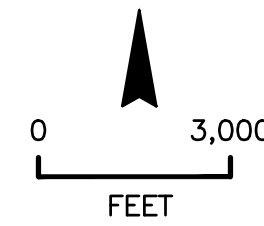
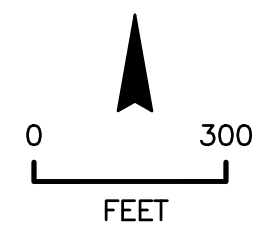


VICINITY MAP



SITE MAP



PROJECT DRAWINGS FOR LOCH LOMOND MARINA SITE IMPROVEMENTS

110 LOCH LOMOND DR, SAN RAFAEL, CA 94901

SYMBOLS

@	AT
°	DEGREES
φ	DIAMETER
(E)	EXISTING
(H)	HORIZONTAL
#	NUMBER
(N)	NEW
±	PLUS OR MINUS/APPROXIMATELY
(V)	VERTICAL

ABBREVIATIONS

BAT	BREAKWATER ACCESS TRAIL
AC	ASBESTOS-CEMENT
ACI	AMERICAN CONCRETE INSTITUTE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWWA	AMERICAN WATER WORKS ASSOCIATION
CBC	CALIFORNIA BUILDING CODE
CLR	CLEAR
CONC	CONCRETE
CONT	CONTINUOUS
CSK	COUNTERSINK
DF	DOUGLAS FIR
DI	DUCTILE IRON
DIAG	DIAGONAL
DIAM	DIAMETER
DR	PIPE DIMENSION RATIO (DIAMETER/WALL THICKNESS)
EA	EACH
EF	EACH FACE
EL,ELEV	ELEVATION
EQ,SP	EQUALLY SPACED
EW	EACH WAY
FE	FLANGE END
FG	FINISHED GRADE
FH	FLAT HEAD
FL	FLOW LINE
FT	FEET
FT-LBS	FOOT-POUNDS
GLULAM	GLUED LAMINATED TIMBER
HDG	HOT DIPPED GALVANIZED
HDPE	HIGH DENSITY POLYETHYLENE
HMA	HOT MIX ASPHALT
HSS	HOLLOW STRUCTURAL SECTION
HW	HIGH WATER
IN	INCHES
JT	JOINT
L	ANGLE; LEFT; LENGTH
LW	LOW WATER
MAT'L	MATERIAL
MAX	MAXIMUM
MHHW	MEAN HIGHER HIGH WATER
MHW	MEAN HIGH WATER
MIN	MINIMUM
MJ	MECHANICAL JOINT
MLLW	MEAN LOWER LOW WATER
MLW	MEAN LOW WATER
MTL	MEAN TIDE LEVEL
NAVD88	NORTH AMERICAN VERTICAL DATUM OF 1988
NGVD29	NATIONAL GEODETIC VERTICAL DATUM OF 1929
NO	NUMBER
OC	ON CENTER
PCC	PORTLAND CEMENT CONCRETE
PE	PLAIN END
PL	PLATE
PO	PUSH ON
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
R	RADIUS; RIGHT
RCP	REINFORCED CONCRETE PIPE
REQ'D	REQUIRED
SCH	SCHEDULE
SS	STAINLESS STEEL
STA	STATION
TOC	TOP OF CURB
TOG	TOP OF GUTTER
TOP	TOP OF PAVEMENT
TYP	TYPICAL
UHMW	ULTRA HIGH MOLECULAR WEIGHT PLASTIC
UNO	UNLESS NOTED OTHERWISE
W/	WITH

SHEET LIST TABLE	
SHEET #	SHEET TITLE
1	TITLE SHEET
2	NOTES
3	DEMOLITION PLAN
4	OVERALL SITE PLAN
5	EAST JETTY GRADING PLAN
6	EAST JETTY SECTIONS
7	BAT GRADING PLAN
8	BAT SECTIONS
9	EAST JETTY TRAIL PLAN & PROFILE
10	EAST JETTY BERM SECTIONS & DETAILS
11	EAST JETTY NORTH RAMP & STAIRS PLANS & DETAILS
12	EAST JETTY SOUTH RAMP & STAIRS PLANS & DETAILS
13	EAST JETTY EAST STAIRS PLAN & ELEVATION
14	BAT TRAIL PLAN & PROFILE
15	BAT BOARDWALK PLAN & DETAILS
16	BAT BOARDWALK DETAILS
17	BAT KAYAK LAUNCH RAMP & DETAILS

SCOPE OF WORK
 RE-GRADING OF PEDESTRIAN PATHS AT TWO SITE LOCATIONS: THE "EAST JETTY" AND THE "BREAKWATER ACCESS TRAIL" (BAT) TO RAISE THE PATHS ABOVE FLOOD LEVELS. TWO NEW ADA-ACCESS RAMPS, AND NEW FENCING AT THE EAST JETTY. A NEW KAYAK LAUNCH RAMP AND PEDESTRIAN BOARDWALK AT THE BREAKWATER ACCESS TRAIL. REVEGETATION AT BOTH SITE LOCATIONS.

ISSUED FOR PERMIT REVIEW



2201 DUPONT DRIVE, SUITE 830
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NO.	DATE	REVISION

DESIGNED BY	TJF
DRAWN BY	PGM
CHECKED BY	TJF
APPROV. BY	TJF

LOCH LOMOND MARINA SITE IMPROVEMENTS
TITLE SHEET
110 LOCH LOMOND DR, SAN RAFAEL, CA 94901

T-1
SHEET 1 OF 16
JOB NO. 1095-03
SCALE AS SHOWN
DATE 2 AUG 2019

SPECIAL INSPECTION:

IN ACCORDANCE WITH THE 2016 CALIFORNIA BUILDING CODE (CBC) THE FOLLOWING SPECIAL INSPECTIONS ARE REQUIRED:

1. CONCRETE CONSTRUCTION PER SECTION 1704.4 OF THE CBC.
2. PLASTIC SHEET PILES PER SECTION 1704.8 OF THE CBC.
3. OVER EXCAVATION AND RECOMPACTION OF SOILS SHALL BE REVIEWED AND APPROVED BY THE PROJECT GEOTECHNICAL ENGINEER, GEOKINETICS, INC., DURING CONSTRUCTION PER TABLE 1704.7 AND 1704.8 OF THE CBC.

GENERAL NOTES:

1. ALL WORK SHALL CONFORM TO THE MINIMUM REQUIREMENTS OF THE MOST CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION AND THE SPECIAL PROVISIONS OF THIS PROJECT.
2. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE JOB SITE CONDITIONS OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS RESPONSIBILITY SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. (TWENTY-FOUR HOURS, 7 DAYS A WEEK, HOLIDAYS INCLUDED).
3. REMOVE AND PROPERLY DISPOSE OFF SITE ALL EXISTING PAVEMENT AND CLEAR AND GRUBB THE ENTIRE GRADING FOOTPRINT WITHIN THE LIMITS OF WORK AREA; NO BURNING SHALL BE ALLOWED. RECYCLE ALL ASPHALT CONCRETE MATERIAL.
4. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND DIMENSIONS PRIOR TO STARTING CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES FOUND.
5. THE CONTRACTOR SHALL NOTIFY THE ENGINEER 48 HOURS PRIOR TO STARTING WORK SO THAT INSPECTION CAN BE PROVIDED.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORATION OF ANY IMPROVEMENTS THAT ARE DISTURBED OR DAMAGED DURING THE CONSTRUCTION.
7. SITE ACCESS IS LIMITED. THE CONTRACTOR SHALL VERIFY ACCESSIBILITY AND MAKE ALLOWANCES IN HIS BID FOR REQUIRED CONSTRUCTION EQUIPMENT AND MATERIALS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENFORCEMENT OF SAFETY MEASURES AND REGULATIONS. THE CONTRACTOR SHALL DESIGN, CONSTRUCT, AND MAINTAIN ALL SAFETY DEVICES INCLUDING SHORINGS AND SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE, AND FEDERAL SAFETY AND HEALTH STANDARDS AND REGULATIONS.
9. THE CONTRACTOR SHALL VERIFY THE EXISTENCE AND LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK. LOCATION OF ALL EXISTING UTILITIES SHOWN ARE PER AVAILABLE RECORD DRAWINGS OBTAINED DURING DESIGN. THE CONTRACTOR SHALL CONTACT APPROPRIATE AGENCIES TO OBTAIN REVISED, UPDATED, OR AS-BUILT INFORMATION AVAILABLE JUST PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL TAKE PRECAUTIONARY MEASURES TO PROTECT AND MAINTAIN THE UTILITY LINES SHOWN AND ANY OTHERS NOT OF RECORD OR SHOWN ON THESE DRAWINGS. NOTICE OF PROPOSED WORK SHALL BE GIVEN TO THE FOLLOWING AGENCIES: "DIG ALERT", SOUTHERN CALIFORNIA Edison, SBC, AND COUNTY OF ORANGE HARBOR PATROL.
10. UPON COMPLETION OF EACH DAY'S WORK, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LEAVING THE WORK AREA FREE OF HAZARDS AND SHALL PROVIDE ALL NECESSARY TEMPORARY SIGNS, WARNING DEVICES, AND BARRICADES.
11. THE CONTRACTOR SHALL KEEP ACCURATE AND LEGIBLE RECORDS ON A SET OF PROJECT SHEETS, PRINTED IN RED, OF ALL CHANGES IN WORK WHICH OCCUR DURING CONSTRUCTION. PRIOR TO FIELD ACCEPTANCE, THE CONTRACTOR SHALL DELIVER THIS "AS-BUILT" INFORMATION TO THE ENGINEER.

PERMIT REQUIREMENTS:

1. THE CONTRACTOR SHALL FULLY COMPLY WITH ALL OF THE REQUIREMENTS OF SECTION D OF THE CONTRACT DOCUMENTS.

GRADING NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH SPECIAL REQUIREMENTS OF THE PERMIT.
2. THE SOIL ENGINEER AND ENGINEERING GEOLOGIST SHALL PERFORM SUFFICIENT INSPECTIONS AND BE AVAILABLE DURING GRADING AND CONSTRUCTION TO VERIFY COMPLIANCE WITH THE PLANS, SPECIFICATIONS AND THE CODE WITHIN THEIR PURVIEW.
3. THE CIVIL ENGINEER SHALL BE AVAILABLE DURING GRADING TO VERIFY COMPLIANCE WITH THE PLANS, SPECIFICATIONS, CODE AND ANY SPECIAL CONDITIONS OF THE PERMIT WITHIN THEIR PURVIEW.
4. THE SOIL ENGINEER AND ENGINEERING GEOLOGIST SHALL, AFTER CLEARING AND PRIOR TO THE PLACEMENT OF FILL IN CANYONS, INSPECT EACH CANYON AREAS OF ADVERSE STABILITY AND TO DETERMINE THE PRESENCE OR ABSENCE OF SUBSURFACE WATER OR SPRING FLOW. IF NEEDED, SUBDRAINS WILL BE DESIGNED AND CONSTRUCTED PRIOR TO THE PLACEMENT OF FILL IN EACH RESPECTIVE CANYON.
5. AREAS TO RECEIVE FILL SHALL BE PROPERLY PREPARED PRIOR TO PLACING FILL.
6. FILLS SHALL BE COMPACTED THROUGHOUT TO A MINIMUM OF 90% RELATIVE COMPACTION. AGGREGATE BASE FOR ASPHALTIC AREAS SHALL BE COMPACTED TO A MINIMUM OF 95% RELATIVE COMPACTION. MAXIMUM DENSITY SHALL BE DETERMINED BY UNIFORM BUILDING CODE STANDARDS GO, 70-1 OR APPROVED EQUIVALENT AND FIELD DENSITY BY UNIFORM BUILDING CODE STANDARD NO. 70-2 OR APPROVED EQUIVALENT.
7. CUT AND FILL SLOPES SHALL BE NO STEEPER THAN 2-FOOT HORIZONTAL TO 1-FOOT VERTICAL (2:1) EXCEPT WHERE SPECIFICALLY APPROVED OTHERWISE.
8. EXPORT SOIL MUST BE TRANSPORTED TO A LEGAL DUMP OR TO A PERMITTED SITE APPROVED BY THE DISTRICT GRADING INSPECTOR.
9. THE PERMITTEE IS RESPONSIBLE FOR DUST CONTROL MEASURES.
10. ALL CONCRETE STRUCTURES THAT COME IN CONTACT WITH THE ON-SITE SOILS SHALL BE CONSTRUCTED WITH TYPE V CEMENT, UNLESS DEEMED UNNECESSARY BY SOLUBLE SULFATE-CONTENT TESTS CONDUCTED BY THE SOIL ENGINEER.
11. NEW SLOPES SHALL BE PLANTED WITH AN APPROVED PLANT MATERIAL.
12. SANITARY FACILITIES SHALL MAINTAIN ON THE SITE.
13. THE LOCATION AND PROTECTION OF ALL UTILITIES IS THE RESPONSIBILITY OF THE PERMITTEE.
14. APPROVED PROTECTIVE MEASURES AND TEMPORARY DRAINAGE PROVISIONS SHALL BE USED TO PROTECT ADJOINING PROPERTIES DURING GRADING.
15. GRADING OPERATIONS INCLUDING MAINTENANCE OF EQUIPMENT SHALL NOT BE CONDUCTED BETWEEN THE HOURS OF 6 P.M. AND 7 A.M. DAILY, ON SUNDAY OR ON A FEDERAL HOLIDAY.
16. THE GRADING CONTRACTOR SHALL SUBMIT A STATEMENT OF COMPLIANCE TO THE APPROVED GRADING PLAN PRIOR TO FINAL APPROVAL.
17. THE COMPACTION REPORT AND APPROVAL FROM THE SOIL ENGINEER SHALL INDICATE THE TYPE OF FIELD TESTING PERFORMED, THE METHOD OF OBTAINING THE IN-PLACE DENSITY SHALL BE IDENTIFIED WHETHER SAND CONE, DRIVE RING, OR NUCLEAR, AND SHALL BE NOTED FOR EACH TEST. SUFFICIENT MAXIMUM DENSITY DETERMINATIONS SHALL BE PERFORMED TO VERIFY THE ACCURACY OF THE MAXIMUM DENSITY CURVES USED BY THE FIELD TECHNICIAN.

18. ALL TRAIL SLOPES WITHIN THE LIMITS OF WORK SHALL CONFORM TO THOSE SHOWN ON THE DRAWINGS, AND THE ACCESSIBLE ROUTE PROVISIONS OF SECTIONS 11B-303.2 AND 11B-403.3 OF THE 2016 CALIFORNIA BUILDING CODE (CBC). PATH RUNNING SLOPES SHALL NOT EXCEED 5.0% (TARGET SLOPE OF 4.5% MAX), AND CROSS-SLOPES SHALL NOT EXCEED 2.0% (TARGET SLOPE OF 1.5% MAX) AT ANY LOCATION ALONG THE ACCESSIBLE PATH. VERTICAL CHANGES IN LEVEL SHALL NOT EXCEED 1/4 INCH.

EROSION CONTROL

1. EQUIPMENT AND WORKERS FOR EMERGENCY WORK SHALL BE MADE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON. NECESSARY MATERIALS SHALL BE AVAILABLE ON SITE AND STOCKPILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES WHEN RAIN IS EMINENT.
2. EROSION CONTROL DEVICES SHALL NOT BE MOVED OR MODIFIED WITHOUT THE APPROVAL OF THE BUILDING OFFICIAL.
3. ALL REMOVABLE EROSION PROTECTIVE DEVICES SHALL BE IN PLACE AT THE END OF EACH WORKING DAY WHEN THE 5-DAY RAIN PROBABILITY EXCEEDS 40%.
4. AFTER A RAINSTORM, ALL SILT AND DEBRIS SHALL BE REMOVED FROM STREETS, CHECK BERMS AND BASINS.
5. GRADED AREAS ON THE PERMITTED AREA PERIMETER MUST DRAIN AWAY FROM THE FACE OF SLOPES AT THE CONCLUSION OF EACH WORKING DAY. DRAINAGE IS TO BE DIRECTED TOWARD DESILTING FACILITIES.
6. THE PERMITTEE AND CONTRACTOR SHALL BE RESPONSIBLE AND SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT PUBLIC TRESPASS ONTO AREAS WHERE IMPOUNDED WATER CREATES A HAZARDOUS CONDITION.
7. THE PERMITTEE AND CONTRACTOR SHALL INSPECT THE EROSION CONTROL WORK AND INSURE THAT THE WORK IS IN ACCORDANCE WITH THE APPROVED PLANS.
8. ALL AREAS DISTURBED BY GRADING AND CONSTRUCTION THAT ARE ADJACENT TO EXISTING GRASS AREA SHALL BE RE-PLANTED WITH TURF GRASS TO MATCH EXISTING GRASSES.
9. MAINTAIN PROJECT FOR A PERIOD OF SIXTY (60) CALENDAR DAYS, COMMENCING FROM TIME CONTRACT WORK HAS BEEN COMPLETED.
10. MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO MOWING, TRIMMING, PRUNING, WATERING, FERTILIZATION, WEED CONTROL, CULTIVATION, PEST CONTROL, AND CLEAN-UP.
11. PROTECT NEWLY PLANTED AREAS FROM FOOT TRAFFIC, VANDALISM, BURROWING ANIMALS AND EROSION REPAIR AND REPLANT DAMAGED AREAS.

ENVIRONMENTAL NOTES

1. THE PERMITTEE SHALL NOTIFY ALL GENERAL CONTRACTORS, SUBCONTRACTORS, MATERIAL SUPPLIERS, LESSEES, AND PROPERTY OWNERS THAT DUMPING OF CHEMICALS INTO THE STORM DRAIN SYSTEM OR THE WATERSHED IS PROHIBITED.
2. PERMITTEE SHALL MAINTAIN CONSTRUCTION SITE IN SUCH A CONDITION THAT AN ANTICIPATED STORM DOES NOT CARRY WASTES OR POLLUTANTS OFF THE SITE. POTENTIAL POLLUTANTS INCLUDE BUT ARE NOT LIMITED TO: SOLID OR LIQUID CHEMICAL SPILLS; WASTES FROM PAINTS, STAINS, SEALANTS, GLUES, LIMES, PESTICIDES, HERBICIDES, WOOD PRESERVATIVES AND SOLVENTS; ASBESTOS FIBERS, PAINT FLAKES OR STUCCO FRAGMENTS; FUELS, OILS, LUBRICANTS, AND HYDRAULIC, RADIATOR OR BATTERY FLUIDS; FERTILIZERS, VEHICLE/EQUIPMENT WASH WATER AND CONCRETE WASH WATER; CONCRETE, DETERGENT OR FLOATABLE WASTES; WASTES FROM ANY ENGINE/EQUIPMENT STEAM CLEANING OR CHEMICAL DEGREASING AND SUPERCHLORINATED POTABLE LINE FLUSHING.
3. DEWATERING OF CONTAMINATED GROUNDWATER, OR DISCHARGING CONTAMINATED SOILS VIA SURFACE EROSION IS PROHIBITED. DEWATERING OF NON-CONTAMINATED GROUNDWATER REQUIRES A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT FROM THE RESPECTIVE STATE REGIONAL WATER QUALITY CONTROL BOARD.
4. SPECIAL NOTE: SURVEY MONUMENTS SHALL BE PRESERVED AND REFERENCED BEFORE AND REPLACED AFTER CONSTRUCTION PURSUANT TO SECTION 8771 OF THE BUSINESS AND PROFESSIONS CODE.

NIDES NOTES:

1. SEDIMENT FROM AREAS DISTURBED BY CONSTRUCTION SHALL BE RETAINED ON SITE USING STRUCTURAL CONTROLS TO THE MAXIMUM EXTENT PRACTICABLE.
2. STOCKPILES OF SOIL SHALL BE PROPERLY CONTAINED TO MINIMIZE SEDIMENT TRANSPORT FROM THE SITE TO STREETS, DRAINAGE FACILITIES OR ADJACENT PROPERTIES VIA RUNOFF, VEHICLE TACKING, OR WIND.
3. APPROPRIATE BMP'S FOR CONSTRUCTION-RELATED MATERIALS, WASTES, SPILLS SHALL BE IMPLEMENTED TO MINIMIZE TRANSPORT FROM THE SITE TO STREETS, DRAINAGE FACILITIES, OR ADJOINING PROPERTIES BY WIND OR RUNOFF.
4. RUNOFF FROM EQUIPMENT AND VEHICLE WASHING SHALL BE CONTAINED AT CONSTRUCTION SITES UNLESS TREATED TO REDUCE OR REMOVE SEDIMENT AND OTHER POLLUTANTS.
5. ALL CONSTRUCTION CONTRACTOR AND SUBCONTRACTOR PERSONNEL ARE TO BE MADE AWARE OF THE REQUIRED BEST MANAGEMENT PRACTICES AND GOOD HOUSEKEEPING MEASURES FOR THE PROJECT SITE AND ANY ASSOCIATED CONSTRUCTION STAGING AREAS.
6. AT THE END OF EACH DAY OF CONSTRUCTION ACTIVITY ALL CONSTRUCTION DEBRIS AND WASTED MATERIALS SHALL BE COLLECTED AND PROPERLY DISPOSED IN TRASH OR RECYCLE BINS.
7. CONSTRUCTION SITES SHALL BE MAINTAINED IN SUCH A CONDITION THAT AN ANTICIPATED STORM DOES NOT CARRY WASTES OR POLLUTANTS OFF THE SITE. DISCHARGES OF MATERIAL OTHER THAN STORMWATER ONLY WHEN NECESSARY FOR PERFORMANCE AND COMPLETION OF CONSTRUCTION PRACTICES AND WHERE THEY DO NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF ANY WATER QUALITY STANDARD; CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR NUISANCE; OR CONTAIN A HAZARDOUS SUBSTANCE IN A QUANTITY REPORTABLE UNDER FEDERAL REGULATIONS 40 CFR PARTS 117 AND 302.
8. DURING CONSTRUCTION, PERMITTEE SHALL DISPOSE OF SUCH MATERIALS IN A SPECIFIED AND CONTROLLED TEMPORARY AREA ON-SITE, PHYSICALLY SEPARATED FROM POTENTIAL STORMWATER RUNOFF, WITH ULTIMATE DISPOSAL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REQUIREMENTS.
9. DEWATERING OF CONTAMINATED GROUNDWATER, OR DISCHARGING CONTAMINATED SOILS VIA SURFACE EROSION IS PROHIBITED. DEWATERING OF NON-CONTAMINATED GROUNDWATER REQUIRED A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT FROM THE RESPECTIVE STATE REGIONAL WATER QUALITY CONTROL BOARD.
10. GRADED AREAS ON THE PERMITTED AREA PERIMETER MUST DRAIN AWAY FROM THE FACE OF SLOPES AT THE CONCLUSION OF EACH WORKING DAY. DRAINAGE IS TO BE DIRECTED TOWARD DESILTING FACILITIES.
11. THE PERMITTEE AND CONTRACTOR SHALL BE RESPONSIBLE AND SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT PUBLIC TRESPASS ONTO AREAS WHERE IMPOUNDED WATER CREATES A HAZARDOUS CONDITION.
12. THE PERMITTEE AND CONTRACTOR SHALL INSPECT THE EROSION CONTROL WORK AND INSURE THAT THE WORK IS IN ACCORDANCE WITH THE APPROVED PLANS.
13. THE PERMITTEE SHALL NOTIFY ALL GENERAL CONTRACTORS, SUBCONTRACTORS, MATERIAL SUPPLIERS, LESSEES, AND PROPERTY OWNERS THAT DUMPING OF CHEMICALS INTO THE STORM DRAIN SYSTEM OR THE WATERSHED IS PROHIBITED.
14. SEDIMENTS FROM AREAS DISTURBED BY CONSTRUCTION SHALL BE RETAINED ON SITE USING AN EFFECTIVE COMBINATION OF EROSION AND SEDIMENT CONTROLS TO THE MAXIMUM EXTENT PRACTICABLE.

