DUBLIN SAN RAMON SERVICES DISTRICT

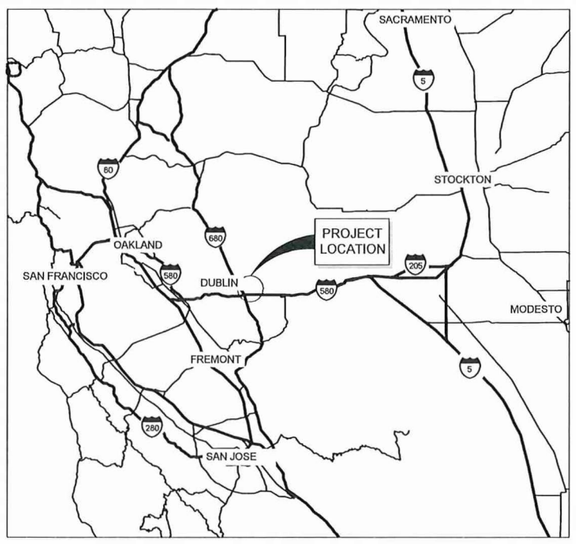
ALAMEDA COUNTY, CALIFORNIA

PLANS FOR THE CONSTRUCTION OF:

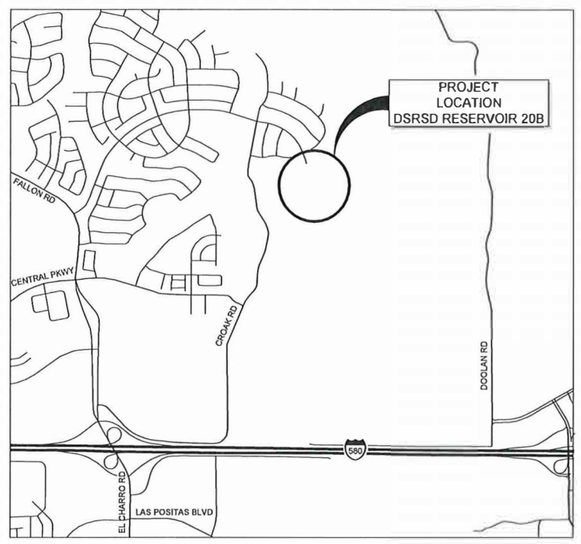
RESERVOIR 20B (1.3 MG) CIP 14-W008

ISSUED FOR BID
MAY 2026

VOLUME **5** OF **5**



VICINITY MAP
NO SCALE



LOCATION MAP
NO SCALE

ENGINEER OF RECORD

I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE, AND THAT THE DESIGN IS CONSISTENT WITH THE PREVAILING STANDARDS OF THE ENGINEERING PROFESSION FOR SIMILAR WORK.

I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE OTHERS IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR THE PROJECT DESIGN.

KEVIN GUSTORF, PE — RCE NO. C64755, EXP. 6/30/2027 — DATE 2-19-2026

811 Know what's below. Call 811 before you dig.

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN: DRAWN BY ACM; DESIGN BY ACM; CHECKED BY KJG / KFM

RECOM'D: DSRSD PRINCIPAL ENGINEER

REVIEW: PLNNG./DEVL.; FIELD OPS.; WWTP OPS.; MECH./MAINT.; ELECT./INSTR.

SCALE AS SHOWN | 2025

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP

WOOD RODGERS
BUILDING RELATIONSHIPS ON PROJECT AT A TIME
3301 C St. Bldg. 100-B Tel 916.341.7760
Sacramento, CA 95816 Fax 916.341.7767

REGISTERED PROFESSIONAL ENGINEER — KEVIN J. GUSTORF — No. 64755 — CIVIL — STATE OF CALIFORNIA

DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

RESERVOIR 20B

TITLE SHEET

ACCEPTED BY STEVEN V. DELIGHT, DISTRICT ENGINEER — DATE 5/7/2026

CIP NO. 14-W008

T-1
1 | 49

GENERAL NOTES

1. ALL CONSTRUCTION WORK SHALL CONFORM TO THESE PLANS AND SPECIFICATIONS. ANY DEVIATION FROM THESE PLANS OR SPECIFICATIONS MUST BE APPROVED IN WRITING BY THE DISTRICT'S ENGINEER PRIOR TO PERFORMING THE WORK.
2. DUBLIN SAN RAMON SERVICES DISTRICT INSPECTION SHALL RECEIVE THE CONSTRUCTION SCHEDULE AT LEAST TEN (10) WORKING DAYS IN ADVANCE OF THE START OF CONSTRUCTION. WORK DONE WITHOUT BENEFIT OF INSPECTION SHALL BE SUBJECT TO REMOVAL AT THE CONTRACTOR'S EXPENSE. THE TELEPHONE NUMBER OF DUBLIN SAN RAMON SERVICES DISTRICT INSPECTION IS (925) 828-0515.
3. PRIOR TO CONSTRUCTION, CONTACT

