SCOTTS VALLEY
WATER DISTRICT

Date: 8/21/26

2026 Glenwood Tank Site Projects:
Site Improvements (Secant Wall Installation)

ADDENDUM NO. 3

The following clarifications and revisions are hereby incorporated in the Contract Documents, Construction Specifications and Plans for the project entitled, *"Glenwood Tank Site Project – Site Improvements (Secant Wall Installation), Scotts Valley Water District"*:

REQUESTS FOR INFORMATION AND RESPONSES:

Q: It's the District's desire to have the Contractor fabricate the CIDH Pile Cages after the installation of the Secant Piles in order to confirm the elevation of bed rock and potentially modify the length of the CIDH piles. This will result in the drilling equipment either sit idle for a few weeks whilst cages are fabricated or de-mobilize and re-mobilize to the site.

A: The District has had conversations with the design team regarding "Means and Methods" associated with the order of operations for the drilling of the piles and the fabrication of the CIDH Pile Cages. After discussions and the team re-reviewing the initial geotechnical data, the probability of the depth changing per the design documents is low. The team suggests the contractor consider drilling the two outer piles and center pile first. This order of operations would provide confirmation of design document depth and allow cages to proceed after the first couple of days of drilling.

Q: On sheet S-3, Detail 1, there is a vertical dashed line shown on the right-hand side of the pile cap between the rectangular portion of the pile cap and wedge shaped portion of the pile cap. Does this represent a construction joint or optional construction joint in the pile cap? And if so, should there be rebar in this?

A: *The line is the face of grade beam beyond and will be poured monolithically with the grade beam. Also, we have revised the spacing of the stirrups to 6 inches on center. Please see revised structural drawings included in Addendum 3.*

Q: The aforementioned wedge shapes (some 10.5" wide, some 8.5" wide) appear to be individual bearings for the tiebacks, based on the plan view on Sheet S1.0. I do not see a dimension for the length of each of these? And as a follow on, could this wedge shape be cast the entire length of the wall, rather than 14 each individual pop outs?

A: The plan view dimensions have been revised. The tiebacks alternate angles between 20 degrees then 25 degrees so the continuous single angle is not an option. *Please see revised structural drawings included in Addendum 3.*

Q: Refer to Detail 1/S3.0: Please provide rebar size and spacing for the Stem Wall vertical bars.

A: #5 at 12"o.c.

Q: Refer to Tieback Performance Test Loading Schedule in Section K.5.b. on S0.0: Please provide Tieback Design Load. Load Off Load is specified on Detail 1/S3.0, but Design Load is not provided.

A: #5 at 12"o.c.

Q: Refer to Detail 1/S3.0: The Vertical Bars on the rebar cage are in direct conflict with the tieback within the tiebeam. In order to drill a 6" diameter tieback, the tieback blockout within the tiebeam will require an 8 inch Schedule 40 PVC Pipe which has an 8 5/8" outer diameter. Please provide a rebar configuration that is not in conflict with the tieback blockout.

A: Detail 1/S3.0 has been revised to accommodate tieback blockout. Consequently the bearing plate was enlarged, and grout filling holes were placed.

Q: M.3.b/S0.0 states "Monitoring points shall be surveyed for horizontal and vertical movement at the following intervals: upon installation of each sequence of piles." Please define what is meant by a sequence of piles.

A: This requirement has been removed from the specification.

Q: J.1.a/S0.0 states "Shafts shall be cased to provide protection against sloughing or caving." This is a drilling means and methods that does not apply to all ground conditions. The ground conditions at the project site do not seem to warrant this drilling method. Please change language to state "Shafts shall be cased if sloughing or caving conditions are encountered."

A: Revised specification to an "as necessary" requirement.

Q: K.3 and K.4/S0.0 prescribe the use a cased drilling method with pressure grouting as the means and methods for tieback installation. This is a drilling means and methods that does not apply to all ground conditions. The ground conditions at the project site do not seem to warrant this drilling method. Please revise language to state that: If caving conditions are encountered, Contractor shall use a drilling means and methods that prevents caving of the drilled hole.

A: Revised specification to an "as necessary" requirement.

Q: Refer to Detail 2/S3.0: Can the 1 ¼" Grade 150 Threadbar be substituted with a 270 ksi 0.6 inch strand tieback? The number of strands shall be determined based on the tieback test load and lock off load.

A: The bar system results in a substantially more compact anchor head and trumpet/blockout than a four-strand system. For this reason we opted against using the strand option.

Q: Addendum 2 did not indicate any change to the project schedule even though additional scopes of work (post tension tie-back anchors & gabion basket and excavation) were added. Please revised the project schedule duration to include these added scopes that add complexity and time to the project.

A: With the new curing time for the grade beam before installing the tie-backs, the contract time will be increased from 150 days to 180 days.

Q: Refer to Drawing C2.1: Please specify the height of the new fence.

A: Contractor is to match existing height of fence.

Q: Refer to Drawing C2.1: Notes 8 and 9 indicate grading work on the slope face downhill of the new wall to provide a bench for installation of tiebacks. Additionally Drawing S2.0 indicates a 30' minimum tieback length. The downhill slope consists of forested landscape. Please indicate the quantity of trees to be removed to provide access to this work area (a minimum distance of 35' from the outside face of the tiebeam). Who shall pay for the tree removal permits?

A: It is assumed at this time that the removal of trees will not be necessary for the wall installation. Any minor pruning needed to be performed shall be covered under " Bid Item No. 2 – Clearing and Grubbing" for cost and pruning is to be approved by the District prior to starting.

Q: Note J.5/S0.0 states "Install Grade Beam. Install and test tiebacks per the installation procedures on this sheet." Is there a specific strength that the tiebeam concrete must reach prior to performing tieback testing? This can affect project schedule durations.

A: Tieback testing shall not be performed until the tiebeam concrete has achieved a minimum compressive strength of 75% of the specified design compressive strength, f'c, as verified by field-cured cylinder testing or other approved strength testing.

Q: Will there be access to construction water onsite, or shall Contractor include costs to truck in water to the project?

A: There is a low pressure wharf hydrant on the site. The contractor will need to supply an air gap equipped water tank to access this water. Alternative sources of water from the onsite wharf hydrant will be at the contractors expense.

Q: What areas/locations will be provided for storage of equipment, materials, drill spoils, and concrete washouts/debris bins?

A: The fenced in area at the tank site can be used to store equipment. Sourcing all other storage, cleaning, and disposal sites will be the responsibility of the contractor.

A. SCOPE OF WORK

1. NEW SECANT PILE RETAINING WALL WITH TIEBACKS TO PROVIDE SLOPE STABILIZATION.

B. REFERENCE DOCUMENTS

1. GEOTECHNICAL REPORT: "GEOTECHNICAL INVESTIGATION FOR HILLSIDE STABILIZATION, SVWD GLENWOOD WATER TANK, SCOTTS VALLEY, CALIFORNIA" BY HARO, KASUNICH AND ASSOCIATES, INC. DATED JULY 20, 2023.
2. GEOTECHNICAL UPDATE REPORT: "GEOTECHNICAL UPDATE REPORT FOR HILLSIDE STABILIZATION, SVWD GLENWOOD WATER TANK, SCOTTS VALLEY, CALIFORNIA" BY R3 GEOTECHNICAL ENGINEERS, INC. DATED JULY 31, 2026.