BMP NOTES:

1. CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN BMPS IN ACCORDANCE WITH RECOMMENDED PRACTICES OUTLINED IN CALIFORNIA STORMWATER QUALITY ASSOCIATION CONSTRUCTION HANDBOOK.

2. IF SIGNIFICANT SEDIMENT OR OTHER VISUAL SYMPTOMS OF IMPURITIES ARE NOTICED, CONTACT THE ENGINEER IMMEDIATELY.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTION AND RESTORATION OF ALL ASPECTS OF THE EROSION CONTROL PLAN AND CONSTRUCTION BMPS. SEDIMENT ON PAVED AREAS SHALL BE REMOVED BY SHOVEL AND BROOM.
4. ALL DUMPSTERS AND OTHER TRASH STORAGE ENCLOSURES SHALL BE UTILIZED SOLELY FOR NON-HAZARDOUS MATERIALS.
5. CONTRACTOR MAY RELOCATE STORAGE, DELIVERY, OR WASHOUT AREAS WITHIN THE DESIGNATED PARKING LOT AREA TO SUIT THEIR OPERATIONS AND PROMOTE POLLUTION CONTROL AS APPROVED BY THE COUNTY. RELOCATED LOCATION SHALL BE SHOWN ON THE PLANS MAINTAINED AT THE JOB SITE. CONTACT THE ENGINEER FOR ANY PLAN REVISIONS. CONTRACTOR SHALL MAINTAIN SECONDARY CONTAINMENT AS NECESSARY TO PROHIBIT POLLUTION AND TOXIC MATERIALS FROM ENTERING STORM DRAIN OR LAKE WATERS.
6. THIS PLAN SHALL BE USED IN CONJUNCTION WITH THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) APPROVED FOR THIS PROJECT (BY CONTRACTOR).
7. PRIOR TO MOBILIZATION CONTRACTOR SHALL SUBMIT A WATER POLLUTION CONTROL DRAWING TO THE ENGINEER FOR APPROVAL ADDRESSING HOW THE FOLLOWING BMP'S SHALL BE ADDRESSED:
 - A. MATERIAL DELIVERY AND STORAGE PER BMP WM-1
 - B. MATERIAL USE PER BMP WM-2
 - C. STOCKPILE MANAGEMENT PER BMP WM-3
 - D. SOLID WASTE MANAGEMENT PER BMP WM-5
 - E. HAZARDOUS WASTE MANAGEMENT PER BMP WM-6
 - F. CONCRETE WASTE MANAGEMENT PER BMP WM-8
 - G. SANITARY WASTE MANAGEMENT PER BMP WM-9
 - H. VEHICLE EQUIPMENT AND CLEANING PER BMP NS-8
 - I. VEHICLE AND EQUIPMENT FUELING PER BMP NS-9
 - J. VEHICLE EQUIPMENT MAINTENANCE PER BMP NS-10.
 - K. ALL OTHER BMP'S INDICATED ON THIS PLAN
10. NO VEHICLES SHALL BE ALLOWED TO TRACK OR SPREAD SOIL FROM THE CONSTRUCTION AREAS ONTO EXISTING PAVED AREAS OR PUBLIC STREETS. ANY VEHICLE OPERATING WITHIN THE PROJECT AREA AND OFF THE PAVED STREET SHALL CROSS A CONSTRUCTION ENTRANCE SHOWN HEREIN. THE ENTRANCE MAY BE MODIFIED BY THE CONTRACTOR TO FACILITATE HIS OPERATIONS.
11. THE EROSION AND SEDIMENT CONTROL MEASURES SHALL BE OPERABLE DURING THE RAINY SEASON OF OCTOBER 15 TO APRIL 15.
12. CHANGES TO THIS STORM WATER WATER POLLUTION PREVENTION PLAN TO MEET FIELD CONDITIONS WILL BE MADE ONLY WITH THE APPROVAL OF, OR AT AT THE DIRECTION OF THE COUNTY OF ORANGE.
13. DURING THE RAINY SEASON ALL PAVED AREAS WILL BE KEPT CLEAR OF EARTH MATERIALS AND DEBRIS. THE SITE SHALL BE MAINTAINED SO THAT A MINIMUM OF SEDIMENT-LADEN RUNOFF ENTERS THE LAKE WATERS. THESE PLANS SHALL REMAIN IN EFFECT UNTIL THE IMPROVEMENTS ARE ACCEPTED BY THE COUNTY OF ORANGE AND ALL DISTURBED AREAS ARE STABILIZED FROM EROSION.
14. PRIOR TO THE START OF ANY EXCAVATION AND GRADING WORK INSTALL PERIMETER FIBER ROLL OR SANDBAGS.
15. REMOVE SPOILS PROMPTLY AND AVOID STOCKPILING OF FILL MATERIALS WHEN RAIN IS FORECAST. IF RAIN THREATENS, STOCKPILED SOILS AND OTHER MATERIALS SHALL BE TARPED AT THE REQUEST OF THE ENGINEER.
16. STORE, HANDLE AND DISPOSE OF CONSTRUCTION MATERIALS AND WASTES SO AS TO PREVENT THEIR ENTRY INTO LAKE WATERS. CONTRACTOR SHALL NOT ALLOW CONCRETE, WASHWATERS, SLURRIES, PAINT, OR OTHER MATERIALS TO ENTER CATCH BASINS, LAKE WATERS, OR SITE RUNOFF.
17. NO CLEANING, FUELING, OR MAINTAINING VEHICLES OR EQUIPMENT ON SITE SHALL BE PERMITTED THAT ALLOWS DELETERIOUS MATERIALS TO ENTER CATCH BASINS, SITE RUNOFF, OR LAKE WATERS.

EARTHWORK AND GRADING NOTES:

1. FINISH GRADE ELEVATIONS REFER TO FINAL PAVEMENT ELEVATIONS. EXCAVATE AND PREPARE SUBGRADE AND BASE SECTIONS PER SECTION 301 AND 302 OF THE GREENBOOK.
2. ALL EARTHWORK SHALL CONFORM TO THE REQUIREMENTS OF SECTION 300 OF THE GREENBOOK.
3. ALL DISTURBED SOIL AREAS SHALL BE RESTORED IN CONFORMANCE WITH SECTION 400 OF THE GREENBOOK.
4. THE FOLLOWING QUANTITIES ARE PROVIDED FOR INFORMATION ONLY. CONTRACTOR SHALL VERIFY ALL QUANTITIES REQUIRED AT THE TIME OF BID.

EAST JETTY AREA FILL:	604 CY
EAST JETTY AREA CUT:	73 CY
BREAKWATER ACCESS TRAIL FILL:	528 CY
BREAKWATER ACCESS TRAIL CUT:	50 CY
5. EXCAVATED AND GRADED AREAS SHALL BE PROTECTED FROM EROSION WITH TEMPORARY BMP MEASURES UNTIL REVEGETATION IS ESTABLISHED AND CAPABLE OF CONTROLLING EROSION. CONTINUOUSLY MAINTAIN TEMPORARY EROSION MEASURE WHILE IN SERVICE. TEMPORARY EROSION MEASURES SHALL BE REMOVED AFTER REVEGETATION IS ESTABLISHED.

BOARDWALK CONSTRUCTION NOTES:

1. THE BOARDWALK SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF SECTION 11B-1005 OF THE 2016 CBC FOR ACCESSIBILITY.
2. ALL BOARDWALK WORK SHALL CONFORM WITH SECTIONS 305 OF THE GREENBOOK EXCEPT AS MODIFIED BY THESE PLANS.
3. TIMBER DECK SHALL BE WESTERN CEDAR NO 1 OR BETTER FOHC SELECTED FOR APPEARANCE IN CONFORMANCE WITH WCLB GRADING RULES LATEST EDITION. FURNISH CERTIFICATES OF TIMBER COMPLIANCE TO THE ENGINEER FOR APPROVAL.
4. ALL JOISTS, RIM JOISTS, BLOCKING, SILL PLATE, AND GUARDRAIL POSTS, RAIL, AND PICKETS SHALL BE WESTERN CEDAR, NO 1.
5. BOARDWALK GIRDERS SHALL BE 5 1/2"X12 GLUED LAMINATED BEAMS FABRICATED FROM PORT ORFORD CEDAR, COMBINATION SPECIFICATION 20F-V14, RATED FOR EXTERIOR USE.
6. ALL DECK AND GUARDRAIL FRAMING HARDWARE AND METAL IN DIRECT CONTACT WITH CONCRETE SHALL BE TYPE 316 STAINLESS STEEL IN CONFORMANCE WITH REQUIREMENTS OF ASTM A240.
7. TREATED WOOD SHALL NOT BE USED FOR THE BOARDWALK OR RAILING.

CONCRETE CONSTRUCTION NOTES:

1. ALL CONCRETE WORK FOR BOARDWALK PIERS AND FOOTINGS SHALL BE PERFORMED IN CONFORMANCE WITH SECTION 303 OF THE GREENBOOK.
2. PORTLAND CEMENT SHALL BE ASTM C150 TYPE II/V.
3. AGGREGATES SHALL BE GRADING C IN CONFORMANCE WITH SECTION 201 OF THE GREENBOOK.
4. CONCRETE SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF 5,000 PSI WITH WATER TO CEMENTITIOUS RATIO NO GREATER THAN 0.40 PER ACI 318, SECTION 4.1. POZZOLAN CONFORMING TO ASTM C618 TYPE F SHALL COMPRISE 20 PERCENT OF ALL CEMENTITIOUS MATERIAL.
5. REINFORCEMENT FOR CONCRETE SHALL BE ASTM A615 GRADE 60. ALL BARS SHALL BE EPOXY COATED PER SECTION 52-1.02B OF THE STATE OF CALIFORNIA STANDARD SPECIFICATIONS. MINIMUM CONCRETE COVER AT TOP AND BOTTOM SURFACES AND EDGES SHALL BE THREE (3) INCHES UNO.

SHEET PILE CONSTRUCTION

1. SHEET PILE SHALL BE SHOREGUARD SG-625 VINYL SHEET PILE AS MANUFACTURED BY CMI LIMITED CO., MARIETTA, GA. SHEET PILE CORNERS SHALL BE CMI SG-650/750 SECTIONS.
2. PILING SHALL BE INSTALLED IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDED MEANS AND METHODS USING THE CMI MANDREL SIZED TO FIT THE SPECIFIED SHEET PILE SECTION.
3. MINIMUM PILE EMBEDMENT SHALL BE SIX (6) FEET BELOW EXISTING GRADE LEVEL.
4. FIVE PILES TO BUTT ELEVATION SHOWN ON THE PLANS; IN THE EVENT OF EARLY REFUSAL CONTACT ENGINEER BEFORE TRIMMING EXCESS PILE BUTT.

SLOPE PROTECTION EARTHWORK CONSTRUCTION NOTES:

1. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF SECTION 300 OF THE GREENBOOK. ALL SURFACES TO RECEIVE SLOPE PROTECTION SHALL BE PREPARED IN CONFORMANCE WITH SECTION 300 OF THE GREENBOOK.
2. MATERIAL OF EVERY DESCRIPTION SHALL BE REMOVED TO THE LINES AND GRADES SHOWN AND DISPOSED OFFSITE.
3. BACKFILL, FINISH GRADE, AND PREPARE THE SUBGRADE TO RECEIVE FILTER FABRIC AND STONE IN CONFORMANCE WITH SECTION 300 OF THE GREENBOOK. PRIOR TO PLACEMENT OF FILTER FABRIC, FILL VOIDS AND OVER STEEPENED AREAS BELOW EXCAVATION LIMIT WITH THE SPECIFIED GRAVEL AND GRADE TO THE SPECIFIED UNIFORM SLOPE.

SLOPE PROTECTION CONSTRUCTION NOTES:

1. STONE FOR REVETMENT SHALL BE ANGULAR QUARRY MINED MATERIAL CONFORMING TO THE REQUIREMENTS OF SECTION 200-1.6 OF THE GREENBOOK EXCEPT AS NOTED BELOW. NO COBBLESTONE OR RIVER ROCK SHALL BE ALLOWED. FLAT, SLAB, OR ELONGATED SHAPES SHALL NOT BE ALLOWED. THE LEAST DIMENSION OF ANY INDIVIDUAL STONE PIECE SHALL NOT BE LESS THAN ONE-HALF OF ITS GREATEST DIMENSION. MINIMUM SPECIFIC GRAVITY OF ALL QUARRY STONE SHALL BE 2.6.
2. ARMOR STONE SHALL BE CLASS 375# IN CONFORMANCE WITH SECTION 200-1.6.2 OF THE GREENBOOK.
3. GRAVEL FOR BACKFILL TO PREPARE REVETMENT SUBGRADE SHALL BE 3/4-IN CRUSHED ROCK IN CONFORMANCE WITH SECTION 200-1.2 OF THE STANDARD SPECIFICATIONS.
4. GEOTEXTILE FABRIC AROUND DRAINAGE ROCK OR UNDER BACKFILL SHALL BE MIRAFI 140N NON-WOVEN GEOTEXTILE AS MANUFACTURED BY TENCATE GEOSYNTHETICS. GEOTEXTILE FABRIC UNDER ARMOR RIP-RAP SHAPP BE MARAFI 600X.
5. PLACE FILTER FABRIC STRIPS NORMAL TO SLOPE CONTOUR. FILTER FABRIC SHALL BE CAREFULLY PLACED AND SECURED SO THAT MATERIAL IS NOT DISLODGED, BUNCHED, TORN, OR DISPLACED DURING PLACEMENT OF STONE LAYERS. EXTEND FABRIC TO COMPLETELY COVER BACK SIDE OF THE STONE SECTION. MINIMUM OVERLAP OF FILTER FABRIC STRIPS SHALL BE THREE (3) FEET. FABRIC STRIPS SHALL CONSIST OF ONE CONTINUOUS PIECE THAT EXTENDS FROM BOTTOM OF SLOPE TO TOP OF BOARDWALK FOOTING. NO STRIPS SHALL BE SPLICED. SECURE ALL LONGITUDINAL SEAMS WITH APPROVED PINS. USE WHATEVER MEANS AND METHODS ARE NECESSARY TO PLACE AND SECURE FILTER FABRIC UNDERWATER.
6. ALL ARMOR STONE SHALL BE CAREFULLY PLACED FROM BOTTOM TO TOP. STONE SHALL NOT BE DROPPED OR DUMPED.
7. THE CONTRACTOR SHALL PROVIDE WHATEVER MEANS ARE REQUIRED SUCH AS TEMPORARY RIGID FRAMES, USE OF PROFESSIONAL UNDERWATER DIVERS, AND/OR OTHER METHODS WHICH HE CONSIDERS NECESSARY TO POSITION, SINK AND SECURE THE FILTER FABRIC TO OVERCOME BUOYANT, CURRENT AND WAVE FORCES.
8. STONE SHALL BE CAREFULLY PLACED TO THE LINES AND GRADES SHOWN ON THE DRAWINGS. STONE SHALL BE FIRST PLACED AT BOTTOM OF SLOPE AND PLACEMENT SHALL PROGRESS UPSLOPE. STONE SHALL NOT BE PLACED AT ANY TIME BY DUMPING. THE STONES SHALL BE FIRMLY EMBEDDED AGAINST THE EARTH AND THE ADJOINING PIECE WITH THE SIDES IN CONTACT, AND WITH WELL BROKEN JOINTS. AT NO TIME SHALL STONES BE DROPPED FROM A HEIGHT GREATER THAN ONE (1) FOOT ABOVE THE FILTER FABRIC. THE FINISHED SURFACE SHALL PRESENT AN EVEN, TIGHT SURFACE TRUE TO LINE, GRADE AND SECTION SUBJECT TO THE ENGINEER'S APPROVAL.
9. THE CONTRACTOR SHALL SCHEDULE WORK SO THAT COVERAGE OF FILTER FABRIC WITH A LAYER OF STONE IS ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT OF FABRIC.

ISSUED FOR PERMIT REVIEW



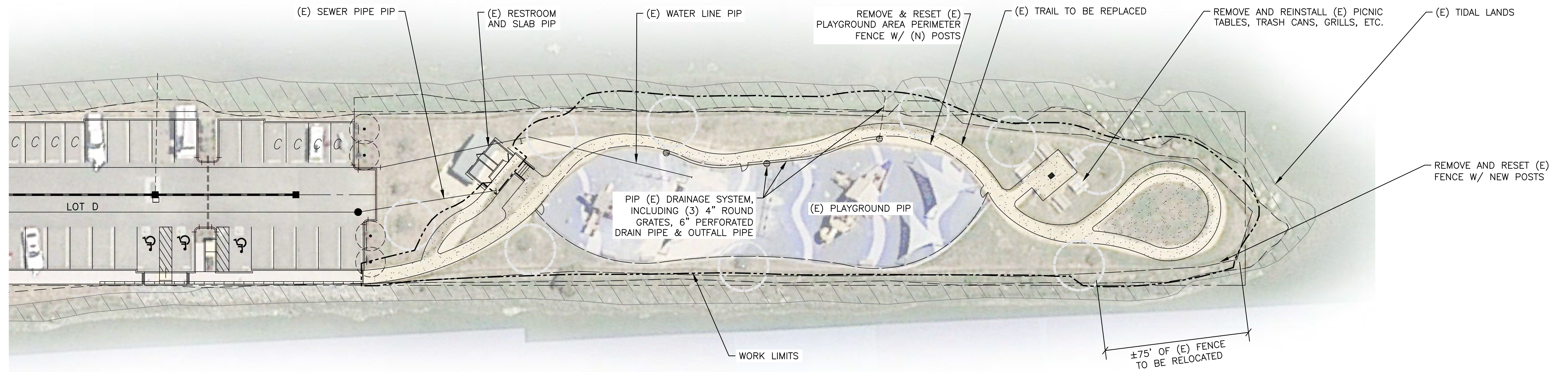
2201 DUPONT DRIVE, SUITE 830
IRVINE, CA. 92612
949-752-1530
949-752-8381 (FAX)

NO.	DATE	REVISION

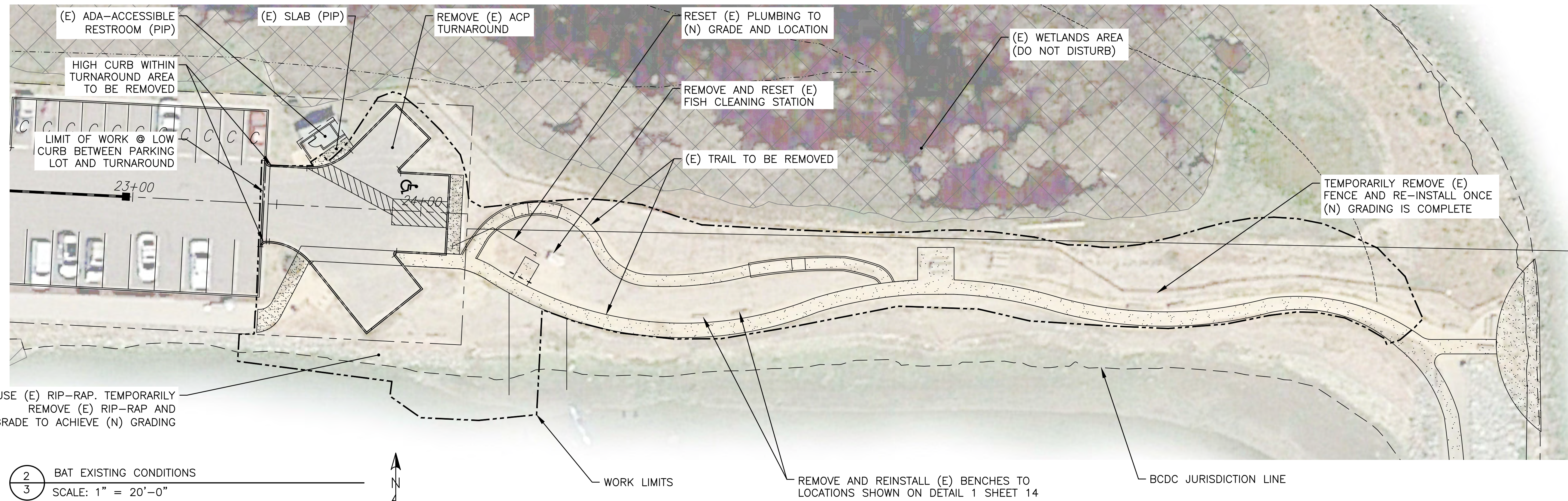
DESIGNED BY	TJF
DRAWN BY	PGM
CHECKED BY	TJF
APPROV. BY	TJF

LOCH LOMOND MARINA SITE IMPROVEMENTS	
NOTES	
110 LOCH LOMOND DR, SAN RAFAEL, CA 94901	

SHEET	2	OF	16
JOB NO.	1095-03		
SCALE	N/A		
DATE	2 AUG 2019		



1 EAST JETTY EXISTING CONDITIONS
 3 SCALE: 1" = 20'-0"



2 BAT EXISTING CONDITIONS
 3 SCALE: 1" = 20'-0"

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 949-752-8381 (FAX)