WATER/WASTEWATER	DUBLIN SAN RAMON SERVICES DISTRICT (925) 828-0515	
STORM DRAIN	CITY OF DUBLIN (925)-833-6630	
TELEPHONE	AT&T	(800) 331-0500
GAS & ELECTRIC	PG&E	(800) 743-5000
CABLE TV	COX COMMUNICATION	(866) 272-5777
UTILITY MARKOUT	USA	(800) 642-2444 OR "811"

4. NOTIFY UNDERGROUND SERVICE ALERT (USA) AT 1-800-227-2600, AT LEAST TWO (2) WORKING DAYS PRIOR TO THE START OF WORK.
5. SHOP DRAWING SUBMITTALS FOR ALL MATERIALS AND EQUIPMENT TO BE USED SHALL BE SUBMITTED TO THE DISTRICT ENGINEER FOR APPROVAL IN ACCORDANCE WITH THE SPECIFICATIONS. PURCHASE OF MATERIALS PRIOR TO RECEIPT OF THE APPROVED SUBMITTAL IS PROHIBITED WITHOUT THE PERMISSION OF THE DISTRICT.
6. ALL EXISTING UTILITIES AND STRUCTURES INDICATED ON THE DRAWINGS ARE SHOWN DIAGRAMMATICALLY AND SOME ARE BASED ON LIMITED FIELD RESEARCH, RECORD DRAWINGS AND THE ORIGINAL CONSTRUCTION DRAWINGS. SOME WORK PREVIOUSLY PERFORMED IS NOT DOCUMENTED NOR WERE ACCURATE RECORD DRAWINGS DEVELOPED FOR ALL AREAS.
7. SHUT DOWN OR INTERRUPTION OF EXISTING WATER, MECHANICAL AND ELECTRICAL SERVICES SHALL BE COORDINATED WITH THE DISTRICT AND ALL INVOLVED UTILITIES, WITH WRITTEN APPROVAL OF SUCH FROM DISTRICT TWO (2) WEEKS IN ADVANCE. ACTUAL SHUTDOWN MAY BE SCHEDULED BEYOND TWO (2) WEEKS AS DETERMINED BY THE DISTRICT.
8. ALL DISTANCES SHOWN ARE HORIZONTAL DISTANCES.
9. ALL FACILITIES AND PIPELINES NOT SHOWN TO BE REMOVED OR ABANDONED SHALL BE PROTECTED IN-PLACE AS DIRECTED BY THE ENGINEER FOR THE PERFORMANCE OF THE WORK.
10. ALL EARTHWORK AND GRADING SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND PLANS.
11. SLOPE FINISH GRADES TO DRAIN SURFACE WATER AWAY FROM BUILDINGS, WALKS, PAVINGS, EQUIPMENT PADS AND OTHER STRUCTURES. GENERALLY, GRADE WITH UNIFORM SLOPE BETWEEN POINTS WHERE ELEVATIONS ARE GIVEN, OR BETWEEN SUCH POINTS AND EXISTING GRADES.
12. CONTRACTOR SHALL PROVIDE AND PAY FOR ALL SURVEY AND CONSTRUCTION STAKING.
13. THE CONTRACTOR SHALL VIDEOTAPE PROJECT SITE BEFORE AND DURING CONSTRUCTION PHASES.
14. CONTRACTOR SHALL MAINTAIN EMERGENCY VEHICLE AND FIRE ACCESS TO THE PROJECT SITE DURING CONSTRUCTION, AND THE SURROUNDING HOMES AND VEGETATION MUST BE ACCESSIBLE FOR FIRE PROTECTION.
15. REFERENCE SPECIFICATION 01560 TEMPORARY CONTROLS FOR MITIGATION MEASURES REQUIRED BY THE INITIAL STUDY-MITIGATED NEGATIVE DECLARATION (INCLUDED AS APPENDIX B OF THE SPECIFICATIONS).
    - 15.1. BIOLOGICAL PRECONSTRUCTION SURVEYS AND MONITORING DURING CERTAIN CONSTRUCTION ACTIVITIES ARE REQUIRED. CONTRACTOR SHALL COORDINATE CONSTRUCTION SCHEDULE WITH DISTRICT PRIOR TO COMMENCING CONSTRUCTION.
    - 15.2. PALEONTOLOGICAL MONITORING IS REQUIRED DURING GROUND-DISTURBING CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL COORDINATE CONSTRUCTION SCHEDULE WITH DISTRICT PRIOR TO COMMENCEMENT OF GROUND-DISTURBING ACTIVITIES.

