include: a soils evaluation; color and type of building material, such as fencing material; type of plant material; location of plant material and proposed maintenance schedule; size of plant material at planting and size of plant material at full maturation; type and amount of mulch material; and an irrigation plan.

    a. **Planting Plan Specifications:** The planting plan must include all necessary information to satisfy Washoe County Code Section 110.412.60, Planting Standards.

        - Proposed Tree Locations. Individual trees shall be graphically depicted in the proposed locations; trees shall be identified as either evergreen or deciduous; trees shall be individually labeled or coded and cross referenced to the proposed plant species in the plant legend.
        - Proposed Plant Material. The preliminary plan must identify where, and a square footage amount for, one or all of the following items: trees, mulch (rock, DG or bark), seeded areas, etc.
        - Existing On-Site Vegetation. In the case of large strands of trees and shrubs, individual locations may be identified with a revision cloud symbol. Smaller numbers or strands of trees (six (6) inch caliper and greater) shall be identified individually. Shrub areas and other forms of vegetation such as grasses shall be identified with a revision cloud symbol.
        - Plant Legend. Legend shall include all proposed plant material, including the following: common name, botanical name, size at planting, spacing and quantity (of trees only).
        - Landscape Area Legend. A summary of proposed areas and their square footages shall include: lawn, existing and or proposed paving, existing trees to be preserved, existing trees to be removed and the amount of proposed shrubs.

    b. **Irrigation Plan Specifications:** The irrigation plan must include all necessary information to satisfy Washoe County Code Section 110.412.65, Irrigation Standards.

        - Location, size, and specifications of water source(s), water mains, meter(s), valves, and the controller.
        - Temporary or permanent water irrigation systems.
        - Specifications of irrigation equipment identified by manufacturer's name and equipment identification number.
        - An approved backflow prevention device is required on all landscape irrigation systems.

11. **Signage Plan:** The signage plans shall include sign elevations and delineate location, height, style, dimensions, intensity of sign lighting and finish of any proposed signage:

12. **Lighting Plan:** Show the location and configuration of all proposed exterior lighting including a detail of the parking lot light fixtures, pole heights, security lighting, and wall mounted illumination fixtures. Parking lot areas shall be depicted showing lumen isolines demonstrating compliance with the provisions of the Washoe County Development Code.

13. **Building Elevations:** All buildings and structures including fences, walls, poles and monument signs proposed for construction within the project shall be clearly depicted in vertical architectural drawings provided in accurate architectural scale. All architectural elevations from all building faces shall be presented.

14. **Submission Packets:** Two (2) packets and a flash drive. One (1) packet must be labeled "Original" and contain a signed and notarized Owner Affidavit. Any digital documents need to have a resolution of 300 dpi. If materials are unreadable, you will be asked to provide a higher quality copy. The packet shall include one (1) 8.5" x 11" reduction of any applicable site plan, development plan, and/or application map. Labeling on these reproductions should be no smaller than 8 point on the 8.5" x 11" display. Large format sheets should be included in a slide pocket(s). Any specialized reports identified above shall be included as attachments or appendices and be annotated as such.

Notes:

(i) Application and map submittals must comply with all specific criteria as established in the Washoe County Development Code and/or the Nevada Revised Statutes.

(ii) Appropriate map engineering and building architectural scales are subject to the approval of the Planning and Building and/or Engineering and Capital Projects.

(iii) All oversized maps and plans must be folded to a 9” x 12” size.

(iv) Based on the specific nature of the development request, Washoe County reserves the right to specify additional submittal packets, additional information and/or specialized studies that clarify the potential impacts and potential conditions of development in order to minimize or mitigate impacts resulting from the project. No application shall be processed until the information necessary to review and evaluate the proposed project is deemed complete by the Director of Planning and Building.

(v) **Labels:** The applicant is required to submit a list of mailing addresses for every tenant residing in a mobile home park that is within five hundred (500) feet of the proposed project (or within seven hundred fifty (750) feet of the proposed project if the proposed project is a project of regional significance).

(vi) Please be advised that the Washoe County Director of Planning and Building or their designee, Washoe County Board of Adjustment, and/or Washoe County Planning Commission have the ability to determine an application incomplete if they cannot ascertain what the applicant is requesting, or if there is insufficient information to determine a favorable outcome.

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: Schmenk Access Drive	
Project Description: Grading associated with the construction of a new, fire code-compliant access drive to replace the existing, non-compliant access drive currently serving 2205 Old Ranch Rd. The new access drive is a requirement of the Truckee Meadows Fire Protection District to serve a new residence to be located at 2305 Old Ranch Rd. (directly north of 2205 Old Ranch Rd. and both parcels under common ownership) which is being reviewed separately under building permit application no. WBLD26-102135.	
Project Address: 2205 & 2305 Old Ranch Rd., Washoe Valley, NV 89704	
Project Area (acres or square feet): 104,948 sf of total disturbance area for the proposed access drive	
Project Location (with point of reference to major cross streets **AND** area locator): 2205 & 2305 Old Ranch Rd., Washoe Valley, NV - located W/NW of Franktown Rd (nearest cross street)	

Assessor's Parcel No.(s):	Parcel Acreage:	Assessor's Parcel No.(s):	Parcel Acreage:
055-032-15	7.42 acres		
055-032-03	6.89 acres		

Indicate any previous Washoe County approvals associated with this application:
Case No.(s). WBLD26-102135 - access drive is a TMFPD condition of approval for residence

Applicant Information (attach additional sheets if necessary)

Property Owner:		**Professional Consultant:**	
Name: David Schmenk Living Trust		Name: Marsden Architects	
Address:		Address:	
	Zip:		Zip:
Phone:	Fax:	Phone:	Fax:
Email:		Email:	
Cell:	Other:	Cell:	Other:
Contact Person: David Schmenk		Contact Person: Emily McGuire	
Applicant/Developer:		**Other Persons to be Contacted:**	
Name: David & Cathy Schmenk		Name: Greenwood Homes	
Address:		Address:	
	Zip:		Zip:
Phone:	Fax:	Phone:	Fax:
Email:		Email:	
Cell:	Other:	Cell:	Other:
Contact Person: David Schmenk		Contact Person: Matt Hanna	

For Office Use Only

Date Received:	Initial:	Planning Area:	
County Commission District:		Master Plan Designation(s):	
CAB(s):		Regulatory Zoning(s):	

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	proposed septic with WBLD26-102135
b. Electrical Service	NV Energy
c. Telephone Service	Nevada Bell / AT&T Nevada
d. LPG or Natural Gas Service	Southwest Gas
e. Solid Waste Disposal Service	Waste Management
f. Cable Television Service	Spectrum Communications
g. Water Service	proposed well with WBLD26-102135

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).

10. Community Services (provided and nearest facility):

a. Fire Station	Truckee Meadows Fire & Rescue, Station 32 - 1240 Eastlake Blvd, New Washoe City, NV 89704
b. Health Care Facility	Carson Tahoe Regional Medical Center - 1600 Medical Pkwy in Carson City, NV 89703
c. Elementary School	Pleasant Valley Elementary School - 405 Surrey Dr, Reno, NV 89521
d. Middle School	Marce Herz Middle School - 13455 Thomas Creek Rd. Reno, NV 89511
e. High School	Galena High School - 3600 Butch Cassidy Dr, Reno, NV 89511
f. Parks	Wilson Commons Park - 4980 Susan Lee Circle Rd., New Washoe City, NV 89704
g. Library	South Valleys Library - 15650A Wedge Pkwy, Reno, NV 89511
h. Citifare Bus Stop	RTC - N Carson Street and Hospitality Way

PLEASE SEE ENCLOSED SUPPLEMENTAL INFORMATION ATTACHMENT

Special Use Permit Application
Supplemental Information

(All required information may be separately attached)

1. What is the project being requested?

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.)

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

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?

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

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

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.

PLEASE SEE ENCLOSED SUPPLEMENTAL INFORMATION ATTACHMENT

Special Use Permit Application for Grading Supplemental Information

(All required information may be separately attached)

1. What is the purpose of the grading?

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

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

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

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

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.)

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

PLEASE SEE ENCLOSED SUPPLEMENTAL INFORMATION ATTACHMENT

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

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)?

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?

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)?

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

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

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?

PLEASE SEE ENCLOSED SUPPLEMENTAL INFORMATION ATTACHMENT

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

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	If yes, please attach a copy.

DAVID & CATHY SCHMENK

2305 OLD RANCH ROAD
ACCESS ROAD IMPROVEMENTS

APN: 055-032-03 & 055-032-15

OWNER/DEVELOPER

DAVID & CATHY SCHMENK
ATTN: DAVID & CATHY SCHMENK
1445 TIROL DRIVE
INCLINE VILLAGE, NV 89451
TEL.: 775.250.3223

ARCHITECT

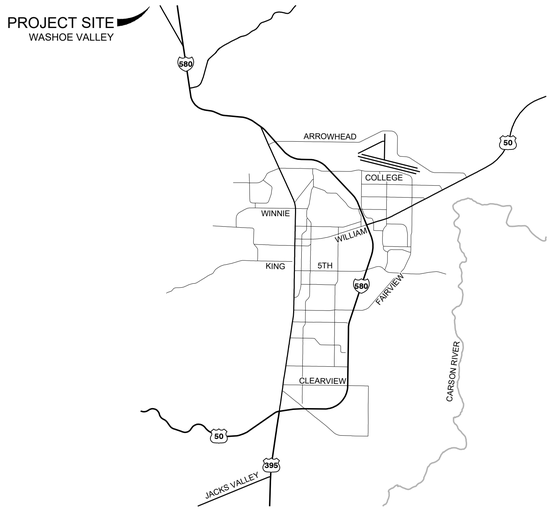
MARSDEN ARCHITECTS
ATTN: RYAN MARSDEN
12277 SOARING WAY #105
TRUCKEE, CA 96161
TEL.: 530.378.3211

ENGINEER

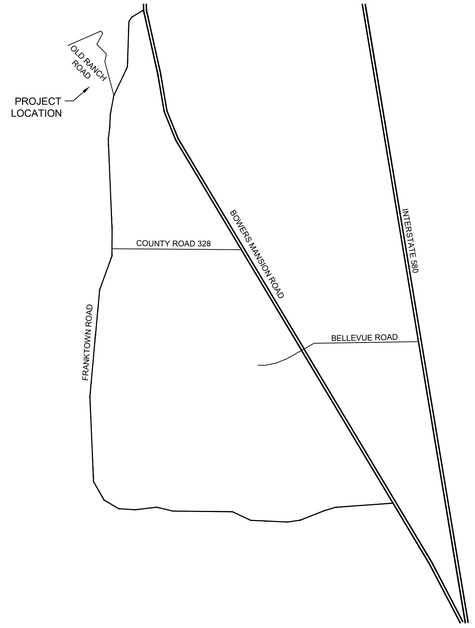
312 DORLA COURT, SUITE 202
ZEPHYR COVE, NEVADA 89448
TEL: 775.588.6490
INFO@LUMOSINC.COM

Know what's below.
Call before you dig.

LUMOS & ASSOCIATES



LOCATION MAP



VICINITY MAP

BASIS OF BEARING

THE BASIS OF BEARINGS FOR THIS SURVEY IS NEVADA STATE PLANE COORDINATE SYSTEM, WEST ZONE NAD83(94) BASED UPON REAL TIME KINEMATIC GPS OBSERVATIONS, OBSERVED DECEMBER 03, 2025 USING A SURVEY GRADE DUAL FREQUENCY GPS RECEIVER FROM USC&GS DISC IN TOP OF STONE STAMPED "L357 1953" MODIFIED BY A COMBINED FACTOR OF 1.0001979390, SCALED FROM 0.00N, 0.00E AND CONVERTED TO U.S. SURVEY FEET. ALL DIMENSIONS ON THIS MAP ARE GROUND DISTANCES.

BASIS OF ELEVATION

DATUM: NAVD 88
PROJECT BENCHMARK = USC&GS DISC IN TOP OF STONE STAMPED "L357 1953"
HAVING AN ELEVATION OF 5066.21'

APPROVED BY:

WASHOE COUNTY — DATE

TRUCKEE MEADOWS FIRE PROTECTION DISTRICT — DATE

LUMOS & ASSOCIATES, INC. — DATE

SHEET INDEX

Sheet Title	Sheet Number
TITLE SHEET	C1.0
NOTES, LEGEND, & ABBREVIATIONS	C1.1
EXISTING ACCESS & DEMOLITION PLAN	C2.0
PROPOSED ACCESS DRIVE	C3.0
STA 10+00 TO STA 14+50	C4.0
STA 14+50 TO STA 19+00	C4.1
STA 19+00 TO STA 23+50	C4.2
STA 23+50 TO STA 26+50	C4.3
STA 26+50 TO STA 30+00	C4.4
DRAINAGE PLAN	C5.0
DRAINAGE CALCULATIONS	C5.1
DETAILS	D1.0
DETAILS	D1.1

LUMOS & ASSOCIATES
312 DORLA COURT, SUITE 202
ZEPHYR COVE, NV 89448
TEL: 775.588.6490
WWW.LUMOSINC.COM
INFO@LUMOSINC.COM

© LUMOS & ASSOCIATES, INC.- THIS DRAWING IS THE PROPERTY OF LUMOS & ASSOCIATES, INC.. USE OR REPRODUCTION OF THIS DRAWING, IN WHOLE OR IN PART, WITHOUT THE WRITTEN PERMISSION OF LUMOS & ASSOCIATES, INC. IS STRICTLY PROHIBITED. THIS DRAWING IS NOT TO BE USED FOR ANY PROJECT OTHER THAN THE PROJECT FOR WHICH IT WAS PREPARED.

PROFESSIONAL ENGINEER — STATE OF NEVADA
PRESLEY R. COCHRAN
Exp. 12/31/26
CIVIL
No. 030189
10/08/26

DAVID & CATHY SCHMENK
2305 OLD RANCH ROAD
ACCESS ROAD IMPROVEMENTS
TITLE SHEET
WASHOE VALLEY — WASHOE COUNTY — STATE

REV	DATE	DESCRIPTION	BY

PERMIT SET
NOT FOR CONSTRUCTION
OCTOBER 8, 2026

BAR IS 1 INCH ON ORIGINAL DRAWING
0 — 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

C1.0

DRAWN BY:	MEP/PRC
DESIGNED BY:	AAM/JAB
CHECKED BY:	PRC
JOB NO.:	12428.000

L:\LAProj\12428.000 - 2305 Old Ranch Road\3-Design\DWG\Civil\Sheets\DRIVEWAY\12428000 - TITLE & NOTES [DRIVEWAY].dwg,C1.0 TITLE SHEET, 10/08/2026 02:58 pm pcotman

LEGEND

EXISTING		PROPOSED
4174	CONTOUR LINE	4174
+ 4163.1	GROUND ELEVATION	+ 4163.1
	TREE	
	ROCK	
	EDGE OF PAVEMENT	
	AC PAVING TO BE REMOVED	
	CURB & GUTTER	
	CONCRETE	
	UTILITY POLE	
	LIGHT	
	GUY WIRE	
ET	ELECTRIC TRANSFORMER	ET
EV	ELECTRIC VAULT	EV
EP □	ELECTRIC PANEL	EP □
EC □	ELECTRIC CABINET	EC □
EB □	ELECTRIC BOX	EB □
EM □	ELECTRIC METER	EM □
EG	ELECTRIC GENERATOR	EG
E	ELECTRIC MANHOLE	E
AC ☒	AIR CONDITIONER	AC ☒
	ELECTRIC OUTLET	
	BOLLARD	
SD	STORM DRAIN MANHOLE / DROP INLET	SD
	CATCH BASIN	
WV ☒	WATER VALVE	WV
ICV ☒	IRRIGATION CONTROL VALVE WATER	ICV
WM □	METER	WM
WS ○	WATER SPIGOT / HOSE BIB WATER	WS ○
Ⓜ	MANHOLE	Ⓜ
WV	WATER VAULT	WV
	FIRE HYDRANT	
GV ⋈	GAS VALVE	GV
GM □	GAS METER	GM □
Ⓣ	TELEPHONE MANHOLE	Ⓣ
TB □	TELEPHONE BOX	TB
TV	TELEPHONE VAULT	TV
Ⓢ	SEWER MANHOLE	Ⓢ
SSCO ○	SEWER CLEANOUT	SSCO
◉	SURVEY MONUMENT	◉
△	CONTROL POINT	△
	BARRICADE	
	SIGN	
	RETAINING WALL	
	FENCE	X
	GRADE BREAK	
	FLOW LINE	
	SOIL TEST PIT	
	DETAIL CALLOUT	X / CXX
EX COM	COMM LINE	COM
EX GAS	GAS LINE	GAS
EX OH ELEC / EX ELEC	ELECTRIC LINE	ELEC
EX SS	SEWER LINE	SS
EX WL	WATER LINE	WL
EX AIR	AIR LINE	AIR
EX SD	STORM DRAIN	SD
EX REC WL	RECLAIMED WATER LINE	REC WL

ABBREVIATIONS

AC	ASPHALT CONCRETE
ACP	ASBESTOS CEMENT PIPE
AGG	AGGREGATE
BC	BEGIN CURVE (HORIZONTAL)
BCR	BEGIN CURB RETURN
BOW	BOTTOM OF WALL
BF, BOF	BOTTOM OF FOOTING
BV	BUTTERFLY VALVE
BVC	BEGIN VERTICAL CURVE
BW	BACK OF WALK
CB	CATCH BASIN
cfs	CUBIC FEET PER SECOND
CF	CUBIC FEET
C&G	CURB AND GUTTER
℄	CENTER LINE
CL	CLASS / CENTER LINE
CMP	CORRUGATED METAL PIPE
COMP	COMPACTION
CONC	CONCRETE
CONTR	CONTRACTOR
CP	CONCRETE PAD
CTV	CABLE TELEVISION
DI	DROP INLET
DIA, Ø	DIAMETER
DWY	DRIVEWAY
E	EAST
EA	EACH
EC	END CURVE (HORIZONTAL)
ECR	END CURB RETURN
ELL	ELBOW
ELEC	ELECTRICAL
ELEV	ELEVATION
EP	EDGE OF PAVEMENT
EVC	END VERTICAL CURVE
EX, (E)	EXISTING
EXT	EXTERIOR
FCA	FLANGE COUPLING ADAPTER
FE	FINISH ELEVATION
FES	FLARED END SECTION
FF	FINISH FLOOR
FFC	FRONT FACE OF CURB
FG	FINISH GRADE
FH	FIRE HYDRANT
FL	FLOW LINE
FLG	FLANGE
fps	FEET PER SECOND
FTG	FOOTING
G	GAS
GALV	GALVANIZED
GB	GRADE BREAK
GDW	GRAVEL DRIVEWAY
GD	GROUND
GV	GATE VALVE
HGL	HYDRAULIC GRADE LINE
HORIZ	HORIZONTAL
HP	HIGH POINT
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
INT	INTERSECTION
IRR	IRRIGATION
LAT	LATERAL
LF	LINEAR FEET
LP	LOW POINT
LT	LEFT
LVC	LENGTH OF VERTICAL CURVE
MAX	MAXIMUM
MDD	MAXIMUM DRY DENSITY
MH	MANHOLE
MIN	MINIMUM
MJ	MECHANICAL JOINT
MMD	MAXIMUM MARSHALL DENSITY
MUTCD	MANUAL FOR TRAFFIC CONTROL DEVICES
N	NORTH
NAP	NOT A PART
NIP	NOT IN PROJECT
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OH	OVERHEAD
(P)	PROPOSED
PCC	PORTLAND CEMENT CONCRETE, POINT OF COMPOUND CURVATURE
PG	PAD GRADE
PI	POINT OF INTERSECTION
PIVC	POINT OF INTERSECTION VERTICAL CURVE
PL	PROPERTY LINE
PP	POWER POLE
PRC	POINT OF REVERSE CURVE
PRVC	POINT OF REVERSE VERTICAL CURVE
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
Q 5	5 YEAR PEAK FLOW
Q 100	100 YEAR PEAK FLOW
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
REF	REFERENCE
RET	CURB RETURN
RP	RADIUS POINT
RT	RIGHT
R/W, ROW	RIGHT-OF-WAY
S=	SLOPE
S	SOUTH
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SL	STREET LIGHT
SS	SANITARY SEWER
SSCO	SANITARY SEWER CLEAN OUT
SSMH	SANITARY SEWER MANHOLE
SSPWC	STANDARD SPEC. FOR PUBLIC WORKS CONSTRUCTION
STA	STATION
SW	SIDEWALK
TELE	TELEPHONE
TBO	TEMPORARY BLOW OFF VALVE
TC	TOP OF CURB, TOP OF CONC
TCSB	TRAFFIC CONTROL SIGNAL BOX
TG	TO GRADE
TOB	TOP OF BERM
TF, TOF	TOP OF FOOTING
TOW	TOP OF WALL
TS	TRAFFIC SIGNAL
TR	TOP OF RAIL
TRANS	TRANSITION
TYP	TYPICAL
UG/P	UNDER GROUND POWER
UNO	UNLESS NOTED OTHERWISE
V 5	VELOCITY AT 5 YEAR PEAK
VC	VERTICAL CURVE
VEL	VELOCITY
VERT	VERTICAL
VG	VALLEY GUTTER
W	WEST
W/G	WATER AND GAS
WL	WATER LINE
WM	WATER METER
WS	WATER SURFACE
WV	WATER VALVE
WWF	WELDED WIRE FABRIC
YR	YEAR

SURVEY NOTES

1. FIELD WORK WAS PERFORMED DECEMBER 03-04, 2025.
2. EASEMENTS MAY EXIST THAT ARE NOT SHOWN HEREON.
3. THIS IS NOT A BOUNDARY SURVEY. BOUNDARY SHOWN BY RECORD INFORMATION.

SURVEY REFERENCES

(R1) TRACT MAP NO. 1944, FILE NO. 684300, RECORDED JULY 24, 1980, OFFICIAL RECORDS OF WASHOE COUNTY, STATE OF NEVADA.

NOTES:

GENERAL

1. ALL WORK SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, AS ADOPTED BY WASHOE COUNTY.
2. THE CONTRACTOR SHALL REFER TO THE STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION, AS ADOPTED BY THE PERMITTING ENTITY, FOR ALL DETAILING NOT SHOWN ON THESE PLANS.
3. CONSTRUCTION SHALL COMPLY WITH THESE PLANS AND CURRENT NDOT or AND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ARRANGING A PRE-CONSTRUCTION JOB SITE CONFERENCE WITH GOVERNING AGENCIES, ALL UTILITY COMPANIES, OWNER'S REPRESENTATIVES, AND THE PROJECT ENGINEER PRIOR TO COMMENCING WORK. THIS MEETING SHALL BE HELD AT LEAST FORTY-EIGHT (48) HOURS, OR TWO (2) BUSINESS DAYS, PRIOR TO THE START OF CONSTRUCTION AND SHALL COMMUNICATE SCHEDULES, CONTRACTORS MEAN AND METHODS, MATERIALS TO BE USED, AND OTHER RELEVANT MATTERS ASSOCIATED WITH THE CONSTRUCTION OF THE PROJECT.
5. ALL WORK EITHER DIRECTLY OR INDIRECTLY RELATED TO THE PROJECT SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY SYSTEM MANAGER.
6. THE CONTRACTOR SHALL MAINTAIN AN ONSITE RECORD COPY OF ALL DRAWINGS, SPECIFICATIONS, ADDENDA, CHANGE ORDERS, WORK CHANGE DIRECTIVES, FIELD ORDERS, FIELD CHANGES, AND WRITTEN INTERPRETATIONS AND CLARIFICATIONS. RECORDS SHALL BE IN GOOD ORDER AND ANNOTATED TO SHOW CHANGES MADE DURING CONSTRUCTION.
7. CONTRACTOR SHALL PROVIDE MATERIALS AND EQUIPMENT SUBMITTALS AND/OR SHOP DRAWINGS TO THE PROJECT ENGINEER FOR REVIEW PRIOR TO ORTHERING OR INSTALLATION. A SIGNED SET OF REVIEWED SUBMITTALS MUST ALWAYS BE AVAILABLE ONSITE DURING CONSTRUCTION.
8. THE CONTRACTOR SHALL CALL UNDERGROUND SERVICE ALERT AT 1-800-642-2444 TO PROVIDE FIELD LOCATIONS OF UNDERGROUND UTILITIES PRIOR TO THE START OF CONSTRUCTION.
9. THE LOCATION OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE BASED ON THE BEST INFORMATION AVAILABLE TO THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY PROPOSED POINTS OF CONNECTION AND IN AREAS OF POSSIBLE CONFLICT WITH NEW UTILITY INSTALLATION PRIOR TO BEGINNING CONSTRUCTION. SHOULD THE CONTRACTOR FIND ANY DISCREPANCIES BETWEEN THE CONDITIONS EXISTING IN THE FIELD AND THE INFORMATION SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT AND MAINTAIN ALL EXISTING UTILITIES WHETHER OR NOT SHOWN ON THE PLAN.
10. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROCURE ALL NECESSARY PERMITS, LICENSES, INSURANCE POLICIES, ETC. AS MAY BE NECESSARY TO COMPLY WITH LOCAL, COUNTY, STATE, AND FEDERAL LAWS ASSOCIATED WITH THE PERFORMANCE OF THE WORK; UNLESS OTHERWISE OBTAINED BY THE OWNER.
11. THE CONTRACTOR SHALL PREPARE A TRAFFIC CONTROL PLAN AND PROVIDE, PLACE, AND MAINTAIN ALL LIGHTS, SIGNS, BARRICADES, FLAG PERSONS, PILOT CAR, OR OTHER DEVICES NECESSARY TO CONTROL TRAFFIC THROUGH THE CONSTRUCTION AREA AND FOR PUBLIC SAFETY. ALL TRAFFIC CONTROL OPERATIONS SHALL COMPLY WITH THE LATEST MUTCD. AT NO TIME WILL OBSTRUCTIONS BE LEFT IN THE ROADWAY DURING NIGHT HOURS. ALL TRAFFIC CONTROL PLANS SHALL BE PREPARED BY A REGISTERED CIVIL ENGINEER OR ATTSA CERTIFIED PERSONNEL.
12. THE CONTRACTOR AGREES TO ASSUME SOLE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, AND FURTHER AGREES THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS IN ACCORDANCE WITH THE PROVISIONS OUTLINED BY THE PROJECT CONTROL AND THE STANDARD SPECIFICATIONS.
13. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE PROVISIONS OF OSHA AND NRS CHAPTER 618.
14. THE CONTRACTOR SHALL PURSUE THE WORK IN A CONTINUOUS AND DILIGENT MANNER, CONFORMING TO ALL THE PERTINENT SAFETY REGULATIONS TO ENSURE A TIMELY COMPLETION OF THE PROJECT.
15. THE CONTRACTOR SHALL MAINTAIN A CLEAN PROJECT SITE, REMOVING CONSTRUCTION DEBRIS AT THE END OF EACH ACTIVITY DAY. THE CONTRACTOR SHALL MAINTAIN DEBRIS FREE CONSTRUCTION ROUTES, ADJACENT STREETS AND STORM DRAIN SYSTEMS.
16. TEMPORARY CONSTRUCTION FENCING SHALL BE PROVIDED AND MAINTAINED BY THE CONTRACTOR THROUGHOUT THE DURATION OF THE PROJECT IN AREAS AS DELINEATED ON THE PLANS OR AS DIRECTED BY THE PROJECT ENGINEER. THE TEMPORARY FENCING SHALL PREVENT CHILDREN AND PETS FROM ENTERING THE CONSTRUCTION AREA, CREATE A VISUAL BARRIER OF THE CONSTRUCTION ACTIVITIES FROM THE ADJACENT RESIDENCE AND YARDS, AND PROTECT VEGETATION FROM CONSTRUCTION EQUIPMENT.
17. THE CONTRACTOR SHALL USE ONLY AUTHORIZED SITES FOR STORAGE OF EQUIPMENT AND MATERIALS AND OBTAIN PROPER APPROVALS FROM THE LAND OWNER AND LOCAL GOVERNING AUTHORITY TO DO SO. CONTRACTOR SHALL BE RESPONSIBLE FOR THE SECURITY OF ALL EQUIPMENT AND MATERIALS.
18. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING SURVEY MONUMENTS AND OTHER SURVEY MARKERS DURING CONSTRUCTION. IN THE EVENT A MONUMENT IS DISTURBED, THE CONTRACTOR SHALL HAVE THE MONUMENT REPLACED, AT HIS OWN EXPENSE, BY A LICENSED SURVEYOR IN THE STATE OF THE PROJECT SITE.
19. CONSTRUCTION HOURS SHALL BE WEEKDAYS BETWEEN 7:00 AM AND 6:00 PM UNLESS OTHERWISE DICTATED BY LOCAL ORDINANCE. CONTRACTOR SHALL OBTAIN APPROVAL FROM THE PROJECT ENGINEER TO MODIFY WORK HOURS.
20. ALL FIELD CHANGES MUST BE PRE-APPROVED BY THE PROJECT ENGINEER.
21. SHOULD IT APPEAR THAT THE WORK TO BE DONE, OR ANY MATTER RELATIVE THERETO, IS NOT SUFFICIENTLY DETAILED OR EXPLAINED ON THESE PLANS, THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER FOR SUCH FURTHER EXPLANATIONS AS MAY BE NECESSARY.
22. ALL SALVAGED MATERIALS ARE THE PROPERTY OF THE OWNER AND SHALL BE PALLETIZED ONSITE UNLESS OTHERWISE ARRANGED WITH THE OWNER AND/OR PROJECT ENGINEER.
23. THE OWNER IS RESPONSIBLE FOR FURNISHING QUALIFIED SITE INSPECTIONS AS REQUIRED TO COMPLY WITH LOCAL ORDINANCES.
24. A GEOTECHNICAL INVESTIGATION WAS PERFORMED ON THIS PROJECT. ALL RECOMMENDATIONS INCLUDED IN THE REPORT ARE HEREBY MADE A PART OF THE CONSTRUCTION DOCUMENTS UNLESS MODIFIED WITHIN THESE PLANS. INSPECTION AND TESTING DURING CONSTRUCTION SHALL BE REQUIRED IN ACCORDANCE WITH THE RECOMMENDATIONS CONTAINED WITHIN THE REPORT.
    - TITLE: 2305 OLD RANCH ROAD GEOTECHNICAL INVESTIGATION REPORT (REVISED)
    - DATE: SEPTEMBER 2026

UNDERGROUND UTILITIES

25. THE CONTRACTOR SHALL FIELD VERIFY UTILITY LOCATIONS NEAR OR WITHIN THE CONSTRUCTION LIMITS WITH THE RESPECTIVE UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ARRANGE FOR THE NECESSARY RELOCATION OF ANY UTILITY. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES INVOLVED AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO BEGINNING WORK.
26. NO OTHER UTILITIES MAY BE PLACED IN A WATER OR SEWER TRENCH.
27. ALL VALVE BOXES, MANHOLE STRUCTURES, AND CLEAN OUTS SHALL BE MARKED AND ACCESSIBLE AT ALL TIMES.
28. CONTRACTOR SHALL SUPPORT TRENCH SIDEWALLS IN ACCORDANCE WITH ALL APPLICABLE LAWS AND GOVERNING SAFETY REGULATIONS. SHEETING OR SHORING SHALL CONFORM TO LOCAL REGULATIONS AND OSHA STANDARDS.
29. ENDS OF UNFINISHED PIPE SHALL BE SEALED AT THE END OF EACH DAY.
30. PIPE SHALL BE LAID IN THE UPHILL DIRECTION, WITH BELL ENDS UPHILL.
31. THE CONTRACTOR SHALL COORDINATE ALL WATER MAIN SHUT DOWNS AND TIE-INS WITH THE WATER UTILITY A MINIMUM OF FORTY-EIGHT (48) HOURS OR TWO (2) BUSINESS DAYS IN ADVANCE.
32. ALL UNDERGROUND VALVES, TEES, FITTINGS, ETC. LARGER THAN 2" SHALL BE COATED TO PROTECT AGAINST CORROSION.
33. ALL WATER PROJECT MATERIAL (PIPES, VALVES, LATERALS AND APPURTENANCES) SHALL BE LEAD FREE AND MEET THE MINIMUM REQUIREMENTS OF THE NEVADA ADMINISTRATIVE CODE AND NSF/ANSI 61.
34. ALL THRUST BLOCKS SHALL BE INSPECTED PRIOR TO BACK-FILL.
35. ALL BOLTS AT THRUST BLOCKS AND VALVE SADDLES SHALL BE COVERED WITH VISQUEEN AND TAPED PRIOR TO CONCRETE PLACEMENT.
36. THE WATER MAINS SHALL NOT BE PLACED INTO SERVICE UNTIL:
    a. THE WATER MAIN HAS BEEN DISINFECTED IN ACCORDANCE WITH AWWA C651, NEVADA DEPARTMENT OF ENVIRONMENTAL PROTECTION (NDEP), THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTIONS STANDARDS.
    b. THE DISPOSAL OF ANY SPENT CHLORINE SOLUTIONS MUST BE COORDINATED WITH NDEP'S BUREAU OF WATER POLLUTION CONTROL.
    c. ANALYSIS OF THE WATER MAIN WHICH INDICATE THAT THE WATER MEETS PRIMARY DRINKING WATER STANDARDS FOR COLIFORM BACTERIA (ABSENT FOR COLIFORM BACTERIA) HAVE BEEN OBTAINED AND REPORTED TO NDEP'S BUREAU OF SAFE DRINKING WATER. SAMPLING SHALL BE IN ACCORDANCE WITH NDEP REGULATIONS.
37. PVC PIPE SHALL BE TESTED PER AWWA C605 AND DUCTILE IRON PIPE SHALL BE TESTED FOR AWWA C600. OTHER MATERIALS SHALL BE TESTED PER REQUIREMENTS IN THE STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION SECTION 336.
38. CONTRACTOR SHALL CONDUCT PIPING TESTS BEFORE JOINTS ARE COVERED AND AFTER THRUST BLOCKS HAVE HARDENED SUFFICIENTLY. FILL PIPELINE 24 HOURS BEFORE TESTING AND APPLY TEST PRESSURE TO STABILIZE SYSTEM. USE ONLY POTABLE WATER.
39. CONTRACTOR SHALL PERFORM PLASTIC PIPE BALL AND MANDREL TEST ON NEWLY INSTALLED SEWER PIPE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
40. CONTRACTOR SHALL PERFORM AIR PRESSURE TESTING ON NEWLY INSTALLED SEWER PIPE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTIONS.

GRADING, EXCAVATION & SURFACE IMPROVEMENTS

41. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING THEIR OWN QUANTITY TAKE-OFF AND SHALL BUDGET THE PROJECT ACCORDINGLY. ALL EXCESS GRADING MATERIALS SHALL BE DISPOSED OF OFFSITE.
42. ALL EARTHWORK ACTIVITIES SHALL BE IN ACCORDANCE WITH THE PROJECT'S GEOTECHNICAL REPORT.
43. THE SOILS ENGINEER SHALL APPROVE ALL EARTHWORK AND GRADING TO CONFIRM COMPACTION REQUIREMENTS ARE MET.
44. CONTRACTOR SHALL PROTECT EXISTING PAVING, CONCRETE, LANDSCAPING, FENCING, MAILBOXES, SIGNS AND ANY OTHER IMPROVEMENTS NOT SPECIFICALLY CALLED OUT FOR REPLACEMENT. CONTRACTOR SHALL REPAIR/REPLACE ANYTHING DAMAGED BY FORCES UNDER THEIR EMPLOY OR CONTRACT.
45. ALL ASPHALT CONCRETE SURFACES SHALL BE SAWCUT THREE FEET MINIMUM INSIDE THE EDGE OF PAVEMENT TO A NEAT, STRAIGHT LINE AND REMOVED. THE EXPOSED PAVEMENT TIE-IN EDGES SHALL BE METICULOUSLY CLEANED OF ALL LOOSE MATERIAL AND THEN TREATED WITH BITUMINOUS EMULSION PRIOR TO PAVING. THE EXPOSED BASE MATERIALS SHALL BE GRADED AND RECOMPACTED PRIOR TO PAVING.

ENVIRONMENTAL

46. ALL CONSTRUCTION SHALL BE PERFORMED IN COMPLIANCE WITH THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES). CONTRACTOR IS RESPONSIBLE FOR ACQUIRING AND MAINTAINING A SWPPP.
47. INSTALLATION AND MAINTENANCE OF EROSION CONTROL MEASURES ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREVENTION OF EROSION AND SILTATION FROM ENTERING THE STORM DRAIN SYSTEM, NATURAL DRAINAGE COURSES, AND/OR INTRUDING UPON ADJACENT ROADWAYS AND PROPERTIES. EROSION CONTROL MEASURES SHOWN ON THESE PLANS ARE INTENDED AS A GUIDE. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED AS DETERMINED IN THE FIELD. THIS RESPONSIBILITY SHALL APPLY THROUGHOUT THE COURSE OF CONSTRUCTION AND UNTIL ALL DISTURBED AREAS HAVE BECOME STABILIZED AND SHALL NOT BE LIMITED TO WET WEATHER PERIODS. THE CONTRACTOR IS RESPONSIBLE FOR SWPPP UPDATES.
48. THE CONTRACTOR SHALL MAINTAIN AN ON-GOING DUST CONTROL PROGRAM INCLUDING WATERING OF OPEN AREAS, TO CONFORM WITH THE LATEST FEDERAL, STATE, AND COUNTY AIR POLLUTION REGULATIONS. CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND UPDATING DUST CONTROL PERMITS FOR THE PROJECT.
49. ALL AREAS DISTURBED AND LEFT UNDEVELOPED FOR A PERIOD OF MORE THAN 30 DAYS SHALL BE STABILIZED BY THE APPLICATION OF AN APPROVED DUST PALLIATIVE OR HYDROMULCH.
50. THE CONTRACTOR SHALL IDENTIFY A STANDBY CREW FOR EMERGENCY WORK AND THEY SHALL BE AVAILABLE AT ALL TIMES. MATERIAL NECESSARY TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES OR TO REPAIR DAMAGED EROSION CONTROL MEASURES SHALL BE AVAILABLE ON-SITE AND STOCKPILED AT APPROVED LOCATIONS.
51. PROTECTIVE MEASURES AND TEMPORARY DRAINAGE PROVISIONS SHALL BE USED TO PROTECT ADJOINING PROPERTIES DURING CONSTRUCTION OF IMPROVEMENTS.
52. AFTER A RAINSTORM, ALL SILT AND DEBRIS SHALL BE REMOVED FROM CHECK BERMS AND DESILTING FACILITIES. GRADED SLOPE SURFACE PROTECTION MEASURES DAMAGED DURING THE RAINSTORM SHALL ALSO BE REPAIRED.
53. FILL SLOPES AT THE PROJECT PERIMETER MUST DRAIN AWAY FROM THE TOP OF THE SLOPE AT THE END OF EACH WORKING DAY.
54. ALL DISTURBED AREAS ARE REQUIRED TO HAVE A PALLIATIVE APPLIED FOR DUST CONTROL. ALL GRADING SHALL COMPLY WITH STATE AND COUNTY REGULATIONS.
55. A SIX-FOOT HIGH PERIMETER FENCE OR A 24-HOUR GUARD SHALL BE POSTED ON THE SITE WHENEVER THE DEPTH OF WATER IN A FACILITY EXCEEDS 18".
56. ALL AREAS DISTURBED BECAUSE OF THE WORK SHALL BE REVEGETATED IN ACCORDANCE WITH INDUSTRY BEST MANAGEMENT PRACTICES.
57. NO CONSTRUCTION MATERIALS SHALL BE STORED IN A STREAM ENVIRONMENT ZONES (SEZ) AT ANY TIME.
58. IF GROUNDWATER IS ENCOUNTERED, THE CONTRACTOR SHALL STOP WORK IMMEDIATELY, PREPARE A DEWATERING PLAN, AND OBTAIN APPROVAL FROM THE PROJECT ENGINEER BEFORE PROCEEDING WITH WORK. DEWATERING ACTIVITIES MAY REQUIRE THE CONTRACTOR TO OBTAIN A DISCHARGE/PUMPING PERMIT FROM THE STATE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN SUCH PERMITS.
59. ALL STREETS SHALL BE MAINTAINED FREE OF DUST AND MUD CAUSED BY GRADING OPERATIONS.

LUMOS & ASSOCIATES
312 DORLA COURT, SUITE 202
ZEPHYR COVE, NV 89448
TEL: 775.588.6490
WWW.LUMOSINC.COM
INFO@LUMOSINC.COM

© LUMOS & ASSOCIATES, INC.: THIS DRAWING IS THE PROPERTY OF LUMOS & ASSOCIATES, INC.. USE OR REPRODUCTION OF THIS DRAWING, IN WHOLE OR IN PART, WITHOUT THE WRITTEN PERMISSION OF LUMOS & ASSOCIATES, INC. IS STRICTLY PROHIBITED. THIS DRAWING IS NOT TO BE USED FOR ANY PROJECT OTHER THAN THE PROJECT FOR WHICH IT WAS PREPARED.

PROFESSIONAL ENGINEER – STATE OF NEVADA – PRESLEY R. COCHRAN – No. 23185 – Exp. 12/31/26 – CIVIL – 10/08/26

DAVID & CATHY SCHMENK

2305 OLD RANCH ROAD
ACCESS ROAD IMPROVEMENTS
NOTES, LEGEND, & ABBREVIATIONS

WASHOE VALLEY — WASHOE COUNTY — STATE

REV	DATE	DESCRIPTION	BY

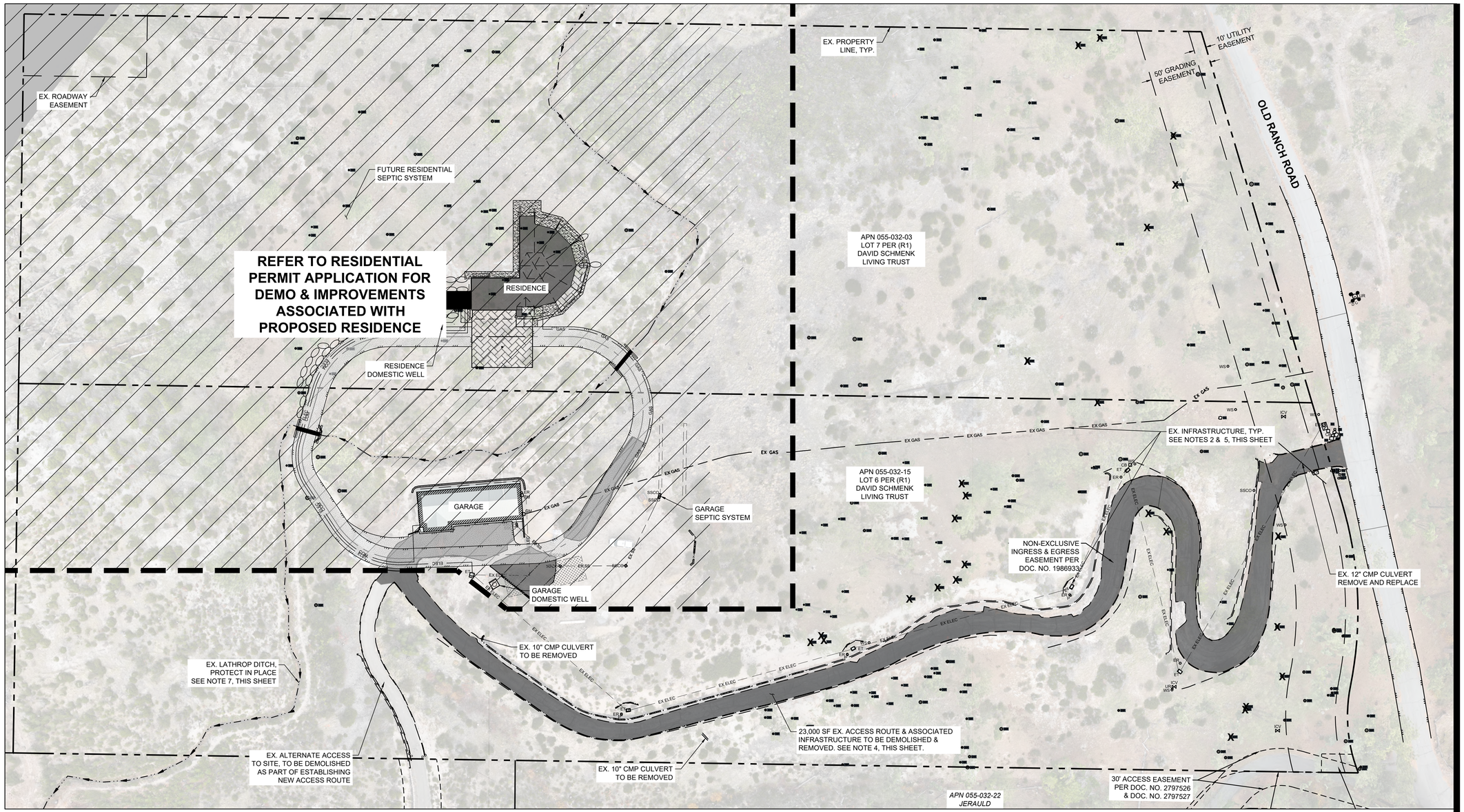
PERMIT SET
NOT FOR CONSTRUCTION
OCTOBER 8, 2026

BAR IS 1 INCH ON ORIGINAL DRAWING
0 — 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

C1.1

DRAWN BY:	MEP/PRC
DESIGNED BY:	AAM/JAB
CHECKED BY:	PRC
JOB NO.:	12428.000

L:\AP\2\12428.000 - 2305 Old Ranch Road\3-Design\DWG\Civil\Sheets\DRIVEWAY\12428000 - TITLE & NOTES [DRIVEWAY].dwg,C1.1 NOTES LEGEND & ABBREVIATIONS, 10/08/2026 03:09 pm pradmon



NOTES:

1. RESIDENTIAL IMPROVEMENT PLANS HAVE BEEN SUBMITTED UNDER A SEPARATE PERMIT APPLICATION TO THE REVIEWING AGENCIES. IF REVISIONS TO THE RESIDENTIAL IMPROVEMENT PLANS ARE REQUIRED FOR AGENCY APPROVAL, CORRESPONDING REVISIONS TO THE DRIVEWAY IMPROVEMENTS MAY BE NECESSARY TO ENSURE PROPER CONNECTION AND CONTINUITY.
2. THE LOCATION OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE BASED ON THE BEST INFORMATION AVAILABLE TO THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY PROPOSED POINTS OF CONNECTION AND IN AREAS OF POSSIBLE CONFLICT WITH NEW UTILITY INSTALLATION PRIOR TO BEGINNING CONSTRUCTION. SHOULD THE CONTRACTOR FIND ANY DISCREPANCIES BETWEEN THE CONDITIONS EXISTING IN THE FIELD AND THE INFORMATION SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT AND MAINTAIN ALL EXISTING UTILITIES, UNLESS OTHERWISE NOTED, WHETHER OR NOT SHOWN ON THE PLAN.
3. APNS 055-032-03 AND 055-032-15 ARE UNDER COMMON OWNERSHIP AND WILL SHARE THE ACCESS DRIVEWAY FROM OLD RANCH ROAD. UPON COMPLETION OF THE ACCESS DRIVE DESIGN AND PERMITTING, A FORMAL SHARED ACCESS AGREEMENT BETWEEN THE TWO PARCELS WILL BE RECORDED.
4. THE EXISTING ACCESS ROUTE UTILITIES, & ASSOCIATED INFRASTRUCTURE TO APNS 055-032-03 AND 055-032-15 SHALL BE DEMOLISHED AND REMOVED IN ITS ENTIRETY. ALL EXISTING ASPHALT SHALL BE COMPLETELY REMOVED AND SHALL NOT REMAIN IN PLACE, TO PREVENT THE EXISTING PAVEMENT FROM IMPACTING THE PROPOSED ROADWAY AND EARTHWORK ABOVE.
5. EXISTING INFRASTRUCTURE & UTILITIES LOCATED ALONG THE EXISTING ACCESS DRIVE ARE SHOWN AS APPROXIMATE, GAS AND ELECTRIC SERVICES AND ASSOCIATED INFRASTRUCTURE SHALL BE MODIFIED AS NECESSARY TO ACCOMMODATE THE PROPOSED SITE IMPROVEMENTS AND ACCESS ROAD. ALL MODIFICATIONS SHALL BE COORDINATED WITH AND APPROVED BY THE RESPECTIVE UTILITY AGENCY AND MEP CONSULTANT PRIOR TO CONSTRUCTION.
6. SEE SHEETS C4.1 THROUGH C4.0 FOR LIMITS OF GRADING ASSOCIATED WITH DRIVEWAY IMPROVEMENTS.
7. THE LATHROP DITCH IS MANAGED BY THE LATHROP DITCH CO. AND SHALL BE PROTECTED IN PLACE. ANY CONSTRUCTION ACTIVITIES AFFECTING THE LATHROP DITCH MUST RECEIVE PRIOR APPROVAL FROM ED EVANS, PRESIDENT OF LATHROP DITCH CO. CONSTRUCTION SCHEDULES, MEANS, AND METHODS SHALL ALSO BE REVIEWED AND APPROVED PRIOR TO THE COMMENCEMENT OF WORK.
8. ADDITIONAL TREES NOT IDENTIFIED IN THE TABLE MAY BE REMOVED DURING DESIGN AND CONSTRUCTION, AS NECESSARY, DUE TO WALL CONSTRUCTION, GRADING, AND OTHER CONSTRUCTION IMPACTS.

TREE REMOVAL TABLE

DIAMETER	SPECIES	QUANTITY
40"	PINE	1
34"	PINE	1
32"	PINE	1
30"	PINE	3
28"	PINE	2
24"	PINE	1
22"	PINE	3
20"	PINE	3
18"	PINE	3
14"	PINE	2
12"	PINE	5

N

0 40' 80'

22x34 SHEETS: 1" = 40'
11x17 SHEETS: 1" = 80'

LUMOS & ASSOCIATES
312 DORLA COURT, SUITE 202
ZEPHYR COVE, NV 89448
TEL: 775.588.6490
WWW.LUMOSINC.COM
INFO@LUMOSINC.COM

© LUMOS & ASSOCIATES, INC.: THIS DRAWING IS THE PROPERTY OF LUMOS & ASSOCIATES, INC.. USE OR REPRODUCTION OF THIS DRAWING, IN WHOLE OR IN PART, WITHOUT THE WRITTEN PERMISSION OF LUMOS & ASSOCIATES, INC. IS STRICTLY PROHIBITED. THIS DRAWING IS NOT TO BE USED FOR ANY PROJECT OTHER THAN THE PROJECT FOR WHICH IT WAS PREPARED.

PROFESSIONAL ENGINEER – STATE OF NEVADA
PRESLEY R. COCHRAN
Exp. 12/31/26
CIVIL
No. 030189
10/08/26

DAVID & CATHY SCHMENK

2305 OLD RANCH ROAD ACCESS ROAD IMPROVEMENTS EXISTING ACCESS & DEMOLITION PLAN

WASHOE VALLEY — WASHOE COUNTY — STATE

REV	DATE	DESCRIPTION	BY

PERMIT SET
NOT FOR CONSTRUCTION
OCTOBER 8, 2026

BAR IS 1 INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

C2.0

DRAWN BY: MEP/PRC
DESIGNED BY: AAM/JAB
CHECKED BY: PRC
JOB NO.: 12428.000

L:\APro\12428.000 – 2305 Old Ranch Road\3-Design\DWG\Civil\Sheets\DRIVEWAY\12428000 – EX & DEMO [DRIVEWAY]dwg,C2.0 EXISTING ACCESS & DEMOLITION PLAN, 10/08/2026 03:11 pm pmcochran

NOTES:

1. RESIDENTIAL IMPROVEMENT PLANS HAVE BEEN SUBMITTED UNDER A SEPARATE PERMIT APPLICATION TO THE REVIEWING AGENCIES. IF REVISIONS TO THE RESIDENTIAL IMPROVEMENT PLANS ARE REQUIRED FOR AGENCY APPROVAL, CORRESPONDING REVISIONS TO THE DRIVEWAY IMPROVEMENTS MAY BE NECESSARY TO ENSURE PROPER CONNECTION AND CONTINUITY.

2. THE LOCATION OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE BASED ON THE BEST INFORMATION AVAILABLE TO THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY PROPOSED POINTS OF CONNECTION AND IN AREAS OF POSSIBLE CONFLICT WITH NEW UTILITY INSTALLATION PRIOR TO BEGINNING CONSTRUCTION. SHOULD THE CONTRACTOR FIND ANY DISCREPANCIES BETWEEN THE CONDITIONS EXISTING IN THE FIELD AND THE INFORMATION SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT AND MAINTAIN ALL EXISTING UTILITIES, UNLESS OTHERWISE NOTED, WHETHER OR NOT SHOWN ON THE PLAN.

3. APNS 055-032-03 AND 055-032-15 ARE UNDER COMMON OWNERSHIP AND WILL SHARE THE ACCESS DRIVEWAY FROM OLD RANCH ROAD. UPON COMPLETION OF THE ACCESS DRIVE DESIGN AND PERMITTING, A FORMAL SHARED ACCESS AGREEMENT BETWEEN THE TWO PARCELS WILL BE RECORDED.

4. THE EXISTING ACCESS ROUTE UTILITIES, & ASSOCIATED INFRASTRUCTURE TO APNS 055-032-03 AND 055-032-15 SHALL BE DEMOLISHED AND REMOVED IN ITS ENTIRETY. ALL EXISTING ASPHALT SHALL BE COMPLETELY REMOVED AND SHALL NOT REMAIN IN PLACE, TO PREVENT THE EXISTING PAVEMENT FROM IMPACTING THE PROPOSED ROADWAY AND EARTHWORK ABOVE.

5. EXISTING INFRASTRUCTURE & UTILITIES LOCATED ALONG THE EXISTING ACCESS DRIVE ARE SHOWN AS APPROXIMATE. GAS AND ELECTRIC SERVICES AND ASSOCIATED INFRASTRUCTURE SHALL BE MODIFIED AS NECESSARY TO ACCOMMODATE THE PROPOSED SITE IMPROVEMENTS AND ACCESS ROAD. ALL MODIFICATIONS SHALL BE COORDINATED WITH AND APPROVED BY THE RESPECTIVE UTILITY AGENCY AND MEP CONSULTANT PRIOR TO CONSTRUCTION.

6. SEE SHEETS C4.1 THROUGH C4.0 FOR LIMITS OF GRADING ASSOCIATED WITH DRIVEWAY IMPROVEMENTS.

7. THE LATHROP DITCH IS MANAGED BY THE LATHROP DITCH CO. AND SHALL BE PROTECTED IN PLACE. ANY CONSTRUCTION ACTIVITIES AFFECTING THE LATHROP DITCH MUST RECEIVE PRIOR APPROVAL FROM ED EVANS, PRESIDENT OF LATHROP DITCH CO. CONSTRUCTION SCHEDULES, MEANS, AND METHODS SHALL ALSO BE REVIEWED AND APPROVED PRIOR TO THE COMMENCEMENT OF WORK.