C. GENERAL NOTES

1. CONSTRUCTION SHALL CONFORM TO THE 2025 CALIFORNIA BUILDING CODE (2025 CBC), APPLICABLE SAFETY CODES AND TO THE RULES AND REGULATIONS OF ALL AGENCIES HAVING JURISDICTION.
2. THESE GENERAL NOTES APPLY EXCEPT WHERE SPECIFICALLY SHOWN BY NOTES ON DRAWINGS AND/OR DETAILS.
3. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.
4. THE CONTRACTOR SHALL COMPARE STRUCTURAL DRAWINGS WITH DRAWINGS OF OTHER DISCIPLINES WITH REFERENCE TO MATERIALS, LAYOUT, DIMENSIONS AND ELEVATIONS BEFORE STARTING WORK, AND ANY DISCREPANCIES SHALL BE REPORTED TO THE ARCHITECT FOR DIRECTION.
5. THE CONTRACTOR SHALL VERIFY ALL EXISTING GRADES AND DIMENSIONS AS SHOWN ON DRAWINGS. THE CONTRACTOR SHALL REPORT ANY VARIATION THAT WILL MODIFY THE STRUCTURAL SYSTEM OR ANY STRUCTURAL ELEMENT TO THE STRUCTURAL ENGINEER.
6. ARCHITECTURAL, MECHANICAL, PLUMBING, ELECTRICAL AND OTHER DRAWINGS SHOULD BE REFERRED TO REGARDING INFORMATION FOR THE FOLLOWING:
   a. FINISHED FLOOR ELEVATIONS, FLOOR DEPRESSION, OTHER CHANGES IN ELEVATION, SLOPES, DRAINS, CURBS, PADS, CHAMFERS, GROOVES, INSERTS OR EMBEDDED ITEMS, AND OTHER ARCHITECTURAL ITEMS.
   b. SIZE AND LOCATION OF ALL ROOF AND FLOOR OPENINGS (EXCEPT AS SHOWN).
   c. SIZES AND LOCATION OF ALL NON-BEARING PARTITION WALLS, ALL DOOR AND WINDOW OPENINGS.
   d. STAIR FRAMING, HANGERS AND DETAILS (EXCEPT AS SHOWN).
   e. WATERPROOFING, FIRE PROOFING AND WATERSTOPS.
   f. PIPE RUNS, SLEEVES, HANGERS, TRENCHES, WALL, ROOF AND FLOOR OPENINGS, AND OTHER MECHANICAL ITEMS.
   g. ELECTRIC CONDUIT RUNS, BOXES, OUTLETS AND OTHER ELECTRICAL ITEMS.
   h. SIZE, LOCATIONS AND DETAILS OF MACHINE OR EQUIPMENT FOUNDATIONS, BASES AND ANCHORAGE.
   i. ANCHORAGE AND BRACING FOR MECHANICAL, ELECTRICAL, PLUMBING EQUIPMENT, ETC.
7. DETAILS AND NOTES SHOWN IN THIS SET OF DRAWINGS AND TITLED "TYPICAL" ARE TYPICAL AND SHALL APPLY UNLESS OTHERWISE NOTED. TYPICAL DETAILS REPRESENT THE GENERAL INTENT FOR ALL DETAILING NOT NOTED OR SHOWN IN SPECIFIC DETAILS OR ON PLANS.
8. THE STRUCTURAL DRAWINGS INDICATE PRINCIPAL CONSTRUCTION DETAILS BUT DO NOT ILLUSTRATE EVERY CONDITION. DETAILS OF CONSTRUCTION NOT SPECIFICALLY SHOWN SHALL BE OF THE SAME NATURE AS SHOWN FOR SIMILAR CONDITIONS OR TYPICAL DETAILS.
9. DO NOT SCALE STRUCTURAL DRAWINGS, USE WRITTEN DIMENSIONS. IF DIMENSIONS ARE OMITTED OR NOT CLEAR, CONTACT THE ARCHITECT.
10. DIMENSION LINES ON STRUCTURAL DRAWINGS ARE TO CENTER LINES OF ELEMENTS, UNLESS OTHERWISE NOTED.
11. NO PIPES OR SLEEVES SHALL PASS THROUGH STRUCTURAL MEMBERS WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER UNLESS SHOWN ON STRUCTURAL DRAWINGS.
12. OPENINGS REQUIRED BUT NOT SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT AND ENGINEER FOR APPROVAL BEFORE THEY ARE CONSTRUCTED.
13. THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION.
14. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY PROVISIONS FOR CONSTRUCTION ACCESS AND METHODS OF CONSTRUCTION. THE GENERAL CONTRACTOR SHALL COORDINATE REQUIREMENTS FOR ACCESS OPENINGS, RAMPS, CRANE SUPPORTS, AND ANY OTHER CONSTRUCTION ITEMS OR DEVICES WITH SUBCONTRACTOR(S) AND THE ENGINEER.
15. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING, GUYING OR OTHER TEMPORARY SUPPORT TO ENSURE CORRECT AND ACCURATE STRUCTURE GEOMETRY.
16. ADEQUATE TEMPORARY BRACING AND SHORING SHALL BE PROVIDED TO PREVENT OVERSTRESS OF THE STRUCTURE DUE TO SUPPORT OF CONSTRUCTION MATERIALS, ERECTION EQUIPMENT AND ANY OTHER ERECTION LOADS. IF REQUIRED, THE CONTRACTOR SHALL PROVIDE SHORING AND/OR UNDERPINNING OF EXISTING FOOTINGS ON THE ADJACENT OR SUBJECT PROPERTY.
17. UNLESS SPECIFICALLY APPROVED BY THE ENGINEER IN WRITING, BACKFILL SHALL NOT BE PLACED AGAINST WALLS UNTIL WALL DESIGN STRENGTH HAS BEEN ATTAINED AND ALL PERMANENT SUPPORTS ARE IN PLACE.
18. THE CONTRACTOR SHALL BE EXPECTED TO BE THOROUGHLY FAMILIAR WITH THE BUILDING SITE CONDITIONS, GRADES, DRAWINGS AND SPECIFICATIONS, MATERIAL DELIVERY FACILITIES AND ALL OTHER MATTERS AND CONDITIONS WHICH MAY AFFECT THE OPERATION AND COMPLETION OF WORK. THE CONTRACTOR SHALL ASSUME ALL RISKS CONCERNED WITH THE AFOREMENTIONED SITUATIONS, ACTIVITIES AND/OR OPERATIONS.
19. EXISTING UTILITIES AND OTHER IMPROVEMENTS SHOWN ON THE TOPOGRAPHIC BASE MAP ARE BASED ON RECORD LOCATIONS. ADDITIONAL UTILITIES MAY BE PRESENT IN OTHER LOCATIONS. THE CONTRACTOR SHALL LOCATE AND PROTECT ALL EXISTING UTILITY LINES AND CONNECTIONS INCLUDING SEWER, WATER, GAS, AND ELECTRIC SERVICES BEFORE AND DURING HIS WORK.
20. THE CONTRACTOR SHALL CAREFULLY EXCAVATE (POTHOLE) TO VISUALLY VERIFY CLEARANCE FROM ALL UTILITIES AND SHALL PROTECT UTILITIES FROM HARM AS REQUIRED TO PREVENT DAMAGE AND TO MAINTAIN THEIR USE. CONSULT THE ENGINEER IF UTILITY LINES, PIPING OR OTHER ELEMENTS CONFLICTING WITH THE WORK ARE ENCOUNTERED.
21. THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (USA NORTH 811) A MINIMUM OF TWO WORKING DAYS PRIOR TO ANY EXCAVATION OR DRILLING TO HAVE ALL EXISTING UNDERGROUND UTILITIES LOCATED AND MARKED.
22. THE CONTRACTOR SHALL TAKE PRECAUTIONARY MEASURES TO ENSURE THAT ALL PROPERTY IS PROTECTED DURING CONSTRUCTION. ANY DAMAGED OR CHANGED CONDITIONS SHALL BE REPAIRED AND RESTORED TO THE PRE-CONSTRUCTION CONDITIONS. THE CONTRACTOR SHALL REPAIR ANY DAMAGE AT HIS/HER OWN EXPENSE.
23. THE CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING THE SAFETY OF ALL PERSONNEL AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS.