CONSTRUCTION NOTES

1. THE CONTRACTOR SHALL MAINTAIN THE WORK AREA IN A NEAT, SAFE, CLEAN AND SANITARY CONDITION AT ALL TIMES AND TO THE SATISFACTION OF THE AGENCY HAVING JURISDICTION OVER THE AREA. PAVED ROADWAYS SHALL BE KEPT CLEAN OF DEBRIS, WITH DUST AND OTHER NUISANCES BEING CONTROLLED AT ALL TIMES. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR ANY CLEAN UP ON ADJACENT AREAS AFFECTED BY THE CONSTRUCTION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY MONUMENT AND/OR BENCHMARKS WHICH WILL BE DISTURBED OR DESTROYED BY THE CONSTRUCTION. SUCH POINTS SHALL BE REFERENCED AND REPLACED WITH APPROPRIATE MONUMENTATION BY A LICENSED LAND SURVEYOR OR A REGISTERED CIVIL ENGINEER AUTHORIZED TO PRACTICE SURVEYING. A CORNER RECORD OR RECORD OF SURVEY, AS APPROPRIATE, SHALL BE FILED BY THE LICENSED LAND SURVEYOR OR REGISTERED CIVIL ENGINEER AS REQUIRED BY THE LAND SURVEYORS ACT.
3. THE CONTRACTOR SHALL COORDINATE HIS ACTIVITY WITH ALL OTHER ADJACENT CONSTRUCTION ACTIVITY AND ACCORDING TO THE PROJECT SPECIFICATIONS.
4. CONCRETE CURBS, GUTTERS, SIDEWALKS AND CROSS GUTTERS THAT ARE TRENCHED THROUGH DURING CONSTRUCTION SHALL BE REMOVED AND REPLACED TO THE NEAREST EXPANSION JOINT OR SCORE MARK. CONCRETE CURBS, GUTTERS AND SIDEWALKS SHALL BE REPAIRED IN ACCORDANCE WITH CITY OF DUBLIN STANDARDS. EDGES OF EXISTING CROSS GUTTERS SHALL BE PINNED TO NEW CONCRETE WITH #4 REBAR, 6" DEEP, AT 12" O.C.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ALL HARDSCAPE LANDSCAPE, IRRIGATION, PAVEMENT, STRIPING, TRAFFIC LOOPS, ETC TO ORIGINAL CONDITION OR BETTER.

BOUNDARY AND CONTROL STATEMENT

MAPPING AND HORIZONTAL CONTROL INFORMATION DEPICTED ON THESE PLANS IS PROVIDED FOR REFERENCE ONLY AND FOR CONVENIENCE. MAPPING AND HORIZONTAL CONTROL INFORMATION, INCLUDES BUT IS NOT LIMITED TO: PROPERTY LINES, RIGHT OF WAY, EASEMENTS, NORTHING AND EASTING DATA POINTS SHALL BE VERIFIED BY A LICENSED LAND SURVEYOR PRIOR TO CONSTRUCTION AND SHALL NOT BE RECREATED USING THESE PLANS.

TOPOGRAPHY SOURCE

TOPOGRAPHIC INFORMATION DEPICTED ON THESE PLANS IS BASED UPON THE TOPOGRAPHIC AND DESIGN BASE FILES PREPARED BY MACKAY & SOMPS FOR THE FRANCIS RANCH DEVELOPMENT. FILES WERE OBTAINED IN 2023. FILES ORIGINALLY PROVIDED WERE IN NAD27, GROUND-SCALED, AND TRUNCATED. FILES HAVE SINCE BEEN TRANSFORMED TO CORRECT DATUM BY INSERTING MACKAY & SOMPS FILES AT X: 5561367.81, Y: 1640405.43.

WOOD RODGERS PERFORMED SUPPLEMENTAL SURVEY MARCH 2024.