8. ADDITIONAL TREES NOT IDENTIFIED IN THE TABLE ON SHEET C2.0 MAY BE REMOVED DURING DESIGN AND CONSTRUCTION, AS NECESSARY, DUE TO WALL CONSTRUCTION, GRADING, AND OTHER CONSTRUCTION IMPACTS.

9. REFER TO STRUCTURAL PLANS FOR RETAINING WALL DETAILS AND SPECIFICATIONS.
   - 9.1. STATIONING SHOWN FOR START/END OF RETAINING WALLS RELATES TO STATIONING SHOWN ON STRUCTURAL PLANS.

10. REFER TO SUPPLEMENTAL DOCUMENTATION PROVIDED BY THE CONTRACTOR FOR THE FOLLOWING:
    - 10.1. EXCAVATED MATERIAL DISPOSITION & TEMPORARY STOCKPILE LOCATION.
    - 10.2. ADDITIONAL TREE REMOVAL MARK UP REQUIRED FOR RETAINING WALL CONSTRUCTION.
    - 10.3. HAUL ROUTE MITIGATION PLAN.
    - 10.4. SIGNED DOCUMENTATION FROM SOUTHWEST GAS AND NV ENERGY CONFIRMING PROCESS FOR UTILITY REDESIGN & REROUTING IS IN PROCESS.

11. REFER TO SHEETS C5.0 & C5.1 FOR DRAINAGE PLAN & CALCULATIONS.

SECTION 110.438.31 GRADING STANDARDS.

THE STANDARDS IN THIS SECTION SHALL APPLY TO ALL GRADING FOR SUBDIVISION IMPROVEMENTS, SPECIAL USE PERMITS OR OTHER DISCRETIONARY PERMITS, AND BUILDING PERMITS FOR RESIDENTIAL, COMMERCIAL, OR INDUSTRIAL PROJECTS. WHEN REQUIRED BY PROVISIONS IN THIS CODE OR BY THE WASHOE COUNTY ENGINEER, A GEOTECHNICAL REPORT PREPARED BY A LICENSED PROFESSIONAL ENGINEER SHALL BE SUBMITTED. CUT AND FILL SLOPE DESIGN AND CONSTRUCTION SHALL BE BASED ON A GEOTECHNICAL REPORT AS REQUIRED BY SECTION 110.438.28 AND WITH THE FOLLOWING REQUIREMENTS:

1. PREPARATION OF GROUND: THE GROUND SURFACE SHALL BE PREPARED TO RECEIVE FILL IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:
   - 1.1. ALL VEGETATION SHALL BE CLEARED AND REMOVED FROM THE FILL AREA;
   - 1.2. ALL EXISTING FILLS SHALL BE REMOVED IF DEEMED UNSUITABLE BY A GEOTECHNICAL REPORT AND BY THE COUNTY ENGINEER;
   - 1.3. REMOVE TOPSOIL AND OTHER UNSUITABLE MATERIALS;
   - 1.4. SCARIFY EXISTING GROUND TO A MINIMUM DEPTH OF EIGHT (8) INCHES; AND
   - 1.5. BENCHING WITHIN SOUND BEDROCK OR OTHER COMPETENT MATERIAL AS DETERMINED BY THE GEOTECHNICAL ENGINEER SHALL BE PROVIDED FOR FILL SLOPES STEEPER THAN FIVE UNITS HORIZONTAL TO ONE UNIT VERTICAL (5:1) AND A HEIGHT GREATER THAN FIVE (5) FEET. FILL SLOPES SHALL NOT BE CONSTRUCTED ON NATURAL SLOPES STEEPER THAN TWO UNITS HORIZONTAL TO ONE UNIT VERTICAL (2:1). WHEN FILL IS TO BE PLACED OVER A CUT OR BENCH, THE CUT OR BENCH SHALL BE REVIEWED AND APPROVED BY THE GEOTECHNICAL ENGINEER AS A SUITABLE FOUNDATION FOR FILL PRIOR TO FILL PLACEMENT.

2. FILL MATERIAL: DETRIMENTAL AMOUNTS OF ORGANIC MATERIAL, AS DETERMINED BY THE GEOTECHNICAL ENGINEER, SHALL NOT BE PERMITTED IN FILLS. EXCEPT AS PERMITTED BY THE BUILDING OFFICIAL OR COUNTY ENGINEER, NO ROCK OR SIMILAR IRREDUCIBLE MATERIAL WITH A MAXIMUM DIMENSION GREATER THAN TWELVE (12) INCHES SHALL BE BURIED OR PLACED IN FILLS. EXCEPTION: THE BUILDING OFFICIAL OR COUNTY ENGINEER MAY PERMIT PLACEMENT OF LARGER ROCK WHEN THE GEOTECHNICAL ENGINEER PROPERLY DEVISES A METHOD OF PLACEMENT, AND CONTINUOUSLY INSPECTS ITS PLACEMENT AND APPROVES THE FILL STABILITY. THE FOLLOWING CONDITIONS SHALL ALSO APPLY:
   - 2.1. PRIOR TO ISSUANCE OF THE GRADING PERMIT, POTENTIAL ROCK DISPOSAL AREAS SHALL BE DELINEATED ON THE GRADING PLAN.
   - 2.2. ROCK SIZES GREATER THAN TWELVE (12) INCHES IN MAXIMUM DIMENSION SHALL BE TEN (10) FEET OR MORE BELOW GRADE, MEASURED VERTICALLY.
   - 2.3. ROCKS SHALL BE PLACED TO ENSURE FILLING OF ALL VOIDS WITH WELL-GRADED SOIL.

EROSION CONTROL NOTES:

1. THE OWNER, SITE DEVELOPER, CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL EACH DAY REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO, OR ACCUMULATE IN, THE PUBLIC RIGHTS OF WAYS OF WASHOE COUNTY AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PROJECT. SUCH MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.

2. ADDITIONAL CONSTRUCTION SITE DISCHARGE BEST MANAGEMENT PRACTICES MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT MEET THE PERFORMANCE STANDARDS SPECIFIED IN WASHOE COUNTY DEVELOPMENT CODE ARTICLE 421 AND THE TRUCKEE MEADOWS CONSTRUCTION SITE BEST MANAGEMENT PRACTICES HANDBOOK.

3. TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE INSTALLED ON DISTURBED AREAS AS SOON AS PRACTICABLE AND NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SOME EXCEPTIONS MAY APPLY; REFER TO STORMWATER GENERAL PERMIT NVR100000, SECTION 3.6 SITE STABILIZATION REQUIREMENTS, SCHEDULES, AND DEADLINES.

4. AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT ARE EXPOSED TO PRECIPITATION, VEHICLE ENTRANCE AND EXIT LOCATIONS AND ALL BMPS WEEKLY, PRIOR TO A FORECASTED RAIN EVENT AND WITHIN 24 HOURS AFTER ANY ACTUAL RAIN EVENT.THE CONTRACTOR OR HIS AGENT SHALL UPDATE OR MODIFY THE STORMWATER POLLUTION PREVENTION PLAN AS NECESSARY. SOME EXCEPTIONS TO WEEKLY INSPECTIONS MAY APPLY, SUCH AS FROZEN GROUND CONDITIONS OR SUSPENSION OF LAND DISTURBANCE ACTIVITIES. REFER TO STORMWATER GENERAL PERMIT NVR100000, SECTION 5.0 INSPECTIONS.

5. ACCUMULATED SEDIMENT IN BMPS SHALL BE REMOVED WITHIN SEVEN DAYS AFTER A STORMWATER RUNOFF EVENT OR PRIOR TO THE NEXT ANTICIPATED STORM EVENT, WHICHEVER IS EARLIER. SEDIMENT MUST BE REMOVED WHEN BMP DESIGN CAPACITY HAS BEEN REDUCED BY 50 PERCENT OR MORE.

6. CONTRACTOR IS RESPONSIBLE FOR ENSURING SEDIMENT OR DEBRIS FROM CONSTRUCTION DO NOT ENTER EXISTING DRAINAGE INFRASTRUCTURE (INLETS/DITCHES/CHANNELS/ETC.), DURING ALL PHASES OF CONSTRUCTION ACTIVITIES.

7. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING BMPs.

8. ADDITIONAL BMPs MAY BE REQUIRED TO MEET THE WASHOE COUNTY PERFORMANCE STANDARDS DURING CONSTRUCTION.

9. EXACT LOCATION OF MATERIAL STORAGE WITH FIBER ROLLS TO BE COORDINATED & APPROVED BY WASHOE COUNTY.

APN 055-032-03 **ACCESS DRIVE** EARTHWORK*	
TOTAL DISTURBED AREA	23,966 SF
ACCESS DRIVE DISTURBED AREA	16,725 SF
GRADING DISTURBED AREA**	7,241 SF

TOTAL CUT	TOTAL FILL	TOTAL NET
2,180 CY	2,202 CY	22 CY <FILL>

EARTHWORK QUANTITIES** (AREA UNDER ACCESS DRIVE NOT INCLUDED)		
CUT	FILL	NET
584 CY	825 CY	241 CY <FILL>

APN 055-032-03 **RESIDENTIAL** EARTHWORK*	
TOTAL DISTURBED AREA	34,055 SF
RESIDENCE/DRIVE DISTURBED AREA	11,111 SF
GRADING DISTURBED AREA**	22,944 SF

TOTAL CUT	TOTAL FILL	TOTAL NET
7,464 CY	452 CY	7,012 CY <CUT>

EARTHWORK QUANTITIES** (AREA UNDER RESIDENCE/DRIVEWAY NOT INCLUDED)		
CUT	FILL	NET
3,036 CY	439 CY	2,597 CY <CUT>

APN 055-032-03 **TOTAL** EARTHWORK*	
TOTAL DISTURBED AREA	58,021 SF
RESIDENCE/DRIVE DISTURBED AREA	27,836 SF
GRADING DISTURBED AREA**	30,185 SF

TOTAL CUT	TOTAL FILL	TOTAL NET
9,644 CY	2,654 CY	6,990 CY <CUT>

EARTHWORK QUANTITIES UNDER RESIDENCE/DRIVEWAY NOT INCLUDED**		
CUT	FILL	NET
3,620 CY	1,264 CY	2,356 CY <FILL>

APN 055-032-15 **ACCESS DRIVE** EARTHWORK*	
TOTAL DISTURBED AREA	80,982 SF
ACCESS DRIVE DISTURBED AREA	15,992 SF
GRADING DISTURBED AREA**	64,990 SF

TOTAL CUT	TOTAL FILL	TOTAL NET
2,903 CY	5,432 CY	2,529 CY <FILL>

EARTHWORK QUANTITIES** (AREA UNDER ACCESS DRIVE NOT INCLUDED)		
CUT	FILL	NET
2,115 CY	2,583 CY	468 CY <FILL>

APN 055-032-15 **RESIDENTIAL** EARTHWORK*	
TOTAL DISTURBED AREA	36,764 SF
RESIDENCE/DRIVE DISTURBED AREA	8,219 SF
GRADING DISTURBED AREA**	28,545 SF

TOTAL CUT	TOTAL FILL	TOTAL NET
324 CY	4,794 CY	4,470 CY <FILL>

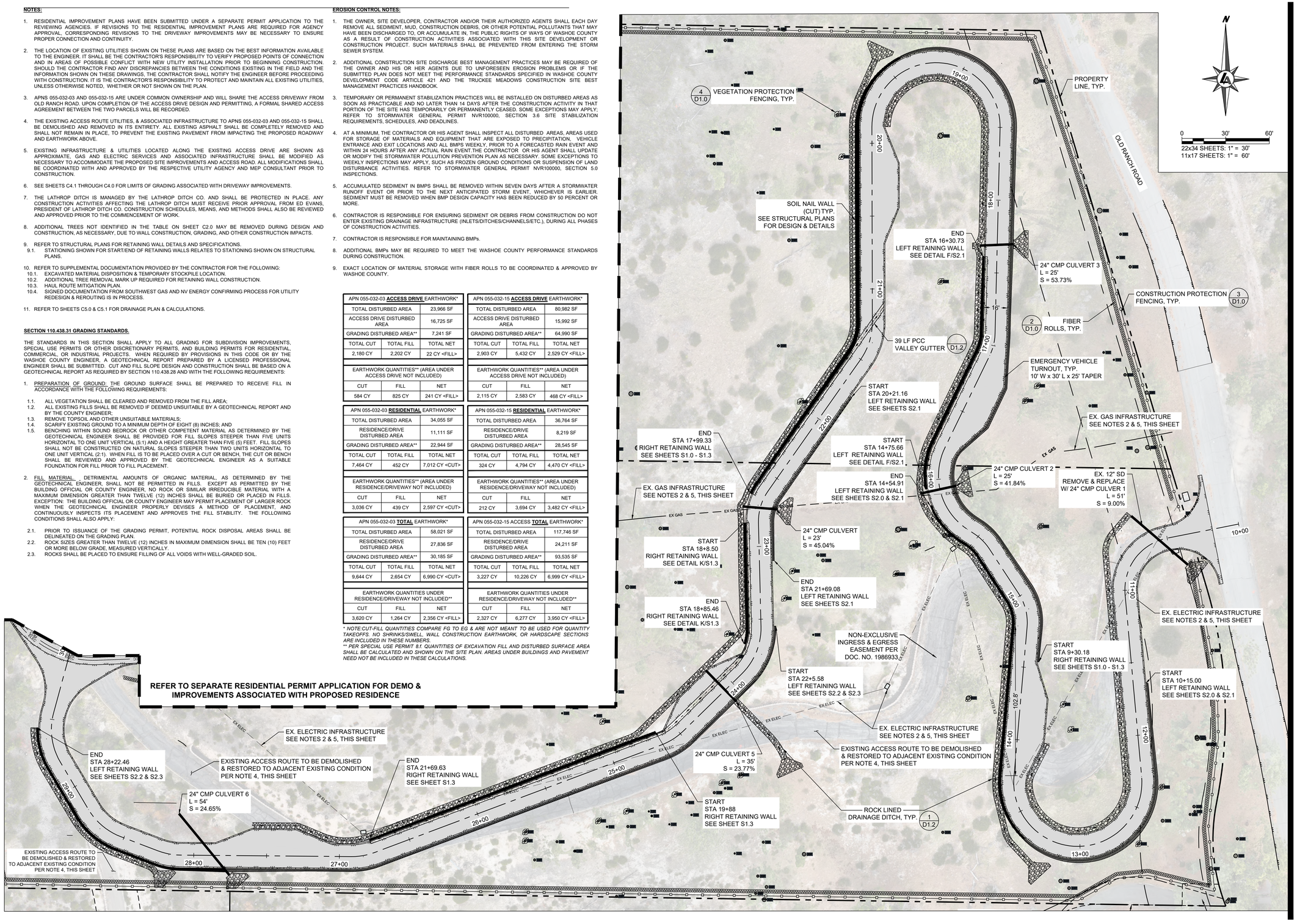
EARTHWORK QUANTITIES** (AREA UNDER RESIDENCE/DRIVEWAY NOT INCLUDED)		
CUT	FILL	NET
212 CY	3,694 CY	3,482 CY <FILL>

APN 055-032-15 ACCESS **TOTAL** EARTHWORK*	
TOTAL DISTURBED AREA	117,746 SF
RESIDENCE/DRIVE DISTURBED AREA	24,211 SF
GRADING DISTURBED AREA**	93,535 SF

TOTAL CUT	TOTAL FILL	TOTAL NET
3,227 CY	10,226 CY	6,999 CY <FILL>

EARTHWORK QUANTITIES UNDER RESIDENCE/DRIVEWAY NOT INCLUDED**		
CUT	FILL	NET
2,327 CY	6,277 CY	3,950 CY <FILL>

** NOTE:CUT-FILL QUANTITIES COMPARE FG TO EG & ARE NOT MEANT TO BE USED FOR QUANTITY TAKEOFFS. NO SHRINKS/SWELL, WALL CONSTRUCTION EARTHWORK, OR HARDSCAPE SECTIONS ARE INCLUDED IN THESE NUMBERS.*
*** PER SPECIAL USE PERMIT 8.1. QUANTITIES OF EXCAVATION FILL AND DISTURBED SURFACE AREA SHALL BE CALCULATED AND SHOWN ON THE SITE PLAN. AREAS UNDER BUILDINGS AND PAVEMENT NEED NOT BE INCLUDED IN THESE CALCULATIONS.*



LUMOS & ASSOCIATES
312 DORLA COURT, SUITE 202
ZEPHYR COVE, NV 89448
TEL: 775.588.6490
WWW.LUMOSINC.COM
INFO@LUMOSINC.COM

© LUMOS & ASSOCIATES, INC.: THIS DRAWING IS THE PROPERTY OF LUMOS & ASSOCIATES, INC.. USE OR REPRODUCTION OF THIS DRAWING, IN WHOLE OR IN PART, WITHOUT THE WRITTEN PERMISSION OF LUMOS & ASSOCIATES, INC. IS STRICTLY PROHIBITED. THIS DRAWING IS NOT TO BE USED FOR ANY PROJECT OTHER THAN THE PROJECT FOR WHICH IT WAS PREPARED.

PROFESSIONAL ENGINEER – STATE OF NEVADA – PRESLEY R. COCHRAN – Exp. 12/31/26 – CIVIL – No. 030189 – 10/08/26

DAVID & CATHY SCHMENK

2305 OLD RANCH ROAD ACCESS ROAD IMPROVEMENTS PROPOSED ACCESS DRIVE

WASHOE VALLEY — WASHOE COUNTY — STATE

REV	DATE	DESCRIPTION	BY

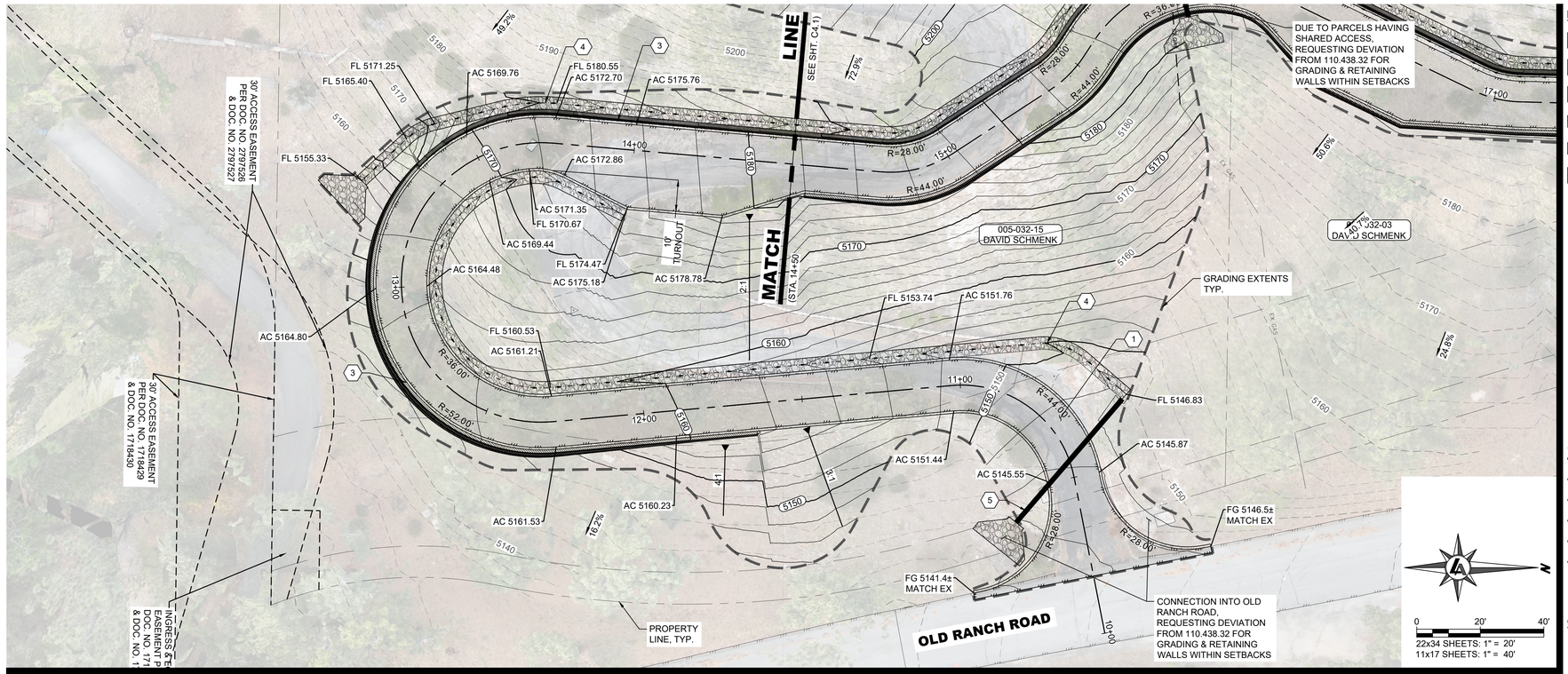
PERMIT SET
NOT FOR CONSTRUCTION
OCTOBER 8, 2026

BAR IS 1 INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

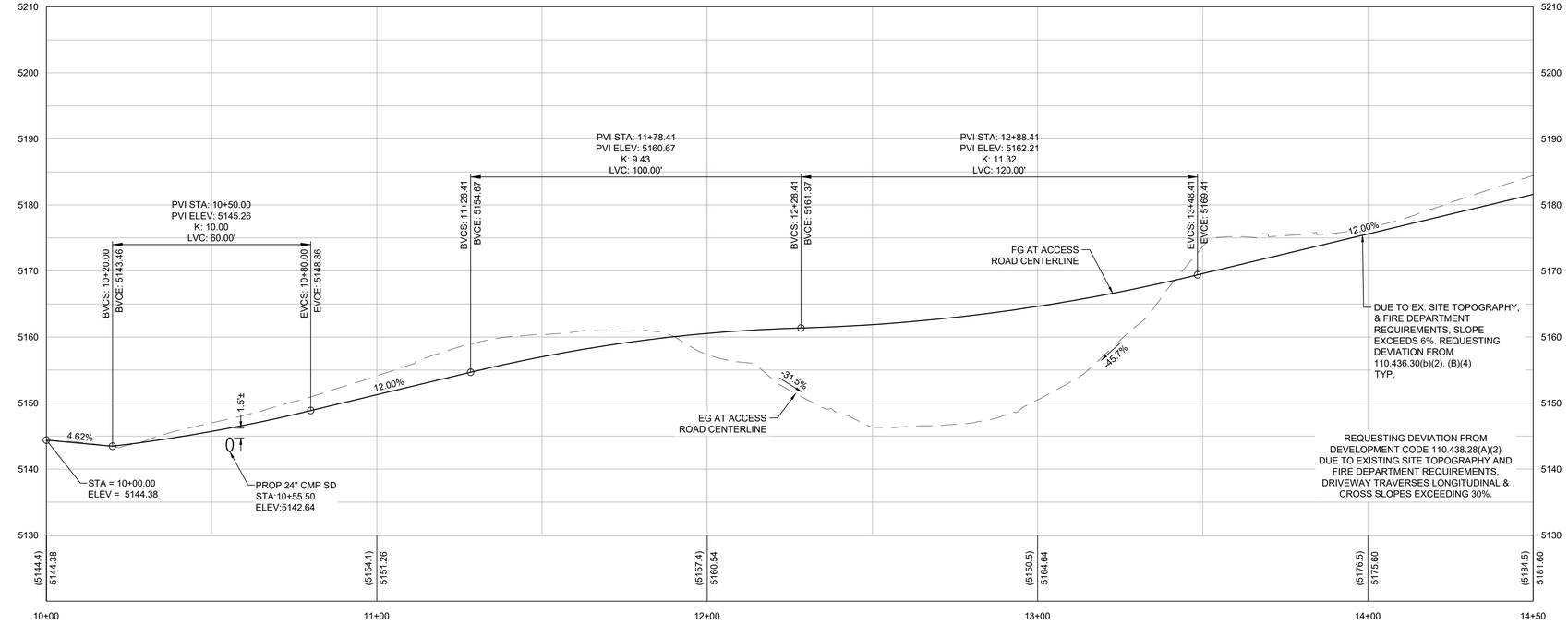
C3.0

DRAWN BY:	MEP/PRC
DESIGNED BY:	AAM/JAB
CHECKED BY:	PRC
JOB NO.:	12428.000

L:\APro\12428.000 – 2305 Old Ranch Road\3-Design\DWG\Civil\Sheets\DRIVEWAY\12428000 – PROP & EC [DRIVEWAY].dwg,C3.0 PROPOSED ACCESS DRIVE, 10/08/2026 09:42 pm prcohran



ALIGNMENT_ROAD - STA:10+00 TO STA:14+50



HORIZONTAL SCALE
0 20' 40'
22x34 SHEETS: 1" = 20'
11x17 SHEETS: 1" = 40'

VERTICAL SCALE
0 10' 20'
22x34 SHEETS: 1" = 10'
11x17 SHEETS: 1" = 20'

LEGEND

- PROPOSED PAVEMENT SECTION
- AGGREGATE BASE SHOULDERING
- PCC CONCRETE
- ROCK-LINED DRAINAGE DITCH
- SOIL NAIL WALL
- PCC VALLEY GUTTER

1 D1.0
1 D1.2
W-134A D1.2

KEYNOTES

1. RECONSTRUCT PAVEMENT SECTION
2. INSTALL PCC CURB AND GUTTER
3. INSTALL SOIL NAIL WALL
4. INSTALL ROCK-LINED DRAINAGE DITCH
5. INSTALL 24" CMP CULVERT
6. INSTALL PCC VALLEY GUTTER

GENERAL NOTES

1. ALL EARTHWORK, CONSTRUCTION, & IMPROVEMENTS SHALL CONFORM TO SITE GEOTECHNICAL REPORT REQUIREMENTS.
2. ALL DISTURBED AREAS, INCLUDING AREAS OF EXISTING DISTURBANCE WITHIN THE PROJECT AREA, SHALL BE REVEGETATED WITH WASHOE COUNTY APPROVED NATIVE SEED MIX.
3. REFER TO SHEET C5.0 FOR DRAINAGE INFRASTRUCTURE DETAILS.

LUMOS & ASSOCIATES
312 DORLA COURT, SUITE 202
ZEPHYR COVE, NV 89448
TEL: 775.588.6490
WWW.LUMOSINC.COM
INFO@LUMOSINC.COM

© LUMOS & ASSOCIATES, INC.. THIS DRAWING IS THE PROPERTY OF LUMOS & ASSOCIATES, INC.. USE OR REPRODUCTION OF THIS DRAWING, IN WHOLE OR IN PART, WITHOUT THE WRITTEN PERMISSION OF LUMOS & ASSOCIATES, INC. IS STRICTLY PROHIBITED. THIS DRAWING IS NOT TO BE USED FOR ANY PROJECT OTHER THAN THE PROJECT FOR WHICH IT WAS PREPARED.

PRESLEY R. COCHRAN
Exp. 12/31/26
CIVIL
STATE OF NEVADA
No. 030189
10/08/26

DAVID & CATHY SCHMENK

2305 OLD RANCH ROAD ACCESS ROAD IMPROVEMENTS STA 10+00 TO STA 14+50

WASHOE VALLEY — WASHOE COUNTY — STATE

REV	DATE	DESCRIPTION	BY

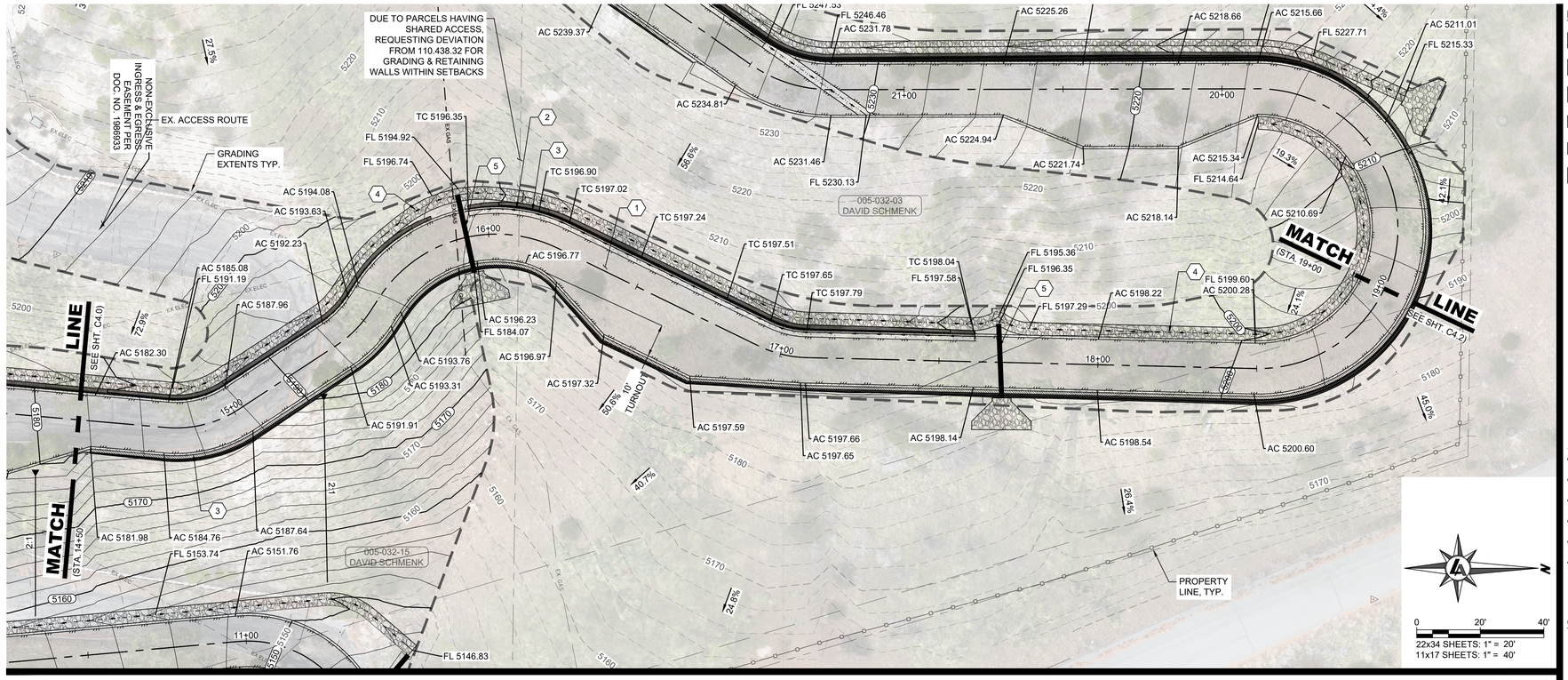
PERMIT SET
NOT FOR CONSTRUCTION
OCTOBER 8, 2026

BAR IS 1 INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

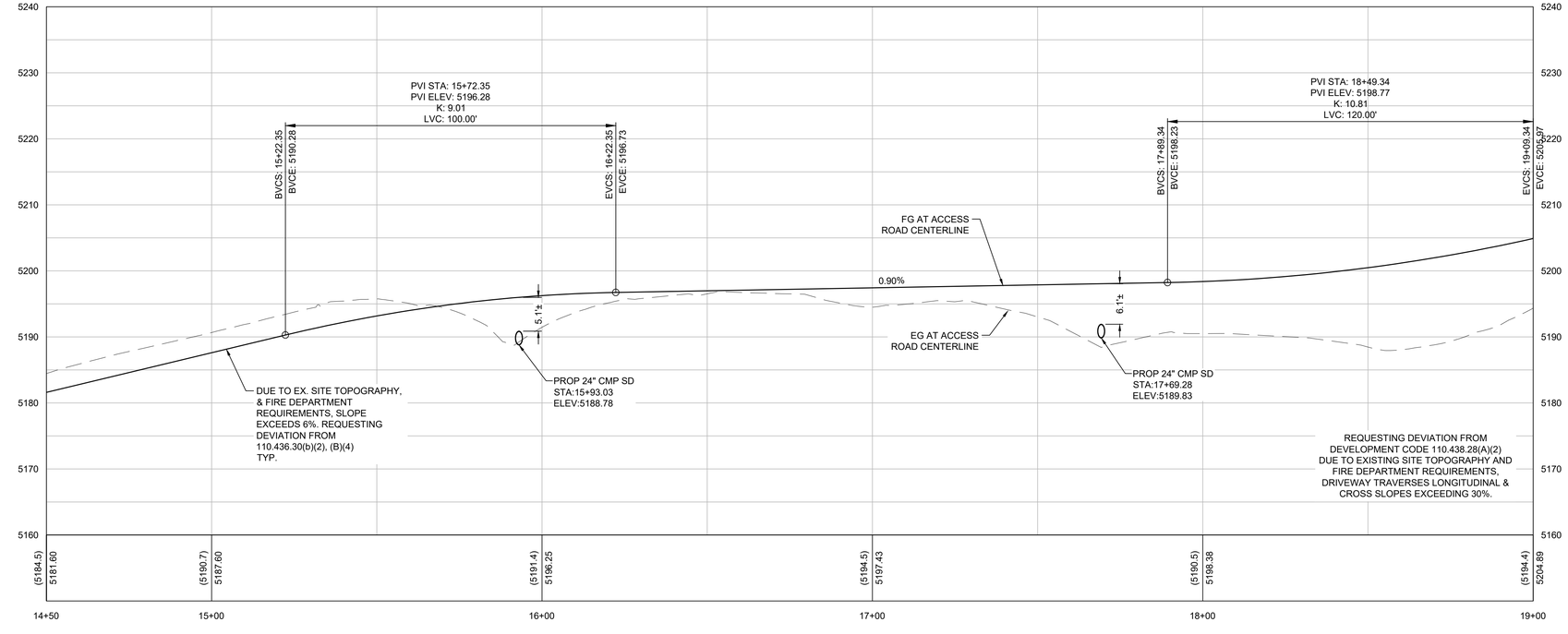
C4.0

DRAWN BY:	MEP/PRC
DESIGNED BY:	AAM/JAB
CHECKED BY:	PRC
JOB NO.:	12428.000

L:\LAP-cy\12428.000 – 2305 Old Ranch Road\3-Design\DWG\Civil\Sheets\DRIVEWAY\12428000_Improvement Plan Sheets_P&P.dwg,C4.0 STA 10+00 TO STA 14+50, 10/08/2026 04:49 pm pcostan



ALIGNMENT_ROAD - STA:14+50 TO STA:19+00



LEGEND

- PROPOSED PAVEMENT SECTION
- AGGREGATE BASE SHOULDERING
- PCC CONCRETE
- ROCK-LINED DRAINAGE DITCH
- SOIL NAIL WALL
- PCC VALLEY GUTTER

1 D1.0 · 1 D1.2 · W-134A D1.2

KEYNOTES

1. RECONSTRUCT PAVEMENT SECTION
2. INSTALL PCC CURB AND GUTTER
3. INSTALL SOIL NAIL WALL
4. INSTALL ROCK-LINED DRAINAGE DITCH
5. INSTALL 24" CMP CULVERT
6. INSTALL PCC VALLEY GUTTER

GENERAL NOTES

1. ALL EARTHWORK, CONSTRUCTION, & IMPROVEMENTS SHALL CONFORM TO SITE GEOTECHNICAL REPORT REQUIREMENTS.
2. ALL DISTURBED AREAS, INCLUDING AREAS OF EXISTING DISTURBANCE WITHIN THE PROJECT AREA, SHALL BE REVEGETATED WITH WASHOE COUNTY APPROVED NATIVE SEED MIX.
3. REFER TO SHEET C5.0 FOR DRAINAGE INFRASTRUCTURE DETAILS.

HORIZONTAL SCALE
0 20' 40'
22x34 SHEETS: 1" = 20'
11x17 SHEETS: 1" = 40'

VERTICAL SCALE
0 10' 20'
22x34 SHEETS: 1" = 10'
11x17 SHEETS: 1" = 20'

LUMOS & ASSOCIATES
312 DORLA COURT, SUITE 202
ZEPHYR COVE, NV 89448
TEL: 775.588.6490
WWW.LUMOSINC.COM
INFO@LUMOSINC.COM

© LUMOS & ASSOCIATES, INC.: THIS DRAWING IS THE PROPERTY OF LUMOS & ASSOCIATES, INC.. USE OR REPRODUCTION OF THIS DRAWING, IN WHOLE OR IN PART, WITHOUT THE WRITTEN PERMISSION OF LUMOS & ASSOCIATES, INC. IS STRICTLY PROHIBITED. THIS DRAWING IS NOT TO BE USED FOR ANY PROJECT OTHER THAN THE PROJECT FOR WHICH IT WAS PREPARED.

PROFESSIONAL ENGINEER – STATE OF NEVADA
PRESLEY R. COCHRAN
Exp. 12/31/26
CIVIL
No. 030189
10/08/26

DAVID & CATHY SCHMENK

2305 OLD RANCH ROAD ACCESS ROAD IMPROVEMENTS STA 14+50 TO STA 19+00

WASHOE VALLEY — WASHOE COUNTY — STATE

REV	DATE	DESCRIPTION	BY

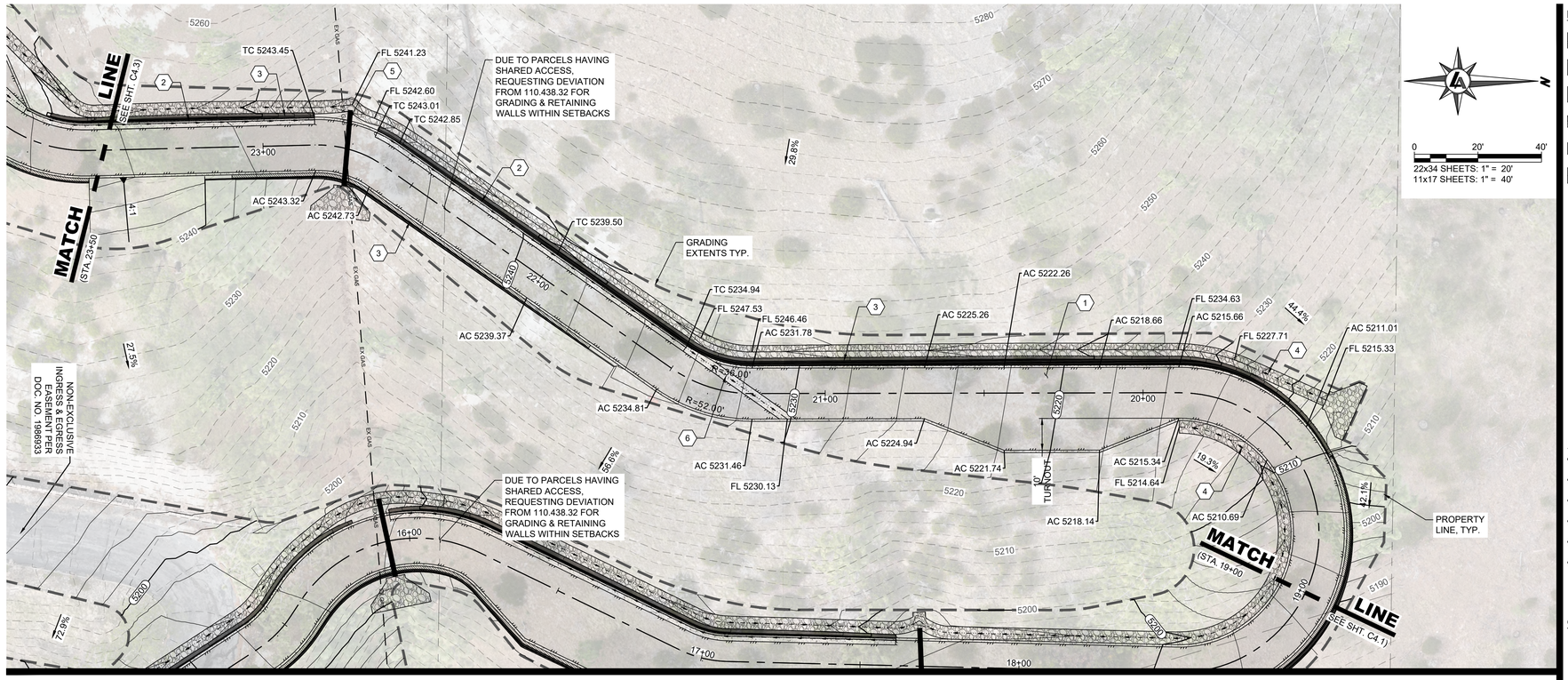
PERMIT SET
NOT FOR CONSTRUCTION
OCTOBER 8, 2026

BAR IS 1 INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

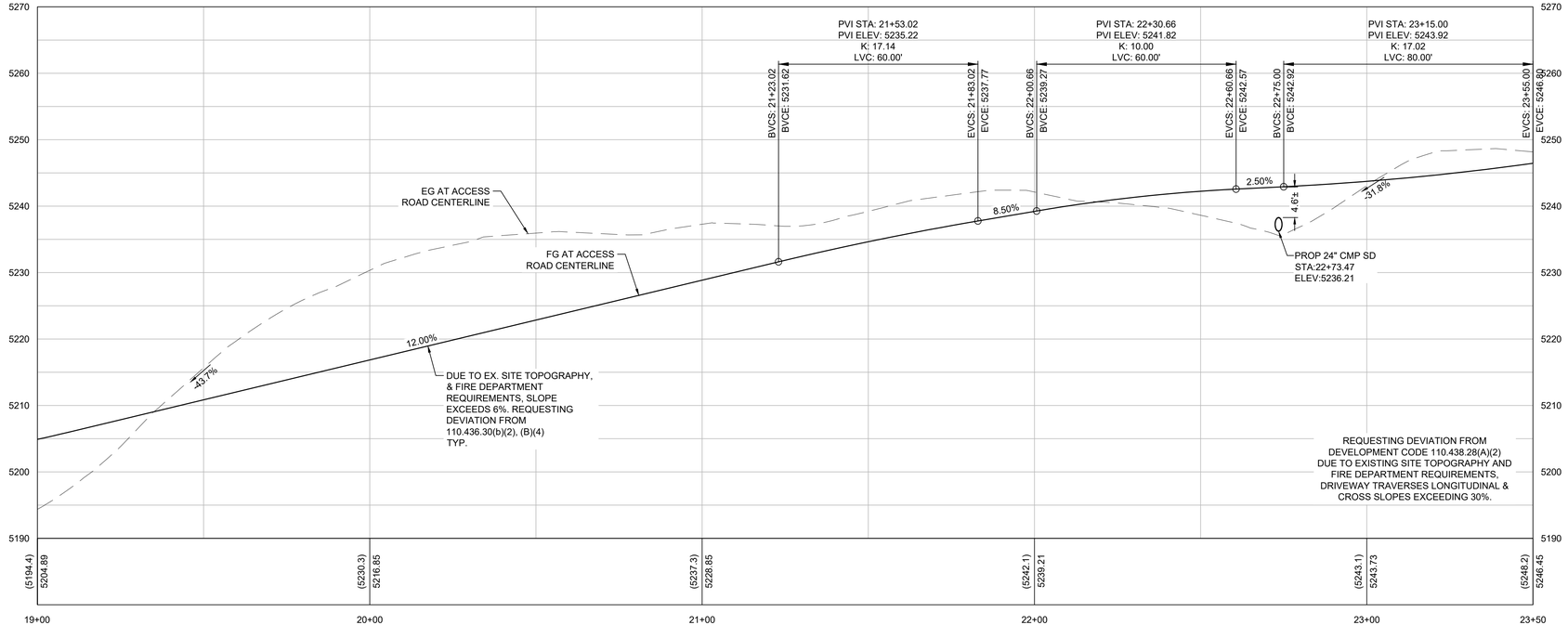
C4.1

DRAWN BY:	MEP/PRC
DESIGNED BY:	AAM/JAB
CHECKED BY:	PRC
JOB NO.:	12428.000

L:\LAP-cy\12428.000 – 2305 Old Ranch Road\3-Design\DWG\Civil\Sheets\DRIVEWAY\12428000_Improvement Plan Sheets_P&P.dwg,C4.1 STA 14+50 TO STA 19+00, 10/08/2026 04:49 pm postman



ALIGNMENT_ROAD - STA:19+00 TO STA:23+50



LEGEND

- PROPOSED PAVEMENT SECTION
- AGGREGATE BASE SHOULDERING
- PCC CONCRETE
- ROCK-LINED DRAINAGE DITCH
- SOIL NAIL WALL
- PCC VALLEY GUTTER

1 D1.0

1 D1.2

W-134A D1.2

KEYNOTES

1. RECONSTRUCT PAVEMENT SECTION
2. INSTALL PCC CURB AND GUTTER
3. INSTALL SOIL NAIL WALL
4. INSTALL ROCK-LINED DRAINAGE DITCH
5. INSTALL 24" CMP CULVERT
6. INSTALL PCC VALLEY GUTTER

GENERAL NOTES

1. ALL EARTHWORK, CONSTRUCTION, & IMPROVEMENTS SHALL CONFORM TO SITE GEOTECHNICAL REPORT REQUIREMENTS.
2. ALL DISTURBED AREAS, INCLUDING AREAS OF EXISTING DISTURBANCE WITHIN THE PROJECT AREA, SHALL BE REVEGETATED WITH WASHOE COUNTY APPROVED NATIVE SEED MIX.
3. REFER TO SHEET C5.0 FOR DRAINAGE INFRASTRUCTURE DETAILS.

HORIZONTAL SCALE

0 20' 40'

22x34 SHEETS: 1" = 20'
11x17 SHEETS: 1" = 40'

VERTICAL SCALE

0 10' 20'

22x34 SHEETS: 1" = 10'
11x17 SHEETS: 1" = 20'

LUMOS & ASSOCIATES
312 DORLA COURT, SUITE 202
ZEPHYR COVE, NV 89448
TEL: 775.588.6490

WWW.LUMOSINC.COM
INFO@LUMOSINC.COM

© LUMOS & ASSOCIATES, INC.: THIS DRAWING IS THE PROPERTY OF LUMOS & ASSOCIATES, INC.. USE OR REPRODUCTION OF THIS DRAWING, IN WHOLE OR IN PART, WITHOUT THE WRITTEN PERMISSION OF LUMOS & ASSOCIATES, INC. IS STRICTLY PROHIBITED. THIS DRAWING IS NOT TO BE USED FOR ANY PROJECT OTHER THAN THE PROJECT FOR WHICH IT WAS PREPARED.

PRESLEY R. COCHRAN
Exp 12/31/26
CIVIL
STATE OF NEVADA
No. 030189
PROFESSIONAL ENGINEER
10/08/26

DAVID & CATHY SCHMENK

2305 OLD RANCH ROAD
ACCESS ROAD IMPROVEMENTS
STA 19+00 TO STA 23+50

WASHOE VALLEY

WASHOE COUNTY

STATE

REV | DATE | DESCRIPTION | BY

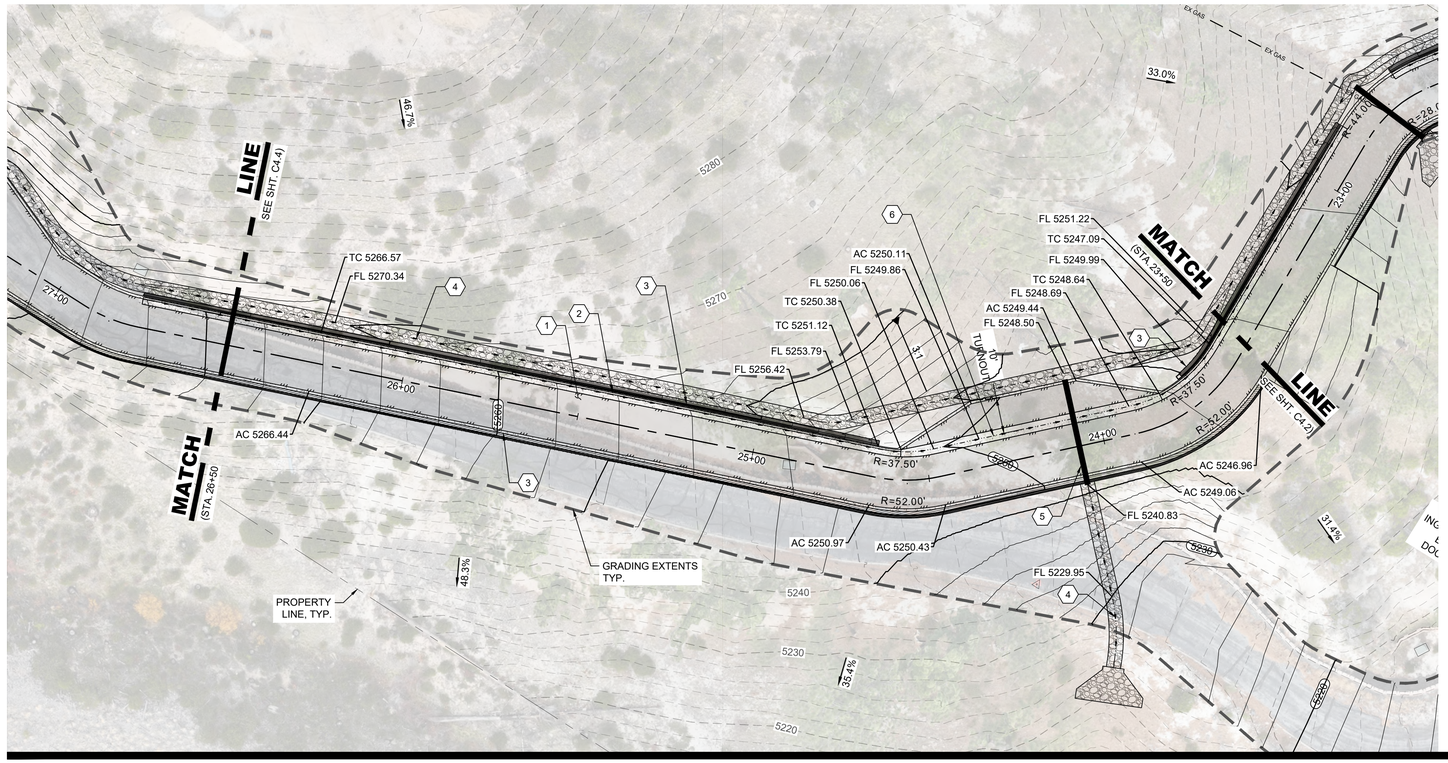
PERMIT SET
NOT FOR CONSTRUCTION
OCTOBER 8, 2026

BAR IS 1 INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

C4.2

DRAWN BY:	MEP/PRC
DESIGNED BY:	AAM/JAB
CHECKED BY:	PRC
JOB NO.:	12428.000

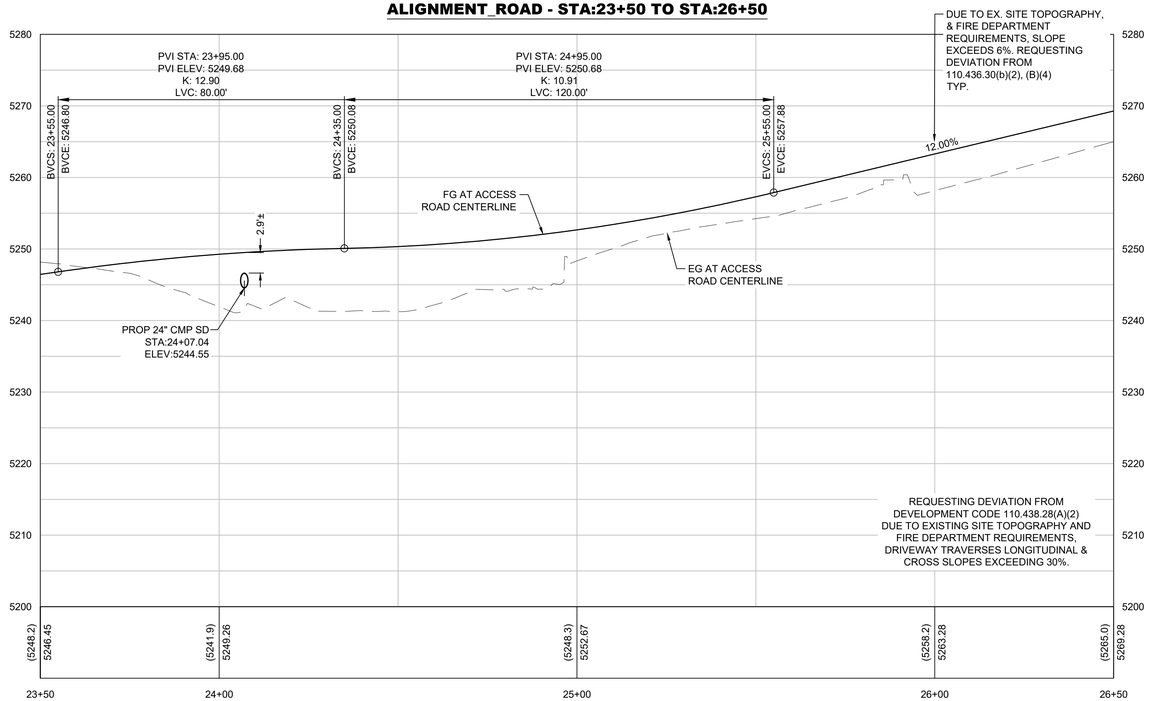
L:\LAP-ro\12428.000 – 2305 Old Ranch Road\3-Design\DWG\Civil\Sheets\DRIVEWAY\12428000_Improvement Plan Sheets_P&P.dwg,C4.2 STA 19+00 TO STA 23+50, 10/8/2026 04:02 pm pcochran





0 20' 40'
22x34 SHEETS: 1" = 20'
11x17 SHEETS: 1" = 40'

ALIGNMENT_ROAD - STA:23+50 TO STA:26+50



LEGEND

- PROPOSED PAVEMENT SECTION (1 / D1.0)
- AGGREGATE BASE SHOULDERING
- PCC CONCRETE (1 / D1.2)
- ROCK-LINED DRAINAGE DITCH
- SOIL NAIL WALL
- PCC VALLEY GUTTER (W-134A / D1.2)

KEYNOTES

1. RECONSTRUCT PAVEMENT SECTION
2. INSTALL PCC CURB AND GUTTER
3. INSTALL SOIL NAIL WALL
4. INSTALL ROCK-LINED DRAINAGE DITCH
5. INSTALL 24" CMP CULVERT
6. INSTALL PCC VALLEY GUTTER

GENERAL NOTES

1. ALL EARTHWORK, CONSTRUCTION, & IMPROVEMENTS SHALL CONFORM TO SITE GEOTECHNICAL REPORT REQUIREMENTS.
2. ALL DISTURBED AREAS, INCLUDING AREAS OF EXISTING DISTURBANCE WITHIN THE PROJECT AREA, SHALL BE REVEGETATED WITH WASHOE COUNTY APPROVED NATIVE SEED MIX.
3. REFER TO SHEET C5.0 FOR DRAINAGE INFRASTRUCTURE DETAILS.

HORIZONTAL SCALE
0 20' 40'
22x34 SHEETS: 1" = 20'
11x17 SHEETS: 1" = 40'

VERTICAL SCALE
0 10' 20'
22x34 SHEETS: 1" = 10'
11x17 SHEETS: 1" = 20'

LUMOS & ASSOCIATES
312 DORLA COURT, SUITE 202
ZEPHYR COVE, NV 89448
TEL: 775.588.6490
WWW.LUMOSINC.COM
INFO@LUMOSINC.COM

© LUMOS & ASSOCIATES, INC.: THIS DRAWING IS THE PROPERTY OF LUMOS & ASSOCIATES, INC.. USE OR REPRODUCTION OF THIS DRAWING, IN WHOLE OR IN PART, WITHOUT THE WRITTEN PERMISSION OF LUMOS & ASSOCIATES, INC. IS STRICTLY PROHIBITED. THIS DRAWING IS NOT TO BE USED FOR ANY PROJECT OTHER THAN THE PROJECT FOR WHICH IT WAS PREPARED.



