MONTECITO WATER DISTRICT

160 East Via Verde, Suite 240
San Dimas, Caifornia, 91773
PHONE: (909) 305-2930 FAX: (909) 305-2959
www.tetratech.com

TETRA TECH

RESERVOIR SEISMIC RETROFIT AND REPLACEMENT PROJECT FOR PARK LANE RESERVOIR

PROJECT LOCATION:

PARK LANE NEAR EAST MOUNTAIN DRIVE
MONTECITO, CALIFORNIA
34.447663, -119.617445

CLIENT INFORMATION:

MONTECITO WATER DISTRICT
583 San Ysidro Rd
Montecito, CA 93108

Tt PROJECT No.:

200-106490-21001

CLIENT PROJECT No.:

P132

PROJECT DESCRIPTION / NOTES:

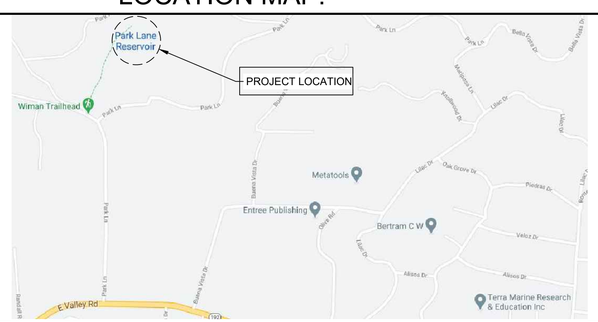
REPLACEMENT OF THE EXISTING RESERVOIR STRUCTURE WITH A NEW REINFORCED CONCRETE STRUCTURE CONSTRUCTED WITHIN THE FOOTPRINT OF THE EXISTING RESERVOIR

ISSUED:

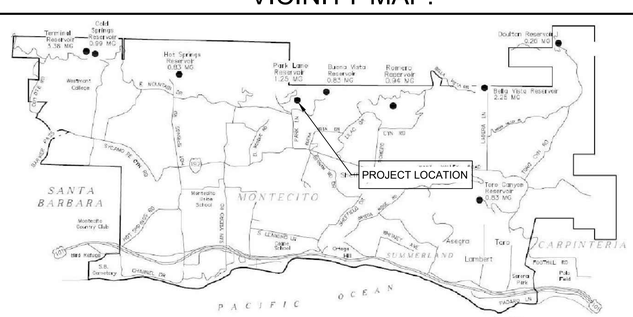
06/23/2021: 60 PERCENT DESIGN REVIEW
08/12/2021: 90 PERCENT DESIGN REVIEW
10/15/2021: 100 PERCENT DESIGN REVIEW
4/18/2025: FINAL SUBMITTAL

SHEET INDEX

LOCATION MAP:



VICINITY MAP:



REGISTERED PROFESSIONAL ENGINEER
MAN HONG ERIC YEN
No. 6177
STRUCTURAL
STATE OF CALIFORNIA
4/18/25

0 4' 8' 16'
SCALE: 1" = 8'

NOTES:

1. PROTECT IN PLACE ALL EXISTING FEATURES SHOWN UNLESS OTHERWISE NOTED.
2. REMOVE INTERFERING PORTIONS OF EXISTING FENCE AS REQUIRED (APPROX. 615' TOTAL).
3. ALL MATERIALS THAT WILL BE IN CONTACT WITH POTABLE WATER SHALL BE NSF61 APPROVED.
4. COAST LIVE OAK TREES SHALL BE PROTECTED. STAGING, GRADING, AND VEHICLE PARKING IS EXCLUDED FROM THE CANOPY DRIPLINE PLUS 6 FEET FROM FLAGGED TREES.
5. NATIVE SPECIMEN TREES SHALL NOT BE REMOVED. TREES SHALL BE KEPT HEALTHY BUT MAY BE AFFECTED AT THE ROOTS AND/OR CANOPY TO THE EXTENT WHERE THEY REMAIN HEALTHY.

LEGEND

CUT TOP 2" OF EXISTING GRADE AND COMPACT TO 90% RELATIVE COMPACTION. CONSTRUCT 2" CRUSHED AGGREGATE BASE, CL II

PARK LANE RESERVOIR
1.25 MG POTABLE WATER

CONSTRUCT 3' X 5' RIP RAP AT END OF CONCRETE SWALE
CONSTRUCT CONCRETE SWALE PER DTL4/C-501
FL 548.8'
4 C-501
21'
CONSTRUCT CONCRETE SWALE PER DTL 3/C-501
3 C-501
HIGH POINT FL 549.1
HIGH POINT FL 549.1
PROTECT IN PLACE EXISTING 6" DIA. OAK TREES
CONSTRUCT CONCRETE SWALE PER DTL 4/C-501
4 C-501
PROTECT IN PLACE EXISTING 2' DIA. OAK TREE
PROTECT IN PLACE EXISTING 6" DIA. OAK TREE
CONNECT TO EXISTING FENCE
PROTECT IN-PLACE EXISTING CHAIN LINK FENCE
FL 548.8'
PROTECT IN PLACE EXISTING 4' DIA. OAK TREE
CONSTRUCT 8' HIGH CHAIN LINK FENCE PER SPPWC 600-4
PROTECT IN PLACE EXISTING 4' DIA. OAK TREES
PROTECT IN PLACE EXISTING 2.5' DIA. OAK TREE
EXISTING ELECTRICAL PULL BOX
CONSTRUCT CONCRETE SWALE PER DTL 4/C-501
MATCH EXISTING GRADE
REMOVE EXISTING FENCE AND GATES
EXIST. SCADA PANEL
4 C-501
PROTECT IN PLACE EXISTING 4' DIA. OAK TREES
9'
8'
CONSTRUCT 16' WIDE DOUBLE SWING GATE
CONSTRUCT 4' WIDE MANGATE PER SSPWC 600-4
REMOVE EXISTING FENCE
45'
23'
38'
PROTECT IN PLACE EXISTING 3' DIA. OAK TREE
PROPOSED RESERVOIR WALL SEE STRUCTURAL DRAWINGS
EXISTING RESERVOIR WALL TO BE PROTECTED IN PLACE SEE STRUCTURAL DRAWINGS
16'
EXISTING ELECTRICAL PULL BOX
5 C-501
CONSTRUCT CONCRETE SWALE PER DTL 5/C-501
PROTECT IN PLACE EXISTING 1' DIA. OAK TREE
CONSTRUCT 3' X 5' RIP RAP AT END OF CONCRETE SWALE
FL 548.3
CONSTRUCT 4' WIDE MANGATE PER SSPWC 600-4
32'
PROTECT IN PLACE EXISTING 1' DIA. OAK TREES

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REGISTERED PROFESSIONAL ENGINEER MAN HONG ERIC YIEN No. 6177 STRUCTURAL STATE OF CALIFORNIA
4/18/25

MONTECITO WATER DISTRICT

MARK	DATE	DESCRIPTION	BY

MONTECITO WATER DISTRICT

RESERVOIR SEISMIC RETROFIT AND REPLACEMENT PROJECT FOR PARK LANE RESERVOIR

SITE PLAN AND DETAILS

Project No.:	200-106490-21001
Designed By:	AML
Drawn By:	AS
Checked By:	KRB

C-101

Bar Measures 1 inch

4/18/2025 2:26:33 PM - \\TT-LOCAL\IER\PROJECTS\IRVINE\106490200-106490-21001\CAD\SHEETFILES\PARK LANE\C-101-SITEPLAN.DWG - HUTCHINS, ERIC

SCALE: 1"=8'

EXISTING 4" DIP RESERVOIR INLET PIPE

REMOVE EXISTING 4" DIP AND CONCRETE PIPE SUPPORTS AND CONSTRUCT 4" DIP CL. 350. RESTRAIN ALL JOINTS

CONSTRUCT CONCRETE PIPE SADDLE SUPPORT PER DETAIL 5/C-503, TYP.

CONNECT TO EXISTING 4" DIP PER DETAIL 2/C-502

REPLACE IN KIND EXISTING GATE VALVE, CHECK VALVE, AND SAMPLE TAP(S)

15' MAX

CONSTRUCT 4" GATE VALVES (3 TOTAL), FLG.xFLG.

CONSTRUCT CONCRETE PIPE FLANGE SUPPORT PER DETAIL 5/C-503

REMOVE EXIST. 4" DIP AND CONCRETE PIPE SUPPORTS AND CONSTRUCT 4" DIP, CL. 350

REMOVE, STORE, AND RE-INSTALL EXISTING CONTROL VALVE WITH CONCRETE THRUST BLOCK

CONSTRUCT 4" TEE, FLG x FLG x FLG, AND BLIND FLANGE

CONSTRUCT CONCRETE PIPE FLANGE SUPPORT PER DETAIL 5/C-503

CONSTRUCT 4" GATE VALVE, FLG.xFLG.

PROTECT IN PLACE EXISTING ELECTRICAL PULL BOX

CONSTRUCT 12" DUCKBILL CHECK VALVE (INLET) ANGLE AT 45° VERTICALLY UPWARD

CONSTRUCT 1" BRAIDED WATER LINE FOR TANK MIXER CONTRACTOR TO REMOVE AND REINSTALL EX. TANK SHARK MIXER

REMOVE EXISTING 4" DIP PIPE, VALVES, FITTINGS, AND SUPPORTS

EXISTING GATE VALVE

REMOVE EXISTING OVERFLOW PIPE AND OVERFLOW CHANNEL AND REPLACE WITH 10" OVERFLOW PIPE SEE DETAIL 2/C-501

CONCRETE WEIR BOX SEE STRUCTURAL DRAWINGS

RESERVOIR FLOOR DRAIN AND MUD VALVE SEE DETAIL 2/C-503

CONSTRUCT CONCRETE PIPE SUPPORT PER DETAIL 1/S-504 TYP.

CONSTRUCT 12" HDPE DR 11 RESERVOIR INLET/OUTLET PIPE

CONSTRUCT CONCRETE PIPE SUPPORT PER DETAIL 2/S-504

PENETRATE AT SAME INVERT ELEVATION AS 12" INLET/OUTLET, WALL PENETRATION PER DETAIL 5/ C-502

LINE EXISTING 6" DRAIN PIPE WITH CIPP LINER (FOR BIDDING PURPOSES ASSUME 125 LF)

CONSTRUCT 12" DIP, CL. 350, SEE DETAIL 1/C-502

CUT AND PLUG PER DETAIL 4/C-503

CONSTRUCT 1" HDPE PIPE ALTITUDE VALVE SENSING LINE WITH UPWARD SLOPE FROM VALVE TO RESERVOIR PER ALTITUDE VALVE MANUFACTURER'S RECOMMENDATIONS

CUT AND PLUG PER DETAIL 4/C-503 AND REMOVE INTERFERING PORTIONS OF EXISTING 12" PIPE

CONSTRUCT 12" FLAPPER GATE CHECK VALVE

EXISTING 2-2" ELECTRICAL CONDUITS

PROTECT IN PLACE EXISTING ELECTRICAL PULL BOX

CONNECT TO EXISTING 12" DI PIPE

ABANDON EXISTING ALTITUDE VALVE SENSING LINE

CUT AND PLUG PER DETAIL 4/C-503

PROTECT IN PLACE EXISTING 12" ALTITUDE VALVE

PENETRATE EXISTING VAULT PER DETAIL 5/C-502

NOTES:

1. PROTECT IN PLACE ALL EXISTING FEATURES SHOWN UNLESS OTHERWISE NOTED.
2. ALL MATERIALS THAT WILL BE IN CONTACT WITH POTABLE WATER SHALL BE NSF61 APPROVED.

LEGEND

P = POTHOLE AND LOCATE EXISTING UTILITY PER SPECIFICATION SECTION 02221

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REGISTERED PROFESSIONAL ENGINEER MAN HONG ERIC CHEN No. 6177 STRUCTURAL STATE OF CALIFORNIA 4/18/25

MONTECITO WATER DISTRICT

MARK	DATE	DESCRIPTION	BY

MONTECITO WATER DISTRICT

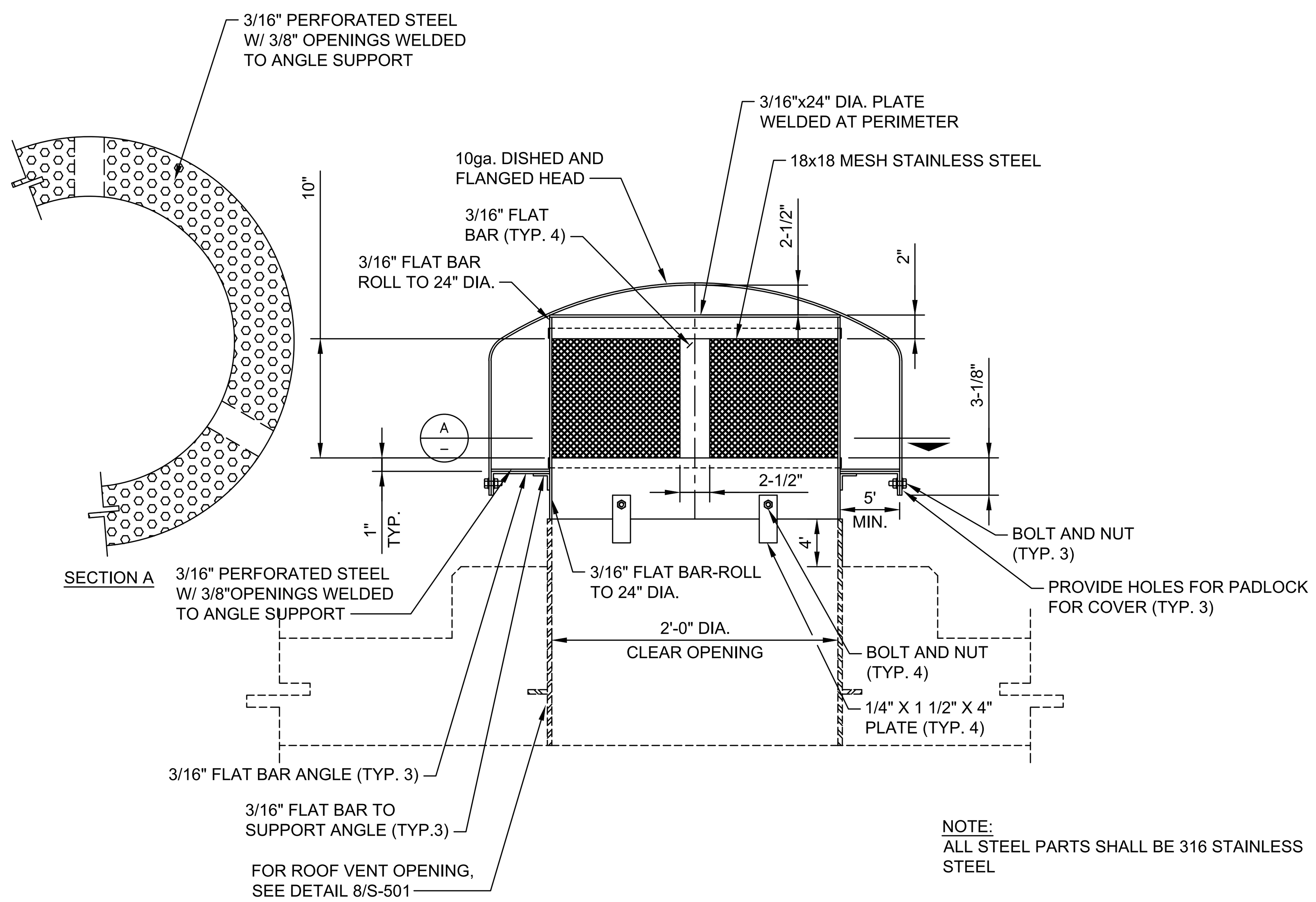
RESERVOIR SEISMIC RETROFIT AND REPLACEMENT PROJECT FOR PARK LANE RESERVOIR

PIPING PLAN

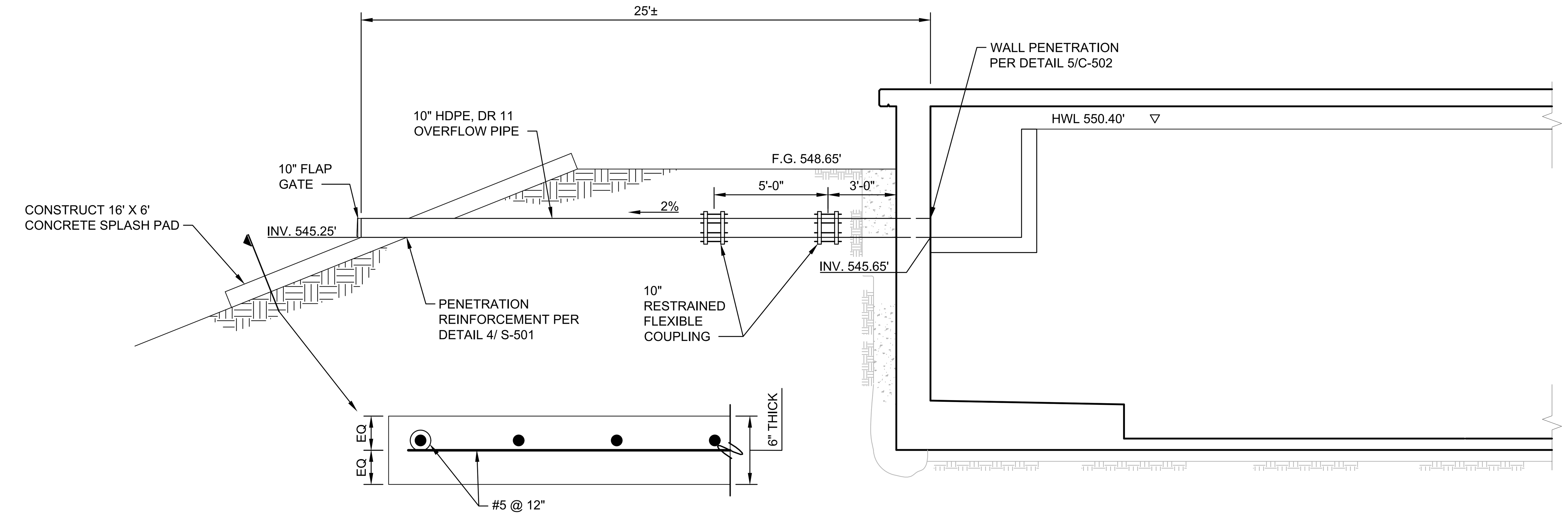
Project No.:	200-106490-21001
Designed By:	AML
Drawn By:	AS
Checked By:	KRB