D. RETAINING WALL GENERAL NOTES

1. RETAINING WALL DESIGN CRITERIA IS BASED ON REFERENCED GEOTECHNICAL DOCUMENT.
2. GEOTECHNICAL ENGINEER SHALL VERIFY SOIL STRATA DURING PILE DRILLING AND NOTIFY R3 CONSULTING ENGINEERS (THE ENGINEER), IF FIELD CONDITIONS ARE DIFFERENT FROM THOSE DESCRIBED IN THE GEOTECHNICAL REPORT.
3. CONTRACTOR SHALL DESIGN AND PROVIDE DEWATERING, IF REQUIRED, TO MAINTAIN WATER LEVEL AT LEAST 3 FEET BELOW THE BOTTOM OF THE EXCAVATION. DEWATERING SHALL ALSO PREVENT HEAVING OF THE SUB-GRADE OR FLOWING OR RUNNING GROUND AT THE EXCAVATION FACE. DEWATERING SHALL BE INSTALLED AND MAINTAINED SUCH THAT SOIL PARTICLES ARE NOT REMOVED BY THE DEWATERING SYSTEM.
4. SUBMIT DEWATERING PLAN, IF USED, TO THE GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION.
5. SURCHARGES AT THE TOP OF THE NEW RETAINING WALL SHALL BE LIMITED AS FOLLOWS EXCEPT AS NOTED ON THE PLAN OR ELEVATIONS:
   a. STORAGE OF MATERIALS: 250 PSF LOADS
   b. TRUCK TRAFFIC AND EQUIVALENT (H20) EQUIPMENT LOADING: 5 FEET BACK FROM TOP OF WALL, TYP.
   c. EXCAVATOR, CRANE OR OTHER SIMILAR HEAVY EQUIPMENT: 10 FEET BACK FROM TOP OF WALL. SURCHARGE FOR HEAVY EQUIPMENT GREATER THAN ABOVE SHALL BE CONFIRMED WITH THE ENGINEER AND MAY REQUIRE TRENCH PLATES, INCREASED LAGGING, DRILLED PIERS, INCREASED TIEBACKS AND/OR OTHER MEASURES TO AVOID OVERSTRESSING THE RETAINING WALL SYSTEM.
6. ALL STRUCTURAL DETAILS AND SHAPES SHOWN ARE MINIMUM SIZES REQUIRED. CONTRACTOR MAY SUBSTITUTE EQUAL OR GREATER SIZES WITH THE ENGINEER'S PRIOR APPROVAL.
7. DEMOLITION, GENERAL SITE EXCAVATION, SITE DEWATERING AND REMOVAL OF EXISTING OBSTRUCTIONS SHALL BE COORDINATED WITH INSTALLATION OF SECANT WALL SYSTEM TO PREVENT LOSS OF GROUND AND CAVING OF BANKS.
   a. EXISTING BUILDING FOUNDATIONS, RETAINING WALLS, AND WATER TANK SHALL BE PROTECTED DURING PILE INSTALLATION.
8. DURING CONSTRUCTION THE CONTRACTOR SHALL MONITOR THE RETAINING WALL SYSTEM AND ADJACENT IMPROVEMENTS FOR INDICATIONS OF MOVEMENT OR LOSS OF GROUND. THE CONTRACTOR SHALL STOP EXCAVATION OPERATIONS AND BACKFILL AGAINST THE EXCAVATION FACE IF LOSS OF GROUND, DEFLECTION OR DISTRESS OF THE RETAINING WALL SYSTEMS OR ADJACENT IMPROVEMENTS IS OBSERVED. CONTRACTOR SHALL NOTIFY THE ENGINEER OF OBSERVED DISTRESS OR MOVEMENT.
9. ALL CHANGES TO THE RETAINING WALL SYSTEMS AND ANY INFORMATION REGARDING INSTALLATION OF THE RETAINING WALL SYSTEMS OTHER THAN AS SHOWN OR SPECIFIED ON THE STRUCTURAL DRAWINGS AND NOTES SHALL BE SUBMITTED FOR REVIEW BY THE ENGINEER PRIOR TO CONSTRUCTION.
10. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL REVIEW THE GEOTECHNICAL REPORT AND BECOME FAMILIAR WITH THE CONDITION OF THE ADJACENT IMPROVEMENTS IN ORDER TO SELECT PROPER EQUIPMENT FOR DEMOLITION, EXCAVATION AND RECOMPACTION TO AVOID DAMAGE TO THE ADJACENT PROPERTIES BY EXCESSIVE VIBRATION.
11. DESIGN OF TEMPORARY SLOPES IS NOT INCLUDED IN THE SCOPE OF WORK. TEMPORARY SLOPES SHOULD BE DESIGNED BY OTHERS AND SHOULD CONFORM TO APPLICABLE CALIFORNIA CODE OF REGULATIONS TITLE 8 SUBCHAPTER 4 CONSTRUCTION SAFETY ORDERS (CAL OSHA SAFETY ORDERS).
12. CONTRACTOR PERFORMING THE DRILLING WORK SHALL HAVE A MINIMUM OF 5 YEARS OF EXPERIENCE IN CONSTRUCTION OF DRILLED SHAFT SOLDIER BEAMS, SECANT WALLS, AND TIEBACKS SIMILAR TO THE SCOPE AND MAGNITUDE OF WORK SHOWN ON THE DRAWINGS. CONTRACTOR SHALL SUBMIT EVIDENCE OF EXPERIENCE TO THE ENGINEER PRIOR TO CONSTRUCTION.
13. STOP DRILLING AND CONSULT THE ENGINEER IF UTILITY LINES, PIPING, FOUNDATIONS OR INDICATIONS OF OBSTRUCTIONS ARE ENCOUNTERED DURING DRILLING OF SECANT WALL OR TIEBACKS. USE CARE IN DRILLING SO THAT THE FOLLOWING INDICATIONS OF UTILITIES OR FOUNDATIONS IN THE WAY ARE RECOGNIZED:
   a. ABNORMAL RESISTANCE TO DRILLING.
   b. FOREIGN MATERIAL PULLED FROM THE HOLE.

E. HAZARDOUS MATERIALS ON SITE

1. R3 CONSULTING ENGINEERS ASSUMES NO RESPONSIBILITY FOR THE MANAGEMENT OF HAZARDOUS MATERIALS THAT MAY BE ON THE SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT PERSONNEL WITHIN THE WORK AREA ARE PROTECTED FROM EXPOSURE TO HAZARDOUS MATERIALS. IF MATERIALS ARE DISCOVERED THAT MAY BE HAZARDOUS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER AND CEASE WORK UNTIL CONDITIONS CAN BE MAINTAINED IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS.

F. CONCRETE

1. CONCRETE SHALL DEVELOP THE FOLLOWING MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS:
   a. SECANT WALL PILES, GRADE BEAMS, STRUCTURAL CONCRETE: 5000 PSI
   b. OTHER MISCELLANEOUS STRUCTURAL CONCRETE: 2500 PSI
   c. LEAN CONCRETE "PRIMARY" SECANT PILES: 200 PSI 1-1/2 SACKS OF CEMENT PER CUBIC YARD
2. SLUMP FOR STRUCTURAL CONCRETE SHALL BE NOT LESS THAN 2" AND NOT MORE THAN 4".
3. CONCRETE SHALL BE PLACED IN A CONTINUOUS OPERATION UNTIL THE SECTION IS COMPLETE BETWEEN PREDETERMINED CONSTRUCTION JOINTS. CONCRETE SHALL BE OF A CONSISTENCY TO PERMIT PLACING INTIMATELY AROUND REINFORCING BARS AND AGAINST FORMS.
4. EXPOSED SURFACES OF CONCRETE SHALL BE KEPT MOIST OR CURED BY PROTECTIVE COVERINGS APPLIED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
5. FORMS SHALL BE TIGHT, CLEAN AND WETTED BEFORE PLACING CONCRETE.
6. ALL DEFECTIVE WORK SHALL BE REPAIRED BY THE CONTRACTOR AS SPECIFIED.
7. SELECTION OF MATERIALS AND MIXING AND PLACING OF CONCRETE SHALL BE IN ACCORDANCE WITH THE LOCAL BUILDING CODE AND ACI SPECIFICATIONS.

G. GROUT

1. GROUT UNDER ALL PLATES SHALL BE NON-SHRINK, NON-METALLIC GROUT. GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AND BE PROPORTIONED AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. GROUT USED IN THE PENETRATION LENGTH OF THE TIEBACKS SHALL BE "PORTLAND CEMENT" SLURRY OR BATCHED CONCRETE AND SHALL HAVE A COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS AND CONTAIN A MINIMUM OF FIVE AND A HALF (5.5) SACKS OF CEMENT PER CUBIC YARD. THE CONTRACTOR SHALL INCREASE THE CEMENT CONTENT OR OTHER MIX PROPERTIES AS REQUIRED SUCH THAT THE ANCHORS WILL BE ABLE TO ACHIEVE THE SPECIFIED DESIGN LOAD AND TEST LOAD. CONTRACTOR SHALL SUBMIT MIX DESIGNS FOR JOB GROUT.
3. SELECTION OF MATERIALS AND MIXING AND PLACING OF GROUT SHALL BE IN ACCORDANCE WITH THE LOCAL BUILDING CODE AND ACI SPECIFICATIONS.

H. REINFORCEMENT

1. REINFORCING STEEL:
   a. DEFORMED BARS -- ASTM A615, GRADE 60
   b. WELDED WIRE FABRIC -- ASTM A185
   c. TIE WIRES -- ASTM A82, BLACK, SOFT-ANNEALED, 18 GA OR HEAVIER
2. REINFORCING BARS AND WELDED WIRE FABRIC SHALL BE FREE FROM LOOSE RUST OR ANY OTHER COATING WHICH WILL DESTROY OR REDUCE BOND.
3. REINFORCING BARS SHALL NOT BE BENT OR STRAIGHTENED IN A MANNER WHICH WILL INJURE THE MATERIAL, AND SHALL BE ACCURATELY PLACED AND POSITIVELY SECURED.
4. THE CLEAR DISTANCE BETWEEN PARALLEL BARS IN A LAYER SHALL NOT BE LESS THAN 1-1/2 TIMES THE NOMINAL DIAMETER OF THE BARS, OR 1-1/3 TIMES THE MAXIMUM SIZE AGGREGATE, NOR LESS THAN 1-1/2".
5. UNLESS OTHERWISE NOTED, LAP SPLICES OF BOTTOM FOOTING BARS SHALL BE STAGGERED AT LEAST 5'-0" MINIMUM FROM LAPS IN OTHER BOTTOM FOOTING BARS. STAGGER LAP SPLICES OF TOP FOOTING BARS SIMILARLY.
6. WHEN LAP SPLICING REINFORCEMENT BARS OF DIFFERENT SIZES, USE THE LARGEST BAR LAP SPLICE LENGTH.
7. UNLESS OTHERWISE NOTED, CONCRETE COVERAGE OF REINFORCING BARS SHALL BE AS FOLLOWS:
   a. 3" WHERE CONCRETE IS CAST AGAINST AND PERMANENTLY IN CONTACT WITH GROUND
   b. 2" FOR #6 THROUGH #18 BAR WHERE CONCRETE IS EXPOSED TO WEATHER OR IN CONTACT WITH GROUND
   c. 1-1/2" FOR #5 AND SMALLER BAR OR WIRE WHERE CONCRETE IS EXPOSED TO WEATHER OR IN CONTACT WITH GROUND
   d. 1-1/2" FOR PRIMARY REINFORCEMENT, STIRRUPS, TIES, SPIRALS, AND HOOPS IN BEAMS, COLUMNS, PEDESTALS AND TENSION TIES NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND
   e. 1-1/2" FOR #14 AND #18 BARS IN SLABS, JOISTS AND WALLS NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND
   f. 3/4" FOR #11 AND SMALLER BAR IN SLABS, JOISTS AND WALLS NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND
8. SUBMIT REINFORCING STEEL SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION AND PLACING OF REINFORCING STEEL.