BENCHMARK

THE BENCHMARK FOR THIS SURVEY IS A 3.5 INCH DISK SET FLUSH IN THE TOP OF A 6 INCH COMPOSITION TILE CYLINDER SET 18 INCHES BELOW THE SURFACE OF THE GROUND. NGS PID HS5031

DATUM: NAVD88
ELEVATION: 481.07'
WR POINT#: 1

BASIS OF BEARINGS

HORIZONTAL COORDINATES AND BEARINGS ARE BASED ON CALIFORNIA STATE PLANE ZONE 3 UTILIZING THE CALIFORNIA SURVEYING AND DRAFTING SUPPLY REAL-TIME GPS NETWORK. DATA WAS COLLECTED IN MARCH 2024.

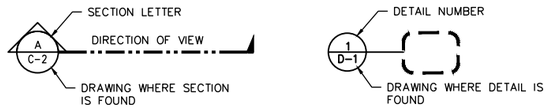
UTILITY STATEMENT

BURIED UTILITIES AND/OR PIPELINES SHOWN HEREON ARE PER VISIBLE AND APPARENT SURFACE EVIDENCE, AVAILABLE RECORD DRAWINGS, OR MARKINGS PROVIDED BY LOCATORS. AS SUCH, THE ACCURACY OR THOROUGHNESS OF UTILITIES, SHOWN OR NOT SHOWN, ON THESE DRAWINGS IS NOT GUARANTEED. IF MORE ACCURATE LOCATIONS ARE REQUIRED, THE UTILITY WILL NEED TO BE VERIFIED BY POTHOLING.

WATER NOTES

1. THE CONTRACTOR SHALL POTHOLE ALL TIE-IN LOCATIONS AND CROSSINGS BEFORE PIPE INSTALLATION TO DETERMINE PIPE SIZE AND MATERIAL, ELEVATION, AND IF TIE-IN CAN BE MADE AT LOCATION INDICATED, THE CONTRACTOR SHALL ALSO POTHOLE ALL EXISTING UTILITIES THAT MAY INTERFERE WITH TIE-IN LOCATION AND EXPOSE PIPE A MINIMUM OF THREE 3-FEET ON EACH SIDE OF THE CONNECTION POINT TO ASSURE THAT NO COLLARS ARE IN THE TAP AREA. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE DUBLIN SAN RAMON SERVICES DISTRICT'S ENGINEERING DEPARTMENT PRIOR TO PROCEEDING.
2. APPROVAL OF PLANS BY THE DUBLIN SAN RAMON SERVICES DISTRICT DOES NOT CONSTITUTE RESPONSIBILITY FOR ACCURACY OF INFORMATION NOR LOCATIONS OF EXISTING FACILITIES.
3. CONTRACTOR AGREES THAT IF IT, ITS EMPLOYEES, AGENTS, OR ANY INDEPENDENT CONTRACTORS OR SUBCONTRACTORS SHOULD MAKE AN UNAUTHORIZED CONNECTION TO THE DISTRICT WATER SYSTEM, THE CONTRACTOR IS SUBJECT TO FINES SET FORTH BY THE DISTRICT. CONTRACTOR ACKNOWLEDGES AND AGREES THAT PAYMENT OF FINES MAY BE DEDUCTED FROM ANY CONTRACT AMOUNT THE CONTRACTOR HAS WITH THE DISTRICT.
4. NO PERSON, OTHER THAN AN EMPLOYEE OR AGENT OF THE DISTRICT, SHALL HAVE ANY RIGHT TO OPERATE, TAMPER, OR INTERFERE WITH ANY COMPONENT OF THE SYSTEM. THE DISTRICT SHALL NOT BE LIABLE FOR ANY INJURY OR DAMAGE CAUSED THEREBY OR RESULTING THEREFROM. IN ADDITION, THE FINES SET FORTH BY THE DISTRICT WILL BE IMPOSED ON ANY PERSON OR COMPANY WHO OPERATES ANY PART OF THE DISTRICT WATER SYSTEM WITHOUT PROPER AUTHORIZATION.
5. CATHODIC PROTECTION WILL BE REQUIRED ON ALL NEW COPPER TUBING. ADDITIONALLY, ALL SACRIFICIAL ANODES SHALL BE TESTED FOR OPERATION AND A REPORT ISSUED BY THE CONTRACTOR'S CORROSION ENGINEER. SERVICE SADDLES SHALL BE A MINIMUM 2.0 FEET AWAY FROM OTHER SADDLES AND OR JOINTS. MULTIPLE SADDLES ON THE SAME PIPE LENGTH SHALL BE ALTERNATELY STAGGERED 10 TO 30 DEGREES TO PREVENT A WEAK PLANE IN THE PIPE.
6. REMOVE AND DISPOSE OF EXISTING PIPING AS IS NECESSARY FOR THE INSTALLATION OF NEW PIPE OR CONNECTIONS UNLESS NOTED OTHERWISE.
7. UPON THE DISTRICT'S REQUEST, CONTRACTOR SHALL RETURN ALL SALVAGED WATER APPURTENANCES TO THE DISTRICT. ALL OTHER MATERIAL SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR.
8. FACILITIES SHOWN ON ANY SHEET SHALL BE THE SAME AS IF SHOWN ON ALL SHEETS THAT COVER THE SAME AREA.
9. A MINIMUM VERTICAL SEPARATION OF 12 INCHES SHALL BE MAINTAINED BETWEEN UTILITIES AT ALL TIMES.
10. WARNING TAPE AND TRACER WIRE SHALL BE INSTALLED FOR THE ENTIRE LENGTH OF THE PIPELINES PER PROJECT SPECIFICATIONS.
11. A MINIMUM OF TWENTY FOUR (24) INCHES OF PERMANENT BACKFILL SHALL BE INSTALLED OVER THE WATER MAIN PRIOR TO PIPELINE TESTING.
12. WATER MAINS AND APPURTENANCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THESE PLANS AND THE CURRENT APPROVED DISTRICT STANDARDS.