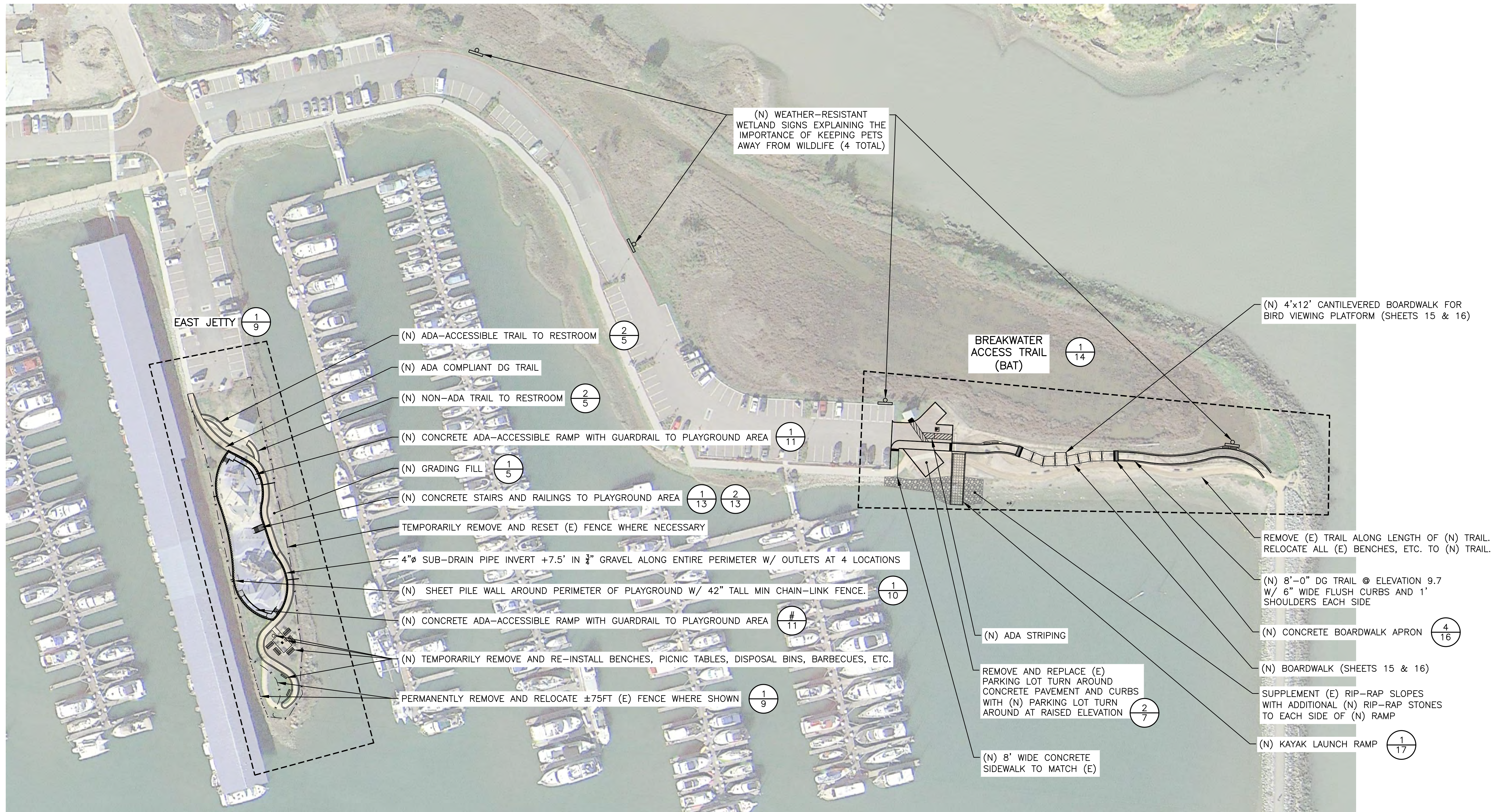
NO.	DATE	REVISION

DESIGNED BY	TJF
DRAWN BY	PGM
CHECKED BY	TJF
APPROV. BY	TJF

LOCH LOMOND MARINA SITE IMPROVEMENTS
DEMOLITION PLAN
 110 LOCH LOMOND DR, SAN RAFAEL, CA 94901

SHEET	3	OF	16
JOB NO.	1095-03		
SCALE	1" = 20'		
DATE	2 AUG 2019		

C-1



1 OVERALL SITE PLAN
 4 SCALE: 1" = 50'-0"
 N

GENERAL NOTES:
 1. UNLESS NOTED OTHERWISE, ALL (N) TRAILS AND ACCESSWAYS SHALL COMPLY WITH ADA REQUIREMENTS IN CHAPTER 11B OF THE 2016 VERSION OF THE CALIFORNIA BUILDING CODE.



ISSUED FOR PERMIT REVIEW



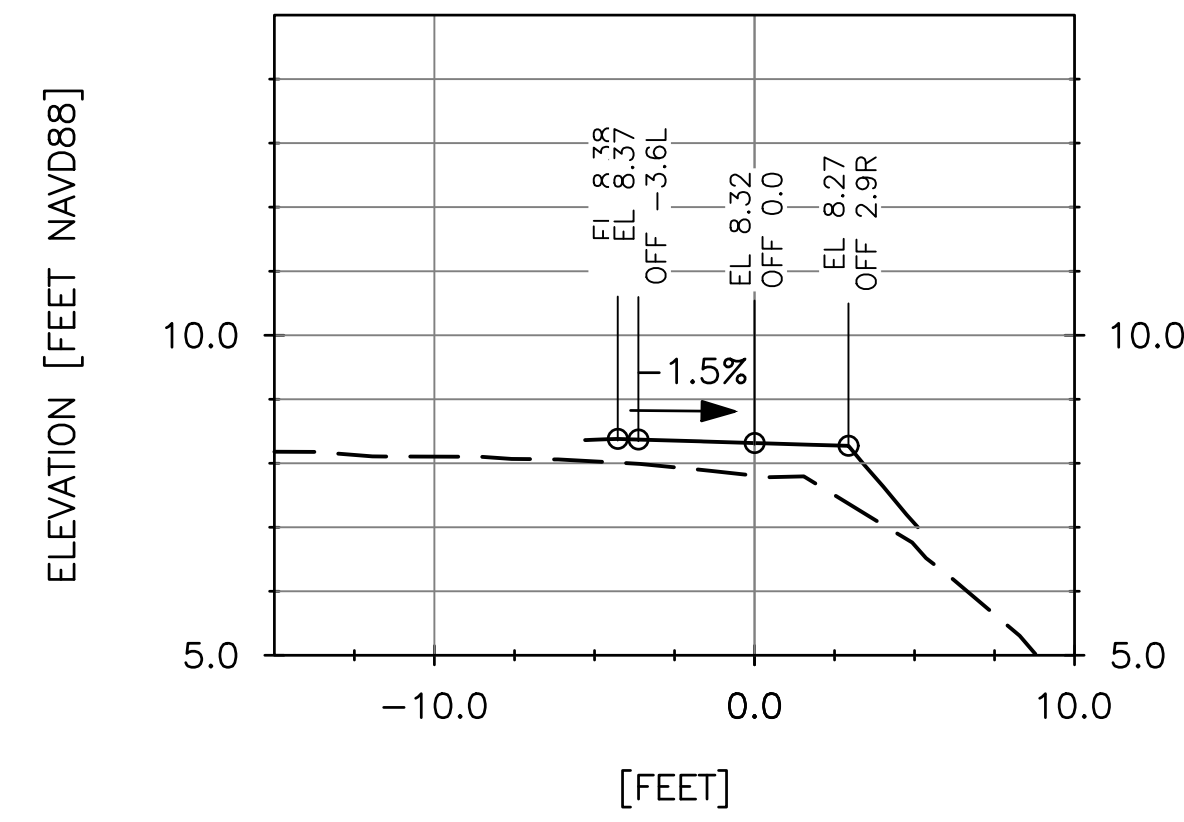
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 IRVINE, CA. 92612
 949-752-1530
 949-752-8381 (FAX)

NO.	DATE	REVISION

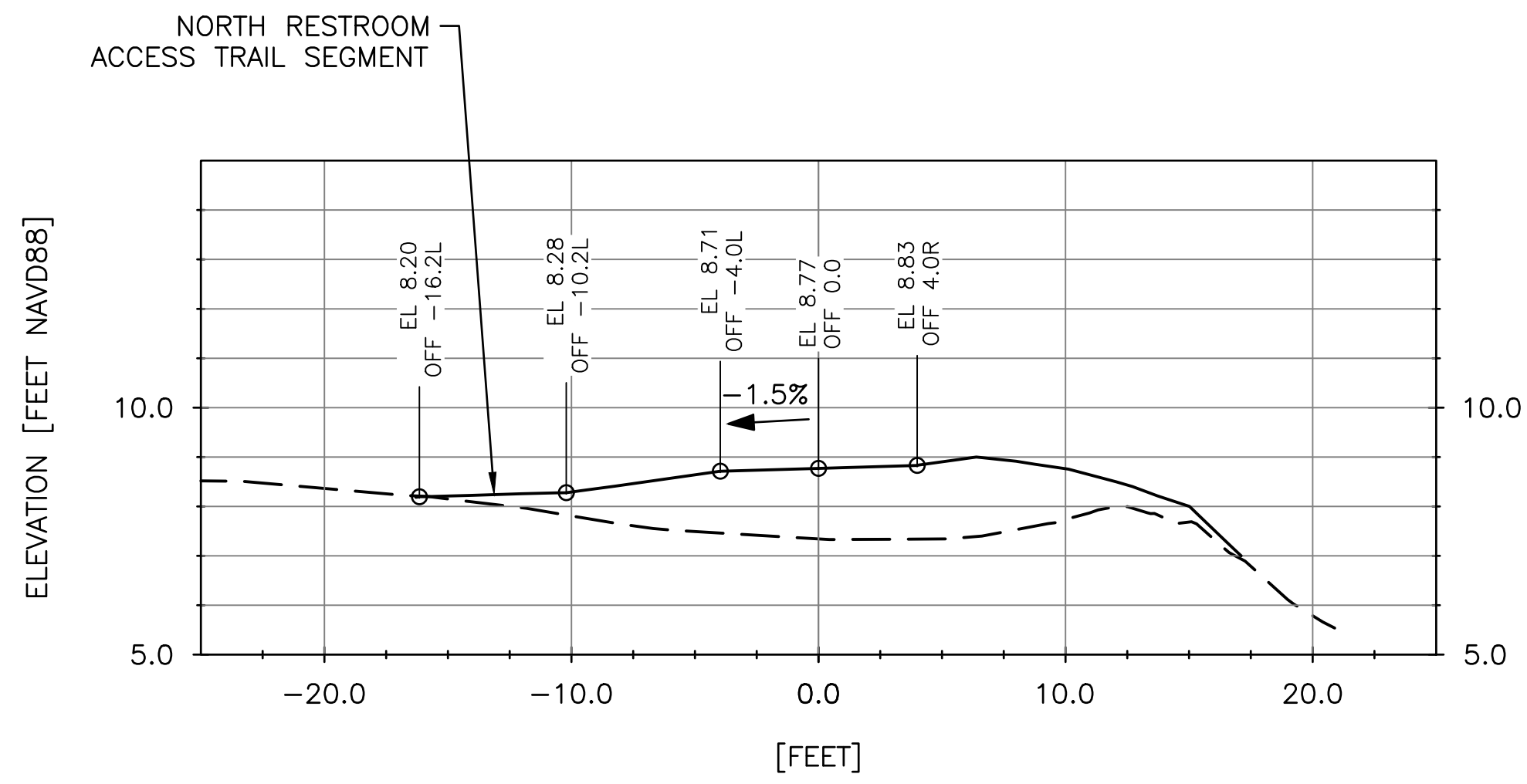
DESIGNED BY: TFJ
 DRAWN BY: PGM
 CHECKED BY: TJF
 APPROV. BY: TJF

LOCH LOMOND MARINA SITE IMPROVEMENTS
OVERALL SITE PLAN
 110 LOCH LOMOND DR, SAN RAFAEL, CA 94901

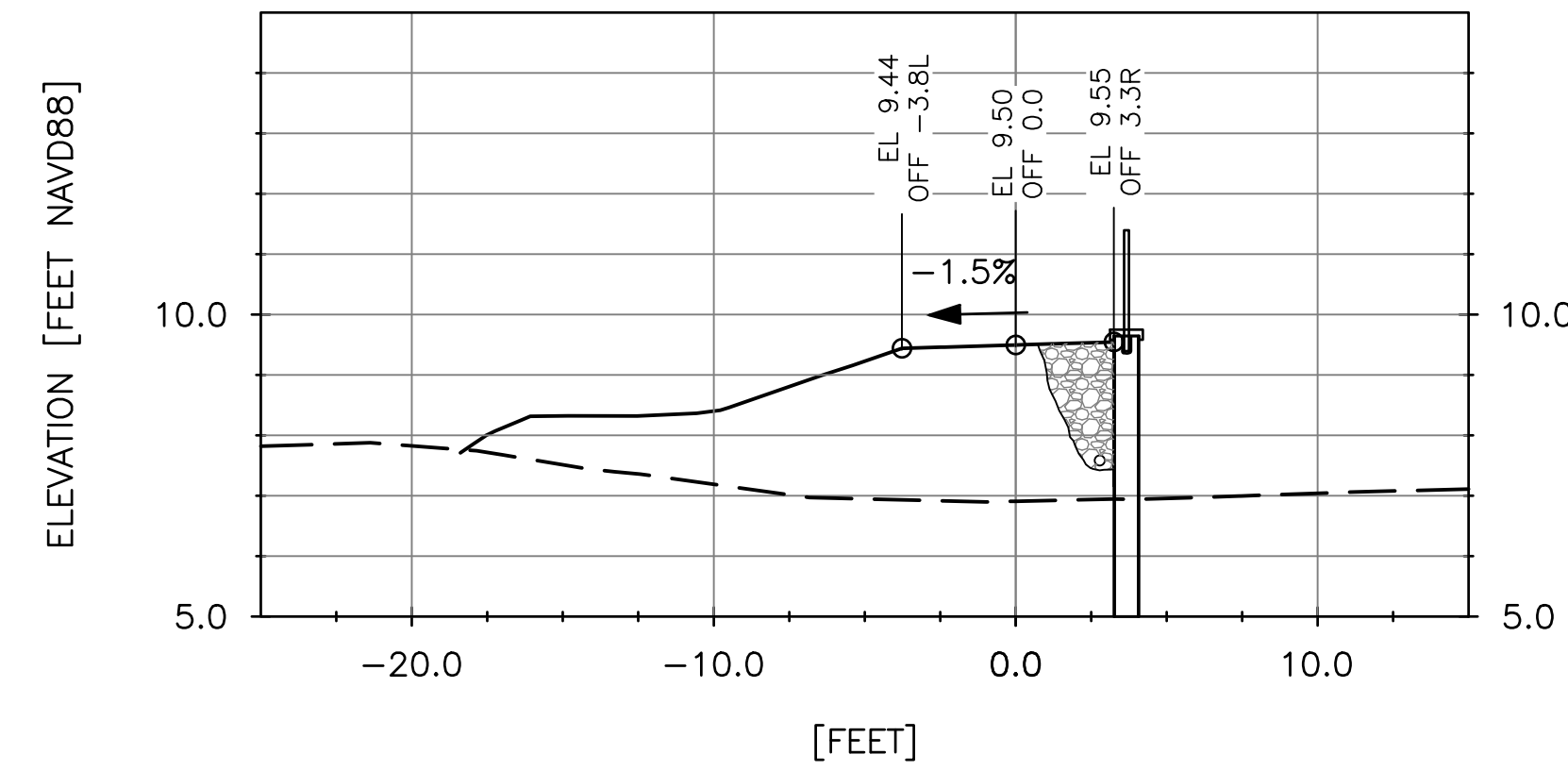
SHEET 4 OF 16
 JOB NO. 1095-03
 SCALE 1" = 50'-0"
 DATE 2 AUG 2019



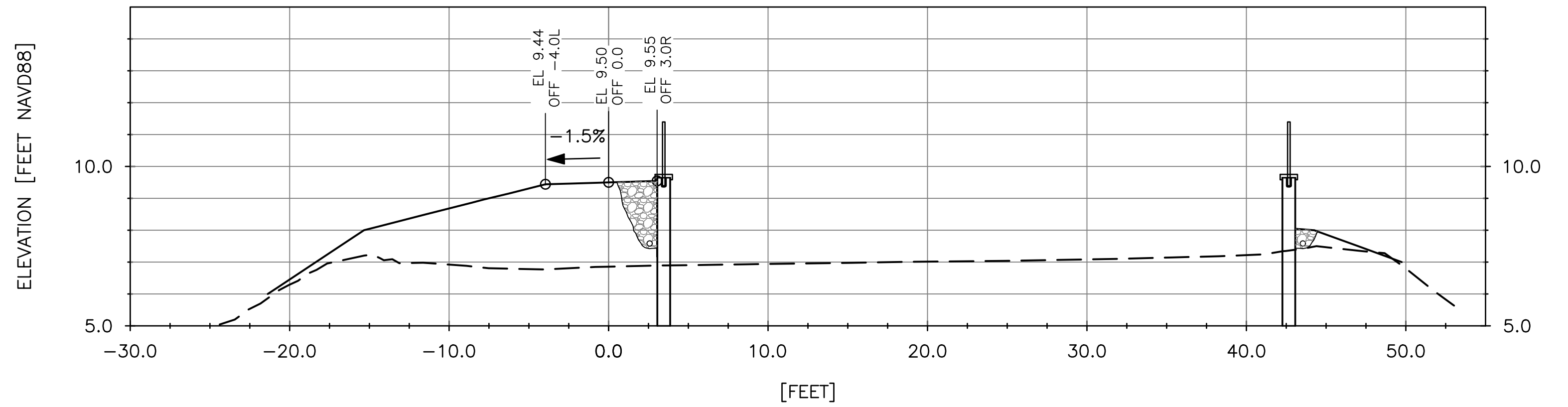
1 SECTION VIEW - STA 00+10'
 6 SCALE: HORZ SCALE: 1" = 6', VERT SCALE: 1" = 3'



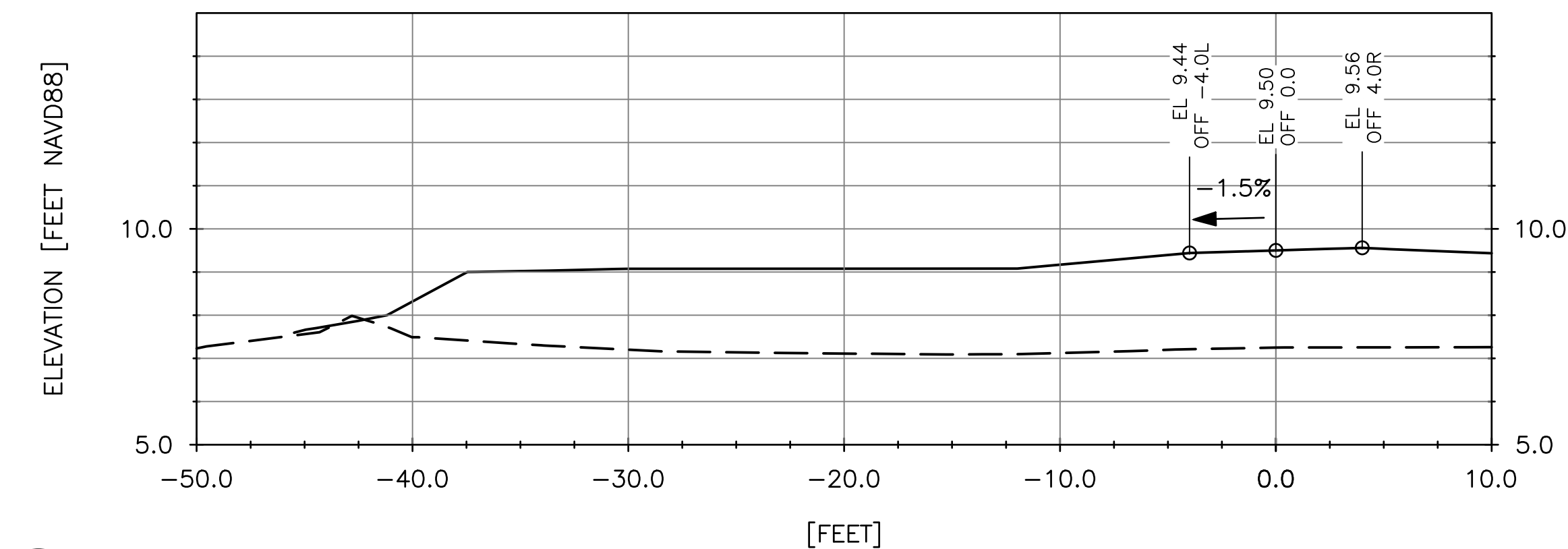
2 SECTION VIEW - STA 00+50'
 6 SCALE: HORZ SCALE: 1" = 6', VERT SCALE: 1" = 3'



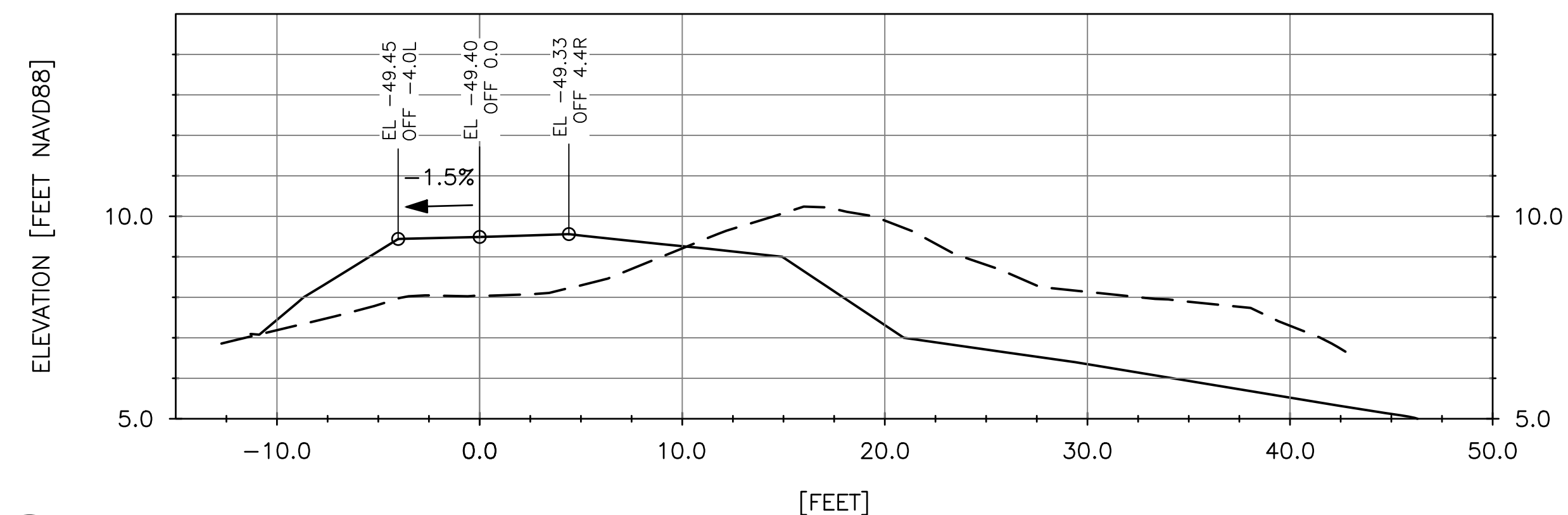
3 SECTION VIEW - STA 00+90'
 6 SCALE: HORZ SCALE: 1" = 6', VERT SCALE: 1" = 3'