DAVID & CATHY SCHMENK

2305 OLD RANCH ROAD
ACCESS ROAD IMPROVEMENTS
STA 23+50 TO STA 26+50

WASHOE VALLEY — WASHOE COUNTY — STATE

REV	DATE	DESCRIPTION	BY

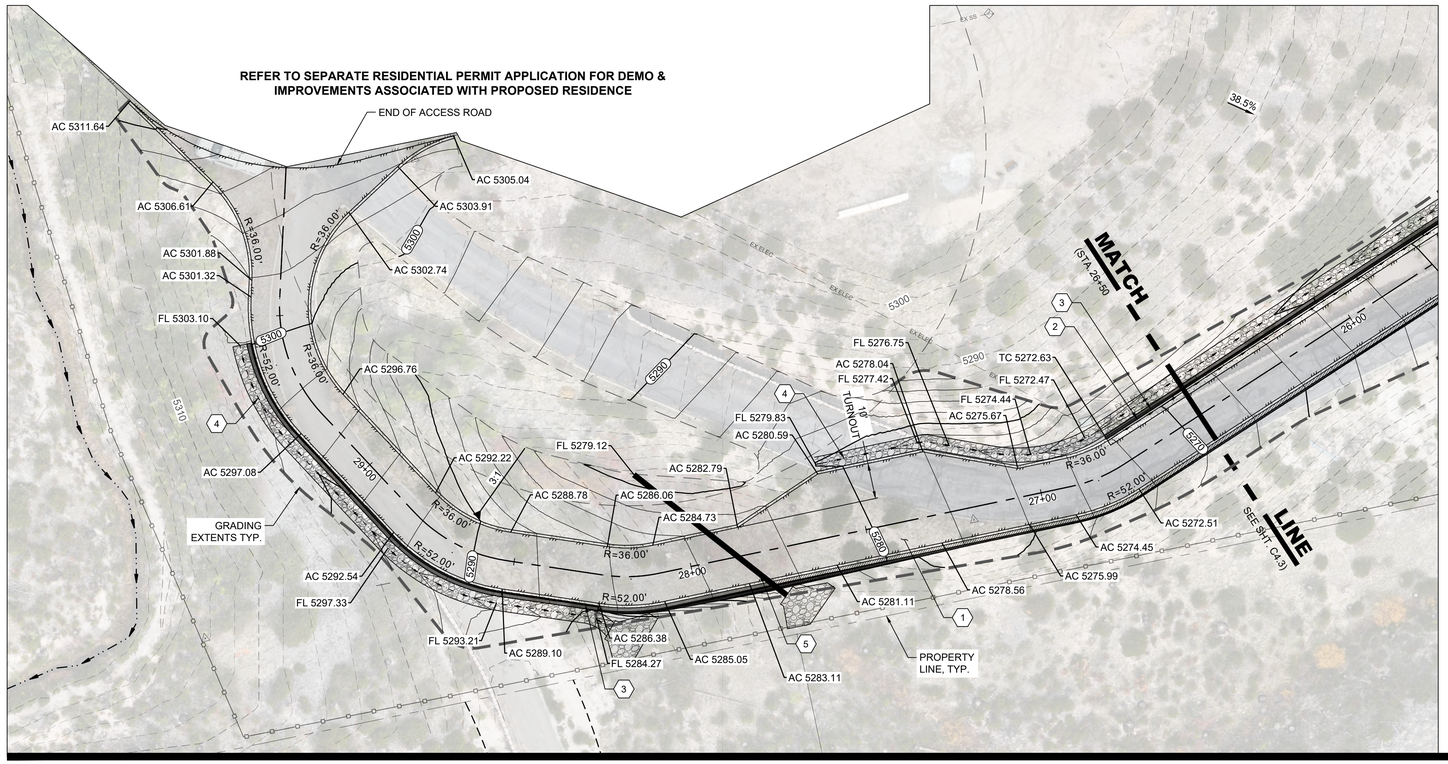
PERMIT SET
NOT FOR CONSTRUCTION
OCTOBER 8, 2026

BAR IS 1 INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

C4.3

DRAWN BY:	MEP/PRC
DESIGNED BY:	AAM/JAB
CHECKED BY:	PRC
JOB NO.:	12428.000

L:\Jobs\12428.000 – 2305 Old Ranch Road\3-Design\DWG\Civil\Sheets\DRIVEWAY\12428000_Improvement Plan Sheets_P&P.dwg,C4.3 STA 23+50 TO STA 26+50, 10/08/2026 04:02 pm pnordman

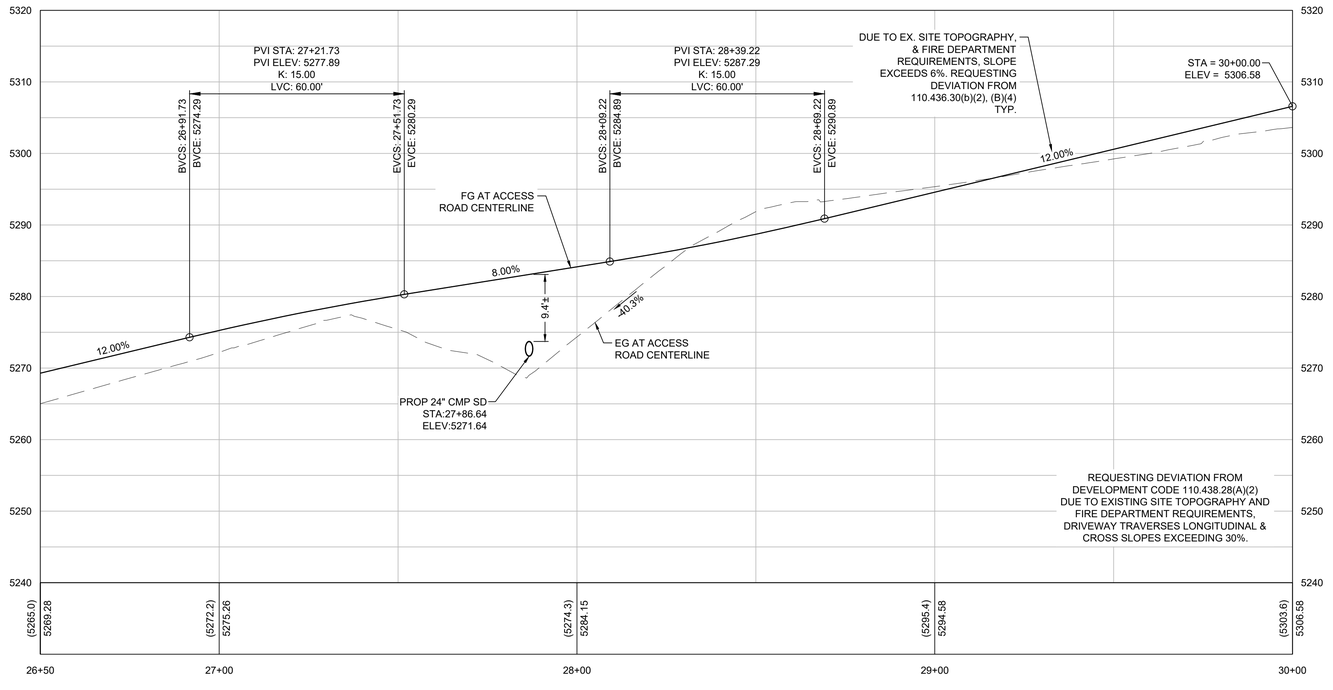




0 20' 40'

22x34 SHEETS: 1" = 20'
11x17 SHEETS: 1" = 40'

ALIGNMENT_ROAD - STA:26+50 TO STA:30+00



L:\LAP-cy\12428.000 - 2305 Old Ranch Road\3-Design\DWG\Civil\Sheets\DRIVEWAY\12428000_Improvement Plan Sheets_P&P.dwg,C4.4 STA 26+50 TO STA 30+00, 10/08/2026 04:47 pm pcochran

LEGEND

- PROPOSED PAVEMENT SECTION (1 D1.0)
- AGGREGATE BASE SHOULDERING
- PCC CONCRETE (1 D1.2)
- ROCK-LINED DRAINAGE DITCH
- SOIL NAIL WALL (W-134A D1.2)
- PCC VALLEY GUTTER

KEYNOTES

1. RECONSTRUCT PAVEMENT SECTION
2. INSTALL PCC CURB AND GUTTER
3. INSTALL SOIL NAIL WALL
4. INSTALL ROCK-LINED DRAINAGE DITCH
5. INSTALL 24" CMP CULVERT
6. INSTALL PCC VALLEY GUTTER

GENERAL NOTES

1. ALL EARTHWORK, CONSTRUCTION, & IMPROVEMENTS SHALL CONFORM TO SITE GEOTECHNICAL REPORT REQUIREMENTS.
2. ALL DISTURBED AREAS, INCLUDING AREAS OF EXISTING DISTURBANCE WITHIN THE PROJECT AREA, SHALL BE REVEGETATED WITH WASHOE COUNTY APPROVED NATIVE SEED MIX.
3. REFER TO SHEET C5.0 FOR DRAINAGE INFRASTRUCTURE DETAILS.

HORIZONTAL SCALE
0 20' 40'
22x34 SHEETS: 1" = 20'
11x17 SHEETS: 1" = 40'

VERTICAL SCALE
0 10' 20'
22x34 SHEETS: 1" = 10'
11x17 SHEETS: 1" = 20'

LUMOS & ASSOCIATES
312 DORLA COURT, SUITE 202
ZEPHYR COVE, NV 89448
TEL: 775.588.6490
WWW.LUMOSINC.COM
INFO@LUMOSINC.COM

© LUMOS & ASSOCIATES, INC.: THIS DRAWING IS THE PROPERTY OF LUMOS & ASSOCIATES, INC.. USE OR REPRODUCTION OF THIS DRAWING, IN WHOLE OR IN PART, WITHOUT THE WRITTEN PERMISSION OF LUMOS & ASSOCIATES, INC. IS STRICTLY PROHIBITED. THIS DRAWING IS NOT TO BE USED FOR ANY PROJECT OTHER THAN THE PROJECT FOR WHICH IT WAS PREPARED.

PRESLEY R. COCHRAN
Exp. 12/31/26
CIVIL
STATE OF NEVADA
No. 030189
10/08/26

DAVID & CATHY SCHMENK

2305 OLD RANCH ROAD ACCESS ROAD IMPROVEMENTS STA 26+50 TO STA 30+00

WASHOE VALLEY — WASHOE COUNTY — STATE

REV	DATE	DESCRIPTION	BY

PERMIT SET
NOT FOR CONSTRUCTION
OCTOBER 8, 2026

BAR IS 1 INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

C4.4

DRAWN BY:	MEP/PRC
DESIGNED BY:	AAM/JAB
CHECKED BY:	PRC
JOB NO.:	12428.000

MARSDEN
ARCHITECTS

October 8, 2026

Washoe County Community Services Department
Planning Division
(submittal via email)

Subject: **SCHMENK ACCESS DRIVE AND RESIDENCE – SPECIAL USE PERMIT APPLICATION**
2205 and 2305 Old Ranch Road – Washoe Valley
APNS 055-032-15 & 055-032-03

To Whom It May Concern:

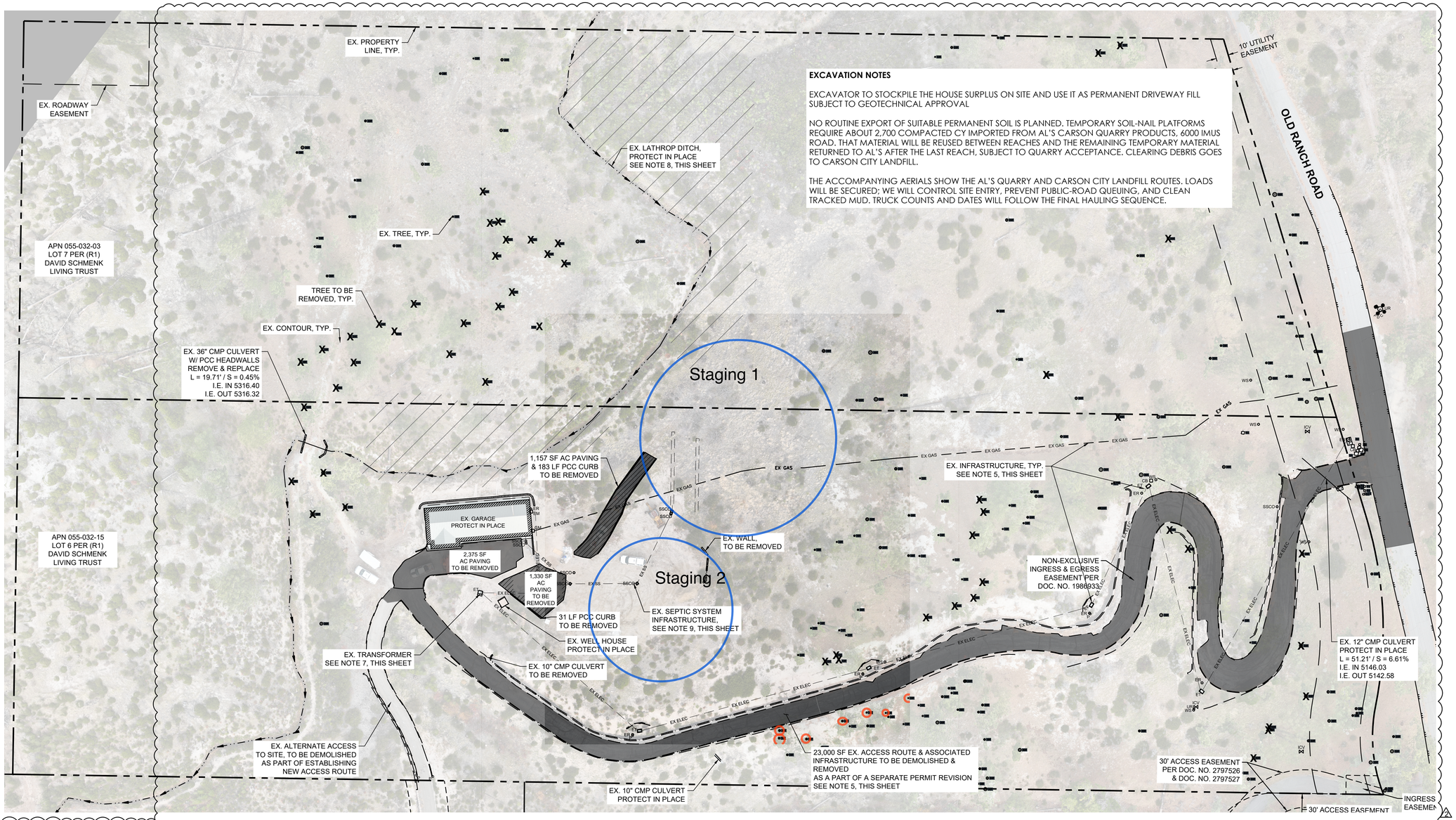
Please find enclosed a Special Use Permit application package requesting approval of a Major Grading project proposing a new shared access drive to serve a proposed new single-family residence at 2305 Old Ranch Road and an existing garage/dwelling located to the south at 2205 Old Ranch Road. In accordance with the application requirements, please find the following supporting documents enclosed:

- Project Narrative
- Special Use Permit Application Packet
- Special Use Permit Supplemental Information
- Civil Plan Set - for proposed access drive
    - Plan set also shows extents of project area under review with building permit application no. WBLD26-102135
    - Plan set also includes disturbance area and cut/fill quantities for grading associated with Building Permit Application No. WBLD26-102135
- Structural Plans – for proposed access drive
- Geotechnical Report
- Draft Access Easement documents
- Title Report
- Franktown Hills Subdivision Unit 2 Map
- CC&Rs
- Lathrop Cliff Ditch Easement
- Excavation Staging & Off-Haul Mitigation Plan
- Utility Coordination Letters with NV Energy & SW Gas

Please don't hesitate to contact our office with any questions or requests for additional information. Thank you for your efforts in processing our application.

Sincerely,

Emily McGuire
Project Planner



EXCAVATION NOTES

EXCAVATOR TO STOCKPILE THE HOUSE SURPLUS ON SITE AND USE IT AS PERMANENT DRIVEWAY FILL SUBJECT TO GEOTECHNICAL APPROVAL

NO ROUTINE EXPORT OF SUITABLE PERMANENT SOIL IS PLANNED. TEMPORARY SOIL-NAIL PLATFORMS REQUIRE ABOUT 2,700 COMPACTED CY IMPORTED FROM AL'S CARSON QUARRY PRODUCTS, 6000 IMUS ROAD. THAT MATERIAL WILL BE REUSED BETWEEN REACHES AND THE REMAINING TEMPORARY MATERIAL RETURNED TO AL'S AFTER THE LAST REACH, SUBJECT TO QUARRY ACCEPTANCE. CLEARING DEBRIS GOES TO CARSON CITY LANDFILL.

THE ACCOMPANYING AERIALS SHOW THE AL'S QUARRY AND CARSON CITY LANDFILL ROUTES. LOADS WILL BE SECURED; WE WILL CONTROL SITE ENTRY, PREVENT PUBLIC-ROAD QUEUING, AND CLEAN TRACKED MUD. TRUCK COUNTS AND DATES WILL FOLLOW THE FINAL HAULING SEQUENCE.

NOTES:

1. THE LOCATION OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE BASED ON THE BEST INFORMATION AVAILABLE TO THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY PROPOSED POINTS OF CONNECTION AND IN AREAS OF POSSIBLE CONFLICT WITH NEW UTILITY INSTALLATION PRIOR TO BEGINNING CONSTRUCTION. SHOULD THE CONTRACTOR FIND ANY DISCREPANCIES BETWEEN THE CONDITIONS EXISTING IN THE FIELD AND THE INFORMATION SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT AND MAINTAIN ALL EXISTING UTILITIES WHETHER OR NOT SHOWN ON THE PLAN.
2. ALL EXISTING UTILITIES, FENCING, AND INFRASTRUCTURE SHOWN ON THIS PLAN SHEET ARE TO BE PROTECTED IN PLACE, UNLESS OTHERWISE NOTED.
3. APNS 055-032-03 AND 055-032-15 ARE UNDER COMMON OWNERSHIP AND WILL SHARE ACCESS FROM OLD RANCH ROAD. UPON COMPLETION OF THE ACCESS DRIVE DESIGN AND PERMITTING, A FORMAL SHARED ACCESS AGREEMENT BETWEEN THE TWO PARCELS WILL BE RECORDED.
4. AS A PART OF A SEPARATE PERMIT REVISION, THE EXISTING ACCESS ROUTE UTILITIES, & ASSOCIATED INFRASTRUCTURE TO APNS 055-032-03 AND 055-032-15 SHALL BE DEMOLISHED AND REMOVED IN ITS ENTIRETY. ALL EXISTING ASPHALT SHALL BE COMPLETELY REMOVED AND SHALL NOT REMAIN IN PLACE, TO PREVENT THE EXISTING PAVEMENT FROM IMPACTING THE PROPOSED ROADWAY AND EARTHWORK ABOVE.
5. EXISTING INFRASTRUCTURE & UTILITIES LOCATED ALONG THE EXISTING ACCESS DRIVE ARE SHOWN AS APPROXIMATE. GAS AND ELECTRIC SERVICES AND ASSOCIATED INFRASTRUCTURE SHALL BE MODIFIED AS NECESSARY TO ACCOMMODATE THE PROPOSED SITE IMPROVEMENTS AND ACCESS ROAD. AS A PART OF A SEPARATE PERMIT REVISION, ALL MODIFICATIONS SHALL BE COORDINATED WITH AND APPROVED BY THE RESPECTIVE UTILITY AGENCY AND MEP CONSULTANT PRIOR TO CONSTRUCTION.
6. SEE SHEETS, C4.0, & C4.1 FOR LIMITS OF GRADING ASSOCIATED WITH SITE IMPROVEMENTS.
7. EX. GAS AND ELECTRIC SERVICE TO GARAGE IS SHOWN AS APPROXIMATE. GAS AND ELECTRIC SERVICES AND ASSOCIATED INFRASTRUCTURE SHALL BE MODIFIED AS NECESSARY TO ACCOMMODATE THE PROPOSED SITE IMPROVEMENTS AND ACCESS ROAD. AS A PART OF A SEPARATE PERMIT REVISION, ALL MODIFICATIONS SHALL BE COORDINATED WITH AND APPROVED BY THE RESPECTIVE UTILITY AGENCY AND MEP CONSULTANT PRIOR TO CONSTRUCTION.
8. THE LATHROP DITCH IS MANAGED BY THE LATHROP DITCH CO. AND SHALL BE PROTECTED IN PLACE. ANY CONSTRUCTION ACTIVITIES AFFECTING THE LATHROP DITCH MUST RECEIVE PRIOR APPROVAL FROM ED EVANS, PRESIDENT OF LATHROP DITCH CO. CONSTRUCTION SCHEDULES, MEANS, AND METHODS SHALL ALSO BE REVIEWED AND APPROVED PRIOR TO THE COMMENCEMENT OF WORK.
9. EX. SEPTIC SYSTEM PIPING INFRASTRUCTURE IS APPROXIMATE & SHOWN BASED ON THE CIVIL SITE PLAN PREPARED BY HEARTFELT ENGINEERING, LLC DATED OCTOBER 1, 2024. CONTRACTOR IS RESPONSIBLE FOR POTHOLING AND VERIFYING THE EXISTING SEPTIC SYSTEM HORIZONTAL AND VERTICAL LOCATION PRIOR TO CONSTRUCTION. SHOULD EXISTING LOCATIONS VARY FROM WHAT IS SHOWN N THIS PLAN, CONTRACTOR WILL BE RESPONSIBLE FOR NOTIFYING DESIGN ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
10. ADDITIONAL TREES NOT IDENTIFIED IN THE TABLE MAY BE REMOVED DURING DESIGN AND CONSTRUCTION, AS NECESSARY, DUE TO GRADING AND OTHER CONSTRUCTION IMPACTS.

TREE REMOVAL TABLE

DIAMETER	QUANTITY
36"	1
34"	1
32"	1
24"	3
22"	2
20"	3
18"	2
16"	5
14"	6
12"	4

N

0 40' 80'

22x34 SHEETS: 1" = 40'
11x17 SHEETS: 1" = 80'

LUMOS & ASSOCIATES
312 DORLA COURT, SUITE 202
ZEPHYR COVE, NV 89448
TEL: 775.588.6490
WWW.LUMOSINC.COM
INFO@LUMOSINC.COM

© LUMOS & ASSOCIATES, INC.: THIS DRAWING IS THE PROPERTY OF LUMOS & ASSOCIATES, INC.. USE OR REPRODUCTION OF THIS DRAWING, IN WHOLE OR IN PART, WITHOUT THE WRITTEN PERMISSION OF LUMOS & ASSOCIATES, INC. IS STRICTLY PROHIBITED. THIS DRAWING IS NOT TO BE USED FOR ANY PROJECT OTHER THAN THE PROJECT FOR WHICH IT WAS PREPARED.

PROFESSIONAL ENGINEER – STATE OF NEVADA
PRESLEY R. COCHRAN
Exp. 12/31/26
CIVIL
No. 050189
09/09/26

DAVID & CATHY SCHMENK

2305 OLD RANCH ROAD
SITE IMPROVEMENT PLANS
EXISTING SITE & DEMOLITION PLAN

WASHOE VALLEY — WASHOE — NEVADA

REV	DATE	DESCRIPTION	BY
1	7/31/26	AGENCY REVISIONS/ADDITIONAL DESIGN	PRC
2	9/04/26	ACCESS ROAD DESIGN & SITE REVISIONS	PRC

PERMIT SET
NOT FOR CONSTRUCTION
SEPTEMBER 4, 2026

BAR IS 1 INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

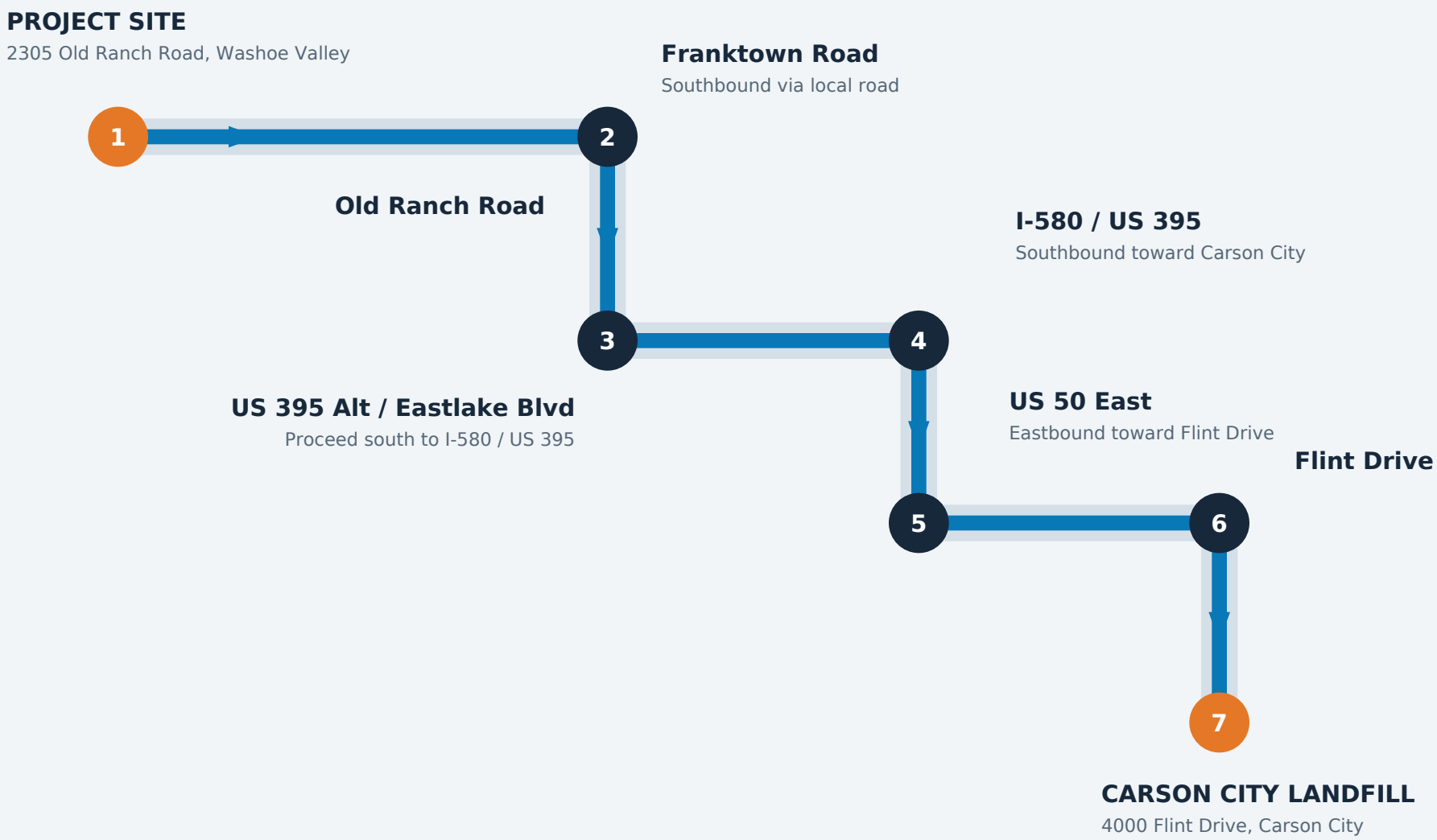
C2.0

DRAWN BY: AAM/JAB
DESIGNED BY: MEP/PRC
CHECKED BY: PRC
JOB NO.: 12428.000

L:\LAP\c\12428.000 – 2305 Old Ranch Road\3–Design\DWG\Civil\Sheets\12428000 – EX & DEMO.dwg,Ex & EC, 09/09/2026 04:42 pm pcochran

PROPOSED CLEARING DEBRIS HAUL ROUTE

2305 OLD RANCH ROAD | 07 OCT 2026



RETURN ROUTE Reverse the same public-road route to the project site.

Conceptual corridor diagram - not to scale. Confirm site gate, permitted turns, current road conditions, and landfill acceptance before hauling.

Landfill address per Carson City Public Works; destination mapping services may list 3600 Flint Road.

Exhibit C Structural fill route directions

Proposed loaded route: Al's Carson Quarry Products to Old Ranch Road

1

Al's Carson Quarry Products

6000 Imus Road, Carson City

2

Imus Road to Arrowhead Drive

Travel west on Arrowhead Drive

3

North Carson Street / US 395 Business

Use the Carson Street connection toward I-580 north

4

I-580 / US 395 north

Continue toward Washoe Valley

5

US 395 Alternate / Eastlake Boulevard

Continue to Franktown Road

6

Franktown Road to Old Ranch Road

Continue to project entrance at 2305 Old Ranch Road

Empty return trucks: reverse the approved public-road corridor using legal turning movements.

Conceptual directions - pair with the Google Earth aerial; confirm exact gate, turns, and current road conditions.

Exhibit B Structural fill quarry route

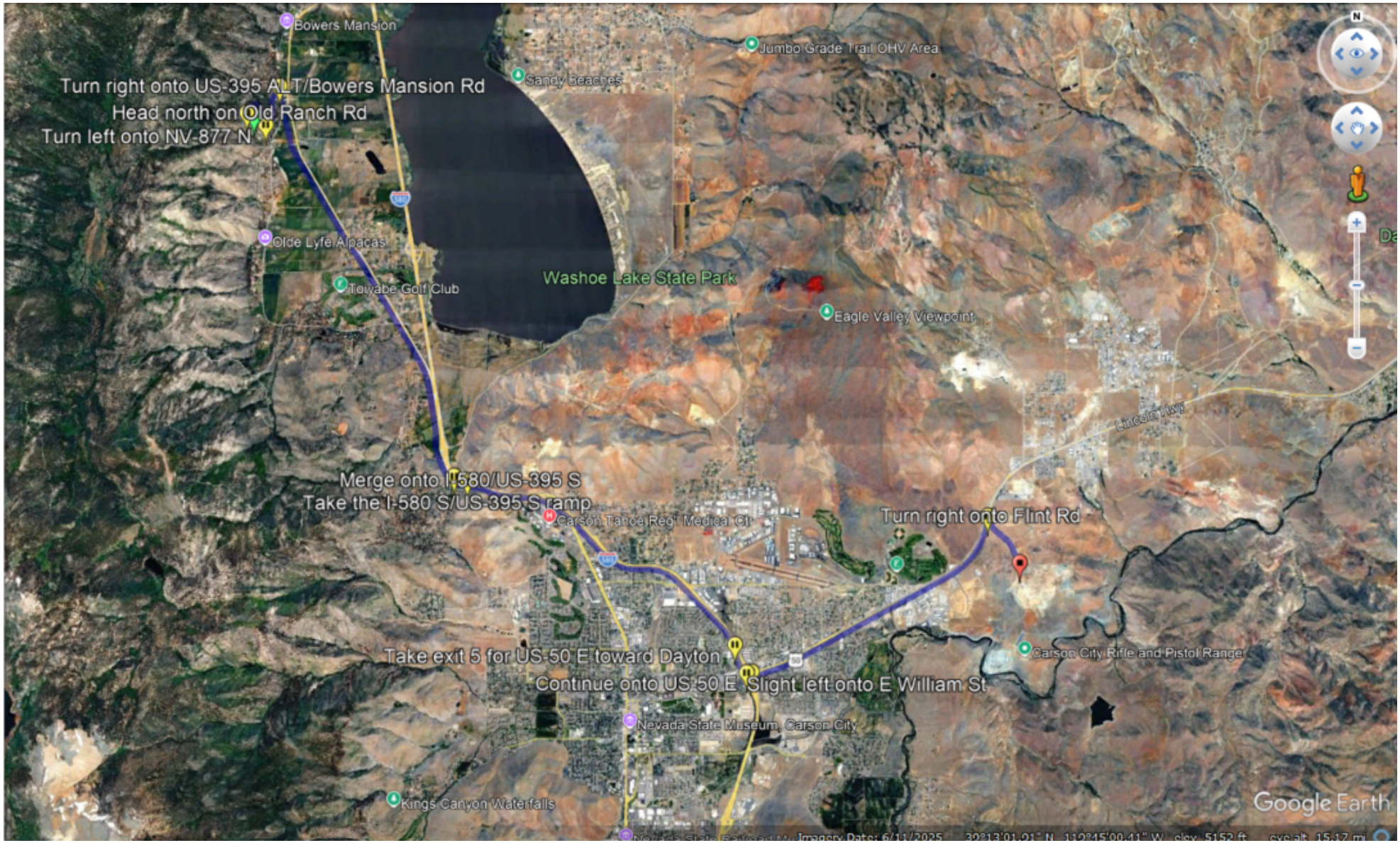
6000 Imus Road - 2305 Old Ranch Road



Google Earth route screenshot supplied by Max-Ex. Proposed haul corridor; confirm truck turns and site access in the field.

Exhibit D Clearing debris landfill route

2305 Old Ranch Road - Carson City Landfill



Google Earth route screenshot supplied by Max-Ex. Proposed haul corridor; confirm truck turns and site access in the field.

GEOTECHNICAL INVESTIGATION REPORT (REVISED)

2305 OLD RANCH ROAD
WASHOE VALLEY, NV

JN: 12428.000
SEPTEMBER 2026

PREPARED FOR:
DAVE & CATHY SCHMENK
1445 TIROL DRIVE
INCLINE VILLAGE, NV 89451

PREPARED BY:

LUMOS & ASSOCIATES
2144 COLLEGE PARKWAY, SUITE 110
CARSON CITY, NEVADA 89706
775-883-7077

TABLE OF CONTENTS

1.0 Introduction 1
2.0 Geologic Setting 3
3.0 Seismic Considerations 4
4.0 Site Conditions and Field Exploration 6
5.0 Laboratory Test Data 7
5.1 Analytical Testing 7
6.0 Discussion and Recommendations 8
6.1 General 8
6.2 General Site Grading 8
Table 1 – Structural Fill/Suitable Subgrade Gradation 10
6.3 Slope Stability and Erosion Control 11
7.0 Foundations Design Criteria 12
7.1 Spread Footings 12
7.2 Footing Settlements 12
7.3 Lateral Loading 12
7.4 Dynamic Factors 13
8.0 Corrosion and Chemical Attack 14
9.0 Erosion Control 14
10.0 Concrete Slab Design 15
11.0 Pavement Design 16
Table 2 – Recommended Pavement Section 16
12.0 Retaining Structures 17
13.0 Utility Excavations 17
14.0 Construction Specifications 18
15.0 Limitations 19
16.0 References 21

LIST OF PLATES

Plate 1	Project Vicinity Map
Plate 2	Project Site Map
Plate 3	Project Geologic Map
Plate 4	Project Fault Map
Plate 5	Major Earthquakes and Seismic Belts
Plate 6	Modified Mercalli Scale

LIST OF APPENDICES

Appendix A	Field Exploration
Appendix B	Soils Laboratory Test Results
Appendix C	Design Response Spectrum
Appendix D	Pavement Calculations
Appendix E	Percolation Test Results

1.0 INTRODUCTION

Submitted herewith are the results of Lumos & Associates, Inc. (Lumos) geotechnical investigation for the proposed residential construction project. The project site is located at 2305 Old Ranch Road in Washoe Valley, Nevada. A vicinity map has been included as Plate 1 and a project site map has been included as Plate 2.

It is our understanding that the proposed project will consist of the construction of a new residential structure, two (2) "bridge" crossings over an irrigation ditch, and a new access road. We have assumed the residential structure to be a single-story structure. We understand the structures will be supported by conventional spread footings and concrete slabs-on-grade. Structural loads for this project have been assumed not to exceed six (6) to seven and one-half (7.5) kips per lineal foot and sixty to seventy-five (60 to 75) kips for continuous-wall and isolated-column loads, respectively. We have assumed that final grades at the site will be within eight (8) feet from existing grades.

The purpose of our investigation was to characterize the site geology and soil conditions, describe the native soils and determine their engineering properties as they relate to the proposed construction. The investigation was also intended to identify possible adverse geologic, soil, and or water table conditions. However, this study did not include an environmental assessment or an evaluation for soil and/or groundwater contamination at the site.

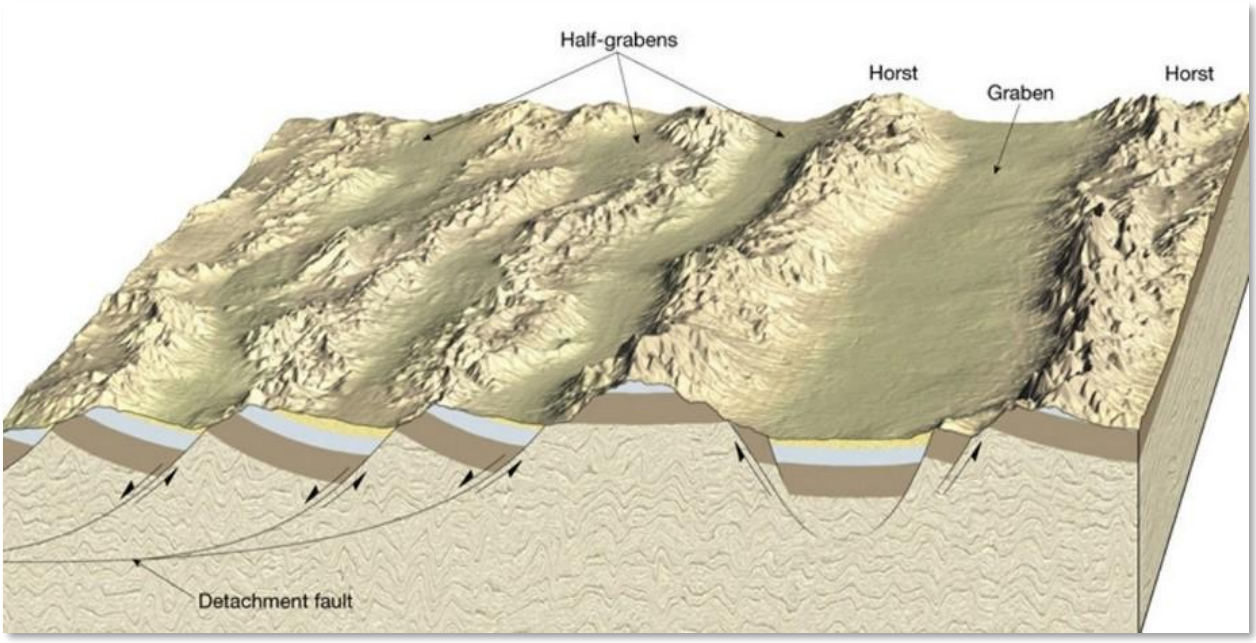
This report concludes with recommendations for site grading, foundations, footing area preparation, utility installation, asphalt concrete, and Portland cement concrete. In addition, information such as logs of all exploratory test pits, laboratory test data, allowable soil bearing capacities, estimated total and differential settlements based on static loads, lateral earth pressures, and International Building Code (IBC) seismic site class designation are provided in this report.

The recommendations contained herein have been prepared based on our understanding of the proposed construction, as outlined above. Re-evaluation of the recommendations presented in this report should be conducted after the final site grading and construction plans are completed, if there are any variations from the assumptions described herein.

It is possible that subsurface discontinuities may exist between and beyond exploration points. Such discontinuities are beyond the evaluation of the Engineer at this time. No guarantee of the consistency of site geology and sub-surface conditions is implied or intended.

2.0 GEOLOGIC SETTING

Washoe County is at the extreme western portion of the Great Basin geomorphic province. The Great Basin is characterized by the internal drainage and large normal fault-bounded valleys (grabens) separated by high mountain ranges (horst). The Sierra Nevada province to the west is characterized by large granite masses that have been uplifted and tilted a few degrees toward the west. Overlying the granites, are older oceanic meta-sedimentary rocks.



Specifically, the site is located in the eastern slopes of the Carson Range. The surface geology of the project area has been mapped by C.W. Carlson, R.D. Koehler, and C.D. Henry (2019) and was determined to be granite (Kg). Locally granite is generally described as a light-gray to gray, fine to coarse grained, equigranular to porphyritic igneous rock, and are overlain by regolith (unconsolidated rocky material) as presented on Plate 3.

3.0 SEISMIC CONSIDERATIONS

The Carson Range/Washoe Valley area, similar to many areas in Nevada, is located near active faults that are capable of producing significant earthquakes. The U.S. Geologic Survey's interactive fault map shows the nearest active faults of Holocene age (<15,000 years), to be approximately one-thousand (1,000) feet east of the site (a fault of the Mt. Rose Fault Zone). No Holocene faults extend into the site and no evidence of faulting was noted during our site investigation. Refer to Plate 4. A design earthquake for the vicinity of the project is estimated at 6.7 in moment magnitude and several large earthquakes have occurred in the area. Refer to Plate 6. This correlates to a Modified Mercalli Intensity of VII-VIII. Refer to Plate 5.

Liquefaction is the phenomenon where loose saturated granular soils lose their shear strength when subjected to strong vibration or cyclical loading and become unstable. Large earthquakes, as described above, may provide that type of cyclical loading. Loose saturated sands are the most susceptible to this phenomenon. These conditions were not encountered during our field investigation. The soils encountered on-site were primarily medium dense to dense moist, silty sands and well-graded sands with silt. Therefore, the liquefaction of subsurface soils at the site is not considered likely to occur. The majority of any structural damage to buildings at this site is most likely to be the result of strong seismic shaking rather than subsurface soil liquefaction.

2024 IBC Design: The mapped maximum considered earthquake spectral response acceleration at short periods (S_S) is 2.15g corresponding to a 0.2 second spectral response acceleration at five percent (5%) of critical damping and for a Site Class BC. The mapped maximum considered earthquake spectral response acceleration at a 1-second period (S_1) is 0.74g corresponding to a 1.0 second spectral response acceleration at five percent (5%) of critical damping and for a Site Class BC. At this time, the soil conditions are not known in sufficient detail to a depth of one hundred (100) feet, thus, a Site Class Default may be assumed per the IBC. These spectral response accelerations are adjusted for site class effects because Site Class Default is assumed instead of Site Class BC. The maximum considered earthquake spectral response acceleration parameter for short period (S_{MS}) is 2.28g and for 1-second period (SM_1) is 1.70g. This corresponds to design spectral response acceleration parameters of 1.52g for short period (S_{DS}) and 1.14g for 1-second period (S_{D1}). Refer to Appendix C.

It is emphasized that the above values are the minimum requirements intended to maintain public safety during strong ground shaking. These minimum requirements are meant to safeguard against loss of life and major structural failures, but are not intended to prevent damage or ensure the functionality of the structure during and/or after a large seismic event.

The seismic risks at this site are similar to other sites within western Nevada. The risks associated with this site can be mitigated by utilizing widely accepted design and construction standards.

4.0 SITE CONDITIONS AND FIELD EXPLORATION

At the time of our investigation, the site contained an existing structure and access road. Vegetation generally consisted of conifer trees, brush, and grasses. The site generally slopes downward in a west to east direction.

Field exploration included a site reconnaissance and subsurface soil-exploration. During the site reconnaissance, surface conditions were noted and the locations of the exploratory test pits were determined. They were located utilizing a site map provided to Lumos and by identifying existing features at the site. Locations of the exploratory test pits should be considered accurate only to the degree implied by the method used.

Four (4) exploratory test pits were excavated on the site to a maximum depth of thirteen (13) feet below-existing-ground (beg) by a Caterpillar backhoe. The approximate locations of the exploratory test pits within the site are shown on Plate 2. The subsurface soils were continuously logged and visually classified in the field by our Geotechnician in accordance with the Unified Soil Classification System. Representative soil samples were collected at each soil change within the exploratory test pits and subsequently transported to our Carson City geotechnical laboratory for testing and analysis.

The subsurface soils encountered consisted generally of medium dense to dense silty sand (SM) and well graded sand with silt (SW-SM). Groundwater was not encountered during the investigation; and is not anticipated to impact the construction.

Percolation tests were performed in Percolation Test Pit 1 at depths of two (2) and four (4) feet below existing grade. The results were 13.3 minutes/inch and 20 minutes/inch, respectively. Refer to Appendix E.

5.0 LABORATORY TEST DATA

During the field investigation our Geotechnician collected samples of the site soils from each of the test pits. All the samples were subsequently transported to our Carson City geotechnical laboratory for testing and analysis. Laboratory test data was developed from the bulk samples collected during the field investigation and used for the development of recommendations.

Laboratory tests performed include: sieve analysis, Atterberg limits, moisture density curve, direct shear, sulfate content, pH value, and resistivity. Much of this data is displayed on the test pit logs to facilitate correlation. Field descriptions presented on the logs have been modified, where appropriate, to reflect laboratory test results. The logs of the test pits and accompanying soil classification legend are included as Appendix A.

Individual laboratory test results are presented as Appendix B. Laboratory testing was performed per ASTM standards, except when test procedures are briefly described and no ASTM standard is specifically referenced in the report. Atterberg limits were determined using the dry method of preparation. Special testing conducted for this project is described below.

Analytical Testing: Western Environmental Testing Laboratory (WET Lab), of Sparks, Nevada, conducted the pH, resistivity, and sulfate content testing. The results are included (on WET Lab's letterhead) as Plate B-6.

The soil samples obtained during this investigation will be held in our laboratory for 30 days from the date of this report. The samples may be retained longer at an additional cost to the client or obtained from this office upon request.

6.0 DISCUSSION AND RECOMMENDATIONS

6.1 General

From a geotechnical viewpoint, the site is considered suitable for the proposed improvements when prepared as recommended herein.

The following recommendations are based upon the construction and our understanding of this project, as outlined in the introduction of this report. If changes in the construction are proposed, they should be presented to Lumos, so that these recommendations can be reviewed and modified in writing, as necessary. As a minimum, final construction drawings should be submitted to Lumos for review prior to actual construction and verification that our geotechnical design recommendations have been implemented.

6.2 General Site Grading

Prior to placement of fill, the areas to receive fill shall be cleared and grubbed. Clearing and grubbing is anticipated to be as much as six (6) inches or more where large trees are present. Where large trees are present, clearing and grubbing of three (3) feet of more may be required.

Root- or organic-laden soils encountered during excavations should be stockpiled in a designated area on site for later use in landscaping or removed off site as directed by the owner. Excavated soils free from any organics, debris, or otherwise unsuitable material and with particles no larger than four (4) inches in maximum dimension may be stockpiled and moisture conditioned for later use as compacted fill provided it meets the criteria for acceptable fill soils.

All Surfaces to receive fill, should be observed and approved by a Lumos representative prior to placement of fill. The surfaces shall be scarified to a minimum of twelve (12) inches, moisture conditioned to within two percent (2%) of optimum moisture content, and re-compacted to at least ninety percent (90%) of the ASTM D1557 standard. Fill material should not be placed, spread, or compacted while the ground is frozen or during unfavorable weather conditions. When site grading is interrupted by heavy rain or snow, grading or fill operations should not resume until a Lumos

representative approves the moisture content and density conditions of the subgrade or previously placed fill.

Unstable conditions due to yielding and/or pumping soils may be encountered on site. Native soils may yield or pump under heavy equipment loads or where vibratory equipment draws up water. If yielding or pumping conditions are encountered, the soils should be scarified in place, allowed to dry as necessary and re-compacted, where applicable. Alternatively, the unsuitable or saturated soil should be removed, the exposed surface leveled and compacted/tamped as much as practical without causing further pumping and covered (including the sides) with geotextile stabilizing fabric (Mirafi HP370 or other equivalent). The fabric should then be covered with at least twelve (12) inches of 4- to 8- inch **angular rock fill** with enough fines to fill the inter-rock pore spaces. Placement should be by end dumping. No traffic or other action should be allowed over the fabric, which may cause it to deflect/deform prior to cobble placement. Test sections should be used to determine the minimum thickness and/or number of layers required for stabilization. Stabilization should be evaluated by proof-rolling standards commensurate with the equipment used and approved by a Lumos representative. The placement of the stabilizing rock-fill may require additional over-excavation to maintain appropriate grading elevations. A filter fabric (Mirafi 180N or equal) should also be placed over the cobble rock fill to prevent piping of fines from covering soils into the stabilizing rock matrix.

Acceptable structural fill/suitable subgrade soils to be used for this project should consist of non-expansive material (LL less than 35 and/or a PI less than 12, and/or an Expansion Index less than 20), and should be free of contaminants, organics (less than two percent (2%)), rubble, or natural rock larger than four (4) inches in largest dimension. The soluble sulfate content shall be less than 150 parts per million (ppm) and the R-Value shall be a minimum of 30. The on-site sands encountered during our investigation are anticipated to meet these requirements. Soils within two (2) feet vertically and horizontally of foundations and slabs and one (1) foot vertically and horizontally of exterior concrete improvements and pavements shall meet the requirements for structural fill/suitable subgrade. Any import soils should be tested and approved prior to being placed or delivered on-site (7-day advanced notice). Structural fill/suitable subgrade soils shall also meet the following gradation requirements presented in Table 1, "Structural Fill/Suitable Subgrade Gradation".

TABLE 1
STRUCTURAL FILL/SUITABLE SUBGRADE GRADATION

Sieve Size	% Passing
4"	100
¾"	70 - 100
#40	15 – 65
#200	5 - 25

Soils not meeting all of the above requirements may be approved for use as structural fill at the discretion of the Geotechnical Engineer. Compacted fill should be placed only on compacted sub-grade or on compacted fill in lifts not exceeding eight (8) inches in loose thickness, moisture conditioned to within two percent (2%) of optimum moisture content, and compacted to at least ninety percent (90%) relative compaction, as determined by the ASTM D1557 standard.

Landscaped areas should be cleared of all organic and objectionable material such as wood, root stumps, etc., if any. In landscape cut areas, no other work is necessary except grading to proper elevation and drainage conditions. In landscape fill areas, fill should be placed in loose lifts not exceeding eight (8) inches, and compacted to at least ninety percent (90%) relative compaction to prevent erosion.

A representative of Lumos should be present during all site clearing, excavation removals, and grading operations to ensure that any unforeseen or concealed conditions within the site are identified and properly mitigated, and to test and observe earthwork construction. This testing and observation are an integral part of our services as acceptance of earthwork construction is dependent upon compaction and stability of the subgrade soils. The soils engineer may reject any material that does not meet acceptable fill, compaction, and stability requirements. Further, recommendations in this report are provided upon the assumption that earthwork construction will conform to recommendations set forth in this section of the report.

6.3 Slope Stability and Erosion Control

The results of our exploration and testing confirm that 3:1 (H:V) maximum slopes will be stable for on-site materials both in cut and fill. All slopes shall incorporate a brow ditch to direct surface drainage away from the slope face. Slopes steeper than 3:1 will require stabilization, such as retaining walls.

The potential for dust generation is high at this project. Dust control will be mandatory on this project in order to comply with air quality standards. The contractor shall be responsible for submitting a dust control plan and securing any required permits.

Stabilization of all slopes and areas disturbed by construction will be required to prevent erosion and to control dust. Stabilization may consist of rip-rap, revegetation, or dust palliative, depending on the inclination of the slope.

In order to minimize storm water discharge from this site, best management practices should be implemented.

If soil nails are utilized to stabilize the slopes steeper than 3:1, we recommend the following parameters be utilized:

Ultimate Bond Strength = 1,675psf (Verified by testing a minimum of 5% of Nails)
Maximum Spacing = 3 Feet (Horizontal & Vertical)
Maximum Spacing for 12 Inches Wide Geocomposite Drainage with Weepholes = 6 Feet
Minimum Grout Strength = 3,000psi
Minimum Nail Length = 1.4 x Height of Wall (Both Tiers Added for Total Height)
Minimum Shotcrete Strength = 4,000psi
Minimum Soil Nail Hole Diameter = 6 Inches
Minimum Bar Size for Soil Nail = #9 Bar, Grade 60

7.0 FOUNDATION DESIGN CRITERIA

Conventional spread footings founded on properly prepared suitable subgrade/structural fill soils, but not a combination of the two, may be used to support the proposed building foundations within the project site. In order for the foundation to be bearing on like conditions, suitable subgrade "cut" soils shall be scarified to a depth of twelve (12) inches, moisture conditioned to within two percent (2%) of optimum and compacted to a minimum of ninety percent (90%) of the ASTM D1557 Standard. Structural fill shall be prepared as previously discussed. The differential fill height across the foundation shall be less than four (4) feet.

7.1 Spread footings: Footings should have a minimum embedment of 24 inches below lowest adjacent grade for frost protection. Footings founded on properly prepared suitable subgrade/structural fill may be designed for a net allowable bearing pressure of 3,000 pounds-per-square-foot (psf).

7.2 Footing Settlements: The maximum anticipated settlements, caused by static loading, for continuous or isolated footings bearing on properly prepared suitable subgrade/structural fill and designed for a 3,000 psf bearing pressure is estimated at one (1) inch or less. Differential settlements are generally expected to be half of the total settlements. Settlements in granular soils are primarily expected to occur shortly after dead and sustained live loads are applied.

7.3 Lateral Loading: Resistance to lateral loads can be provided by friction acting at the base of foundations and by lateral earth resistance. A coefficient of friction of 0.45 may be assumed at the base of footings supported by properly compacted suitable subgrade/structural fill. An allowable passive earth resistance of 300 psf per foot of depth starting six (6) inches below lowest adjacent grade may be used for the sides of footings poured against properly compacted structural fill. Passive resistance should not exceed 3,000 psf. The at-rest lateral pressure can be calculated utilizing an equivalent fluid pressure of 55 pcf.

7.4 Dynamic Factors: Vertical and lateral bearing values indicated above are for total dead-load and frequently applied live loads. If normal code requirements are applied for design, the above vertical bearing values may be increased by thirty-three percent (33%) for short duration loading due to wind or seismic forces. The additional Dynamic Lateral earth pressure can be calculated utilizing the following equation.

Dynamic Lateral Force = $\gamma K_h H^2 = 76H^2$ *(Braced Condition)*

Dynamic Lateral Force = $3/8\gamma K_h H^2 = 28.5H^2$ *(Unbraced Condition)*

H =Height of Wall

K_h = Horizontal Acceleration =$S_{DS}/2.5 = 0.608g$

γ = Unit Weight of Soil =125 pcf

This force should be assumed to act at a height of 0.6H above the bottom of the foundation.

8.0 CORROSION AND CHEMICAL ATTACK

The on-site soil tested for sulfate had a sulfate content of not detected. However, we recommend all concrete in direct contact with site soils contain Type II cement. Additionally, exterior concrete should have between 4.5% and 7.5% entrained air. All concrete should also be placed pursuant to ACI recommendations.

Test results indicate native soils have a pH of 5.69 and have a resistivity of 140,000 ohm-cm under saturated conditions. This indicates the site soils as being essentially noncorrosive toward ferrous metals in contact with these soils. Corrosion mitigation measures, such as protective coatings, wrappings, and cathodic protection are, however, recommended. If protective coatings are used, the type and quantity will depend on the kind of steel and specific construction application. Steel and wire concrete reinforcement cover of at least three (3) inches where cast against soil, unformed, is recommended.