DETAIL REFERENCE



SECTION CALLOUT DETAIL CALLOUT

LEGEND

(EXISTING SHOWN SCREENED)

- CENTERLINE
- PROPOSED PIPELINE
- CURB & GUTTER LINE
- CURB OR AC. BERM
- EDGE OF PAVEMENT
- FENCE
- PROPERTY LINE
- RIGHT-OF-WAY
- EASEMENT
- SAWCUT & JOIN LINE
- DAYLIGHT LINE
- W — UTILITY LINE (LABELED)
- WALL
- AC PAVEMENT
- CLASS II BASE
- CRUSHED ROCK
- DEMOLISH EXISTING FEATURE
- COMBINATION AIR RELEASE/VACUUM VALVE ASSEMBLY
- BLOW-OFF ASSEMBLY
- CLEAN-OUT
- CATCH BASIN/CURB INLET
- END CAP/PLUG
- EARTHWORK/GRADING
- FIRE HYDRANT
- IP — IRON PIPE/SURVEY MARKER
- (S) — MANHOLE (LABELED)
- PP — POWER POLE
- PULLBOX
- REDUCER/ENLARGER
- SIGN
- LIGHT
- THRUST BLOCK
- TREE
- SURVEY MONUMENT
- VALVE
- (G) — VAULT (LABELED)
- B-1 — GEOTECHNICAL BORING

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN: DRAWN BY ACM; DESIGN BY ACM; CHECKED BY KJG / KFM
RECOM'D: DSRSD PRINCIPAL ENGINEER
REVIEW: PLNNG./DEVL.; FIELD OPS.; WWTP OPS.; MECH./MAINT.; ELECT./INSTR.
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RESERVOIR 20B