C-102

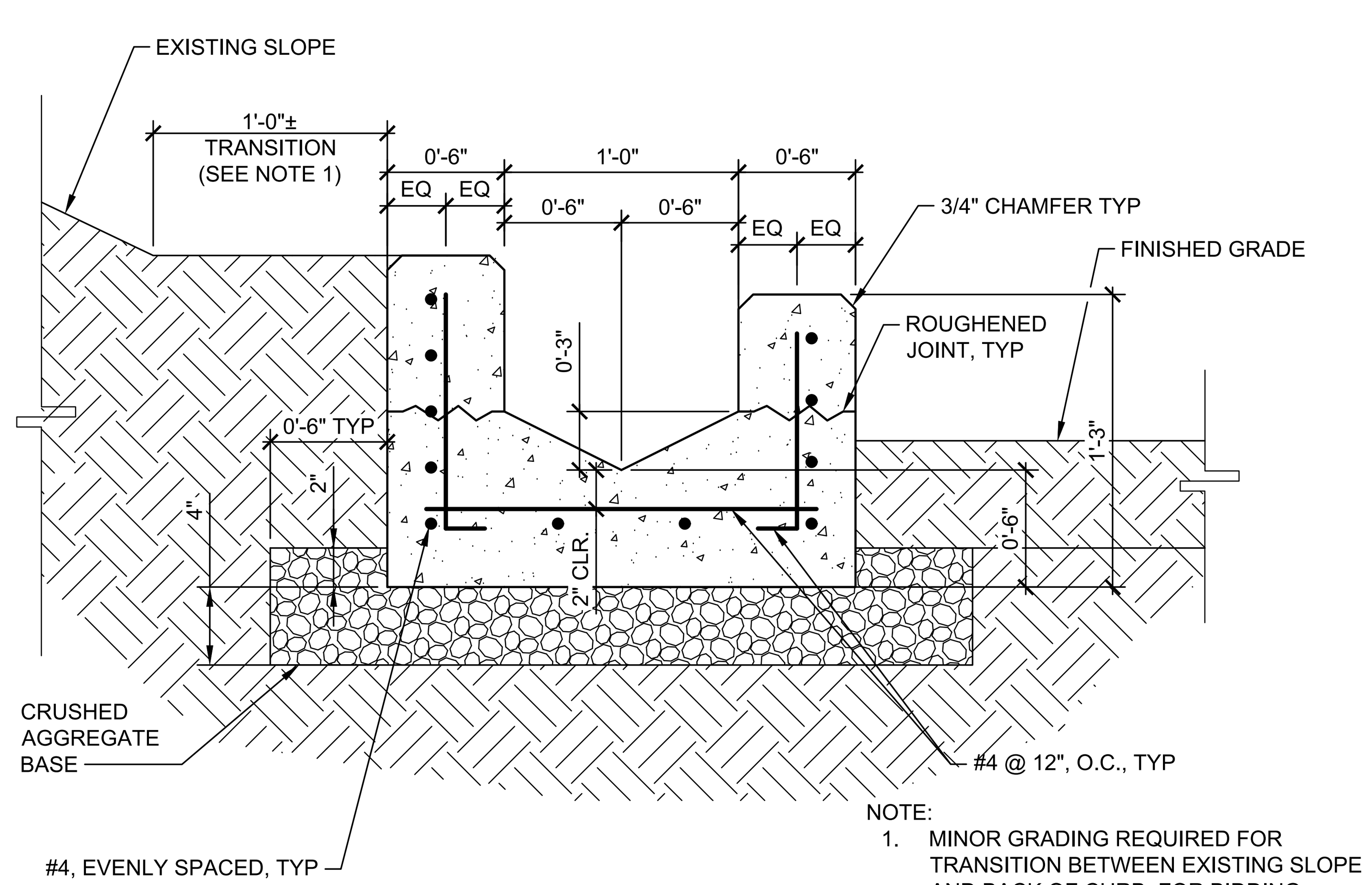
Bar Measures 1 inch


3/16" PERFORATED STEEL W/ 3/8" OPENINGS WELDED TO ANGLE SUPPORT
SECTION A
3/16"x24" DIA. PLATE WELDED AT PERIMETER
18x18 MESH STAINLESS STEEL
10ga. DISHED AND FLANGED HEAD
3/16" FLAT BAR (TYP. 4)
3/16" FLAT BAR ROLL TO 24" DIA.
10"
2-1/2"
2"
3-1/8"
1" TYP.
2-1/2"
5' MIN.
4"
BOLT AND NUT (TYP. 3)
PROVIDE HOLES FOR PADLOCK FOR COVER (TYP. 3)
3/16" PERFORATED STEEL W/ 3/8"OPENINGS WELDED TO ANGLE SUPPORT
3/16" FLAT BAR-ROLL TO 24" DIA.
2'-0" DIA. CLEAR OPENING
BOLT AND NUT (TYP. 4)
1/4" X 1 1/2" X 4" PLATE (TYP. 4)
3/16" FLAT BAR ANGLE (TYP. 3)
3/16" FLAT BAR TO SUPPORT ANGLE (TYP.3)
FOR ROOF VENT OPENING, SEE DETAIL 8/S-501
NOTE:
ALL STEEL PARTS SHALL BE 316 STAINLESS STEEL

1 ROOF VENT DETAIL
SCALE: N.T.S.

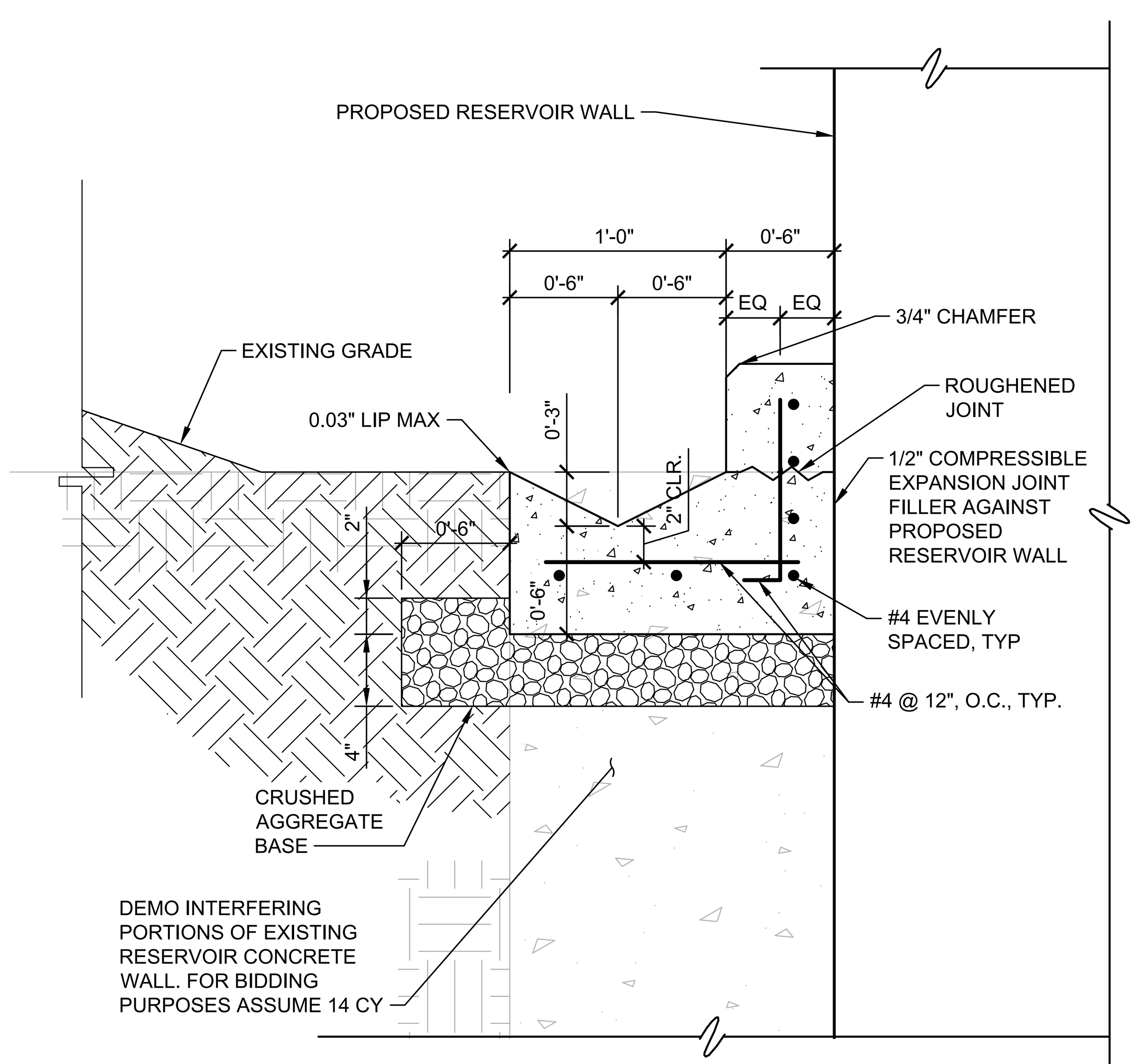

25'±
WALL PENETRATION PER DETAIL 5/C-502
HWL 550.40'
10" HDPE, DR 11 OVERFLOW PIPE
F.G. 548.65'
10" FLAP GATE
5'-0"
3'-0"
2%
CONSTRUCT 16' X 6' CONCRETE SPLASH PAD
INV. 545.25'
INV. 545.65'
PENETRATION REINFORCEMENT PER DETAIL 4/ S-501
10" RESTRAINED FLEXIBLE COUPLING
EQ
EQ
6" THICK
#5 @ 12"

2 RESERVOIR OVERFLOW SECTION
SCALE: N.T.S.

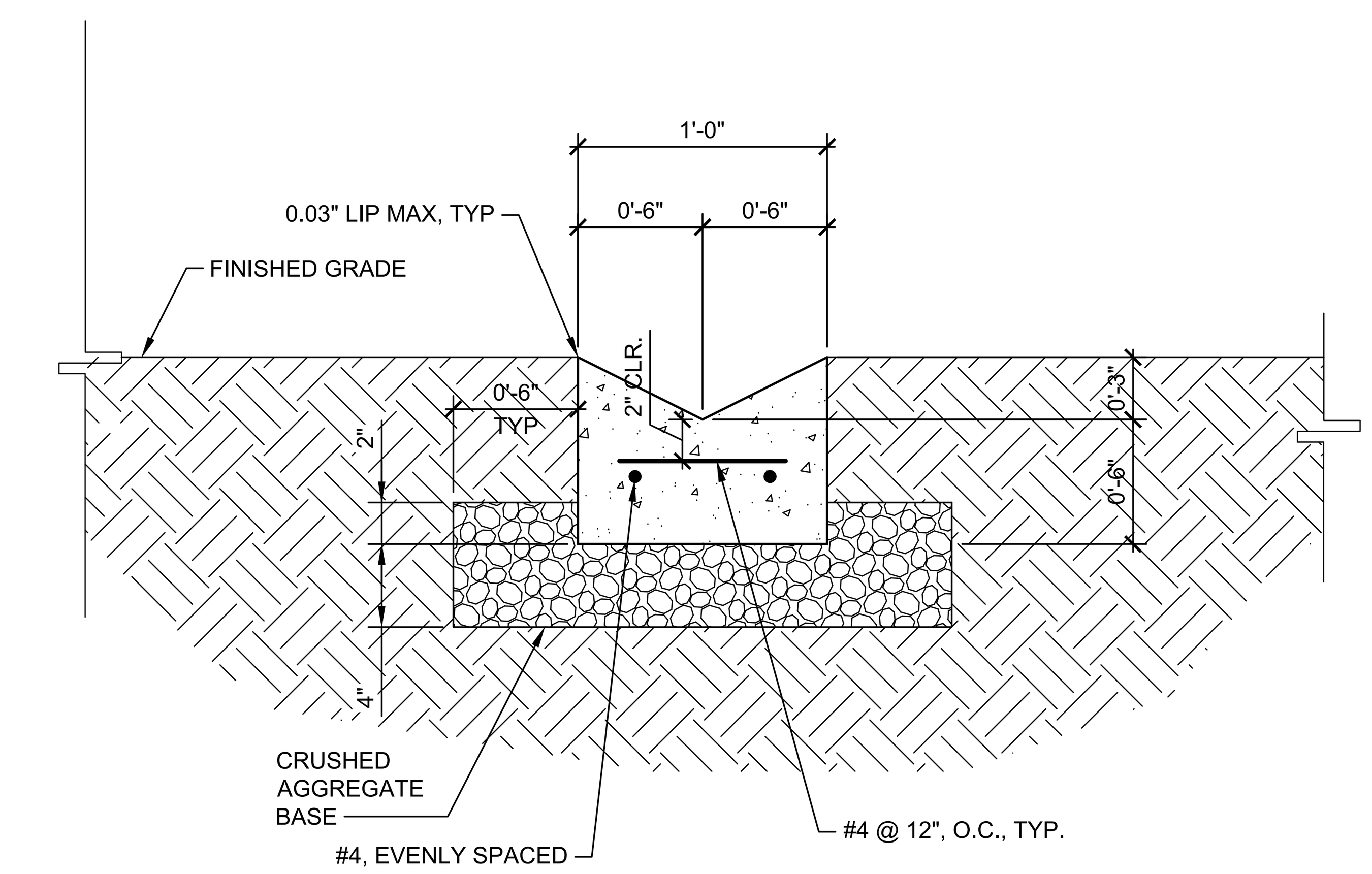


NOTE:
1. MINOR GRADING REQUIRED FOR TRANSITION BETWEEN EXISTING SLOPE AND BACK OF CURB. FOR BIDDING PURPOSES ASSUME 1.5 CY OF FILL.

3 CONCRETE SWALE
SCALE: N.T.S.


PROPOSED RESERVOIR WALL
1'-0"
0'-6"
0'-6"
0'-6"
EQ EQ
3/4" CHAMFER
EXISTING GRADE
ROUGHENED JOINT
0.03" LIP MAX
0'-3"
2" CLR.
1/2" COMPRESSIBLE EXPANSION JOINT FILLER AGAINST PROPOSED RESERVOIR WALL
2"
0'-6"
0'-6"
4"
#4 EVENLY SPACED, TYP
#4 @ 12", O.C., TYP.
CRUSHED AGGREGATE BASE
DEMO INTERFERING PORTIONS OF EXISTING RESERVOIR CONCRETE WALL. FOR BIDDING PURPOSES ASSUME 14 CY

4 CONCRETE SWALE AGAINST RESERVOIR
SCALE: N.T.S.



5 CONCRETE SWALE WITH NO CURB
SCALE: N.T.S.

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STATE OF CALIFORNIA
4/18/25

MONTECITO WATER DISTRICT

MARK	DATE	DESCRIPTION	BY

MONTECITO WATER DISTRICT

RESERVOIR SEISMIC RETROFIT AND REPLACEMENT PROJECT FOR PARK LANE RESERVOIR

CIVIL DETAILS

Project No.:	200-106490-21001
Designed By:	AML
Drawn By:	AS
Checked By:	KRB

C-501

Bar Measures 1 inch

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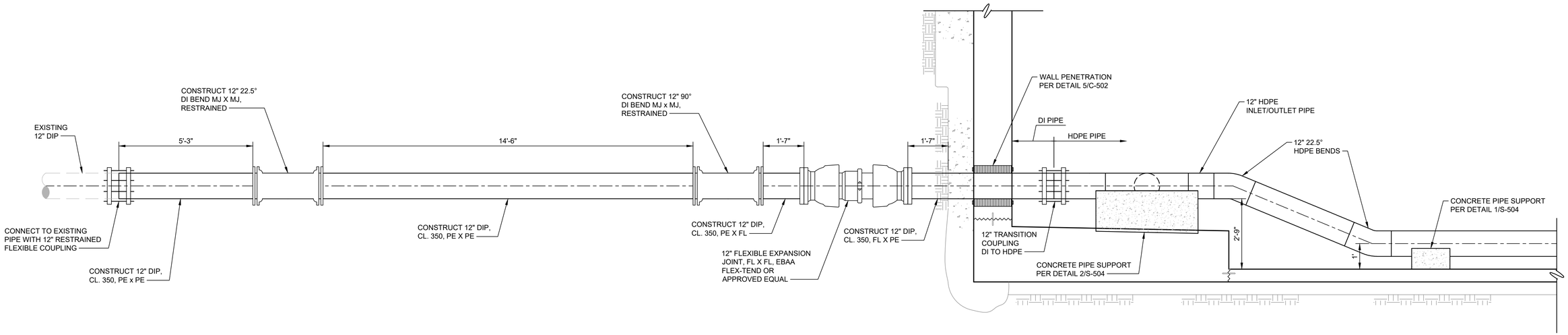
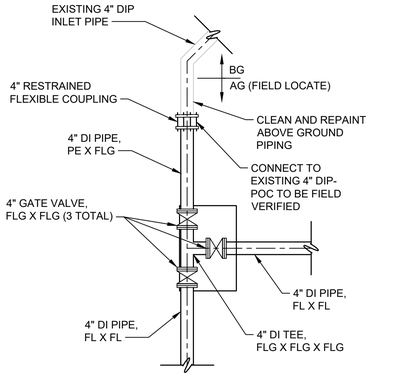
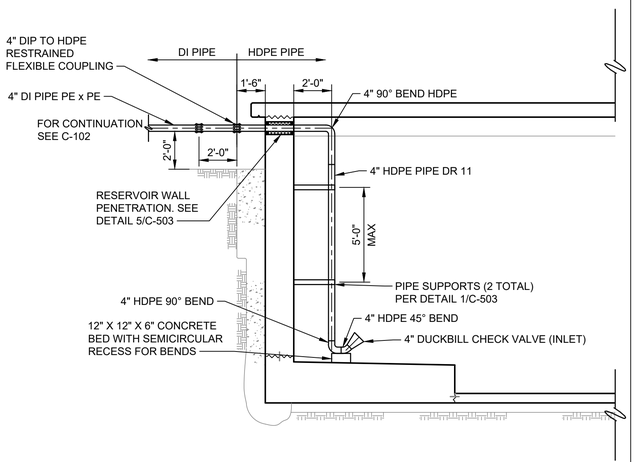


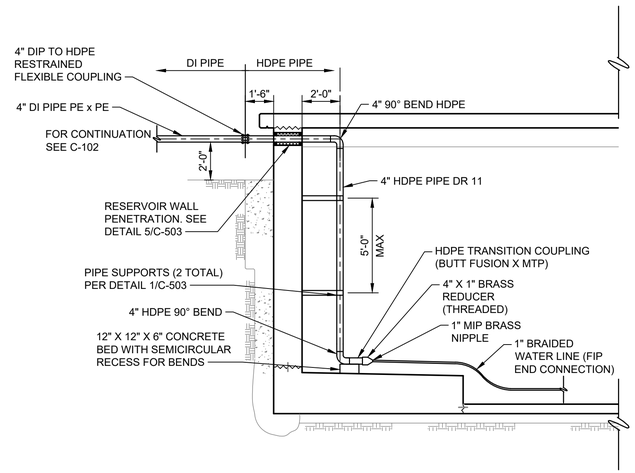
1 — 12" OUTLET PIPE CONNECTION DETAIL
SCALE: 1/2"=1'-0"



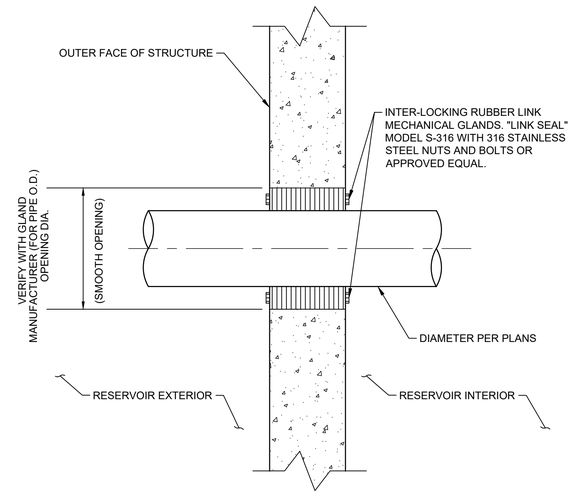
2 — 4" INLET PIPE CONNECTION DETAIL
SCALE: 1/2"=1'-0"



3 — 4" INLET PIPE RISER (WEST) DETAIL
SCALE: 1/4"=1'-0"



4 — 4" INLET PIPE RISER (NORTH) DETAIL
SCALE: 1/4"=1'-0"



5 — RESERVOIR WALL PENETRATION DETAIL (SUBMERGED)
SCALE: N.T.S.