9.0 EROSION CONTROL

The finish surfaces around all foundations should slope away from the foundations and toward appropriate drop inlets or other surface drainage devices. It is recommended that within ten (10) feet of the foundations a minimum slope of five percent (5%) be used for soil subgrades and one percent (1%) be used for pavements. These grades should be maintained for the life of the structures.

Landscaping and downspouts should be planned to prevent discharge adjacent to foundations. Instead, water flow should be conveyed and re-routed to discharge areas away from any improvements.

Backfill adjacent to the proposed foundation perimeters should be compacted to at least ninety percent (90%) of the maximum ASTM D1557 standard to minimize water infiltration into the foundation soils.

10.0 CONCRETE SLAB DESIGN

Interior concrete slabs should be underlain with at least six (6) inches of Type 2, Class B Aggregate Base, compacted to a minimum of ninety-five percent (95%) and supported on a minimum of twelve (12) inches of properly moisture conditioned and compacted suitable subgrade/structural fill. We recommend the aggregate base be placed after utility trenches are excavated and backfilled. A vapor barrier should be provided for all interior concrete slabs where floor moisture is undesirable. The vapor barrier should be a synthetic plastic sheeting at least ten (10) mils thick and meet the requirements of ASTM E1745 for Class A vapor retarder materials. The vapor barrier shall be installed per manufacturer's recommendations.

Slab thickness design should be based on a Modulus of Subgrade Reaction equal to sixty-five (65) pounds-per-cubic-inch (pci) for construction on six (6) inches of Type 2, Class B Aggregate Base underlain by properly moisture conditioned and compacted suitable subgrade/structural fill. This modulus of subgrade reaction shall be corrected for the width of the slab by multiplying by a factor of $(\frac{B+1}{2B})^2$ (where B = width of slab). Reinforcement of concrete slabs should be as specified by the Project Structural Engineer.

Exterior concrete slabs on grade should be underlain with at least six (6) inches Type 2, Class B Aggregate Base on twelve (12) inches of properly moisture conditioned and compacted suitable subgrade/structural fill soils. All subgrade and fill should be prepared and placed as described in the grading section of this report, while the aggregate base material should be compacted to at least ninety-five percent (95%) relative compaction as determined by the ASTM D1557 standard.

11.0 PAVEMENT DESIGN

Subgrade soils (meeting the specifications for structural fill) in areas to be paved shall be scarified in place a minimum of 12 inches, moisture conditioned to within two percent (2%) of optimum, and compacted to at least ninety percent (90%) of the laboratory maximum dry density determined by the ASTM D1557 standard. The pavement structural section for the site was calculated utilizing an R-value of 30 (Structural Fill Specification) is provided in Table 2, "Recommended Asphalt Pavement Section". A Traffic Index (TI) value of 4.5 was utilized for areas to receive car and light truck traffic. Aggregate base should consist of Type II, Class B material and meet the requirements of the Standard Specifications for Public Works Construction (SSPWC). Aggregate base material should be compacted to at least ninety-five percent (95%) of the laboratory maximum density, as determined by the ASTM D1557 standard.

TABLE 2
RECOMMENDED PAVEMENT SECTION

Traffic Index	Minimum Asphalt Pavement	Minimum Aggregate Base	Properly Prepared Structural Fill/Suitable Subgrade
4.5	3″	4″	12″

In paved areas of the project, asphalt concrete should consist of PG64-28NV, and Type 3 aggregate that meets the requirements in the SSPWC. We recommend a 50-blow Marshall mix design that targets three percent (3%) air voids. Asphalt concrete, in any case, should be compacted to between ninety-three percent (93%) and ninety-eight percent (98%) of the Rice theoretical maximum density.

12.0 RETAINING STRUCTURES

Retaining structures over three (3) feet in height, if used, will require local code compliance and engineered based on parameters described in this section of the report. Retaining structures should be designed to resist the appropriate lateral earth pressures. Cantilevered walls, which are able to deflect at least 0.01 radians, can be designed using an equivalent fluid (backfill) unit weight of 35 pounds-per-cubic-foot (pcf). However, if the wall is fixed against rotation, the wall should be designed using an equivalent fluid (backfill) unit weight of 55 pcf. These design parameters are based upon the assumption that walls will retain only level backfill and no hydrostatic pressure will be present. Any other surcharge pressures should be added to the above recommended lateral earth pressures. Retaining walls should be backfilled with free draining granular material that extends vertically to the bottom of the stem and laterally at least six (6) inches beyond the face of the stem (wall) and wrapped with a Mirafi 180 N or equivalent non-woven filter fabric. Weep holes should be provided on the walls at regular intervals, or a slotted drainpipe placed at the bottom of the wall (bottom of granular material) to relieve any possible build-up of hydrostatic pressure. Backfill material within two (2) feet of the wall should be compacted with hand-held equipment only, and to at least ninety percent (90%) of the maximum ASTM D1557 standard.

13.0 UTILITY EXCAVATIONS

On-site soils are anticipated to be excavatable with conventional construction equipment. Compliance with OSHA regulations should be enforced for Type C soils. Excavated sands may be suitable for backfill of utility trenches after screening any oversize material and debris. Backfill under structures and pavement shall meet the requirements of structural fill. On-site soils do not meet the minimum requirements for Class A bedding and should be imported, where required. If groundwater is encountered, Class C backfill (3/4" drain rock) wrapped with a geotechnical filter fabric (Mirafi 180 N or equivalent) shall be utilized as bedding below the groundwater elevation, to at least one (1) foot above groundwater elevation.

14.0 CONSTRUCTION SPECIFICATIONS

All work on-site shall be governed by the latest edition of the International Building Code (IBC) and by the Standard Specifications and Standard Details for Public Works Construction (SSPWC), as accepted by the Washoe County, except where modified herein.

15.0 LIMITATIONS

This report has been prepared in accordance with the currently accepted engineering practices in Northern Nevada. The analysis and recommendations in this report are based upon exploration performed at the locations shown on the site plan, the proposed improvements as described in the Introduction section of this report and upon the property in its condition as of the date of this report. Lumos makes no guarantee as to the continuity of conditions as subsurface variations may occur between or beyond exploration points and over time. Any subsurface variations encountered during construction should be immediately reported to Lumos so that, if necessary, Lumos' recommendations may be modified.

This report has been prepared for and provided directly to Dave and Cathy Schmenk ("The Client"), and any and all use of this report is expressly limited to the exclusive use of the Client. The Client is responsible for determining who, if anyone, shall be provided this report, including any designers and subcontractors whose work is related to this project. Should the Client decide to provide this report to any other individual or entity, Lumos shall not be held liable for any use by those individuals or entities to whom this report is provided. The Client agrees to indemnify, defend and hold harmless Lumos, its agents and employees from any claims resulting from unauthorized users.

If this report is utilized in the preparation of an Engineer's Estimate of Probable Construction Costs, then the preparer of the estimate acknowledges that the report recommendations are based on the subsurface conditions found at the specific locations investigated on site; that subsurface conditions may vary outside these locations; and that no guaranty or warranty, express or implied, is made that the conditions encountered are representative of the entire site. The preparer of the estimate agrees to indemnify, defend and hold harmless Lumos & Associates, its agents and employees from any and all claims, causes of action or liability arising from any claims resulting from the use of the report in the preparation of an Engineer's Cost Estimate.

This report is not intended for, nor should be utilized for, bidding purposes. If it is utilized for bidding purposes, Client acknowledges that the report recommendations are based on the subsurface conditions found at the specific locations investigated on site; that subsurface

conditions may vary outside these locations; and that no guaranty or warranty, express or implied, is made that the conditions encountered are representative of the entire site. The Client agrees to indemnify, defend and hold harmless Lumos & Associates, its agents and employees from any and all claims, causes or action or liability arising from any claims resulting from the use of the report for bidding purposes.

As explained above, subsurface variations may exist and as such, beyond the express findings located in this report, no warranties express, or implied, are made by this report. No affirmation of fact, including but not limited to statements regarding suitability for use of performance shall be deemed to be a warranty or guaranty for any purpose.



Mitch Burns, P.E.
Materials Engineering Manager
Lumos & Associates, Inc.

16.0 REFERENCES

American Society for Testing and Materials (ASTM), *2024, Annual Book of ASTM Standards, West Conshohocken, PA*

Carlson, C.W., Koehler, R.D., and Henry, C.D., *2019, Geologic Map of the Washoe City Quadrangle, Washoe County, NV, Nevada Bureau of Mines and Geology*

Occupational Safety and Health Administration (OSHA), *1995, Occupational Safety and Health Standards for the Construction Industry, Commerce Clearing House, Inc.*

International Conference of Building Officials, *2018, International Building Code (IBC), ICBO, Whittier, CA*

Naval Facilities Engineering Command, *1986, Design Manual 7.01, Alexandria, Virginia*

Naval Facilities Engineering Command, *1986, Design Manual 7.02, Alexandria, Virginia*

Standard Specifications for Public Works Construction, *2012, Washoe County RTC, Washoe County, NV*

United States Geological Survey, *Quaternary Faults Website, usgs.maps.arcgis.com*



LUMOS & ASSOCIATES
Lumos & Associates
2144 College Parkway Suite 110
Carson City, Nevada 89706
775-883-7077
Fax:
mburns@lumosinc.com

2305 Old Ranch Road

VICINITY MAP

Job Number: 12428.000

Date: December 2025

PLATE

1



= Approximate Test Pit Location

LUMOS & ASSOCIATES
Lumos & Associates
2144 College Parkway Suite 110
Carson City, Nevada 89706
775-883-7077
Fax:
mburns@lumosinc.com

2305 Old Ranch Road

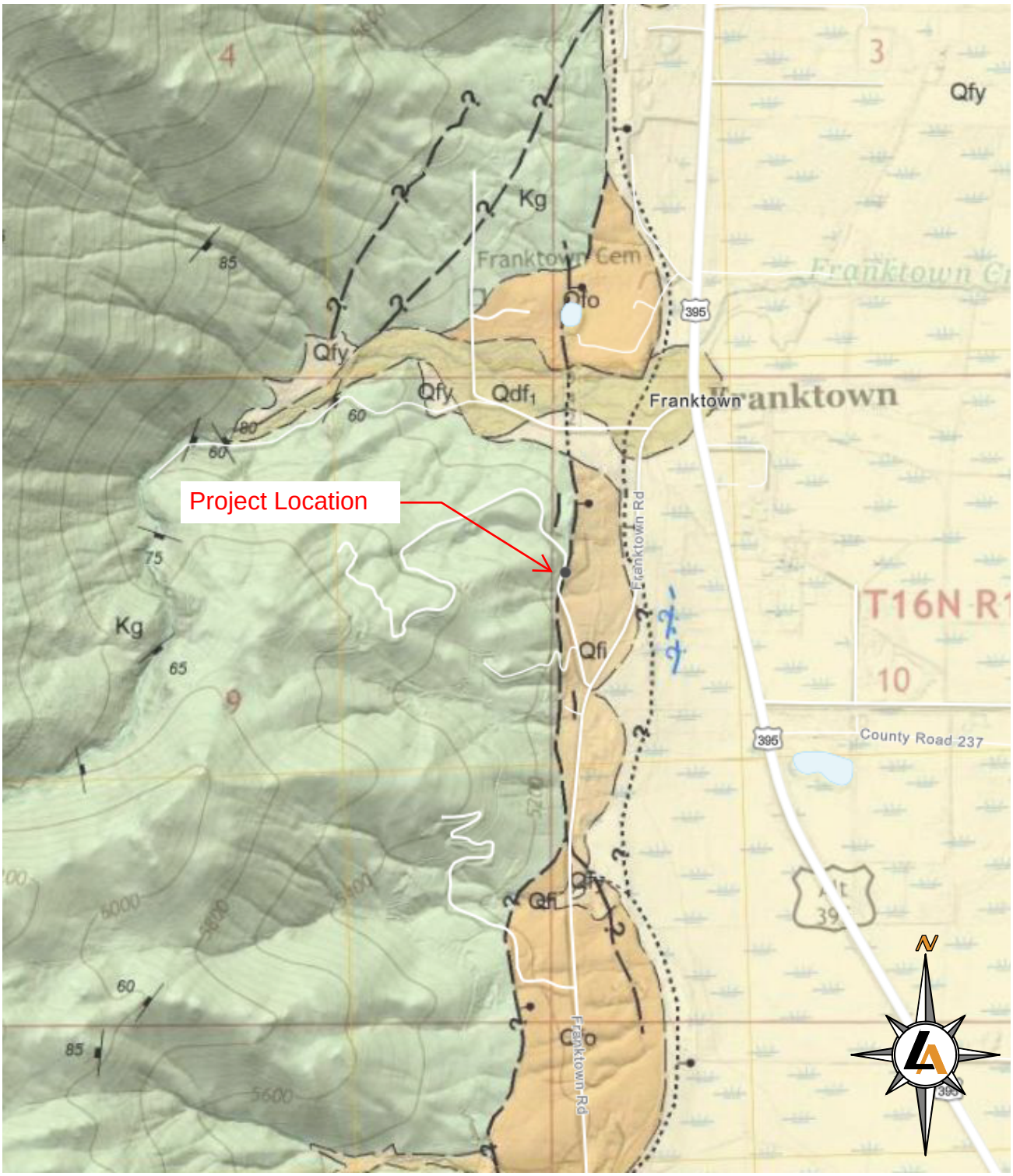
SITE MAP

Job Number: 12428.000

Date: December 2025

PLATE

2



Qfi — Intermediate-aged alluvial-fan deposits (late Pleistocene)

Kg — Granite (Cretaceous)

Qfy — Young alluvial-fan deposits (late Holocene)

Title: Geologic map of the Washoe City quadrangle, Washoe County, Nevada
Author(s): Carlson, C.W., Koehlera, R.D., and Henry, C.D.
Publishing Organization: Nevada Bureau of Mines and Geology
Series and Number: Open File Report 2019-04
Publication Date: 2019

LUMOS & ASSOCIATES
Lumos & Associates
2144 College Parkway Suite 110
Carson City, Nevada 89706
775-883-7077
Fax:
mburns@lumosinc.com

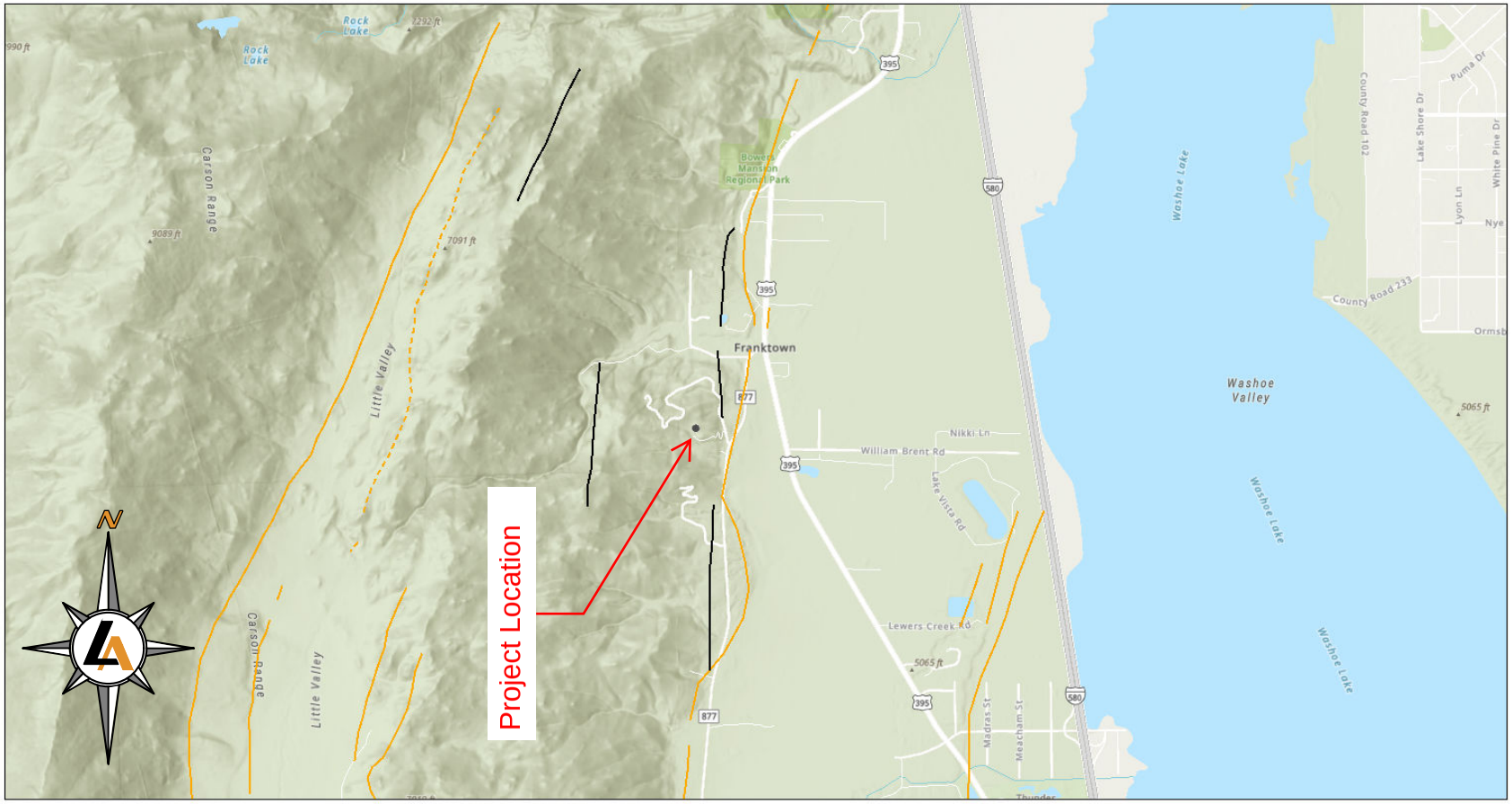
2305 Old Ranch Road

GEOLOGIC MAP

Job Number: 12428.000 Date: December 2025

PLATE 3

U.S. Geological Survey Quaternary Faults



12/18/2025, 3:25:31 PM

Quaternary Fault and Fold Database

- Latest Quaternary (<15,000 years), well constrained location
- Latest Quaternary (<15,000 years), moderately constrained location
- Undifferentiated Quaternary (< 1.6 million years), well constrained location

1:36,112

0 0.35 0.7 1.4 mi

0 0.5 1 2 km

Esri, NASA, NGA, USGS, FEMA, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community

USGS

Esri, NASA, NGA, USGS, FEMA | Esri Community Maps Contributors, California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS | USGS |

PLATE 4

2305 Old Ranch Road

FAULT MAP

Job Number: 12428.000

Date: December 2025

Lumos & Associates
2144 College Parkway Suite 110
Carson City, Nevada 89706
775-883-7077
Fax:
mburns@lumosinc.com

LUMOS & ASSOCIATES

MODIFIED MERCALLI INTENSITY SCALE

INTENSITY	EFFECTS
I	Not felt except by a very few under especially favorable circumstances.
II	Felt only by a few persons at rest, especially on upper floors of buildings. Delicately suspended objects may swing.
III	Felt quite noticeable indoors, especially on upper floors of buildings, but many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibration like passing of truck. Duration estimated.
IV	During the day felt indoors by many, outdoors by few. At night some awaken. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building; standing motor cars rock noticeably.
V	Felt by nearly everyone; many awakened. Some dishes, windows, etc., broken; a few instances of cracked plaster; unstable objects overturned. Disturbance of trees, poles, and other tall objects sometimes noticed. Pendulum clocks may stop.
VI	Felt by all; many frightened and run outdoors. Some heavy furniture moved; a few instances of fallen plaster or damaged chimneys. Damage slight.
VII	Everybody runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving motor cars.
VIII	Damage slight in specially designed structures; considerable in ordinary substantial buildings with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Disturbs persons driving motor cars.
IX	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken.
X	Some well-built wooden structures destroyed; most masonry and frame structures with foundations destroyed; ground badly cracked. Rails bent. Landslides considerable from river banks and steep slopes. Shifted sand and mud. Water splashed (sloped) over banks.
XI	Few, if any (masonry) structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipe lines completely out of service. Earth slumps and land slips in soft ground. Rails bent greatly.
XII	Damage total. Waves seen on ground surfaces. Lines of sight and level distorted. Objects thrown upward into the air.

From Wood and Newman, 1931, by U.S. Geological Survey, 1974, Earthquake Information Bulletin, v. 6, no. 5, p. 28

Richter Magnitude	Intensity (maximum expected Modified Mercalli)
3.0 - 3.9	II - III
4.0 - 4.9	IV - V
5.0 - 5.9	VI - VII
6.0 - 6.9	VII - VIII
7.0 - 7.9	IX - X
8.0 - 8.9	XI - XII

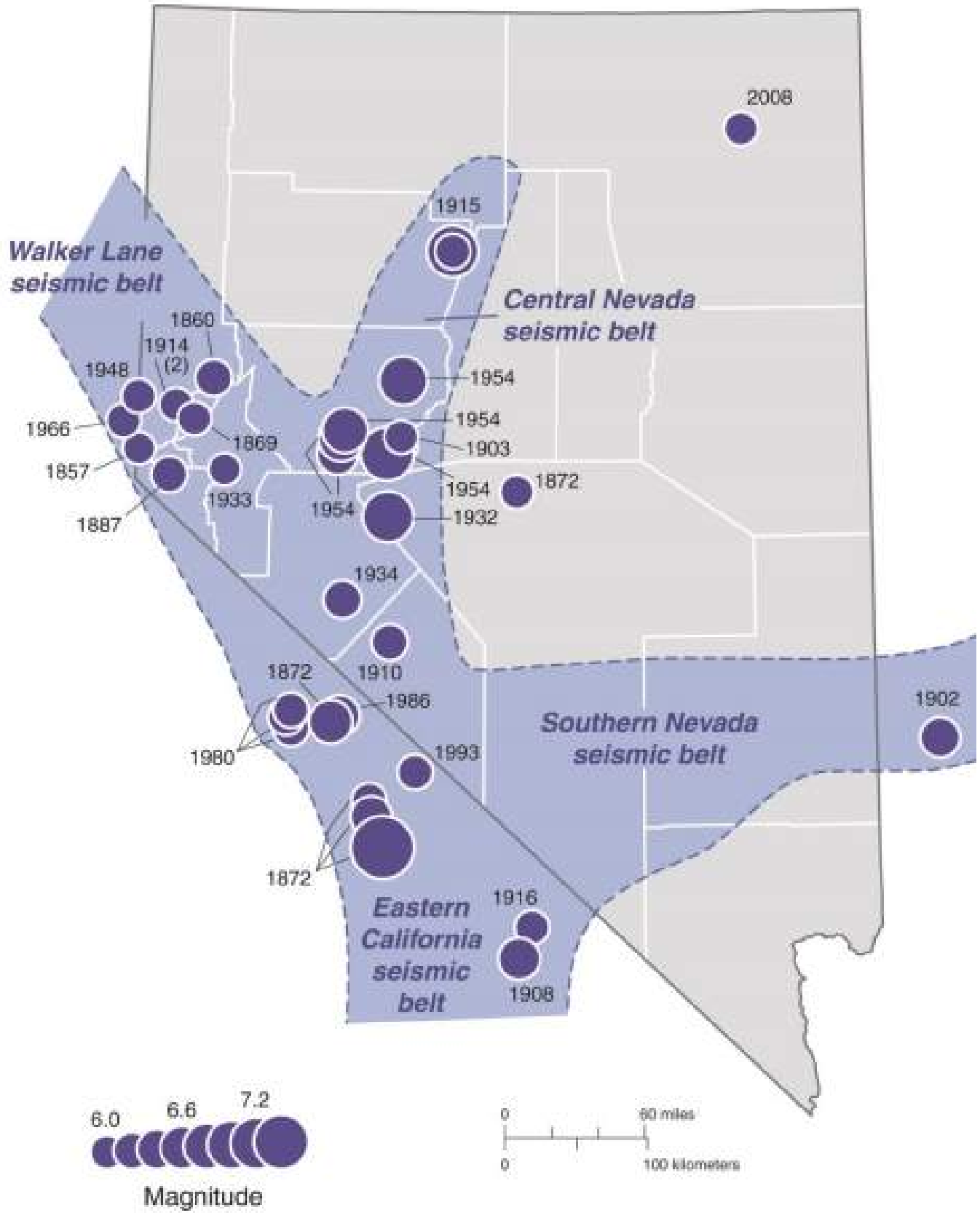
LUMOS & ASSOCIATES
Lumos & Associates
2144 College Parkway Suite 110
Carson City, Nevada 89706
775-883-7077
Fax:
mburns@lumosinc.com

2305 Old Ranch Road

MODIFIED MERCALLI

Job Number: 12428.000 Date: December 2025

PLATE 5



LUMOS & ASSOCIATES
Lumos & Associates
2144 College Parkway Suite 110
Carson City, Nevada 89706
775-883-7077
Fax:
mburns@lumosinc.com

2305 Old Ranch Road

MAJOR EARTHQUAKES AND SEISMIC BELTS

Job Number: 12428.000 Date: December 2025

PLATE 6

APPENDIX A

FIELD EXPLORATION

LUMOS & ASSOCIATES

TEST PIT No. Perc - 1

Logged By:	**Z. Lim**	Total Depth:	**13 feet**
Date Logged:	**12/9/25**	Water Depth:	**No groundwater encountered**
Equipment Type:	**Cat Backhoe**	Ground Elev.:	**EGS**

Percolation Test | Split Spoon | Ziplock Sample | California Sampler | Bulk Sample | Static Water Table

Depth in Feet	Graphic Log	Sample Type	SOIL DESCRIPTION	Natural Moisture Content, %	Optimum Moisture Content, %	Maximum Dry Density, pcf	Liquid Limit, %	Plastic Index, %	Gravel, % (3" - #4 Sieve)	Sand, % (#4 - #200 Sieve)	Fines, % (< #200 Sieve)	Expansion Index	R-Value	Direct Shear
			6" of Topsoil and Pine Needles 0.5											
1			**Light Brown Well-Graded SAND with Silt (SW-SM)** Moist, Medium Dense to Dense Estimated: 90% Coarse to Fine Sand 10% Non-Plastic Fines *Percolation Rate at 2' B.E.G. = 13.3 min/in* In-Place Dry Density: 100.6 pcf @ 5.1%											
2														
3		B												
4			*Percolation Rate at 4' B.E.G. = 20 min/in*											
5														
6														
7														
8														
9														
10														
11			Digging Becomes Hard at 11' Becomes Moderately Cemented											
12														
13			13.0											

Test pit terminated at 13 feet.
Test pit backfilled without compaction verification.

LUMOS_TP_FULL_PAGE WITH R-V AND SHEAR_2305 OLD RANCH ROAD.GPJ US_LAB.GDT 12/24/25

LUMOS & ASSOCIATES

Lumos & Associates
2144 College Pkwy, Suite 110
Carson City, NV 89706
775.883.7077
Fax:
mburns@lumosinc.com

2305 Old Ranch Road

LOG OF EXPLORATORY TEST PIT

Job Number: 12428.000 Date: December 2025

PLATE

A-4

TEST PIT No. TP-1

Logged By:	**Z. Lim**	Total Depth:	**12 feet**
Date Logged:	**12/9/25**	Water Depth:	**No groundwater encountered**
Equipment Type:	**Cat Backhoe**	Ground Elev.:	**EGS**

Percolation Test | Split Spoon | Ziplock Sample | California Sampler | Bulk Sample | Static Water Table

Depth in Feet	Graphic Log	Sample Type	SOIL DESCRIPTION	Natural Moisture Content, %	Optimum Moisture Content, %	Maximum Dry Density, pcf	Liquid Limit, %	Plastic Index, %	Gravel, % (3" - #4 Sieve)	Sand, % (#4 - #200 Sieve)	Fines, % (< #200 Sieve)	Expansion Index	R-Value	Direct Shear
0			**2" of Topsoil and Pine Needles** 0.1											
1			**Medium Brown Silty Sand (SM)** Moist, Loose to Medium Dense											
2														
3		B	In Place Dry Density: 102.8 pcf @ 8.0%	5.6			NP	NP	2.8	84.3	13.0		68	
4														
5			5.0											
			Tan Well-Graded SAND with Silt (SW-SM) Dry, Dense											
6		B	Estimated: 90% Coarse to Fine Sand 10% Non-Plastic Fines											
7			Weakly to Moderately Cemented at 7'											
8														
9														
10														
11														
12			12.0											

Test pit terminated at 12 feet.
Test pit backfilled without compaction verification.

Lumos & Associates
2144 College Pkwy, Suite 110
Carson City, NV 89706
775.883.7077
Fax:
mburns@lumosinc.com

2305 Old Ranch Road

LOG OF EXPLORATORY TEST PIT

Job Number: 12428.000 Date: December 2025

PLATE A-1

LUMOS_TP_FULL_PAGE WITH R-V AND SHEAR_2305 OLD RANCH ROAD.GPJ US_LAB.GDT 12/24/25

TEST PIT No. TP-2

Logged By: **Z. Lim**
Date Logged: **12/9/25**
Equipment Type: **Cat Backhoe**

Total Depth: **11 feet**
Water Depth: **No groundwater encountered**
Ground Elev.: **EGS**

Percolation Test | Split Spoon | Ziplock Sample | California Sampler | Bulk Sample | Static Water Table

Depth in Feet	Graphic Log	Sample Type	SOIL DESCRIPTION	Natural Moisture Content, %	Optimum Moisture Content, %	Maximum Dry Density, pcf	Liquid Limit, %	Plastic Index, %	Gravel, % (3" - #4 Sieve)	Sand, % (#4 - #200 Sieve)	Fines, % (< #200 Sieve)	Expansion Index	R-Value	Direct Shear
			6" of Topsoil and Pine Needles 0.5											
1			**Reddish Brown Well-Graded SAND with Gravel (SW-SM)** Moist, Medium Dense											
2														
3		B	In-place Dry Density: 103.6 pcf @ 10.6%	4.2			NP	NP	0.5	91.6	8.0			
4			Decrease in Fines at 4' Becomes Weakly Cemented											
5		B												
6														
7														
8														
9														
10														
11			11.0											

Test pit terminated at 11 feet.
Test pit backfilled without compaction verification.

Lumos & Associates
2144 College Pkwy, Suite 110
Carson City, NV 89706
775.883.7077
Fax:
mburns@lumosinc.com

2305 Old Ranch Road

LOG OF EXPLORATORY TEST PIT

Job Number: 12428.000
Date: December 2025

PLATE A-2

LUMOS_TP_FULL_PAGE WITH R-V AND SHEAR_2305 OLD RANCH ROAD.GPJ US_LAB.GDT 12/24/25

TEST PIT No. TP-3

Logged By:	**Z. Lim**	Total Depth:	**10.5 feet**
Date Logged:	**12/9/25**	Water Depth:	**No groundwater encountered**
Equipment Type:	**Cat Backhoe**	Ground Elev.:	**EGS**

Percolation Test | Split Spoon | Ziplock Sample | California Sampler | Bulk Sample | Static Water Table

Depth in Feet	Graphic Log	Sample Type	SOIL DESCRIPTION	Natural Moisture Content, %	Optimum Moisture Content, %	Maximum Dry Density, pcf	Liquid Limit, %	Plastic Index, %	Gravel, % (3" - #4 Sieve)	Sand, % (#4 - #200 Sieve)	Fines, % (< #200 Sieve)	Expansion Index	R-Value	Direct Shear
			6" of Topsoil and Pine Needles 0.5											
1			**Light Brown Well Graded SAND with Silty (SW-SM)** Moist, Medium Dense Weakly Cemented											
3		B	In Place Dry Density: 98.5 pcf @ 5.7%	4.6			NP	NP	0.4	89.3	10.3			36
9			Becomes Dense and Moderately Cemented at 9' Digging Becomes Hard											
10			10.5											

Test pit terminated at 10.5 feet.
Test pit backfilled without compaction verification.

LUMOS_TP_FULL_PAGE WITH R-V AND SHEAR_2305 OLD RANCH ROAD.GPJ US_LAB.GDT 12/24/25

LUMOS & ASSOCIATES
Lumos & Associates
2144 College Pkwy, Suite 110
Carson City, NV 89706
775.883.7077
Fax:
mburns@lumosinc.com

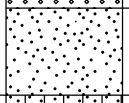
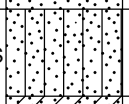
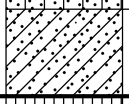
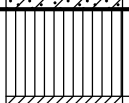
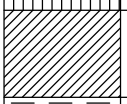
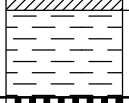
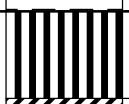
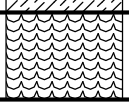
2305 Old Ranch Road

LOG OF EXPLORATORY TEST PIT

Job Number: 12428.000 Date: December 2025

PLATE A-3

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

Other Tests

AN	ANALYTICAL TEST (pH, Soluble Sulfate, and Resistivity)
C	CONSOLIDATION TEST
DS	DIRECT SHEAR TEST
MD	MOISTURE DENSITY CURVE

LUMOS & ASSOCIATES
Lumos & Associates
2144 College Parkway Suite 110
Carson City, Nevada 89706
775-883-7077
Fax:
mburns@lumosinc.com

2305 Old Ranch Road

LEGEND

Job Number: 12428.000

Date: December 2025

PLATE

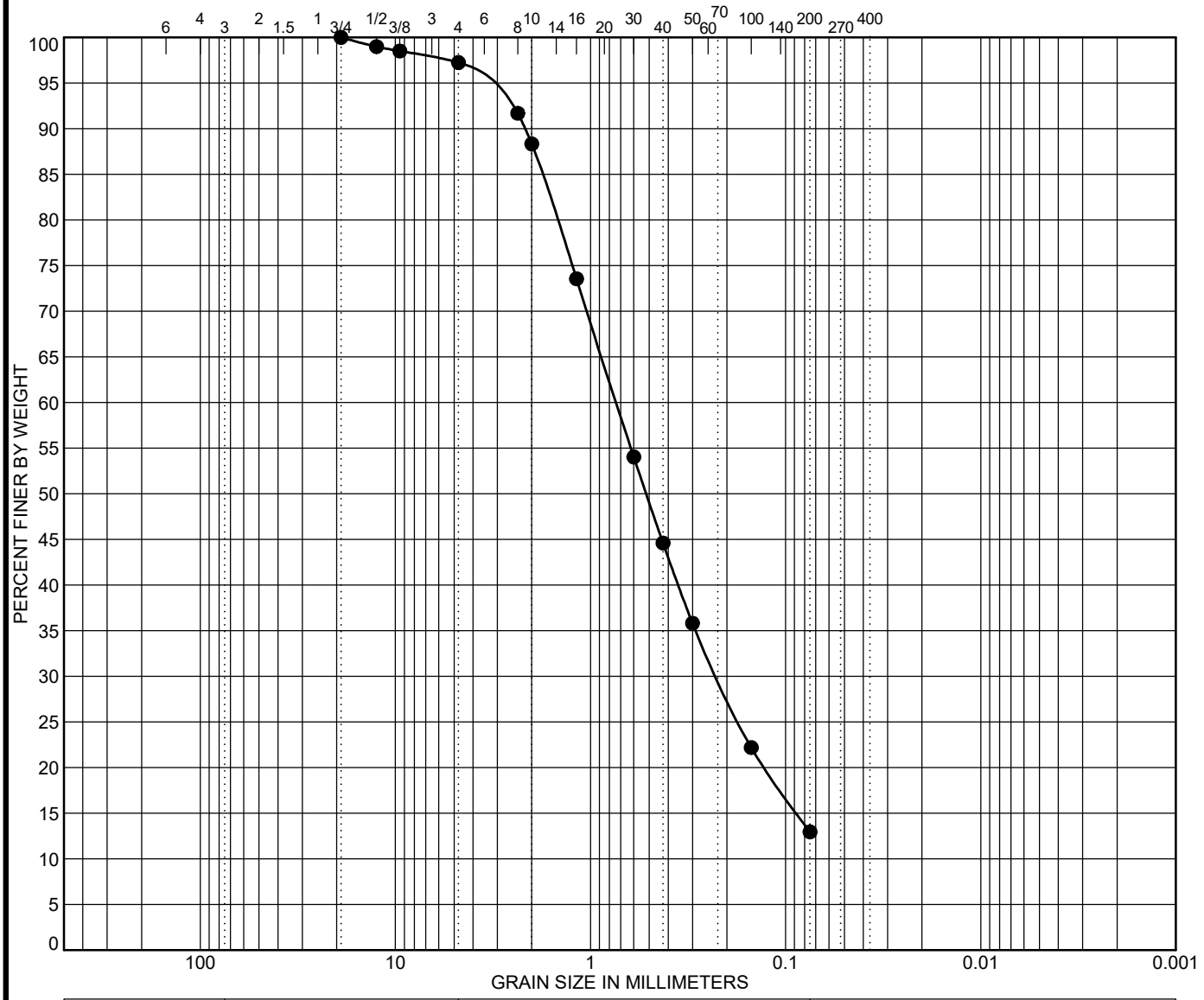
A-5

LUMOS LEGEND 2305 OLD RANCH ROAD.GPJ 10-23-06.GDT 12/18/25

APPENDIX B

SOILS LABORATORY TEST RESULTS

LUMOS & ASSOCIATES



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Date: Dec 2025	LL	PL	PI	Cc	Cu
● **TP-1**	Classification					
Depth: 3	Silty SAND (SM)	NP	NP	NP		
Sample Location	TP-1, 3'					
USCS	SM					
AASHTO						

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● **TP-1**								
Depth: 3	19	0.738	0.223		2.8	84.3	13.0	

Natural Moisture	5.6 %	**Direct Shear**		**Absorption %**		
R-Value	68	**Max Dry Density**		**Soundness**		
Expansion Index		**Specific Gravity**		**S.E.**		

LUMOS & ASSOCIATES
Lumos & Associates
2144 College Parkway Suite 110
Carson City, Nevada 89706
775-883-7077
Fax:
mburns@lumosinc.com

2305 Old Ranch Road

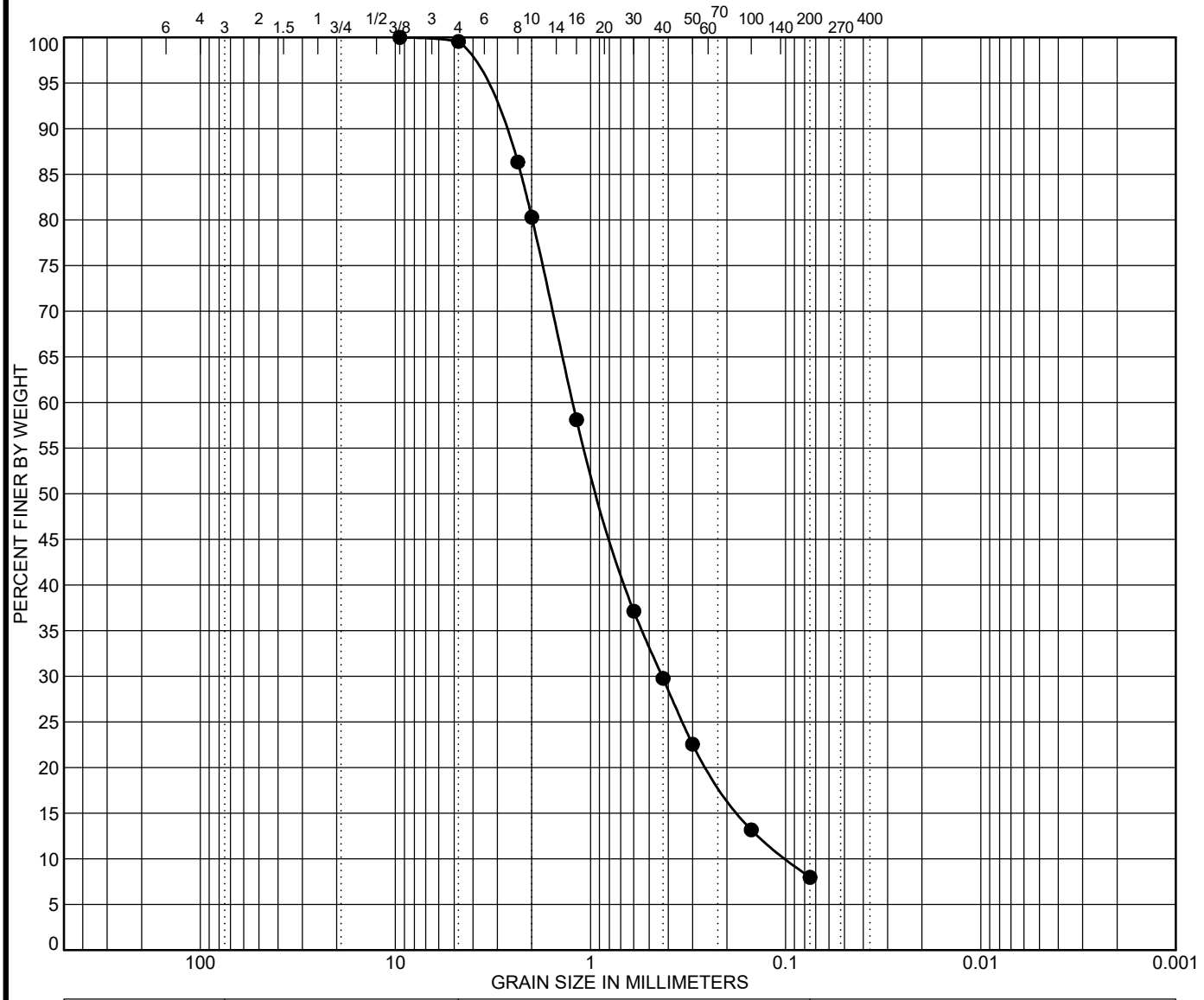
GRAIN SIZE DISTRIBUTION

Job Number: 12428.000 Date: December 2025

PLATE

B-1.1

LUMOS GRAIN SIZE 2305 OLD RANCH ROAD.GPJ US LAB.GDT 12/18/25



Specimen Identification	Date: Dec 2025						
● **TP-2**	Classification	LL	PL	PI	Cc	Cu
Depth: 2.5	Well-Graded SAND with Silt (SW-SM)	NP	NP	NP	1.5	12.6
Sample Location	TP-2, 2.5'					
USCS	SW-SM					
AASHTO						

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● **TP-2**								
Depth: 2.5	9.5	1.234	0.43	0.098	0.5	91.6	8.0	

Natural Moisture	4.2 %	**Direct Shear**		**Absorption %**	
R-Value		**Max Dry Density**		**Soundness**	
Expansion Index		**Specific Gravity**		**S.E.**	

LUMOS & ASSOCIATES
Lumos & Associates
2144 College Parkway Suite 110
Carson City, Nevada 89706
775-883-7077
Fax:
mburns@lumosinc.com

2305 Old Ranch Road

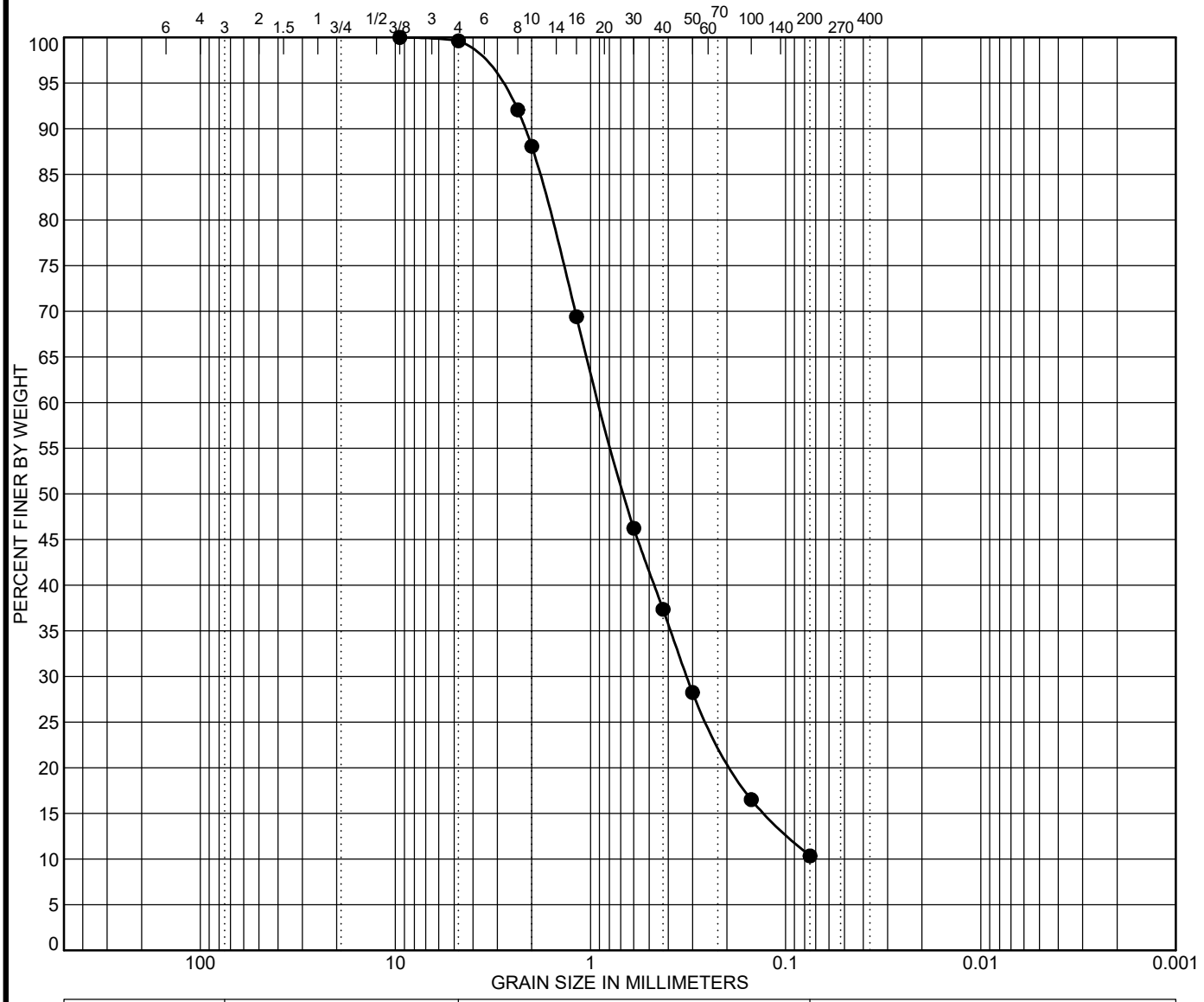
GRAIN SIZE DISTRIBUTION

Job Number: 12428.000 Date: December 2025

PLATE

B-1.2

LUMOS GRAIN SIZE 2305 OLD RANCH ROAD.GPJ US LAB.GDT 12/18/25



Specimen Identification	Date: Dec 2025							
● **TP-3**	Classification				LL	PL	PI	Cc	Cu
Depth: 3	Well-Graded SAND with Silt (SW-SM)				NP	NP	NP	1.6	12.4
Sample Location	TP-3, 3.0'								
USCS	SW-SM								
AASHTO									

Specimen Identification								
● **TP-3**	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
Depth: 3	9.5	0.897	0.321		0.4	89.3	10.3	

Natural Moisture	4.6 %		**Direct Shear**	36	**Absorption %**		
R-Value			**Max Dry Density**	125.0	**Soundness**		
Expansion Index			**Specific Gravity**		**S.E.**		

LUMOS & ASSOCIATES

Lumos & Associates
2144 College Parkway Suite 110
Carson City, Nevada 89706
775-883-7077
Fax:
mburns@lumosinc.com

2305 Old Ranch Road

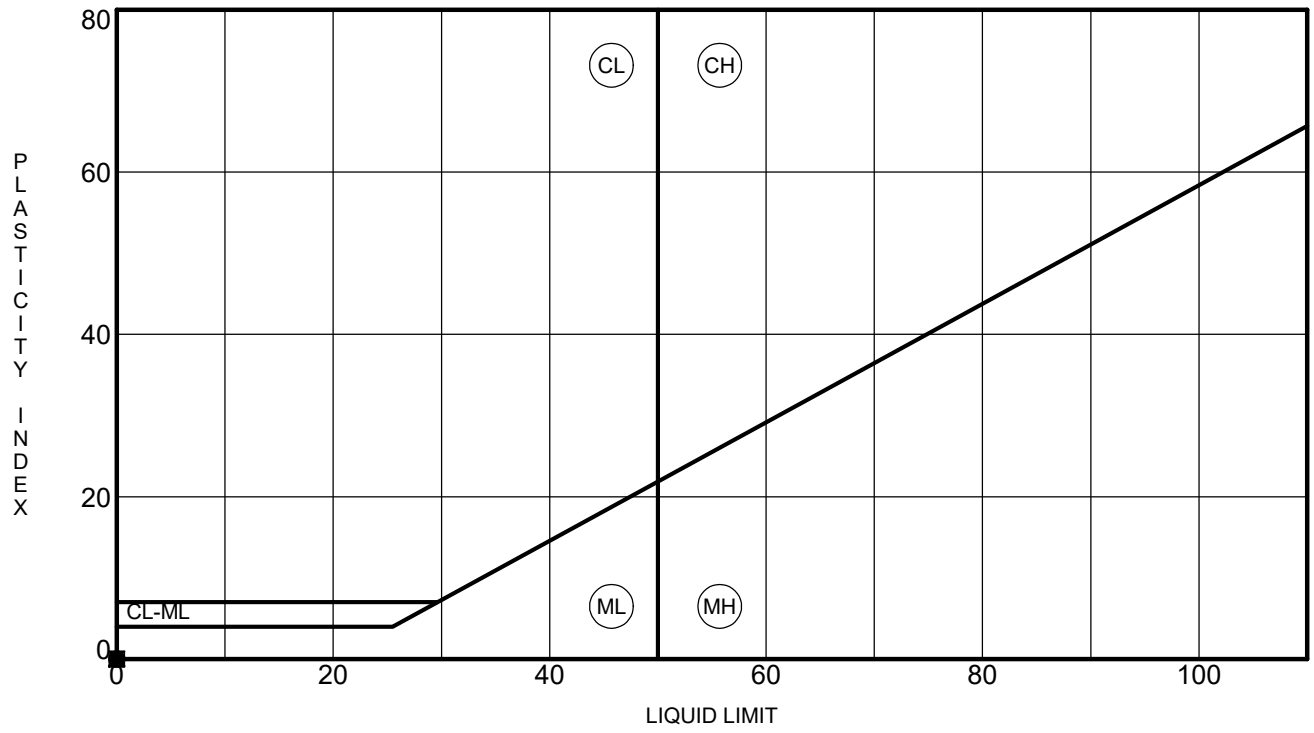
GRAIN SIZE DISTRIBUTION

Job Number: 12428.000 Date: December 2025

PLATE

B-1.3

LUMOS GRAIN SIZE 2305 OLD RANCH ROAD.GPJ US LAB.GDT 12/18/25



	Specimen Identification		LL	PL	PI	Fines	Classification
●	**TP-1**	**3.0**	**NP**	**NP**	**NP**	**13**	Silty SAND (SM)
⊠	**TP-2**	**2.5**	**NP**	**NP**	**NP**	**8**	Well-Graded SAND with Silt (SW-SM)
▲	**TP-3**	**3.0**	**NP**	**NP**	**NP**	**10**	Well-Graded SAND with Silt (SW-SM)

Lumos & Associates
2144 College Parkway Suite 110
Carson City, Nevada 89706
775-883-7077
Fax:
mburns@lumosinc.com

2305 Old Ranch Road

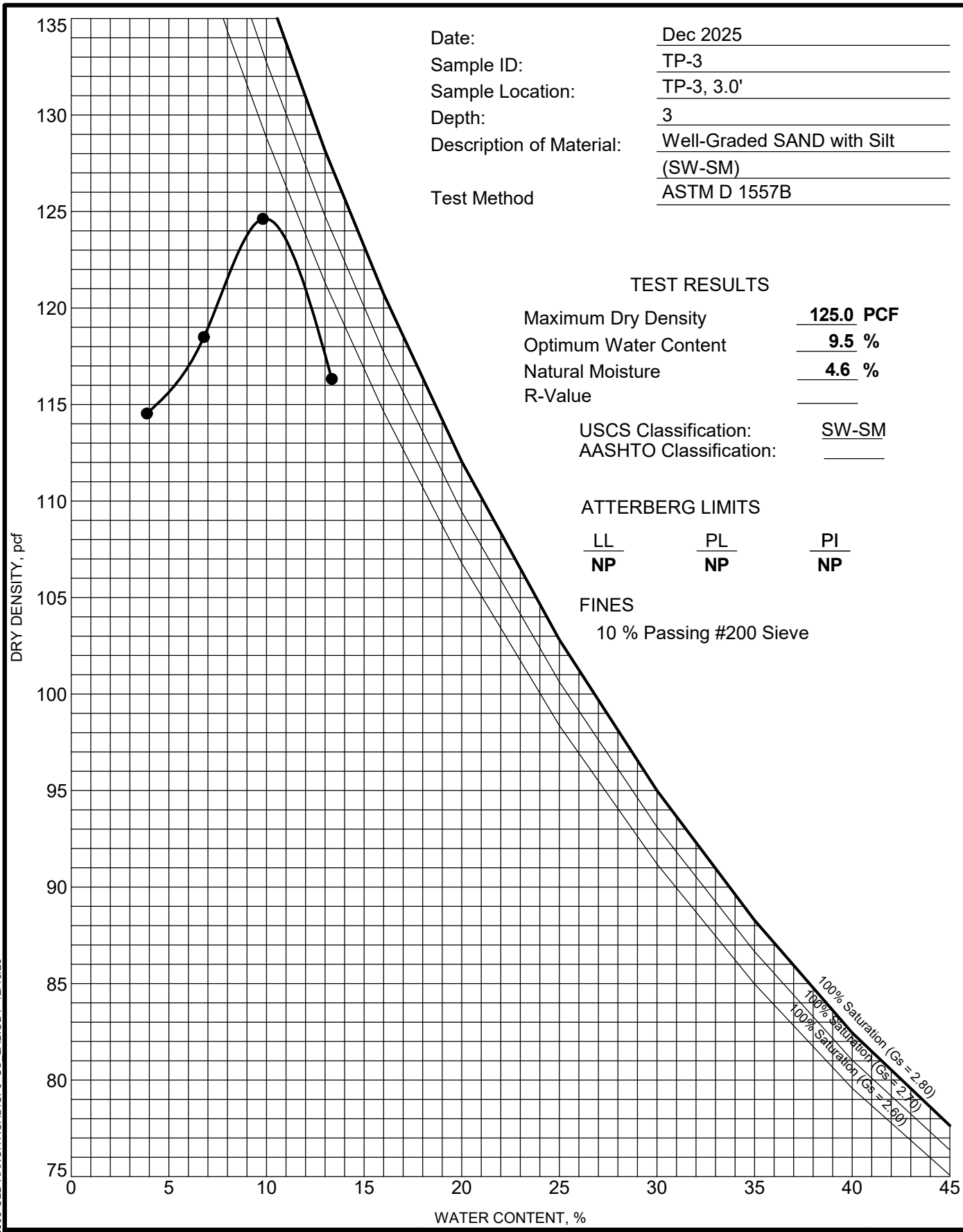
ATTERBERG LIMITS' RESULTS

Job Number: 12428.000 Date: December 2025

PLATE

B-2

LUMOS ATTERBERG LIMITS 2305 OLD RANCH ROAD.GPJ US LAB.GDT 12/18/25



Date: Dec 2025
Sample ID: TP-3
Sample Location: TP-3, 3.0'
Depth: 3
Description of Material: Well-Graded SAND with Silt (SW-SM)
Test Method ASTM D 1557B