I. STRUCTURAL STEEL

1. MATERIALS:
   a. WIDE FLANGE SHAPES -- ASTM A992
   b. ALL OTHER ROLLED SHAPES, PLATES & BARS -- ASTM A36
   c. PIPE -- ASTM A53, GRADE B
   d. HOLLOW STRUCTURAL SECTIONS (HSS) -- ASTM A1085, GRADE A OR ASTM A500, GRADE B
   e. HIGH STRENGTH BOLTS -- ASTM A325
   f. MACHINE BOLTS -- ASTM A307
   g. ANCHOR BOLTS (RODS) -- ASTM F1554, GRADE 36 OR ASTM A36
2. FABRICATION AND CONSTRUCTION SHALL CONFORM TO THE STEEL CONSTRUCTION MANUAL, SPECIFICATIONS AND CODES, 14TH EDITION, BY AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC).
3. WELDING:
   a. ALL SHOP AND FIELD WELDING SHALL BE IN ACCORDANCE WITH STRUCTURAL STEEL WELDING CODE, AWS D1.1.
   b. 70 KSI ELECTRODES SHALL BE USED AT ALL WELDED STEEL CONNECTIONS.
   c. ALL WELDING SHALL BE DONE BY CERTIFIED WELDERS.
   d. A WELDING PROCEDURE SPECIFICATION (WPS) SHALL BE DEVELOPED WITH THE INFORMATION REQUIRED BY AWS D1.1. THE WPS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW, AND SHALL ALSO BE PROVIDED TO THE OWNER, ARCHITECT AND BUILDING OFFICIAL. THE WPS SHALL INCLUDE A LIST OF THE POSITION, ELECTRODE STICKOUT, VOLTAGE AND AMPERAGE (WITH ACCEPTABLE LIMITS), BEAD SIZE, WELD SEQUENCE, STRESS RELIEVING AND OTHER PERTINENT DATA.
   e. ALL WELDS SHALL BE STARTED AND ENDED ON RUNOFF TABS WHERE PRACTICAL. ALL RUNOFF TABS SHALL BE REMOVED.
   f. WELD DAMS SHALL NOT BE ALLOWED PER AWS D1.1.
   g. OWNER SHALL RETAIN A TESTING LABORATORY TO INSPECT AND TEST WELDS (SHOP AND FIELD) AS FOLLOWS: (I) PROVIDE SPECIAL INSPECTION FOR ALL WELDS. (II) MEASURE 25% OF FILLET WELDS AND CHECK FINAL PASS OF 25% OF MULTI-PASS FILLET WELDS AND PARTIAL PENETRATION WELDS BY MAGNETIC PARTICLE TESTING. (III) TEST ALL COMPLETE PENETRATION WELDS ULTRASONICALLY.
   h. ALL DEFECTIVE WELDS, AS ESTABLISHED FROM INSPECTION AND TESTING, SHALL BE GROUND OUT, REPAIRED AND RETESTED AT THE CONTRACTOR'S EXPENSE.
4. BOLT HOLES IN STEEL SHALL BE 1/16" LARGER THAN BOLTS, U.O.N. BOLT HOLES IN COLUMN BASE PLATES MAY BE OVERSIZED PER AISC REQUIREMENTS. ALL BOLT HOLES SHALL BE DRILLED OR PUNCHED. BURNING OF BOLT HOLES IS NOT PERMITTED.
5. ALL HIGH STRENGTH BOLTS SHALL BE FULLY TENSIONED, U.O.N.
6. BEFORE FABRICATION, SHOP DRAWINGS FOR ALL STRUCTURAL STEEL SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.

J. PROCEDURE FOR INSTALLATION OF SECANT WALL

1. SECANT PILES SHALL BE ERECTED IN DRILLED HOLES (SHAFTS). DRIVING OR VIBRATING OF SOLDIER BEAMS IS NOT PERMITTED.
   a. SHAFTS SHALL BE CASED AS NECESSARY TO PROVIDE PROTECTION AGAINST SLOUGHING OR CAVING.
   b. SHAFT INSTALLATION SHALL OVERLAP TO FORM A CONTINUOUS WALL PER THE DETAILS.
   c. SHAFTS SHALL NOT VARY BY MORE THAN 2" FROM THE PLANNED LOCATION.
   d. SHAFT SHALL BE WITHIN 1% OF VERTICAL.
2. PLACE REINFORCING STEEL CAGES IN SUCH A WAY TO MAINTAIN MINIMUM CONCRETE COVERAGE THROUGHOUT DEPTH OF PILE.
3. FILL THE SHAFT WITH CONCRETE AS REQUIRED BY THE DETAILS. RETRACT CASING AS CONCRETE IS PLACED. CONCRETE SHALL BE PLACED EVENLY ON ALL SIDES OF THE REINFORCING STEEL AND SHALL BE PLACED USING THE TREMIE METHOD IF MORE THAN 1 FOOT OF WATER IS PRESENT IN THE BOTTOM OF THE HOLE.
4. EXCAVATE PER NOTES AND DETAILS AS REQUIRED FOR GRADE BEAM CONSTRUCTION.
5. INSTALL GRADE BEAM. INSTALL AND TEST TIEBACKS PER THE INSTALLATION PROCEDURES ON THIS SHEET.

K. PROCEDURES FOR INSTALLATION OF TIEBACKS

1. TIEBACK TENDONS SHALL BE DEFORMED RODS, CONFORMING TO ASTM 615 GR. 75 OR ASTM A722 GRADE 150 WITH UPSET THREADS
2. ALL TIEBACKS ARE PERMANENT ANCHOR SYSTEMS AND SHALL BE DOUBLE CORROSION PROTECTED.
3. IF CAVING CONDITIONS ARE ENCOUNTERED, CONTRACTOR SHALL USE A DRILLING MEANS AND METHODS THAT PREVENTS CAVING OF THE DRILLED HOLE USING A SMOOTH OUTER CASING ADVANCED AS DRILLING PROCEEDS TO PREVENT CAVING OF GROUND. DRILL CASING SHALL EXTEND TO THE BOTTOM OF THE DRILL HOLE (TIEBACK LENGTH).
   a. DRILLING WITH EXTERNAL FLUSHING OF CUTTINGS (OUTSIDE OF CASING) SHORING SHALL NOT BE USED.
   b. CONTRACTOR SHALL DESIGN PENETRATION (BONDED) LENGTHS FOR TIEBACKS, GIVEN THE REQUIREMENTS OF THESE DRAWINGS.
4. IF CAVING CONDITIONS ARE ENCOUNTERED, INSTALL TENDON THROUGH THE CASING. BACKFILL TIEBACK WITH GROUT THROUGH THE DRILL CASING. RETRACT CASING AS GROUT OR BACKFILL IS PLACED.
   a. COVER THE TENDON IN THE UNBONDED LENGTH WITH SEALED PVC SLEEVE AND PROVIDE A CUSHION OR GAP BETWEEN THE TIEBACK GROUT AND THE BACK OF THE GRADE BEAM TO ALLOW THE ANCHOR TO MOVE DURING TESTING.
   b. POST GROUT AS REQUIRED TO ACHIEVE TIEBACK TEST LOADS. DURING PRESSURE GROUTING OPERATIONS, CONTRACTOR SHALL OBSERVE IMPROVEMENTS BEYOND TO WATCH FOR VISUAL SIGNS OF HEAVING GROUND, LOSS OF GROUND, OR DAMAGE TO SLABS-ON-GRADE AND ASPHALT PAVING.
4. ALL TIEBACKS SHALL BE TESTED PER BELOW. CONTRACTOR SHALL PERFORM TIEBACK TESTING WHEN GROUT IN THE PENETRATION LENGTH HAS ATTAINED THE APPROPRIATE COMPRESSIVE STRENGTH AS DETERMINED BY THE CONTRACTOR.
   a. ANCHORS SHALL BE STRESSED STRAIGHT AND TRUE. STOP TESTING AND NOTIFY ENGINEER IF PIER ROTATION OR KINKING OF THE TENDON OCCURS.
   b. CONTRACTOR SHALL MONITOR THE MOVEMENT OF THE TIEBACK TENDON ANCHORAGE USING A TRIPOD-MOUNTED DIAL GAUGE WITH A PRECISION OF 0.001 INCHES.
5. TESTING:
   a. ALL TESTING SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF PTI DC35.1.
   b. PERFORMANCE TEST: FIRST 1 PRODUCTION TIEBACK, AS DETERMINED BY THE ENGINEER, SHALL BE INCREMENTALLY LOADED TO THE TEST LOAD (1.33 TIMES THE DESIGN LOAD). HOLD EACH INCREMENTAL LOAD UNTIL MOVEMENT HAS STABILIZED.

      PERFORMANCE TEST LOADING SCHEDULE:
      DESIGN LOAD = DL,
      TEST LOAD = TL = 1.33 DL,
      ALIGNMENT LOAD = AL = 0.05 × TL (BUT NOT LESS THAN 8 KIPS).