4 SECTION VIEW - STA 01+70'
 6 SCALE: HORZ SCALE: 1" = 6', VERT SCALE: 1" = 3'



5 SECTION VIEW - STA 02+92'
 6 SCALE: HORZ SCALE: 1" = 6', VERT SCALE: 1" = 3'



6 SECTION VIEW - STA 03+72'
 6 SCALE: HORZ SCALE: 1" = 6', VERT SCALE: 1" = 3'

ISSUED FOR PERMIT REVIEW



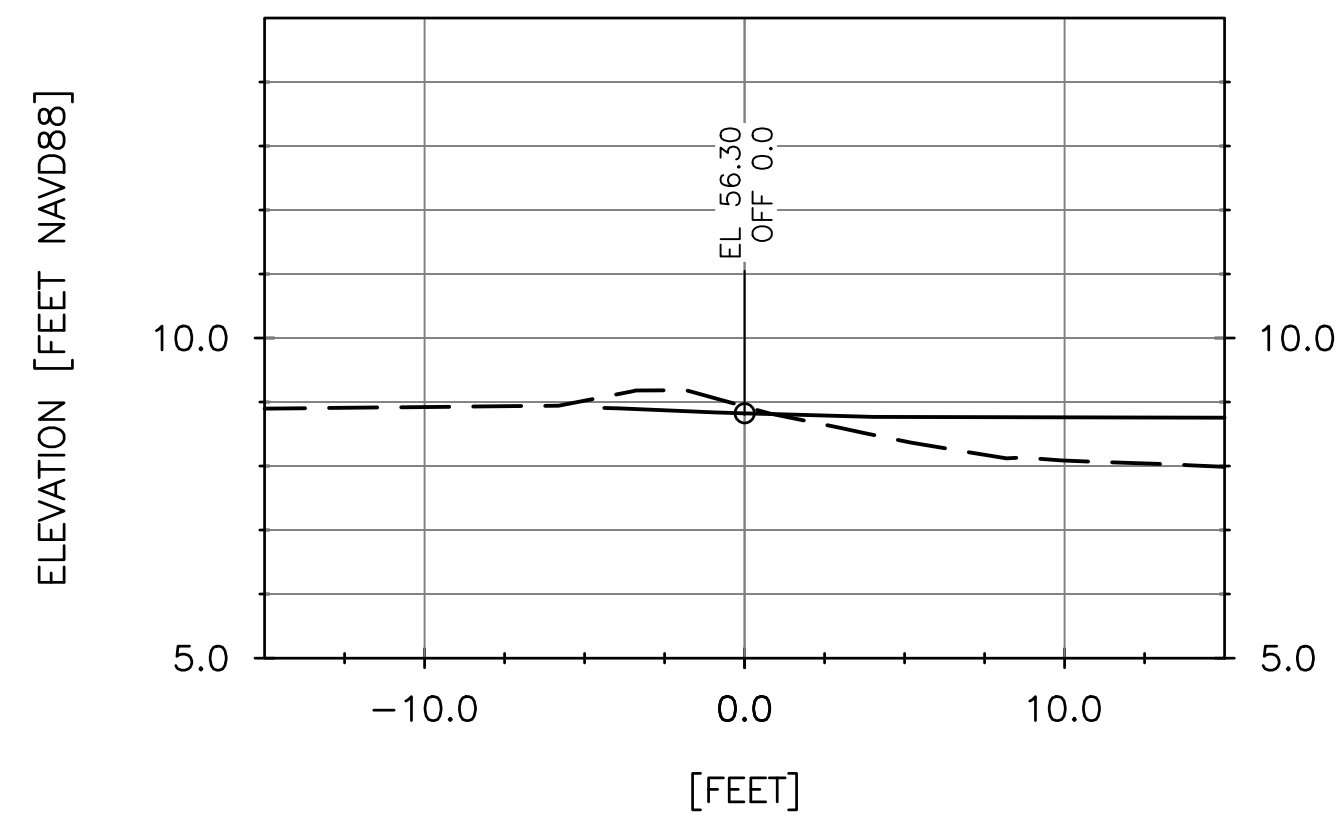
2201 DUPONT DRIVE, SUITE 830
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 949-752-1530
 949-752-8381 (FAX)

NO.	DATE	REVISION

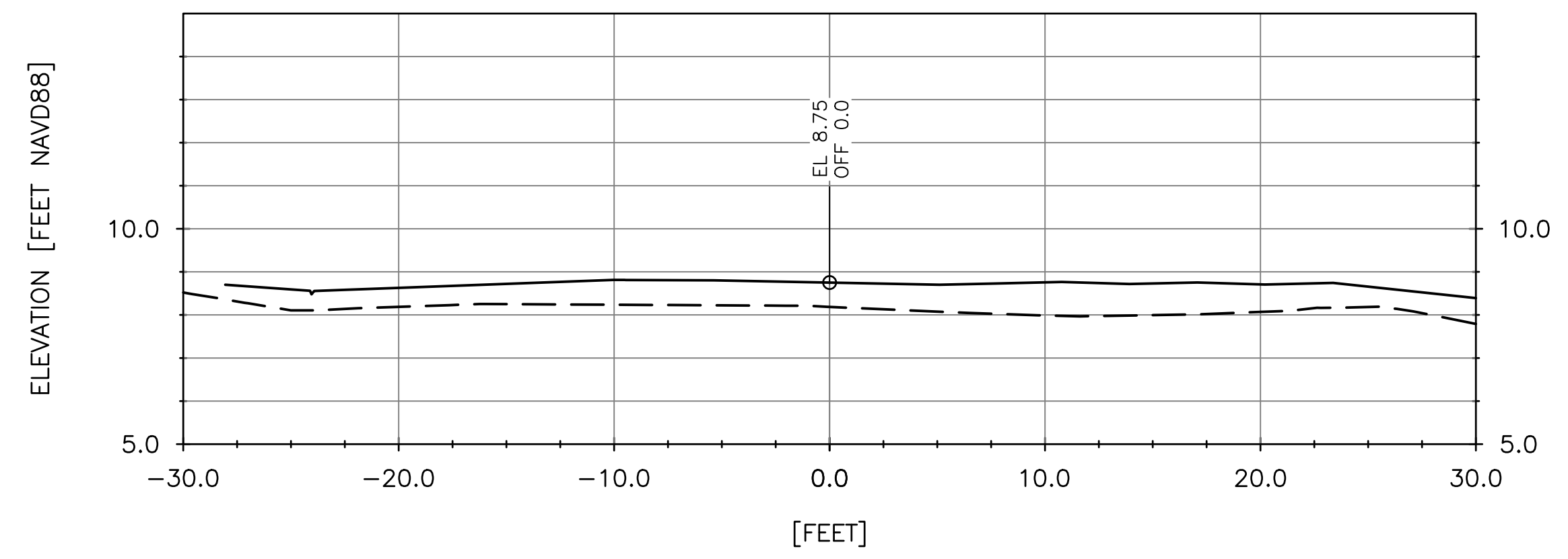
DESIGNED BY: T J F
 DRAWN BY: PGM
 CHECKED BY: T J F
 APPROV. BY: T J F

LOCH LOMOND MARINA SITE IMPROVEMENTS
 EAST JETTY SECTIONS
 110 LOCH LOMOND DR, SAN RAFAEL, CA 94901

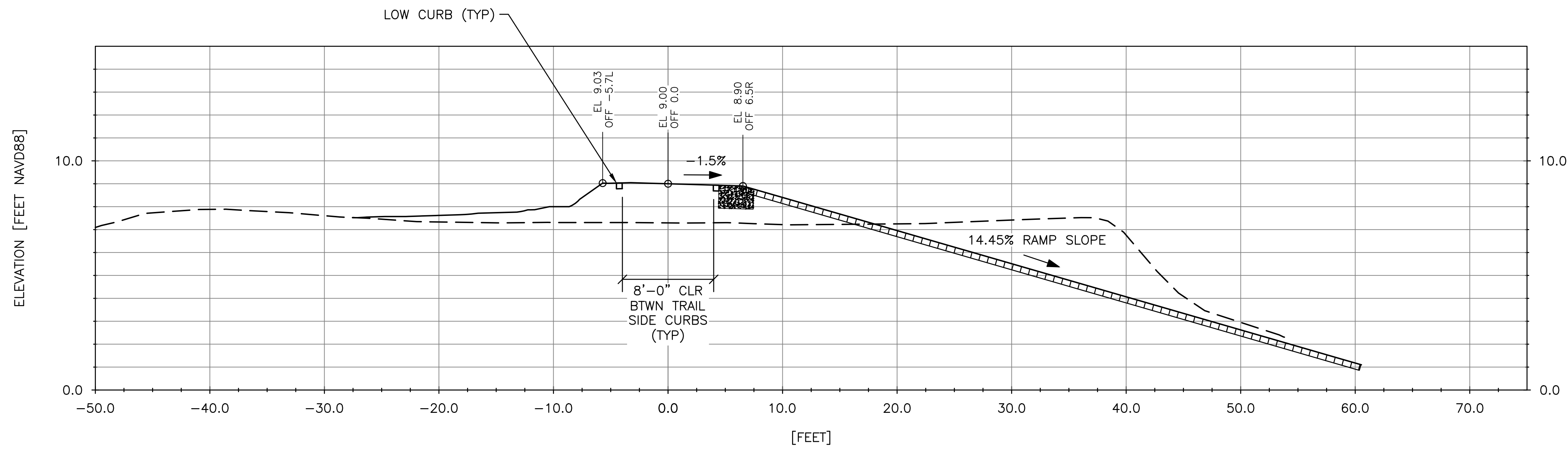
SHEET 6 OF 16
 JOB NO. 1095-03
 SCALE AS SHOWN
 DATE 2 AUG 2019



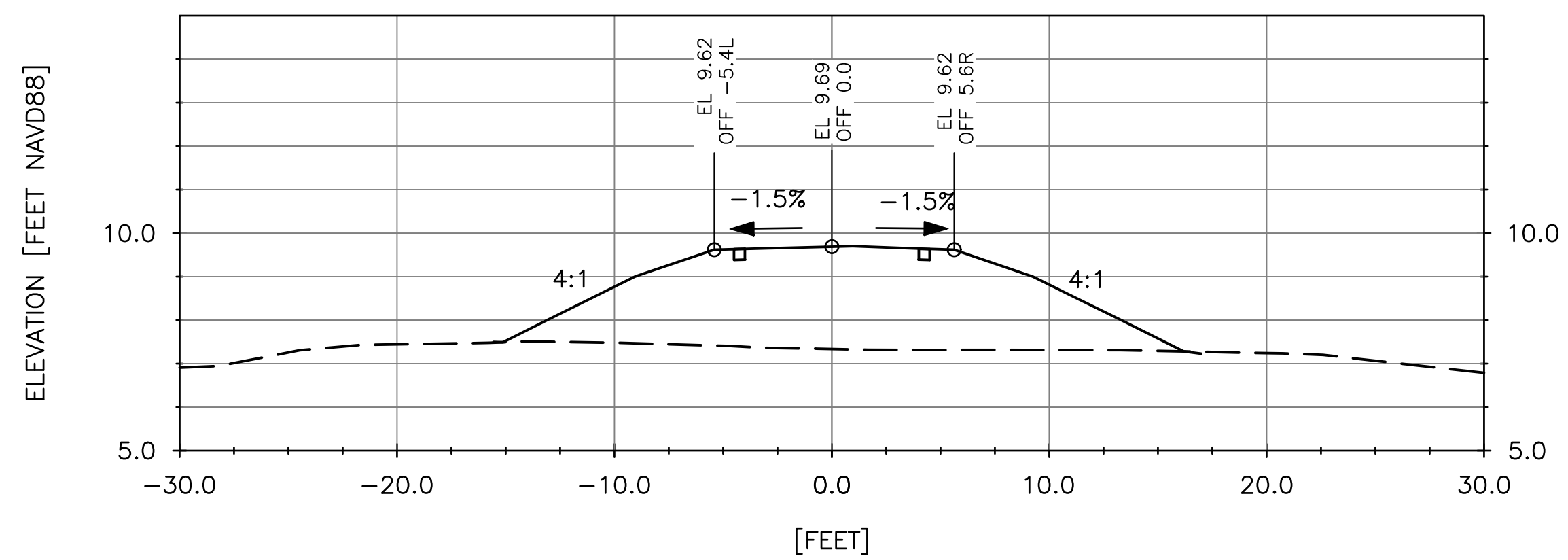
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8 SCALE: HORZ SCALE: 1" = 6', VERT SCALE: 1" = 3'



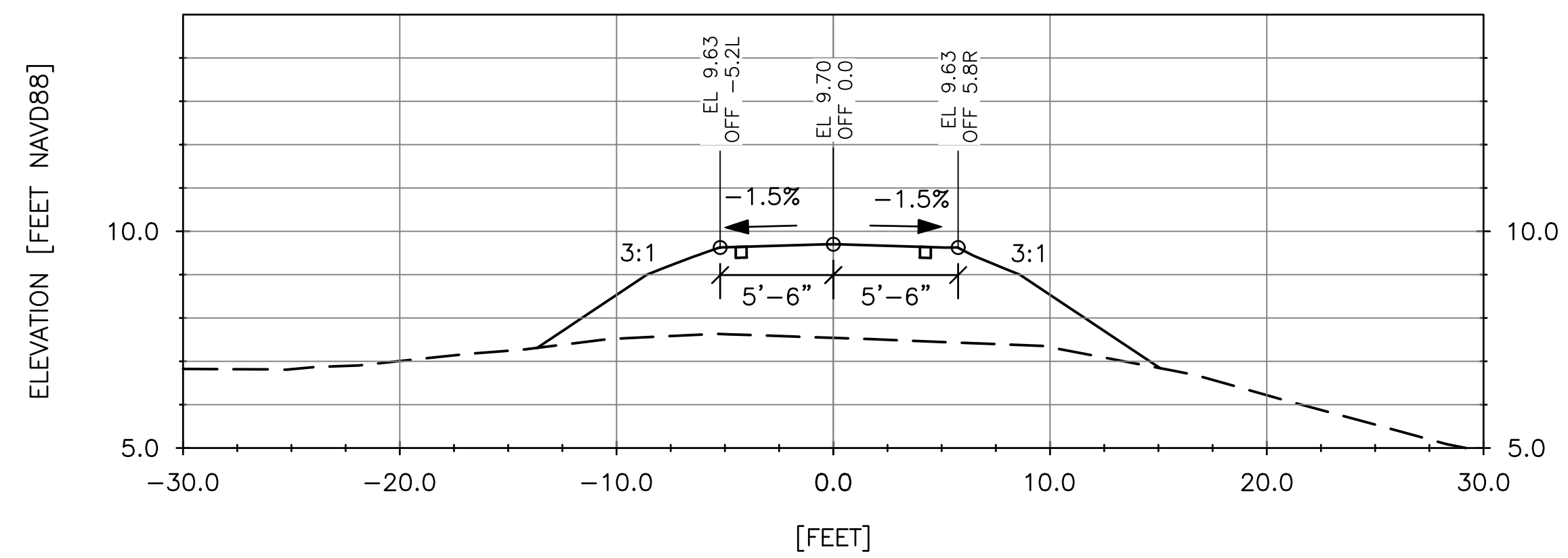
2 SECTION VIEW - STA 00+50'
8 SCALE: HORZ SCALE: 1" = 6', VERT SCALE: 1" = 3'



3 SECTION VIEW - STA 01+00'
8 SCALE: HORZ SCALE: 1" = 6', VERT SCALE: 1" = 3'



4 SECTION VIEW - STA 01+50'
8 SCALE: HORZ SCALE: 1" = 6', VERT SCALE: 1" = 3'



5 SECTION VIEW - STA 03+00'
8 SCALE: HORZ SCALE: 1" = 6', VERT SCALE: 1" = 3'

ISSUED FOR PERMIT REVIEW



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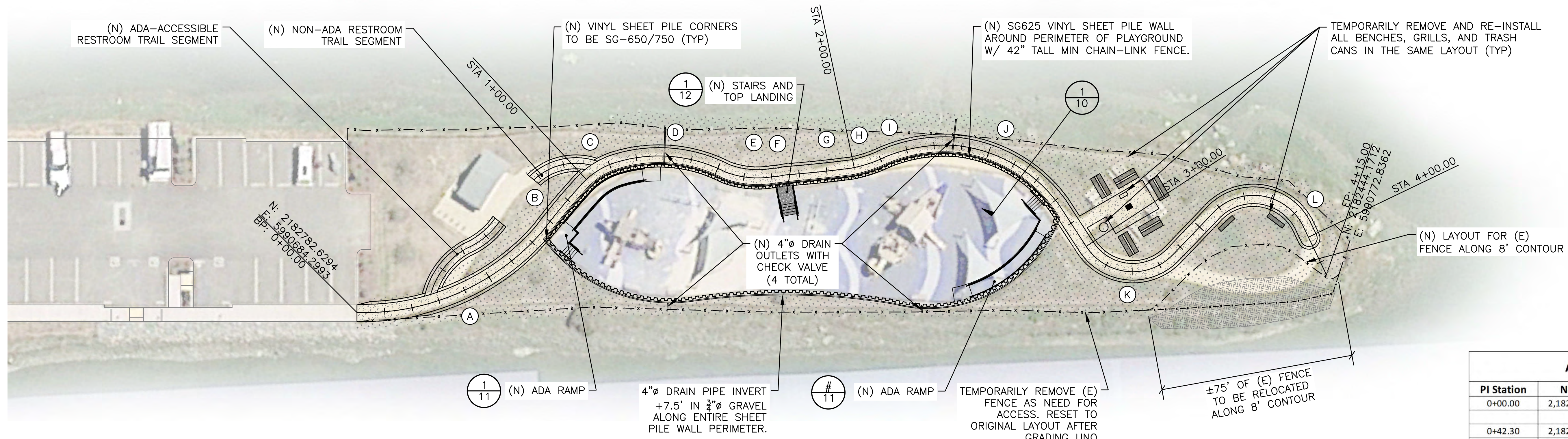
NO.	DATE	REVISION

DESIGNED BY: TJF
DRAWN BY: PGM
CHECKED BY: TJF
APPROV. BY: TJF

LOCH LOMOND MARINA SITE IMPROVEMENTS
BAT SECTIONS
110 LOCH LOMOND DR, SAN RAFAEL, CA 94901

SHEET 8 OF 16
JOB NO. 1095-03
SCALE AS SHOWN
DATE 2 AUG 2019

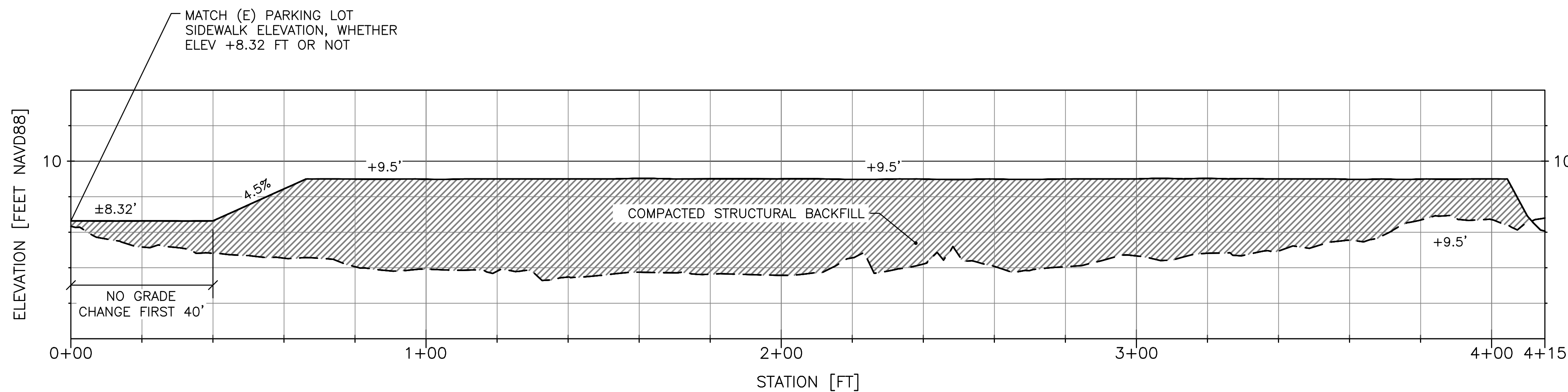
C-6



1 EAST JETTY SITE PLAN
SCALE: 1" = 20'-0"

Alignment PI Station Report

PI Station	Northing	Easting	Distance	Elevation
0+00.00	2,182,782.6294'	5,990,684.2993'		Existing
0+42.30	2,182,741.5525'	5,990,694.4015'	42.301'	9.32'
0+86.17	2,182,719.1810'	5,990,737.0399'	48.151'	9.50'
1+04.04	2,182,710.3912'	5,990,752.6106'	17.880'	9.50'
1+33.18	2,182,685.3601'	5,990,768.0788'	29.425'	9.50'
1+61.31	2,182,655.6206'	5,990,761.1696'	30.532'	9.50'
1+70.60	2,182,646.5901'	5,990,764.4957'	9.624'	9.50'
1+86.93	2,182,631.0373'	5,990,769.4517'	16.323'	9.50'
2+05.48	2,182,613.7106'	5,990,776.0755'	18.550'	9.50'
2+25.28	2,182,597.6414'	5,990,787.7571'	19.867'	9.50'
2+61.66	2,182,561.0615'	5,990,792.2660'	36.857'	9.50'
2+85.48	2,182,541.3318'	5,990,774.3283'	26.665'	9.50'
3+25.28	2,182,512.6123'	5,990,746.7746'	39.800'	9.50'
3+86.03	2,182,475.2016'	5,990,811.3562'	74.635'	9.50'
4+00.39	2,182,453.1797'	5,990,784.3358'	34.858'	9.50'
4+15.00	2,182,444.1712'	5,990,772.8362'	14.608'	9.50'



2 EAST JETTY TRAIL CENTERLINE PROFILE
SCALE: HORZ SCALE: 1" = 20', VERT SCALE: 1" = 2'

Alignment Horizontal Curve Report

Curve	PC Northing	PC Easting	PT Northing	PT Easting	R	C	Δ	L
A	2,182,777.746'	5,990,685.375'	2,182,723.692'	5,990,727.15'	85'	68.32'	47° 23' 19.9234"	70.30'
B	2,182,723.692'	5,990,727.150'	2,182,713.737'	5,990,746.448'	225'	21.71'	05° 32' 14.4578"	21.72'
C	2,182,713.737'	5,990,746.448'	2,182,704.518'	5,990,756.441'	27.75'	13.60'	28° 23' 12.7283"	13.74'
D	2,182,704.518'	5,990,756.441'	2,182,663.682'	2,182,663.682'	52.8'	41.27'	46° 00' 48.4955"	42.40'
E	2,182,663.682'	5,990,762.377'	2,182,647.957'	5,990,763.946'	32.2'	15.80'	28° 25' 43.5462"	15.97'
F	2,182,647.957'	5,990,763.946'	2,182,645.164'	5,990,764.864'	22.7'	2.94'	07° 25' 50.3086"	2.94'
G	2,182,642.506'	5,990,765.992'	2,182,619.764'	5,990,773.504'	460.2'	23.95'	02° 58' 56.4360"	23.95'
H	2,182,619.764'	5,990,773.504'	2,182,608.567'	5,990,780.174'	48.2'	13.03'	15° 32' 02.2318"	13.07'
I	2,182,608.567'	5,990,780.174'	2,182,584.474'	5,990,789.620'	56.0'	25.88'	26° 42' 39.7973"	26.11'
J	2,182,584.474'	5,990,789.620'	2,182,543.551'	5,990,776.502'	52.4'	42.97'	48° 26' 42.1378"	44.28'
K	2,182,530.615'	5,990,763.833'	2,182,499.756'	5,990,767.983'	20.0'	31.14'	102° 13' 59.3049"	35.69'
L	2,182,489.341'	5,990,785.057'	2,182,456.263'	5,990,788.272'	20.0'	33.23'	112° 22' 12.8618"	39.23'