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4/18/25

MONTECITO WATER DISTRICT

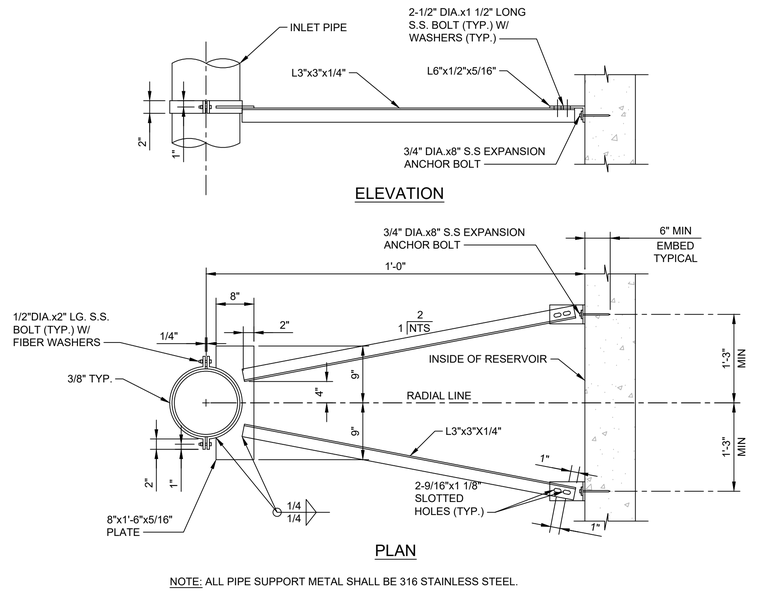
MARK	DATE	DESCRIPTION	BY

MONTECITO WATER DISTRICT
RESERVOIR SEISMIC RETROFIT AND REPLACEMENT PROJECT FOR PARK LANE RESERVOIR
CIVIL DETAILS

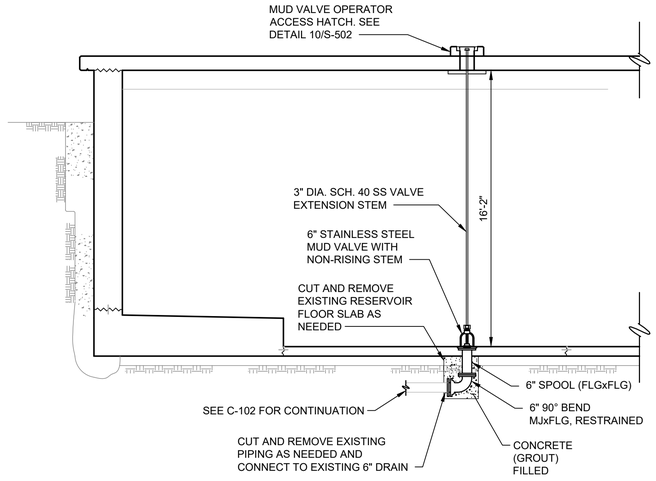
Project No.:	200-106490-21001
Designed By:	AML
Drawn By:	AS
Checked By:	KRB

C-502

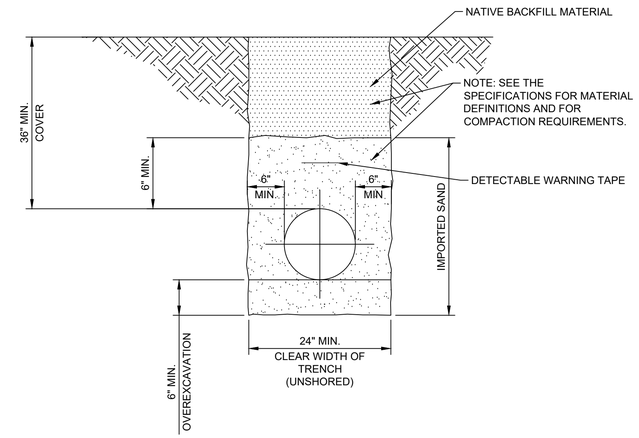
Bar Measures 1 inch



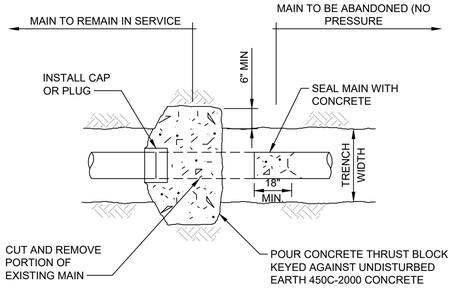
1 — INLET PIPE SUPPORT DETAIL
SCALE: 1"=1'-0"



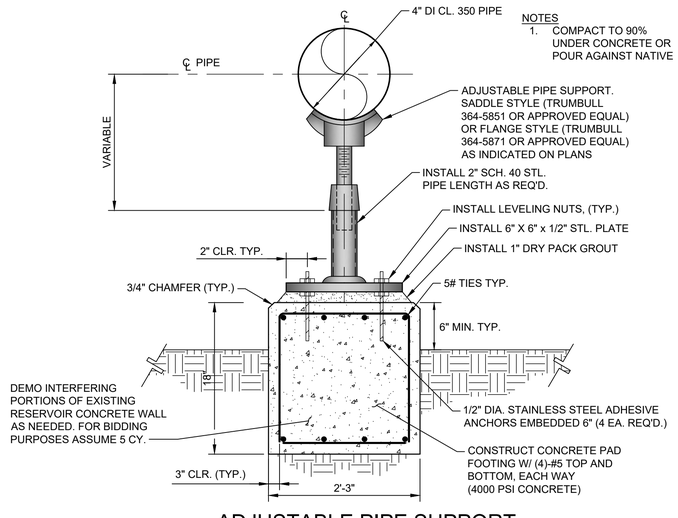
2 — MUD VALVE/FLOOR DRAIN DETAIL
SCALE: 1/4"=1'-0"



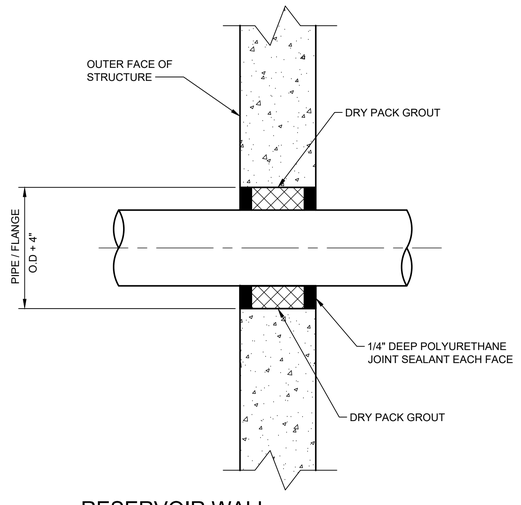
3 — PIPE TRENCHING DETAIL
SCALE: N.T.S.



4 — CUT AND PLUG DETAIL
SCALE: N.T.S.



5 — ADJUSTABLE PIPE SUPPORT WITH CONCRETE BASE
SCALE: N.T.S.



6 — RESERVOIR WALL PENETRATION DETAIL (ABOVE WATER LINE)
SCALE: N.T.S.

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MONTECITO WATER DISTRICT

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MONTECITO WATER DISTRICT
RESERVOIR SEISMIC RETROFIT AND REPLACEMENT PROJECT FOR PARK LANE RESERVOIR
CIVIL DETAILS

Project No.:	200-106490-21001
Designed By:	AML
Drawn By:	AS
Checked By:	KRB

C-503

Bar Measures 1 inch

GENERAL STRUCTURAL NOTES

THESE NOTES SHALL APPLY UNLESS SHOWN/INDICATED OTHERWISE ELSEWHERE IN THE STRUCTURAL DRAWINGS.

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE 2019 CALIFORNIA BUILDING CODE (C.B.C) BASED UPON THE 2018 EDITION OF THE INTERNATIONAL BUILDING CODE (I.B.C.). THE MATERIALS AND CONSTRUCTION SHALL CONFORM WITH ACI 350-06.
2. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS BEFORE STARTING WORK. DIMENSIONS OF (E) CONSTRUCTION WHERE SHOWN ON THESE DRAWINGS ARE NOMINAL AND SHOULD BE FIELD VERIFIED. SHOULD CONDITIONS EXIST WHICH ARE CONTRARY TO THOSE SHOWN ON PLANS, THE ENGINEER SHALL BE NOTIFIED IN WRITING BEFORE PROCEEDING WITH WORK.
3. UNLESS DETAILED, SPECIFIED, OR INDICATED OTHERWISE, CONSTRUCTION SHALL BE AS INDICATED IN THE APPLICABLE TYPICAL DETAILS AND THESE GENERAL NOTES. TYPICAL DETAILS ARE MEANT TO APPLY EVEN THOUGH NOT REFERENCED AT SPECIFIC LOCATIONS ON DRAWINGS WHERE THE OCCUR.
4. THE CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE, WORKERS AND PEDESTRIANS DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, TEMPORARY STRUCTURES, AND PARTIALLY COMPLETED WORK, ETC. OBSERVATION VISITS TO THE SITE BY THE ENGINEER SHALL NOT BE CONSIDERED AS INSPECTION OF SUCH ITEMS.
5. DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALES SHOWN ON DRAWINGS.
6. ALL WORK SHALL CONFORM TO THE PLANS AND SPECIFICATIONS IN ALL RESPECTS AND SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER.
7. ASSUMED DESIGN SOIL BEARING VALUE IS 3000 PSF PER TABLE 1806.3 OF THE 2019 CBC, FOR SANDY GRAVEL OR SAND (CLASSIFICATION GW OR GP). THIS SOIL BEARING ASSUMPTION SHALL BE VERIFIED AFTER THE EXCAVATION IS COMPLETE.
8. CONTRACTOR SHALL VERIFY LOCATION OF ALL SITE UTILITIES PRIOR TO STARTING WORK, BOTH ABOVE GROUND AND BELOW GROUND, WHICH MAY BE IMPACTED BY THE WORK SHOWN ON THESE DRAWINGS. ANY CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
9. ALL ITEMS SHOWN ON THESE PLANS ARE NEW UNLESS NOTED (E), EXIST. OR EXISTING.

REINFORCING NOTES

1. REINFORCEMENT FOR CONCRETE AND MASONRY SHALL BE DEFORMED BARS CONFORMING TO ASTM SPECIFICATION A615 (A706/A706M FOR WELDED REINFORCING). GRADE 60 STEEL SHALL BE USED.
2. WIRE MESH, WHERE USED, SHALL CONFORM TO ASTM A185. LAP 12" WHERE SPLICED.
3. ALL REINFORCEMENT, ANCHOR BOLTS, AND OTHER ANCHORAGES PLACED IN MASONRY AND CONCRETE SHALL BE ACCURATELY PLACED AND POSITIVELY SECURED AND SUPPORTED BY CONCRETE BLOCKS, METAL CHAIRS, SPACERS, OR METAL HANGERS, AND SHALL BE IN POSITION BEFORE CONCRETE PLACING OR GROUTING IS BEGUN. DETAILING AND PLACING OF BARS SHALL CONFORM TO THE A.C.I. MANUAL OF STANDARD PRACTICES.
4. BARS SPECIFIED AS "CONTINUOUS" SHALL EXTEND THE FULL LENGTH OF THE MEMBER CONTAINING THEM AND MAY BE SPLICED (UNLESS NOTED OR SHOWN WITHOUT SPLICES ON THE PLANS). IN CONCRETE, PROVIDE LAPS PER DETAIL 2 ON SHEET S-501. STAGGER ALL SPLICES.
5. DOWELS SHALL BE PROVIDED AT ALL POUR JOINTS AND SHALL BE THE SAME SIZE AND SPACING AS REINFORCING DIRECTLY BEYOND POUR JOINTS.
6. WELDING OF REINFORCING STEEL, METAL INSERTS AND CONNECTIONS IN REINFORCED CONCRETE OR MASONRY CONSTRUCTION SHALL CONFORM TO ANSI/AWS D1.4-11. USE LOW HYDROGEN E-70 SERIES ELECTRODES FOR WELDING OF REINFORCING BARS. CONTINUOUS INSPECTION IS REQUIRED OF ALL FIELD WELDING IN ACCORDANCE WITH C.B.C. CHAPTER 17.

CONCRETE NOTES

1. ALL CONCRETE FOR THE RESERVIR STRUCTURE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 4500 PSI AT 28 DAYS. REFER TO THE PROJECT SPECIFICATIONS FOR THE REQUIREMENTS FOR OTHER CONCRETE. AGGREGATES SHALL CONFORM TO ASTM C33.
2. CEMENT FOR CONCRETE SHALL BE TYPE V PORTLAND CEMENT CONFORMING TO A.S.T.M. C150.
3. CONCRETE COVER FOR REINFORCING BARS SHALL BE:
   CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH = 3"
   EXPOSED TO EARTH OR WEATHER: NO. 6 THROUGH NO. 18 BARS = 2"
   NO. 5 BARS, W31 OR D31 WIRE, AND SMALLER = 1 1/2"
   NOT EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND:
   SLABS, WALLS, JOISTS: NO. 14 AND NO. 18 BARS = 1 1/2"
   NO. 11 BARS AND SMALLER = 3/4"
   BEAMS, COLUMNS: PRIMARY REINFORCEMENT, TIES, STIRRUPS, SPIRALS = 1 1/2"
4. DRYPACK SHALL BE 1 PART CEMENT AND 3 PARTS SAND (BY VOLUME).
5. NO PIPES OR DUCTS SHALL BE PLACED IN STRUCTURAL CONCRETE UNLESS SPECIFICALLY DETAILED. SEE MECHANICAL AND/OR ELECTRICAL DRAWINGS FOR LOCATION OF SLEEVES THROUGH WALLS AND FLOORS.
6. THE LOCATION OF ALL CONSTRUCTION JOINTS NOT SPECIFICALLY NOTED OR SHOWN SHALL BE APPROVED BY THE STRUCTURAL ENGINEER.
7. "ROUGHENED SURFACES", WHERE SPECIFIED ON THE DRAWINGS, SHALL BE MECHANICALLY ROUGHENED SUCH THAT A 1/4" AMPLITUDE (±) IS ACHIEVED BETWEEN HIGH AND LOW SPOTS OF THE ROUGHENED SURFACE. THE SURFACE SHALL BE CLEAN AND FREE OF LAITANCE
8. BOTH FACES OF CONCRETE WALLS, EDGES OF CONCRETE FOUNDATIONS, AND OTHER FORMED CONCRETE SURFACES WHERE THE CONCRETE COVER IS SPECIFIED AS LESS THAN 3 INCHES, SHALL BE PLACED AGAINST FORMWORK WHICH COMPLIES WITH THE PROJECT SPECIFICATIONS. CONCRETE FOR THESE ELEMENTS SHALL NOT BE CAST AGAINST EARTH.

STEEL NOTES

1. ALL WIDE FLANGE MEMBERS SHALL BE IN ACCORDANCE WITH ASTM A-992. ALL OTHER STRUCTURAL AND MISCELLANEOUS STEEL SHALL BE ASTM A36 UNLESS NOTED OTHERWISE. STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE AISC SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS. SPECIAL INSPECTION SHALL BE PROVIDED FOR ALL STRUCTURAL STEEL IN ACCORDANCE WITH CBC SECTION 1705.2.1, UNLESS FABRICATION IS PERFORMED ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION, IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND SECTION 1704.2.5.2 OF THE 2019 CBC. AT THE COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE ENGINEER STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
2. STEEL TUBES SHALL CONFORM TO A.S.T.M. A500, GRADE B OR BETTER, UNLESS NOTED OTHERWISE.
3. STEEL PIPES SHALL CONFORM TO ASTM A53, GRADE B.
4. BOLTS SHALL CONFORM TO ASTM A307 OR BETTER, UNLESS NOTED OTHERWISE.
5. HOLES FOR BOLTS IN STEEL SHALL BE OF SAME DIAMETER AS BOLT +1/16" MAXIMUM.
6. ALL WELDING SHALL BE SHIELDED ARC TYPE AND SHALL BE PERFORMED BY A CERTIFIED WELDER IN A FABRICATION SHOP REGISTERED AND APPROVED IN ACCORDANCE WITH NOTE 1 ABOVE.CONTINUOUS INSPECTION IS REQUIRED OF ALL FIELD WELDING IN ACCORDANCE WITH AWS D1.1.
7. NO STRUCTURAL STEEL MEMBER SHALL BE CUT FOR PIPES, DUCTS, ETC. UNLESS SPECIFICALLY DETAILED AND APPROVED BY STRUCTURAL ENGINEER.
8. STAINLESS STEEL SHALL CONFORM TO A.S.T.M. A276/A.I.S.I. 316. STAINLESS STEEL BOLTS SHALL CONFORM TO A.S.T.M. F593. STAINLESS STEEL NUTS SHALL CONFORM TO A.S.T.M. F594.
9. WELDING OF STAINLESS STEEL SHALL CONFORM TO STRUCTURAL WELDING CODE - STAINLESS STEEL, ANSI/AWS D1.6-07.
10. WHERE SPECIFIED, USE OF HIGH-STRENGTH BOLTS SHALL CONFORM TO THE PROVISIONS OF THE "SPECIFICATION FOR STRUCTURAL JOINTS USING A.S.T.M. A325 OR A490 BOLTS" APPROVED BY THE RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS OF THE ENGINEERING FOUNDATION (RCSC). SPECIAL INSPECTION OF HIGH-STRENGTH BOLT CONNECTIONS IS REQUIRED.
11. ALL NON-STAINLESS STEEL THAT IS NOT SCHEDULED TO BE PAINTED, SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123 OR A153, AS APPLICABLE. REPAIR OF DAMAGED GALVANIZED COATING SHALL BE IN ACCORDANCE WITH ASTM A780. ALL OTHER NON-STAINLESS STEEL SHALL BE COATED WITH TWO COATS OF SHOP APPLIED PRIMER THAT IS COMPATIBLE WITH THE TOP COATS. REFER TO THE PROJECT SPECIFICATIONS.
12. WELDING EQUIPMENT SHALL BE CHECKED PRIOR TO WELDING AS REQUIRED BY AISC 360-16 TABLE N5.4-1.
13. PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED SHALL BE PERFORMED AS REQUIRED BY AISC 360-16 TABLE N5.6-1

ADHESIVE ANCHORS (SIMPSON)

1. ADHESIVE ANCHORS SHALL BE "SET-3G" ADHESIVE ANCHORS, MANUFACTURED BY SIMPSON STRONG-TIE.
2. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH I.C.C. EVALUATION REPORT No. 4057.
3. SPECIAL INSPECTION PER CHAPTER 17 OF THE CALIFORNIA BUILDING CODE SHALL BE PROVIDED DURING ANCHOR INSTALLATION.
4. AN ALTERNATIVE ADHESIVE ANCHOR PRODUCT MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL, PROVIDED THAT IT HAS A CURRENT I.C.C. EVALUATION REPORT APPROVAL.
5. ALL ABANDONED HOLES SHALL BE FILLED WITH A DRYPACK GROUT A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5,000 PSI. THE FILLED HOLE(S) SHALL BE PREPARED AND CLEANED AS REQUIRED BY THE GROUT MANUFACTURER.
6. LOCATE EXISTING REINFORCING USING A NON-DESTRUCTIVE METHOD (PACHOMETER OR OTHER), PRIOR TO STEEL FABRICATION OF THE AFFECTED COMPONENTS ANDPRIOR TO DRILLING HOLES FOR ANCHORS. MAINTAIN A MINIMUM CLEARANCE OF 1" BETWEEN THE REINFORCEMENT AND THE ANCHOR. NOTIFY ENGINEER IF ADHESIVE ANCHORS CANNOT BE INSTALLED DUE TO REBAR INTERFERENCE(S) SO STRUCTURAL STEEL DETAILING SHOWN HEREON CAN BE MODIFIED TO ACOMODATE.

CEMENT SLURRY BACKFILL

1. CEMENT SLURRY MAY BE USED IN LIEU OF COMPACTED SOIL BACKFILL ONLY WHERE INDICATED ON THE PLANS.
2. CEMENT SLURRY SHALL CONSIST OF TYPE II CEMENT IN ACCORDANCE WITH A.S.T.M. C-150, WATER AND AGGREGATE. AGGREGATE SHALL BE EITHER EXCAVATION MATERIAL FREE OF ORGANIC MATERIAL OR COMMERCIAL QUALITY CONCRETE SAND CONFORMING TO A.S.T.M. C-33 FOR FINE AGGREGATE. IF EXCAVATED MATERIAL IS USED FOR THE SLURRY AGGREGATE, IT SHALL MEET THE FOLLOWING GRADING REQUIREMENTS:

SIEVE SIZE	PCT. PASSING
1"	80 - 100
3/4"	60 - 100
3/8"	50 - 100
No. 4	40 - 80
No. 100	10 - 40

3. THE MINIMUM AMOUNT OF CEMENT SHALL NOT BE LESS THAN 2 SACKS (188 LBS.) PER CUBIC YARD OF SLURRY. ENOUGH WATER SHALL BE ADDED TO PRODUCE A FLUID, WORKABLE MIX THAT WILL FLOW AND CAN BE PUMPED WITHOUT SEGREGATION OF THE AGGREGATE WHILE BEING PLACED.
4. THE CEMENT SLURRY SHALL BE PLACED WITHIN ONE HOUR OF BEING MIXED.
5. A MINIMUM OF 4 HOURS SHALL ELAPSE PRIOR TO THE PLACEMENT OF BACKFILL ON THE CEMENT SLURRY.