NOTES AND LEGEND

CIP NO. 14-W008

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ABBREVIATIONS

AB	ANCHOR BOLT
ABAN, ABAND	ABANDON
AC	ASPHALT CONCRETE
ACP	ASBESTOS CEMENT PIPE
AML	APPROVED MATERIALS LIST
APN	ASSESSOR'S PARCEL NUMBER
APPROX	APPROXIMATELY
ASSY	ASSEMBLY
AV	AIR VACUUM RELEASE VALVE
AWWA	AMERICAN WATER WORKS ASSOCIATION
BFV	BUTTERFLY VALVE
BM	BENCH MARK
BMP	BEST MANAGEMENT PRACTICE
BO	BLOWOFF
BW	BOTTOM OF WALL
℄	CENTERLINE
CAB	CRUSHED AGGREGATE BASE
CAV/CARV	COMBINATION AIR RELEASE & AIR/VACUUM VALVE
CATV	CABLE TELEVISION
CCP	CONCRETE CYLINDER PIPE
CF	CUBIC FEET
CIP	CAST IN PLACE
CIRC	CIRCUMFERENTIAL
CJ	CONSTRUCTION JOINT
CL	CLASS
CLR	CLEAR, CLEARANCE
CMLC	CEMENT MORTAR LINED AND COATED
CML&TWMC	CEMENT MORTAR LINED AND TAPE WRAPPED WITH MORTAR COATING
CML&TWMCSP	CEMENT MORTAR LINED AND TAPE WRAPPED WITH MORTAR COATING STEEL PIPE
CO	CLEANOUT
COMM	COMMUNICATIONS
CONC	CONCRETE
CONST	CONSTRUCT OR CONSTRUCTION
CP	CATHODIC PROTECTION
CTS	CORROSION TEST STATION
DEFL	DEFLECTION
DI	DUCTILE IRON
DIP	DUCTILE IRON PIPE
DIA/Ø	DIAMETER
DIM	DIMENSION
DSRSD	DUBLIN SAN RAMON SERVICES DISTRICT
DWGS.	DRAWINGS
E	EAST, EASTING, ELECTRICAL
EA	EACH
EG	EXISTING GRADE
ELEC	ELECTRIC, ELECTRICAL
EL, ELEV	ELEVATION
EP	EDGE OF PAVEMENT
ESMT	EASEMENT
EX, EXIST	EXISTING
EXP	EXPANSION
FB	FLAT BAR
FG	FINISHED GRADE
FH	FIRE HYDRANT
FL	FLANGE, FLOWLINE
FLG	FLANGE
FS	FINISHED SURFACE
FT	FOOT, FEET
FTG	FOOTING
GALV	GALVANIZED
GPM	GALLONS PER MINUTE
GV	GATE VALVE
H	HEIGHT
HGL	HYDRAULIC GRADE LINE
HORIZ	HORIZONTAL
HWL	HIGH WATER LEVEL
HP	HIGH POINT
ID	INSIDE DIAMETER, IDENTIFICATION
IE	INVERT ELEVATION
IN.	INCHES
LB/#	POUND
LF	LINEAR FEET
LG.	LONG
LT	LEFT
MAX	MAXIMUM
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MJ	MECHANICAL JOINT
N	NORTH, NORTHING
NCV	NORMALLY CLOSED VALVE
NO	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OCEF	ON CENTER EACH FACE
OCEW	ON CENTER EACH WAY
OD	OUTSIDE DIAMETER
OH	OVERHEAD
OSG	ON SITE GENERATION
PE	PLAIN END
POC	POINT OF CONNECTION
PP	POWER POLE
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PSF	POUNDS PER SQUARE FOOT
PL	PLATE
PVC	POLYVINYL CHLORIDE
PW	POTABLE WATER
PZ	PRESSURE ZONE
QTY.	QUANTITY
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RES	RESERVOIR
RWGV	RESILIENT WEDGE GATE VALVE
RT	RIGHT
R/W	RIGHT OF WAY
SA	SAMPLE
SCHED	SCHEDULE
S	SEWER, SOUTH, SLOPE
SD	STORM DRAIN
SL	STREET LIGHT
SP	STEEL PIPE
SQ	SQUARE
SST/S.S	STAINLESS STEEL
STA	STATION
STD	STANDARD
STL	STEEL
t	THICKNESS
T	TELEPHONE, TITLE
TB	THRUST BLOCK
TBD	TO BE DETERMINED
TEMP	TEMPORARY
TG	TOP OF GRATE
THK	THICK
TOF	TOP OF FOOTING
TOP	TOP OF PIPE
TW	TOP OF WALL
TYP	TYPICAL
UNK	UNKNOWN
UNO	UNLESS NOTED OTHERWISE
V	VOLT
VERT	VERTICAL
W/	WITH
W	WATER
WSP	WELDED STEEL PIPE

SHEET LIST

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DESIGN
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RESERVOIR 20B

ABBREVIATIONS AND SHEET LIST

CIP NO. 14-W008

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3 | 49

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GENERAL NOTES

1. CONSTRUCTION OF THE ADJACENT DEVELOPMENT (FRANCIS RANCH) WAS NOT YET COMPLETED DURING DEVELOPMENT OF THESE PLANS (ESTIMATED COMPLETION FALL 2025). THEREFORE, TOPOGRAPHIC INFORMATION SHOWN HEREIN IS REPRESENTED WITH THE AVAILABLE INFORMATION AT THE TIME OF DESIGN BUT MAY NOT REPRESENT AS-BUILT CONDITIONS. AS SUCH, CONTRACTOR SHALL VERIFY EXISTING TOPOGRAPHY SHOWN IS REPRESENTATIVE OF FIELD CONDITIONS. CONTRACTOR SHALL NOTIFY OWNER AND ENGINEER IMMEDIATELY SHOULD CONDITIONS DIFFER SIGNIFICANTLY THAN WHAT IS SHOWN.
2. REFERENCE PROJECT GEOTECHNICAL REPORT (ENGEO PROJECT NO. 5101.002.001) COMPLETED JANUARY 26, 2024. BORING N: 2085862.38 E: 6175540.34
3. PROPERTY, RIGHT OF WAY, AND EASEMENT INFORMATION SHOWN FOR REFERENCE ONLY. REFER TO TRACT 8645, ALAMEDA COUNTY RECORDS.