ISSUED FOR PERMIT REVIEW



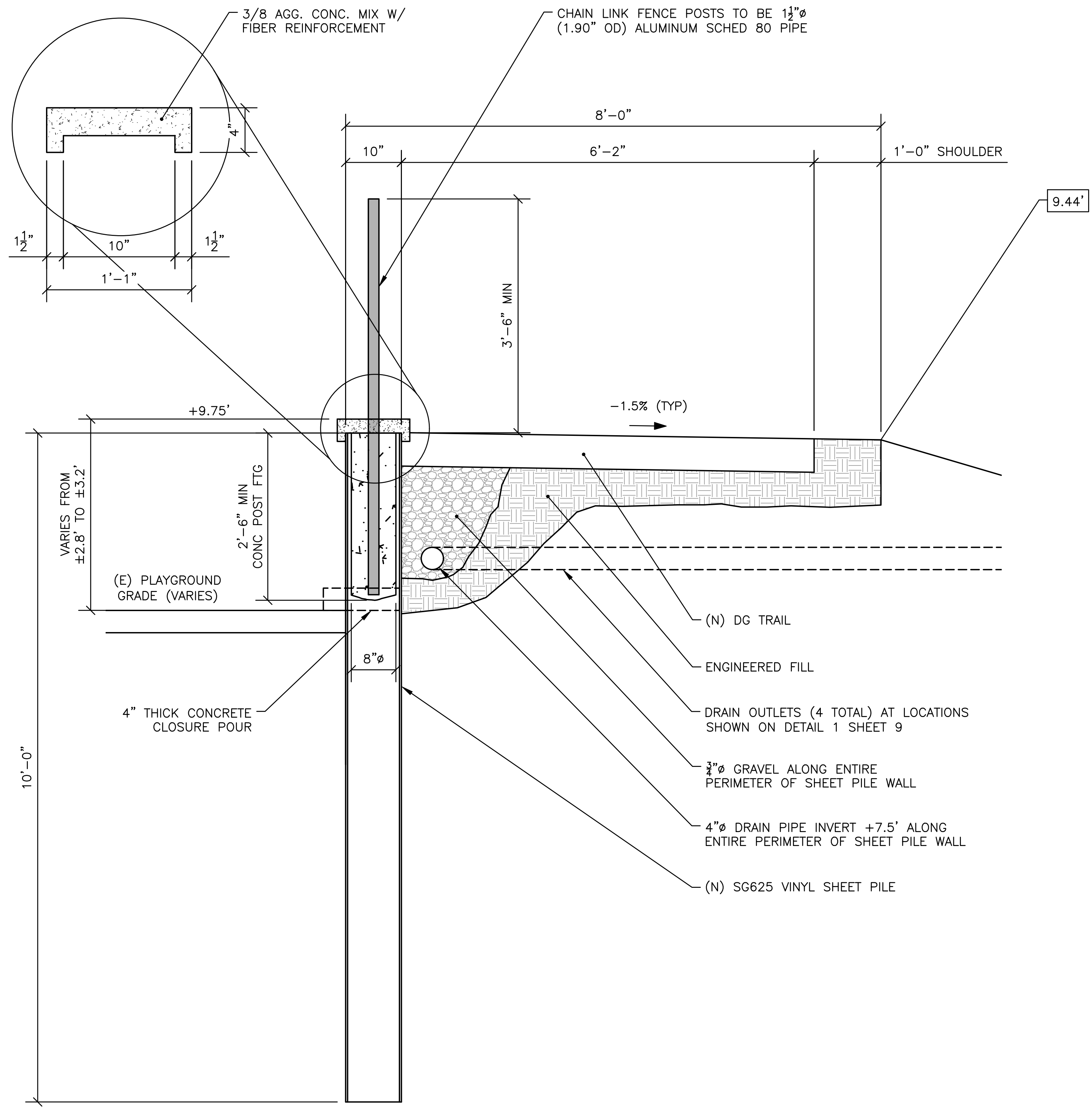
2201 DUPONT DRIVE, SUITE 830
IRVINE, CA. 92612
949-752-1530
949-752-8381 (FAX)

NO.	DATE	REVISION

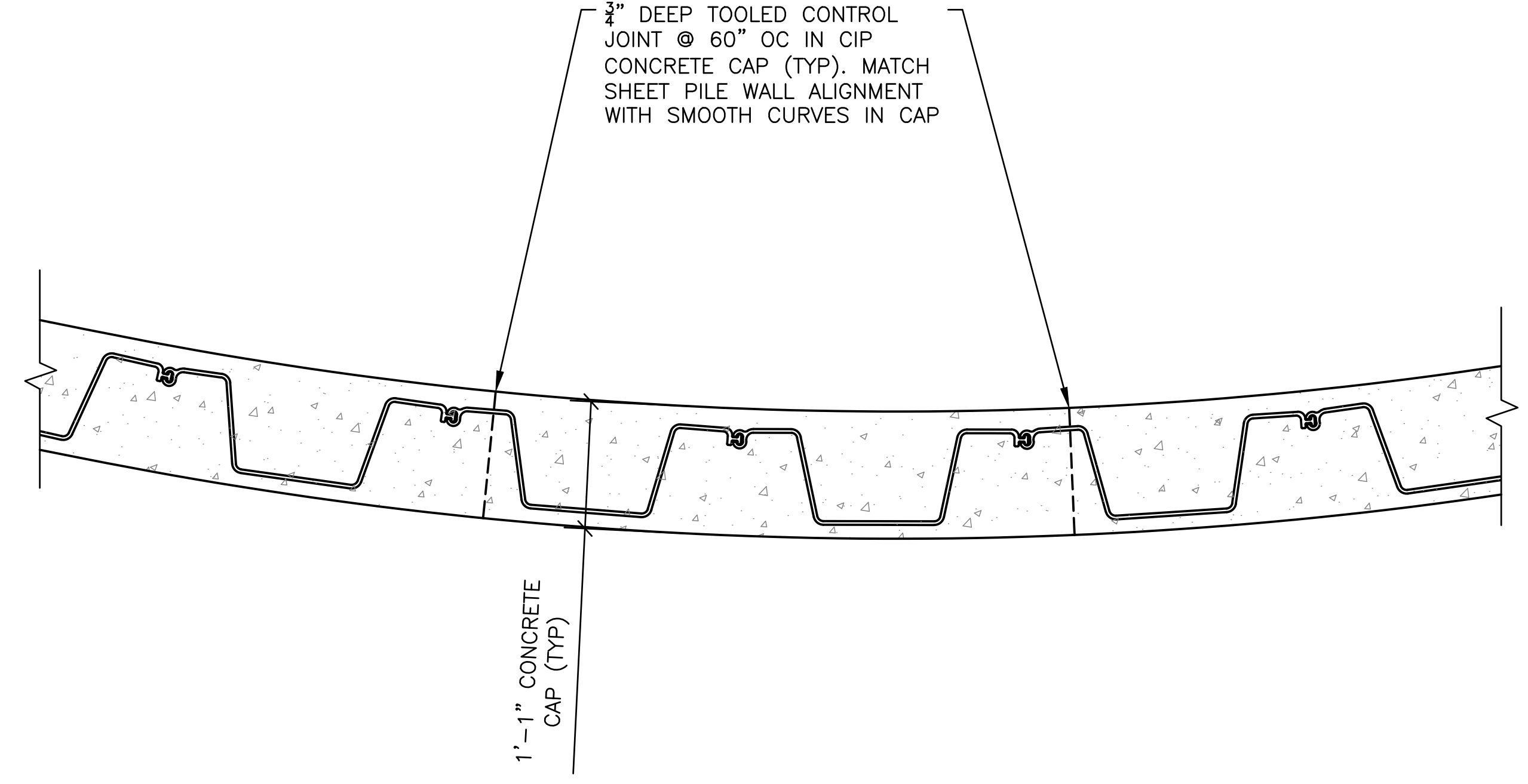
DESIGNED BY: T.J.F.
DRAWN BY: PGM
CHECKED BY: T.J.F.
APPROV. BY: T.J.F.

LOCH LOMOND MARINA SITE IMPROVEMENTS
EAST JETTY TRAIL PLAN & PROFILE
110 LOCH LOMOND DR, SAN RAFAEL, CA 94901

SHEET 9 OF 16
JOB NO. 1095-03
SCALE AS SHOWN
DATE 2 AUG 2019



1 TYPICAL BERM SECTION
 10 SCALE: 1" = 1'-0"



2 TYPICAL BERM PLAN VIEW DETAIL
 10 SCALE: 1" = 1'-0"

- (N) DG TRAIL
- ENGINEERED FILL
- DRAIN OUTLETS (4 TOTAL) AT LOCATIONS SHOWN ON DETAIL 1 SHEET 9
- 3/4" GRAVEL ALONG ENTIRE PERIMETER OF SHEET PILE WALL
- 4" DRAIN PIPE INVERT +7.5' ALONG ENTIRE PERIMETER OF SHEET PILE WALL
- (N) SG625 VINYL SHEET PILE

- NOTES:**
1. SHEET PILES SHALL BE SHOREGUARD SG-625 VINYL SHEET PILE AS MANUFACTURED BY CMI LIMITED CO., MARIETTA, GA. SHEET PILE CORNERS SHALL BE CMI SG-650/750.
 2. PILING SHALL BE INSTALLED IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDED MEANS AND METHODS USING THE CMI MANDREL SIZED TO FIT THE SPECIFIED SHEET PILE SECTION.
 3. PILES SHALL BE 7 FEET IN LENGTH.
 4. TOP OF STEEL PILE CAP SHALL BE +9.75'. TOP OF SHEET PILE ELEVATION SHALL BE 9.54' EXCEPT WHERE LOWERED AT STAIRS AND RAMP ENTRANCES.

ISSUED FOR PERMIT REVIEW



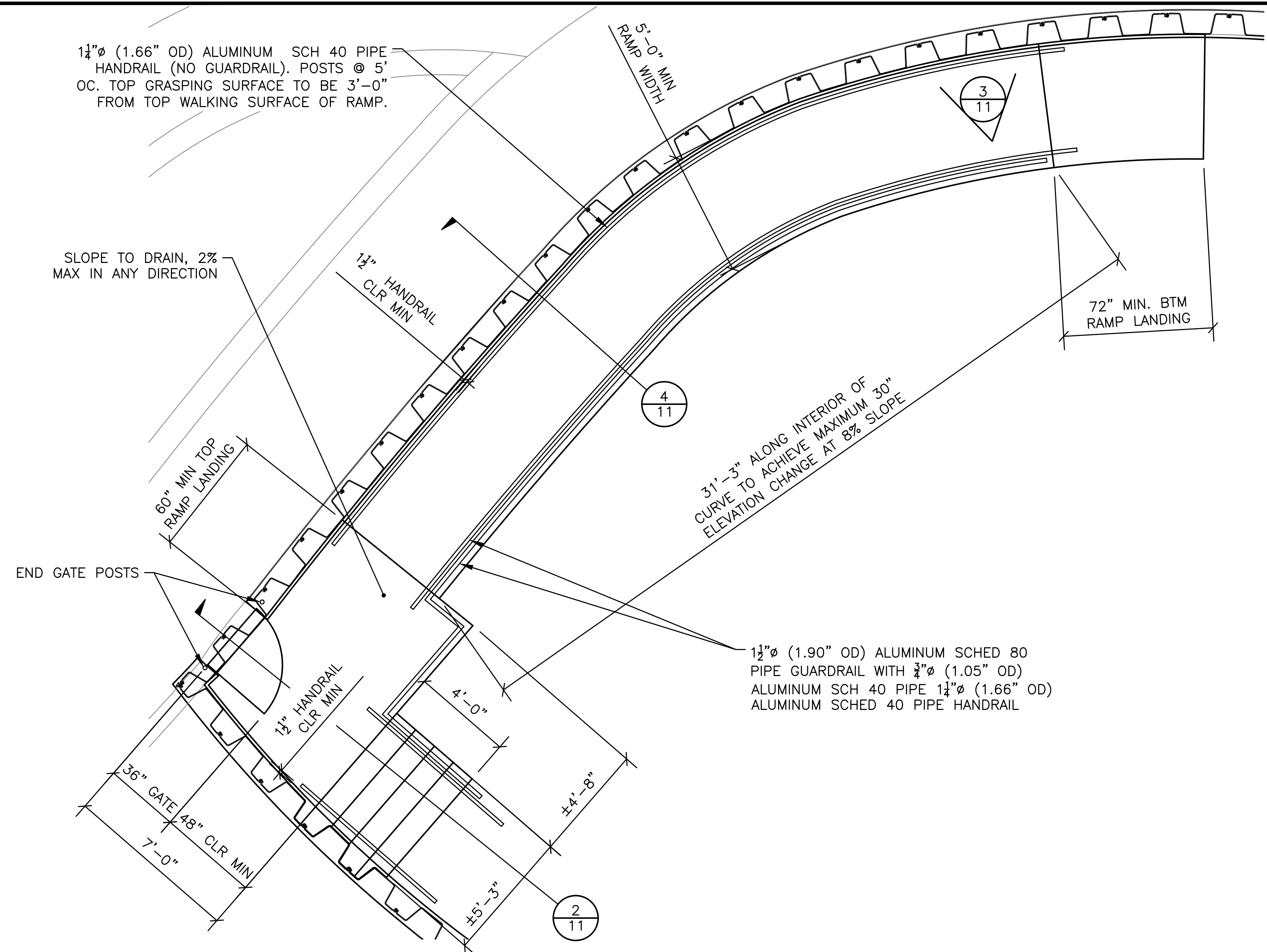
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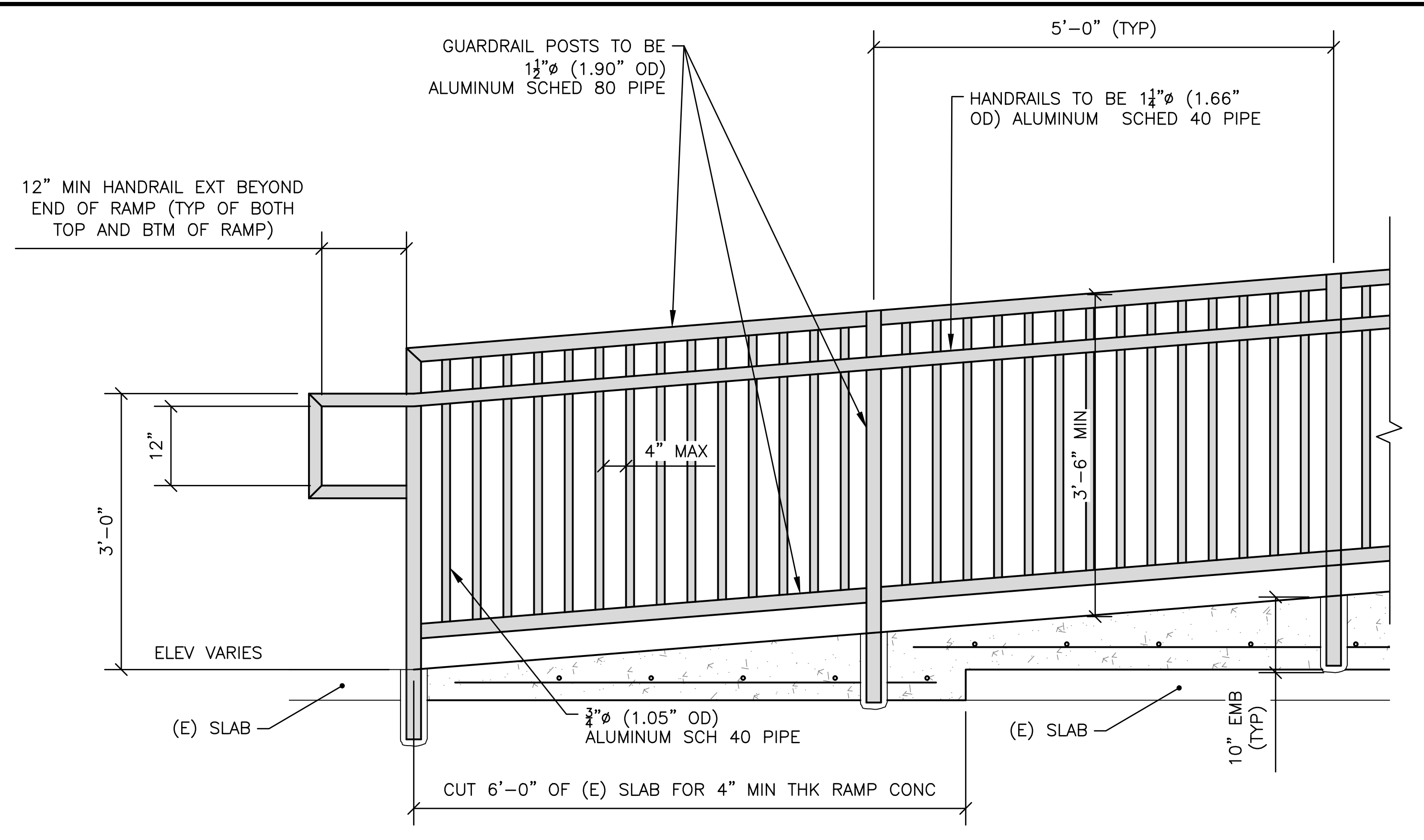
DESIGNED BY	TJF
DRAWN BY	PGM
CHECKED BY	TJF
APPROV. BY	TJF

LOCH LOMOND MARINA SITE IMPROVEMENTS
**EAST JETTY BERM
 SECTIONS & DETAILS**
 110 LOCH LOMOND DR, SAN RAFAEL, CA 94901

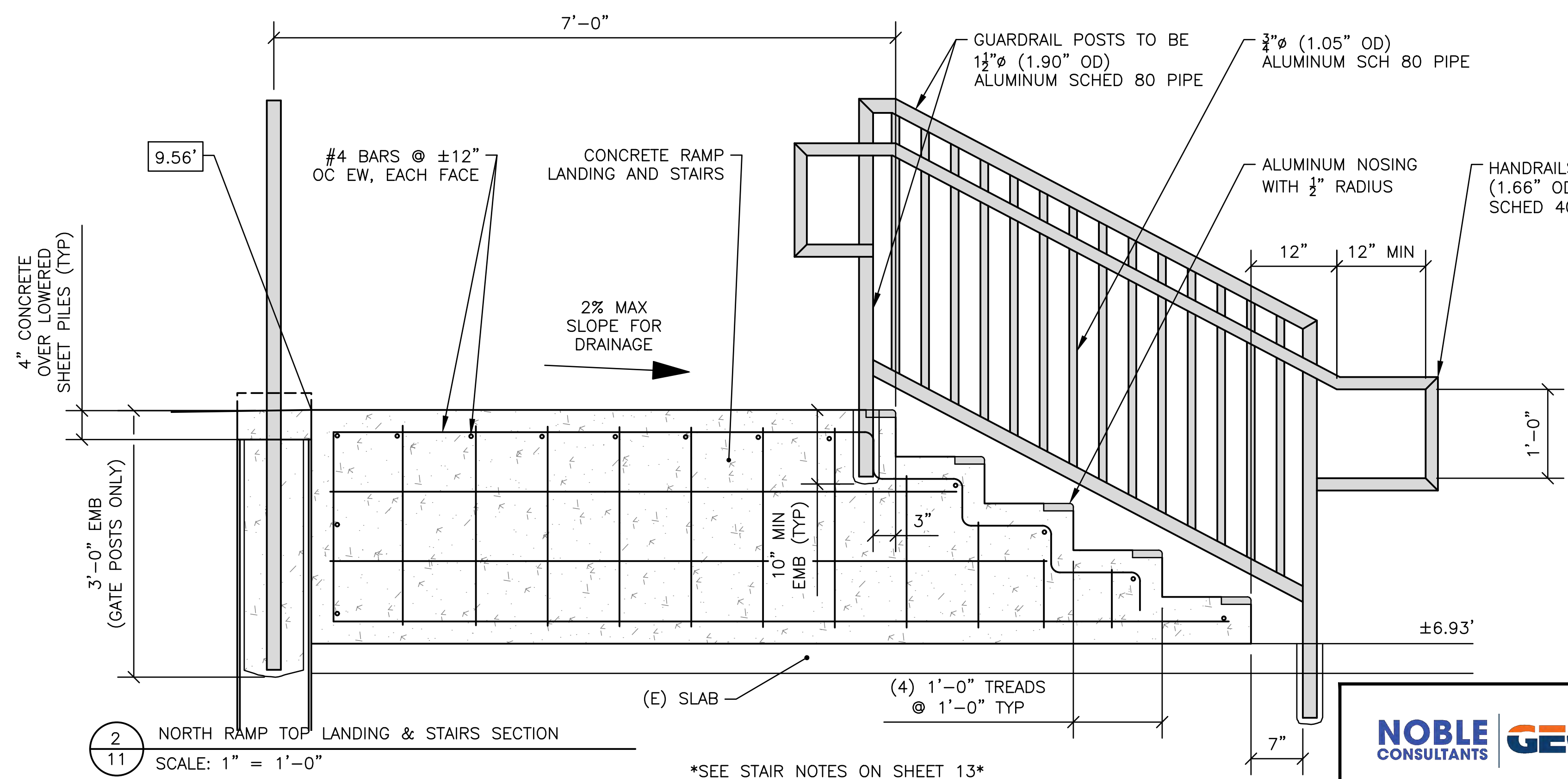
SHEET	10	OF	16
JOB NO.	1095-03		
SCALE	AS SHOWN		
DATE	2 AUG 2019		