DESIGN CRITERIA:

DESIGN CODES AND REFERENCES:
- -CALIFORNIA BUILDING CODE, 2019 EDITION
- -ASCE/SEI 7-16 MINIMUM DESIGN LOADS FOR BUILDINGS & OTHER STRUCTURES
- -ACI 318-14 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
- -ACI 350 CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES
- -ACI 350.3 SEISMIC DESIGN OF LIQUID CONTAINING CONCRETE STRUCTURES

ROOF LOADING:
- DEAD LOAD = 5 PSF (SOLAR PANEL ALLOWANCE)
- SELF WEIGHT OF CONCRETE DEAD LOAD = 113 PSF (9 INCH CONCRETE SLAB)
- LIVE LOAD = 100 PSF (ROOF SLAB DESIGN ONLY)
- LIVE LOAD = 40 PSF (COLUMN AND WALL DESIGN ONLY)

SEISMIC DESIGN PARAMETERS:
- ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE PROCEDURE
- LOCATION: LAT. 34.447750 N, LONG. 119.617518 W
- RISK CATEGORY: IV
- SITE CLASS: D (DEFAULT)

Ss = 2.089	Fa = 1.200	SDS = 1.671
Ss = 2.089	Fv = 1.700	SD1 = 0.773
Ri = 2.00	Sai = 1.671	Cs = 1.253
Rc = 1.00	Sac = 0.023	Cs = 0.034
IE = 1.50		

GEOTECHNICAL PARAMETERS:

BASED GEOTECHNICAL DESIGN ON TABLE 1806.2 IN CBC 2019 CLASS 3
ALLOWABLE BEARING PRESSURE = 3000 PSF
(INCREASED BY ONE-THIRD FOR SEISMIC LOADING CONDITION)

SOIL LATERAL LOAD
- AT-REST PRESSURE = 60 PSF/FT (SANDY / GRAVELY SOIL PER ASCE 7-16 TABLE 3.2-1 FOOTNOTE B.)
- SOIL SEISMIC PRESSURE = 30.5 PSF/FT (ASSUMED - UNIFORMLY DISTRIBUTED LOAD)

TETRA TECH
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REGISTERED PROFESSIONAL ENGINEER MAN HONG ERIC CHEN No. 6177 STRUCTURAL STATE OF CALIFORNIA 4/18/25

MONTECITO WATER DISTRICT

MARK	DATE	DESCRIPTION	BY

MONTECITO WATER DISTRICT
RESERVOIR SEISMIC RETROFIT AND REPLACEMENT PROJECT FOR PARK LANE RESERVOIR

GENERAL STRUCTURAL NOTES

Project No.:	200-106490-21001
Designed By:	VMR
Drawn By:	EJH
Checked By:	VMR

S-001

Bar Measures 1 inch

SPECIAL INSPECTIONS REQUIRED

SPECIAL INSPECTIONS REQUIRED FOR THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH C.B.C. CHAPTER 17. SPECIAL INSPECTIONS SHALL BE PERFORMED BY AN APPROVED INSPECTION AGENCY U.N.O, EMPLOYED BY THE OWNER.

THE SPECIAL INSPECTOR SHALL BE CERTIFIED BY THE INTERNATIONAL CODE COUNCIL (I.C.C.) TO PERFORM INSPECTION FOR THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION PRIOR TO THE COMPLETION OF THAT PHASE OF THE WORK.

THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL AND/OR THE ENGINEER. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, THEN, IF UNCORRECTED, TO THE STRUCTURAL ENGINEER AND TO THE BUILDING OFFICIAL.

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 PROVISIONS OF THIS CODE.

IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO PROVIDE AT LEAST 48 HOURS ADVANCE NOTICE TO THE OWNER/OWNER'S REPRESENTATIVE WHEN HIS WORK IS READY FOR ANY REQUIRED SPECIAL INSPECTIONS.

SHOP INSPECTION OF STEEL CONSTRUCTION IS NOT REQUIRED WHEN THE WORK IS DONE ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION. APPROVAL SHALL BE BASED UPON REVIEW OF THE FABRICATOR'S WRITTEN PROCEDURAL AND QUALITY CONTROL MANUALS AND PERIODIC AUDITING OF FABRICATION PRACTICES BY AN APPROVED SPECIAL INSPECTION AGENCY. AT COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE BUILDING OFFICIAL STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.

CONTRACTOR RESPONSIBILITY

EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WIND- OR SEISMIC-FORCE-RESISTING SYSTEM, DESIGNATED SEISMIC SYSTEM OR A WIND- OR SEISMIC-RESISTING COMPONENT LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THE SYSTEM OR COMPONENT. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN ACKNOWLEDGMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTION.

OWNER OR OWNER'S REPRESENTATIVE SHALL BE SYNONYMOUS WITH 'BUILDING OFFICIAL' IN THE FOREGOING IF THE PROJECT IS NOT UNDER THE JURISDICTION OF A BUILDING DEPARTMENT

SPECIAL INSPECTION SHALL BE PROVIDED FOR THE FOLLOWING TYPES OF WORK PERFORMED IN THE FIELD, OR NOT PERFORMED IN AN APPROVED FABRICATION SHOP AS DEFINED ABOVE, UNLESS NOTED AS "N/A".

SPECIAL INSPECTIONS REQUIRED (■ YES ☐ N0)

	CONT	PERIODIC	N/A
REQUIRED VERIFICATION AND INSPECTION OF SOILS (TO BE PERFORMED BY A LICENSED GEOTECHNICAL ENGINEER):			
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	☐	■	☐
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	☐	■	☐
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	☐	■	☐
4. PERFORM CLASSIFICATION AND TESTING OF NATIVE SOILS TO VERIFY ANY SOIL PROPERTIES ASSUMED AS PART OF DESIGN FOR THIS PROJECT IN THE ABSENCE OF A SOILS REPORT (SEE SOIL PROPERTIES ON THIS DRAWING). THIS TESTING SHALL BE PERFORMED IN ADVANCE OF ANY CONSTRUCTION. THE STRUCTURAL ENGINEER SHALL BE NOTIFIED IF THE ASSUMED VALUES ARE NOT VALID.	☐	■	☐
5. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	■	☐	☐
6. PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	☐	■	☐
CONCRETE CONSTRUCTION:			
1. INSPECT REINFORCMENT, INCLUDING PRESTRESSING TENDONS, AND PLACEMENT	☐	■	☐
2. REINFORCING BAR WELDING:			
A. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706	☐	■	☐
B. INSPECT SINGLE-PASS FILLET WELD, MAXIMUM 5/16"; AND	☐	■	☐
C. INSPECT ALL OTHER WELDS.	■	☐	☐
3. INSPECTION OF ANCHORS CAST IN CONCRETE.	☐	■	☐
4. INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS			
A. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS.	■	☐	☐
B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.A.	☐	■	☐
5. VERIFYING USE OF REQUIRED DESIGN MIX	☐	■	☐
6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	■	☐	☐
7. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	■	☐	☐
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	☐	■	☐
9. INSPECT PRESTRESSED CONCRETE FOR:			
A. APPLICATION OF PRESTRESSING FORCES; AND	☐	☐	■
B. GROUTING OF BONDED PRESTRESSING TENDONS.	☐	☐	■
10. INSPECT ERECTION OF PRECAST CONCRETE MEMBERS.	☐	■	☐
11. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS	☐	☐	■
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF CONCRETE MEMBER BEING FORMED	☐	■	☐

STEEL CONSTRUCTION (STRUCTURAL STEEL):
R - INSPECT THESE ITEMS ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS
C - INSPECT THESE ITEMS ON A CONTINUOUS BASIS

	C	R	N/A
1. INSPECTION TASKS PRIOR TO WELDING			
A. WELDER QUALIFICATION RECORDS AND CONTINUITY RECORDS	■	☐	☐
B. WELDING PROCEDURE SPECIFICATIONS (WPSs) AVAILABLE	■	☐	☐
C. MANUFACTURERS CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	■	☐	☐
D. MATERIAL IDENTIFICATION (TYPE/GRADE)	☐	■	☐
E. WELDER IDENTIFICATION SYSTEM	☐	■	☐
F. FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY) - JOINT PREPARATION - DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL) - CLEANLINESS (CONDITION OF STEEL SURFACES) - TACKING (TACK WELD QUALITY AND LOCATION) - BACKING TYPE AND FIT (IF APPLICABLE)	☐	■	☐
G. FIT-UP OF CJP GROOVE WELDS OF HSS T-, Y- AND K- JOINTS WITHOUT BACKING (INCLUDING JOINT GEOMETRY) - JOINT PREPARATIONS - DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL) - CLEANLINESS (CONDITION OF STEEL SURFACES) - TACKING (TACK WELD QUALITY AND LOCATION)	☐	■	☐
H. CONFIGURATION AND FINISH OF ACCESS HOLES	☐	■	☐
I. FIT-UP OF FILLET WELDS - DIMENSIONS (ALIGNMENT, GAPS AT ROOT) - CLEANLINESS (CONDITION OF STEEL SURFACES) - TACKING (TACK WELD QUALITY AND LOCATION)	☐	■	☐
2. INSPECTION TASKS DURING WELDING			
A. CONTROL AND HANDLING OF WELDING CONSUMABLES - PACKAGING - EXPOSURE CONTROL	☐	■	☐
B. NO WELDING OVER CRACKED TACK WELDS	☐	■	☐
C. ENVIRONMENTAL CONDITIONS - WIND SPEED WITHIN LIMITS - PRECIPITATION AND TEMPERATURE	☐	■	☐
D. WPS FOLLOWED - SETTINGS ON WELDING EQUIPMENT - TRAVEL SPEED - SELECTED WELDING MATERIALS - SHIELDING GAS TYPE/FLOW RATE - PREHEAT APPLIED - INTERPASS TEMPERATURE MAINTAINED (MIN./MAX.) - PROPER POSITION (F, V, H, OH)	☐	■	☐
E. WELDING TECHNIQUES - INTERPASS AND FINAL CLEANING - EACH PASS WITHIN PROFILE LIMITATIONS - EACH PASS MEETS QUALITY REQUIREMENTS	☐	■	☐
F. PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS	■	☐	☐
3. INSPECTION TASKS AFTER WELDING			
A. WELDS CLEANED	☐	■	☐
B. SIZE, LENGTH AND LOCATION OF WELDS	■	☐	☐
C. WELDS MEET VISUAL ACCEPTANCE CRITERIA - CRACK PROHIBITION - WELD/BASE-METAL FUSION - CRATER CROSS SECTION - WELD PROFILES - WELD SIZE - UNDERCUT - POROSITY	■	☐	☐
D. ARC STRIKES	■	☐	☐
E. K-AREA - WHEN WELDING OF DOUBLER PLATES, CONTINUITY PLATES OR STIFFENERS HAS BEEN PERFORMED IN THE K-AREA, VISUALLY INSPECT THE WEB K-AREA FOR CRACKS WITHIN 3 IN. (75 MM) OF THE WELD	■	☐	☐
F. WELD ACCESS HOLES IN ROLLED HEAVY SHAPES AND BUILT-UP HEAVY SHAPES - AFTER ROLLED HEAVY SHAPES (SEE AISC SECTION A3.1C) AND BUILT-UP SHAPES (SEE AISC SECTION A3.1D) ARE WELDED, VISUALLY INSPECT THE WELD ACCESS HOLE FOR CRACKS	■	☐	☐
G. BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)	■	☐	☐
H. REPAIR ACTIVITIES	■	☐	☐
I. DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	■	☐	☐
J. NO PROHIBITED WELDS HAVE BEEN ADDED WITHOUT THE APPROVAL OF THE EOR	☐	■	☐

STEEL CONSTRUCTION (STRUCTURAL STEEL CONT.):

	C	R	N/A
4. INSPECTION TASKS PRIOR TO BOLTING			
A. MANUFACTURER'S CERTIFICATION AVAILABLE FOR FASTENER MATERIALS	■	☐	☐
B. FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS	☐	■	☐
C. CORRECT FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH IF THREADS ARE TO BE EXCLUDED FORM SHEAR PLANE)	☐	■	☐
D. CORRECT BOLTING PROCEDURE SELECTED FOR JOINT DETAIL	☐	■	☐
E. CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS	☐	■	☐
F. PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED	☐	■	☐
G. PROTECTED STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS	☐	■	☐
5. INSPECTION TASKS DURING BOLTING			
A. FASTENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS ARE POSITIONED AS REQUIRED	☐	■	☐
B. JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION	☐	■	☐
C. FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FOR ROTATING	☐	■	☐
D. FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES	☐	■	☐
6. INSPECTION TASKS AFTER BOLTING			
A. DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONECTIONS	■	☐	☐
7. INSPECTION OF STEEL ELEMENTS OF COMPOSITE CONSTRUCTION PRIOR TO CONCRETE PLACEMENT			
A. PLACEMENT AND INSTALLATION OF STEEL DECK	■	☐	☐
B. PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS	■	☐	☐
C. DOCUMENT ACCEPTANCE OR REJECTION OF STEEL ELEMENTS	■	☐	☐

ADHESIVE ANCHORS:	CONT	PERIODIC	N/A
1. VERIFY ANCHOR TYPE:	☐	■	☐
2. VERIFY ADHESIVE IDENTIFICATION AND EXPIRATION DATE	☐	■	☐
3. VERIFY ANCHOR DIMENSIONS:	☐	■	☐
4. VERIFY CONCRETE TYPE:	☐	■	☐
5. VERIFY CONCRETE COMPRESSIVE STRENGTH	☐	■	☐
6. VERIFY HOLE DRILLING METHOD	☐	■	☐
7. VERIFY HOLE DIMENSIONS	☐	■	☐
8. VERIFY HOLE CLEANING PROCEDURES	☐	■	☐
9. VERIFY ANCHOR SPACING	☐	■	☐
10. VERIFY EDGE DISTANCES	☐	■	☐
11. VERIFY CONCRETE THICKNESS	☐	■	☐
12. VERIFY ANCHOR EMBEDMENT	☐	■	☐
13. VERIFY TIGHTENING TORQUE	☐	■	☐
14. VERIFY ADHERENCE TO THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS	☐	■	☐

THE SPECIAL INSPECTOR MUST VERIFY THE INITIAL INSTALLATIONS OF EACH TYPE AND SIZE OF ADHESIVE ANCHOR INSTALLED BY THE CONSTRUCTION PERSONNEL ON SITE. SUBSEQUENT INSTALLATIONS OF THE SAME ANCHOR TYPE AND SIZE BY THE SAME CONSTRUCTION PERSONNEL MAY BE PERMITTED, WITH THE APPROVAL OF THE ENGINEER AND THE SPECIAL INSPECTOR, TO BE PERFORMED IN THE ABSENCE OF THE SPECIAL INSPECTOR. ANY CHANGE IN THE ANCHOR PRODUCT BEING INSTALLED OR THE PERSONNEL PERFORMING THE INSTALLATION REQUIRES AN INITIAL INSPECTION. FOR ONGOING INSTALLATIONS OVER AN EXTENDED PERIOD, THE SPECIAL INSPECTOR MUST MAKE REGULAR INSPECTIONS TO CONFIRM CORRECT HANDLING AND INSTALLATION OF THE PRODUCT. THE SPECIAL INSPECTOR SHALL INFORM THE ENGINEER OF THE FREQUENCY OF THE PERIODIC ANCHOR INSPECTIONS. THE ENGINEER MAY REQUEST ADDITIONAL INSPECTIONS AT ANY TIME.

STRUCTURAL OBSERVATION

THE STRUCTURAL ENGINEER, OR ANOTHER ENGINEER DESIGNATED BY THE STRUCTURAL ENGINEER SHALL BE RETAINED BY THE OWNER TO PERFORM STRUCTURAL OBSERVATION AS REQUIRED BY C.B.C. CHAPTER 17. STRUCTURAL OBSERVATION SHALL BE PROVIDED DURING THE STAGES OF CONSTRUCTION LISTED BELOW. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE AT LEAST 48 HOURS ADVANCE NOTICE TO THE STRUCTURAL ENGINEER WHEN HIS WORK IS READY FOR STRUCTURAL OBSERVATION FOR EACH OF THESE STAGES.

	STRUCTURAL OBSERVATIONS REQUIRED (■ YES ☐ N0)
1. CONCRETE: REINFORCING STEEL AND EMBEDDED STRUCTURAL ANCHORAGES PRIOR TO PLACEMENT OF CONCRETE FOR THE FOLLOWING:	
A. FOUNDATIONS	■
B. SLABS-ON-GRADE (EXCEPT SITE PAVING AND FLATWORK)	☐
C. WALLS	■
D. STRUCTURAL FLOOR SLABS AND BEAMS NOT SUPPORTED ON-GRADE	☐
E. ROOF SLABS AND BEAMS	☐
2. STRUCTURAL STEEL:	
A. ERECTED COLUMN, BEAMS AND GIRDERS, PRIOR TO INSTALLATION OF ROOF AND FLOOR JOISTS, TRUSSES AND DECKING	■ N/A

DEFERRED SUBMITTALS/CERTIFICATIONS

	SUBMITTALS REQUIRED (■ YES ☐ N0)
1. OFF-SITE FABRICATION: FABRICATORS SHALL BE CITY, COUNTY AND/OR C.B.C. APPROVED FABRICATORS. FABRICATORS FOR ALL OFFSITE FABRICATION OF THE ITEMS LISTED BELOW:	
A. TRUSSES	☐ N/A
B. GLU-LAMINATED MEMBERS	☐ N/A
C. PRECAST CONCRETE	☐ N/A
D. STRUCTURAL STEEL (MILL REPORTS AND IDENTIFICATION OF STEEL, AFFIDAVIT OF COMPLIANCE)	☐ N/A
E. OTHER: _____	☐
2. DEFERRED SUBMITTALS: SUBMITTAL DOCUMENTS FOR THE DEFERRED SUBMITTAL ITEMS LISTED BELOW SHALL BE DESIGNED BY A LICENSED PE OR SE AND SUBMITTED BY THE CONTRACTOR TO THE BUILDING DEPARTMENT/APPROVAL AGENCY AND STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THEIR DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.	
A. PREFABRICATED TRUSSES	☐ N/A
B. PRECAST VAULTS	☐
C. OTHER: PRECAST CONC. PILES	☐ N/A

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REGISTERED PROFESSIONAL ENGINEER MAN HONG ERIC YEN No. 6177 STRUCTURAL STATE OF CALIFORNIA 4/18/25