      APPLY THE ALIGNMENT LOAD AND SET THE DIAL GAUGE TO ZERO. THEN APPLY, IN SEQUENCE:
      AL; AL 0.25DL;
      AL, 0.25DL, 0.50DL;
      AL, 0.25DL, 0.50DL, 0.75DL;
      AL, 0.25DL, 0.50DL, 0.75DL, 1.00DL;
      AL, 0.25DL, 0.50DL, 0.75DL, 1.00DL, 1.20DL;
      AL, 0.25DL, 0.50DL, 0.75DL, 1.00DL, 1.20DL, 1.33DL (PROOF TEST);

      PROOF TEST LOADING SCHEDULE
      HOLD 1.33DL TEST LOAD FOR 10 MINUTES.
      RECORD MOVEMENTS AT 0, 1, 2, 3, 4, 5, 6 AND 10 MINUTES.

      IF THE MOVEMENT OVER 10 MINUTES EXCEEDS 0.04 INCHES, EXTEND THE TEST TO A TOTAL OF 60 MINUTES AND RECORD MOVEMENT AT 15, 20, 25, 30, 45, 60 MINUTES. CYCLE BACK TO ALIGNMENT LOAD AND RECORD MOVEMENT.

      FOLLOWING SUCCESSFUL TESTING, LOAD ANCHOR TO DESIGN LOAD, LOCK OFF.
      LOCK NUTS OR WEDGES SHALL NOT BE USED DURING PERFORMANCE TESTING.

   c. PROOF TEST: ALL TIEBACKS NOT PERFORMANCE TESTED SHALL BE PROOF TESTED TO THE TEST LOAD (1.33 TIMES THE DESIGN LOAD) AND LOCKED OFF AT THE DESIGN LOAD SHOWN ON THE ELEVATIONS. APPLY THE ALIGNMENT LOAD AND SET THE DIAL GAUGE TO ZERO. PERFORMANCE TEST LOADING SCHEDULE: DESIGN LOAD = DL, TEST LOAD = TL = 1.33DL, ALIGNMENT LOAD = AL = 0.05 × TL (BUT NOT LESS THAN 8 KIPS). APPLY AL, 0.25DL, 0.50DL, 0.75DL, 1.00DL, 1.25DL, 1.33DL (MIN. 10-MINUTE HOLD), AL. RECORD THE ELONGATION AT EACH INCREMENT AND AT THE ALIGNMENT LOAD. HOLD THE TEST LOAD FOR 10 MINUTES AND RECORD MOVEMENTS AT 0, 1, 2, 3, 4, 5, 6 AND 10 MINUTES. FOLLOWING SUCCESSFUL TESTING, LOAD ANCHOR TO DESIGN LOAD, LOCK OFF.
6. TIEBACK TESTS SHALL BE CONSIDERED ACCEPTABLE IF:
   a. LESS THAN 0.04 INCHES OF MOVEMENT IS OBSERVED BETWEEN THE 1- AND 10-MINUTE HOLD, OR MOVEMENT IS LESS THAN 0.08 INCHES PER LOG CYCLE OF TIME (I.E., 6- TO 60-MINUTE INTERVAL) IF THE TEST HOLD IS CONTINUED FOR 60 MINUTES.
   b. THE TOTAL DISPLACEMENT BETWEEN THE ALIGNMENT LOAD AND TEST LOAD EXCEEDS 80 PERCENT OF THE THEORETICAL ELASTIC ELONGATION OF THE UNBONDED LENGTH: (TEST LOAD – ALIGNMENT LOAD) × (UNBONDED LENGTH) ÷ (STEEL AREA) × (29,000 KSI).
   c. A PULLOUT FAILURE DOES NOT OCCUR. PULLOUT FAILURE IS DEFINED AS THE CONDITION WHEN CONTINUED PUMPING OF THE JACK DOES NOT INCREASE THE LOAD (GAUGE PRESSURE) WHILE THE TIEBACK DISPLACEMENT CONTINUES TO INCREASE.
   d. TIEBACK LOCK-OFF LOAD IS WITHIN 5% OF THE SPECIFIED DESIGN LOAD.
7. IN THE EVENT A TIEBACK FAILS TO MEET THE TEST CRITERIA, THE CONTRACTOR MAY CHOOSE TO REGROUT AND RETEST THE TIEBACK. CONTACT THE ENGINEER FOR RECOMMENDATIONS IF TIEBACK TEST LOADS CANNOT BE ACHIEVED. ADDITIONAL COSTS ASSOCIATED WITH FAILED TIEBACKS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
8. ISOLATED TIEBACKS THAT TEST ABOVE THE DESIGN LOAD BUT FAIL TO MEET THE TEST CRITERIA MAY BE REVIEWED AND ACCEPTED BY THE ENGINEER.
9. CUT THE TENDON 1 INCH FROM THE LOCK NUT OR WEDGES.
10. A TIEBACK TEST REPORT SHALL BE COMPILED BY THE INSPECTOR AFTER COMPLETION OF ALL TIEBACK TESTS FOR EACH WALL. THE REPORT SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.

L. DRILLED ANCHORS -- ANCHOR BOLTS, THREADED RODS OR REBAR SET IN EPOXY

1. EPOXY ADHESIVE SHALL BE USED FOR ALL ALL-THREAD ROD (A.T.R.) ANCHORS AND REINFORCING STEEL (REBAR) DOWELS EMBEDDED IN EXISTING CONCRETE, EXCEPT EPOXY SYSTEMS SHALL NOT BE USED TO SUPPORT GRAVITY LOADS EXPOSED TO FIRE AND NOT BURIED IN CONCRETE WITH A MINIMUM COVER OF 3 INCHES.
2. EPOXY ADHESIVE SYSTEMS SHALL BE SIMPSON "SET-3G" (ICC ESR-4057), OR EQUIVALENT. ALTERNATIVE ANCHORING SYSTEMS MAY BE USED ONLY WITH PRIOR WRITTEN APPROVAL BY THE STRUCTURAL ENGINEER.
3. ALL THREADED RODS (ATR'S) AND ANCHOR BOLTS (A.B.'S) SHALL BE ASTM A307. MINIMUM DEPTH OF EMBEDMENT SHALL BE AS DETAILED ON THE DRAWINGS.
4. TEST 25% OF THE INSTALLED A.T.R. ANCHORS. TESTING OF REBAR DOWELS IS NOT REQUIRED.
5. PULL-OUT TEST LOAD VALUES:

A.T.R. OR REBAR DIAMETER	EMBEDMENT	PULL-OUT LOAD
3/8"	3-1/2"	2,900 LBS.
1/2"	4-1/2"	4,100 LBS.
5/8"	5-5/8"	6,600 LBS.
3/4"	6-3/4"	7,000 LBS.
7/8"	7-7/8"	11,800 LBS.
1"	9"	12,500 LBS.

6. IF ANY ANCHOR SHOULD FAIL, IT SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

M. MONITORING PROGRAM

1. PRIOR TO DRILLING WORK AT THE SITE, A VISUAL SURVEY SHALL BE MADE AND PHOTOGRAPHS TAKEN (BY OWNER OR GENERAL CONTRACTOR) OF IMPROVEMENTS NEAR THE PLANNED SHORING TO ESTABLISH EXISTING CONDITIONS. PHOTO SURVEY SHALL INCLUDE INTERIORS OF ADJACENT BUILDINGS.
2. ADJACENT STRUCTURES SHALL BE MONITORED (SURVEYED) FOR HORIZONTAL AND VERTICAL MOVEMENT BY AN INDEPENDENT LICENSED LAND SURVEYOR OR QUALIFIED CIVIL ENGINEER AT THE FOLLOWING LOCATIONS
   a. EVERY 25 FEET ALONG THE EXISTING TANK FOOTING.
3. MONITORING POINTS SHALL BE SURVEYED FOR HORIZONTAL AND VERTICAL MOVEMENT AT THE FOLLOWING INTERVALS:
   a. PRIOR TO DEMOLITION.
   b. ONCE A WEEK UNTIL ALL TIEBACKS ARE LOCKED OFF.
   c. ONCE EVERY OTHER WEEK FOR 6 WEEKS.
4. THE CONTRACTOR SHALL STOP EXCAVATION AND NOTIFY R3 CONSULTING ENGINEERS AND THE GEOTECHNICAL ENGINEER IF MORE THAN 0.03 FEET OF HORIZONTAL OR VERTICAL MOVEMENT IS OBSERVED.
5. SURVEY MONITORING RESULTS SHALL BE SUBMITTED TO R3 CONSULTING ENGINEERS AND THE GEOTECHNICAL ENGINEER WITHIN 3 DAYS OF FIELD SURVEY MEASUREMENTS.
   a. SURVEY MEASUREMENTS SHALL BE ACCOMPANIED BY A FIGURE CLEARLY DEPICTING THE LOCATION OF EACH MEASUREMENT. MEASUREMENTS SHALL BE REPORTED WITH RESPECT TO BASELINE MEASUREMENT AND PREVIOUS MEASUREMENT.
6. ADDITIONAL SURVEY MEASUREMENTS DURING OR AFTER CONSTRUCTION SHALL BE MADE IF REQUESTED BY R3 CONSULTING ENGINEERS.
7. DURING NEW CONSTRUCTION, THE GENERAL CONTRACTOR SHALL VISUALLY MONITOR THE RETAINING WALL SYSTEM AND NEARBY IMPROVEMENTS ON A DAILY BASIS FOR INDICATIONS OF MOVEMENT. THE GENERAL CONTRACTOR SHALL STOP EXCAVATION OPERATIONS IF DEFLECTION OR DISTRESS IS OBSERVED AND SHALL IMMEDIATELY NOTIFY THE ENGINEER.