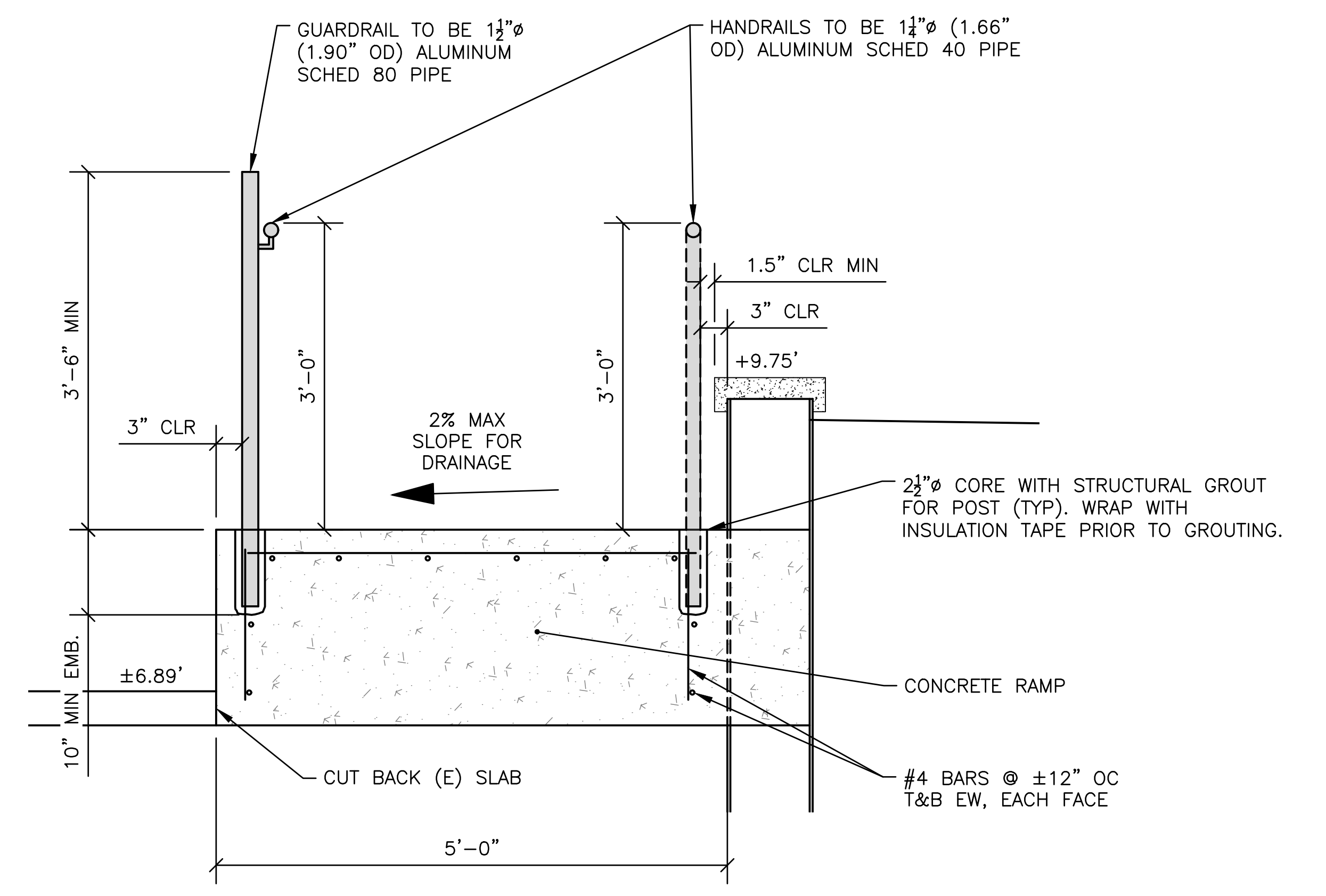
1 PLAYGROUND NORTH ADA ACCESS RAMP PLAN
SCALE: 1" = 3'-0"



3 TYPICAL RAMP RAIL ELEVATION VIEW
SCALE: 1" = 1'-0"



2 NORTH RAMP TOP LANDING & STAIRS SECTION
SCALE: 1" = 1'-0"



4 TYPICAL RAMP SECTION
SCALE: 1" = 1'-0"



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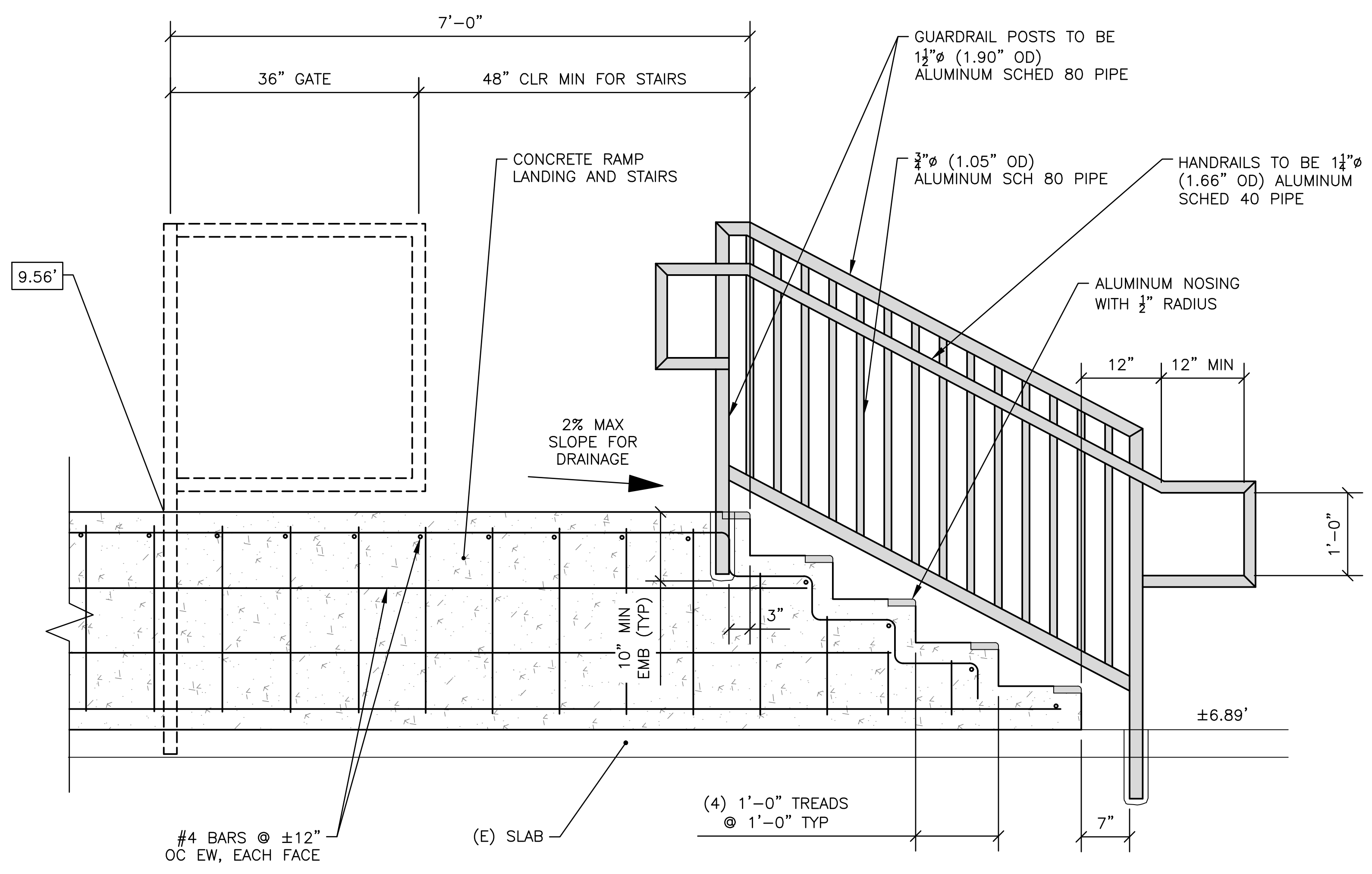
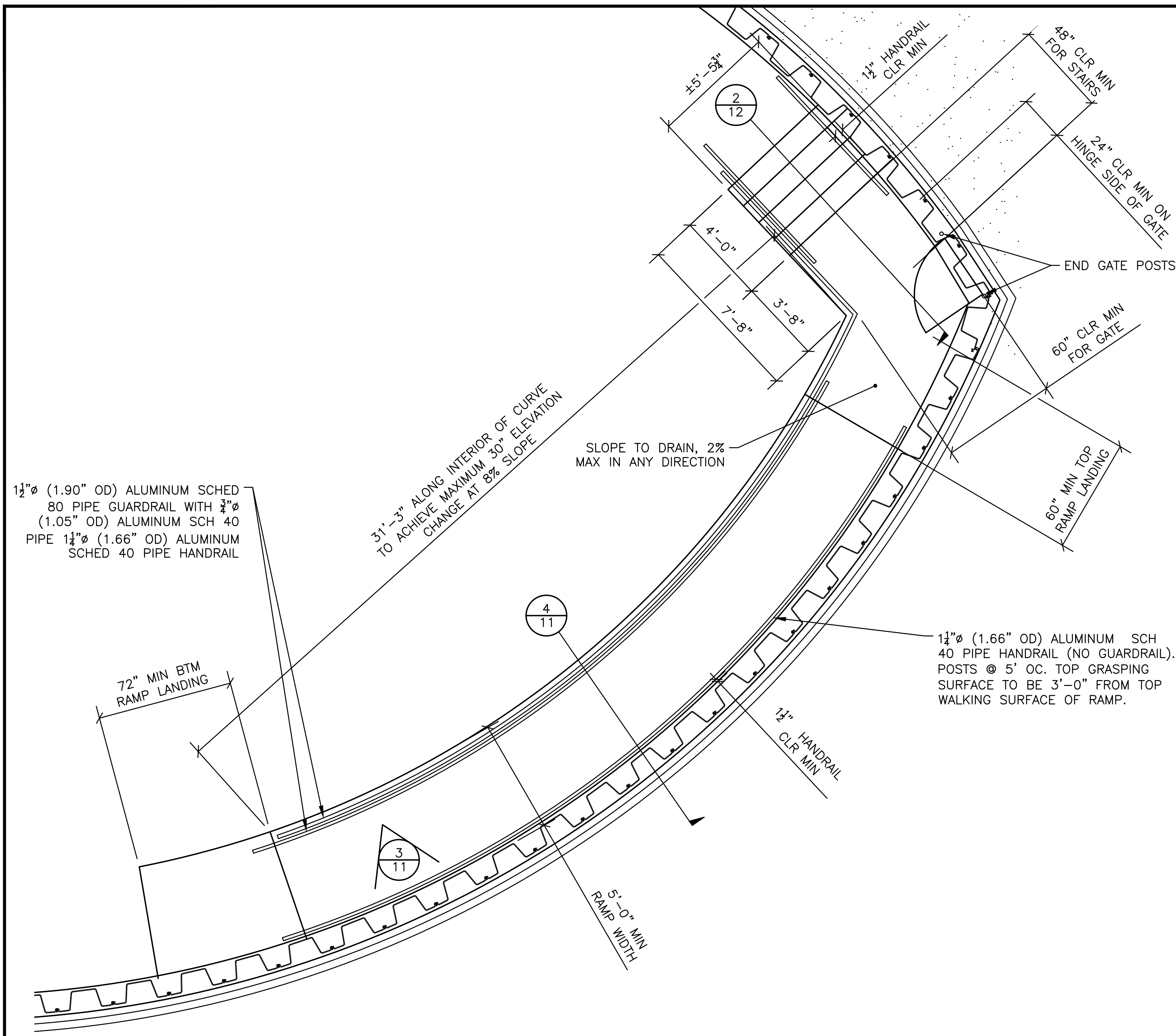
NO.	DATE	REVISION

DESIGNED BY	TJF
DRAWN BY	PGM
CHECKED BY	TJF
APPROV. BY	TJF

LOCH LOMOND MARINA SITE IMPROVEMENTS
EAST JETTY NORTH RAMP &
STAIRS PLANS & DETAILS
110 LOCH LOMOND DR, SAN RAFAEL, CA 94901

SHEET	11	OF	16
JOB NO.	1095-03		
SCALE	AS SHOWN		
DATE	2 AUG 2019		

SEE STAIR NOTES ON SHEET 13

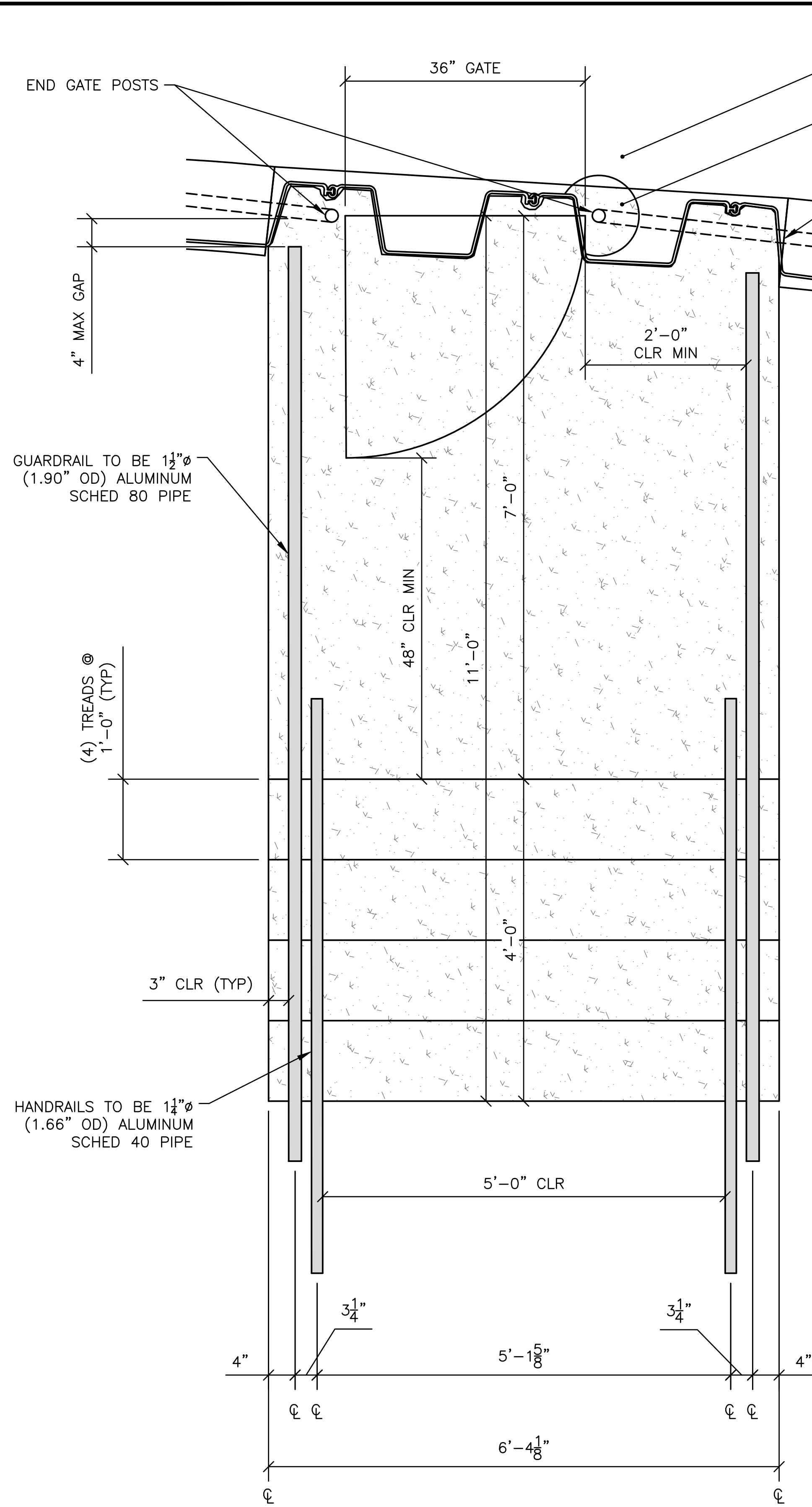


1
12 PLAYGROUND SOUTH ADA ACCESS RAMP PLAN
SCALE: 1" = 3'-0"

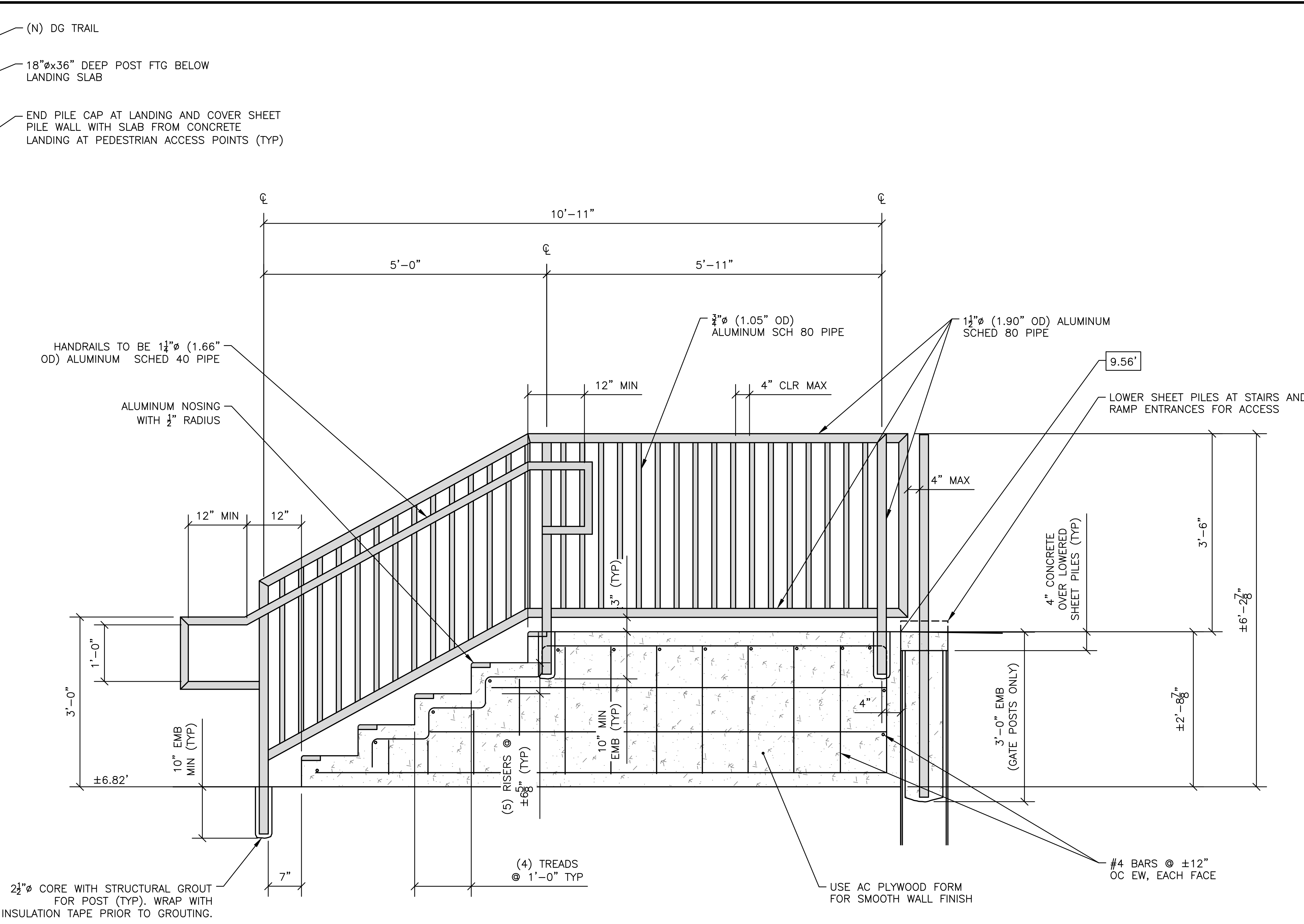
2
12 SOUTH RAMP TOP LANDING & STAIRS SECTION
SCALE: 1" = 1'-0"

SEE STAIR NOTES ON SHEET 13

	2201 DUPONT DRIVE, SUITE 830 IRVINE, CA. 92612 949-752-1530 949-752-8381 (FAX)	DESIGNED BY	TJF	LOCH LOMOND MARINA SITE IMPROVEMENTS EAST JETTY SOUTH RAMP & STAIRS PLANS & DETAILS 110 LOCH LOMOND DR, SAN RAFAEL, CA 94901	SHEET	12	OF	16
		DRAWN BY	PGM		JOB NO.	1095-03		
		CHECKED BY	TJF	SCALE	AS SHOWN			
		APPROV. BY	TJF	DATE	2 AUG 2019			



1 EAST JETTY PLAYGROUND STAIRS PLAN
SCALE: 1" = 1'-0"



2 EAST JETTY PLAYGROUND STAIRS SECTION
SCALE: 1" = 1'-0"

GENERAL STAIR NOTES:

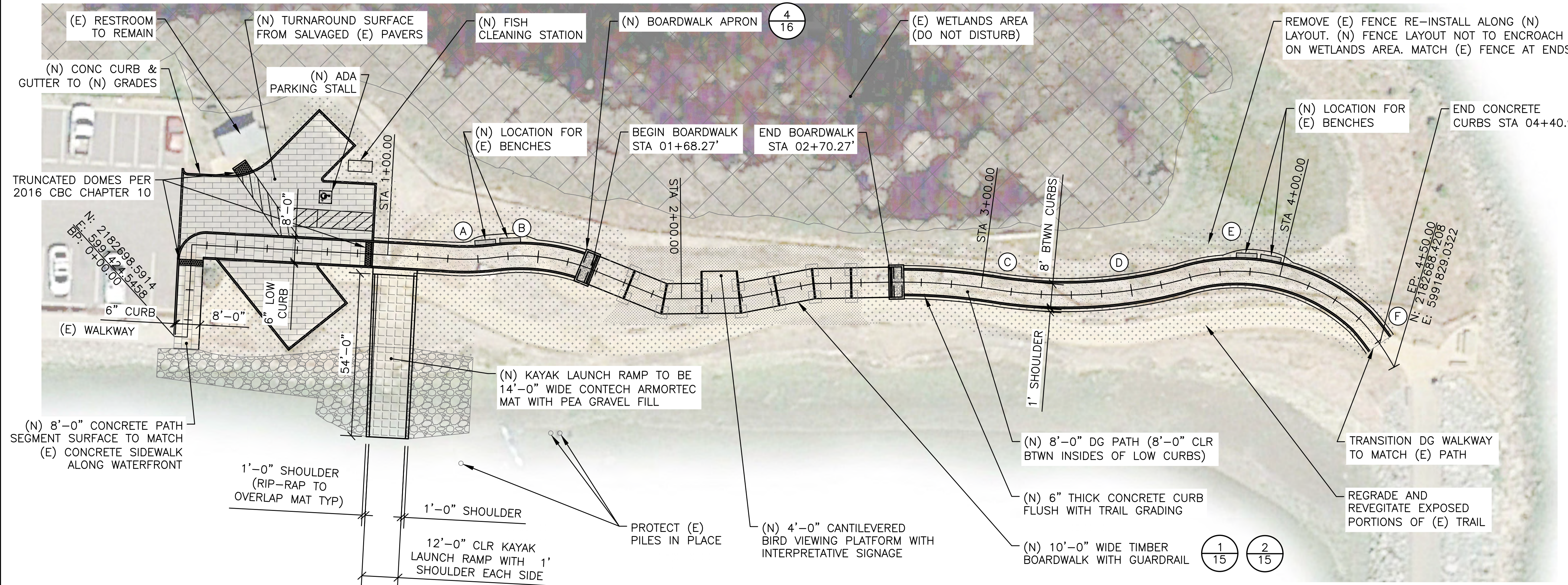
1. ADJUST RISER HEIGHTS FOR (E) GRADE IN PLAYGROUND.
2. MAX RISER HT = 7". (CBC 2016 SECTION 11B-504.2)
3. ALL RISERS TO BE EQUAL HEIGHT $\pm \frac{1}{8}$ ".
4. TREADS AND TOP LANDING SURFACE SHALL BE SLOPED TO PREVENT THE ACCUMULATION OF WATER. SLOPE SHALL NOT EXCEED 2% IN ANY DIRECTION. (CBC 2016 SECTION 11B-504.4, 11B-504.7)
5. THE UPPER APPROACH AND ALL TREADS SHALL BE MARKED BY A STRIPE PROVIDING CLEAR VISUAL CONTRAST. THE STRIPE SHALL BE A MINIMUM OF 2" WIDE, AND A MAXIMUM OF 4" WIDE, PLACED PARALLEL TO, AND NOT MORE THAN 1" FROM, THE NOSE OF THE STEP. THE STRIPE SHALL EXTEND THE FULL WIDTH OF THE STEP AND SHALL BE OF SLIP-RESISTANT MATERIAL. GROOVES SHALL NOT BE USED TO SATISFY THIS REQUIREMENT. (CBC 2016 SECTION 11B-504.4.1)