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IF NOT 2 INCHES, SCALE ACCORDINGLY

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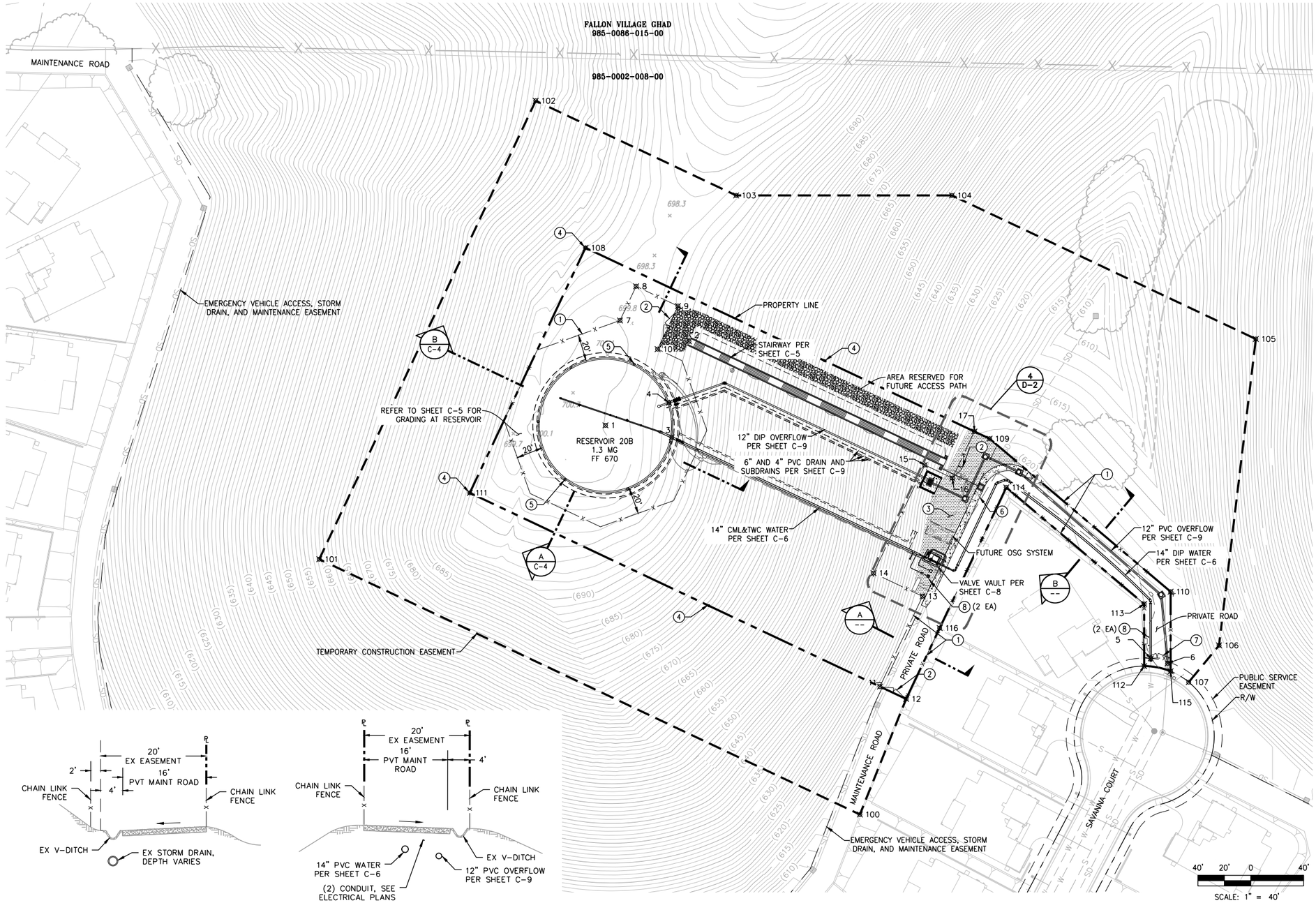
RESERVOIR 20B