N. SPECIAL INSPECTION

1. THE OWNER SHALL EMPLOY A SPECIAL INSPECTOR TO PERFORM SPECIAL INSPECTION IN ACCORDANCE WITH SECTION 1704 OF THE 2025 CBC AS A MINIMUM. THE SPECIAL INSPECTOR SHALL BE FROM AN APPROVED SPECIAL INSPECTION AGENCY. THE FOLLOWING ITEMS OF WORK REQUIRE SPECIAL INSPECTION:
   a. CONCRETE
   b. REINFORCING STEEL
   c. STRUCTURAL WELDING
   d. TESTING OF ANCHORS, BOLTS AND DOWELS INSTALLED IN EXISTING CONCRETE
   e. VERIFICATION OF SOIL CONDITIONS -- BY GEOTECHNICAL ENGINEER OF RECORD
   f. PIER INSTALLATION (BY GEOTECHNICAL ENGINEER)
   g. TIEBACKS: INTERMITTENT OBSERVATION OF INSTALLATION, FULL-TIME OBSERVATION OF ALL TESTING.
2. THE TESTING AND INSPECTION AGENCY SHALL COMPILE TESTING AND INSPECTION REPORTS DETAILING THE ITEMS OF WORK WHICH HAVE BEEN INSPECTED. A COPY OF THE REPORTS SHALL BE SENT TO THE OWNER, STRUCTURAL ENGINEER AND CONTRACTOR FOR REVIEW.

O. SPECIAL INSPECTION PROGRAM

1. CONCRETE PLACEMENT AND TESTING (CONTINUOUS INSPECTION DURING APPLICATION AND SAMPLING):
2. CONCRETE SHALL BE SAMPLED AND TESTED FOR QUALITY CONTROL DURING THE PLACEMENT OF CONCRETE AS FOLLOWS:
   (i) SAMPLING FRESH CONCRETE: COMPLY WITH ACI 318 SECTION 26.12.2.1.
   (ii) SLUMP: ASTM C143 -- ONE TEST FOR EACH LOAD AT POINT OF DISCHARGE OF CHUTE, AND ONE FOR EACH SET OF COMPRESSIVE STRENGTH TEST SPECIMENS.
   (iii) COMPRESSIVE TEST SPECIMEN: ASTM C31 -- ONE SET OF 4 STANDARD CYLINDERS FOR EACH COMPRESSIVE STRENGTH TEST, UNLESS OTHERWISE DIRECTED. MOLD AND STORE CYLINDERS FOR LABORATORY-CURED TEST SPECIMENS EXCEPT WHEN FIELD-CURED TEST SPECIMENS ARE REQUIRED.
   a. REPORT TEST RESULTS IN WRITING TO THE ENGINEER AND CONTRACTOR ON THE SAME DAY THAT TESTS ARE MADE. REPORT OF COMPRESSIVE STRENGTH TESTS SHALL CONTAIN THE PROJECT IDENTIFICATION NAME AND NUMBER, DATE OF CONCRETE PLACEMENT, NAME OF CONTRACTOR, NAME OF CONCRETE TESTING SERVICE, CONCRETE TYPE AND CLASS, LOCATION OF CONCRETE BATCH IN THE STRUCTURE, DESIGN COMPRESSIVE STRENGTH AT 28 DAYS, CONCRETE MIX PROPORTIONS AND MATERIALS, AND COMPRESSIVE BREAKING STRENGTH AND TYPE OF BREAK FOR BOTH 7-DAY AND 28-DAY TESTS.
   b. ADDITIONAL TESTS: THE TESTING SERVICE SHALL MAKE ADDITIONAL TESTS OF IN-PLACE CONCRETE WHEN TEST RESULTS INDICATE THE SPECIFIED CONCRETE STRENGTHS AND OTHER CHARACTERISTICS HAVE NOT BEEN ATTAINED IN THE STRUCTURE. THE TESTING SERVICE SHALL CONDUCT TESTS TO DETERMINE ADEQUACY OF CONCRETE BY CORED CYLINDERS COMPLYING WITH ASTM C42, OR BY OTHER METHODS AS DIRECTED BY THE ENGINEER. OWNER SHALL PAY FOR SUCH TESTS CONDUCTED, AND IF ANY UNACCEPTABLE CONCRETE IS VERIFIED, TEST COST WILL BE BACK-CHARGED TO THE CONTRACTOR.
3. REINFORCEMENT PLACEMENT (PERIODIC INSPECTION): SPECIAL INSPECTOR SHALL OBSERVE PLACEMENT OF REINFORCEMENT INCLUDING REBAR SIZE, GRADE, SPACING, CLEARANCES AND SECURITY DURING THE CONCRETE PLACEMENT OPERATION. SPECIAL INSPECTOR SHALL OBSERVE THAT REINFORCING IS FREE OF DIRT, MUD OR OTHER MATERIALS PRIOR TO CONCRETE PLACEMENT.
4. WELDING (PERIODIC INSPECTION): SPECIAL INSPECTION OF WELDING SHALL BE IN ACCORDANCE WITH THE 2025 CBC, SECTION 1704, AWS D1.1 AND NOTE IV.3 ON SHEET S1.0. INSPECTOR SHALL PERFORM OR OBSERVE THE FOLLOWING:
   a. PERFORM VERIFICATION OF AVAILABILITY OF WPS AND MANUFACTURER CONSUMABLE CERTIFICATES.
   b. OBSERVE MATERIALS AND WELDER IDENTIFICATIONS.
   c. OBSERVE FIT-UP OF FILLET AND GROOVE WELDS, AND CONFIGURATION AND FINISH OF ACCESS HOLES.
   d. OBSERVE USE OF QUALIFIED WELDERS.
   e. OBSERVE CONTROL AND HANDLING OF CONSUMABLES, NO WELDING OVER CRACKED TACK WELDS, ENVIRONMENTAL CONDITIONS, WPS IS FOLLOWED, AND WELDING TECHNIQUES OF WELDERS.
   f. OBSERVE WELDS ARE CLEANED.
   g. PERFORM VERIFICATION THAT WELDS MEET VISUAL ACCEPTANCE CRITERIA, NOTE OF ARC STRIKES, VERIFICATION OF BACKING BAR REMOVAL, VERIFICATION OF WELD TAB REMOVAL, VERIFICATION OF REPAIR ACTIVITIES.
   h. PERFORM DOCUMENTATION OF ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER.
5. INSPECTION AND TESTING OF ANCHORS AND DOWELS (PERIODIC INSPECTION):
   a. SPECIAL INSPECTOR SHALL OBSERVE THAT DRILLED HOLES ARE FREE OF DUST AND DEBRIS PRIOR TO PLACEMENT OF NON-SHRINK GROUT OR EPOXY OF DRILLED ANCHORS AND DOWELS OR EXPANSION ANCHORS.
   b. ANCHORS SHALL BE PULL TESTED AS SPECIFIED IN NOTES.
   c. TESTING APPARATUS SHALL BE SUCH THAT IT TESTS NOT ONLY THE ANCHOR IN DIRECT TENSION, BUT ALSO THE ADJACENT CONCRETE FOR CONE FAILURE. IF ANY ANCHOR SHOULD FAIL, IT SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. THE IMMEDIATELY ADJACENT ANCHORS SHALL ALSO BE TESTED AT THE CONTRACTOR'S EXPENSE.
   d. TEST EQUIPMENT SHALL BE CALIBRATED BY AN APPROVED TESTING LABORATORY IN ACCORDANCE WITH STANDARD RECOGNIZED PROCEDURES.
   e. THE FOLLOWING CRITERIA APPLY FOR THE ACCEPTANCE OF INSTALLED ANCHORS:
      (i) HYDRAULIC RAM METHOD: THE ANCHOR SHALL HAVE NO OBSERVABLE MOVEMENT AT THE APPLICABLE TEST LOAD.
      (ii) TESTING SHALL OCCUR 24 HOURS MINIMUM AFTER INSTALLATION OF THE SUBJECT ANCHORS.