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2201 DUPONT DRIVE, SUITE 850
IRVINE, CA. 92612
949-752-1550
949-752-8381 (FAX)

NO.	DATE	REVISION	DESIGNED BY	TJF	LOCH LOMOND MARINA SITE IMPROVEMENTS		SHEET	13	OF	16
			DRAWN BY	PGM	EAST JETTY EAST STAIRS PLAN & ELEVATION		JOB NO.	1095-03		
			CHECKED BY	TJF			SCALE	1" = 1'-0"		
			APPROV. BY	TJF	110 LOCH LOMOND DR, SAN RAFAEL, CA 94901		DATE	2 AUG 2019		



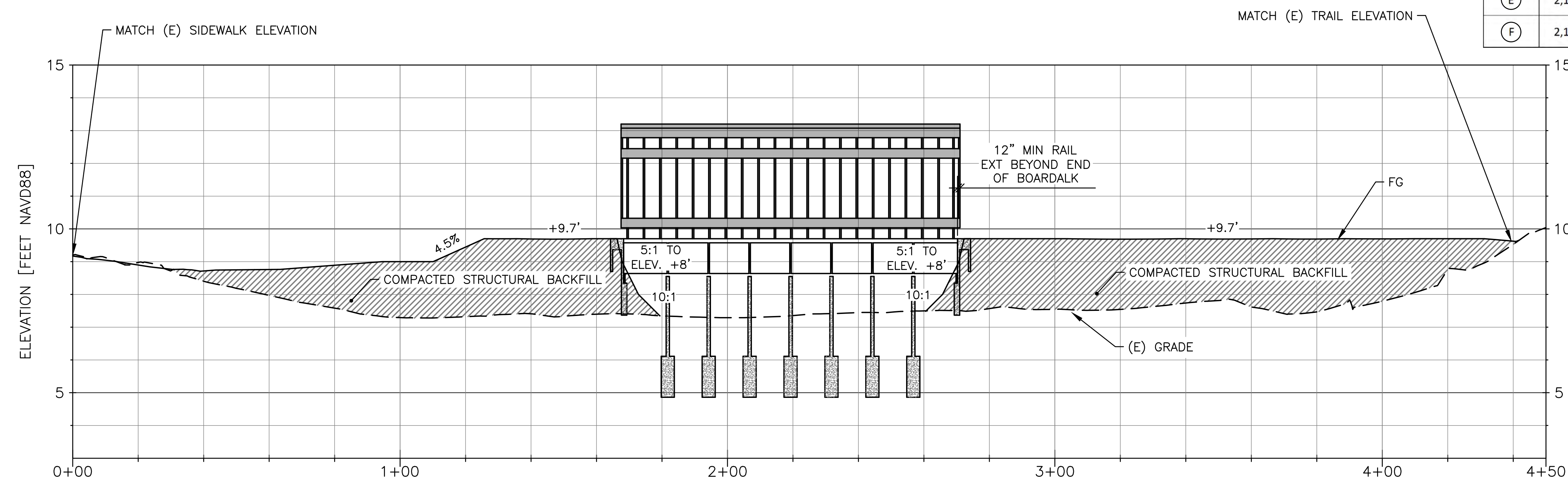
Alignment PI Station Report

PI Station	Northing	Easting	Distance	Elevation
0+00.00	2,182,698.591'	5,991,424.546'	4.27'	Existing
0+04.27	2,182,698.376'	5,991,428.806'	30.73'	9.09'
0+35.00	2,182,729.068'	5,991,430.359'	59.57'	8.76'
0+94.57	2,182,725.930'	5,991,489.849'	32.49'	9.00'
1+27.06	2,182,723.750'	5,991,522.263'	25.66'	9.70'
1+52.66	2,182,726.990'	5,991,547.720'	42.35'	9.70'
1+94.25	2,182,711.087'	5,991,586.967'	25.00'	Existing
2+19.25	2,182,711.327'	5,991,611.965'	25.00'	Existing
2+44.25	2,182,716.128'	5,991,636.500'	42.31'	Existing
2+86.55	2,182,716.923'	5,991,678.800'	49.07'	9.70'
3+35.54	2,182,709.116'	5,991,727.244'	67.76'	9.70'
4+02.38	2,182,728.399'	5,991,792.198'	52.20'	9.70'
4+47.59	2,182,691.567'	5,991,829.184'	2.41'	Existing
4+50.00	2,182,686.437'	5,991,830.070'		Existing

14 BAT SITE PLAN
SCALE: 1" = 20'-0"

Alignment Horizontal Curve Report

Curve	PC Northing	PC Easting	PT Northing	PT Easting	R	C	Δ	L
(A)	2,182,724.539'	5,991,513.734'	2,182,724.783'	5,991,530.767'	80'	17.03'	12° 13' 23.3059"	17.07'
(B)	2,182,720.570'	5,991,563.565'	2,182,724.783'	5,991,530.767'	65'	33.07'	29° 28' 20.8459"	33.44'
(C)	2,182,716.602'	5,991,661.746'	2,182,714.351'	5,991,695.662'	200'	33.99'	09° 44' 57.6191"	34.03'
(D)	2,182,714.351'	5,991,695.662'	2,182,717.230'	5,991,758.212'	150'	62.62'	24° 05' 41.3072"	63.08'
(E)	2,182,717.230'	5,991,758.212'	2,182,703.81'	5,991,818.184'	60'	61.46'	61° 36' 39.5851"	64.52'
(F)	2,182,703.810'	5,991,818.184'	2,182,675.975'	5,991,834.458'	80'	32.24'	23° 15' 07.0435"	32.47'



14 BAT TRAIL CENTERLINE PROFILE
SCALE: HORZ SCALE: 1" = 20', VERT SCALE: 1" = 2'

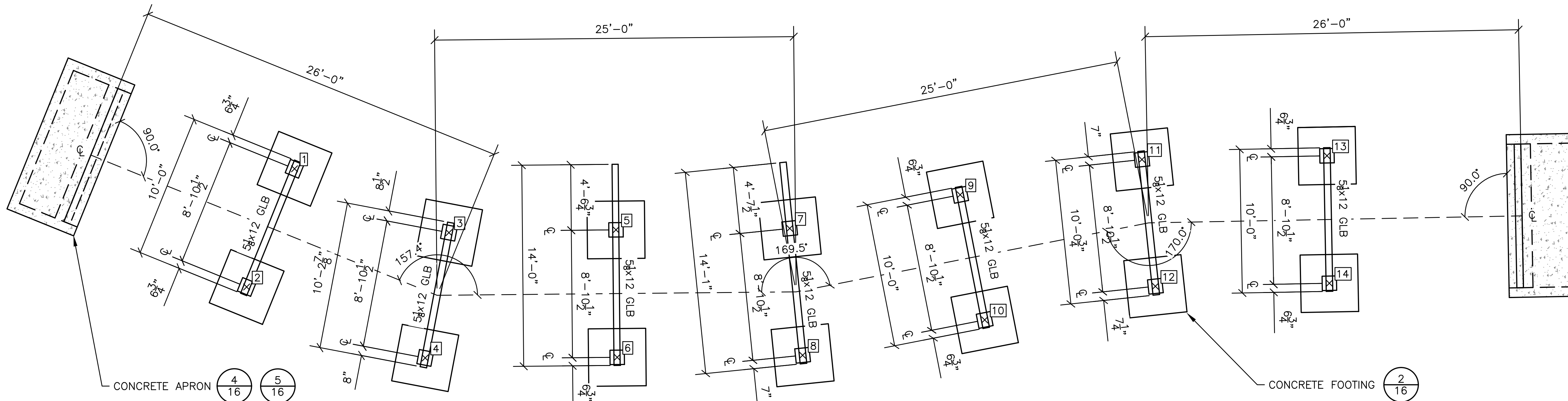
STATION [FT]
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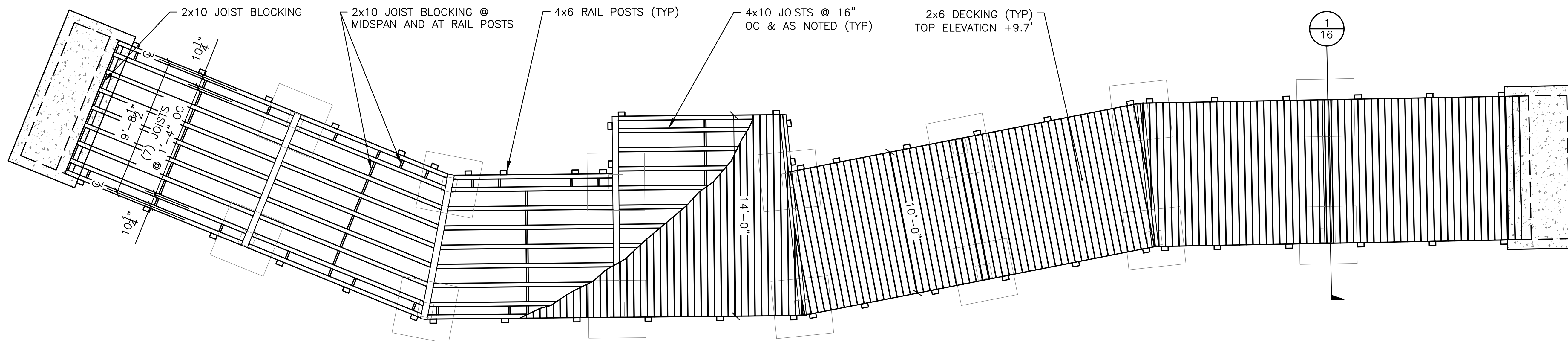
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949-752-1530
949-752-8381 (FAX)

NO.	DATE	REVISION

DESIGNED BY: T.J.F.	LOCH LOMOND MARINA SITE IMPROVEMENTS	SHEET 14 OF 16
DRAWN BY: PGM	BAT TRAIL PLAN & PROFILE	JOB NO. 1095-03
CHECKED BY: T.J.F.		SCALE AS SHOWN
APPROV. BY: T.J.F.	110 LOCH LOMOND DR, SAN RAFAEL, CA 94901	DATE 2 AUG 2019

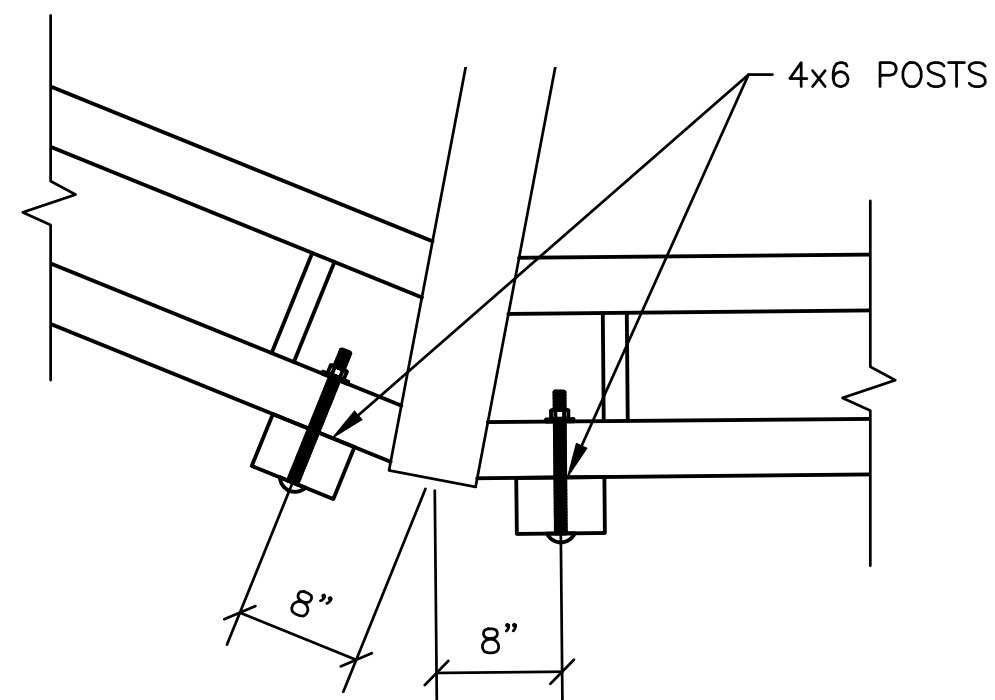


1 BOARDWALK FOUNDATION AND LAYOUT PLAN
15 SCALE: 1" = 4'-0"

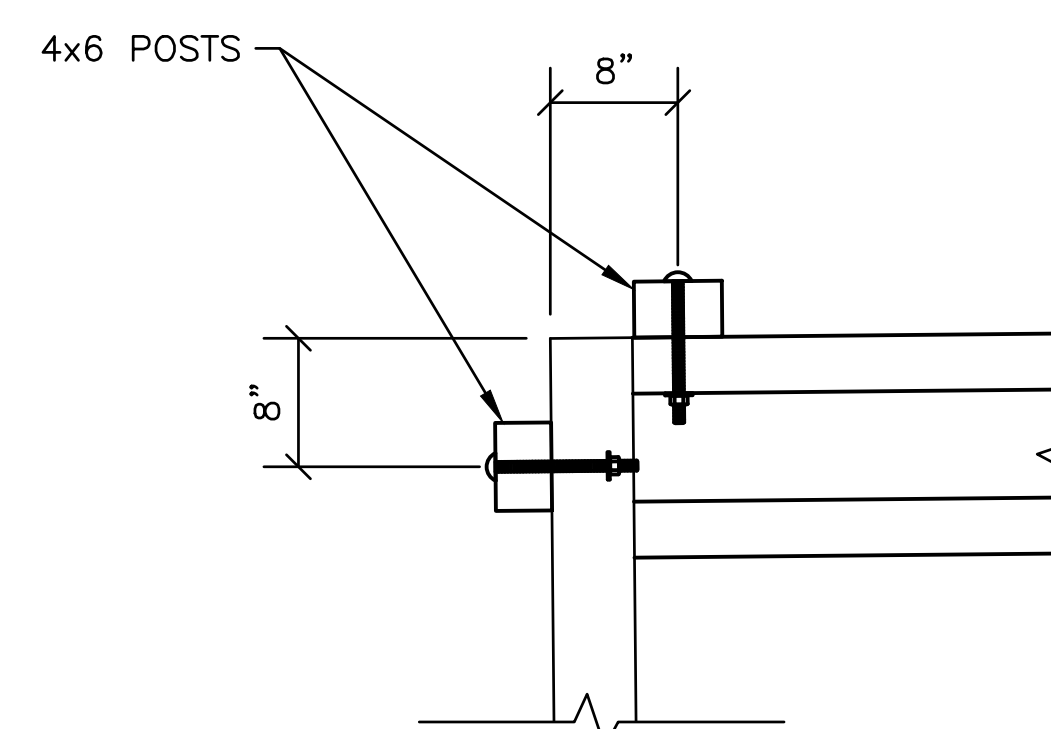


2 BOARDWALK FRAMING PLAN
15 SCALE: 1" = 4'-0"

POINT #	NORTHING	EASTING
1	2,182,719.8940'	5,991,577.0484'
2	2,182,711.6688'	5,991,573.7151'
3	2,182,715.4461'	5,991,587.7947'
4	2,182,706.7267'	5,991,586.1426'
5	2,182,715.6441'	5,991,599.4233'
6	2,182,706.7695'	5,991,599.5087'
7	2,182,715.7418'	5,991,611.5162'
8	2,182,706.9124'	5,991,612.4147'
9	2,182,718.0823'	5,991,623.3807'
10	2,182,709.3730'	5,991,625.0875'
11	2,182,720.5379'	5,991,636.0335'
12	2,182,711.7150'	5,991,636.9697'
13	2,182,720.7997'	5,991,648.9148'
14	2,182,711.9259'	5,991,649.0814'



3 TYPICAL RAIL MITERED CORNER DETAIL
15 SCALE: 1" = 1'-0"



4 TYPICAL 90 DEG CORNER DETAIL
15 SCALE: 1" = 1'-0"

NOTE: ALL PORTIONS OF BOARDWALK SHALL BE ADA-ACCESSIBLE, COMPLYING WITH CHAPTER 11B OF THE 2016 EDITION OF THE CALIFORNIA BUILDING CODE

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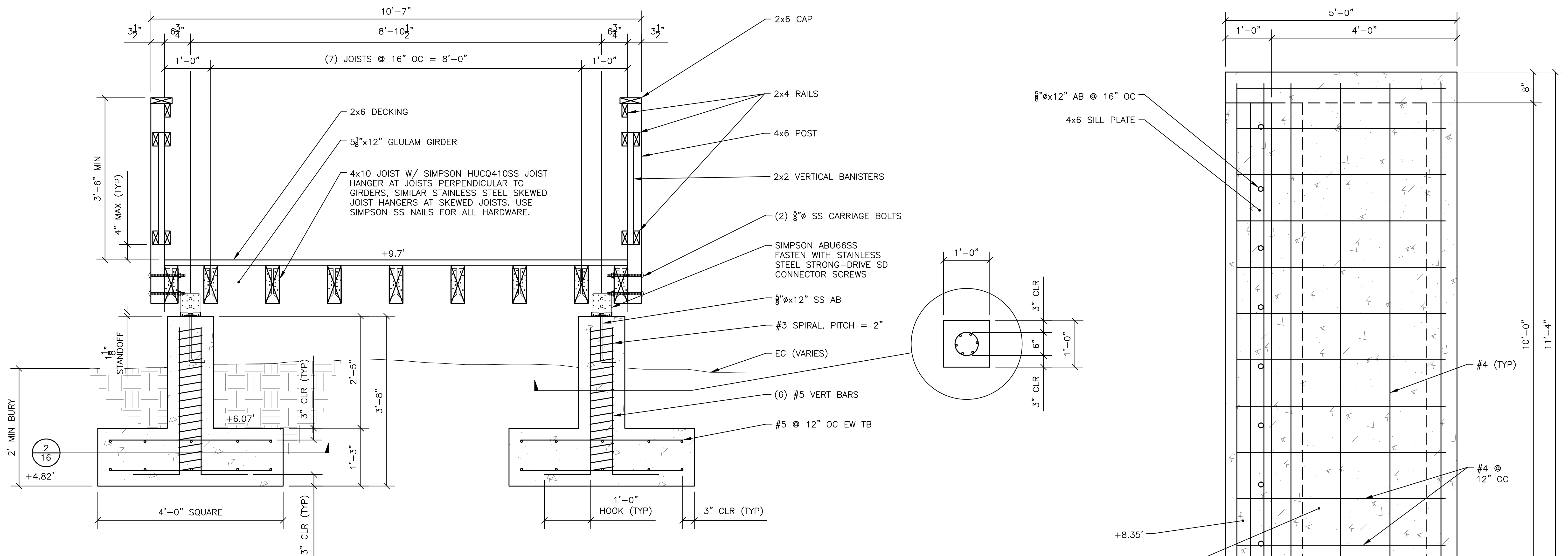
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NO.	DATE	REVISION

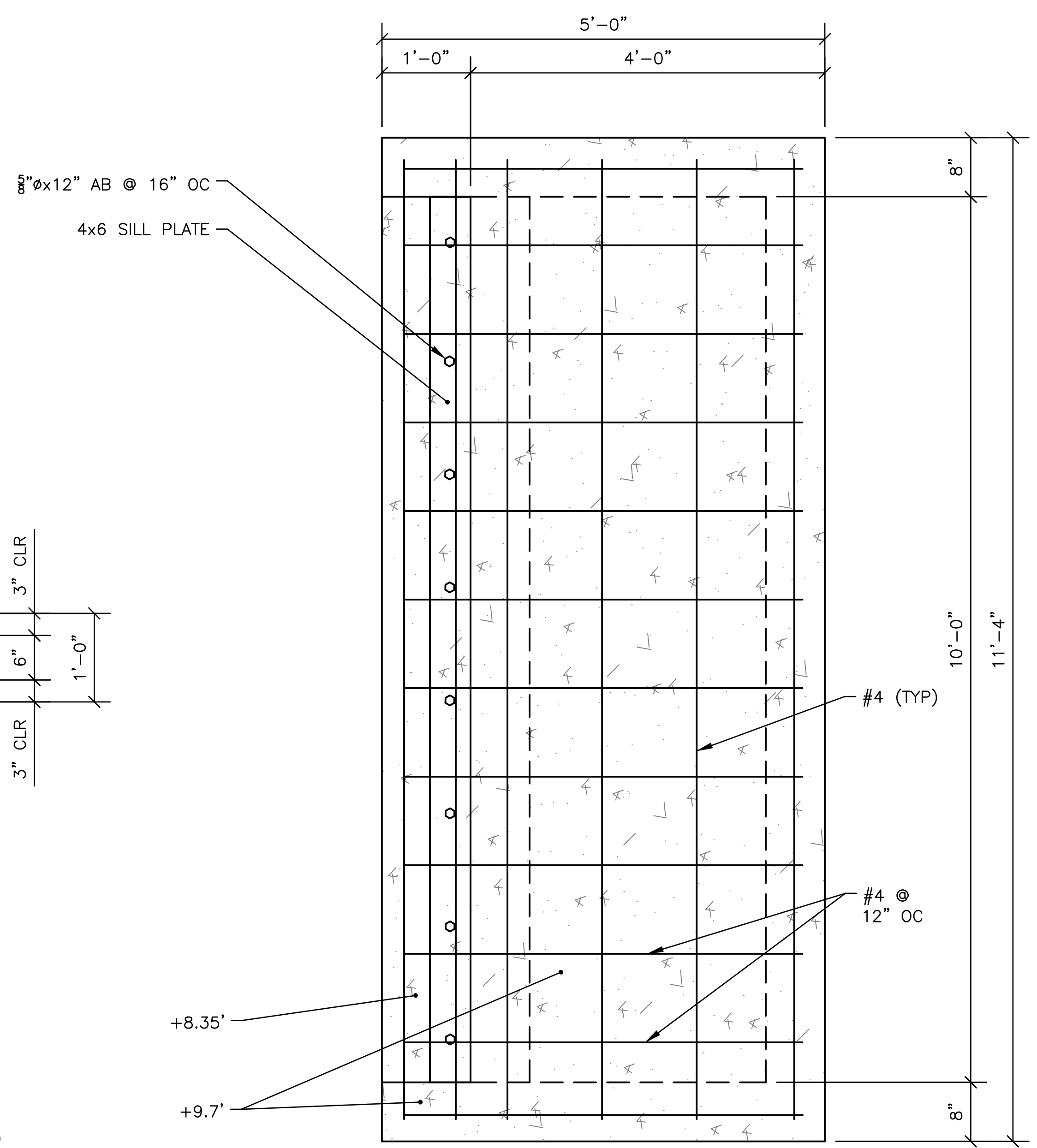
DESIGNED BY: T J F
DRAWN BY: P G M
CHECKED BY: T J F
APPROV. BY: T J F