TEST RESULTS

Maximum Dry Density	**125.0 PCF**
Optimum Water Content	**9.5 %**
Natural Moisture	**4.6 %**
R-Value	

USCS Classification: SW-SM
AASHTO Classification:

ATTERBERG LIMITS

LL	PL	PI
NP	**NP**	**NP**

FINES
10 % Passing #200 Sieve

Lumos & Associates
2144 College Parkway Suite 110
Carson City, Nevada 89706
775-883-7077
Fax:
mburns@lumosinc.com

2305 Old Ranch Road

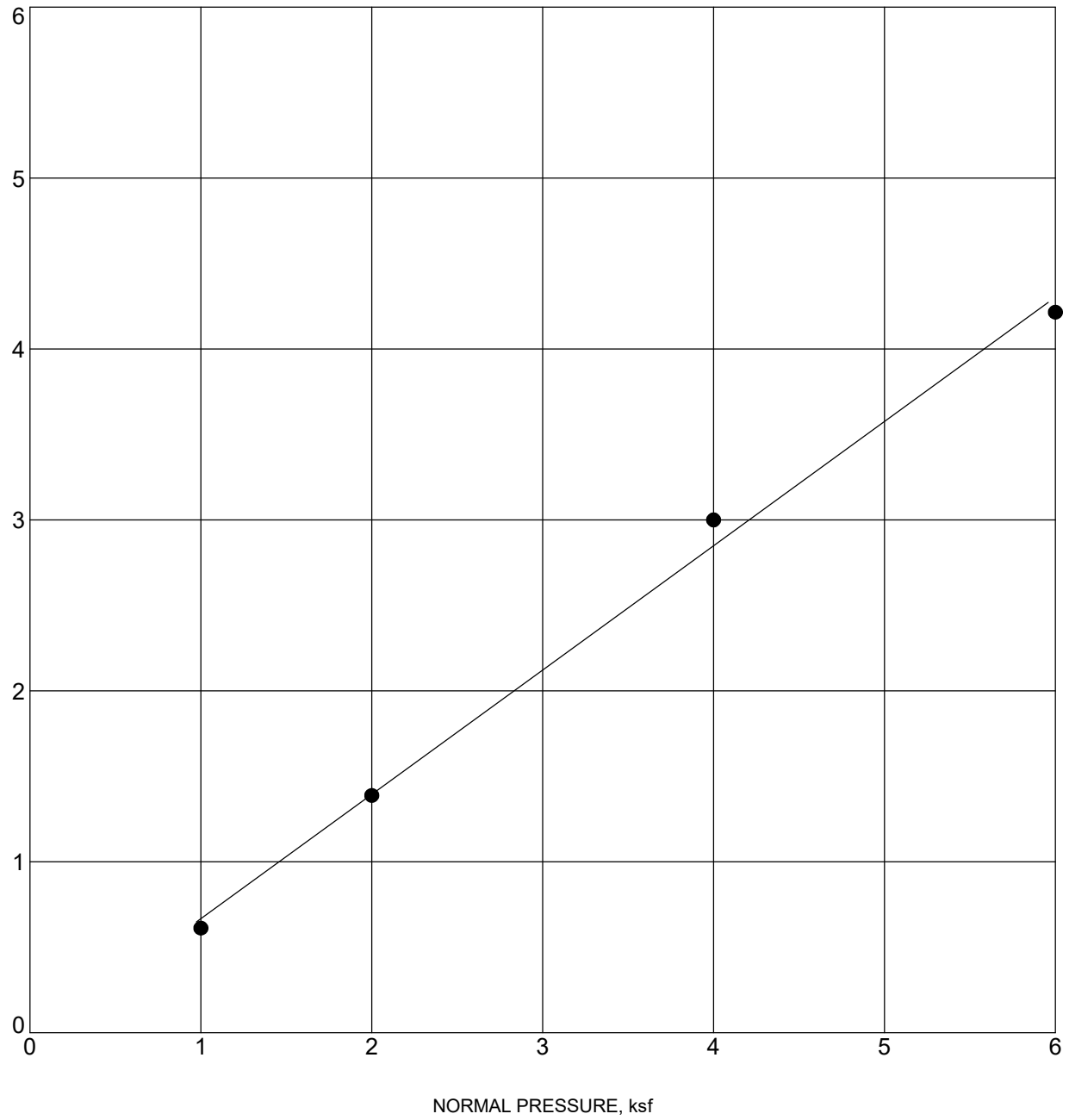
MOISTURE-DENSITY CURVE

Job Number: 12428.000 Date: December 2025

PLATE

B-3

LUMOS_COMPACTION 2305 OLD RANCH ROAD.GPJ US_LAB.GDT 12/18/25



Specimen Identification		Classification	γ_d	MC%	c	ϕ
● **TP-3** **3.0**		**Well-Graded SAND with Silt (SW-SM)**	**125.0**	**9.5**	**0.00**	**35.5**

LUMOS & ASSOCIATES
Lumos & Associates
2144 College Parkway Suite 110
Carson City, Nevada 89706
775-883-7077
Fax:
mburns@lumosinc.com

2305 Old Ranch Road

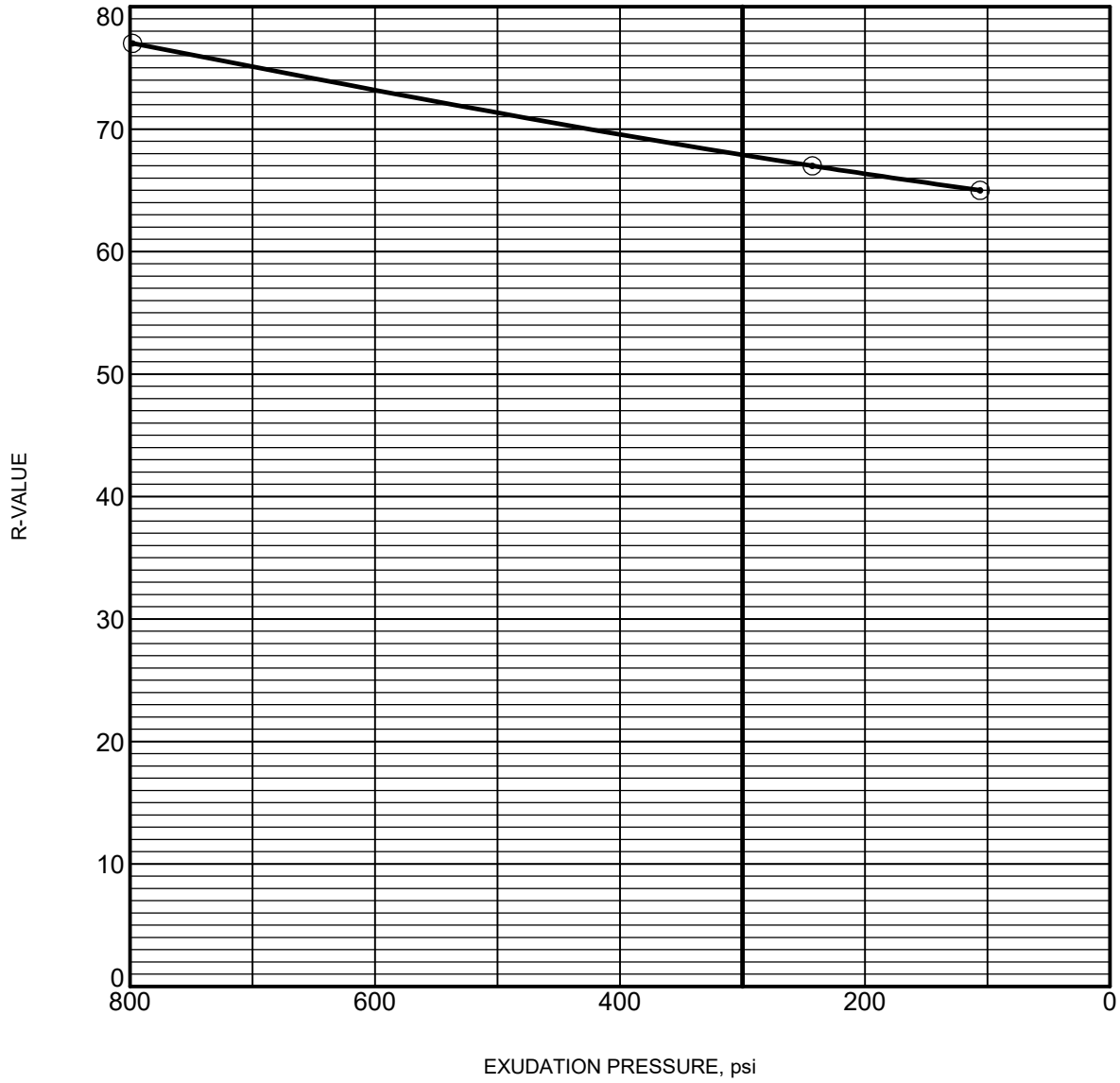
DIRECT SHEAR TEST

Job Number: 12428.000 Date: December 2025

PLATE

B-4

LUMOS DIRECT SHEAR 2305 OLD RANCH ROAD.GPJ US LAB.GDT 12/18/25



Test Data

Specimen No.	Water Content (%)	Dry Density (pcf)	Expansion (psf)	Exudation (psi)	Test R-Value*
1	**8.8**	**120.7**	**0.0**	**798.0**	**77.0**
2	**10.7**	**119.1**	**0.0**	**243.0**	**67.0**
3	**11.9**	**116.3**	**0.0**	**106.0**	**65.0**

* Reported values have been corrected for sample height, where required.

Test Result

Specimen Identification		Classification	R-Value
TP-1	**3.0**	**Silty SAND (SM)**	**68**

LUMOS & ASSOCIATES
Lumos & Associates
2144 College Parkway Suite 110
Carson City, Nevada 89706
775-883-7077
Fax:
mburns@lumosinc.com

2305 Old Ranch Road

RESISTANCE VALUE TEST

Job Number: 12428.000 Date: December 2025

PLATE

B-5

R_VALUE 2305 OLD RANCH ROAD.GPJ US_LAB.GDT 12/18/25

Western Environmental Testing Laboratory
Analytical Report

Lumos & Associates, Inc.
950 Sandhill Road, Suite 100
Reno, NV 89521
Attn: Mitch Burns
Phone: (775) 827-6111 **Fax:** (775) 827-6122
PO\Project: */12428.000/Task 2/MTB*

Date Printed: 12/17/2025
OrderID: *25120445*

Customer Sample ID: DAC-1 2.5 ft
WETLAB Sample ID: 25120445-001
Collect Date/Time: 12/9/2025
Receive Date: 12/10/2025 16:02

Analyte	Method	Results		Units	DF	RL	Analyzed	LabID
General Chemistry								
Paste pH	SW846 9045D	5.69		pH Units	1		12/15/2025	NV00925
Resistivity	SM 2510B	140000		ohms.cm	1	4.0	12/15/2025	NV00925
Anions by Ion Chromatography								
Sulfate	EPA 300.0	ND	D	mg/kg	10	15	12/15/2025	NV00925
Sample Preparation								
10:1 DI Water Extraction	WL 10.0	Complete			1		12/9/2025	NV00925
Saturated Paste Preparation	CSTPM S:1.0	Complete			1		12/15/2025	NV00925

DF=Dilution Factor, RL = Reporting Limit (minimum 3X the MDL), ND = Not Detected <RL or <MDL (if listed)

LUMOS & ASSOCIATES
Lumos & Associates
2144 College Parkway Suite 110
Carson City, Nevada 89706
775-883-7077
Fax:
mburns@lumosinc.com

2305 Old Ranch Road

ANALYTICAL TESTS

Job Number: 12428.000 Date: December 2025

PLATE B-6

APPENDIX C

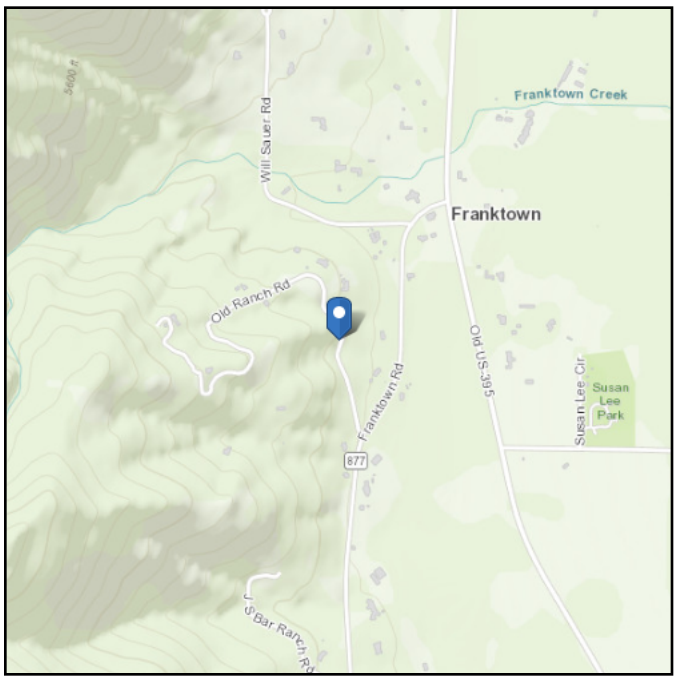
DESIGN RESPONSE SPECTRUM

LUMOS & ASSOCIATES

ASCE Hazards Report

Address:
2503 Old Ranch Rd
Washoe Valley, Nevada
89704

Standard:	ASCE/SEI 7-22	**Latitude:**	39.268883
Risk Category:	II	**Longitude:**	-119.845102
Soil Class:	Default	**Elevation:**	5187.237522582803 ft (NAVD 88)





Seismic

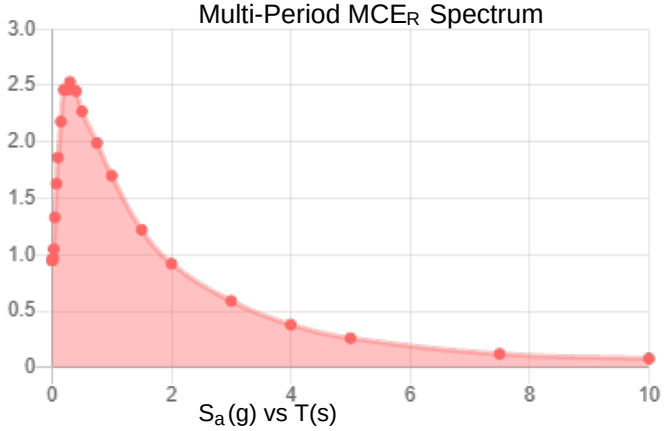
Site Soil Class: Default

Results:

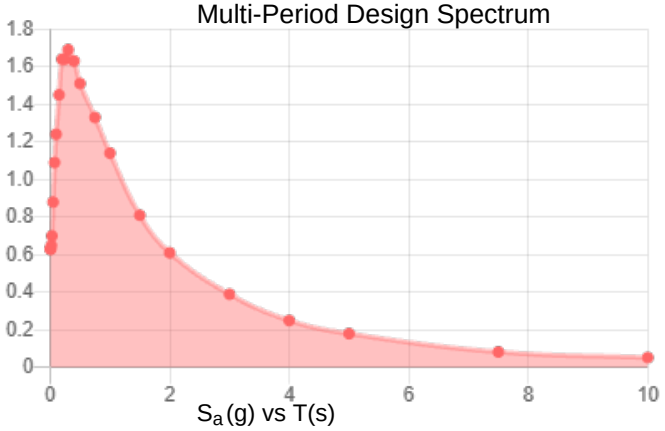
PGA_M :	0.79	T_L :	6
S_{MS} :	2.28	S_S :	2.15
S_{M1} :	1.7	S_1 :	0.74
S_{DS} :	1.52	V_{S30} :	260
S_{D1} :	1.14		

Seismic Design Category: D

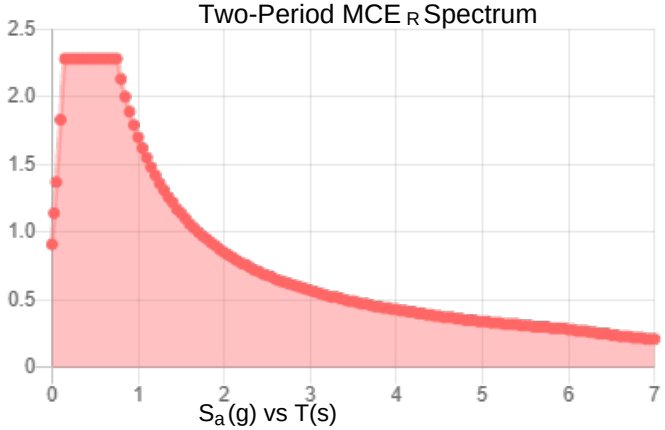
Multi-Period MCE_R Spectrum



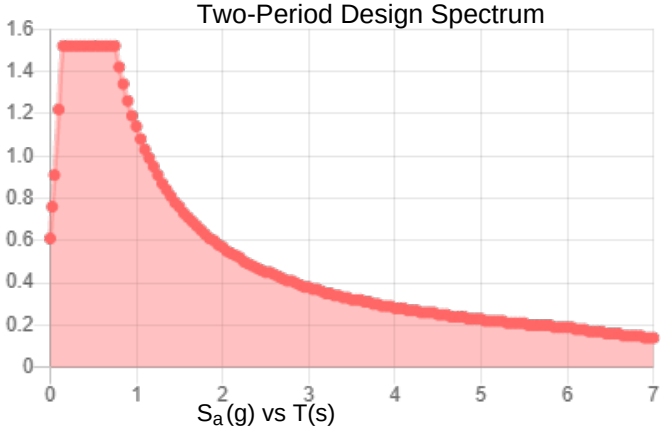
Multi-Period Design Spectrum



Two-Period MCE_R Spectrum



Two-Period Design Spectrum



MCE_R Vertical Response Spectrum

Vertical ground motion data has not yet been made available by USGS.

Design Vertical Response Spectrum

Vertical ground motion data has not yet been made available by USGS.

Data Accessed: **Tue Sep 22 2026**

Date Source:
USGS Seismic Design Maps based on ASCE/SEI 7-22 and ASCE/SEI 7-22 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-22 Ch. 21 are available from USGS.

The ASCE Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE standard.

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE Hazard Tool.

APPENDIX D

PAVEMENT CALCULATIONS

LUMOS & ASSOCIATES

Job #: 12428.000
Project: 2305 Old Ranch Road
Description: Pavement Calculations
By: M. Burns

R-Value for Structural Fill = 30 (Report Specification)
R-Value for Aggregate Base = 70 (Type 2, Class B Aggregate Base)
Traffic Index = 4.5 (Parking Areas)

$GE=0.0032*(TI)*(100-R)$
$G_{f\ (AC-6)}=2.5$, $G_{f(Base)}=1.1$,
$t_{layer}=GE/G_f$

Asphalt Pavement - Car and Light Truck Access

- Asphalt, Aggregate Base

$GE_{AC}=0.0032*(4.5)*(100-70)=0.43'$
$t_{AC}=(0.43'/2.5)*(12"/1')= 2.1"$ **USE 3" Asphalt Concrete**
$GE_{AC}=(3"*2.5)/(12")=0.625'$

$GE_{Base}=0.0032*(4.5)*(100-30)=1.0'$
$t_{Base}=((1.0'-0.625')/1.1)*(12"/1')=4.1"$ **USE 4" Aggregate Base**

Therefore, 3" of Asphalt Concrete (AC) underlain by a minimum of 4" of Type 2, Class B Aggregate Base, underlain by 12" of properly prepared structural fill/suitable subgrade.

LUMOS & ASSOCIATES
Lumos and Associates
308 N. Curry Street Suite 200
Carson City, Nevada
7758837077
Fax:
mburns@lumosinc.com

2305 Old Ranch Road

PAVEMENT DESIGN

Job Number: 12428.000 Date: December 2025

PLATE

D-1

APPENDIX E

PERCOLATION TEST RESULTS

LUMOS & ASSOCIATES

PERCOLATION TEST

PROJECT: 2305 Old Ranch Road JOB # 12428.000 DATE: 12/9/2025

TEST HOLE NO: Perc 1 LOCATION: Perc 1, 4' BEG BY: Z. Lim

LOCATION SKETCH



BORE LOG

DEPTH (FT) SOIL DESCRIPTION

0

5

13

See Log Plate A-4

GWS ENCOUNTERED? NO

DEPTH TO GWS: N/A

SURFACE ELEVATION E.G.S

DEPTH TO TEST 4'

TIME OF 1st SATURATION (12" WATER) (1) 12:00 PM

TIME WATER DISAPPEARS > 10 Minutes

TIME OF REFILL **Run Presoak for 4 Hours**

TIME WATER DISAPPEARS TIME TO DRAIN (MIN.) (2) N/A

IF 2 IS LESS THAN 10 MIN. AND TEST IS IN SANDY SOIL, IMMEDIATELY PROCEED WITH PERCOLATION TEST USING 10 MIN. READ/FILL INTERVALS. OTHERWISE, PROCEED WITH 4-HOUR TEST BETWEEN 16 AND 30 HOURS AFTER 1

TIME	INTERVAL	DEPTH TO WATER	CHANGE IN WATER	
BEGIN TEST	in Minutes	INITIAL DEPTH	INCHES	MIN/IN
8:21	30	6"	2	15.0
8:51				
8:51	30	REFILL TO	1.75	17.1
9:21		6"		
9:21	30	REFILL TO	1.5	20.0
9:51		6"		
9:51	30	REFILL TO	1.5	20.0
10:21		6"		
10:21	30	REFILL TO	1.5	20.0
10:51		6"		
		REFILL TO		
		REFILL TO		
		REFILL TO		
		FINAL		

PERCOLATION RATE = 20.0 MIN. / INCH

LUMOS & ASSOCIATES

Lumos and Associates

800 E. College Parkway
Carson City, NV 89706
(775) 883-7077
Fax: (775) 883-7114
bsexton@lumosinc.com

2305 Old Ranch Road

PERCOLATION TEST

Job Number: 12428.000 Date: December 2025

PLATE

P-2

PERCOLATION TEST

PROJECT: 2305 Old Ranch Road JOB # 12428.000 DATE: 12/9/2025

TEST HOLE NO: Perc 1 LOCATION: Perc 1, 2' BEG BY: Z. Lim

LOCATION SKETCH



BORE LOG

DEPTH (FT) SOIL DESCRIPTION

0

5

13

See Log Plate A-4

GWS ENCOUNTERED? NO

DEPTH TO GWS: N/A

SURFACE ELEVATION E.G.S

DEPTH TO TEST 2'

TIME OF 1st SATURATION (12" WATER) (1) 12:05 PM

TIME WATER DISAPPEARS > 10 Minutes

TIME OF REFILL **Run Presoak for 4 Hours**

TIME WATER DISAPPEARS TIME TO DRAIN (MIN.) (2) N/A

IF 2 IS LESS THAN 10 MIN. AND TEST IS IN SANDY SOIL, IMMEDIATELY PROCEED WITH PERCOLATION TEST USING 10 MIN. READ/FILL INTERVALS. OTHERWISE, PROCEED WITH 4-HOUR TEST BETWEEN 16 AND 30 HOURS AFTER 1

TIME	INTERVAL	DEPTH TO WATER	CHANGE IN WATER	
BEGIN TEST	in Minutes	INITIAL DEPTH	INCHES	MIN/IN
8:27	30	6"	3.25	9.2
8:57				
8:57	30	REFILL TO	2.25	13.3
9:27		6"		
9:27	30	REFILL TO	2.25	13.3
9:57		6"		
9:57	30	REFILL TO	2.25	13.3
10:27		6"		
		REFILL TO		
		REFILL TO		
		REFILL TO		
		REFILL TO		
		FINAL		

PERCOLATION RATE = 13.3 MIN. / INCH

LUMOS & ASSOCIATES

Lumos and Associates

800 E. College Parkway
Carson City, NV 89706
(775) 883-7077
Fax: (775) 883-7114
bsexton@lumosinc.com

2305 Old Ranch Road

PERCOLATION TEST

Job Number: 12428.000 Date: December 2025

PLATE

P-1

STRUCTURAL DRAWING ABBREVIATION LIST

A.B.	- ANCHOR BOLT
ABT.	- ABOUT
A.F.F.	- ABOVE FINISHED FLOOR
AGGR.	- AGGREGATE
APPROX.	- APPROXIMATE
ARCH	- ARCHITECTURAL
B.B.PL	- BOTTOM OF BASE PLATE
B.C.	- BOLT CIRCLE
BLKG	- BLOCKING
BM	- BEAM
B.N.	- BOUNDARY NAILING
B.S.	- BOTH SIDES
BOF	- BOTTOM OF FOOTING
BOT. (OR BTM.)	- BOTTOM
BTWN	- BETWEEN
BW	- BOTH WAYS
C-C	- CENTER TO CENTER
C.I.P.	- CAST-IN-PLACE
CJ	- CONTROL JOINT
C.L. (OR ℄)	- CENTERLINE
CLR.	- CLEAR
CMU	- CONCRETE MASONRY UNIT
CONC.	- CONCRETE
CONT.	- CONTINUOUS
DBA	- DEFORMED BAR ANCHOR
DIA. (OR Ø)	- DIAMETER
DO (OR 'do')	- REPEAT INDICATED STRUCT. MEMBER
DWG.	- DRAWING
DWL	- DOWEL
EA.	- EACH
E.F.	- EACH FACE
EL. (OR ELEV.)	- ELEVATION
EMBED.	- EMBEDMENT
E.N.	- EDGE NAILING
EQ	- EQUAL
E.W.	- EACH WAY
(E)	- EXISTING
FD	- FLOOR DRAIN
F.F.	- FAR FACE
F. FL.	- FINISHED FLOOR
F.N.	- FIELD NAILING
F.O.	- FACE OF
F.S.	- FAR SIDE
FTG	- FOOTING
GA	- GAGE
GALV.	- GALVANIZED
HDR	- HEADER
H.P.	- HIGH POINT
HSA	- HEADED STUD ANCHOR
H.S.B.	- HIGH STRENGTH BOLT
I.D.	- INSIDE DIAMETER
INV. (OR I.E.)	- INVERT (INVERT ELEVATION)
I.F.	- INSIDE FACE
K	- KIP
L.P.	- LOW POINT
L.L.V.	- LONG LEG VERTICAL
MAX	- MAXIMUM
MB	- MACHINE BOLT
MECH.	- MECHANICAL
MIN.	- MINIMUM
(N)	- NEW
N.F.	- NEAR FACE
N.I.C.	- NOT IN CONTRACT
N.S.	- NEAR SIDE
N.T.S.	- NOT TO SCALE
O.F.	- OUTSIDE FACE
O.C.	- ON CENTER
OPP.	- OPPOSITE
PL. (OR ℙ)	- PLATE
P.T.	- PRESSURE TREATED
RD	- ROOF DRAIN
REINF	- REINFORCING
REQ'S	- REQUIREMENTS
SAD	- SEE ARCHITECTURAL DRAWINGS
S.A.P.	- SHOP ASSEMBLED PIECE
SCJ	- SLAB CONTROL JOINT
SIM	- SIMILAR
SQ.	- SQUARE
STD	- STANDARD
STRUCT.	- STRUCTURAL
SW	- SHEAR WALL
SYM.	- SYMMETRICAL
T & B	- TOP AND BOTTOM PIECE
TJ	- TIED JOINT
T.O.C.	- TOP OF CONCRETE
T.O.L.	- TOP OF LEDGER
T.O.M.	- TOP OF MASONRY
T.O.S.	- TOP OF STEEL
T.O.W.	- TOP OF WALL
TC	- TOP OF CURB
TS	- TOP OF SLAB
TRANS.	- TRANSVERSE
TYP.	- TYPICAL
U.N.O.	- UNLESS NOTED OTHERWISE
VERT.	- VERTICAL
W.P.	- WORK POINT
W/	- WITH
W/O	- WITHOUT
WS	- WATERSTOP
WWF	- WELDED WIRE FABRIC
#	- SIZE OF DEFORMED REINFORCING BAR
@	- CENTER TO CENTER SPACING

SYMBOLS

VIEW IN SECTION

MATERIAL — NEW

CONCRETE

STRUCTURAL STEEL

BRICK OR BLOCK

GROUT

PLYWOOD SHEATHING

WOOD STRUCTURAL

GRAVEL BASE/MATERIAL

SOIL

STRUCTURAL FILL

RIP-RAP

EPOXY ANCHOR

EXPANSION ANCHOR

VIEW IN PLAN

WOOD GRAIN FINISH

TREAD PLATE

GRATING

BUILDING MATERIALS LEGEND

NOT TO SCALE

NOTE: EXISTING MATERIALS WILL BE SHOWN SCREENED.



SECTION



DETAIL

DRAWING CROSS-REFERENCE

NOT TO SCALE



REVISION NOTATIONS

NOT TO SCALE

GENERAL STRUCTURAL NOTES

1. BASIS OF DESIGN

A. CODE: INTERNATIONAL BUILDING CODE, 2024 EDITION
ASCE/SEI STANDARD 7-22
2024 NORTHERN NEVADA AMENDMENTS

B. LIVE LOADS:

- CONSTRUCTION SURCHARGE 250 PSF

C. SNOW LOADS:

- GROUND SNOW LOAD, PG 75 PSF (ULTIMATE)

D. WIND LOADS:

- BASIC WIND DESIGN SPEED, V 96 MPH
- ALLOWABLE STRESS DESIGN SPEED, VASD 74 MPH
- RISK CATEGORY II
- EXPOSURE C

E. SEISMIC:

- RISK CATEGORY II
- MAPPED SPECTRAL RESPONSE ACCELERATION, S_S 2.15
- MAPPED SPECTRAL RESPONSE ACCELERATION, S_1 0.74
- SITE CLASS DEFAULT
- DESIGN SPECTRAL RESPONSE ACCELERATION, S_{DS} 1.52
- DESIGN SPECTRAL RESPONSE ACCELERATION, S_{D1} 1.14
- SEISMIC DESIGN CATEGORY D

F. SOIL CRITERIA:

FOUNDATION DESIGN IS IN ACCORDANCE WITH THE REQUIREMENTS OF THE GEOTECHNICAL INVESTIGATION REPORT BY LUMOS & ASSOCIATES, ("GEOTECHNICAL INVESTIGATION REPORT - 2305 OLD RANCH ROAD", DECEMBER 2025, FILE NO. 12428.000)

DESIGN OF FOUNDATIONS AND WALLS IS BASED ON THE FOLLOWING CRITERIA:

- ALLOWABLE BEARING PRESSURE (DL + LL) 3000 PSF
- ALLOWABLE BEARING PRESSURE (DL+ LL + LATERAL) 4000 PSF
- LATERAL EQUIVALENT FLUID PRESSURE (ACTIVE) 35 PCF
- LATERAL EQUIVALENT FLUID PRESSURE (RESTRAINED) 55 PCF
- LATERAL EQUIVALENT FLUID PRESSURE (PASSIVE) 300 PCF
- COEFFICIENT OF FRICTION FOR SLIDING 0.45

2. GENERAL

A. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THESE SPECIFICATIONS, THE REFERENCED CODES AND THE REQUIREMENTS OF THE GOVERNING JURISDICTION.

B. THE GENERAL CONTRACTOR SHALL REFER TO DRAWINGS AND/OR SPECIFICATIONS BY OTHERS FOR ALL ADDITIONAL INFORMATION PERTINENT TO THE CONSTRUCTION OF THE PROJECT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO THOROUGHLY REVIEW THESE DOCUMENTS PRIOR TO CONSTRUCTION.

C. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, AND GENERAL STRUCTURAL NOTES, NOTIFY THE ENGINEER IMMEDIATELY FOR RESOLUTION.

D. NOTES AND DETAILS NOTED AS "TYPICAL" SHALL BE USED WHEREVER APPLICABLE. SPECIFIC NOTES AND DETAILS TAKE PRECEDENCE OVER TYPICAL NOTES AND DETAILS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BECOME FAMILIAR WITH ALL DETAILS AND TO ENSURE THAT THEY ARE USED WHERE NECESSARY.

E. SHOULD CLARIFICATIONS REGARDING THE INTENT OF THE DESIGN BE REQUIRED, THE CONTRACTOR SHALL SUBMIT REQUESTS FOR INFORMATION (RFI'S) TO THE ENGINEER. RFI'S SHALL INCLUDE A DETAILED WRITTEN STATEMENT THAT INDICATES THE SPECIFIC DRAWINGS OR SPECIFICATIONS IN NEED OF CLARIFICATION AND THE NATURE OF THE CLARIFICATION REQUIRED. THE ENGINEER SHALL RESPOND IN WRITING AND ISSUE CLARIFICATIONS AS NECESSARY. RESPONSES TO RFI'S ARE NOT TO BE CONSIDERED AS APPROVED CHANGE ORDERS.

F. THE CONTRACT DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, PROCEDURES, AND SEQUENCE OF CONSTRUCTION. IT IS THE GENERAL CONTRACTOR'S SOLE RESPONSIBILITY TO PROVIDE ALL MEASURES REQUIRED TO PROTECT THE STRUCTURE, WORKMEN, AND OTHER PERSONS DURING CONSTRUCTION AND TO PROVIDE ADEQUATE SHORING AND BRACING TO MAINTAIN THE INTEGRITY OF ALL ELEMENTS OF THE STRUCTURE AND EACH AFFECTED SYSTEM DURING CONSTRUCTION. DESIGN OF SHORING, BRACING, SCAFFOLDING, ETC. WHICH ARE REQUIRED TO FACILITATE THE MEANS AND METHODS OF CONSTRUCTION SHALL BE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

G. THE DRAWINGS SHALL NOT BE SCALED. THE GENERAL CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR USING SCALED DIMENSIONS WHICH HAVE NOT BEEN VERIFIED.

H. CHANGES OR DEVIATIONS FROM THE STRUCTURAL DRAWINGS ARE NOT ALLOWED WITHOUT WRITTEN AUTHORIZATION FROM THE ENGINEER.

3. FOUNDATIONS

A. REFER TO THE GEOTECHNICAL REPORT FOR GENERAL REQUIREMENTS OF EARTHWORK, OVER-EXCAVATION, SUBGRADE PREPARATION, FILL AND COMPACTION, WATERPROOFING, AND OTHER PERTINENT REQUIREMENTS AND INFORMATION.

B. SITE PREPARATION AND GRADING REQUIREMENTS OF THE GEOTECHNICAL REPORT AND ANY ACCOMPANYING ADDENDA SHALL BE COMPLETED PRIOR TO CONSTRUCTION OF FOUNDATIONS. CONSTRUCTION MONITORING AND TESTING OF SUBGRADES FOR FILL, FOUNDATION, PAVEMENT, AS WELL AS FILL SELECTION, PLACEMENT AND COMPACTION SHALL BE PERFORMED BY AN EXPERIENCED SOILS ENGINEER AND/OR HIS REPRESENTATIVES PRIOR TO PLACEMENT OF FOUNDATIONS. ALTERATIONS TO SITE PREPARATION OR GRADING SHALL BE REPORTED TO AND APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO THE START OF FOUNDATION CONSTRUCTION.

C. THE GEOTECHNICAL ENGINEER SHALL REVIEW ALL BACKFILL MATERIALS PRIOR TO PLACEMENT AND OBSERVE BACKFILL OPERATIONS. A LETTER OF COMPLIANCE SHALL BE SUBMITTED TO THE ENGINEER STATING THAT FILLS AND BACKFILLS HAVE BEEN CONSTRUCTED PER THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.

D. FOOTINGS SHALL BEAR NOT LESS THAN 24" BELOW THE FINISH GRADE.

E. SEE "STATEMENT OF SPECIAL INSPECTIONS" FOR REQUIRED SOILS INSPECTIONS.

4. CONCRETE

A. PROVIDE DIFFERENT CLASSES OF CONCRETE AS SHOWN BELOW. EXCEPT AS INDICATED, ALL CONCRETE WORK SHALL BE PRODUCED, PLACED, CONSOLIDATED, CURED AND FINISHED IN CONFORMANCE WITH AMERICAN CONCRETE INSTITUTE STANDARD 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE", STANDARD 305 "GUIDE TO HOT WEATHER CONCRETING", AND STANDARD 306 "GUIDE TO COLD WEATHER CONCRETING". CALCIUM CHLORIDE, SALT OR OTHER MATERIALS CREATING A CORROSIVE ENVIRONMENT IN THE CONCRETE SHALL NOT BE USED FOR ANY REASON.

A.1 SHOTCRETE - SOIL NAIL WALLS

- COMPRESSIVE STRENGTH F'C = 5,000 PSI MINIMUM @ 28 DAYS
- CEMENT ASTM C150, TYPE II
- CONCRETE AGGREGATE ASTM C33 (HARDROCK)
- MAXIMUM AGGREGATE SIZE 3/8 INCH DIAMETER
- WATER CEMENT RATIO 0.45
- FLY ASH NOT ALLOWED

A.2 CULVERTS, HEADWALLS, & OTHER MISCELLANEOUS CONCRETE

- COMPRESSIVE STRENGTH F'C = 4,500 PSI MIN. @ 28 DAYS
- CEMENT ASTM C150, TYPE II
- CONCRETE AGGREGATE ASTM C33 (HARDROCK)
- MAXIMUM AGGREGATE SIZE 3/4 INCH DIAMETER
- WATER CEMENT RATIO 0.45
- AIR ENTRAINMENT 6% +/- 1.5%
- SLUMP 4 INCHES +/- 1 INCH MAXIMUM PRIOR TO THE ADDITION OF WATER-REDUCING COMPOUND

B. THE WATER-SOLUBLE CHLORIDE ION CONTENT IN THE CONCRETE SHALL NOT EXCEED 0.15 PERCENT BY WEIGHT OF CEMENT PER ACI 318.

C. WATER FOR CONCRETE MIXES SHALL CONFORM TO ASTM C1602.

D. POZZOLANS CONSISTING OF NEVADA CLASS N CONFORMING TO THE REQUIREMENTS OF ASTM C618 MAY BE USED IN THE ABOVE MIX DESIGNS. WHEN USED IN MIX DESIGNS, SUPPLEMENTARY CEMENTITIOUS MATERIALS SHALL COMPRISE NO MORE THAN 25% OF THE MIX DESIGN'S TOTAL CEMENTITIOUS MATERIAL, BY WEIGHT.

E. CONCRETE MIX DESIGNS FOR ALL CLASSES OF CONCRETE SHALL BE SUBMITTED FOR REVIEW A MINIMUM OF TWO WEEKS PRIOR TO THE FOUNDATION CONSTRUCTION. PROPORTIONING OF THE CONCRETE MATERIALS SHALL BE BASED ON TRIAL MIXTURES OR FIELD EXPERIENCE IN ACCORDANCE WITH ACI 318. MIX DESIGNS WHICH DO NOT MEET ACI 318 MAY BE REJECTED.

F. CONCRETE SHALL BE CURED IN ACCORDANCE WITH ACI 308. AS A MINIMUM, CONCRETE SHALL BE MAINTAINED ABOVE 50 DEGREES F AND IN A MOIST CONDITION FOR AT LEAST THE FIRST 7 DAYS AFTER PLACEMENT UNLESS ACCELERATED CURING TECHNIQUES ARE EMPLOYED.

G. CONCRETE FORMWORK SHALL CONFORM TO ACI 347. CLEAN AND ROUGHEN CONSTRUCTION JOINTS AND LIGHTLY MOISTEN FORMS AND SUBGRADE PRIOR TO PLACEMENT OF CONCRETE. INSTALL W.R MEADOWS, INC "DUOGARD" CHEMICAL RELEASE AGENT OR APPROVED EQUAL PRIOR TO PLACEMENT OF CONCRETE. PLACE CONCRETE USING METHODS WHICH AVOID SEGREGATION. MECHANICALLY VIBRATE ALL CONCRETE TO CONSOLIDATE IT IN FORMS.

H. ALL ITEMS TO BE CAST IN CONCRETE SUCH AS REINFORCING, DOWELS, BOLTS, ANCHORS, PIPES, SLEEVES, ETC., SHALL BE SECURELY POSITIONED IN THE FORMS BEFORE CONCRETE PLACEMENT.

I. REFER TO "SOIL NAIL GENERAL NOTES" FOR MORE INFORMATION RELATED TO SOIL NAIL WALLS.

J. DEFECTIVE WORK:

- ANY CONCRETE NOT FORMED AS SHOWN OR NOT MEETING THE INTENDED LINES, ELEVATIONS, FINISHES, TOLERANCES, ETC. SHALL BE DEEMED DEFECTIVE.
- DEFECTIVE WORK SHALL BE REMOVED AND REPLACED WITH CONFORMING WORK, OR AT THE OPTION OF THE A/E, REPAIRED TO SATISFACTION OF THE A/E.

5. CONCRETE REINFORCING STEEL

A. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60. BARS TO BE WELDED SHALL CONFORM TO ASTM A706, GRADE 60 . WELDED WIRE REINFORCEMENT SHALL CONFORM TO ASTM A1064. REINFORCING STEEL SHALL BE FABRICATED IN CONFORMANCE WITH THE AMERICAN CONCRETE INSTITUTE STANDARD 318.

B. PROVIDE DETAILING, FABRICATION AND INSTALLATION OF REINFORCING AND ACCESSORIES IN ACCORDANCE WITH ACI 315 AND ACI 318.

C. ALL REINFORCING STEEL, INCLUDING WELDED WIRE REINFORCEMENT, SHALL BE ACCURATELY POSITIONED AND SECURED IN PLACE WITH CHAIRS, TIES, BOLSTERS OR DOBIES, PRIOR TO PLACEMENT OF CONCRETE AS RECOMMENDED IN THE CRSI MANUAL OF STANDARD PRACTICE.

D. COORDINATE PLACEMENT OF CAST-IN-PLACE EMBEDDED ITEMS AND ANCHOR BOLTS. SET ANCHOR BOLTS WITH A TEMPLATE. SECURELY ATTACH EMBEDDED ITEMS TO FORMWORK OR REINFORCING.

E. REINFORCING STEEL TO BE EPOXY-COATED SHALL CONFORM TO ASTM A615, GRADE 60 AND SHALL BE EPOXY-COATED IN ACCORDANCE WITH ASTM A775, "STANDARD SPECIFICATION FOR EPOXY-COATED STEEL REINFORCING BARS".

F. REINFORCING STEEL TO BE EPOXY-COATED SHALL BE FABRICATED, COATED, HANDLED, PLACED, AND REPAIRED IN CONFORMANCE WITH THE REQUIREMENTS OF AASHTO M284. EACH SHIPMENT OF EPOXY-COATED REINFORCING SHALL BE ACCOMPANIED WITH A CERTIFICATE OF COMPLIANCE SIGNED BY THE COATING APPLICATOR CERTIFYING THAT THE REINFORCING STEEL CONFORMS TO THE REQUIREMENTS OF AASHTO M284.

G. MAINTAIN THE FOLLOWING CONCRETE COVERAGE FOR REINFORCING STEEL UNLESS NOTED OTHERWISE:

CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH:	3"
CONCRETE EXPOSED TO EARTH OR WEATHER:	
NUMBER 6 OR LARGER	2"
NUMBER 5 AND SMALLER	1½"
SLABS-ON-GRADE:	1½"
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:	¾"
BEAMS, COLUMNS; PRIMARY REINFORCEMENT, TIES, STIRRUPS, SPIRALS:	1½"

LUMOS & ASSOCIATES
950 SANDHILL ROAD, SUITE 100
RENO, NV 89521
TEL: 775.827.6111
WWW.LUMOSINC.COM
INFO@LUMOSINC.COM

© LUMOS & ASSOCIATES, INC.: THIS DRAWING IS THE PROPERTY OF LUMOS & ASSOCIATES, INC.. USE OR REPRODUCTION OF THIS DRAWING, IN WHOLE OR IN PART, WITHOUT THE WRITTEN PERMISSION OF LUMOS & ASSOCIATES, INC. IS STRICTLY PROHIBITED. THIS DRAWING IS NOT TO BE USED FOR ANY PROJECT OTHER THAN THE PROJECT FOR WHICH IT WAS PREPARED.

PROFESSIONAL ENGINEER — NEVADA
DUSTIN N. HAYES
Exp. 6-30-27
STRUCTURAL
No. 035815

DAVID & CATHY SCHMENK

2305 OLD RANCH ROAD
RETAINING WALLS
STRUCTURAL NOTES

WASHOE COUNTY — NEVADA

REV	DATE	DESCRIPTION	BY

PERMIT SET
NOT FOR CONSTRUCTION
OCTOBER 8, 2026

BAR IS 1 INCH ON ORIGINAL DRAWING
0 1
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

S0.1

DRAWN BY:	KLQ
DESIGNED BY:	PFG
CHECKED BY:	EJH
JOB NO.:	12428.000
SHEETS:	

L:\Active\12428.000 - 2305 Old Ranch Road\3-Design\Structural\Current Drawings\ACAD Drawings\12428.000 2305 Old Ranch Rd.dwg,S0.1, 10/08/2026 02:07 pm klopes

SOIL NAIL GENERAL NOTES

1. ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THESE GENERAL NOTES, THE SPECIAL PROVISIONS, AND THE PIMA ASSOCIATION OF GOVERNMENTS (PAG) STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS (PAG. 2014).
2. THE SOIL NAIL WALL STRUCTURES HAVE BEEN DESIGNED IN ACCORDANCE WITH THE SLD (SERVICE LOAD DESIGN) PROCEDURES CONTAINED IN THE FHWA (2015) "SOIL NAIL WALLS REFERENCE MANUAL", PUBLICATION NO. FHWA NHI-14-007
3. ALL NAIL LENGTHS SHALL BE IN ACCORDANCE WITH DETAIL 1/S0.4.
4. NO GENERAL EXCAVATION OPEN CUTS STEEPER THAN IH:IV SHALL BE MADE WITHIN 15 FT. IN FRONT OF THE SOIL NAIL WALL WITHOUT APPROVAL OF THE ENGINEER. EXCAVATIONS WITHIN 15 FT. IN FRONT OF THE SOIL NAIL WALL SHALL BE LIMITED TO A MAXIMUM HEIGHT OF 6 FT. AND SHALL HAVE A MINIMUM OF 24 INCHES OF HORIZONTAL BENCH AT TOP OF THE IH:IV CUT SLOPE.
5. FOR WALL REINFORCING REQUIREMENTS, SEE SHEET S0.2.
6. FOR NAIL DECLINATION AND SPLAY REQUIREMENTS, SEE 1/S0.4.
7. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES IN THE VICINITY OF THE SOIL NAIL WALL PRIOR TO BEGINNING CONSTRUCTION.
8. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND MAINTAINING STABLE SLOPES ABOVE AND BELOW SOIL NAIL WALL.
9. PROOF AND VERIFICATION TESTS SHALL BE CONDUCTED IN ACCORDANCE WITH THE SPECIAL PROVISIONS PROVIDED ON NAIL TESTING NOTES. THE DESIGN NAIL ADHESION (50% OF ULTIMATE NAIL ADHESION) FOR TESTING PURPOSES WILL BE AS SHOWN UNDER DESIGN REQUIREMENTS ON THIS SHEET.
10. INDIVIDUAL NAIL ELEVATIONS MAY BE LINEARLY INTERPOLATED BETWEEN CONTROL NAILS. LOCATIONS OF NAILS ON A STRAIGHT LINE BETWEEN TWO CONTROL NAILS IN THE SAME DIRECTION OF INCREASING STATION ALONG THE WALL LENGTH MAY BE INTERPOLATED BETWEEN CONTROL NAILS.
11. COBBLES AND BOULDERS SHALL BE ANTICIPATED IN ALL EXCAVATIONS FOR CUT WALLS, E.G. CONSTRUCTION OF SOIL NAIL WALLS, SHORING, ETC.
12. THE DESIGN OF SHORE NAIL SHORING WALL B BASED ON GEOTECHNICAL PARAMETERS FROM GEOTECHNICAL REPORT.

MATERIALS

1. SOIL NAIL GROUT SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OG 3,000 PSI, AND A MINIMUM 3-DAY COMPRESSIVE STRENGTH OF 2,000 PSI. SOIL NAIL GROUT SHALL BE NEAT-CEMENT GROUT WITH MAX WATER:CEMENT RATIO OF 0.45. TYPE I/II PORTLAND CEMENT CONFORMING TO ASTM C150/AASHTO M85 SHALL BE USED FOR SOIL GROUT. SOIL NAIL CONTRACTOR SHALL SUBMIT MIX DESIGNS TO THE ENGINEER FOR REVIEW AND APPROVAL AT LEAST 14 CALENDAR DAYS PRIOR TO CONSTRUCTION. DURING CONSTRUCTION, THE CONTRACTOR SHALL COOPERATE WITH THE SPECIAL INSPECTOR FOR GROUT TESTING IN ACCORDANCE WITH AASHTO T101/ASTM C109 AT FREQUENCY OF NO LESS THAN ONE TEST EVERY 10 CUBIC YARDS OF GROUT PLACED, OR ONE TEST PER SHIFT, OR ONE TEST PER 5 NAILS, WICHEVER IS MORE FREQUENT. TEST SAMPLES SHALL BE PREPARED FOR 3-DAY, 7-DAY, 14-DAY AND 28-DAY TESTS.
2. GROUT EQUIPMENT SHALL PRODUCE A UNIFORM MIX FREE OF LUMPS AND BE CAPABLE OF CONTINUOUSLY AGITATING THE MIX. A POSITIVE DISPLACEMENT GROUT PUMP EQUIPPED WITH A PRESSURE GAUGE THAT CAN MEASURE AT LEAST TWICE BUT NO MORE THAN THREE TIMES THE INTENDED GROUT PRESSURE SHALL BE USED FOR NAIL INSTALLATION. THE EQUIPMENT SHALL BE OF A SIZE ADEQUATE TO ENABLE THE ENTIRE NAIL TO BE GROUTED IN ONE CONTINUOUS OPERATION. GROUT SHALL BE PLACED WITHIN 60 MINUTES AFTER MIXING OF WITHIN THE TIME RECOMMENDED BY THE ADMIXTURE MANUFACTURER, IF ADMIXTURES ARE USED. GROUT NOT PLACED IN THE ALLOWABLE TIME LIMIT WILL BE REJEDTED. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING THE GROUT MIX UNIFORM AND WORKABLE IN HOT WEATHER WITHOUT DILUTING THE GROUT.
3. BAR COUPLERS SHALL DEVELOP THE FULL ULTIMATE TENSILE STRENGTH OF THE NAIL BAR AS CERTIFIED BY MANUFACTURER.
4. USE GRADE 60 (MIN.) ASTM A615 STEEL FOR HOLLOW CORE BARS AND COUPLERS WITH "PURPLE MARINE" EPOXY COATING. EPOXY COATING SHALL BE FUSION BONDED PER ASTM A934 WITH A MINUMUM 0.012-INCH THICKNESS.
5. NAIL TYPE, SHOWN IN SOIL NAIL LAYOUT SHEETS (S1.0 TO S2.3), IS BASED ON HOLLOW BAR DESIGNATIONS BY DYWIDAG-SYSTEMS INTERNATIONAL (DSI). EQUIVALENT HOLLOW BARS BY OTHER MANUFACTURERS MEETING THE MINIMUM YIELD STRENGTH AND CROSS-SECTIONAL AREA OF LISTED DSI BAR AND ASTM A615 STEEL REQUIREMENTS MAY BE USED, SUBJECT TO APPROBAL BY ENGINEER.

MATERIALS HANDLING AND STORAGE

1. CEMENT SHALL BE STORED TO PREVENT MOISTURE DEGRADATION AND PARTIAL HYDRATION. CAKED OR LUMPY CEMENT SHALL NOT BE USED.
2. STEEL REINFORCEMENT SHALL BE STORED OFF THE GROUND. DAMAGE TO NAIL STEEL OR HEAVY CORROSION OR PITTING SHALL BE CAUSE OF REJECTION.
3. EPOXY COATED BARS SHALL BE HANDLED AND STORED TO PREVENT DAMAGE. THE CONTRACTOR SHALL REPAIR DAMAGE EPOXY COATING IN ACCORDANCE WITH ASTM 1775 AND THE COATER'S RECOOMENDATIONS USING AN EPOXY FIELD REPAIR KIT APPROVED BY THE EPOXY MANUFACTURER.

INSPECTION AND MONITORING

1. SERVICES FOR QUALITY CONTROL OF SOIL NAIL INSTALLATION AND NAIL TESTING SHALL BE PROVIDED BY THE CONTRACTOR. THE DRILLING CONTRACTOR SHALL COOPERATE WITH THE SPECIAL INSPECTOR, AND SHALL FURNISH EQUIPMENT, TOOLS, AND LABOR ON SITE AS REQUIRED TO FACILITATE THE TOWN'S QUALITY ASSURANCE PROCESSES. WORK INSPECTION AND OCONSTRUCTION SURVEYING WILL BE PROVIDED BY THE TOWN.
2. DRILLING CONTRACTOR SHALL TAKE PHOTOGRAPHS TO DOCUMENT CONDITIONS OF ADJACENT EXISTING STRUCTURES, WALLS, STREET PAVEMENTS, UTILITIES, ETC. PRIOR TO CONSTRUCTION.
3. THE SPECIAL INSPECTOR WILL SURVEY (X, Y, Z) EVERY NAIL IN THE TOP ROW OF NAILS TO MONITOR HORIZONTAL AND VERTICAL GROUND MOVEMENTS. THE SURVEY WILL BE DONE ON A DAILY BASIS UNTIL WALL CONSTRUCTION IS COMPLETE, AND THE DAILY RESULTS DATA AND PLOTS SHOWING DEFORMATION VS TIME COMPARING THE DAILY RESULTS DATA TO THE BASE READING (PROVIDED IN BOTH SPREADSHEET AND PDF FORMATS) WILL BE AVAILABLE WITHIN 24 HOUR OF THE READINGS. END OF WALL CONSTRUCTION IS DEFINED AS END OF WALL CONSTRUCTION INCLUDING FINAL WALL FACING AND DRAINAGE SWALE. EXTENSION ON TOP ROW OF NAILS SHALL BE PROVIDED BY THE CONTRACTOR TO PERMIT CONTINUED MONITORING AFTER PLACEMENT OF FINAL FACING.
4. SHOULD EXCESSIVE (GREATER THAN 1/8-INCH) OR SUDDEN INCREASE OF GROUND SETTLEMENT OR SOIL NAIL WALL MOVEMENT BE DETECTED, THE SOIL NAIL WALL CONTRACTOR SHALL CEASE ALL WORK AND NOTIFY THE ENGINEER AND CONTRACTOR IMMEDIATELY.