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HILLSIDE STABILIZATION PROJECT FOR THE :
GLENWOOD TANK SITE
SCOTTS VALLEY, CA 95066
STRUCTURAL SPECIFICATIONS

#	DESCRIPTION	DATE
1	BID SET	06/04/2026
2	BID ADD. NO. 2 - WALL REVISION	08/03/2026
3	BID ADD. NO. 3 - BID PHASE RFI RESPONSE	08/20/2026

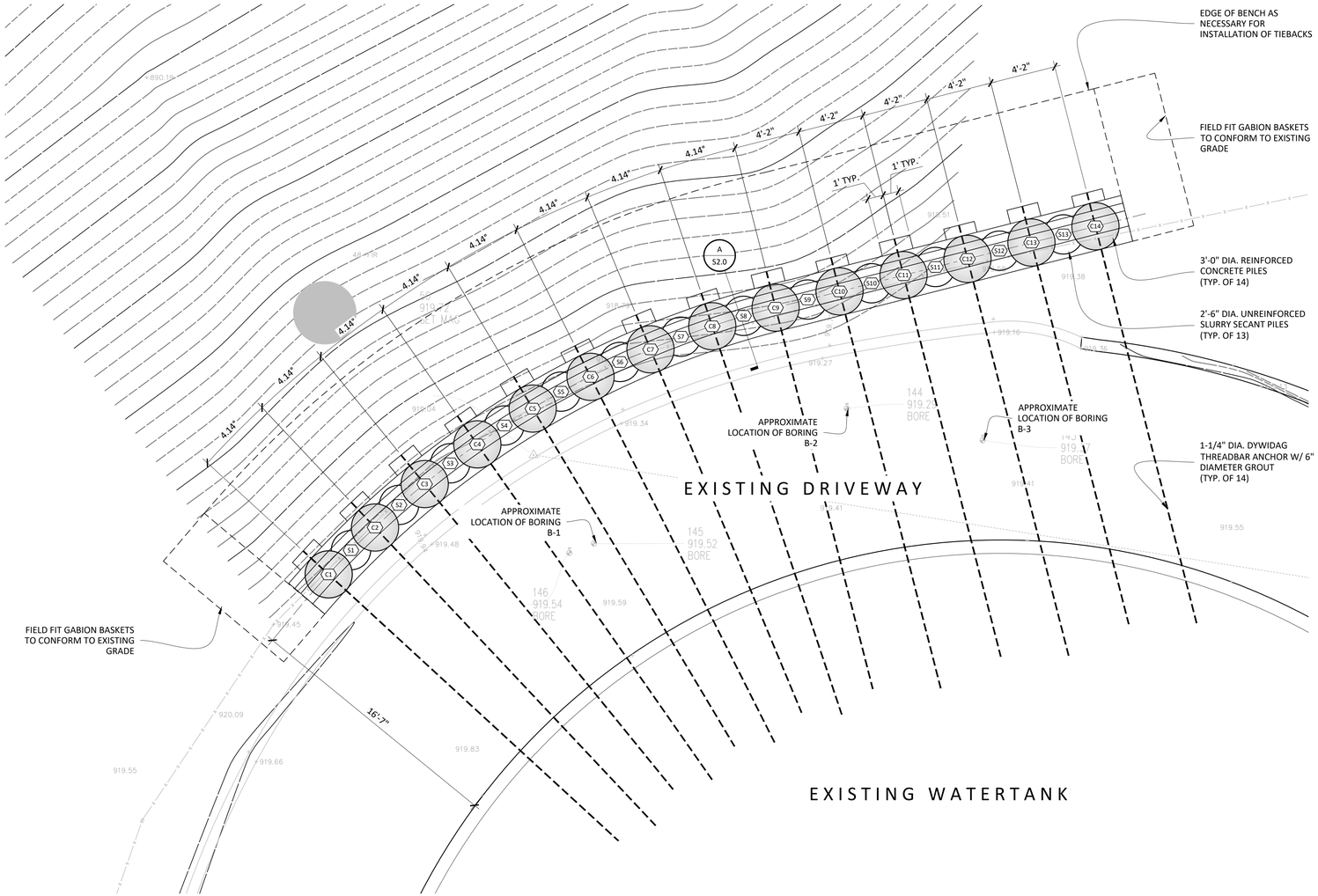
REVISIONS

REGISTERED PROFESSIONAL ENGINEER No. 68222 Exp. 09/30/2027 CIVIL STATE OF CALIFORNIA

DATE
AUGUST 20, 2026

JOB NUMBER
1031-C-25-GLE

S0.0



1 TIE BACK RETAINING WALL PLAN

SCALE: $\frac{1}{4}$"=1'-0"

NORTH

FOUNDATION NOTES:

1. REFER TO STRUCTURAL SPECIFICATIONS AND TYPICAL STRUCTURAL DETAILS SHEET S0.0.
2. DIMENSIONS ARE TO FACE OF CONCRETE, CENTERLINE FOOTING AND POSTS, ETC., UNLESS NOTED OTHERWISE. NOTIFY ARCHITECT OF ANY DISCREPANCIES. VERIFY ALL DIMENSIONS WITH ARCHITECTURAL PLANS BEFORE BEGINNING WORK.
3. THE GEOTECHNICAL ENGINEER SHALL BE RETAINED TO PROVIDE OBSERVATION AND TESTING SERVICES DURING THE GRADING AND FOUNDATION PHASE OF CONSTRUCTION PER GEOTECHNICAL REPORT RECOMMENDATIONS AND INSPECTION AND TESTING REPORTS SHALL BE SUBMITTED TO THE BUILDING DEPARTMENT.

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HILLSIDE STABILIZATION PROJECT FOR THE :

GLENWOOD TANK SITE

SCOTTS VALLEY, CA 95066

FOUNDATION PLAN

REVISIONS		
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A	BID SET	06/04/2026
1	BID ADD. NO. 2 - WALL REVISION	08/03/2026
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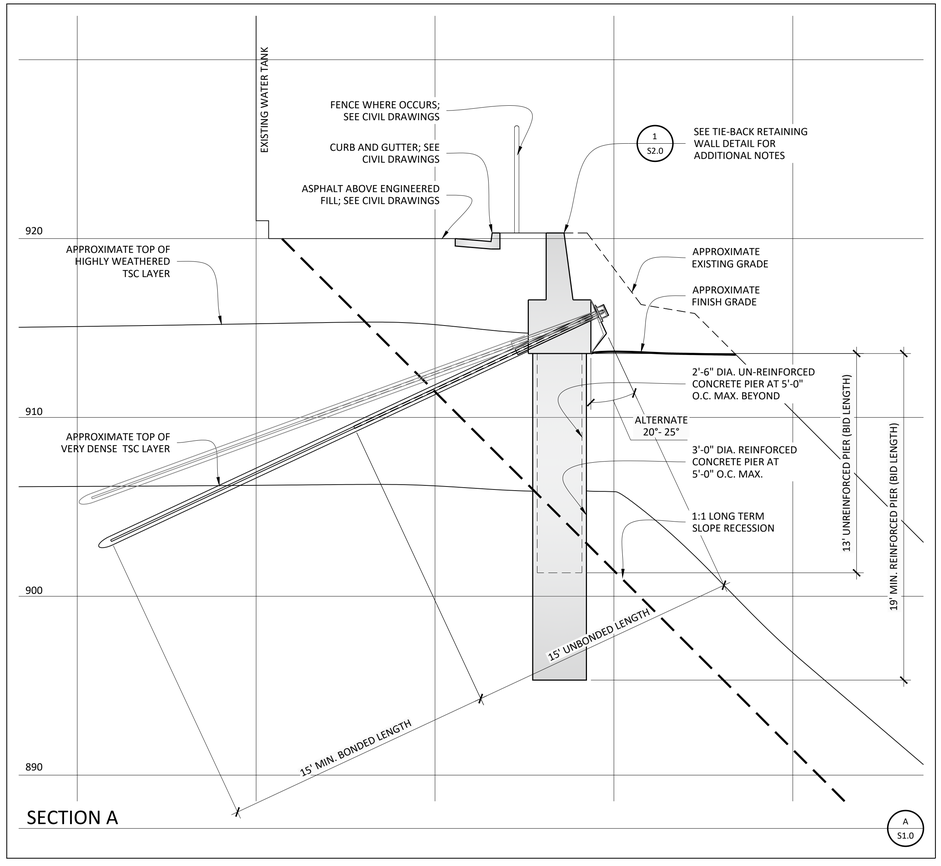
3		

REGISTERED PROFESSIONAL ENGINEER
No. 68222
Exp. 09/30/2027
CIVIL
STATE OF CALIFORNIA

DATE
AUGUST 20, 2026

JOB NUMBER
1031-C-25-GLE

S1.0



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HILLSIDE STABILIZATION PROJECT FOR THE :

GLENWOOD TANK SITE

SCOTTS VALLEY, CA 95066

WALL SECTION

REVISIONS

	DESCRIPTION	DATE
A	BID SET	06/04/2026
1	BID ADD. NO. 2 - WALL REVISION	08/03/2026
2	BID ADD. NO. 3 - BID PHASE RFI RESPONSE	08/20/2026
3		
4		