LOCH LOMOND MARINA SITE IMPROVEMENTS
BAT BOARDWALK PLAN & DETAILS
110 LOCH LOMOND DR, SAN RAFAEL, CA 94901

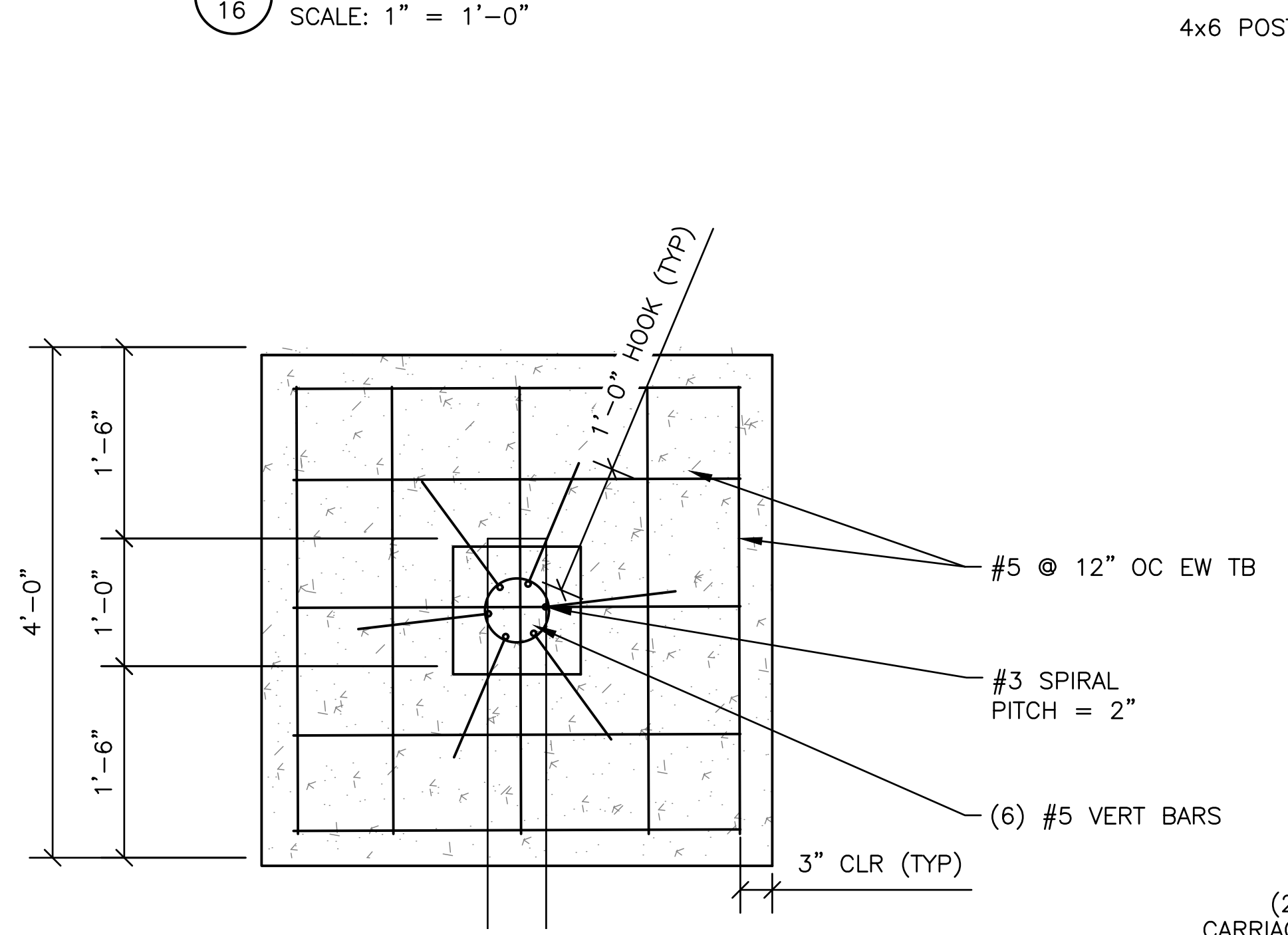
SHEET 15 OF 16
JOB NO. 1095-03
SCALE AS SHOWN
DATE 2 AUG 2019



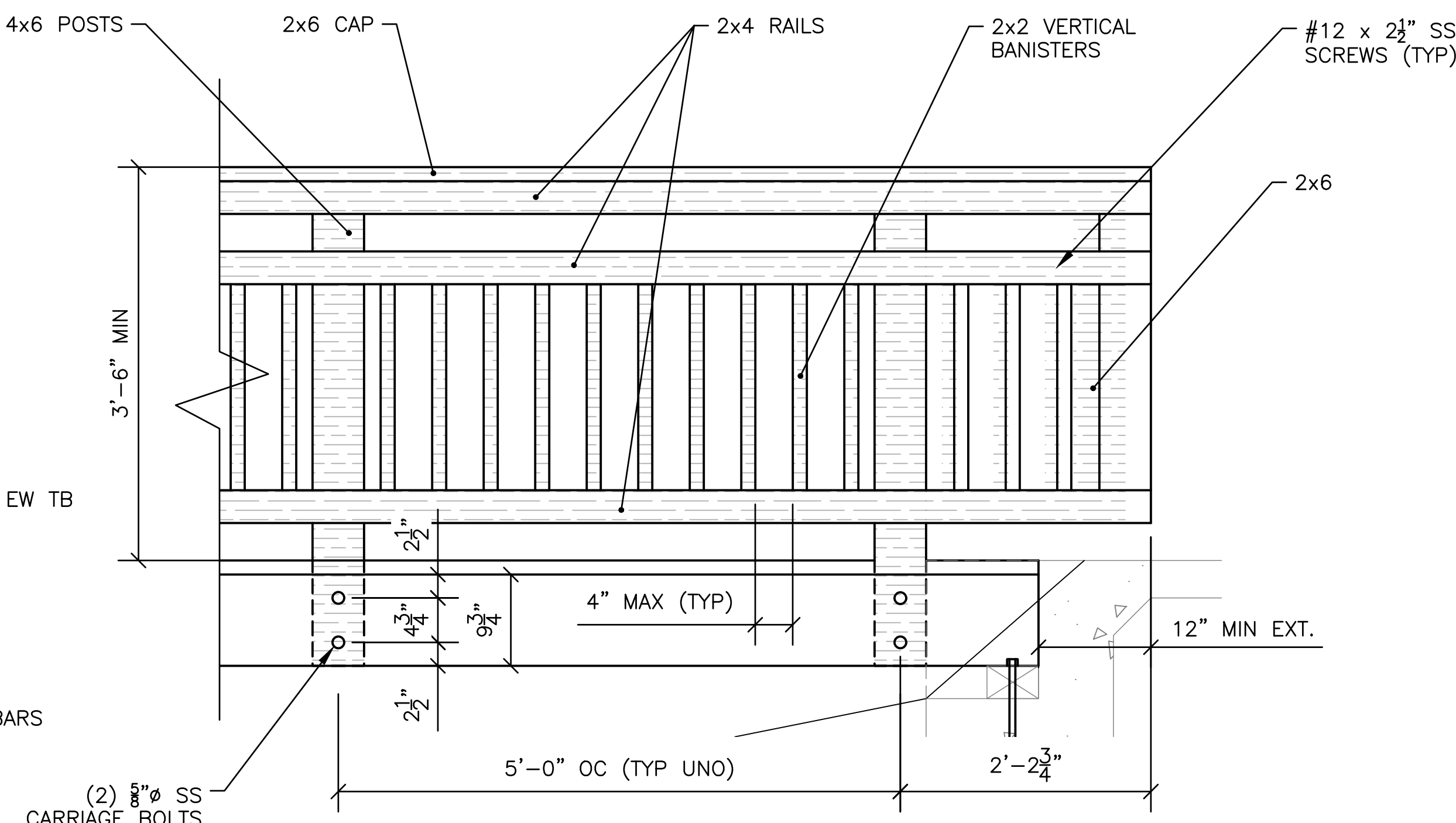
1 TYPICAL BOARDWALK SECTION
SCALE: 1" = 1'-0"



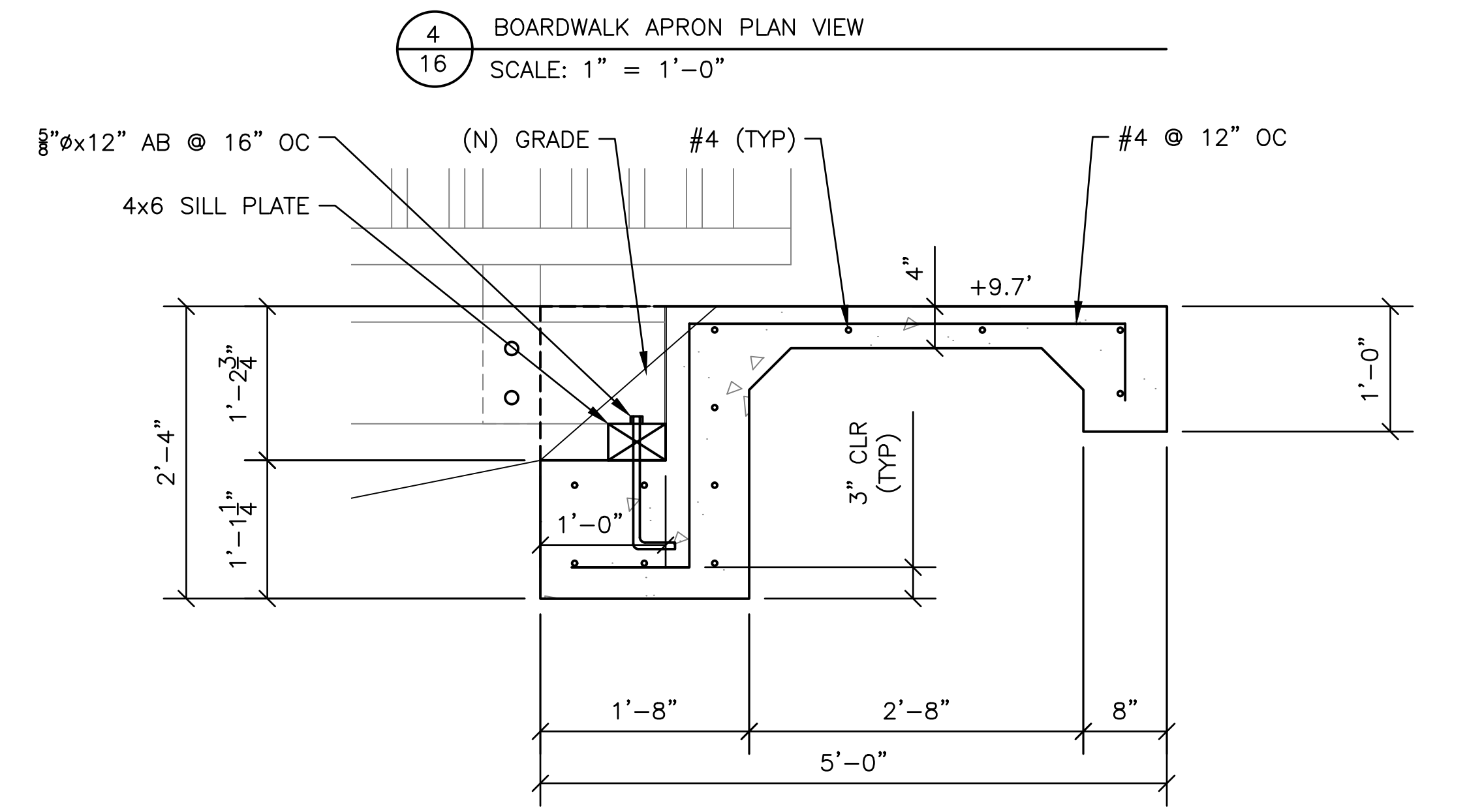
4 BOARDWALK APRON PLAN VIEW
SCALE: 1" = 1'-0"



2 TYPICAL BOARDWALK COLUMN AND FTG DETAIL
SCALE: 1" = 1'-0"



3 TYPICAL RAIL ELEVATION VIEW
SCALE: 1" = 1'-0"



5 BOARDWALK APRON SECTION VIEW
SCALE: 1" = 1'-0"

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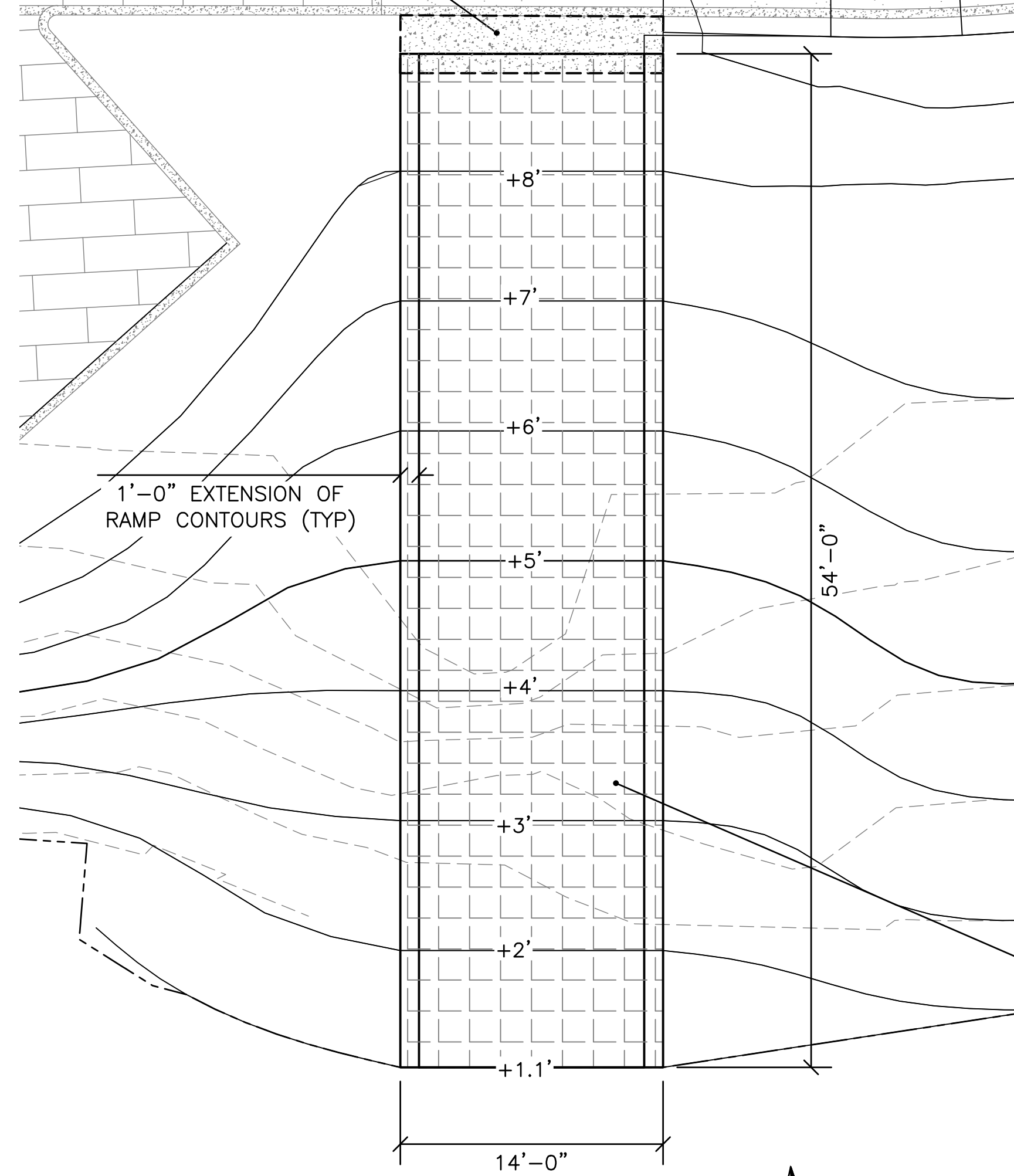
NO.	DATE	REVISION

DESIGNED BY: T J F
DRAWN BY: P G M
CHECKED BY: T J F
APPROV. BY: T J F

LOCH LOMOND MARINA SITE IMPROVEMENTS
BAT BOARDWALK DETAILS
110 LOCH LOMOND DR, SAN RAFAEL, CA 94901

SHEET 16 OF 16
JOB NO. 1095-03
SCALE 1" = 1'-0"
DATE 2 AUG 2019

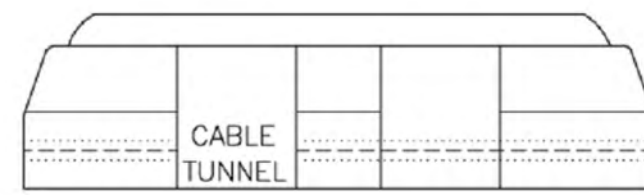
3'x14'x2' DEEP CONCRETE ANCHOR FOR ARMORTECH MAT



Open-Cell Block



Side View

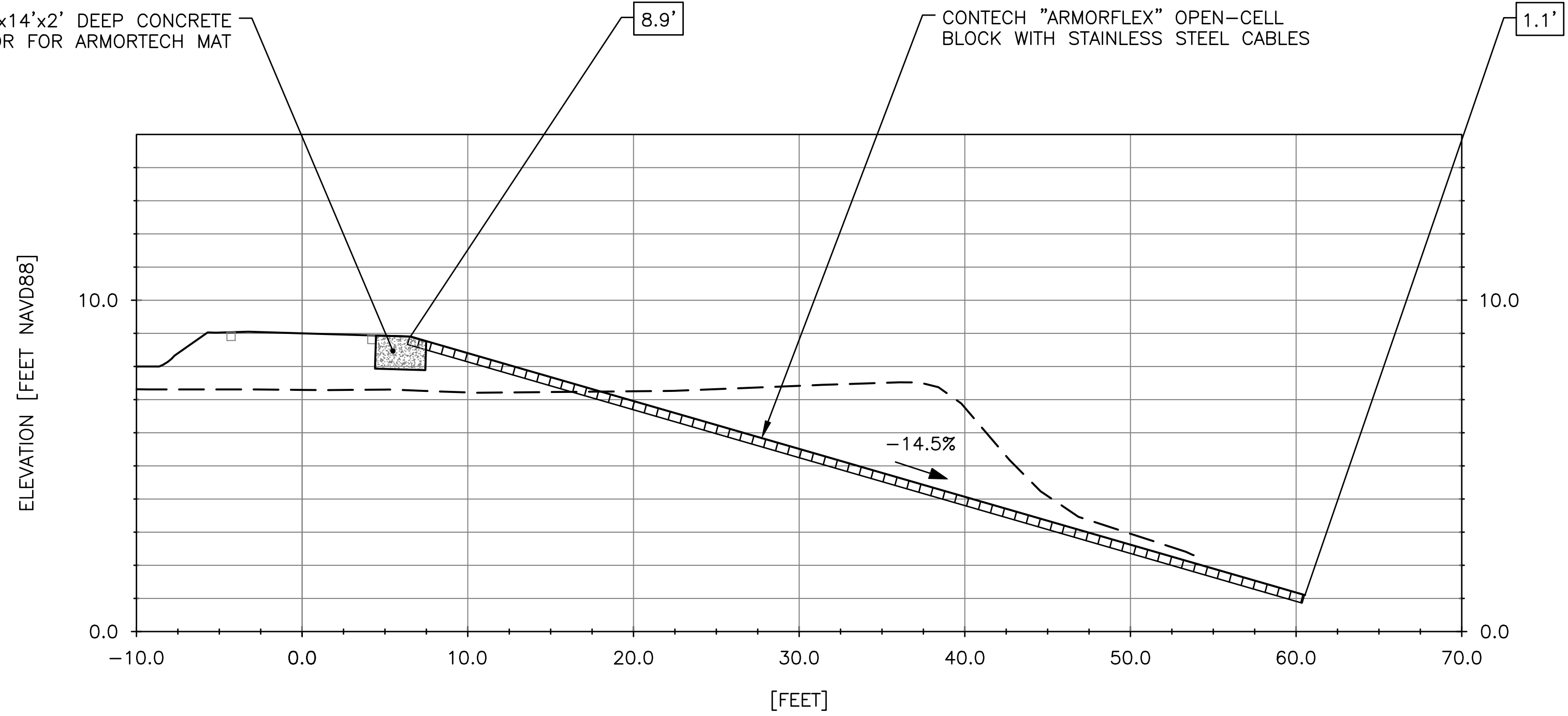


(N) KAYAK LAUNCH RAMP TO BE 14'-0" WIDE CONTECH ARMORTECH MAT WITH PEA GRAVEL FILL

1
17 KAYAK LAUNCH RAMP PLAN VIEW
SCALE: 1" = 6'-0"



3'x14'x2' DEEP CONCRETE ANCHOR FOR ARMORTECH MAT



CONTECH "ARMORFLEX" OPEN-CELL BLOCK WITH STAINLESS STEEL CABLES

2
17 KAYAK LAUNCH RAMP ELEVATION VIEW
SCALE: HORZ SCALE: 1" = 6', VERT SCALE: 1" = 3'

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APPROV. BY: T J F

LOCH LOMOND MARINA SITE IMPROVEMENTS
BAT KAYAK LAUNCH RAMP & DETAILS
110 LOCH LOMOND DR, SAN RAFAEL, CA 94901

SHEET 17 OF 16
JOB NO. 1095-03
SCALE 1" = 6'-0"
DATE 2 AUG 2019

S-6