RECORDS

1. PREPARE AND SUBMIT TO THE ENGINEER FULL-LENGTH INSTALLATION RECORDS FOR EACH NAIL INSTALLED. SUBMIT WITHIN 24 HOURS OF INSTALLATION THE FOLLOWING: NAIL HEAD ELEVATION, HOLE DIAMETER, UNUSUAL DRILLING / SOIL STRATIGRAPHY, GROUNDWATER, BAR SIZE, GROUT QUANTITIES / PRESSURE, RESULTS OF PROOF TESTS, OTHER USEFUL DATA.

NAIL TESTING NOTES

VERIFICATION TESTING:

1. SUBMIT DETAILED RECORDS OF METHODS PROPOSED TO BE FOLLOWED FOR TESTING AS SPECIFIED BELOW AT LEAST 14 CALENDAR DAYS PRIOR TO BEGINNING TESTS, INCLUDE DRAWINGS AND DETAILS TO CLEARLY DESCRIBE METHODS. SUBMIT CALIBRATION REPORTS AND DATA FOR EACH TEST JACK, PRESSURE GAUGE, MASTER PRESSURE GAUGE, AND LOAD CELL TO BE USED. CALIBRATION REPORTS SHALL NOT BE OLDER THAN 60 DAYS AND SHALL BE IN US UNITS. THE CALIBRATION REPORTS SHALL ALSO PROVIDE CALIBRATION DATA FOR ALL RANGES OF THE TESTING LOADING. THE PRESSURE GAUGE READOUT SHALL HAVE INCREMENTS OF 50 PSF OR LESS.
2. TWO VERIFICATIONS TEST SHALL BE PERFORMED AT LOCATIONS IDENTIFIED BY THE ENGINEER IN EACH OF THE WALLS FOR A TOTAL OF SIX (6) VERIFICATION TESTS. EACH VERIFICATION TEST WALL SHALL BE INCCREMENTALLY LOADED TO TWICE THE DESIGN TEST LOAD (DTL) FOLLOWED BY UNLOADING IN ACCORDANCE WITH THE FOLLOWING SCHDULE. THE SOIL NAIL MOVEMENTS AT EACH LOAD AND UNLOAD INCREMENT SHALL BE RECORDED. THE DTL SHALL BE THE BONDED LENGTH LX TIMES THE DESIGN ADHESION AX SHOWN ON SHEET SNI, LX FOR VERIFICATION TESTS IS AS DEFINED ON THIS SHEET. THE VERIFICATION TESTS SHALL BE PERFORMED AT LOCATIONS SELECTED BY THE ENGINEER. DTL = 38K

LOADING		UNLOADING	
LOAD	HOLD TIME	LOAD	HOLD TIME
AL (0.05 DTL MAX)	1 MINUTE	1.75 DTL	UNTIL STABLE
0.25 DTL	10 MINUTE	1.50 DTL	UNTIL STABLE
0.50 DTL	10 MINUTE	1.25 DTL	UNTIL STABLE
0.75 DTL	10 MINUTE	1.00 DTL	UNTIL STABLE
1.00 DTL	10 MINUTE	0.75 DTL	UNTIL STABLE
1.25 DTL	10 MINUTE	0.50 DTL	UNTIL STABLE
1.50 DTL	60 MINUTE	0.25 DTL	UNTIL STABLE
1.75 DTL	10 MINUTE	AL	UNTIL STABLE
2.00 DTL (MAXIMUM TEST LOAD)	10 MINUTE		

3. THE ALIGMENT LOAD (AL) SHOULD BE THE MINIMUM LOAD REQUIRED TO ALIGN THE TESTING APPARATUS AND SHOULD NOT EXCEED 5 PERCENT OF THE DESIGN TEST LOAD (DTL). DIAL GAUGES SHOULD BE SET AT "ZERO" AFTER THE ALIGNMENT LOAD HAS BEEN APPLIED.
4. EACH LOAD INCREMENT SHALL BE HELD FOR AT LEAST 10 MINUTES. THE VERIFICATION TEST NAIL SHALL BE MONITORED FOR CREEP AT THE 1.50 DTL INCREMENT. NAIL MOVEMENTS DURING THE CREEP PORTION OF THE TEST SHALL BE MEASURED TO 0.001-INCH AND RECORDED AT 1,2,3,4,5,6,10,20,30,40,50 AND 60 MINUTES. THE LOAD DURING THE CREEP TEST SHALL BE MAINTAINED WITHIN 2 PERCENT OF THE INTENDED LOAD BY USE OF THE LOAD CELL. THE NAIL SHALL BE UNLOADED IN INCREMENTS OF 25 PERCENT OF THE DTL WITH MOVEMENTS RECORDED AT EACH UNLOAD INCREMENT. EACH UNLOAD INCREMENT SHALL BE HELD ONLY FOR A SUFFICIENT TIME TO ALLOW STABILIZATION OF THE MOVEMENT READING.
5. THE VERIFICATION TEST NAIL SHALL BE DSI R38N HOLLOW BAR SOIL NAIL OR EQUIVALENT WITH THE SAME DIAMETER / HYPE OF SACRIFICIAL DRILL BIT THAT WILL BE USED FOR PRODUCTION NAILS.

PROOF TESTING:

1. FIVE PERCENT OF THE PRODUCTION NAILS IN EACH ROW SHALL BE PROOF TESTED, WITH A MINIMUM OF ONE PROOF TEST PER LEVEL (ROW) OF NAILS. TESTING SHALL BE COMPLETE WITHIN A LIFT PRIOR TO ADVANCING THE EXCAVATION TO THE NEXT LIFT. THE TEST SHALL BE PERFORMED BY INCREMENTALLY LOADING THE NAIL TO 150 PERCENT OF THE DESIGN TEST LOAD (DTL). THE DESIGN TEST LOAD SHALL BE DETEMINED AS FOR VERIFICATION TEST NAILS. THE BONDED LENGTH LB FOR PROOF TESTS IS AS DEFINED ON THIS SHEET. THE NAIL MOVEMENT AT EACH LOAD SHALL BE MEASURED AND RECORDED IN THE SAME MANNER AS FOR VERIFICATION TESTS. THE LOAD SHALL BE MONITORED BY A PRESSURE GAUGE WITH A SENSITIVITY AND RANGE MEETING THE REQUIREMENTS OF PRESSURE GAUGES USED FOR VERIFICATION TEST NAILS. AT LOAD INCREMENTS OTHER THAN MAXIMUM TEST LOAD, THE SHALL BE HELD LONG ENOUGH TO OBTAIN A STABLE READING, INCREMENTAL LOADING FOR PROOF TEST SHALL BE IN ACCORDANCE WITH THE FOLLOWING SCHEDULE.

LOAD	HOLD TIME	
AL (0.05 DTL MAX)	UNTIL STABLE	
0.25 DTL	UNTIL STABLE	AL= NAIL ALIGNMENT LOAD
0.50 DTL	UNTIL STABLE	DTL=DESIGN TEST LOAD
0.75 DTL	UNTIL STABLE	
1.00 DTL	UNTIL STABLE	
1.25 DTL	UNTIL STABLE	
1.50 DTL (MAXIMUM TEST LOAD)	10 TO 60 MINUTES (AS REQUIRED PER ACCEPTANCE CRITERIA)	

2. THE PROOF TEST NAIL SHALL BE MONITORED FOR CREEP AT THE MAXIMUM TEST LOAD, NAIL MOVEMENTS DURING THE CREEP PORTION OF THE TEST SHALL BE MEASURED TO 0.001-INCH AND RECORDED AT 1,2,3,4,5,6,10 MINUTES, AT A MINIMUM. IF THE TEST ACCEPTANCE CRITERION FOR THIS PORTION OF THE TEST IS NOT MET, THE TEST SHALL BE CONTINUED WITH MEASUREMENTS TAKEN AND RECORDED AT 20,30,40,50, AND 60 MINUTES. THE LOAD DURING THE CREEP TEST SHALL BE MAINTAINED WITHIN 2 PERCENT OF THE INTENDED LOAD BY USE OF THE LOAD CELL. THE NAIL SHALL BE UNLOADED IN INCREMENTS OF 25 PERCENT OF THE DTL WITH MOVEMENTS RECORDED AT EACH UNLOAD INCREMENT. EACH UNLOAD INCREMENT SHALL BE HELD ONLY FOR A SUFFICIENT TIME TO ALLOW STABILIZATION OF THE MOVEMENT READING.

TEST ACCEPTANCE CRITERIA:

THE FOLLOWING TEST ACCEPTANCE CRITERIA SHALL BE USED. NAILS FALLING THESE CRITERIA SHALL NOT BE ACCEPTED AND REPLACEMENT NAILS SHALL BE PROPOSED AND INSTALLED AFTFER APPROVAL BY THE ENGINEER.

VERIFICATION / ULTIMATE TESTS

1. TOTAL MOVEMENT AT THE MAXIMUM TEST LOAD MUST EXCEED 80 PERCENT OF THE THEORETICAL ELASTIC MOVEMENT OF THE UNBONDED LENGTH.
2. CREEP MOVEMENT BETWEEN THE 6 AND 60 MINUTE READINGS AT A SPECIFIED TEST LOAD MUST BE LESS THAN 0.08 INCH.
3. PULOUT FAILURE MUST NOT OCCUR AT MAXIMUM TEST LOAD.

PROOF TESTS

1. TOTAL MOVEMENT AT THE MAXIMUM TEST LOAD MUST EXCEED 80 PERCENT OF THE THEORETICAL ELASTIC MOVEMENT OF THE UNBONDED LENGTH.
2. CREEP MOVEMENT BETWEEN THE 1 AND 10 MINUTE READINGS AT MAXIMUM TEST LOAD MUST BE LESS THAN 0.04 INCH, OR
3. CREEP MOVEMENT BETWEEN THE 6 AND 60 MINUTE READINGS AT MAXIMUM TEST LOAD MUST BE LESS THAN 0.08 INCH.

DETERMINATION OF BONDED LENGTH, LB

THE FOLLOWING EQUATION SHALL BE USED TO DETERMINE THE VERIFICATION OR PROOF TEST NAIL MAXIMUM BONDED LENGTH (LB) TO BE USED TO AVOID STRUCTURALLY OVERSTRESSING THE VERIFICATION TEST NAIL BAR.

$L_b = CF_yA_s/[(FS)(A_d)]$ OR 10 FT., WHICHEVER IS GREATER

WHERE:

C 0.9 FOR GRADE 60 BARS (YIELD STRESS BASIS), 0.8 (ULTIMATE STRESS BASIS)
F_y BAR YOELD, ULTIMATE STRESS (KSF)
A_s BAR STEEL CROSS SECTIONAL AREA $(FT)^2$
Fs PULLOUT RESISTANCE SAFETY FACTOR: 20 FOR VERIFICATION TEST AND 1.5 FOR PROOF TEST
A_d DESIGN NAIL ADHESION (KIPS/FT, KILO-POUNDS PER LINEAL FOOT OF GROUTED NAIL LENGTH SPECIFIED HERE IN OR ON THE PROJECT PLANS.

STATEMENT OF SPECIAL INSPECTIONS (SSI)

A. SPECIAL INSPECTIONS AND STRUCTURAL TESTING SHALL BE PROVIDED BY AN INDEPENDENT AGENCY EMPLOYED BY THE OWNER FOR THE ITEMS IDENTIFIED IN THIS SECTION AND IN OTHER AREAS OF THE APPROVED CONSTRUCTION PLANS AND SPECIFICATIONS, UNLESS WAIVED BY THE BUILDING OFFICIAL (SEE IBC CHAPTER 17).

B. THE NAMES AND CREDENTIALS OF THE SPECIAL INSPECTORS TO BE USED SHALL BE SUBMITTED TO THE BUILDING OFFICIAL FOR APPROVAL.

C. DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR:

1. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK ASSIGNED FOR CONFORMANCE WITH THE APPROVED DESIGN DRAWINGS AND SPECIFICATIONS, AND THE 2024 IBC. THE INSPECTOR MAY NOT ALTER, MODIFY, ENLARGE OR WAIVE ANY OF THE REQUIREMENTS OF THE DOCUMENTS.
2. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS AND ASSOCIATED TEST REPORTS TO THE OWNER, THE BUILDING OFFICIAL, THE ENGINEER OF RECORD AND THE CONTRACTOR. ALL ITEMS NOT IN COMPLIANCE SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, AND IF UNCORRECTED, TO THE EOR AND THE BUILDING OFFICIAL.
3. ONCE CORRECTIONS HAVE BEEN MADE BY THE CONTRACTOR, THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS, TO THE BEST OF THE INSPECTOR'S KNOWLEDGE, IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND THE APPLICABLE WORKMANSHIP PROVISION OF THE 2024 IBC.

D. DUTIES AND RESPONSIBILITIES OF THE CONTRACTOR:

1. THE CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE OWNER AND THE BUILDING OFFICIAL PRIOR TO THE COMMENCEMENT OF WORK. IN ACCORDANCE WITH IBC 1704.4, THE STATEMENT OF RESPONSIBILITY SHALL CONTAIN ACKNOWLEDGEMENT OF THE SPECIAL INSPECTION REQUIREMENTS CONTAINED WITHIN THIS "STATEMENT OF SPECIAL INSPECTIONS".
2. THE CONTRACTOR SHALL NOTIFY THE RESPONSIBLE SPECIAL INSPECTOR THAT WORK IS READY FOR INSPECTION AT LEAST ONE WORKING DAY (24 HOURS MINIMUM) BEFORE SUCH INSPECTION IS REQUIRED.
3. ALL WORK REQUIRING SPECIAL INSPECTION SHALL REMAIN ACCESSIBLE AND EXPOSED UNTIL IT HAS BEEN OBSERVED BY THE SPECIAL INSPECTOR.
4. THE CONTRACTOR SHALL MAINTAIN COPIES OF ALL APPLICABLE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND ICC REPORTS FOR PROPRIETARY MATERIALS AT THE JOBSITE. THIS INFORMATION SHALL BE MADE AVAILABLE TO THE SPECIAL INSPECTOR UPON REQUEST.

E. SEE THE "SPECIAL INSPECTION SCHEDULE" FOR THE TYPES, EXTENTS AND FREQUENCY OF SPECIFIC ITEMS REQUIRING SPECIAL INSPECTIONS AND STRUCTURAL TESTS AS PART OF THIS PROJECT.

SPECIAL INSPECTION SCHEDULE

AREAS REQUIRING SPECIAL INSPECTION	FREQUENCY		COMMENTS
	Continuous	Periodic	
FABRICATORS (IBC1704.2.5)			
		◆	If fabricator is approved, on-site inspection is not required but a certificate of completion must be provided to the B.O. (IBC 1704.2.5.1)
SOILS (IBC1705.6)			
Verify adequate materials below footings		◆	Prior to placement of concrete
Excavation extend to proper depth and materials		◆	Prior to placement of compacted fill or concrete
Classification and testing of fill materials		◆	Check classification and gradations at each lift, but not less than once for each 10,000ft² of surface area.
Verify proper fill materials, lift thicknesses and in-place densities.	◆		
Verify properly prepared site and subgrade		◆	Prior to placement of concrete
CONCRETE CONSTRUCTION (IBC1705.3)			
Reinforcing steel placement		◆	Verify size, clearances, splices and proper ties.
Embedded bolts or plates	◆		
Verify required mix designs		◆	Verify mix design meets strength and exposure requirements listed on approved plans.
Concrete placement/sampling	◆		Includes sampling for air, slump, strength and temperature techniques
Inspect formwork		◆	Verify shape, location and member dimensions
Post-Installed anchors	◆		In accordance with approved ICC-ES Report. Periodic inspections allowed if stated in ES Report.
SOIL NAIL WALLS			
Verify grade of soil nails		◆	
Verify nail penetration		◆	
Verify nail placement		◆	
Verify nail connector plate placement		◆	
Provide verification testing		◆	Refer to nail testing

LUMOS & ASSOCIATES
950 SANDHILL ROAD, SUITE 100
RENO, NV 89521
TEL: 775.827.6111
WWW.LUMOSINC.COM
INFO@LUMOSINC.COM

© LUMOS & ASSOCIATES, INC.: THIS DRAWING IS THE PROPERTY OF LUMOS & ASSOCIATES, INC.. USE OR REPRODUCTION OF THIS DRAWING, IN WHOLE OR IN PART, WITHOUT THE WRITTEN PERMISSION OF LUMOS & ASSOCIATES, INC. IS STRICTLY PROHIBITED. THIS DRAWING IS NOT TO BE USED FOR ANY PROJECT OTHER THAN THE PROJECT FOR WHICH IT WAS PREPARED.

PROFESSIONAL ENGINEER
DUSTIN N. HAYES
Exp. 6-30-27
STRUCTURAL

DAVID & CATHY SCHMENK
2305 OLD RANCH ROAD
RETAINING WALLS
SPECIAL INSPECTION REQUIREMENTS
WASHOE COUNTY NEVADA

REV	DATE	DESCRIPTION	BY

PERMIT SET
NOT FOR CONSTRUCTION
OCTOBER 8, 2026

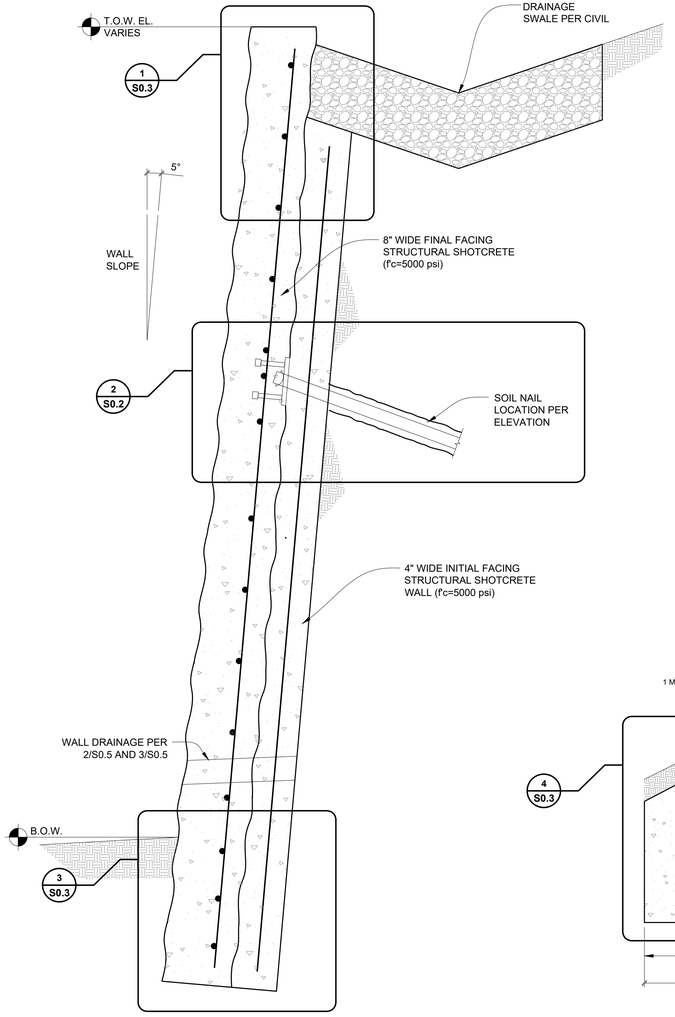
BAR IS 1 INCH ON ORIGINAL DRAWING
0 1
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

S0.1.1

DRAWN BY: KLQ
DESIGNED BY: PFG
CHECKED BY: EJH
JOB NO.: 12428.000

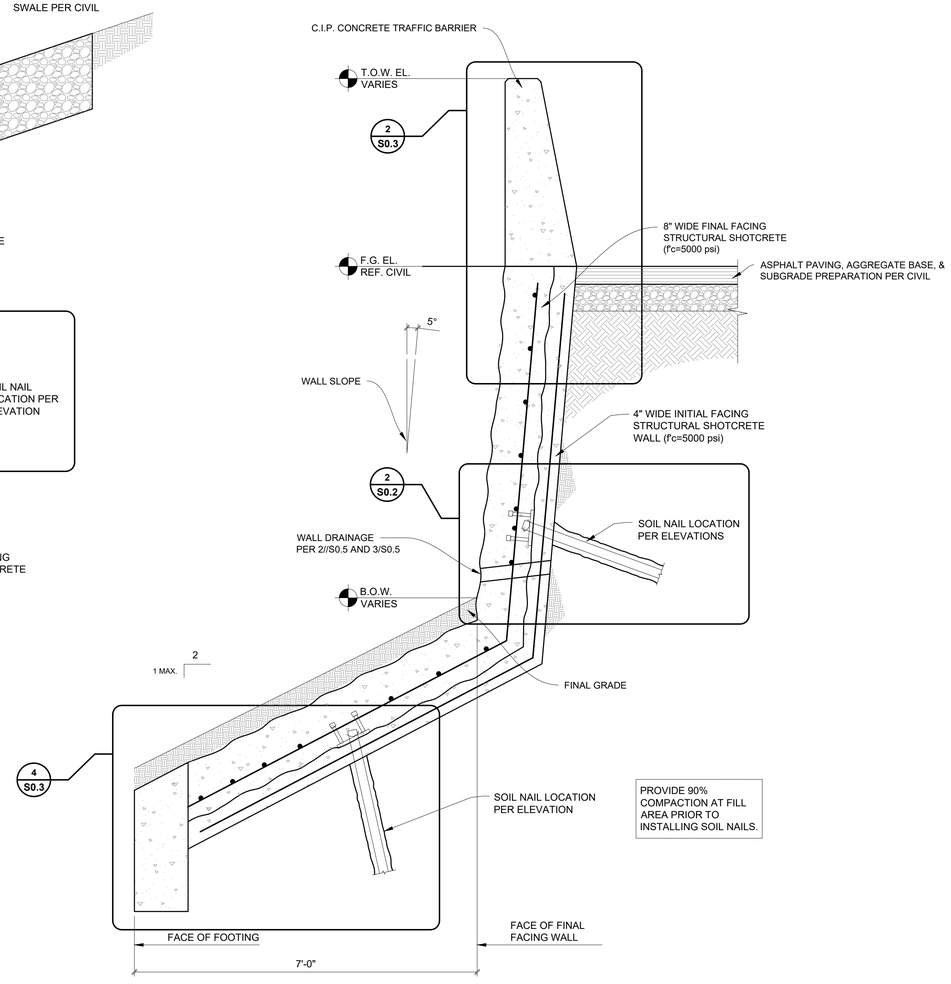
SHEETS:

L:\AllProj\12428.000 - 2305 Old Ranch Road\3-Design\Structural\Current Drawings\ACAD Drawings\12428.000 2305 Old Ranch Rd.dwg,S0.1.1, 10/08/2026 02:07 pm klopes



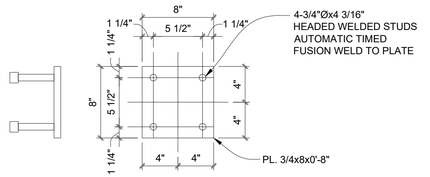
1 S0.2 **SOIL NAIL WALL SECTION - CUT AREA**

SCALE: 1"=1'-0"

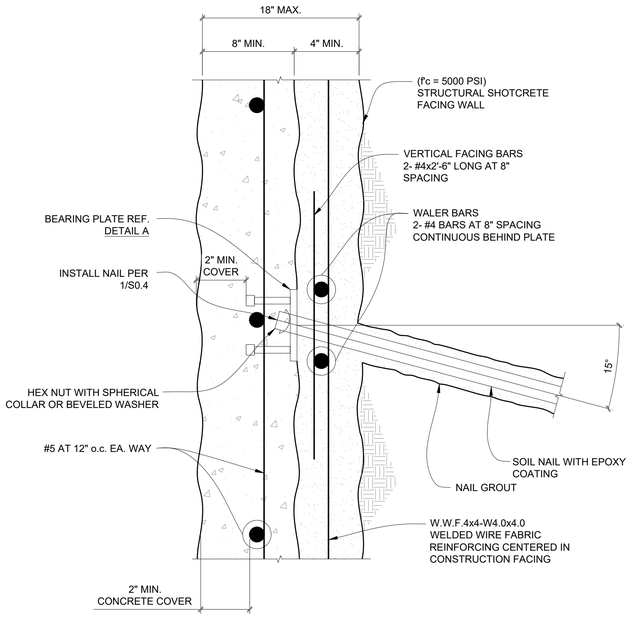


2 S0.2 **SOIL NAIL WALL SECTION - FILL AREA**

SCALE: 3/4"=1'-0"



DETAIL A.
SOIL NAIL BEARING PLATE



SOIL NAIL WALLS - MATERIALS OF CONSTRUCTION:

1. ALL SHOTCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 2,000 PSI, TYPE I/II PORTLAND CEMENT CONFORMING TO ASTM C150/AASHTO M85 SHALL BE USED FOR SHOTCRETE.
2. SUBMIT MIX DESIGNS BY THE ENGINEER FOR REVIEW AND APPROVAL AT LEAST 14 CALENDAR DAYS PRIOR TO CONSTRUCTION.
3. BEARING PLATE: ASTM A36
4. HEADED ANCHOR STUDS: ASTM A108, GRADE 1015 OR 1020. ATTACHMENT TO PLATE BY ELECTRIC-ARC STUD WELDING PROCESS, FULL FUSION.
5. REINFORCING STEEL: ASTM A615, GRADE 60.
6. WELDED WIRE REINFORCING: ASTM A185. LAP MESH 6" OR ONE FULL MESH +2 INCHES, WICH EVER IS GREATER.

3 S0.2 **TYP. SOIL NAIL WALL CONSTRUCTION**

SCALE: 1 1/2"=1'-0"

LUMOS & ASSOCIATES
950 SANDHILL ROAD, SUITE 100
RENO, NV 89521
TEL: 775.827.6111
WWW.LUMOSINC.COM
INFO@LUMOSINC.COM

© LUMOS & ASSOCIATES, INC.: THIS DRAWING IS THE PROPERTY OF LUMOS & ASSOCIATES, INC.. USE OR REPRODUCTION OF THIS DRAWING, IN WHOLE OR IN PART, WITHOUT THE WRITTEN PERMISSION OF LUMOS & ASSOCIATES, INC. IS STRICTLY PROHIBITED. THIS DRAWING IS NOT TO BE USED FOR ANY PROJECT OTHER THAN THE PROJECT FOR WHICH IT WAS PREPARED.

PROFESSIONAL ENGINEER
DUSTIN N. HAYES
Exp. 6-30-27
STRUCTURAL
No. 035815
STATE OF NEVADA

DAVID & CATHY SCHMENK

2305 OLD RANCH ROAD
RETAINING WALLS
TYPICAL DETAILS

WASHOE COUNTY, NEVADA

REV	DATE	DESCRIPTION	BY

PERMIT SET
NOT FOR CONSTRUCTION
OCTOBER 8, 2026

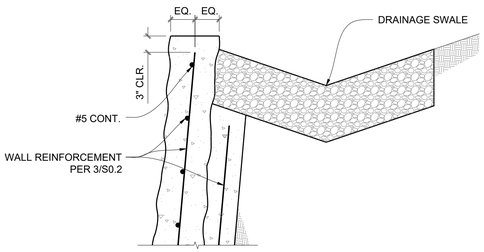
BAR IS 1 INCH ON ORIGINAL DRAWING
0 1
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

S0.2

DRAWN BY: KLQ
DESIGNED BY: PFG
CHECKED BY: EJH
JOB NO.: 12428.000

SHEETS:

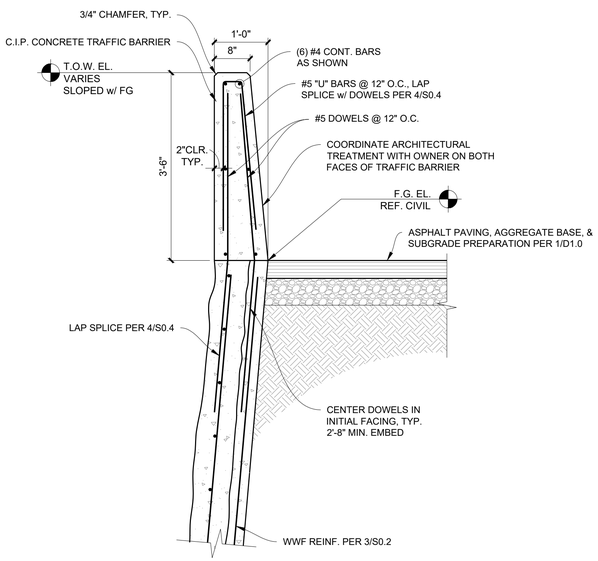
L:\APro\12428.000 - 2305 Old Ranch Road\3-Design\Structural\Current Drawings\ACAD Drawings\12428.000 2305 Old Ranch Rd.dwg,S0.2, 10/08/2026 02:07 pm klopes



SOIL NAIL WALL @ SWALE DRAINAGE - FILL AREA

1 / S0.3

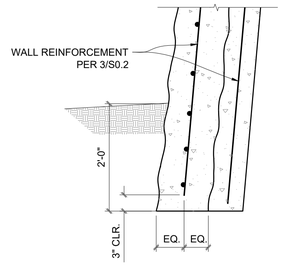
SCALE: 3/4"=1'-0"



TRAFFIC BARRIER AT TOP OF SOIL NAIL WALL - FILL AREA

2 / S0.3

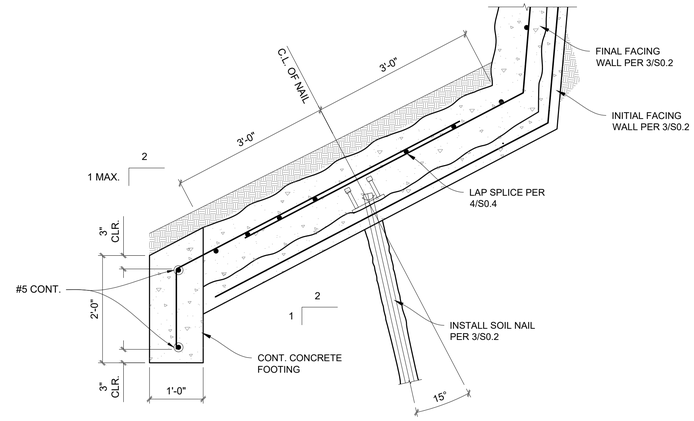
SCALE: 3/4"=1'-0"



DETAIL @ WALL TOE - CUT AREA

3 / S0.3

SCALE: 3/4"=1'-0"



DETAIL @ WALL TOE - FILL AREA

4 / S0.3

SCALE: 3/4"=1'-0"

LUMOS & ASSOCIATES

950 SANDHILL ROAD, SUITE 100
RENO, NV 89521
TEL. 775.827.6111

WWW.LUMOSINC.COM
INFO@LUMOSINC.COM

© LUMOS & ASSOCIATES, INC.: THIS DRAWING IS THE PROPERTY OF LUMOS & ASSOCIATES, INC.. USE OR REPRODUCTION OF THIS DRAWING, IN WHOLE OR IN PART, WITHOUT THE WRITTEN PERMISSION OF LUMOS & ASSOCIATES, INC. IS STRICTLY PROHIBITED. THIS DRAWING IS NOT TO BE USED FOR ANY PROJECT OTHER THAN THE PROJECT FOR WHICH IT WAS PREPARED.



DAVID & CATHY SCHMENK

2305 OLD RANCH ROAD
RETAINING WALLS
TYPICAL DETAILS

WASHOE COUNTY, NEVADA

REV	DATE	DESCRIPTION	BY

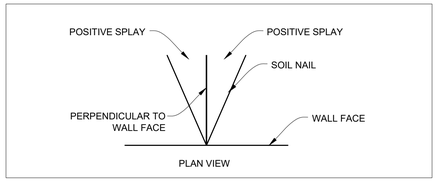
PERMIT SET
NOT FOR CONSTRUCTION
OCTOBER 8, 2026

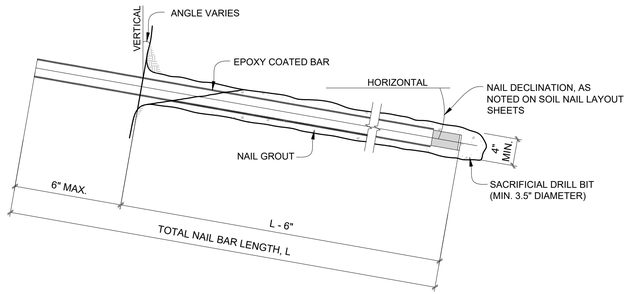
BAR IS 1 INCH ON ORIGINAL DRAWING
0 1
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

S0.3

DRAWN BY:	KLQ
DESIGNED BY:	PFG
CHECKED BY:	EJH
JOB NO.:	12428.000
SHEETS:	

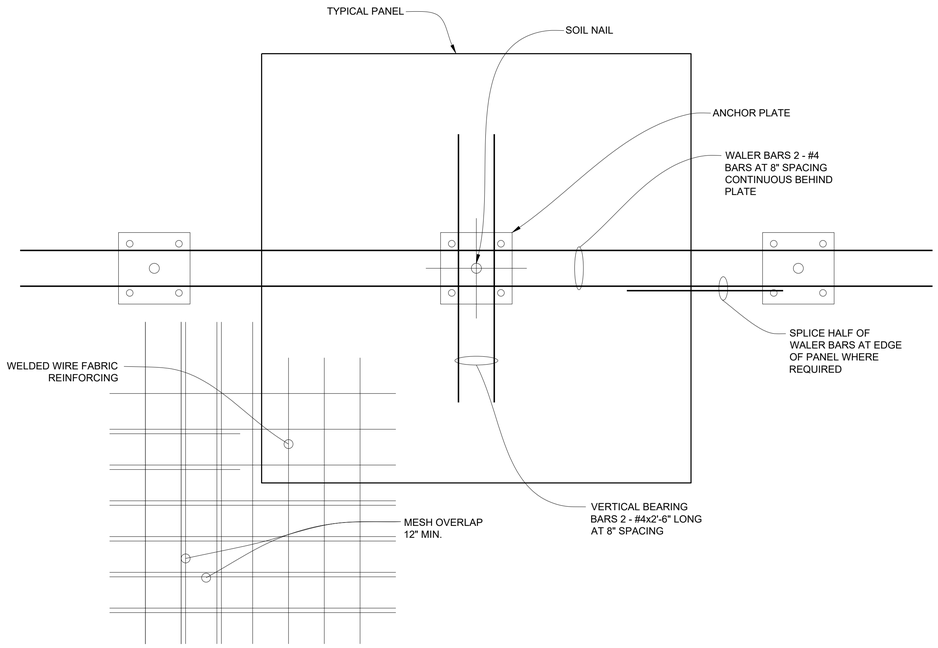
L:\LAP\proj\12428.000 - 2305 Old Ranch Road\3-Design\Structural\Current Drawings\ACAD Drawings\12428.000 2305 Old Ranch Rd.dwg,S0.3, 10/08/2026 02:07 pm klopnes

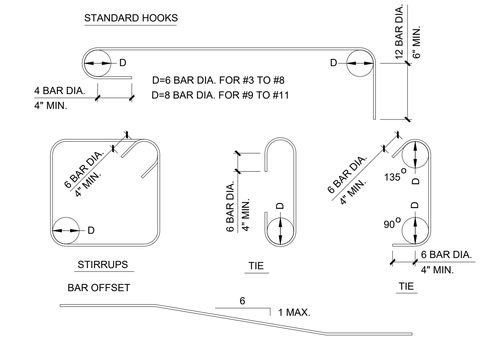




1 / S0.4 **NAIL LENGTH, DECLINATION, AND SPLAY** (SEE NOTE 1)

SCALE: 3/4"=1'-0"





3 / S0.4 **REINFORCING STEEL DATA**

SCALE: N.T.S.

BAR SIZE	REINFORCING BAR LAP SPLICE LENGTHS (INCHES) COMPRESSIVE STRENGTH, f'c				
	3000 PSI	3500 PSI	4000 PSI	4500PSI	5000 PSI
#3	22	20	19	18	17
#4	29	27	25	24	22
#5	36	33	31	29	28
#6	43	40	37	35	33
#7	63	58	54	51	49
#8	71	66	62	59	56
#9	81	75	70	66	63
#10	91	84	79	74	71
#11	100	93	87	82	78

1. CLEAR SPACING BETWEEN BARS SHALL BE AT LEAST 2 BAR DIAMETERS.
2. CLEAR COVER OVER BARS SHALL BE AT LEAST 1 BAR DIAMETER.
3. THE SPLICE LENGTH OF BARS WITH MORE THAN 12 INCHES OF FRESH CONCRETE BELOW THE BAR SHALL BE INCREASED BY 30%.
4. THESE SPLICE LENGTHS DO NOT APPLY FOR EPOXY-COATED REINFORCEMENT, BARS IN LIGHTWEIGHT CONCRETE OR BUNDLED BARS.
5. BARS LARGER THAN #11 SHALL NOT BE LAP-SPLICED.

BAR SIZE	EPOXY COATED REINFORCING BAR LAP SPLICE LENGTHS (INCHES) COMPRESSIVE STRENGTH, f'c				
	3000 PSI	3500 PSI	4000 PSI	4500PSI	5000 PSI
#3	26	24	23	21	20
#4	35	32	30	28	27
#5	43	40	37	35	33
#6	52	48	45	42	40
#7	75	70	65	61	58
#8	86	80	74	70	67
#9	97	90	84	79	75
#10	109	101	94	89	84
#11	120	112	105	99	94

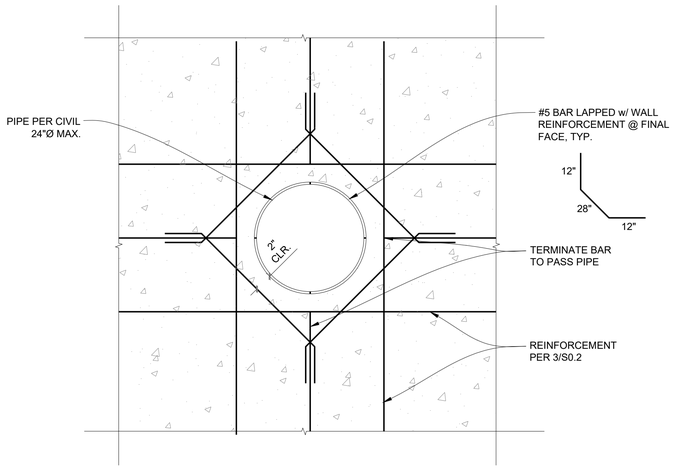
1. CLEAR SPACING BETWEEN BARS SHALL BE AT LEAST 2 BAR DIAMETERS.
2. CLEAR COVER OVER BARS SHALL BE AT LEAST 1 BAR DIAMETER.
3. THE SPLICE LENGTH OF BARS WITH MORE THAN 12 INCHES OF FRESH CONCRETE BELOW THE BAR SHALL BE INCREASED BY 30%.
4. THESE SPLICE LENGTHS DO NOT APPLY FOR BARS IN LIGHTWEIGHT CONCRETE OR BUNDLED BARS.
5. BARS LARGER THAN #11 SHALL NOT BE LAP-SPLICED.

4 / S0.4 **CONCRETE REINFORCING LAP SPLICE REQUIREMENTS**

SCALE: N.T.S.

2 / S0.4 **TYPICAL SHOTCRETE PANEL REINFORCING**

SCALE: 1 1/2"=1'-0"



5 / S0.4 **PIPE PENETRATION @ SOIL NAIL WALL**

SCALE: 1 1/2"=1'-0"

LUMOS & ASSOCIATES
950 SANDHILL ROAD, SUITE 100
RENO, NV 89521
TEL: 775.827.6111
WWW.LUMOSINC.COM
INFO@LUMOSINC.COM

© LUMOS & ASSOCIATES, INC.: THIS DRAWING IS THE PROPERTY OF LUMOS & ASSOCIATES, INC.. USE OR REPRODUCTION OF THIS DRAWING, IN WHOLE OR IN PART, WITHOUT THE WRITTEN PERMISSION OF LUMOS & ASSOCIATES, INC. IS STRICTLY PROHIBITED. THIS DRAWING IS NOT TO BE USED FOR ANY PROJECT OTHER THAN THE PROJECT FOR WHICH IT WAS PREPARED.

PROFESSIONAL ENGINEER — DUSTIN N. HAYES — Exp. 6-30-27 — STRUCTURAL — No. 035815 — STATE OF NEVADA

DAVID & CATHY SCHMENK

2305 OLD RANCH ROAD
RETAINING WALLS
TYPICAL DETAILS

WASHOE COUNTY — NEVADA

REV	DATE	DESCRIPTION	BY

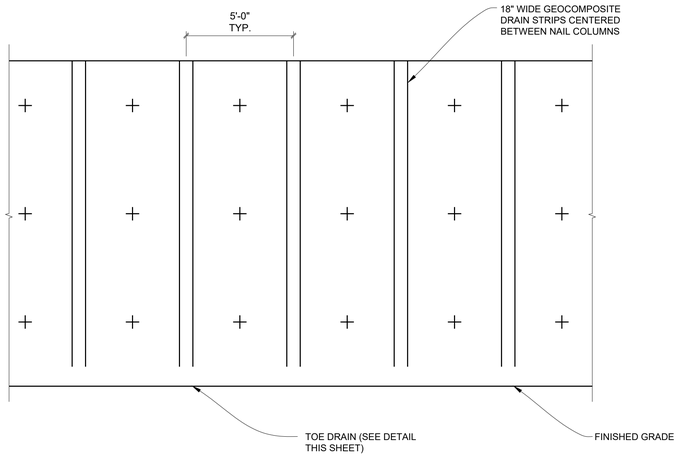
PERMIT SET
NOT FOR CONSTRUCTION
OCTOBER 8, 2026

BAR IS 1 INCH ON ORIGINAL DRAWING
0 1
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

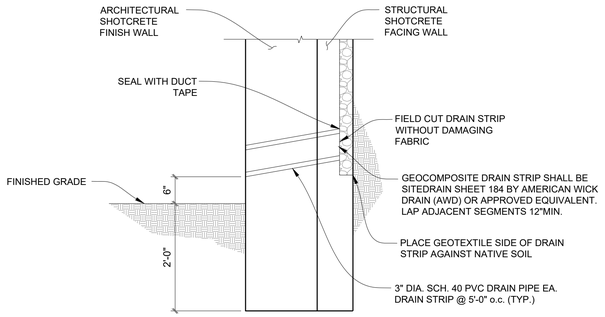
S0.4

DRAWN BY:	KLQ
DESIGNED BY:	PFG
CHECKED BY:	EJH
JOB NO.:	12428.000
SHEETS:	

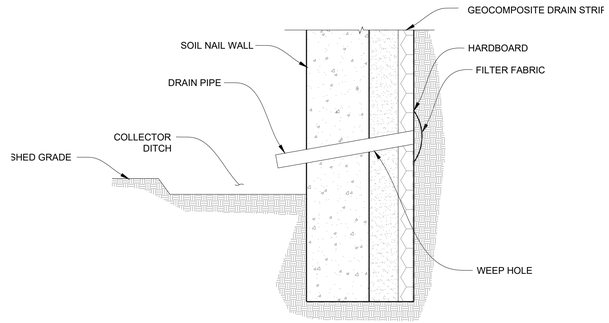
L:\APPs\12428.000 – 2305 Old Ranch Road\3-Design\Structural\Current Drawings\ACAD Drawings\12428.000 2305 Old Ranch Rd.dwg,S0.4, 10/08/2026 02:07 pm klopes



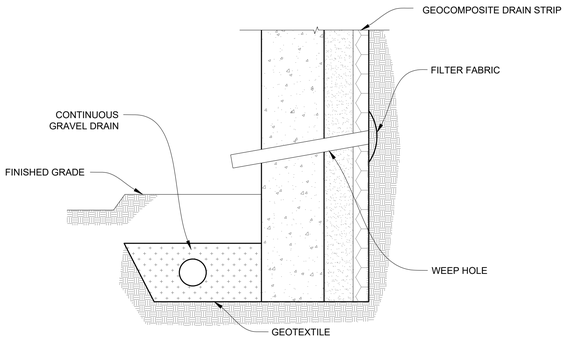
1 S0.5 **GEOCOMPOSITE DRAINAGE STRIP DETAIL**
SCALE: N.T.S.



2 S0.5 **TYPICAL WALL TOE DETAIL**
SCALE: 3/4"=1'-0"

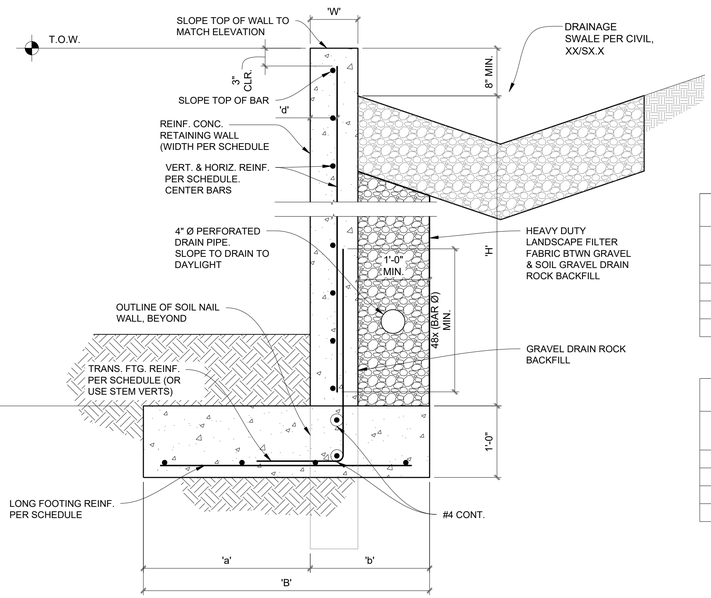


FHWA GEC-7



FHWA GEC-7

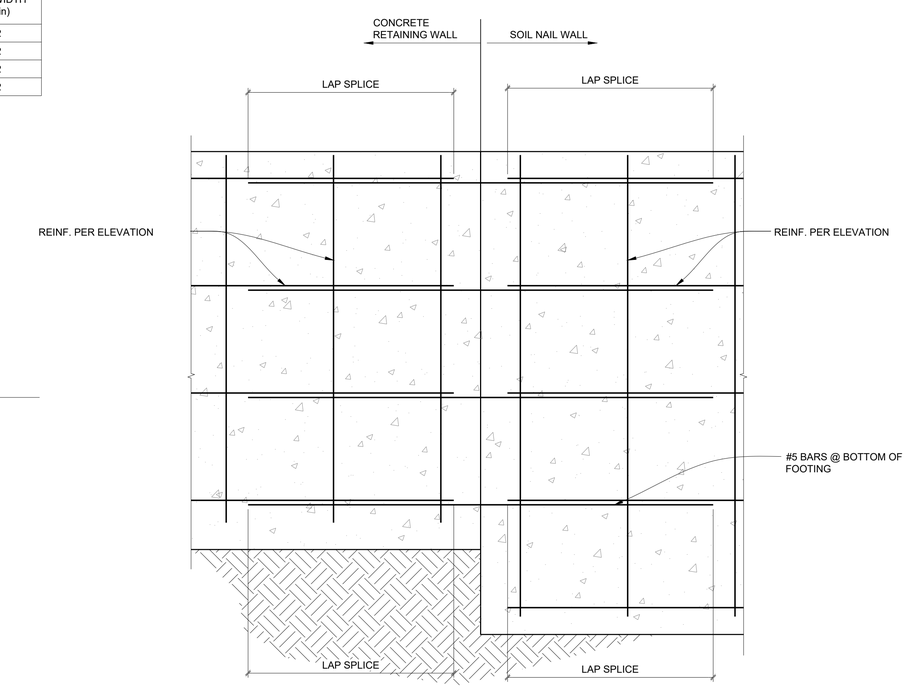
3 S0.5 **DETAILS FOR DRAINS**
SCALE: 3/4"=1'-0"



TYPICAL RETAINING WALL DIMENSIONS						
RETAINED HEIGHT 'H' (ft)	TOE 'a' (ft-in)	HEEL 'b' (ft-in)	FTG. WIDTH 'B' (ft-in)	FTG. DEPTH 'D' (in)	REINF. LOC 'd' (in)	STEM WIDTH 'W' (in)
2	1'-3"	1'-9"	3'-0"	12	W/2	12
3	1'-6"	1'-9"	3'-0"	12	W/2	12
4	2'-0"	1'-9"	3'-0"	12	W/2	12
5	2'-9"	1'-9"	3'-0"	12	W/2	12

TYPICAL RETAINING WALL REINFORCEMENT SCHEDULE				
RETAINED HEIGHT 'H' (ft)	STEM VERT. REINF	STEM HORIZ. REINF	FTG. TRANS. REINF	STEM VERT. REINF
2	#5 @ 16" cc	#4 @ 16" cc	#4 @ 18" cc	3-#4
3	#5 @ 16" cc	#4 @ 16" cc	#4 @ 18" cc	3-#4
4	#5 @ 16" cc	#4 @ 16" cc	#5 @ 12" cc	3-#4
5	#5 @ 16" cc	#4 @ 16" cc	#5 @ 8" cc	3-#4

4 S0.5 **CONCRETE RETAINING WALL**
SCALE: 1"=1'-0"



5 S0.5 **CONCRETE RETAINING WALL TO SOIL NAIL WALL**
SCALE: 1 1/2"=1'-0"

LUMOS & ASSOCIATES
950 SANDHILL ROAD, SUITE 100
RENO, NV 89521
TEL: 775.827.6111
WWW.LUMOSINC.COM
INFO@LUMOSINC.COM

© LUMOS & ASSOCIATES, INC.: THIS DRAWING IS THE PROPERTY OF LUMOS & ASSOCIATES, INC.. USE OR REPRODUCTION OF THIS DRAWING, IN WHOLE OR IN PART, WITHOUT THE WRITTEN PERMISSION OF LUMOS & ASSOCIATES, INC. IS STRICTLY PROHIBITED. THIS DRAWING IS NOT TO BE USED FOR ANY PROJECT OTHER THAN THE PROJECT FOR WHICH IT WAS PREPARED.

PROFESSIONAL ENGINEER
DUSTIN N. HAYES
Exp. 6-30-27
STRUCTURAL
STATE OF NEVADA No. 035815

DAVID & CATHY SCHMENK

2305 OLD RANCH ROAD
RETAINING WALLS
TYPICAL DETAILS

WASHOE COUNTY NEVADA

REV	DATE	DESCRIPTION	BY

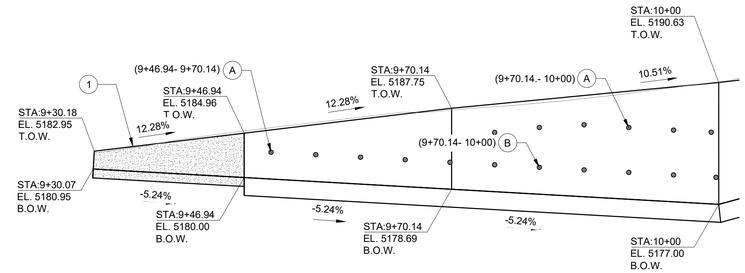
PERMIT SET
NOT FOR CONSTRUCTION
OCTOBER 8, 2026

BAR IS 1 INCH ON ORIGINAL DRAWING
0 1
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

S0.5

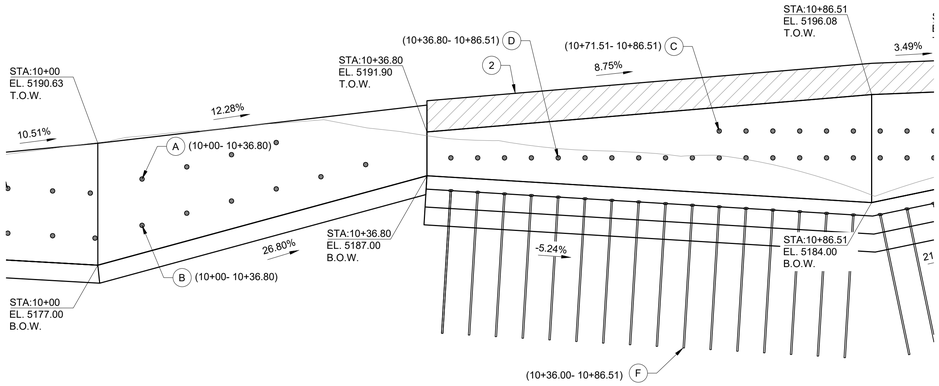
DRAWN BY:	KLQ
DESIGNED BY:	PFG
CHECKED BY:	EJH
JOB NO.:	12428.000
SHEETS:	

L:\APro\12428.000 - 2305 Old Ranch Road\3-Design\Structural\Current Drawings\ACAD Drawings\12428.000 2305 Old Ranch Rd.dwg,S0.5, 10/08/2026 02:07 pm klaines



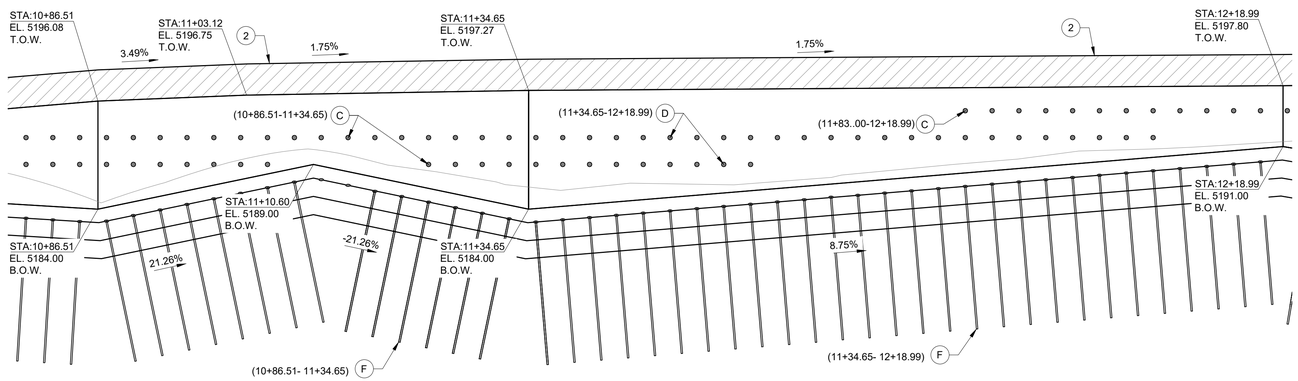
A **S1.0** **RIGHT SIDE RETAINING WALL**

SCALE: 1/8"=1'-0"



B **S1.0** **RIGHT SIDE RETAINING WALL**

SCALE: 1/8"=1'-0"



C **S1.0** **RIGHT SIDE RETAINING WALL**

SCALE: 1/8"=1'-0"

SOIL NAIL WALL ELEVATION NOTES

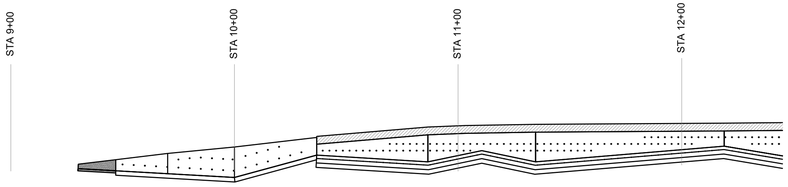
1. REFER TO S0.1 FOR GENERAL STRUCTURAL NOTES.
2. REFER TO S0.2, S0.3 AND S0.5 FOR TYPICAL SOIL NAIL WALL DETAILS.