MONTECITO WATER DISTRICT

MARK	DATE	DESCRIPTION	BY

MONTECITO WATER DISTRICT

RESERVOIR SEISMIC RETROFIT AND REPLACEMENT
PROJECT FOR PARK LANE RESERVOIR

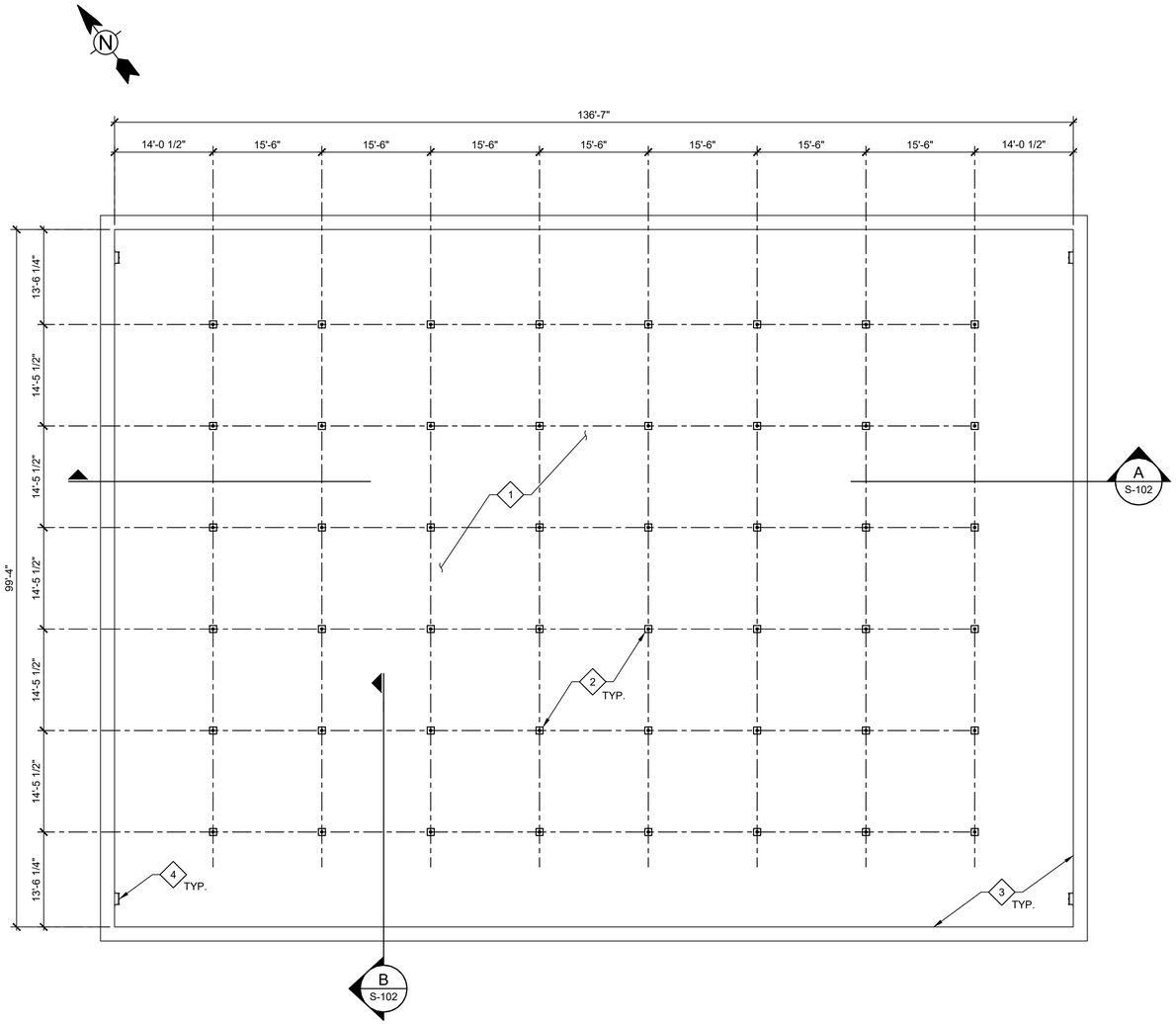
SPECIAL INSPECTIONS AND STRUCTURAL OBSERVATIONS

Project No.:	200-106490-21001
Designed By:	GH
Drawn By:	EJH
Checked By:	VMR

S-002

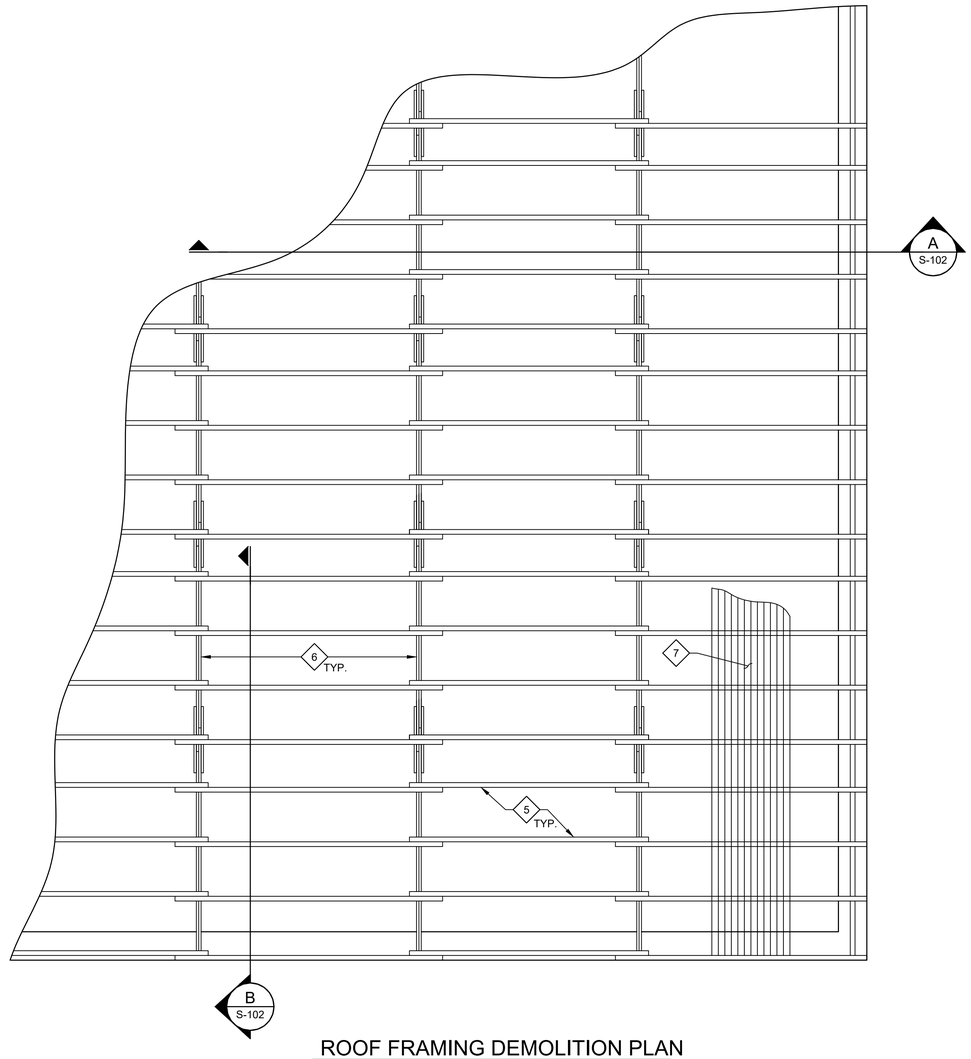
Bar Measures 1 inch

4/18/2025 2:29:01 PM - \\TT-LOCAL\ER\PROJECTS\IRVINE\106490200-106490-21001\CAD\SHEETFILES\PARK LANE\S-002-SPECINSPEC.DWG - HUTCHINS, ERIC



FOUNDATION DEMOLITION PLAN

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



ROOF FRAMING DEMOLITION PLAN

SCALE: 3/16"=1'-0"

NOTE:

THE DIMENSIONS SHOWN ON THESE PLAN ARE BASED RECORD DRAWINGS AND SURVEY INFORMATION. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.

KEYNOTES:

1. CONCRETE FLOOR SLAB, PROTECT IN PLACE. (POWER WASH AND REMOVE ALL SILL ON FLOOR SLAB).
2. REMOVE AND DISPOSE OF EXISTING 3 1/2" DIAMETER CONCRETE FILLED STEEL COLUMNS AND CONCRETE PEDESTALS, TYPICAL OF 48.
3. EXISTING CONCRETE WALL, PROTECT IN PLACE. PROVIDE TEMPORARY SHORNING, BRACING, UNDERPINNING, ETC. AS REQUIRED TO MAINTAIN THE ALIGNMENT, POSITION AND INTEGRITY OF THE EXISTING WALLS.
4. CUT OFF EXISTING LADDER RUNGS FLUSH WITH FACE OF EXISTING WALL, REMOVE AND DISPOSE. TYPICAL AT FOUR LOCATIONS.
5. REMOVE AND DISPOSE OF EXISTING 2x8 WOOD ROOF JOISTS @ 46" ON CENTER.
6. REMOVE AND DISPOSE OF EXISTING DOUBLE 2x10 WOOD GIRDERS.
7. REMOVE AND DISPOSE OF EXISTING CORRUGATED GALVANIZED STEEL ROOFING PANELS.

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REGISTERED PROFESSIONAL ENGINEER
MAN HONG ERIC CHEN
No. 6177
STRUCTURAL
STATE OF CALIFORNIA
4/18/25

MONTECITO WATER DISTRICT

MARK	DATE	DESCRIPTION	BY

MONTECITO WATER DISTRICT

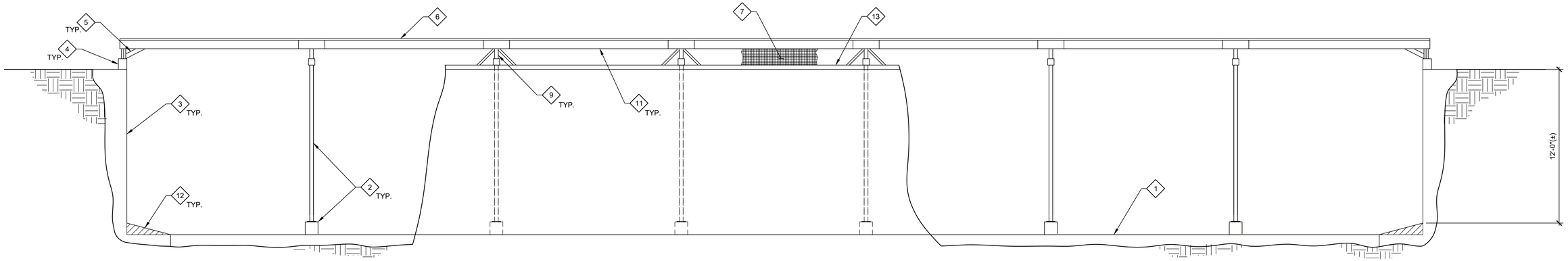
RESERVOIR SEISMIC RETROFIT AND REPLACEMENT PROJECT FOR PARK LANE RESERVOIR

DEMOLITION PLAN

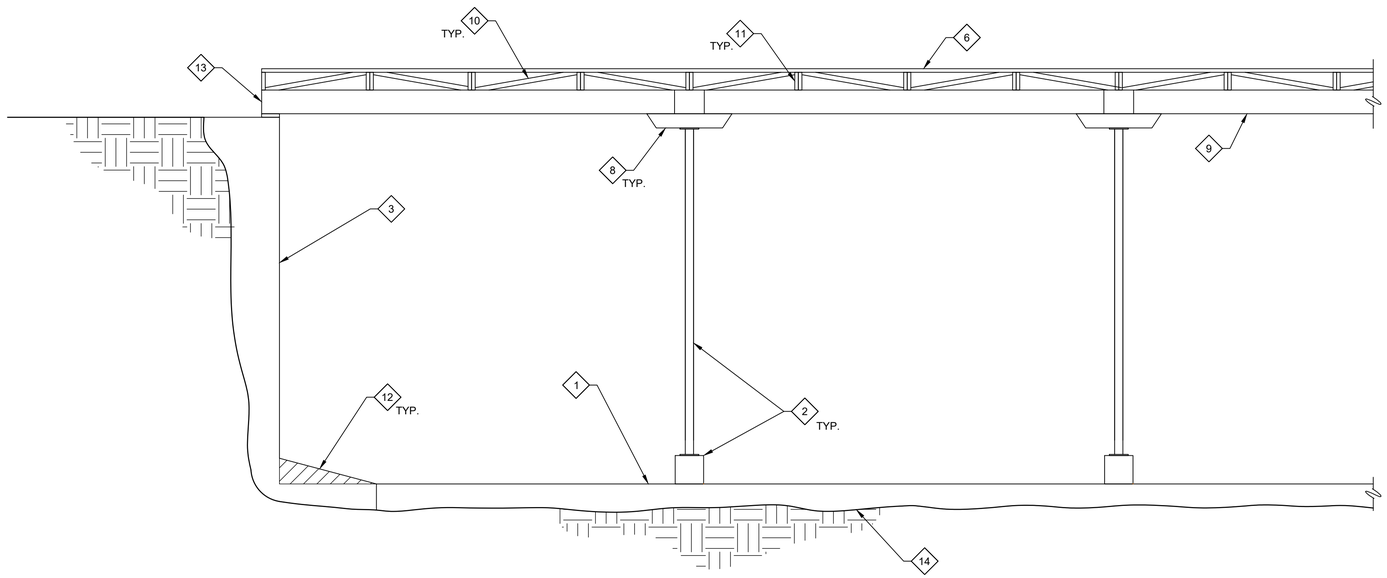
Project No.:	200-106490-21001
Designed By:	VMR
Drawn By:	EJH
Checked By:	VMR

S-101

Bar Measures 1 inch



A DEMOLITION ELEVATION AND LONGITUDINAL SECTION
SCALE: 1/4"=1'-0"



B DEMOLITION TRANSVERSE SECTION
SCALE: 3/8"=1'-0"

KEYNOTES:

1. CONCRETE FLOOR SLAB, PROTECT IN PLACE. (POWER WASH AND REMOVE ALL SILL ON THE FLOOR SLAB).
2. REMOVE AND DISPOSE OF EXISTING 3 1/2" DIAMETER CONCRETE FILLED STEEL COLUMNS AND CONCRETE PEDESTALS (CUT PEDESTAL FLUSH WITH TOP OF CONCRETE FLOOR SLAB), TYPICAL OF 48.
3. EXISTING CONCRETE WALL, PROTECT IN PLACE.
4. REMOVE AND DISPOSE OF EXISTING CONCRETE CURB.
5. REMOVE AND DISPOSE OF EXISTING 2x4 WOOD BRACES.
6. REMOVE AND DISPOSE OF EXISTING CORRUGATED GALVANIZED STEEL ROOFING PANELS.
7. REMOVE AND DISPOSE OF EXISTING GALVANIZED STEEL SCREEN ON ALL FOUR SIDES OF RESERVOIR.
8. REMOVE AND DISPOSE OF EXISTING 3'-0" LONG 6x6 WOOD CORBEL AT TOPS OF COLUMNS.
9. REMOVE AND DISPOSE OF EXISTING DOUBLE 2x10 WOOD GIRDERS.
10. REMOVE AND DISPOSE OF EXISTING 2x4 WOOD BRACES.
11. REMOVE AND DISPOSE OF EXISTING 2x8 WOOD ROOF JOISTS @ 46" ON CENTER.
12. SHAVE OFF AND LEVEL TOP OF EXISTING WALL FOOTING FOR NEW WALL FOOTING CONSTRUCTION.
13. REMOVE AND DISPOSE OF EXISTING SILL PLATE.
14. G.C. TO PERFORM GROUND PENETRATING RADAR (GPR) SCAN TO THE EXISTING FLOOR SLAB TO CONFIRM THERE ARE NO VOID SPACE UNDER THE EXISTING SLAB. IF VOID IS DETECTED, PROVIDE A HEAT MAP SHOWING THE LOCATION OF THE VOID AND REMEDIATE THE VOID AS OUTLINED BELOW. IF THE AREA OF THE VOID IS LESS THAN 25 SQFT, REMEDIATE BY POLYURETHANE FOAM INJECTION. POLYURETHANE FOAM USED FOR INJECTION SHALL HAVE A MINIMUM DENSITY OF 4 PCF PER ASTM D1622 AND A MINIMUM PEAK COMPRESSIVE STRENGTH OF 100 PSI PER ASTM D1621. IF THE AREA OF THE VOID IS LARGER THAN 25 SQFT, REMEDIATE BY SAW CUT AND REMOVE THE EXISTING SLAB, THEN OVER EXCAVATE 2 FT OF SOIL, AND BACK FILL WITH A 2 SACK SLURRY.

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STATE OF CALIFORNIA
4/18/25

MONTECITO WATER DISTRICT

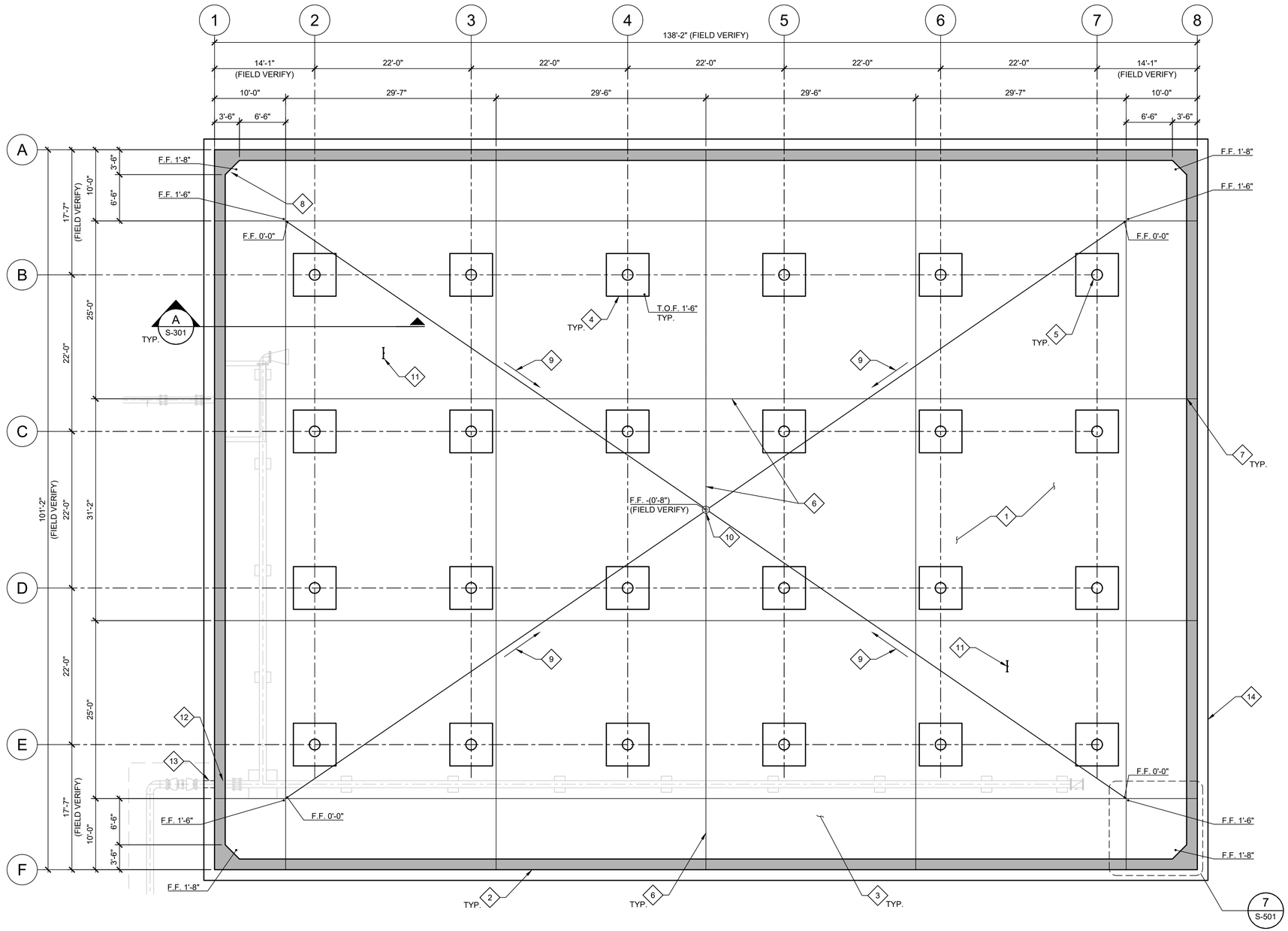
MARK	DATE	DESCRIPTION	BY

MONTECITO WATER DISTRICT
RESERVOIR SEISMIC RETROFIT AND REPLACEMENT PROJECT FOR PARK LANE RESERVOIR
DEMOLITION SECTIONS AND ELEVATION

Project No.:	200-106490-21001
Designed By:	VMR
Drawn By:	EJH
Checked By:	VMR

S-102

Bar Measures 1 inch



KEYNOTES:

1. 6" MIN. THICK CONCRETE FLOOR SLAB WITH #4 @ 8" EACH WAY, TYPICAL.
2. 1'-6" THICK CONCRETE WALL, TYPICAL.
3. CONCRETE FOUNDATION FOR WALLS - SEE SECTION A ON SHEET S-301.
4. 6'-0" SQUARE x 18" THICK MIN. CONCRETE PAD FOOTING FOR COLUMN.
5. 18" DIA. CONCRETE COLUMN (TYPICAL AT 24 LOCATIONS). SEE SECTION B ON SHEET S-302.
6. CONSTRUCTION JOINT IN FOUNDATION AND FLOOR - SEE DETAIL 6 ON SHEET S-501.
7. CONSTRUCTION JOINT IN WALL - SEE DETAIL 8 ON SHEET S-501.
8. CONCRETE FILLET, SEE DETAIL 7 ON SHEET S-501.
9. FOLLOW SLOPE OF EXISTING FLOOR SLAB TOWARD THE FLOOR DRAIN (FIELD VERIFY EXISTING FLOOR SLOPE).
10. FLOOR DRAIN (APPROXIMATE LOCATION IS SHOWN. FIELD VERIFY EXACT LOCATION).
11. S.S. INTERIOR ACCESS LADDER.
12. PIPE PENETRATION IN WALL. SEE PIPING DRAWINGS FOR SIZE AND LOCATION.
13. CORE 14" DIA. HOLE IN EXISTING WALL FOR NEW PIPE INSTALLATION. FILL ANNULAR SPACE BETWEEN EXISTING WALL AND PIPE WITH GROUT AFTER THE PIPE INSTALLATION.
14. EXISTING WALL (PROTECT-IN-PLACE)

FOUNDATION PLAN

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

DATUM
DATUM (0'-0") OCCURS AT THE TOP OF THE FLOOR SLAB AT THE EDGES OF THE WALL FOOTING AND IS AT ELEVATION 537.15.