REGISTERED PROFESSIONAL ENGINEER
No. 68222
Exp. 09/30/2027
CIVIL
STATE OF CALIFORNIA

DATE
AUGUST 20, 2026

JOB NUMBER
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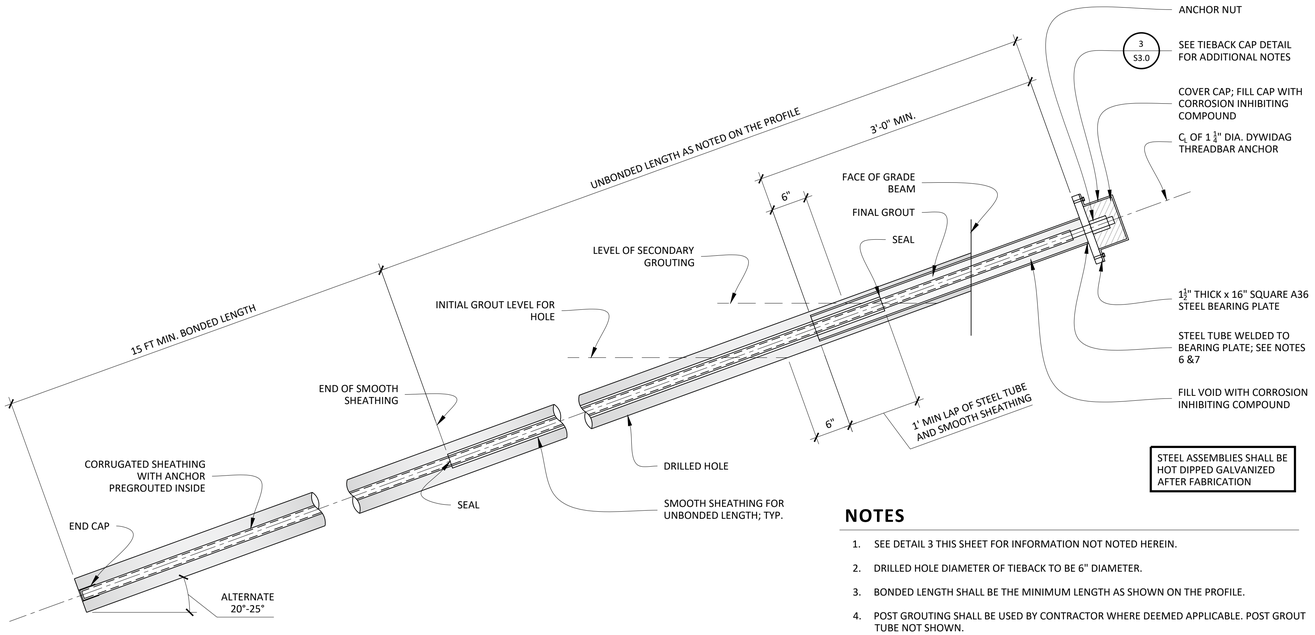
S2.0



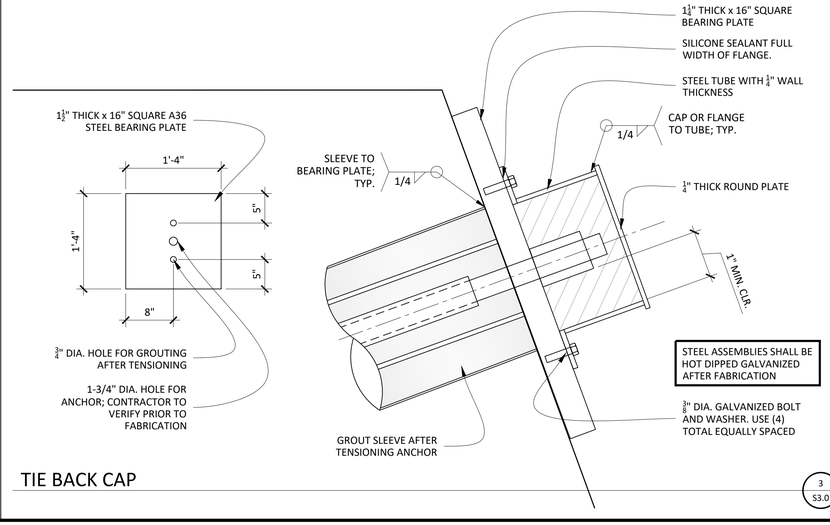
STEEL ASSEMBLIES SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION

NOTES

1. SEE DETAIL 3 THIS SHEET FOR INFORMATION NOT NOTED HEREIN.
2. DRILLED HOLE DIAMETER OF TIEBACK TO BE 6" DIAMETER.
3. BONDED LENGTH SHALL BE THE MINIMUM LENGTH AS SHOWN ON THE PROFILE.
4. POST GROUTING SHALL BE USED BY CONTRACTOR WHERE DEEMED APPLICABLE. POST GROUT TUBE NOT SHOWN.
5. PROVIDE CENTRALIZERS AND SPACERS FOR TIEBACK ANCHORS AS REQUIRED PER THE MANUFACTURER'S REQUIREMENTS. CENTRALIZERS SHALL BE SPACED NO GREATER THAN 10 FT ON CENTER.
6. GALVANIZE STEEL TUBE/BEARING PLATE ASSEMBLY AFTER FABRICATION.
7. STEEL TUBE WELDED TO BEARING PLATE. INSIDE DIAMETER OF STEEL TUBE (MIN. THICKNESS = $\frac{1}{4}$") TO BE 1" GREATER THAN OUTSIDE DIAMETER OF SMOOTH SHEATHING.

THREADBAR TIE BACK

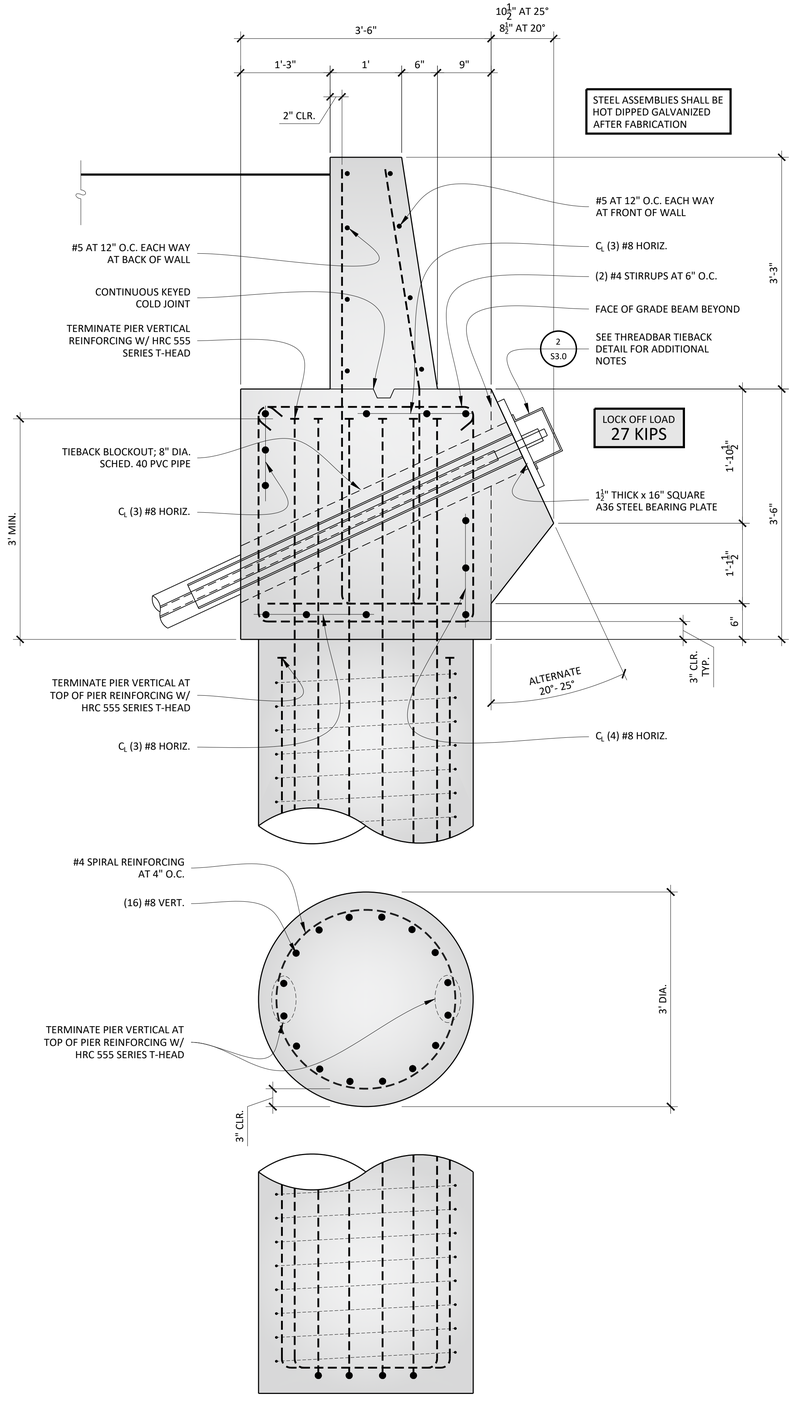
2
S3.0



STEEL ASSEMBLIES SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION

TIE BACK CAP

3
S3.0



TIE BACK RETAINING WALL

1
S3.0

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HILLSIDE STABILIZATION PROJECT FOR THE :

GLENWOOD TANK SITE

SCOTTS VALLEY, CA 95066

FOUNDATION DETAILS

REVISIONS		
	DESCRIPTION	DATE
4	BID SET	06/04/2026
3	BID ADD. NO. 2 - WALL REVISION	08/03/2026
2	BID ADD. NO. 3 - BID PHASE RFI RESPONSE	08/20/2026
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