SOIL WALL KEY NOTES

- (A) TYPE 'A' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (B) TYPE 'B' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (C) TYPE 'C' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (D) TYPE 'D' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (E) TYPE 'E' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (F) TYPE 'F' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (G) TYPE 'G' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (1) CONCRETE RETAINING WALL PER 4/S0.5 AND 5/S0.4
- (2) CONCRETE BARRIER PER 2/S0.3

CUT WALL AREA SCHEDULE								
TYPE	RETAINED HEIGHT	NAIL ANGLE	EMBED	DIAMETER OF DRILLED HOLE	SPACING		EDGE DISTANCE	
					MAX.	MIN	MAX.	MIN
A	0'-10'	15°	14'-0'	6"	5'-0'	3'-0'	5'-0'	3'-0'
B	0'-20'	15°	28'-0'	6"	5'-0'	3'-0'	5'-0'	3'-0'
FILL WALL AREA SCHEDULE								
TYPE	RETAINED HEIGHT	NAIL ANGLE	EMBED	DIAMETER OF DRILLED HOLE	SPACING		EDGE DISTANCE	
					MAX.	MIN	MAX.	MIN
C	0'-10'	15°	14'-0'	6"	3'-0'	3'-0'	3'-0'	3'-0'
D	0'-20'	15°	28'-0'	6"	3'-0'	3'-0'	3'-0'	3'-0'
E	0'-10'	15°	10'-0'	6"	3'-0'	3'-0'	3'-0'	3'-0'
F	0'-15'	15°	10'-0'	6"	3'-0'	3'-0'	3'-0'	3'-0'
G	0'-20'	15°	20'-0'	6"	3'-0'	3'-0'	3'-0'	3'-0'

NOTES:
1. REFER TO 1/S0.2 FOR WALL DETAIL AT CUT AREAS.
2. REFER TO 2/S0.2 FOR WALL DETAIL AT FILL AREAS.



RETAINING WALL - KEY PLAN

N.T.S.

LUMOS & ASSOCIATES
950 SANDHILL ROAD, SUITE 100
RENO, NV 89521
TEL: 775.827.6111
WWW.LUMOSINC.COM
INFO@LUMOSINC.COM

© LUMOS & ASSOCIATES, INC.: THIS DRAWING IS THE PROPERTY OF LUMOS & ASSOCIATES, INC.. USE OR REPRODUCTION OF THIS DRAWING, IN WHOLE OR IN PART, WITHOUT THE WRITTEN PERMISSION OF LUMOS & ASSOCIATES, INC. IS STRICTLY PROHIBITED. THIS DRAWING IS NOT TO BE USED FOR ANY PROJECT OTHER THAN THE PROJECT FOR WHICH IT WAS PREPARED.

PROFESSIONAL ENGINEER — DUSTIN N. HAYES — Exp. 6-30-27 — STRUCTURAL — No. 035875 — STATE OF NEVADA

DAVID & CATHY SCHMENK

2305 OLD RANCH ROAD
RETAINING WALLS

RIGHT SOIL NAIL WALL LAYOUT

WASHOE COUNTY — NEVADA

REV	DATE	DESCRIPTION	BY

PERMIT SET
NOT FOR CONSTRUCTION
OCTOBER 8, 2026

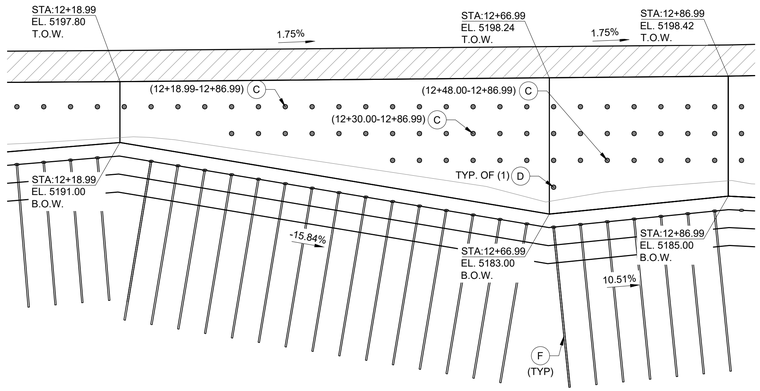
BAR IS 1 INCH ON ORIGINAL DRAWING
0 1
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

S1.0

DRAWN BY:	KLQ
DESIGNED BY:	PFG
CHECKED BY:	EJH
JOB NO.:	12428.000

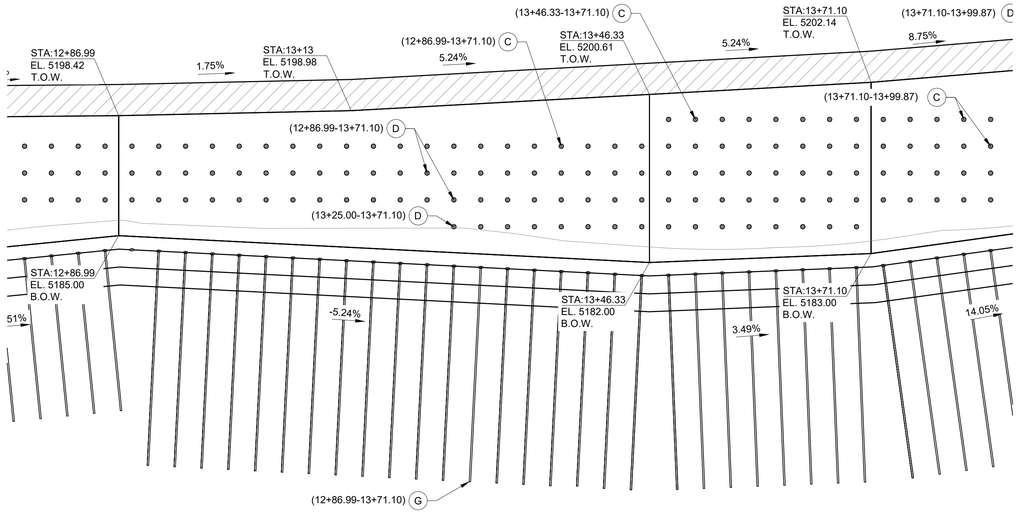
SHEETS:

L:\APro\12428.000 - 2305 Old Ranch Road\3-Design\Structural\Current Drawings\ACAD Drawings\12428.000 2305 Old Ranch Rd.dwg,S1.0, 10/08/2026 02:07 pm klopes



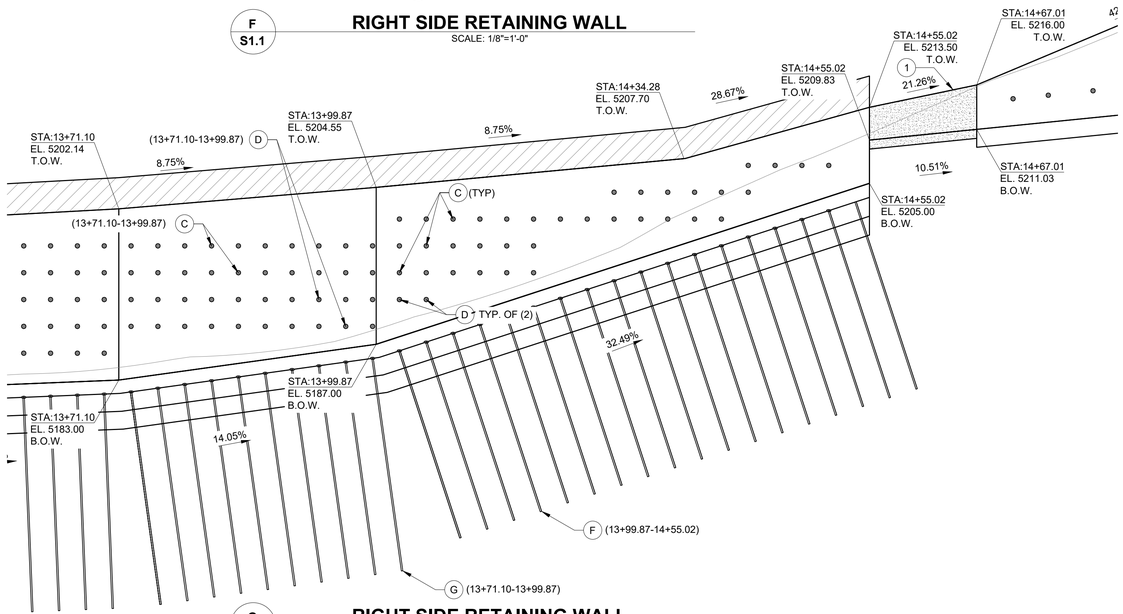
E / S1.1 RIGHT SIDE RETAINING WALL

SCALE: 1/8"=1'-0"



F / S1.1 RIGHT SIDE RETAINING WALL

SCALE: 1/8"=1'-0"



G / S1.1 RIGHT SIDE RETAINING WALL

SCALE: 1/8"=1'-0"

L:\APPs\12428.000 - 2305 Old Ranch Road\3-Design\Structural\Current Drawings\ACAD Drawings\12428.000 2305 Old Ranch Rd.dwg\S1.1, 10/08/2026 02:08 pm aguevara

SOIL NAIL WALL ELEVATION NOTES

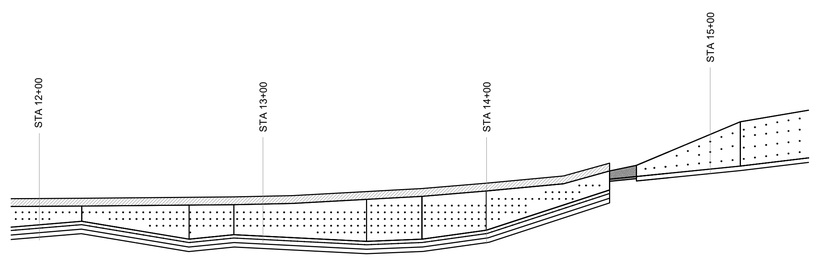
1. REFER TO S0.1 FOR GENERAL STRUCTURAL NOTES.
2. REFER TO S0.2, S0.3 AND S0.5 FOR TYPICAL SOIL NAIL WALL DETAILS.

SOIL WALL KEY NOTES

- (A) TYPE 'A' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (B) TYPE 'B' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (C) TYPE 'C' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (D) TYPE 'D' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (E) TYPE 'E' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (F) TYPE 'F' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (G) TYPE 'G' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (1) CONCRETE RETAINING WALL PER 4/S0.5 AND 5/S0.4
- (2) CONCRETE BARRIER PER 2/S0.3

CUT WALL AREA SCHEDULE								
TYPE	RETAINED HEIGHT	NAIL ANGLE	EMBED	DIAMETER OF DRILLED HOLE	SPACING		EDGE DISTANCE	
					MAX.	MIN	MAX.	MIN
A	0'-10'	15°	14'-0"	6"	5'-0"	3'-0"	5'-0"	3'-0"
B	0'-20'	15°	28'-0"	6"	5'-0"	3'-0"	5'-0"	3'-0"
FILL WALL AREA SCHEDULE								
TYPE	RETAINED HEIGHT	NAIL ANGLE	EMBED	DIAMETER OF DRILLED HOLE	SPACING		EDGE DISTANCE	
					MAX.	MIN	MAX.	MIN
C	0'-10'	15°	14'-0"	6"	3'-0"	3'-0"	3'-0"	3'-0"
D	0'-20'	15°	28'-0"	6"	3'-0"	3'-0"	3'-0"	3'-0"
E	0'-10'	15°	10'-0"	6"	3'-0"	3'-0"	3-0"	3'-0"
F	0'-15'	15°	10'-0"	6"	3'-0"	3'-0"	3'-0"	3'-0"
G	0'-20'	15°	20'-0"	6"	3'-0"	3'-0"	3'-0"	3'-0"

NOTES:
1. REFER TO 1/S0.2 FOR WALL DETAIL AT CUT AREAS.
2. REFER TO 2/S0.2 FOR WALL DETAIL AT FILL AREAS.



RETAINING WALL - KEY PLAN

N.T.S.

LUMOS & ASSOCIATES
950 SANDHILL ROAD, SUITE 100
RENO, NV 89521
TEL. 775.827.6111
WWW.LUMOSINC.COM
INFO@LUMOSINC.COM

© LUMOS & ASSOCIATES, INC.: THIS DRAWING IS THE PROPERTY OF LUMOS & ASSOCIATES, INC.. USE OR REPRODUCTION OF THIS DRAWING, IN WHOLE OR IN PART, WITHOUT THE WRITTEN PERMISSION OF LUMOS & ASSOCIATES, INC. IS STRICTLY PROHIBITED. THIS DRAWING IS NOT TO BE USED FOR ANY PROJECT OTHER THAN THE PROJECT FOR WHICH IT WAS PREPARED.

PROFESSIONAL ENGINEER
DUSTIN N. HAYES
Exp. 6-30-27
STRUCTURAL
STATE OF NEVADA No. 035878

DAVID & CATHY SCHMENK

2305 OLD RANCH ROAD
RETAINING WALLS
RIGHT SOIL NAIL WALL LAYOUT

WASHOE COUNTY, NEVADA

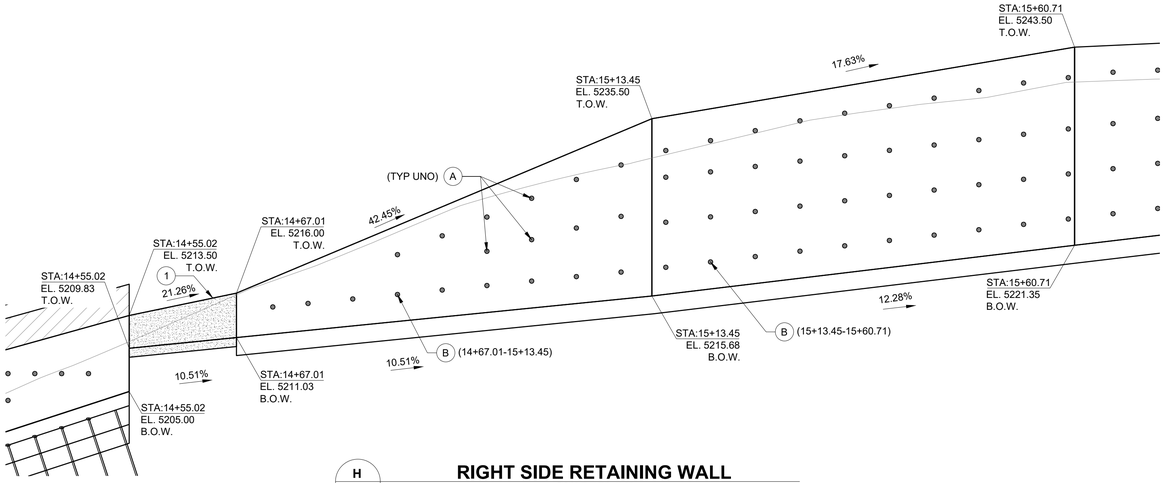
REV	DATE	DESCRIPTION	BY

PERMIT SET
NOT FOR CONSTRUCTION
OCTOBER 8, 2026

BAR IS 1 INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

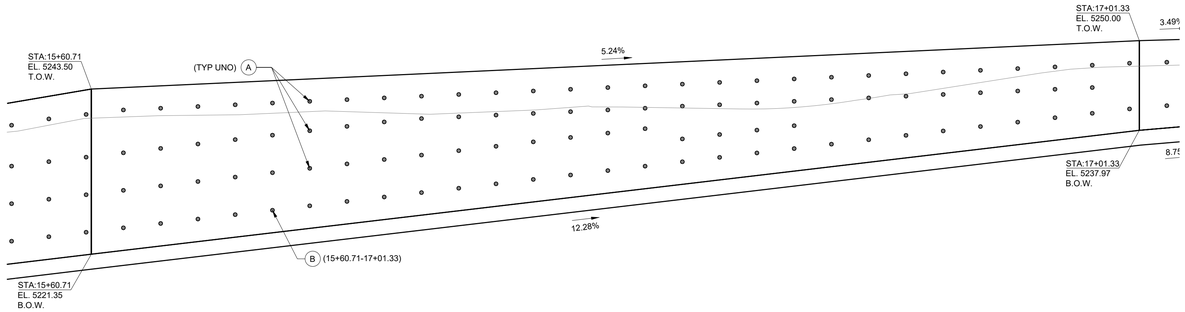
S1.1

DRAWN BY:	KLQ
DESIGNED BY:	PFG
CHECKED BY:	EJH
JOB NO.:	12428.000
SHEETS:	



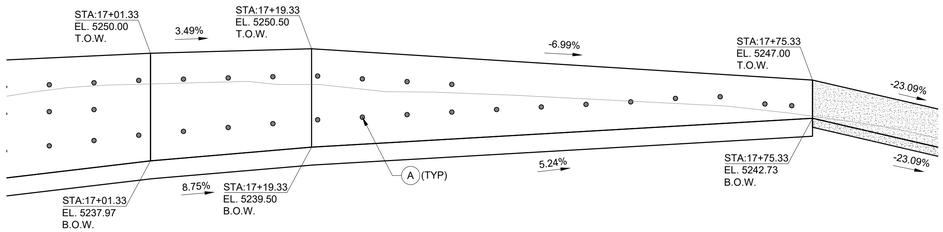
H / **S1.2** — **RIGHT SIDE RETAINING WALL**

SCALE: 1/8"=1'-0"



I / **S1.2** — **RIGHT SIDE RETAINING WALL**

SCALE: 1/8"=1'-0"



J / **S1.2** — **RIGHT SIDE RETAINING WALL**

SCALE: 1/8"=1'-0"

SOIL NAIL WALL ELEVATION NOTES

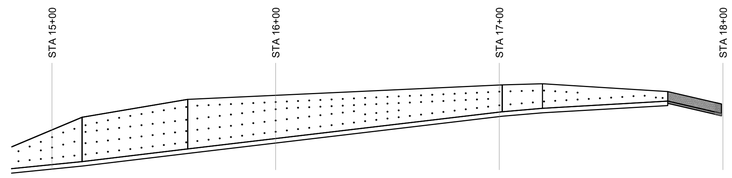
1. REFER TO S0.1 FOR GENERAL STRUCTURAL NOTES.
2. REFER TO S0.2, S0.3 AND S0.5 FOR TYPICAL SOIL NAIL WALL DETAILS.

SOIL WALL KEY NOTES

- (A) TYPE 'A' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (B) TYPE 'B' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (C) TYPE 'C' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (D) TYPE 'D' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (E) TYPE 'E' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (F) TYPE 'F' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (G) TYPE 'G' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (1) CONCRETE RETAINING WALL PER 4/S0.5 AND 5/S0.4
- (2) CONCRETE BARRIER PER 2/S0.3

CUT WALL AREA SCHEDULE								
TYPE	RETAINED HEIGHT	NAIL ANGLE	EMBED	DIAMETER OF DRILLED HOLE	SPACING		EDGE DISTANCE	
					MAX.	MIN	MAX.	MIN
A	0'-10'	15°	14'-0'	6"	5'-0'	3'-0'	5'-0'	3'-0'
B	0'-20'	15°	28'-0'	6"	5'-0'	3'-0'	5'-0'	3'-0'
FILL WALL AREA SCHEDULE								
TYPE	RETAINED HEIGHT	NAIL ANGLE	EMBED	DIAMETER OF DRILLED HOLE	SPACING		EDGE DISTANCE	
					MAX.	MIN	MAX.	MIN
C	0'-10'	15°	14'-0'	6"	3'-0'	3'-0'	3'-0'	3'-0'
D	0'-20'	15°	28'-0'	6"	3'-0'	3'-0'	3'-0'	3'-0'
E	0'-10'	15°	10'-0'	6"	3'-0'	3'-0'	3-0'	3'-0'
F	0'-15'	15°	10'-0'	6"	3'-0'	3'-0'	3'-0'	3'-0'
G	0'-20'	15°	20'-0'	6"	3'-0'	3'-0'	3'-0'	3'-0'

NOTES:
1. REFER TO 1/S0.2 FOR WALL DETAIL AT CUT AREAS.
2. REFER TO 2/S0.2 FOR WALL DETAIL AT FILL AREAS.



RETAINING WALL - KEY PLAN

N.T.S.

LUMOS & ASSOCIATES
950 SANDHILL ROAD, SUITE 100
RENO, NV 89521
TEL: 775.827.6111
WWW.LUMOSINC.COM
INFO@LUMOSINC.COM

© LUMOS & ASSOCIATES, INC.: THIS DRAWING IS THE PROPERTY OF LUMOS & ASSOCIATES, INC.. USE OR REPRODUCTION OF THIS DRAWING, IN WHOLE OR IN PART, WITHOUT THE WRITTEN PERMISSION OF LUMOS & ASSOCIATES, INC. IS STRICTLY PROHIBITED. THIS DRAWING IS NOT TO BE USED FOR ANY PROJECT OTHER THAN THE PROJECT FOR WHICH IT WAS PREPARED.



DAVID & CATHY SCHMENK

2305 OLD RANCH ROAD

RETAINING WALLS

RIGHT SOIL NAIL WALL LAYOUT

WASHOE COUNTY

NEVADA

REV	DATE	DESCRIPTION	BY

PERMIT SET

NOT FOR CONSTRUCTION

OCTOBER 8, 2026

BAR IS 1 INCH ON ORIGINAL DRAWING

0 1

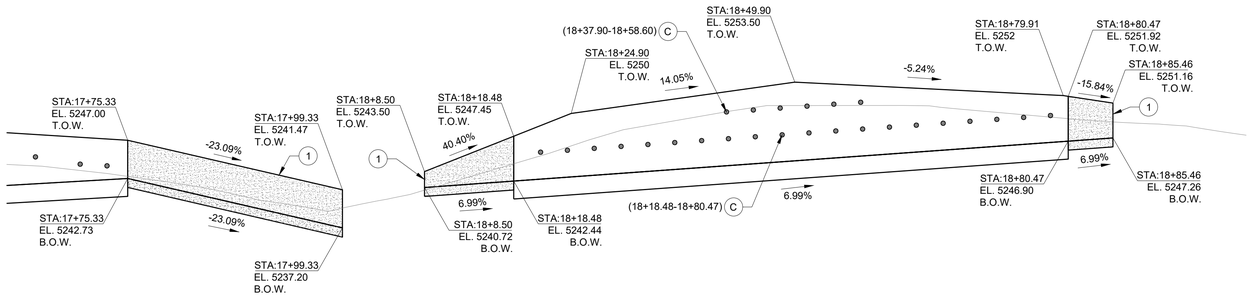
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

S1.2

DRAWN BY: KLQ
DESIGNED BY: PFG
CHECKED BY: EJH
JOB NO.: 12428.000

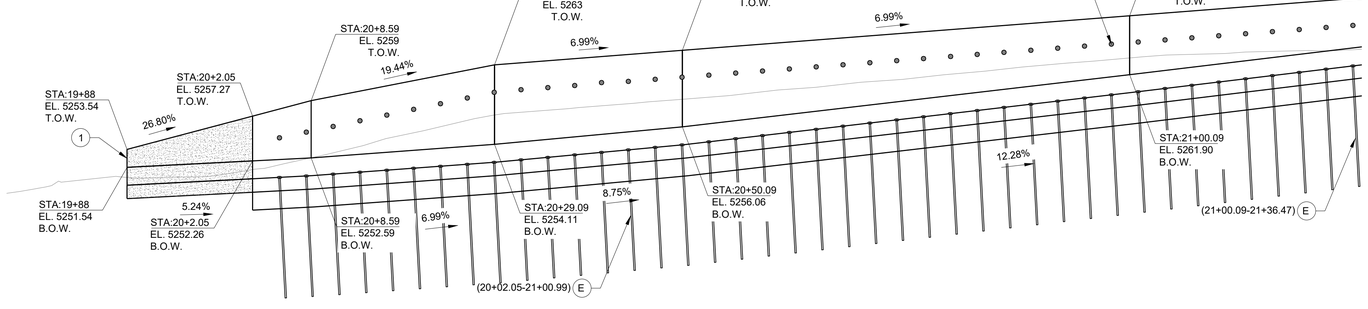
SHEETS:

L:\AAProj\12428.000 - 2305 Old Ranch Road\3-Design\Structural\Current Drawings\ACAD Drawings\12428.000 2305 Old Ranch Rd.dwg,S1.2, 10/08/2026 02:08 pm klopes



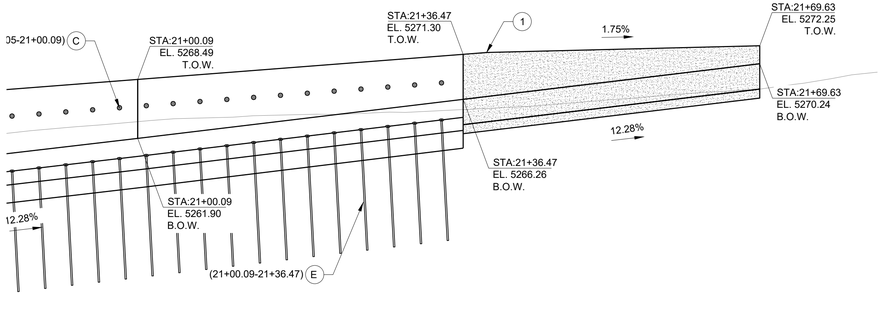
K S1.3 **RIGHT SIDE RETAINING WALL**

SCALE: 1/8"=1'-0"



L S1.3 **RIGHT SIDE RETAINING WALL**

SCALE: 1/8"=1'-0"



M S1.3 **RIGHT SIDE RETAINING WALL**

SCALE: 1/8"=1'-0"

SOIL NAIL WALL ELEVATION NOTES

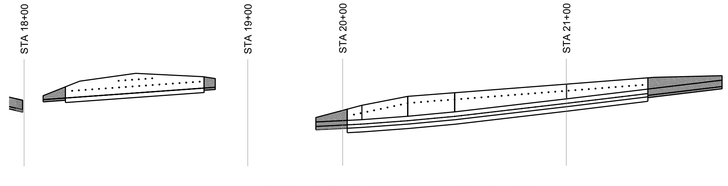
1. REFER TO S0.1 FOR GENERAL STRUCTURAL NOTES.
2. REFER TO S0.2, S0.3 AND S0.5 FOR TYPICAL SOIL NAIL WALL DETAILS.

SOIL WALL KEY NOTES

A	TYPE 'A' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
B	TYPE 'B' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
C	TYPE 'C' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
D	TYPE 'D' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
E	TYPE 'E' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
F	TYPE 'F' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
G	TYPE 'G' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
1	CONCRETE RETAINING WALL PER 4/S0.5 AND 5/S0.4
2	CONCRETE BARRIER PER 2/S0.3

CUT WALL AREA SCHEDULE								
TYPE	RETAINED HEIGHT	NAIL ANGLE	EMBED	DIAMETER OF DRILLED HOLE	SPACING		EDGE DISTANCE	
					MAX.	MIN	MAX.	MIN
A	0'-10'	15°	14'-0'	6"	5'-0'	3'-0'	5'-0'	3'-0'
B	0'-20'	15°	28'-0'	6"	5'-0'	3'-0'	5'-0'	3'-0'
FILL WALL AREA SCHEDULE								
TYPE	RETAINED HEIGHT	NAIL ANGLE	EMBED	DIAMETER OF DRILLED HOLE	SPACING		EDGE DISTANCE	
					MAX.	MIN	MAX.	MIN
C	0'-10'	15°	14'-0'	6"	3'-0'	3'-0'	3'-0'	3'-0'
D	0'-20'	15°	28'-0'	6"	3'-0'	3'-0'	3'-0'	3'-0'
E	0'-10'	15°	10'-0'	6"	3'-0'	3'-0'	3-0'	3'-0'
F	0'-15'	15°	10'-0'	6"	3'-0'	3'-0'	3'-0'	3'-0'
G	0'-20'	15°	20'-0'	6"	3'-0'	3'-0'	3'-0'	3'-0'

NOTES:
1. REFER TO 1/S0.2 FOR WALL DETAIL AT CUT AREAS.
2. REFER TO 2/S0.2 FOR WALL DETAIL AT FILL AREAS.



RETAINING WALL - KEY PLAN

N.T.S.

LUMOS & ASSOCIATES
950 SANDHILL ROAD, SUITE 100
RENO, NV 89521
TEL: 775.827.6111
WWW.LUMOSINC.COM
INFO@LUMOSINC.COM

© LUMOS & ASSOCIATES, INC.: THIS DRAWING IS THE PROPERTY OF LUMOS & ASSOCIATES, INC.. USE OR REPRODUCTION OF THIS DRAWING, IN WHOLE OR IN PART, WITHOUT THE WRITTEN PERMISSION OF LUMOS & ASSOCIATES, INC. IS STRICTLY PROHIBITED. THIS DRAWING IS NOT TO BE USED FOR ANY PROJECT OTHER THAN THE PROJECT FOR WHICH IT WAS PREPARED.

PROFESSIONAL ENGINEER
DUSTIN N. HAYES
Exp. 6-30-27
STRUCTURAL
No. 035815
STATE OF NEVADA

DAVID & CATHY SCHMENK

2305 OLD RANCH ROAD
RETAINING WALLS
RIGHT SOIL NAIL WALL LAYOUT

WASHOE COUNTY, NEVADA

REV	DATE	DESCRIPTION	BY

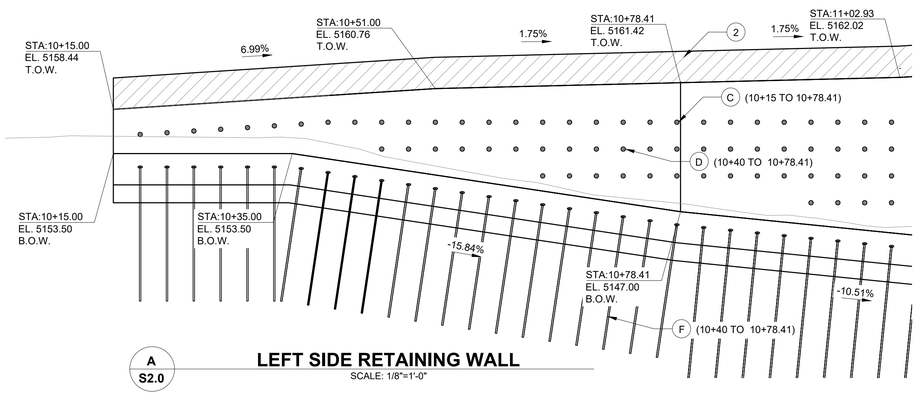
PERMIT SET
NOT FOR CONSTRUCTION
OCTOBER 8, 2026

BAR IS 1 INCH ON ORIGINAL DRAWING
0 1
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

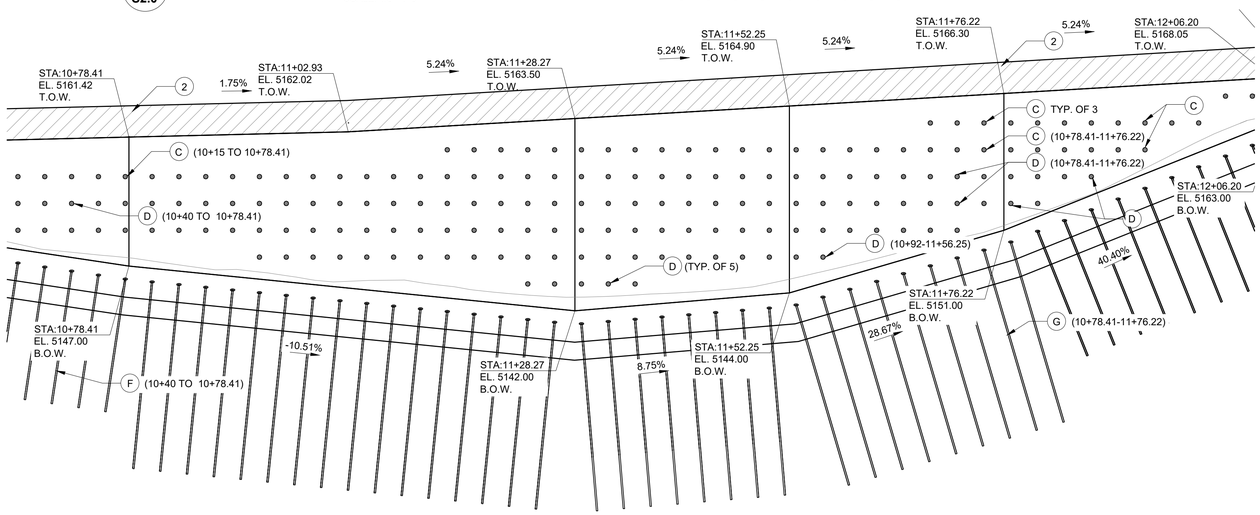
S1.3

DRAWN BY:	KLQ
DESIGNED BY:	PFG
CHECKED BY:	EJH
JOB NO.:	12428.000
SHEETS:	

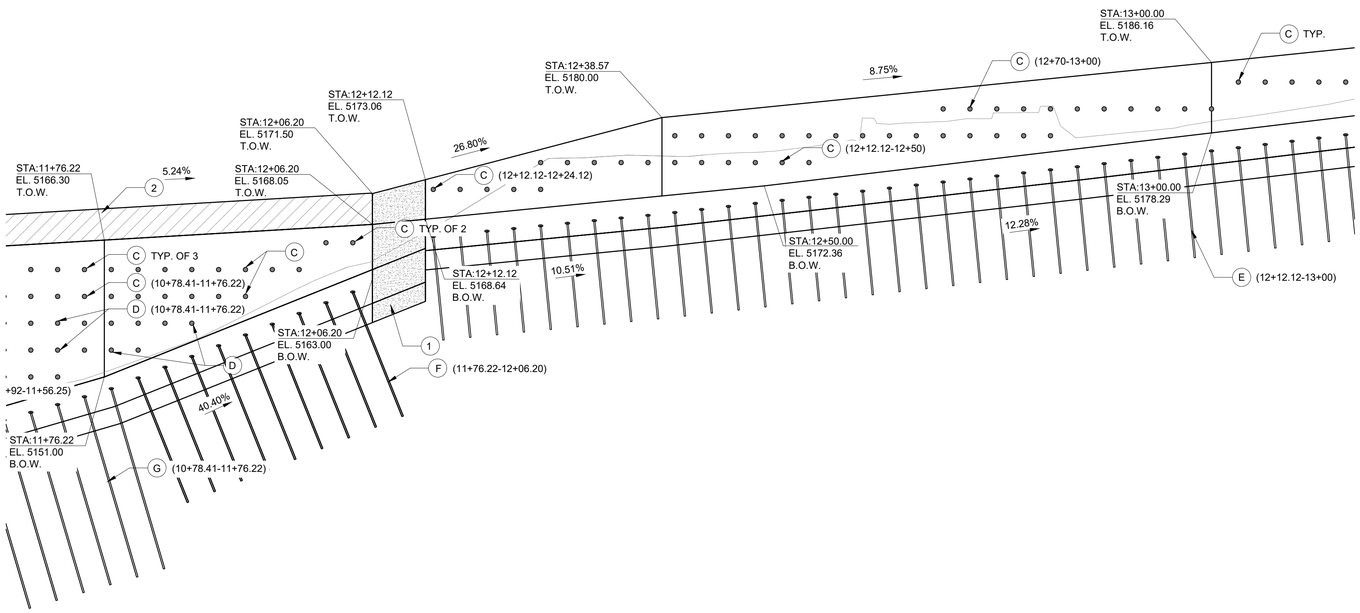
L:\LMPro\12428.000 - 2305 Old Ranch Road\3-Design\Structural\Current Drawings\ACAD Drawings\12428.000 2305 Old Ranch Rd.dwg,S1.3, 10/08/2026 02:08 pm klopes



A S2.0 **LEFT SIDE RETAINING WALL**
SCALE: 1/8"=1'-0"



B S2.0 **LEFT SIDE RETAINING WALL**
SCALE: 1/8"=1'-0"



C S2.0 **LEFT SIDE RETAINING WALL**
SCALE: 1/8"=1'-0"

SOIL NAIL WALL ELEVATION NOTES

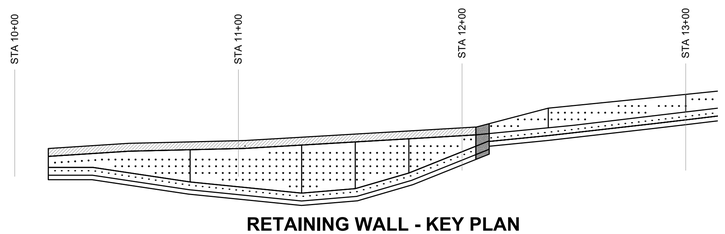
1. REFER TO S0.1 FOR GENERAL STRUCTURAL NOTES.
2. REFER TO S0.2, S0.3 AND S0.5 FOR TYPICAL SOIL NAIL WALL DETAILS.

SOIL WALL KEY NOTES

- (A) TYPE 'A' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (B) TYPE 'B' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (C) TYPE 'C' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (D) TYPE 'D' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (E) TYPE 'E' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (F) TYPE 'F' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (G) TYPE 'G' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (1) CONCRETE RETAINING WALL PER 4/S0.5 AND 5/S0.4
- (2) CONCRETE BARRIER PER 2/S0.3

CUT WALL AREA SCHEDULE								
TYPE	RETAINED HEIGHT	NAIL ANGLE	EMBED	DIAMETER OF DRILLED HOLE	SPACING		EDGE DISTANCE	
					MAX.	MIN	MAX.	MIN
A	0'-10'	15°	14'-0'	6"	5'-0'	3'-0'	5'-0'	3'-0'
B	0'-20'	15°	28'-0'	6"	5'-0'	3'-0'	5'-0'	3'-0'
FILL WALL AREA SCHEDULE								
TYPE	RETAINED HEIGHT	NAIL ANGLE	EMBED	DIAMETER OF DRILLED HOLE	SPACING		EDGE DISTANCE	
					MAX.	MIN	MAX.	MIN
C	0'-10'	15°	14'-0'	6"	3'-0'	3'-0'	3'-0'	3'-0'
D	0'-20'	15°	28'-0'	6"	3'-0'	3'-0'	3'-0'	3'-0'
E	0'-10'	15°	10'-0'	6"	3'-0'	3'-0'	3-0'	3'-0'
F	0'-15'	15°	10'-0'	6"	3'-0'	3'-0'	3'-0'	3'-0'
G	0'-20'	15°	20'-0'	6"	3'-0'	3'-0'	3'-0'	3'-0'

NOTES:
1. REFER TO 1/S0.2 FOR WALL DETAIL AT CUT AREAS.
2. REFER TO 2/S0.2 FOR WALL DETAIL AT FILL AREAS.



RETAINING WALL - KEY PLAN
N.T.S.

LUMOS & ASSOCIATES
950 SANDHILL ROAD, SUITE 100
RENO, NV 89521
TEL. 775.827.6111
WWW.LUMOSINC.COM
INFO@LUMOSINC.COM

© LUMOS & ASSOCIATES, INC.: THIS DRAWING IS THE PROPERTY OF LUMOS & ASSOCIATES, INC.. USE OR REPRODUCTION OF THIS DRAWING, IN WHOLE OR IN PART, WITHOUT THE WRITTEN PERMISSION OF LUMOS & ASSOCIATES, INC. IS STRICTLY PROHIBITED. THIS DRAWING IS NOT TO BE USED FOR ANY PROJECT OTHER THAN THE PROJECT FOR WHICH IT WAS PREPARED.

PROFESSIONAL ENGINEER
DUSTIN N. HAYES
Exp. 6-30-27
STRUCTURAL
STATE OF NEVADA No. 035815

DAVID & CATHY SCHMENK
2305 OLD RANCH ROAD
RETAINING WALLS
LEFT SOIL NAIL WALL LAYOUT
WASHOE COUNTY NEVADA

REV	DATE	DESCRIPTION	BY

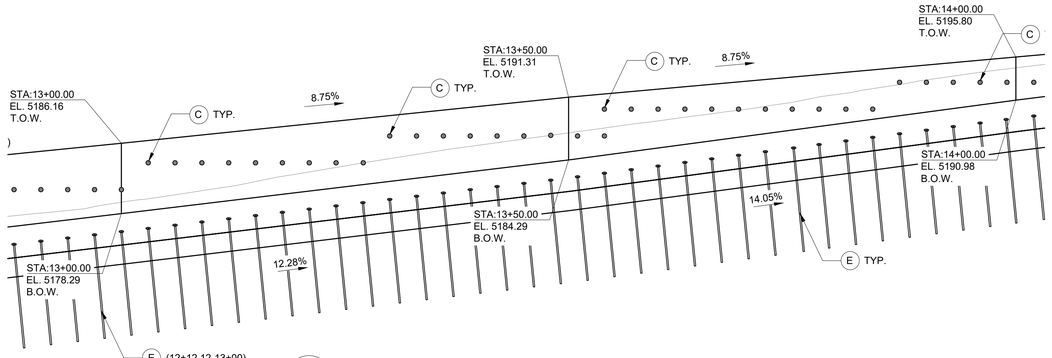
PERMIT SET
NOT FOR CONSTRUCTION
OCTOBER 8, 2026

BAR IS 1 INCH ON ORIGINAL DRAWING
0 1
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

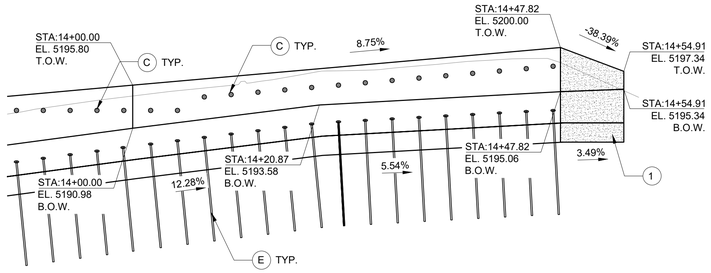
S2.0

DRAWN BY: KLQ
DESIGNED BY: PFG
CHECKED BY: EJH
JOB NO.: 12428.000
SHEETS:

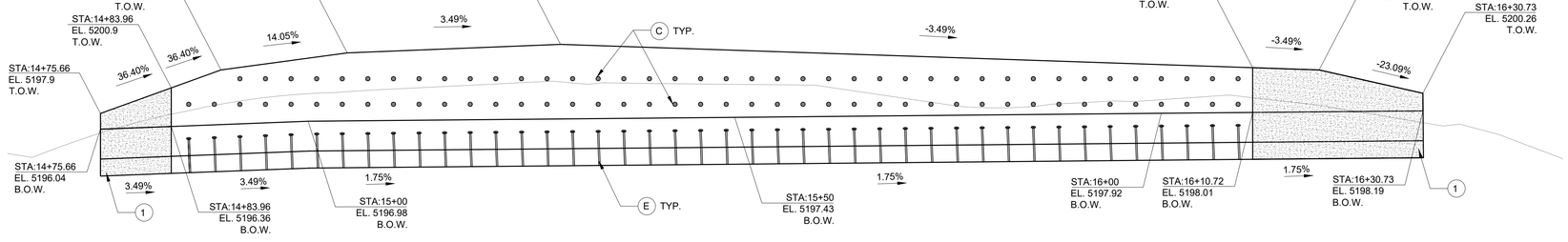
L:\LAP-tp\12428.000 - 2305 Old Ranch Road\3-Design\Structural\Current Drawings\ACAD Drawings\12428.000 2305 Old Ranch Rd.dwg,S2.0, 10/08/2026 02:08 pm xlaines



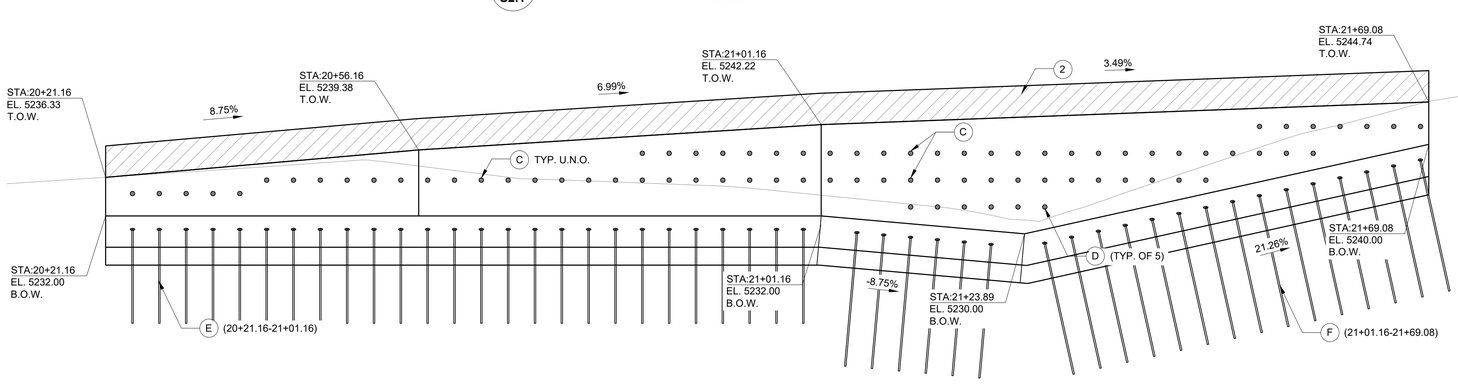
D S2.1 **LEFT SIDE RETAINING WALL**
SCALE: 1/8"=1'-0"



E S2.1 **LEFT SIDE RETAINING WALL**
SCALE: 1/8"=1'-0"



F S2.1 **LEFT SIDE RETAINING WALL**
SCALE: 1/8"=1'-0"



G S2.1 **LEFT SIDE RETAINING WALL**
SCALE: 1/8"=1'-0"

SOIL NAIL WALL ELEVATION NOTES

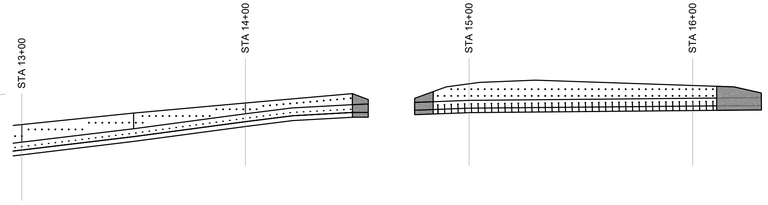
1. REFER TO S0.1 FOR GENERAL STRUCTURAL NOTES.
2. REFER TO S0.2, S0.3 AND S0.5 FOR TYPICAL SOIL NAIL WALL DETAILS.

SOIL WALL KEY NOTES

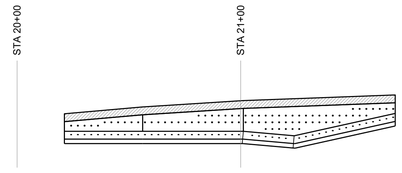
- (A) TYPE 'A' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (B) TYPE 'B' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (C) TYPE 'C' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (D) TYPE 'D' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (E) TYPE 'E' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (F) TYPE 'F' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (G) TYPE 'G' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (1) CONCRETE RETAINING WALL PER 4/S0.5 AND 5/S0.4
- (2) CONCRETE BARRIER PER 2/S0.3

CUT WALL AREA SCHEDULE								
TYPE	RETAINED HEIGHT	NAIL ANGLE	EMBED	DIAMETER OF DRILLED HOLE	SPACING		EDGE DISTANCE	
					MAX.	MIN	MAX.	MIN
A	0'-10'	15°	14'-0'	6"	5'-0'	3'-0'	5'-0'	3'-0'
B	0'-20'	15°	28'-0'	6"	5'-0'	3'-0'	5'-0'	3'-0'
FILL WALL AREA SCHEDULE								
TYPE	RETAINED HEIGHT	NAIL ANGLE	EMBED	DIAMETER OF DRILLED HOLE	SPACING		EDGE DISTANCE	
					MAX.	MIN	MAX.	MIN
C	0'-10'	15°	14'-0'	6"	3'-0'	3'-0'	3'-0'	3'-0'
D	0'-20'	15°	28'-0'	6"	3'-0'	3'-0'	3'-0'	3'-0'
E	0'-10'	15°	10'-0'	6"	3'-0'	3'-0'	3'-0'	3'-0'
F	0'-15'	15°	10'-0'	6"	3'-0'	3'-0'	3'-0'	3'-0'
G	0'-20'	15°	20'-0'	6"	3'-0'	3'-0'	3'-0'	3'-0'

NOTES:
1. REFER TO 1/S0.2 FOR WALL DETAIL AT CUT AREAS.
2. REFER TO 2/S0.2 FOR WALL DETAIL AT FILL AREAS.



RETAINING WALL - KEY PLAN
N.T.S.



RETAINING WALL - KEY PLAN
N.T.S.

LUMOS & ASSOCIATES
950 SANDHILL ROAD, SUITE 100
RENO, NV 89521
TEL. 775.827.6111
WWW.LUMOSINC.COM
INFO@LUMOSINC.COM

© LUMOS & ASSOCIATES, INC.: THIS DRAWING IS THE PROPERTY OF LUMOS & ASSOCIATES, INC.. USE OR REPRODUCTION OF THIS DRAWING, IN WHOLE OR IN PART, WITHOUT THE WRITTEN PERMISSION OF LUMOS & ASSOCIATES, INC. IS STRICTLY PROHIBITED. THIS DRAWING IS NOT TO BE USED FOR ANY PROJECT OTHER THAN THE PROJECT FOR WHICH IT WAS PREPARED.

PROFESSIONAL ENGINEER
DUSTIN N. HAYES
Exp. 6-30-27
STRUCTURAL
No. 035815
STATE OF NEVADA

DAVID & CATHY SCHMENK

2305 OLD RANCH ROAD
RETAINING WALLS
LEFT SOIL NAIL WALL LAYOUT

WASHOE COUNTY, NEVADA

REV	DATE	DESCRIPTION	BY

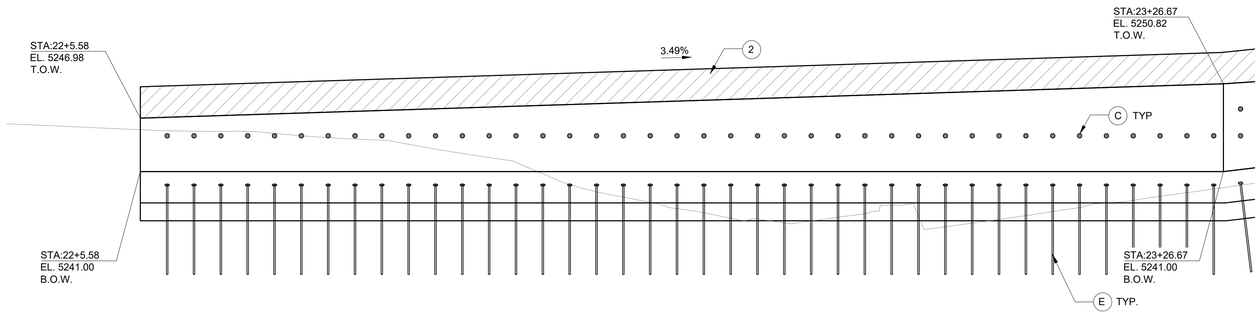
PERMIT SET
NOT FOR CONSTRUCTION
OCTOBER 8, 2026

BAR IS 1 INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

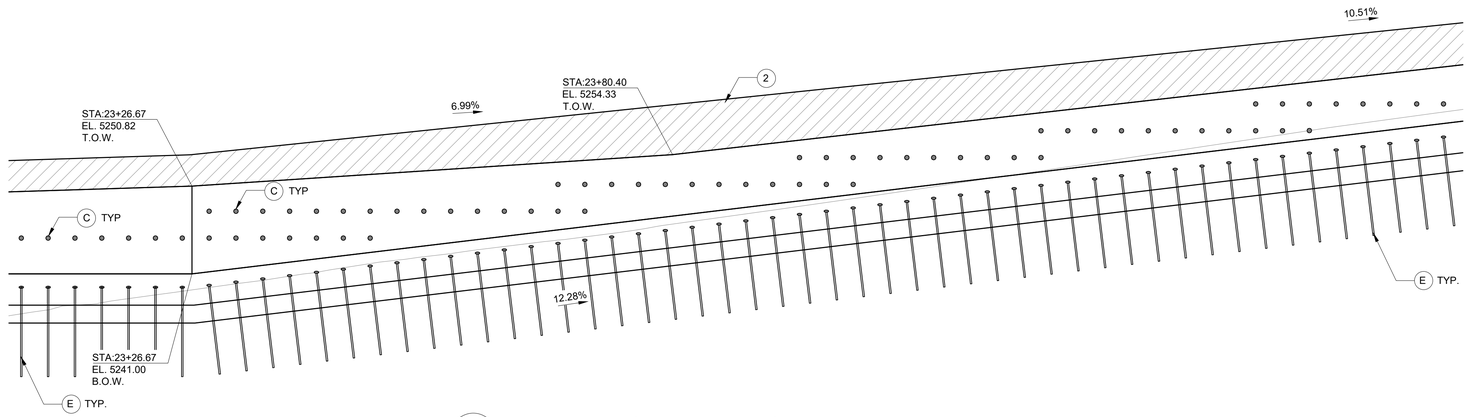
S2.1

DRAWN BY:	KLQ
DESIGNED BY:	PFG
CHECKED BY:	EJH
JOB NO.:	12428.000
SHEETS:	

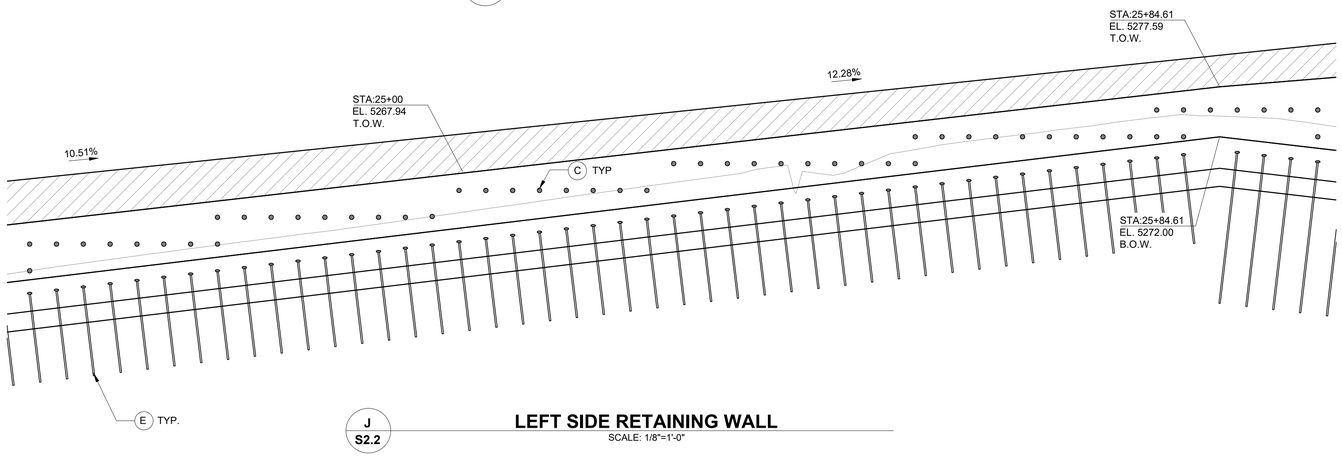
L:\LAP-fs\12428.000 - 2305 Old Ranch Road\3-Design\Structural\Current Drawings\AC4D Drawings\12428.000 2305 Old Ranch Rd.dwg,S2.1, 10/08/2026 02:08 pm alonres



H S2.2 **LEFT SIDE RETAINING WALL**
SCALE: 1/8"=1'-0"



I S2.2 **LEFT SIDE RETAINING WALL**
SCALE: 1/8"=1'-0"



J S2.2 **LEFT SIDE RETAINING WALL**
SCALE: 1/8"=1'-0"

SOIL NAIL WALL ELEVATION NOTES

1. REFER TO S0.1 FOR GENERAL STRUCTURAL NOTES.
2. REFER TO S0.2, S0.3 AND S0.5 FOR TYPICAL SOIL NAIL WALL DETAILS.

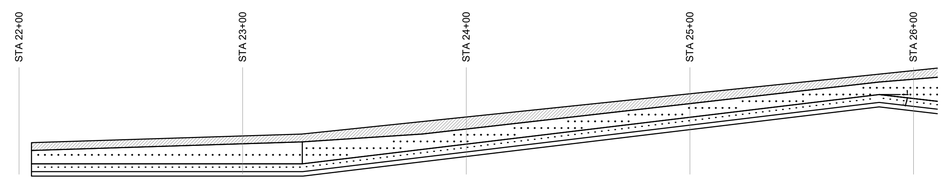
SOIL WALL KEY NOTES

- (A) TYPE 'A' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (B) TYPE 'B' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (C) TYPE 'C' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (D) TYPE 'D' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (E) TYPE 'E' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (F) TYPE 'F' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (G) TYPE 'G' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (1) CONCRETE RETAINING WALL PER 4/S0.5 AND 5/S0.4
- (2) CONCRETE BARRIER PER 2/S0.3

CUT WALL AREA SCHEDULE								
TYPE	RETAINED HEIGHT	NAIL ANGLE	EMBED	DIAMETER OF DRILLED HOLE	SPACING		EDGE DISTANCE	
					MAX.	MIN	MAX.	MIN
A	0'-10'	15°	14'-0'	6"	5'-0'	3'-0'	5'-0'	3'-0'
B	0'-20'	15°	28'-0'	6"	5'-0'	3'-0'	5'-0'	3'-0'

FILL WALL AREA SCHEDULE								
TYPE	RETAINED HEIGHT	NAIL ANGLE	EMBED	DIAMETER OF DRILLED HOLE	SPACING		EDGE DISTANCE	
					MAX.	MIN	MAX.	MIN
C	0'-10'	15°	14'-0'	6"	3'-0'	3'-0'	3'-0'	3'-0'
D	0'-20'	15°	28'-0'	6"	3'-0'	3'-0'	3'-0'	3'-0'
E	0'-10'	15°	10'-0'	6"	3'-0'	3'-0'	3-0'	3'-0'
F	0'-15'	15°	10'-0'	6"	3'-0'	3'-0'	3'-0'	3'-0'
G	0'-20'	15°	20'-0'	6"	3'-0'	3'-0'	3'-0'	3'-0'

NOTES:
1. REFER TO 1/S0.2 FOR WALL DETAIL AT CUT AREAS.
2. REFER TO 2/S0.2 FOR WALL DETAIL AT FILL AREAS.