NOTES:
1. CONCRETE SLAB SECTIONS SHALL BE DEFINED AS DIVIDED BY THE CONSTRUCTION JOINTS AS SHOWN ON THIS DRAWING.
2. CONCRETE SLAB SECTIONS SHALL NOT BE CAST AGAINST OTHER CONCRETE SLAB SECTIONS UNTIL A MINIMUM OF 3 FULL DAYS (72 HOURS) HAS ELAPSED SINCE THE PREVIOUS SECTION WAS PLACED AND FINISHED.
3. ALL LEVEL TRANSDUCER, ROOF HATCH INTRUSION ALARMS, ELECTRICAL CONDUITS, SCADA HOOKUP/REPROGRAMMING, ETC. WILL BE FURNISHED AND INSTALL BY THE DISTRICT.

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REGISTERED PROFESSIONAL ENGINEER MAN HONG ERIC CHEN No. 6177 STRUCTURAL STATE OF CALIFORNIA 4/18/25

MONTECITO WATER DISTRICT

MARK	DATE	DESCRIPTION	BY

MONTECITO WATER DISTRICT

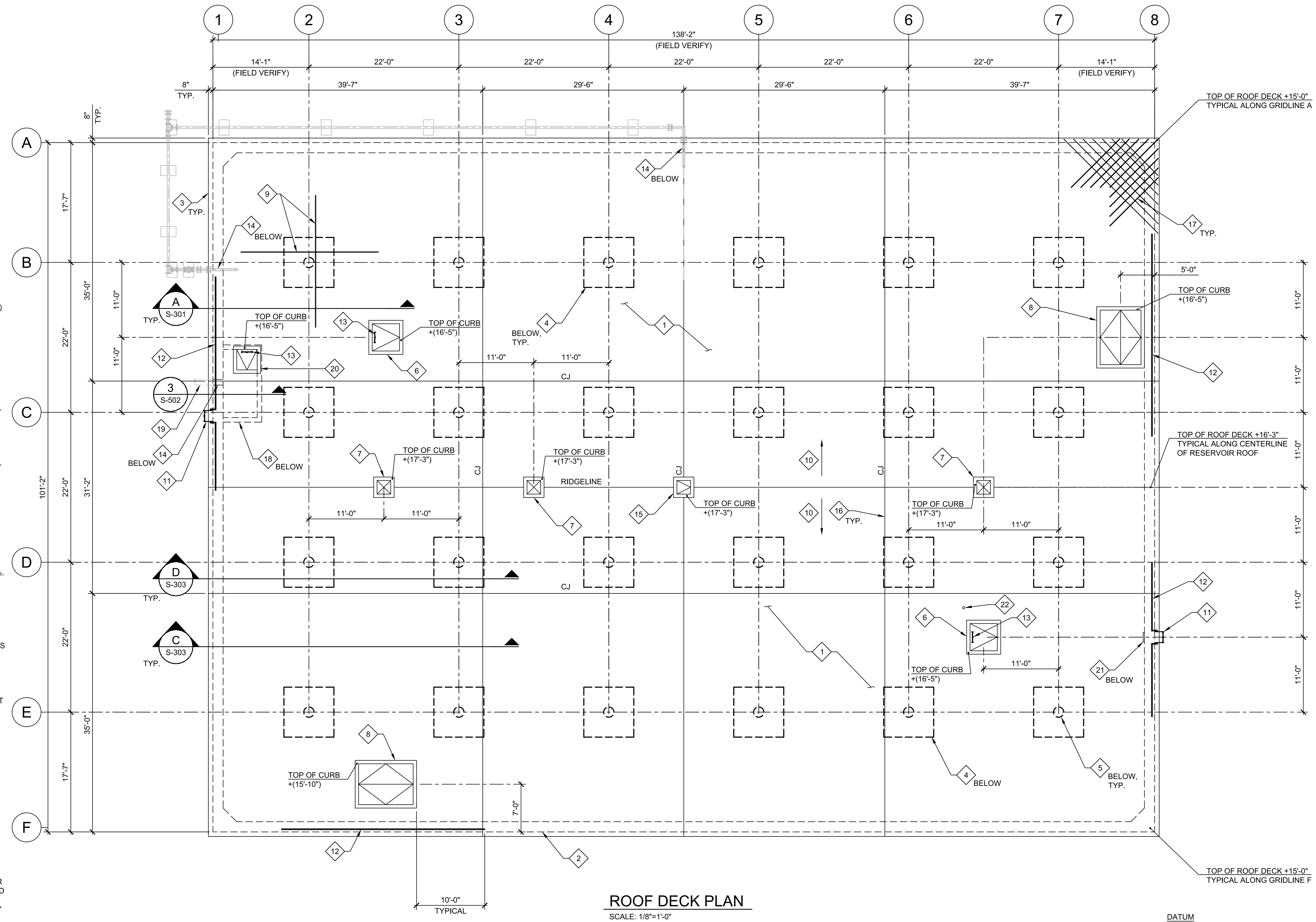
RESERVOIR SEISMIC RETROFIT AND REPLACEMENT PROJECT FOR PARK LANE RESERVOIR

FOUNDATION PLAN

Project No.:	200-106490-21001
Designed By:	VMR
Drawn By:	EJH
Checked By:	VMR

S-103

Bar Measures 1 inch



ROOF DECK PLAN

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

KEYNOTES:

1. 9" THICK CONCRETE ROOF SLAB WITH #6 @ 8" EACH WAY TOP AND BOTTOM.
2. OUTSIDE FACE OF NEW CONCRETE WALL BELOW (TYPICAL).
3. EDGE OF ROOF DECK.
4. 7'-4" SQUARE x 5 1/2" THICK CONCRETE DROP PANEL.
5. 18" DIAMETER CONCRETE COLUMN BELOW.
6. 4'x4' ALUMINUM FLUSH MOUNTED ACCESS HATCH, BILCO TYPE J-AL OR APPROVED EQUAL.
7. 2'-0" SQUARE OPENING FOR VENT (TYPICAL 3 LOCATIONS).
8. 6'-0"x8'-0" ALUMINUM FLUSH MOUNTED EQUIPMENT ACCESS HATCH, BILCO TYPE JD-AL OR APPROVED EQUAL. (TYPICAL 2 LOCATIONS).
9. PROVIDE 4-#6 (x10'-0") ADDITIONAL TOP BARS EACH WAY AT EACH COLUMN. TYPICAL AT 24 LOCATIONS.
10. SLOPE ROOF DECK AT APPROXIMATELY 2%.
11. PREFABRICATED ALUMINUM LADDER.
12. ALUMINUM GUARDRAIL.
13. S.S. INTERIOR ACCESS LADDER.
14. PIPE PENETRATION - SEE PIPING DRAWINGS FOR SIZE AND LOCATIONS.
15. 2'x2' ALUMINUM FLUSH MOUNTED HATCH, BILCO TYPE J-AL OR APPROVED EQUAL IN ROOF SLAB FOR MUD VALVE OPERATOR, SEE DETAIL 10 ON SHEET S-502. CENTER AT THE DRAIN BELOW. (FIELD VERIFY LOCATION).
16. CONSTRUCTION JOINT IN ROOF DECK, SEE DETAIL 9 ON SHEET S-501.
17. CORNER REINFORCING PER DETAIL 8 ON SHEET S-502. TYPICAL AT ALL FOUR CORNERS.
18. OVERFLOW WEIR BOX.
19. OVERFLOW PIPE, SEE C-102.
20. 3'-0" SQUARE ACCESS HATCH.
21. STAFF GAUGE: MINIMUM 10" WIDE HDPE OR FRP BOARD WITH LINE MARKINGS AT 6" AND NUMBERS AT EACH WHOLE FOOT. LINES SHALL BE 1/2" WIDE; NUMBERS SHALL BE 3" HIGH. LINES AND NUMBERS SHALL BE BLACK ON A WHITE BACKGROUND. GAUGE SHALL BE ATTACHED TO THE WALL WITH TWO 1/4" DIAMETER EXPANSION ANCHORS @ 36" ON CENTER MAXIMUM. CONTRACTOR SHALL SUBMIT COMPLETE SHOP DRAWINGS FOR THE STAFF GAUGE AND FASTENERS PRIOR TO FABRICATION.
22. ROOF SLAB PENETRATION FOR LEVEL INDICATOR, SEE DETAIL 2 ON SHEET S-503.

NOTES:

1. CONCRETE SLAB SECTIONS SHALL BE DEFINED AS DIVIDED BY THE CONSTRUCTION JOINTS AS SHOWN ON THIS DRAWING.
2. CONCRETE SLAB SECTIONS SHALL NOT BE CAST AGAINST OTHER CONCRETE SLAB SECTIONS UNTIL A MINIMUM OF 3 FULL DAYS (72 HOURS) HAS ELAPSED SINCE THE PREVIOUS SECTION WAS PLACED AND FINISHED.
3. ALL LEVEL TRANSDUCER, ROOF HATCH INTRUSION ALARMS, ELECTRICAL CONDUITS, SCADA HOOKUP/REPROGRAMMING, ETC. WILL BE FURNISHED AND INSTALL BY THE DISTRICT.

DATUM

DATUM (0'-0") OCCURS AT THE TOP OF THE FLOOR SLAB AT THE EDGES OF THE WALL FOOTING AND IS AT ELEVATION 537.15.

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REGISTERED PROFESSIONAL ENGINEER MAN HONG ERIC YUEN No. 6177 STRUCTURAL STATE OF CALIFORNIA
4/18/25

MONTECITO WATER DISTRICT

MARK	DATE	DESCRIPTION	BY

MONTECITO WATER DISTRICT

RESERVOIR SEISMIC RETROFIT AND REPLACEMENT PROJECT FOR PARK LANE RESERVOIR

ROOF DECK PLAN

Project No.:	200-106490-21001
Designed By:	VMR
Drawn By:	EJH
Checked By:	VMR

S-104

Bar Measures 1 inch

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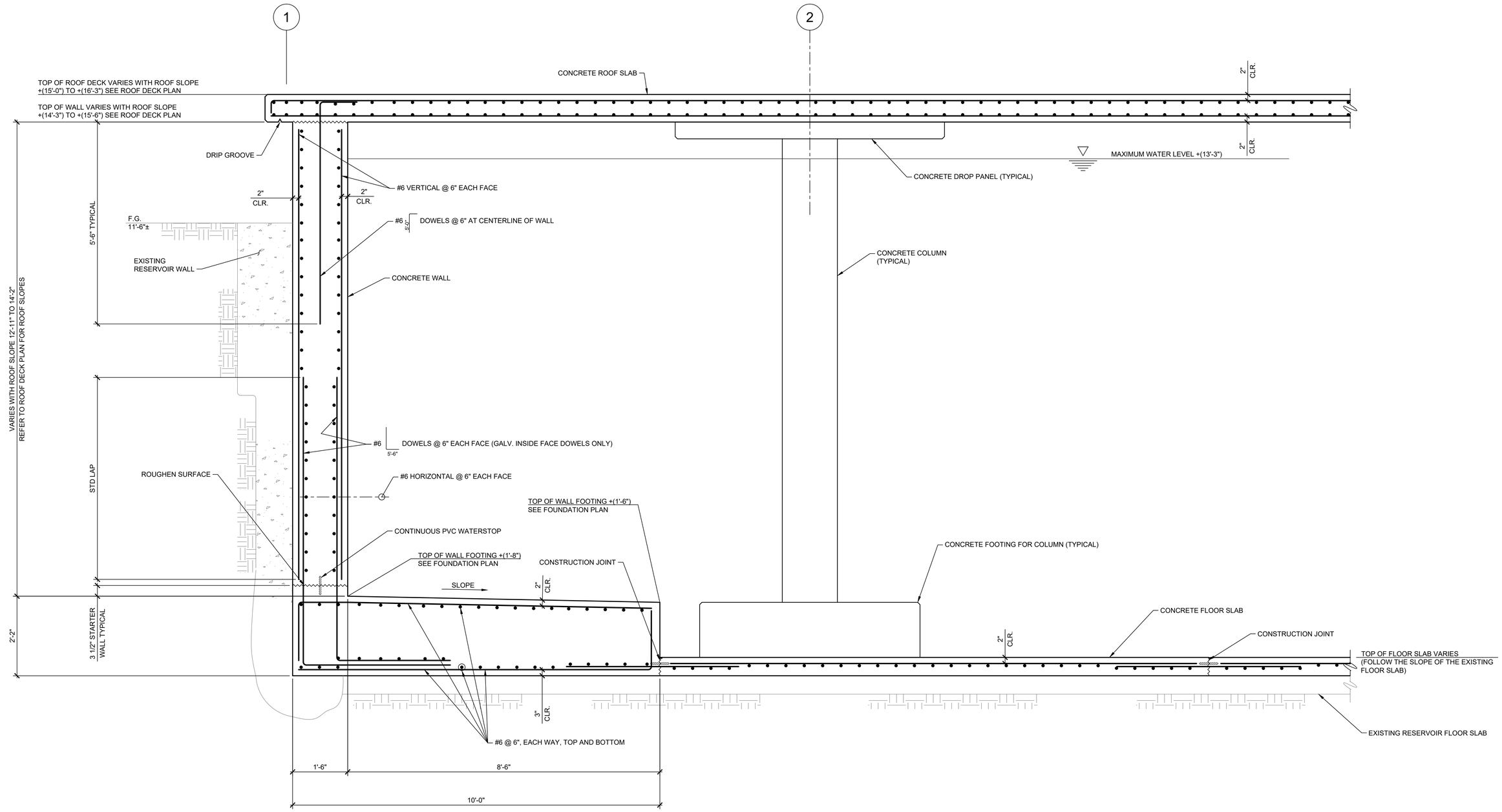

A – SECTION

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

NOTE:

DATUM (0'-0") OCCURS AT THE TOP OF THE FLOOR SLAB AT THE EDGES OF THE WALL FOOTING AND IS AT ELEVATION 537.15

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STRUCTURAL
STATE OF CALIFORNIA
4/18/25

MONTECITO WATER DISTRICT

MARK	DATE	DESCRIPTION	BY

MONTECITO WATER DISTRICT

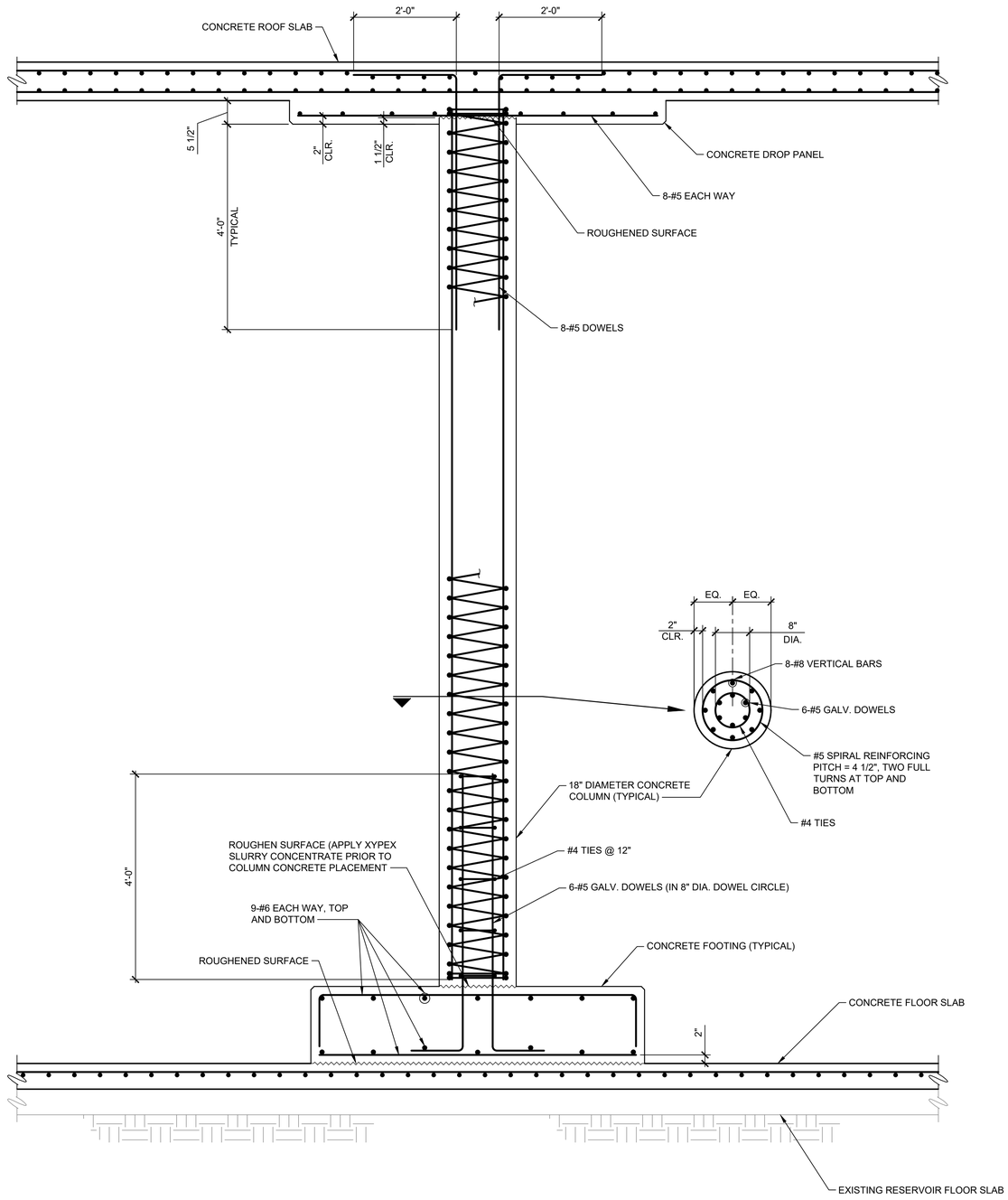
RESERVOIR SEISMIC RETROFIT AND REPLACEMENT
PROJECT FOR PARK LANE RESERVOIR

SECTION

Project No.:	200-106490-21001
Designed By:	VMR
Drawn By:	EJH
Checked By:	VMR

S-301

Bar Measures 1 inch



B — TYPICAL COLUMN DETAIL

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

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No. 6177
STRUCTURAL
STATE OF CALIFORNIA
4/18/25

MONTECITO WATER DISTRICT

MARK	DATE	DESCRIPTION	BY

MONTECITO WATER DISTRICT

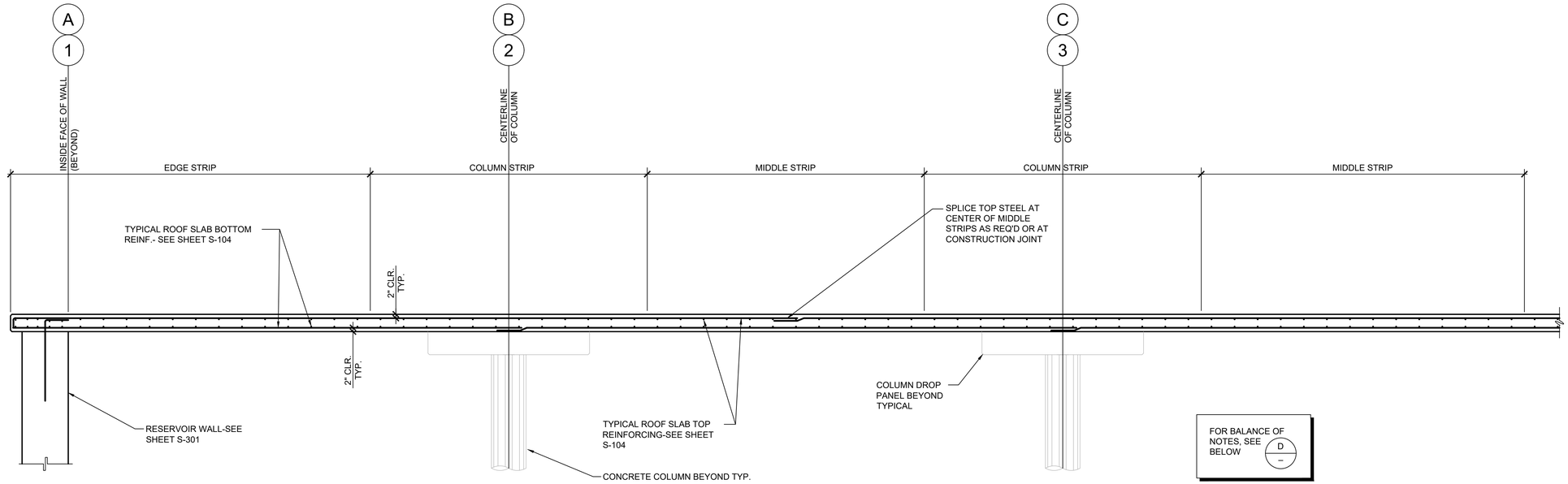
RESERVOIR SEISMIC RETROFIT AND REPLACEMENT PROJECT FOR PARK LANE RESERVOIR

COLUMN SECTION

Project No.:	200-106490-21001
Designed By:	VMR
Drawn By:	EJH
Checked By:	VMR

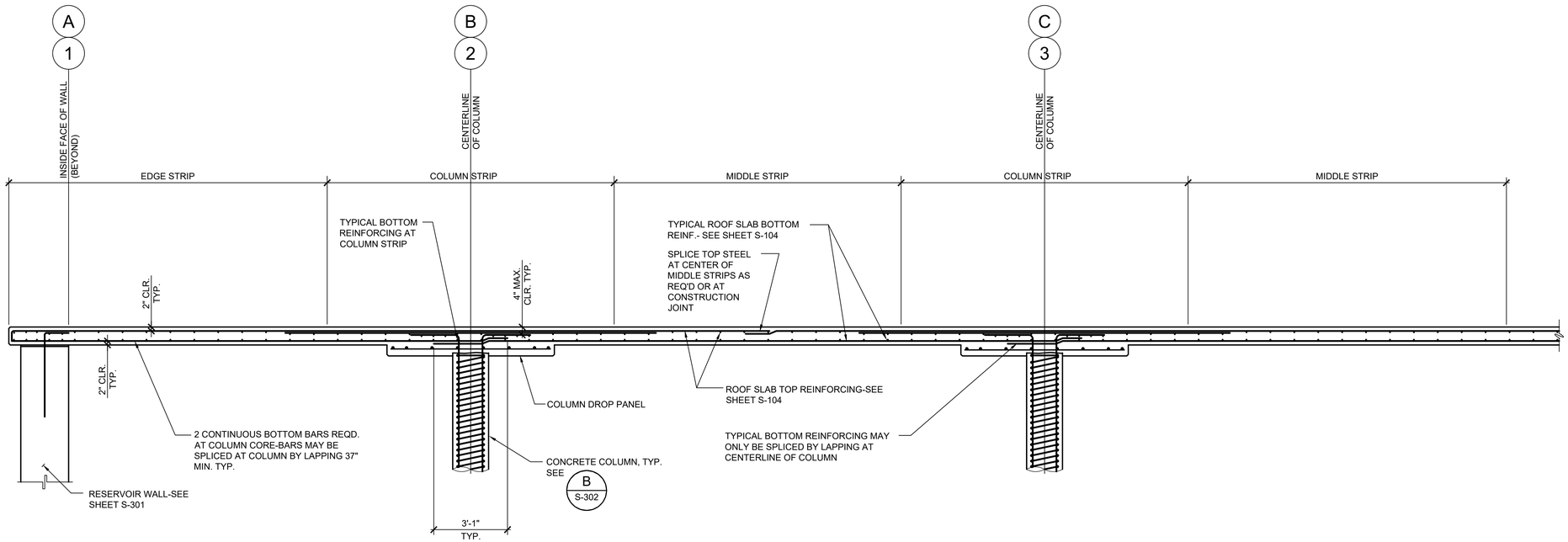
S-302

Bar Measures 1 inch



C – TYPICAL MIDDLE STRIP SECTION

SCALE: 3/8"=1'-0"



D – TYPICAL COLUMN STRIP SECTION

SCALE: 3/8"=1'-0"

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STATE OF CALIFORNIA
4/18/25

MONTECITO WATER DISTRICT

MARK	DATE	DESCRIPTION	BY

MONTECITO WATER DISTRICT

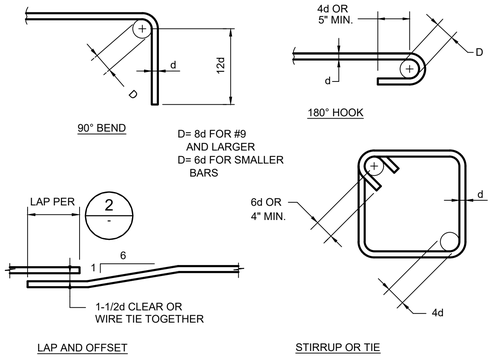
RESERVOIR SEISMIC RETROFIT AND REPLACEMENT PROJECT FOR PARK LANE RESERVOIR

ROOF SLAB CROSS SECTION

Project No.:	200-106490-21001
Designed By:	GH
Drawn By:	EJH
Checked By:	VMR

S-303

Bar Measures 1 inch



1 TYPICAL BAR BENDS

SCALE: N.T.S.

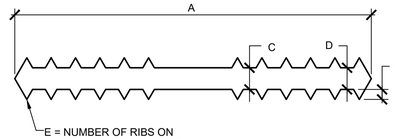
REINFORCING LAP SPLICE SCHEDULE					
BAR	f'c=2500	f'c=3250	f'c=4000	f'c=4500	f'c=5000
	L (inches)	L (inches)	L (inches)	L (inches)	L (inches)
3	24	21	19	18	17
4	32	28	25	24	23
5	39	35	31	30	28
6	47	42	37	35	34
7	69	60	54	51	49
8	78	69	62	59	56

NOTES:

1. LAPS SHOWN IN THIS TABLE ARE CLASS B, CATEGORY 3 TYPE SPLICES. LAP LENGTH IS BASED UPON SMALLER OF TWO BARS BEING SPLICED WHEN NOT THE SAME SIZE.
2. INCREASE LAP LENGTHS BY A FACTOR OF 1.3 FOR HORIZONTAL REINFORCEMENT SO PLACED THAT MORE THAN 12 INCHES OF CONCRETE IS CAST IN THE MEMBER BELOW THIS REINFORCEMENT.

2 REINFORCING LAP SPLICE SCHEDULE

SCALE: N.T.S.



LOCATION	A	B	C	D	E	F	G	GREENSTREAK
ALL, U.N.O.	6"	-	3/8"	1/4"	7	-	1/8"	783

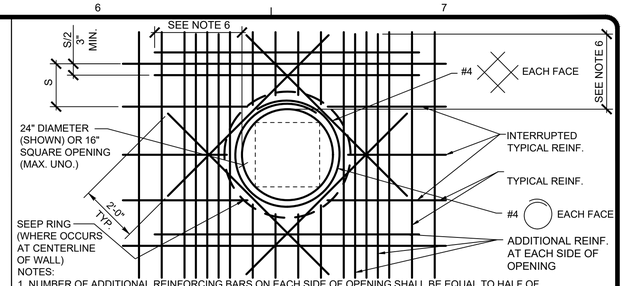
NOTE:

ALL SPLICES SHALL BE MADE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. SUBMIT SHOP DRAWINGS PRIOR TO FABRICATION INSTALLATION OR SPLICING WATERSTOPS.

ALL SPLICES IN WATERSTOPS AT INTERSECTIONS AND CHANGES IN DIRECTION SHALL BE SHOP MITERED AND WELDED. ONLY BUTT SPLICES MAY BE PERFORMED IN THE FIELD. ALL SPLICES SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE ENGINEER, MANUFACTURER AND/OR DISTRICT.

3 WATERSTOP SCHEDULE

SCALE: N.T.S.

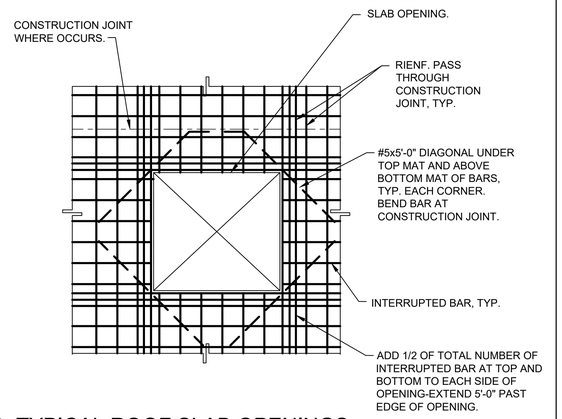


NOTES:

1. NUMBER OF ADDITIONAL REINFORCING BARS ON EACH SIDE OF OPENING SHALL BE EQUAL TO HALF OF THE NUMBER OF INTERRUPTED BARS IN EACH LAYER OF REINFORCING.
2. SIZE OF ADDITIONAL BARS SHALL MATCH THE SIZE OF INTERRUPTED REINFORCING BARS.
3. PROVIDE STANDARD HOOKS ON BARS IF LAP LENGTH EXTENSION CANNOT BE OBTAINED.
4. PLACE ADDITIONAL BARS IN SAME PLANE AS INTERRUPTED REINFORCING. PLACE #4 & INSIDE OF PLANE OF INTERRUPTED AND ADDITIONAL REINFORCING.
5. ALL REINFORCING SHALL CLEAR EDGE OF OPENING, PIPE OR FLANGE COLLARS BY 2"
6. EXTEND ADDED BARS PAST EDGE OF OPENING A DISTANCE EQUAL TO THE OPENING DIAMETER OR 48 BAR DIAMETERS, WHICHEVER IS GREATER.
7. WHERE SPECIFIED LENGTHS CANNOT BE ACHIEVED, BEND REINFORCING AND PROVIDE A STANDARD 90° BEND OR 180° HOOK.
8. FOR WALL PENETRATIONS WHERE BOTTOM OF OPENING IS LESS THAN 6 FEET ABOVE TOP OF FOOTING, PROVIDE ADDITIONAL DOWELS FROM FOOTING TO WALL PER NOTE 1 ABOVE.

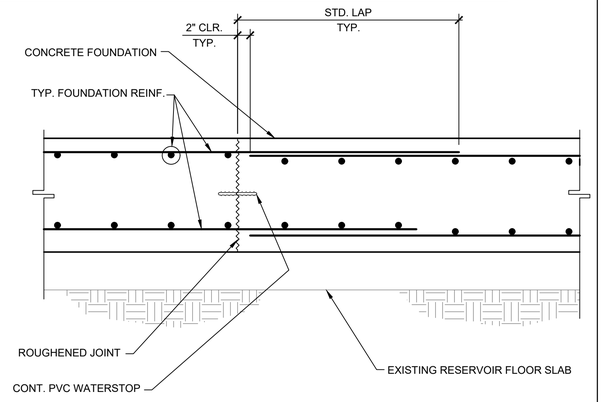
4 ADDITIONAL REINFORCING AT PENETRATIONS

SCALE: N.T.S.



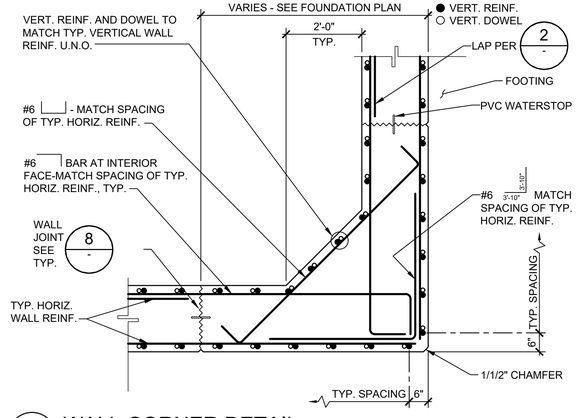
5 TYPICAL ROOF SLAB OPENINGS

SCALE: N.T.S.



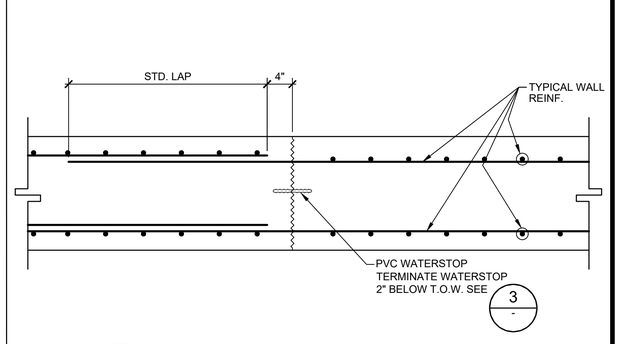
6 TYPICAL FOUNDATION CONSTRUCTION JOINT

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



7 WALL CORNER DETAIL

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

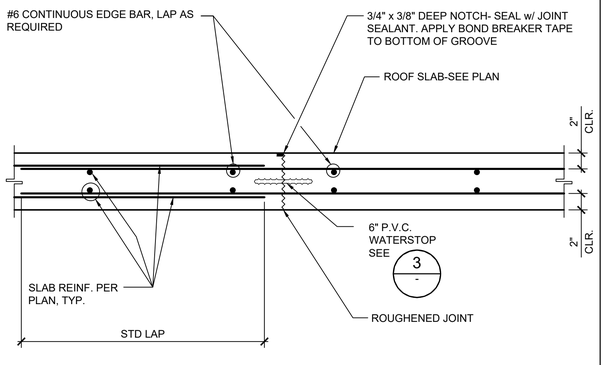


NOTE:

THIS CONSTRUCTION JOINT SHALL ONLY BE USED WHERE SHOWN ON THESE DRAWINGS AND WHERE APPROVED BY THE ENGINEER.

8 TYPICAL VERTICAL WALL JOINT

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



9 TYPICAL ROOF SLAB CONSTRUCTION JOINT

SCALE: 1"=1'-0"

10 NOT USED

SCALE:

11 NOT USED

SCALE:

12 NOT USED

SCALE:

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REGISTERED PROFESSIONAL ENGINEER
MAN HONG ERIC YUEN
No. 6177
STRUCTURAL
STATE OF CALIFORNIA
4/18/25

MONTECITO WATER DISTRICT

MARK	DATE	DESCRIPTION	BY

MONTECITO WATER DISTRICT

RESERVOIR SEISMIC RETROFIT AND REPLACEMENT
PROJECT FOR PARK LANE RESERVOIR

STRUCTURAL DETAILS 1

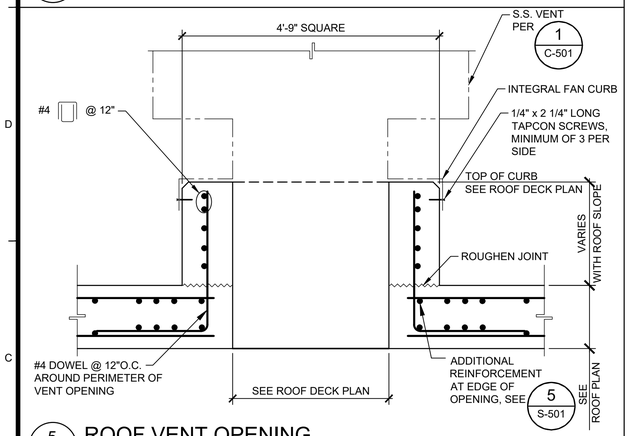
Project No.:	200-106490-21001
Designed By:	GH
Drawn By:	EJH
Checked By:	VMR

S-501

Bar Measures 1 inch

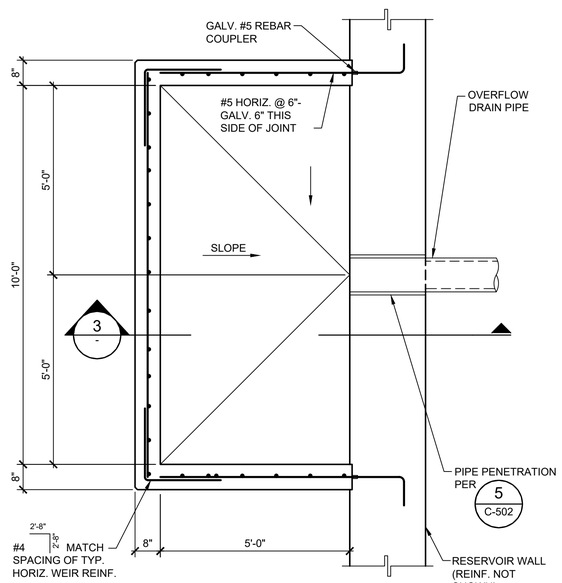
1 - NOT USED

SCALE: N.T.S.



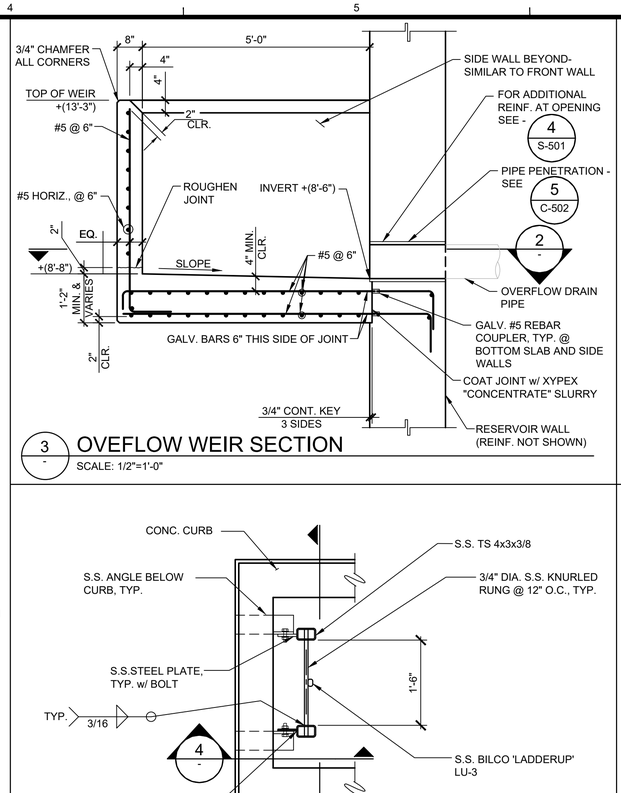
5 - ROOF VENT OPENING

SCALE: 1"=1'-0"



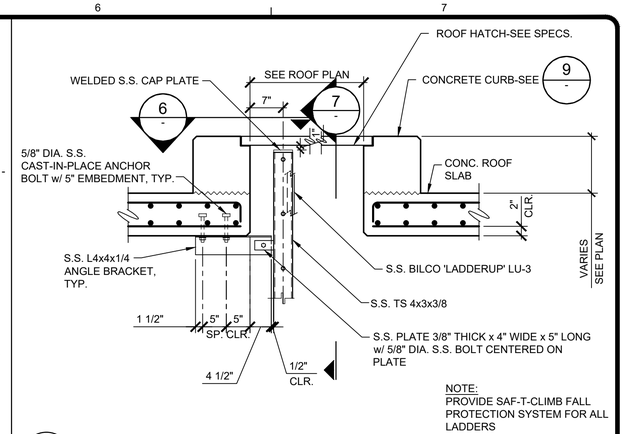
2 - OVERLOW WEIR (PLAN VIEW)

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



3 - OVEFLOW WEIR SECTION

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



NOTE:
PROVIDE SAF-T-CLIMB FALL PROTECTION SYSTEM FOR ALL LADDERS

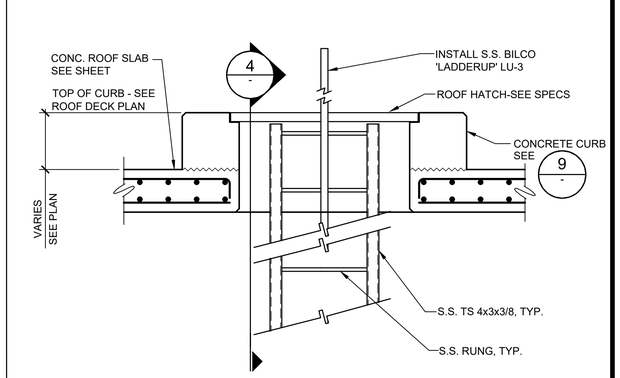
4 - TYPICAL LADDER DETAIL (SECTION)

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

NOTES:
1. ALL STEEL SHAPES FOR LADDER SHALL BE 316 SERIES STAINLESS STEEL.