RETAINING WALL - KEY PLAN
N.T.S.

LUMOS & ASSOCIATES
950 SANDHILL ROAD, SUITE 100
RENO, NV 89521
TEL: 775.827.6111
WWW.LUMOSINC.COM
INFO@LUMOSINC.COM

© LUMOS & ASSOCIATES, INC.: THIS DRAWING IS THE PROPERTY OF LUMOS & ASSOCIATES, INC.. USE OR REPRODUCTION OF THIS DRAWING, IN WHOLE OR IN PART, WITHOUT THE WRITTEN PERMISSION OF LUMOS & ASSOCIATES, INC. IS STRICTLY PROHIBITED. THIS DRAWING IS NOT TO BE USED FOR ANY PROJECT OTHER THAN THE PROJECT FOR WHICH IT WAS PREPARED.

PROFESSIONAL ENGINEER — NEVADA
DUSTIN N. HAYES
Exp. 6-30-27
STRUCTURAL
No. 035815

DAVID & CATHY SCHMENK
2305 OLD RANCH ROAD
RETAINING WALLS
LEFT SOIL NAIL WALL LAYOUT
WASHOE COUNTY NEVADA

REV	DATE	DESCRIPTION	BY

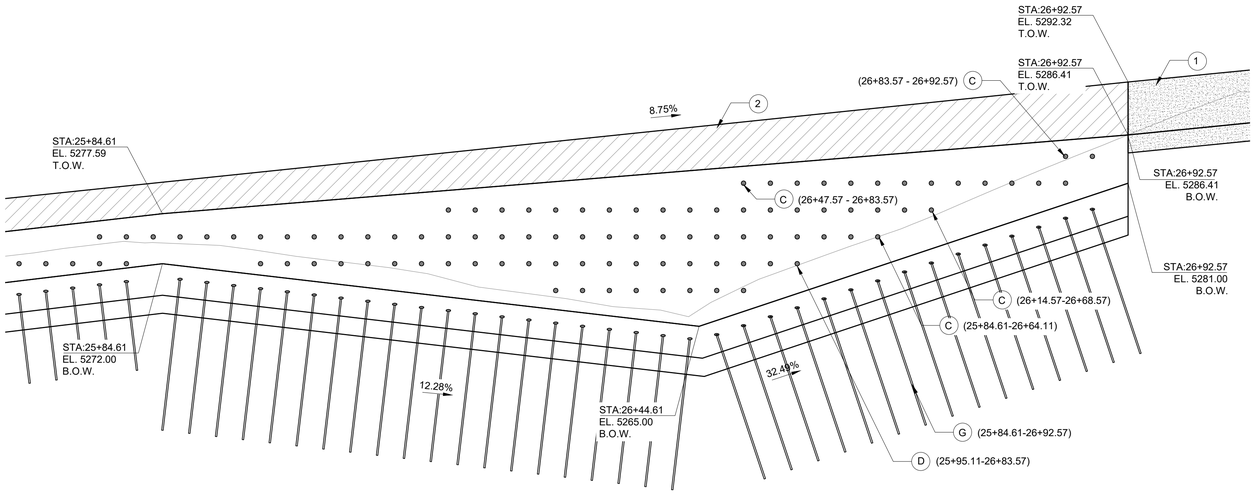
PERMIT SET
NOT FOR CONSTRUCTION
OCTOBER 8, 2026

BAR IS 1 INCH ON ORIGINAL DRAWING
0 1
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

S2.2

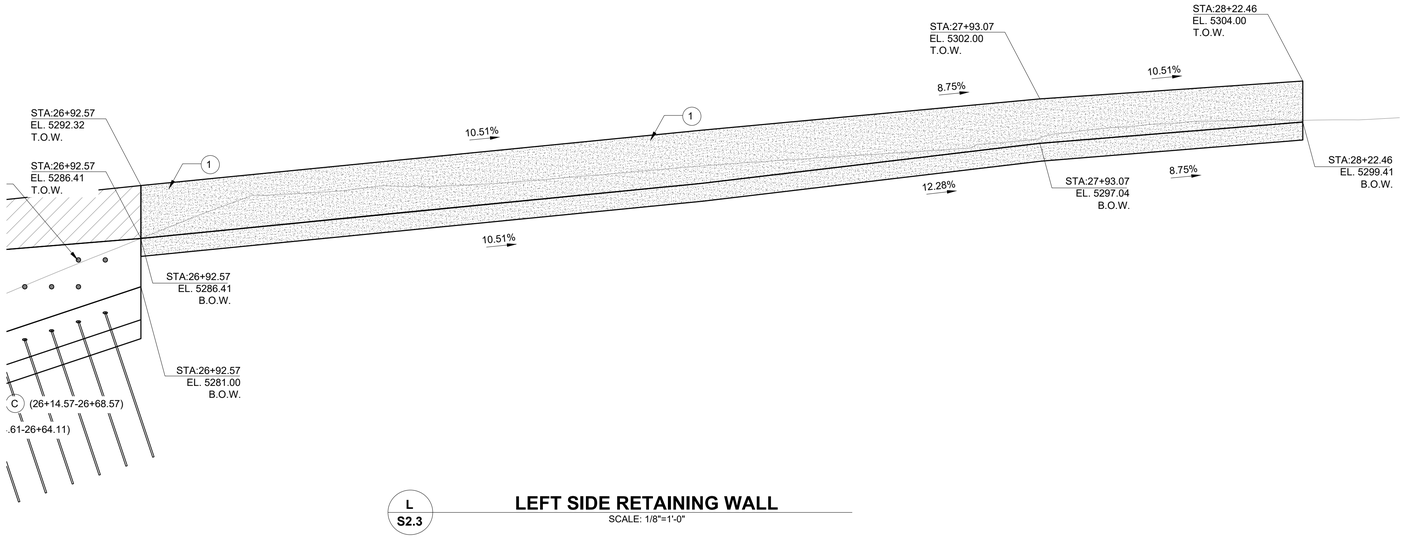
DRAWN BY:	KLQ
DESIGNED BY:	PFG
CHECKED BY:	EJH
JOB NO.:	12428.000
SHEETS:	

L:\APPs\12428.000 - 2305 Old Ranch Road\3-Design\Structural\Current Drawings\AutoCAD Drawings\12428.000 2305 Old Ranch Rd.dwg,S2.2, 10/08/2026 02:08 pm ailones



K / **S2.2** — **LEFT SIDE RETAINING WALL**

SCALE: 1/8"=1'-0"



L / **S2.3** — **LEFT SIDE RETAINING WALL**

SCALE: 1/8"=1'-0"

SOIL NAIL WALL ELEVATION NOTES

1. REFER TO S0.1 FOR GENERAL STRUCTURAL NOTES.
2. REFER TO S0.2, S0.3 AND S0.5 FOR TYPICAL SOIL NAIL WALL DETAILS.

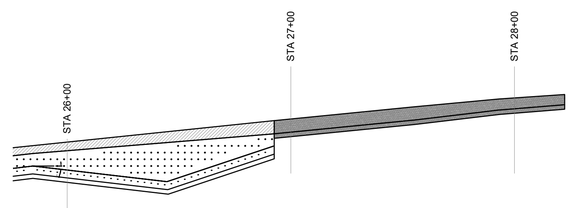
SOIL WALL KEY NOTES

- (A) TYPE 'A' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (B) TYPE 'B' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (C) TYPE 'C' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (D) TYPE 'D' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (E) TYPE 'E' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (F) TYPE 'F' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (G) TYPE 'G' SOIL NAIL EXTENT SHOWN IN PARENTHESIS
- (1) CONCRETE RETAINING WALL PER 4/S0.5 AND 5/S0.4
- (2) CONCRETE BARRIER PER 2/S0.3

CUT WALL AREA SCHEDULE								
TYPE	RETAINED HEIGHT	NAIL ANGLE	EMBED	DIAMETER OF DRILLED HOLE	SPACING		EDGE DISTANCE	
					MAX.	MIN	MAX.	MIN
A	0'-10'	15°	14'-0'	6"	5'-0'	3'-0'	5'-0'	3'-0'
B	0'-20'	15°	28'-0'	6"	5'-0'	3'-0'	5'-0'	3'-0'

FILL WALL AREA SCHEDULE								
TYPE	RETAINED HEIGHT	NAIL ANGLE	EMBED	DIAMETER OF DRILLED HOLE	SPACING		EDGE DISTANCE	
					MAX.	MIN	MAX.	MIN
C	0'-10'	15°	14'-0'	6"	3'-0'	3'-0'	3'-0'	3'-0'
D	0'-20'	15°	28'-0'	6"	3'-0'	3'-0'	3'-0'	3'-0'
E	0'-10'	15°	10-0'	6"	3'-0'	3'-0'	3-0'	3'-0'
F	0'-15'	15°	10'-0'	6"	3'-0'	3'-0'	3'-0'	3'-0'
G	0'-20'	15°	20'-0'	6"	3'-0'	3'-0'	3'-0'	3'-0'

NOTES:
1. REFER TO 1/S0.2 FOR WALL DETAIL AT CUT AREAS.
2. REFER TO 2/S0.2 FOR WALL DETAIL AT FILL AREAS.



RETAINING WALL - KEY PLAN

N.T.S.

LUMOS & ASSOCIATES
950 SANDHILL ROAD, SUITE 100
RENO, NV 89521
TEL. 775.827.6111
WWW.LUMOSINC.COM
INFO@LUMOSINC.COM

© LUMOS & ASSOCIATES, INC.: THIS DRAWING IS THE PROPERTY OF LUMOS & ASSOCIATES, INC.. USE OR REPRODUCTION OF THIS DRAWING, IN WHOLE OR IN PART, WITHOUT THE WRITTEN PERMISSION OF LUMOS & ASSOCIATES, INC. IS STRICTLY PROHIBITED. THIS DRAWING IS NOT TO BE USED FOR ANY PROJECT OTHER THAN THE PROJECT FOR WHICH IT WAS PREPARED.



DAVID & CATHY SCHMENK

2305 OLD RANCH ROAD

RETAINING WALLS

LEFT SOIL NAIL WALL LAYOUT

WASHOE COUNTY, NEVADA

REV	DATE	DESCRIPTION	BY

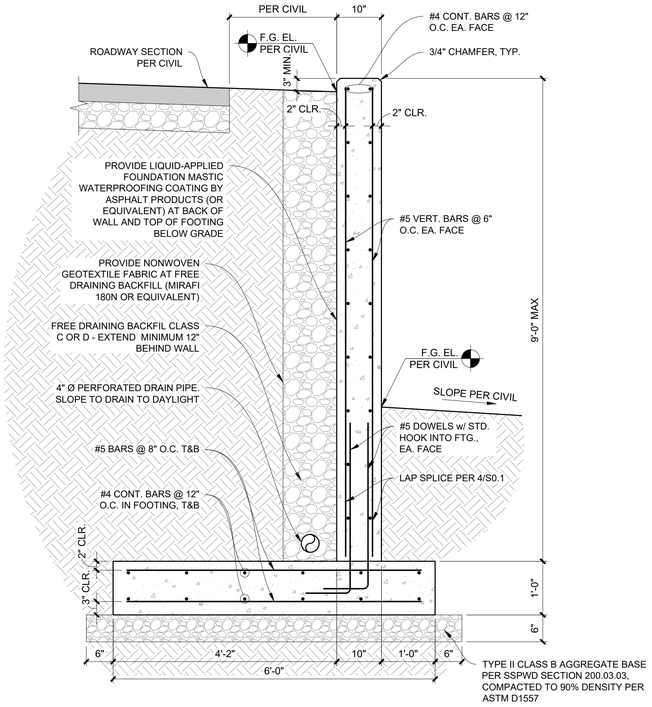
PERMIT SET
NOT FOR CONSTRUCTION
OCTOBER 8, 2026

BAR IS 1 INCH ON ORIGINAL DRAWING
0 1
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

S2.3

DRAWN BY:	KLQ
DESIGNED BY:	PFG
CHECKED BY:	EJH
JOB NO.:	12428.000
SHEETS:	

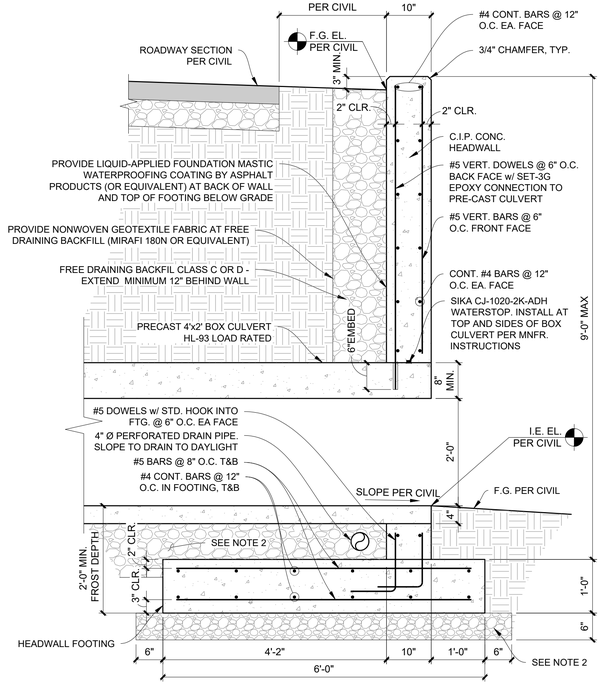
L:\APPs\12428.000 - 2305 Old Ranch Road\3-Design\Structural\Current Drawings\ACAD Drawings\12428.000 2305 Old Ranch Rd.dwg,S2.3, 10/08/2026 02:08 pm klopes



1 S3.0

EAST HEADWALL DETAIL

SCALE: 3/4"=1'-0"

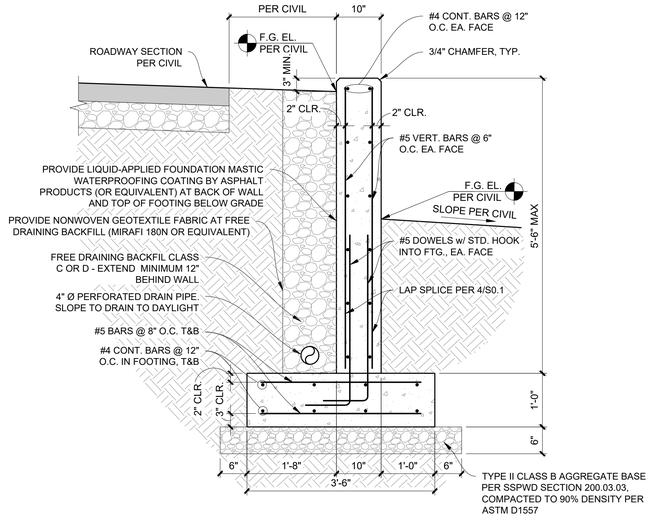


2 S3.0

BOX CULVERT PENETRATION THROUGH EAST HEADWALL

SCALE: 3/4"=1'-0"

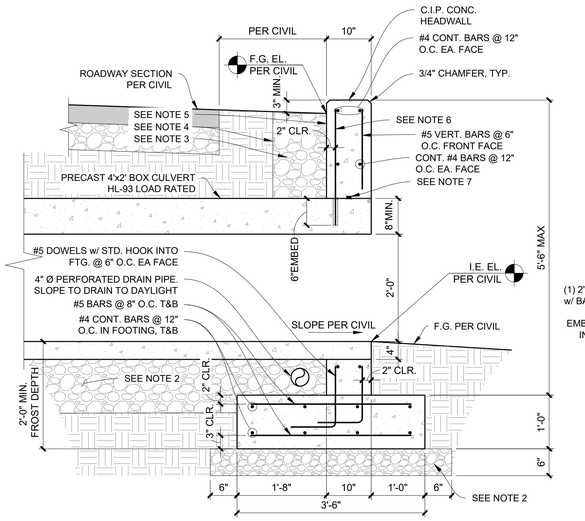
NOTES:
1. INSTALL DOWELS ON BOTH SIDES OF CULVERT, TYPICAL, WITH SPACING TO MATCH DOWELS ON TOP SIDE OF CULVET.
2. TYPE II CLASS B AGGREGATE BASE PER SSPWD SECTION 200.03.03, COMPACTED TO 90% DENSITY PER ASTM D1557.



3 S3.0

WEST HEADWALL DETAIL

SCALE: 3/4"=1'-0"

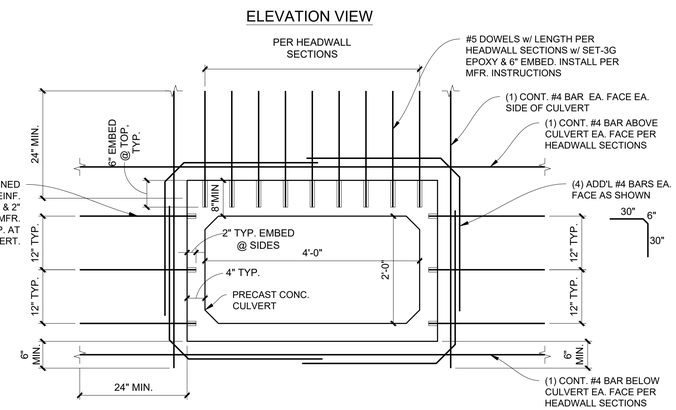


4 S3.0

BOX CULVERT PENETRATION THROUGH WEST HEADWALL

SCALE: 3/4"=1'-0"

NOTES:
1. INSTALL DOWELS ON BOTH SIDES OF CULVERT, TYPICAL, WITH SPACING TO MATCH DOWELS ON TOP SIDE OF CULVET.
2. TYPE II CLASS B AGGREGATE BASE PER SSPWD SECTION 200.03.03, COMPACTED TO 90% DENSITY PER ASTM D1557.
3. FREE DRAINING BACKFILL CLASS C OR D - EXTEND MINIMUM 12" BEHIND WALL
4. PROVIDE NONWOVEN GEOTEXTILE FABRIC AT FREE DRAINING BACKFILL (MIRAFI 180N OR EQUIVALENT)
5. PROVIDE LIQUID-APPLIED FOUNDATION MASTIC WATERPROOFING COATING BY ASPHALT PRODUCTS (OR EQUIVALENT) AT BACK OF WALL AND TOP OF FOOTING BELOW GRADE
6. #5 VERT. DOWELS @ 6" O.C. BACK FACE W/ SET-3G EPOXY CONNECTION TO PRE-CAST CULVERT
7. SIKA CJ-1020-2K-ADH WATERSTOP. INSTALL AT TOP AND SIDES OF BOX CULVERT PER MNFR. INSTRUCTIONS



5 S3.0

HEADWALL REINFORCEMENT AT CULVERT OPENING

SCALE: 3/4"=1'-0"

NOTES:
1. SEE HEADWALL SECTIONS FOR TYPICAL HEADWALL REINFORCING AND OTHER ADDITIONAL INFORMATION.
2. SEE GRADING PLANS FOR F.G. AND BOX CULVERT INVERT ELEVATIONS.
3. PROVIDE 3" CLEAR FOR ALL HEADWALL REINFORCING ADJACENT TO CULVERT PENETRATION.
4. CULVERT DIMENSIONS TO BE VERIFIED BY PRECAST CONCRETE MANUFACTURER FOLLOWING COMPLETION OF DESIGN.

LUMOS & ASSOCIATES
950 SANDHILL ROAD, SUITE 100
RENO, NV 89521
TEL: 775.827.6111
WWW.LUMOSINC.COM
INFO@LUMOSINC.COM

© LUMOS & ASSOCIATES, INC.: THIS DRAWING IS THE PROPERTY OF LUMOS & ASSOCIATES, INC.. USE OR REPRODUCTION OF THIS DRAWING, IN WHOLE OR IN PART, WITHOUT THE WRITTEN PERMISSION OF LUMOS & ASSOCIATES, INC. IS STRICTLY PROHIBITED. THIS DRAWING IS NOT TO BE USED FOR ANY PROJECT OTHER THAN THE PROJECT FOR WHICH IT WAS PREPARED.



DAVID & CATHY SCHMENK

2305 OLD RANCH ROAD
RETAINING WALLS
HEADWALL DETAILS

WASHOE COUNTY, NEVADA

REV	DATE	DESCRIPTION	BY

PERMIT SET
NOT FOR CONSTRUCTION
OCTOBER 8, 2026

BAR IS 1 INCH ON ORIGINAL DRAWING
0 1
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

S3.0

DRAWN BY:	KLQ
DESIGNED BY:	PFG
CHECKED BY:	EJH
JOB NO.:	12428.000
SHEETS:	

L:\LAP\proj\12428.000 – 2305 Old Ranch Road\3-Design\Structural\Current Drawings\ACAD Drawings\12428.000 2305 Old Ranch Rd.dwg,S3.0, 10/08/2026 02:08 pm aguirres

MARSDEN
ARCHITECTS

SCHMENK ACCESS DRIVE AND RESIDENCE – SPECIAL USE PERMIT APPLICATION
2205 and 2305 Old Ranch Road – Washoe Valley
APNS 055-032-15 & 055-032-03

SPECIAL USE PERMIT – PROJECT NARRATIVE AND JUSTIFICATION

1. Project Background

The proposed project consists of a major grading and site improvement project to establish an improved shared residential access route from Old Ranch Road serving APNs 055-032-03 and 055-032-15. The two parcels are under common ownership and will utilize a single shared access connection, with a formal shared-access agreement to be recorded. The project team is working with Incline Law Group (Cassell Von Baeyer) to draft and record the easements necessary to establish legally shared access to both parcels and to justify development of permanent roadway infrastructure across property lines – please see the enclosed draft easement documents.

The need for the proposed access improvements is directly related to the development of the proposed single-family residence under Building Permit Application No. WBLD26-102135. As part of the building permit review, the fire department has required the residential access route serving the proposed residence to be improved to meet current emergency vehicle access requirements, including requirements for an increased access width to 16', decreased roadway/driveway slope to a maximum of 12%, and greater curve radii adequate for emergency vehicle turning movements. The existing access route does not meet current standards for emergency vehicle access and is therefore proposed to be removed and replaced with a substantially improved, engineered access route.

The existing site presents substantial topographic constraints, including significant changes in elevation and areas with slopes of 30 percent or greater. As a result, establishing a compliant access route cannot be accomplished simply by improving the existing surface. The proposed alignment requires substantial excavation and fill, engineered retaining systems, drainage improvements, and an emergency vehicle turnout in order to achieve the required access geometry while minimizing disturbance to the extent practicable.

2. Requested Code Deviations and Justification

The project requires deviations from certain applicable development standards because of the site's existing topography and the need to establish a fire-department-compliant access route. The requested Washoe County Development Code deviations are as follows:

- **Section 110.438.28(a)(2)** for roadways traversing ≥ 30% slope

  Justification: The proposed access drive necessarily traverses slopes greater than 30% due to the property's steep existing topography, as significant portions of the terrain across each of the subject parcels exceeds 30% in slope. Avoiding these areas would require substantially greater grading, site disturbance, and retaining-wall construction. The proposed alignment, which utilizes as much of the existing roadway footprint and grading as practicable, provides necessary residential access while minimizing overall disturbance.

- **Section 110.438.32** for establishing grading & retaining walls within setback areas

  Justification: The proposed access road must traverse significant grade changes to reach the existing and proposed residences. Due to the emergency access standards limiting the maximum slope and minimum turning radii for the access drive, the proposed roadway configuration necessarily crosses property boundaries and encroaches into setback areas to meet these standards. As previously mentioned, the properties are currently under shared ownership and a formal access easement agreement will be recorded to establish legal access/improvements across the properties that will run with the parcels into perpetuity.

- **Section 110.436.30(b)(2), (b)(4) for roadway grades >6%**

  Roadway grades exceeding 6 percent are necessary to accommodate the property's substantial elevation change and existing terrain. Limiting the roadway to 6 percent would require substantially greater grading, retaining walls, and site disturbance. The proposed alignment provides functional residential access while minimizing the overall extent of site disturbance.

Last, it should be noted that the project is not subject to Hillside Development standards of Article 424 because the subject parcels were legally created with the right to establish residences prior to January 18, 1994 (see enclosed Franktown Hills subdivision map, CC&Rs, and property title report).

3. Project Impacts and Mitigation Measures

The principal impacts associated with the project are temporary construction-related impacts and the permanent alteration of portions of the hillside necessary to construct the required access improvements. The project has been designed to address all impacts through engineered construction methods, erosion and drainage controls, slope stabilization, vegetation protection, and post-construction revegetation. Please see the enclosed plans and Supplemental Information attachment providing detailed information describing project mitigation measures.

4. Overall Project Justification

The grading project represents an integral site improvement associated with the proposed residence and is not an independent expansion of the residential use. The proposed grading is necessary to establish safe, reliable, and appropriately engineered access to existing and proposed residences at the project site. The improved access will serve both APNs 055-032-03 and 055-032-15 and will also provide improved access to 2205 Old Ranch Road, allowing the properties to utilize one coordinated access connection rather than creating separate access facilities.

The substantial grading is a direct consequence of the site's existing topography and the geometric requirements necessary to establish the required access to meet applicable standards. The project team has evaluated the available alignment and proposes to minimize disturbance to the extent practicable.

The project provides broader site and neighborhood benefits by improving surface drainage, stabilizing disturbed slopes, reducing the potential for erosion and uncontrolled sediment movement, protecting existing infrastructure, and establishing an adequate emergency access route.

The requested deviations are limited to those necessary to make the required access improvements feasible and are supported by site-specific conditions that make strict compliance impracticable without substantially increasing grading and disturbance.

MARSDEN
ARCHITECTS

SPECIAL USE PERMIT APPLICATION – SUPPLEMENTAL INFORMATION

1. ***What is the project being requested?***

   The project consists of a major grading and site improvement project to establish a shared residential access route from Old Ranch Road serving APNs 055-032-03 and 055-032-15. The two parcels are under common ownership and will share a single access connection, with a formal shared-access agreement to be recorded.

   The project includes removal of the existing access route and associated asphalt/infrastructure; construction of the proposed access drive and emergency vehicle turnout; soil-nail and engineered retaining walls; drainage improvements, including a proposed culverts and associated headwalls; utility improvements and coordination; and stabilization and revegetation of disturbed areas. Total Project Disturbance as seen in tables on sheet C3.0 was aimed to balance earthwork, while also meeting fire department access route requirements. A slight import of only 9 CY is reflected in the tables.

   The project also includes site improvements associated with the proposed residence, including a domestic well, septic system infrastructure, heated auto court, and landscape slope stabilization. The proposed residence and associated site improvements are being processed under Building Permit Application No. WBLD26-102135.

   The project requires a Special Use Permit because the cumulative proposed grading exceeds applicable Washoe County grading thresholds, including thresholds associated with total disturbance and grading on slopes of 30 percent or greater. Variances or other requested deviations from applicable development standards are identified separately in the application and are necessary to accommodate the site-specific constraints and required access improvements.

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.)***

   The submitted civil and structural plans collectively depict the existing and proposed site improvements, structures, access, utilities, drainage, grading, and erosion-control measures, including:

   - C2.0 – Existing Site & Demolition Plan: Existing access route and associated infrastructure to be removed, existing utilities and infrastructure, existing septic infrastructure, trees proposed for removal, and existing alternate access to be demolished.
   - C3.0 – Access Road Improvements : Proposed access road improvements, Grading and retaining, Stormwater drainage facilities, vegetation protection, and landscape slope stabilization.

MARSDEN
ARCHITECTS

- C4.0-C4.5 –Access Drive Improvements: Detailed grading and retaining-wall locations, limits of disturbance, and access-drive earthwork.
- C5.0/C5.1 – Access Drive Improvements Drainage Plans: drainage improvements, culvert and headwalls, landscape slope stabilization, and peak flow summary and sizing summary.
- Structural Sheets S1.0–S2.3: Soil-nail retaining walls, concrete retaining-wall elements, concrete traffic barriers, and associated structural details.

The existing Lathrop Ditch is identified on the plans and will remain protected in place. Any construction affecting the ditch will be subject to prior approval by the Lathrop Ditch Company. The project team has been in close contact with the Lathrop Ditch Company President, Ed Evan. The project team conducted a in person Site visit and meeting with Ed Evan on January 7th, 2026. Notes and correspondence have been provided for reference.

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

The precise construction schedule will be coordinated with permit allowances, weather conditions, and the contractor's construction schedule, but will otherwise include the following:

- Install construction access, vegetation-protection fencing, erosion-control BMPs, and other required pre-construction measures.
- Commence excavation for residence scope to make suitable fill available.
- Complete demolition of the existing access route and associated infrastructure within the approved limits of disturbance.
- Construct the proposed access drive, including required excavation/fill, retaining walls, drainage facilities, and emergency vehicle access improvements. The driveway is planned in seven sequential fill-wall reaches, with an estimated 23-week access-road duration excluding weather and third-party delays.
- Complete utility, well, septic, and residence-related site improvements in coordination with the applicable building permits and utility agencies.
- Complete final grading, stabilization, and drainage improvements.
- Revegetate disturbed areas and maintain temporary irrigation and erosion-control measures until vegetation is established and the site is stabilized.

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 site is an established residential property with existing access and utility infrastructure. The proposed project improves an existing access corridor rather than creating an entirely new development area, and the two commonly owned parcels will utilize a coordinated shared-access connection from Old Ranch Road.

MARSDEN
ARCHITECTS

The site's steep terrain is addressed through engineered improvements specifically designed for the existing conditions, including soil-nail retaining walls, engineered retaining/headwall elements, engineered drainage facilities, landscape slope stabilization, erosion-control BMPs, and revegetation. Existing utilities and the Lathrop Ditch will be protected in place or modified only as necessary with appropriate coordination and approvals.

An existing on-site well will provide water for temporary irrigation, including dust suppression and establishment of revegetation.

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

The project will provide a more appropriately engineered and improved shared access route serving APNs 055-032-03 and 055-032-15 from Old Ranch Road with a key benefit being the provision of adequate facilities for access by emergency vehicles where non-compliant facilities existed before.

The project will also provide improved management of surface drainage and stabilization of disturbed slopes, reducing the potential for erosion and uncontrolled sediment movement. Disturbed areas that are not otherwise improved will be revegetated with a native seed mix approved by Washoe County, and areas with slopes steeper than 3H:1V will receive rock slope protection as specified in the plans.

The project will protect existing infrastructure, including the Lathrop Ditch and utilities that are to remain in place, and will incorporate erosion-control BMPs throughout construction. The shared access arrangement also allows the two commonly owned parcels to utilize coordinated access rather than developing two separate access connections.

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

No net negative impacts are anticipated. Potential temporary impacts would be those typically associated with construction activities (equipment noise, airborne dust, soil disturbance, and the potential for stormwater runoff and sediment migration).

These impacts will be mitigated through careful implementation of the erosion control and construction management measures shown on the plans, including:

- Construction and vegetation-protection fencing
- Erosion-control BMPs installed and maintained throughout construction
- Regular inspection and maintenance of disturbed areas, material storage areas, vehicle entrances/exits, and BMPs

- Temporary or permanent stabilization of disturbed soils within 14 days of disturbance
- Temporary irrigation from the existing on-site well for dust suppression and revegetation
- Engineered retaining walls and drainage facilities to manage grading and runoff
- Protection of existing utilities and the Lathrop Ditch

The project team has been in close coordination with Ed Evans, president of the Lathrop Ditch Company, to ensure compliance with standards.

Following construction, disturbed areas not otherwise improved will be revegetated with a native seed mix approved by Washoe County, and the site will be stabilized in accordance with the civil plans.

Construction activities will be limited to the Washoe County approved hours between 7am and 7pm, Monday through Saturday or will otherwise comply with Washoe County noise standards.

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.

The new access drive is proposed in conjunction with existing and proposed single-family residential uses. The project has addressed corresponding code requirements accordingly:

- Landscaping: Disturbed areas not otherwise improved will be revegetated with a Washoe County-approved native seed mix. Areas with slopes steeper than 3H:1V will receive rock slope protection. Landscape slope stabilization using landscape boulders is also proposed. Vegetation-protection fencing will be installed around areas intended to remain undisturbed. Tree removal is limited to areas necessary for the proposed grading and site improvements and is identified on the civil plans.

- Parking: Parking for the proposed single-family residence at 2305 Old Ranch Rd. will be provided by an attached garage and adjacent auto court, currently under review with building permit application no. WBLD26-102135. Parking for the existing garage/dwelling at 2205 Old Ranch Rd. is provided with an attached garage and adjacent auto court. Improved access to both properties will be provided by the proposed access drive.

- Signs: No signage is proposed nor required for a single-family residential use. The project can incorporate any signage that may be required by Washoe County or Truckee Meadows Fire Protection District as-needed.

- Lighting: Motion-activated solar-powered lighting is proposed at intermittent points along the access drive as-needed for navigation and safety. A separate lighting plan shall be submitted with the corresponding grading permit application for the access drive.

- Drainage and erosion control: The project includes engineered drainage improvements, including a proposed culverts, associated headwall/wing-wall construction, and site drainage improvements. Construction BMPs are required throughout the grading operation.

- Utilities: Existing gas and electric infrastructure are shown on the plans and is to be protected or modified as necessary in coordination with the applicable utility agencies. Utility Coordination Letters with NV Energy and Southwest Gas have been provided. The proposed residence and associated site improvements are being processed under Building Permit Application No. WBLD26-102135 include a new residential domestic well and septic system infrastructure.

MARSDEN
ARCHITECTS

SPECIAL USE PERMIT APPLICATION FOR GRADING – SUPPLEMENTAL INFORMATION

1. ***What is the purpose of the grading?***

   The proposed grading is required to construct a new shared access drive from Old Ranch Road serving APNs 055-032-03 and 055-032-15, including the associated roadway improvements, emergency vehicle turnout, drainage improvements, and retaining-wall systems necessary to construct the access drive through the existing sloped terrain. The proposed access drive will replace the existing access route and associated asphalt and infrastructure.

2. ***How many cubic yards of material are you proposing to excavate on site?***
   APN: 055-032-03: ***4,884 CY total; 2,356 CY net fill***
   APN: 055-032-15: ***8,604 CY total ; 3,950 CY net fill***

3. ***How many square feet of surface of the property are you disturbing?***
   APN: 055-032-03: ***30,185sf***
   APN: 055-032-15: ***93,535sf***

4. ***How many cubic yards of material are you exporting or importing? If none, how are you managing to balance the work on-site?***
   Total Project Disturbance as seen in tables on steet C3.0 was aimed to balance earthwork, while also meeting fire department access route requirements. A slight import of **9 CY** is reflected in the tables, but values in tables compare FG to EG and do not include shrink/swell factors, wall construction earthwork, or hardscape sections.

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 to develop the property without surpassing SUP grading thresholds, including thresholds for area of disturbance, grading across slopes of 30%, cut and fill quantities, and extents of retaining walls.

   The Truckee Meadows Fire Department has required an improved access drive for the proposed residence, including minimum access width, maximum slope, and minimum turning-radius requirements in conjunction with an alternate means and materials request. The site's substantial existing grade changes limit the available alignment options and require grading to establish an access route that satisfies these requirements.

   The proposed design minimizes disturbance to the extent practicable while providing the required access, drainage, emergency vehicle circulation, and engineered slope-retention improvements.

MARSDEN
ARCHITECTS

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.)***

   Grading for a previously-existing structure on lot 055-032-15 that burned in a fire and rebuilt as the existing garage/ADU, and the existing access road were completed by previous property owners. The existing access route is proposed to be removed and revegetated in conjunction with approval of the SUP. Grading associated with the proposed residence and circular driveway under building permit application no. WBLD26-102135 may commence prior to SUP approval - see plans for project area included under this scope.

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

   Yes.

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

   Yes. Portions of the disturbed area will be visible from Old Ranch Road and nearby Old US 395. Due to the site's sloping terrain, portions of the grading and retaining wall improvements may also be visible from adjoining properties in all directions.
   Visual impacts will be reduced through retention and protection of existing trees/vegetation where practicable, engineered retaining systems, stabilization of disturbed slopes, and revegetation following construction. Engineered retaining walls will be finished in a stamped concrete to diminish their prominence and increase the astatic quality as viewed form off-site.

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)?***

   The proposed access drive will also serve 2205 Old Ranch Road, replacing the existing non-compliant access drive.

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?***

    Significant grade separation is addressed primarily through engineered soil-nail retaining walls rather than unsupported conventional cut/fill slopes. Structural notes limit general excavation cuts within 15 feet in front of soil-nail walls to no steeper than 1H:1V unless otherwise approved by the project engineer, and the contractor is required to maintain stable slopes above and below the walls.

Erosion will be controlled through temporary and permanent BMPs, including fiber rolls, construction and vegetation-protection fencing, maintenance and inspection of BMPs, protection of existing drainage infrastructure, sediment removal, and temporary or permanent stabilization of disturbed soils within 14 days of disturbance. Comprehensive drainage improvements are also incorporated into the design.

11. ***Are you planning any berms?***

No.

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)?***

Retaining walls associated with the single-family dwelling are included in the civil and structural foundation plans submitted with building permit application no. WBLD26-102135. The residence has been designed to meet natural grade rather than be placed on a level pad. Landscape boulders are proposed for slope stabilization adjacent to the residence. As proposed grade is feathered into the existing site contours.

Multiple soil-nail retaining walls are proposed along portions of the access drive to address both cut and fill conditions. Additional cast-in-place concrete retaining/headwall structures are provided at drainage and culvert locations.
The soil-nail walls consist of reinforced structural shotcrete facing with epoxy-coated soil nails and grouted anchors. The structural plans provide soil-nail wall types with retained heights ranging up to approximately 20 feet. Cast-in-place concrete headwalls have maximum retained heights of approximately 9 feet for the east headwall and 5.5 feet for the west headwall.

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

Proposed visual mitigation consists primarily of the following:

- Minimize the overall grading footprint to the maximum extent practicable
- Retain and protect existing vegetation outside the approved disturbance limits
- Use of engineered retaining wall systems to limit the extent of unsupported hillside cuts and fills
- Use of stamped concrete as a surfacing treatment for the engineered retaining walls
- Limit grading to the areas necessary for the proposed access improvements
- Stabilize/revegetate disturbed areas following construction

MARSDEN
ARCHITECTS

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

Tree removal is proposed only where necessary to accommodate the approved grading and site improvements. The trees proposed for removal are identified on the submitted civil plans and shown below:

TREE REMOVAL TABLE		
DIAMETER	SPECIES	QUANTITY
40"	PINE	1
34"	PINE	1
32"	PINE	1
30"	PINE	3
28"	PINE	2
24"	PINE	1
22"	PINE	3
20"	PINE	3
18"	PINE	3
14"	PINE	2
12"	PINE	5

ADDITIONAL TREES NOT IDENTIFIED IN THE TABLE MAY BE REMOVED DURING DESIGN AND CONSTRUCTION, AS NECESSARY, DUE TO WALL CONSTRUCTION, GRADING, AND OTHER CONSTRUCTION IMPACTS.

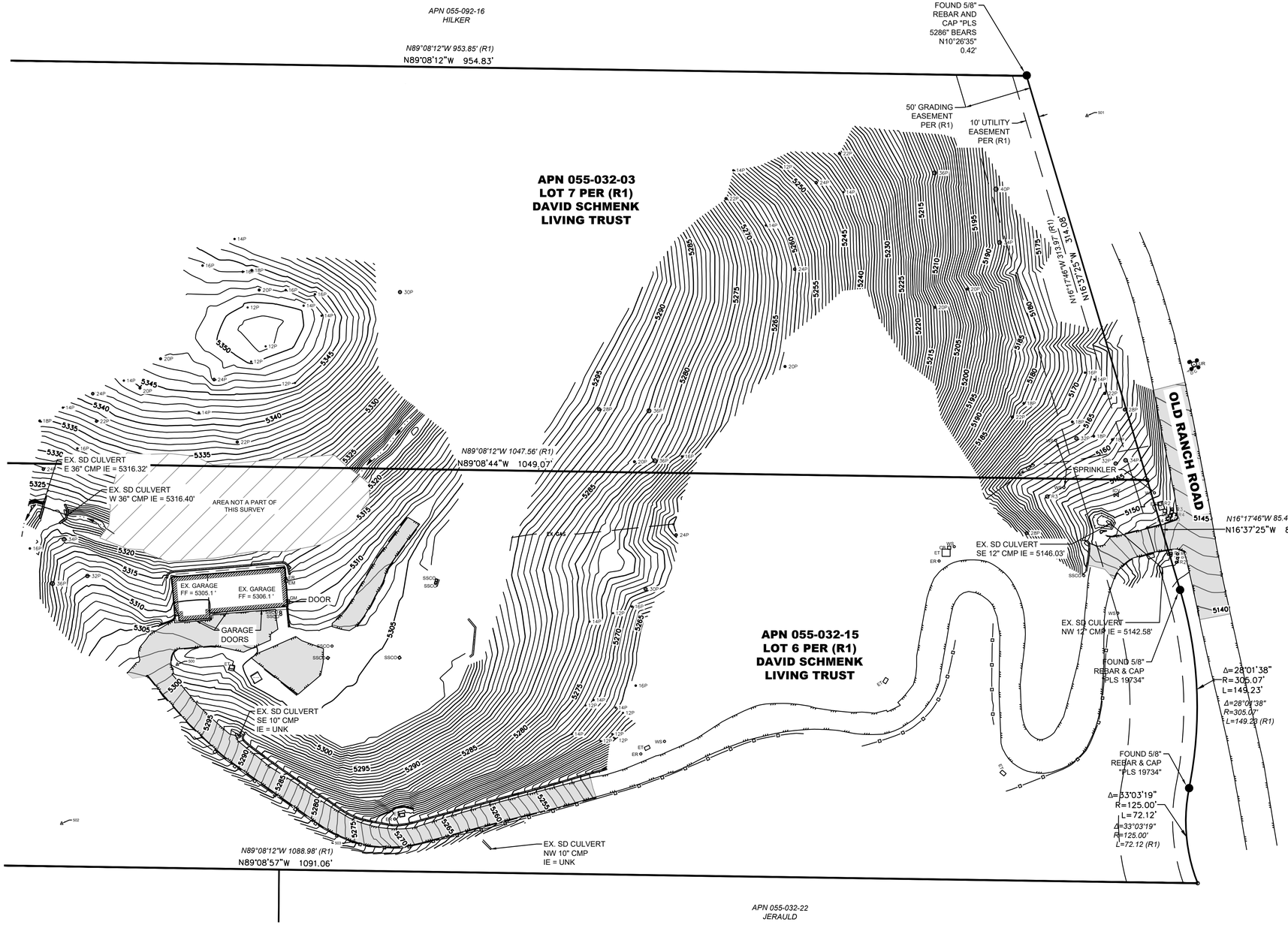
10. REFER TO SUPPLEMENTAL DOCUMENTATION PROVIDED BY THE CONTRACTOR FOR THE FOLLOWING:
    - 10.1. EXCAVATED MATERIAL DISPOSITION & TEMPORARY STOCKPILE LOCATION.
    - 10.2. ADDITIONAL TREE REMOVAL MARK UP REQUIRED FOR RETAINING WALL CONSTRUCTION.
    - 10.3. HAUL ROUTE MITIGATION PLAN.
    - 10.4. SIGNED DOCUMENTATION FROM SOUTHWEST GAS AND NV ENERGY CONFIRMING PROCESS FOR UTILITY REDESIGN & REROUTING IS IN PROCESS.

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 project will use a Washoe-County approved native upland revegetation seed mix dispersed at a rate of approximately 25–30 PLS lbs./acre, subject to County approval prior to installation.

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

Temporary irrigation water will be supplied from the existing on-site well at 2205 Old Ranch Rd. Irrigation will be provided to disturbed areas as necessary throughout construction for dust suppression and to maintain appropriate soil moisture. Following grading, irrigation will continue as needed to facilitate establishment of revegetation and stabilization measures. The frequency and duration of watering will be adjusted based on weather conditions, soil conditions, and the needs of establishing vegetation.



BASIS OF BEARINGS

THE BASIS OF BEARINGS FOR THIS SURVEY IS NEVADA STATE PLANE COORDINATE SYSTEM, WEST ZONE NAD83(94) BASED UPON REAL TIME KINEMATIC GPS OBSERVATIONS, OBSERVED DECEMBER 03, 2025 USING A SURVEY GRADE DUAL FREQUENCY GPS RECEIVER FROM USC&GS DISC IN TOP OF STONE STAMPED "L357 1953" MODIFIED BY A COMBINED FACTOR OF 1.0001979390, SCALED FROM 0.00N ,0.00E AND CONVERTED TO U.S. SURVEY FEET. ALL DIMENSIONS ON THIS MAP ARE GROUND DISTANCES.

BASIS OF ELEVATIONS

DATUM: NAVD 88
PROJECT BENCHMARK = USC&GS DISC IN TOP OF STONE STAMPED "L357 1953"
HAVING AN ELEVATION OF 5066.21'

REFERENCES

(R1) TRACT MAP NO. 1944, FILE NO. 684300, RECORDED JULY 24, 1980, OFFICIAL RECORDS OF WASHOE COUNTY, STATE OF NEVADA.

NOTES

1. THIS SHEET IS PROVIDED FOR INFORMATION ONLY, SHOWING EXISTING CONDITIONS AT THE TIME OF SURVEY AND NOT A PART OF DESIGN REVIEW.
2. FIELD WORK WAS PERFORMED DECEMBER 03-04, 2025.
3. EASEMENTS MAY EXIST THAT ARE NOT SHOWN HEREON
4. THIS IS NOT A BOUNDARY SURVEY. BOUNDARY SHOWN BY RECORD INFORMATION.

PURPOSE OF SURVEY

THE PURPOSE OF THIS SURVEY IS TO PROVIDE TOPOGRAPHIC DATA FOR ENGINEERING DESIGN OF NEW RESIDENCE, DRIVEWAY, AND BRIDGES.

SITE INFORMATION:

A.P.N. 055-032-03
2305 OLD RANCH ROAD
WASHOE COUNTY, NEVADA
~6.89 ACRES

A.P.N. 055-032-15
2205 OLD RANCH ROAD
WASHOE COUNTY, NEVADA
~7.42 ACRES

PROPERTY OWNER:

SCHMENK LIVING TRUST, DAVID
1445 TIROL DR
INCLINE VILLAGE, NV89451

LEGEND:

- POST CURB
- CURB AND GUTTER
- EDGE OF PAVEMENT
- FENCE LINE
- EX COM — EXISTING UNDERGROUND COMM LINE
- EX GAS — EXISTING UNDERGROUND GAS LINE
- EX OH ELEC — EXISTING OVERHEAD ELECTRIC LINE
- EX ELEC — EXISTING UNDERGROUND ELECTRIC LINE
- EX SS — EXISTING UNDERGROUND SEWER LINE
- EX WL — EXISTING UNDERGROUND WATER LINE
- EX AIR — EXISTING UNDERGROUND AIR LINE
- EX SD — EXISTING UNDERGROUND STORM DRAIN LINE
- EX REC WL — EXISTING UNDERGROUND RECLAIMED WATER LINE

AC PAVING, CONCRETE, GRAVEL, DECK, PAVERS, RIP RAP, CONTOUR DEPRESSION

- FIRE HYDRANT
- FIRE DEPARTMENT CONNECTION
- FDCV POST INDICATOR VALVE
- WV WATER VALVE
- WM WATER METER
- WS WATER SPICKET / HOSE BIB
- ICV IRRIGATION CONTROL VALVE
- ICB IRRIGATION CONTROL BOX
- W WATER MANHOLE
- WV WATER VAULT
- W WELL
- HB HOT BOX
- WB WATER BOX
- ARV AIR RELEASE VALVE
- S SPRINKLER HEAD
- S SANITARY SEWER MANHOLE
- SSCO SANITARY SEWER CLEANOUT
- I INTERCEPTOR MANHOLE
- UTILITY POLE
- GUY WIRE
- ET ELECTRIC TRANSFORMER
- EV ELECTRIC VAULT
- EP ELECTRIC PANEL
- EC ELECTRIC CABINET
- EB ELECTRIC BOX
- EM ELECTRIC METER
- EG ELECTRIC GENERATOR
- E ELECTRIC MANHOLE
- AC AIR CONDITIONER
- ELECTRIC OUTLET
- LIGHT
- ER ELECTRIC RISER
- SIGN
- BOLLARD
- PM PARKING METER
- MB MAILBOX
- P POST OR POLE
- D STORM DRAIN MANHOLE
- D STORM DRAIN DROP INLET
- STORM DRAIN CATCH BASIN
- SDCO STORM DRAIN CLEANOUT
- R RECLAIMED WATER MANHOLE
- RICV RECLAIMED IRR. CONTROL VALVE
- RWV RECLAIMED WATER VALVE
- RTB RECLAIMED TELEMETRY BOX
- CR COMMUNICATION RISER
- CB COMMUNICATION BOX
- C COMMUNICATION MANHOLE
- CV COMMUNICATION VAULT
- CC COMMUNICATION CABINET
- CP COMMUNICATION PANEL
- GM GAS METER
- GV GAS VALVE
- G GAS MANHOLE
- GV GAS VAULT
- GR GAS RISER
- DIMENSION POINT, NOTHING FOUND OR SET
- FOUND MONUMENT AS NOTED
- LUMOS CONTROL POINT
- P.U.E. PUBLIC UTILITY EASEMENT
- F.F. FINISHED FLOOR ELEVATION
- T.R. TOP ROOF ELEVATION
- (R#) PER REFERENCED DOCUMENT
- UM UNKNOWN UTILITY MANHOLE
- UV UNKNOWN UTILITY VALVE
- UB UNKNOWN UTILITY BOX
- UR UNKNOWN RISER
- UV UNKNOWN VAULT
- DS DOWNSPOUT
- TREE "@BH D=DECIDUOUS
- ROCK

N

40' 20' 0 40' 80'

SCALE: 1"= 40'
C.I. = 1'

PROJECT CONTROL

POINT	NORTH	EAST	ELEVATION	DESCRIPTION
L357	14774872.82	2269134.28	5066.21	USC&GS DISC IN TOP OF ROCK "L357 1953"
500	14773180.01	2267276.11	5302.83	REBAR & CAP
501	14773588.61	2267953.19	5159.77	MAG NAIL
502	14773061.66	2267190.13	5314.45	REBAR & CAP
503	14773047.93	2267407.06	5275.42	MAG NAIL

SURVEY CONTROL SHOWN ON THIS SHEET SHOULD BE CHECKED AND VERIFIED BY A PROFESSIONAL LAND SURVEYOR. THE USE OF THIS SURVEY CONTROL OR ANY COORDINATES OR ELEVATIONS SHOWN ON A PLAN SET, TO LOCATE OR ESTABLISH ANY FIXED WORKS DESIGNED BY A PROFESSIONAL ENGINEER PER NEVADA CODE NRS625.050, SHALL ONLY BE USED BY OR UNDER THE RESPONSIBLE CHARGE OF A PROFESSIONAL LAND SURVEYOR.

LUMOS & ASSOCIATES
308 N. CURRY STREET, SUITE 200
CARSON CITY, NV 89703
TEL: 775.883.7077
WWW.LUMOSINC.COM
INFO@LUMOSINC.COM

© LUMOS & ASSOCIATES, INC.: THIS DRAWING IS THE PROPERTY OF LUMOS & ASSOCIATES, INC.. USE OR REPRODUCTION OF THIS DRAWING, IN WHOLE OR IN PART, WITHOUT THE WRITTEN PERMISSION OF LUMOS & ASSOCIATES, INC. IS STRICTLY PROHIBITED. THIS DRAWING IS NOT TO BE USED FOR ANY PROJECT OTHER THAN THE PROJECT FOR WHICH IT WAS PREPARED.

PROFESSIONAL LAND SURVEYOR STATE OF NEVADA
DEAN NEUBAUER
Exp. 12-31-27
No. 9392
01-05-2026

DAVE & CATHY SCHMENK

2305 OLD RANCH ROAD
EXISTING CONDITION TOPOGRAPHIC MAP

WASHOE COUNTY NEVADA

REV	DATE	DESCRIPTION	BY

NOT FOR REVIEW

BAR IS 1 INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

V1.0

DRAWN BY: SES
DESIGNED BY:
CHECKED BY: JAA
JOB NO.: 12428.000

L:\AP\J\12428.000 — 2305 Old Ranch Road\2- Survey\DWG\12428000SURVEY.dwg,TOPO,
01/05/2026 02:12 pm mwalker