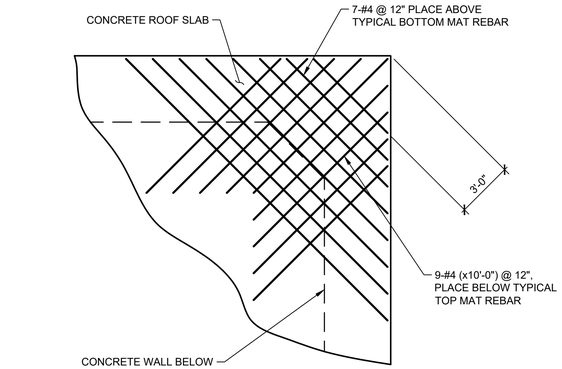
6 - TYPICAL LADDER DETAIL (PLAN)

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



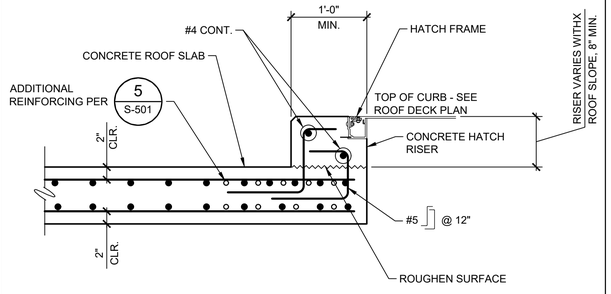
7 - LADDER DETAIL (ELEVATION)

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



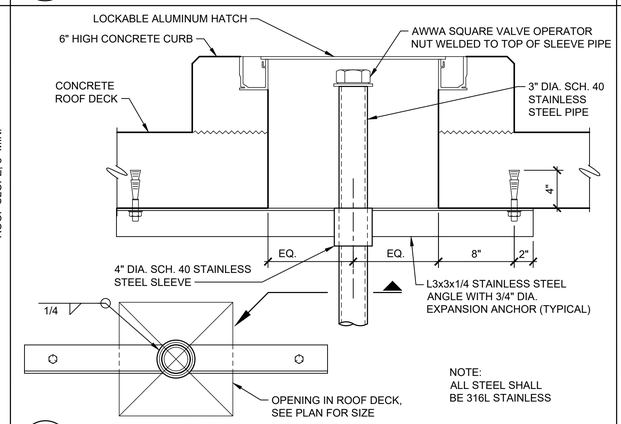
8 - TYPICAL ROOF SLAB CORNER REINFORCING

SCALE: 1"=1'-0"



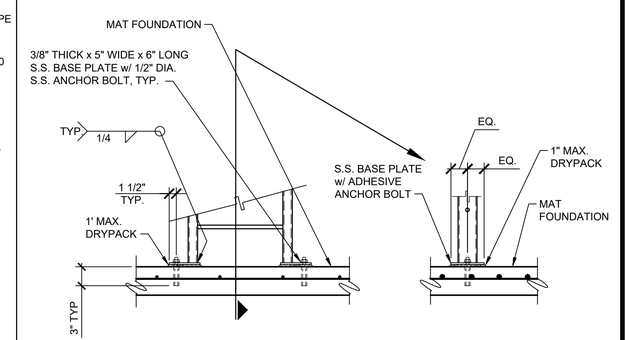
9 - HATCH RISER DETAIL

SCALE: 1"=1'-0"



10 - MUD VALVE OPERATOR ACCESS HATCH

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



11 - LADDER BASE CONNECTION

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

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REGISTERED PROFESSIONAL ENGINEER MAN-HONG ERIC YUEN No. 6177 STRUCTURAL STATE OF CALIFORNIA
4/18/25

MONTECITO WATER DISTRICT

MARK	DATE	DESCRIPTION	BY

MONTECITO WATER DISTRICT

RESERVOIR SEISMIC RETROFIT AND REPLACEMENT PROJECT FOR PARK LANE RESERVOIR

STRUCTURAL DETAILS 2

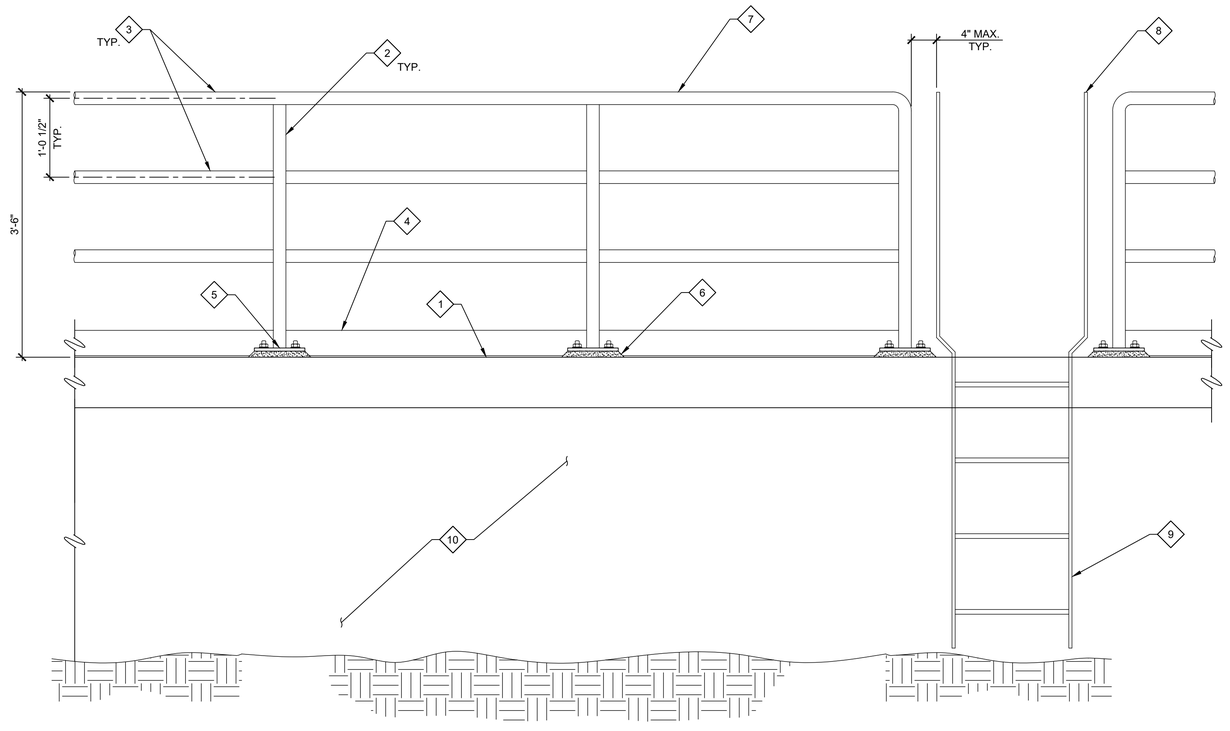
Project No.:	200-106490-21001
Designed By:	GH
Drawn By:	EJH
Checked By:	VMR

S-502

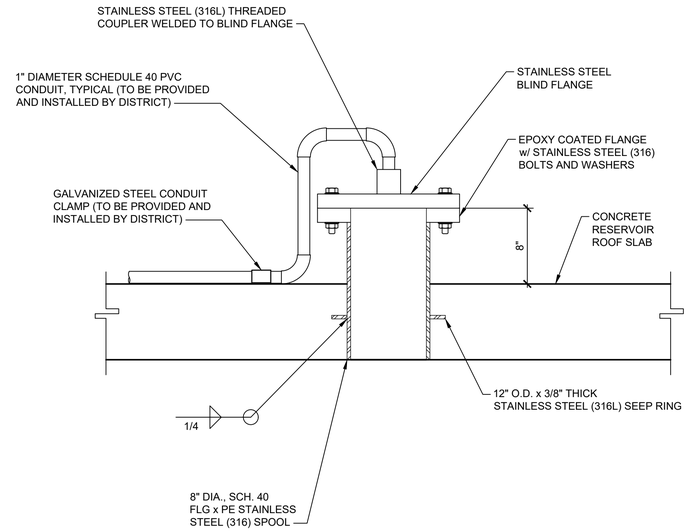
Bar Measures 1 inch

KEYNOTES:

1. NEW ROOF SLAB
2. 1 1/2" DIAMETER SCHEDULE 80 GUARDRAIL POST @ 5'-0" ON CENTER MAXIMUM
3. 1 1/2" DIAMETER SCHEDULE 40 HORIZONTAL RAILS - TYPICAL
4. 4" HIGH x 1/4" THICK CONTINUOUS TOE PLATE
5. 3/8" THICK x 8" SQUARE BASE PLATE WITH FOUR 1/2" DIAMETER EXPANSION ANCHORS EMBED 4" - ANCHOR SPACING = 5 1/2"
6. 1" MAXIMUM NON-SHRINK GROUT - TYPICAL
7. ALUMINUM GUARDRAIL
8. NEW PREFABRICATED LADDER WITH WALK-THROUGH RAILS FS INDUSTRIES SERIES F OR APPROVED EQUAL
9. ATTACH LADDER TO EDGE OF CONCRETE ROOF AND STEM WALL AT A MINIMUM OF 2 LOCATIONS WITH A MINIMUM OF 2-1/2" DIAMETER EXPANSION ANCHORS (EMBEDDED 4") AT EACH LOCATION, SET LADDER 7" FROM EDGE OF ROOF SLAB
10. NEW CONCRETE WALL



1 LADDER AND GUARDRAIL DETAIL
SCALE: 1"=1'-0"



2 ROOF PENETRATION FOR TRANSDUCER
SCALE: 1 1/2" = 1'-0"

3 NOT USED
SCALE:

4 NOT USED
SCALE:

5 NOT USED
SCALE:

6 NOT USED
SCALE:

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REGISTERED PROFESSIONAL ENGINEER
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4/18/25

MONTECITO WATER DISTRICT

MARK	DATE	DESCRIPTION	BY

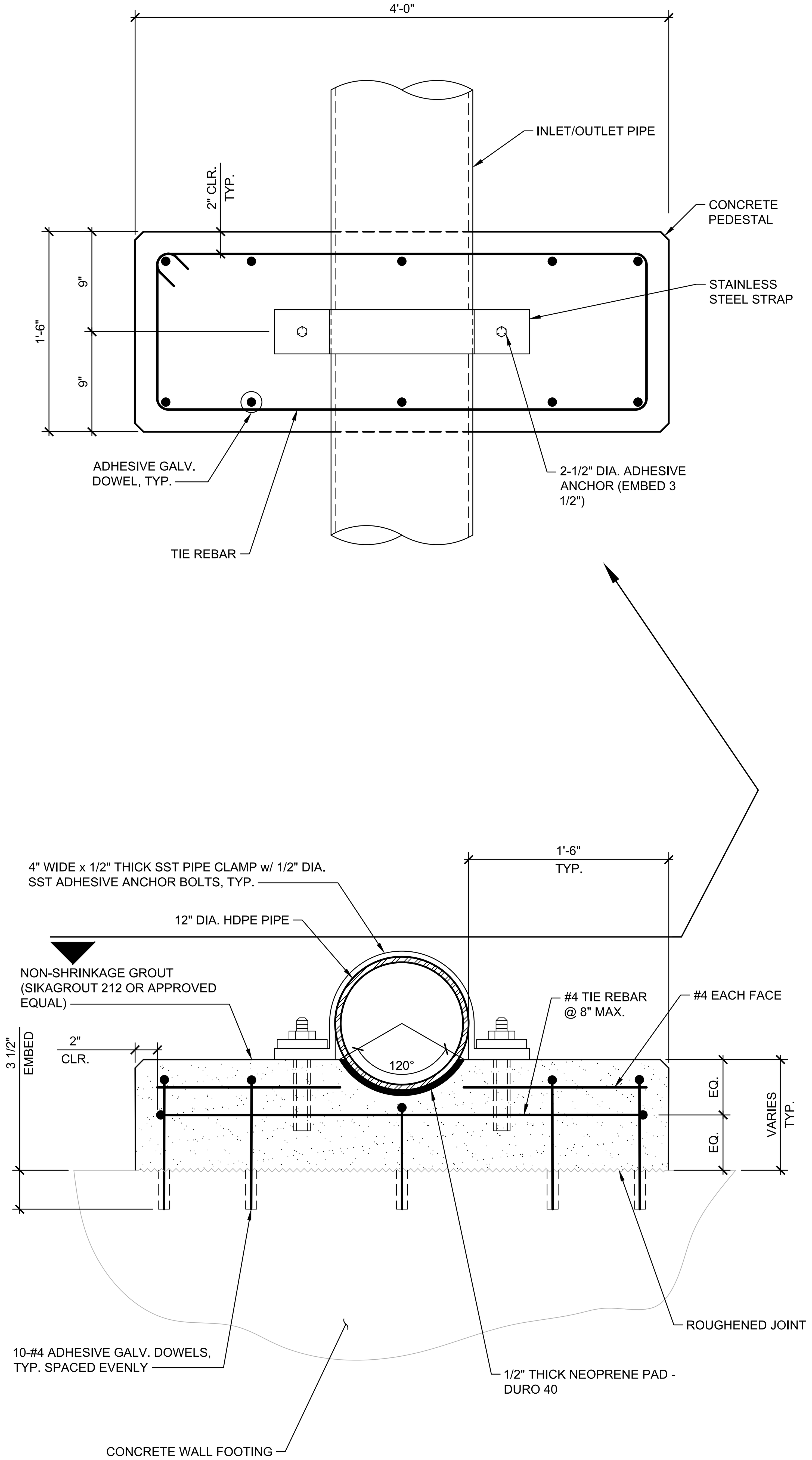
MONTECITO WATER DISTRICT
RESERVOIR SEISMIC RETROFIT AND REPLACEMENT PROJECT FOR PARK LANE RESERVOIR

STRUCTURAL DETAILS 3

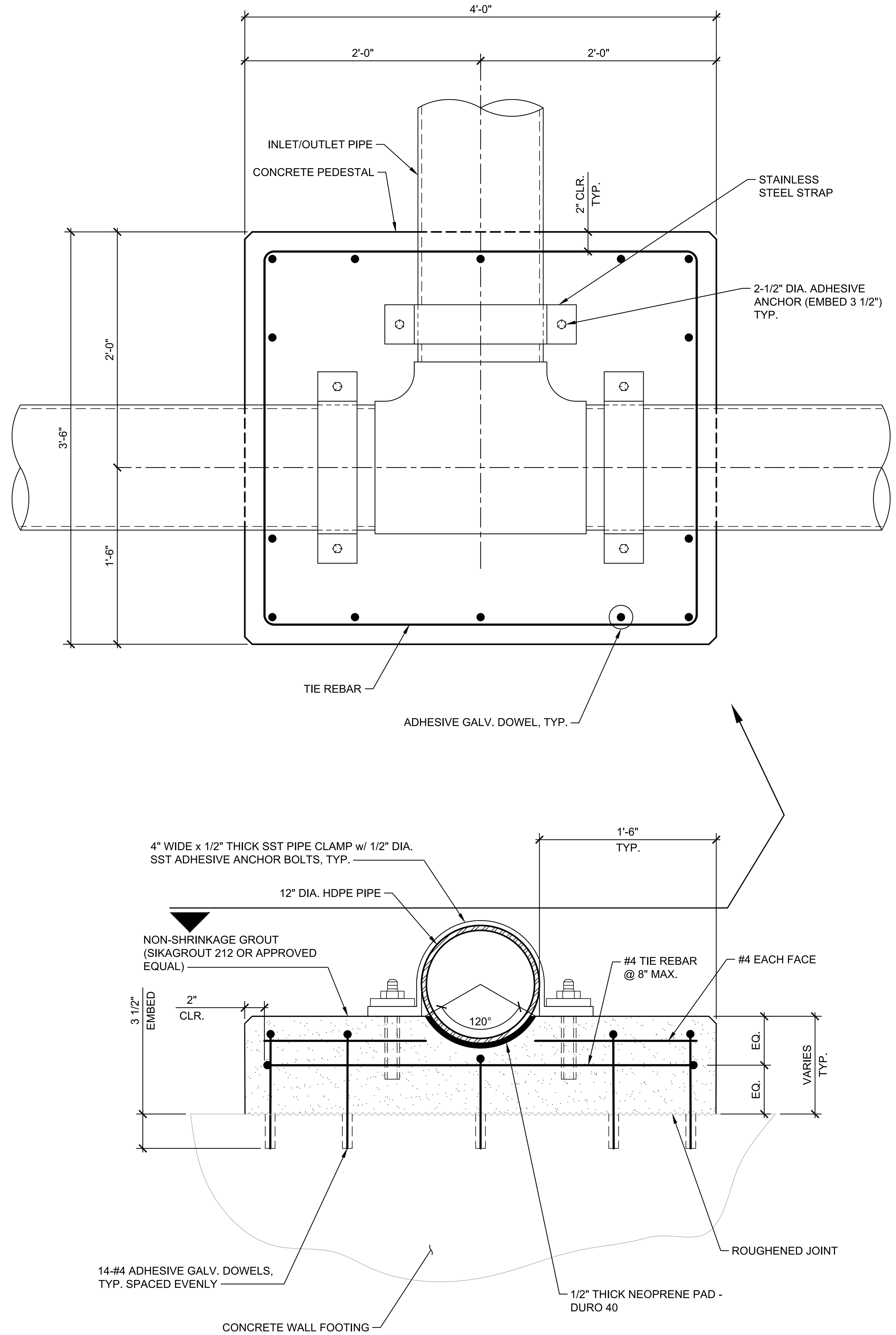
Project No.:	200-106490-21001
Designed By:	GH
Drawn By:	EJH
Checked By:	VMR

S-503

Bar Measures 1 inch



1 PIPE SUPPORT DETAILS
SCALE: 1 1/2"=1'-0"



2 PIPE SUPPORT DETAILS
SCALE: 1 1/2" = 1'-0"

3 NOT USED
SCALE:

4 NOT USED
SCALE:

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REGISTERED PROFESSIONAL ENGINEER MAN HONG ERIC YUEN No. 6177 STRUCTURAL STATE OF CALIFORNIA
4/18/25

MONTECITO WATER DISTRICT

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MONTECITO WATER DISTRICT
RESERVOIR SEISMIC RETROFIT AND REPLACEMENT PROJECT FOR PARK LANE RESERVOIR

STRUCTURAL DETAILS 4

Project No.:	200-106490-21001
Designed By:	VMR
Drawn By:	EJH
Checked By:	VMR

S-504

Bar Measures 1 inch