EXISTING CONDITIONS

CIP NO. 14-W008

C-1
4 | 49



A SITE SECTION

B SITE SECTION

CONSTRUCTION NOTES

1. 8' CHAIN LINK FENCE PER DETAIL 2/D-2
2. 20' DOUBLE LEAF GATE PER DETAIL 1/D-2
3. CLASS II AGGREGATE BASE
4. PROPERTY LINE MARKER. CUSTOM PRODUCTS CORPORATION MODEL NO. RPOFDGGTF (62)(BR) WITH RPOFDGGZD(V)(PB) OR EQUAL. MODIFY MARKER TO BE 24" ABOVE GRADE.
5. FIBERGLASS MARKERS 50' O.C. OVER TOP OF RESERVOIR. LABEL: "BURIED RESERVOIR, VEHICULAR LOADING PROHIBITED. MAX LOADING 100 PSF". FORESTRY SUPPLIERS ITEM NO. 38852 OR EQUAL.
6. RIBBON GUTTER PER DETAIL 5/D-2.
7. 8' HIGH PREFABRICATED DOUBLE GATE WITH 16' OPENING. AMERISTAR ECHELON II MAJESTIC, 4 RAIL PANEL. COLOR GLOSS BLACK
8. REMOVABLE PROTECTION POST PER DETAIL E526/E-7

COORDINATE TABLE

#	NORTHING	EASTING	DESCRIPTION
1	2085841.4	6175556.9	CENTER OF RESERVOIR
2	2085904.9	6175620.0	STAIR CENTERLINE
3	2085832.3	6175607.0	CENTER OF 14" INLET/OUTLET AT FACE OR RES
4	2085858.5	6175604.9	CENTER OF 12" OVERFLOW AT FACE OF RES
5	2085665.1	6175969.5	14" INLET/OUTLET CONN TO EX
6	2085661.4	6175982.3	12" OVERFLOW CONN TO EX
7	2085920.7	6175567.9	FENCE
8	2085946.6	6175580.1	FENCE
9	2085931.6	6175611.7	FENCE
10	2085899.1	6175596.3	FENCE
11	2085643.8	6175764.5	FENCE
12	2085634.4	6175784.3	FENCE
13	2085712.0	6175796.8	FENCE
14	2085729.6	6175759.7	FENCE
15	2085811.4	6175798.4	FENCE
16	2085801.5	6175819.3	FENCE
17	2085836.7	6175836.0	FENCE
100	2085547.0	6175749.3	TEMP ESMT. SEE GENERAL NOTE 1
101	2085740.1	6175340.3	TEMP ESMT. SEE GENERAL NOTE 1
102	2086086.9	6175504.1	TEMP ESMT. SEE GENERAL NOTE 1
103	2086015.3	6175655.8	TEMP ESMT. SEE GENERAL NOTE 1
104	2086015.3	6175819.0	TEMP ESMT. SEE GENERAL NOTE 1
105	2085906.7	6176048.9	TEMP ESMT. SEE GENERAL NOTE 1
106	2085674.9	6176021.1	TEMP ESMT. SEE GENERAL NOTE 1
107	2085647.1	6175998.2	TEMP ESMT. SEE GENERAL NOTE 1
108	2085975.7	6175541.8	TEMP ESMT. SEE GENERAL NOTE 1
109	2085831.3	6175847.5	TEMP ESMT. SEE GENERAL NOTE 1
110	2085715.6	6175984.5	PROPERTY LINE. SEE GENERAL NOTE 1
111	2085790.3	6175454.2	PROPERTY LINE. SEE GENERAL NOTE 1
112	2085659.3	6175964.5	PROPERTY LINE. SEE GENERAL NOTE 1
113	2085706.3	6175964.5	PROPERTY LINE. SEE GENERALNOTE 1
114	2085794.4	6175860.1	PROPERTY LINE. SEE GENERAL NOTE 1
115	2085655.3	6175984.5	PROPERTY LINE. SEE GENERAL NOTE 1
116	2085688.0	6175809.7	PROPERTY LINE. SEE GENERAL NOTE 1

GENERAL NOTES

1. REFER TO TRACT 8645 FOR FINAL PROPERTY BOUNDARIES AND PARCEL INFORMATION. COORDINATES SHOWN HEREIN FOR CONVENIENCE ONLY.
2. GATES AT MAINTENANCE AND PRIVATE ACCESS ROAD SHALL BE ACCESSIBLE BY GHAD, FIRE DEPARTMENT, AND THE CITY OF DUBLIN

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN: DRAWN BY ACM; DESIGN BY ACM; CHECKED BY KJG / KFM
RECOM'D: DSRSD PRINCIPAL ENGINEER
REVIEW: PLNNG./DEVL.; FIELD OPS.; WWTP OPS.; MECH./MAINT.; ELECT./INSTR.
SCALE AS SHOWN | 2025

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP

WOOD RODGERS
BUILDING RELATIONSHIPS ON PROJECT AT A TIME
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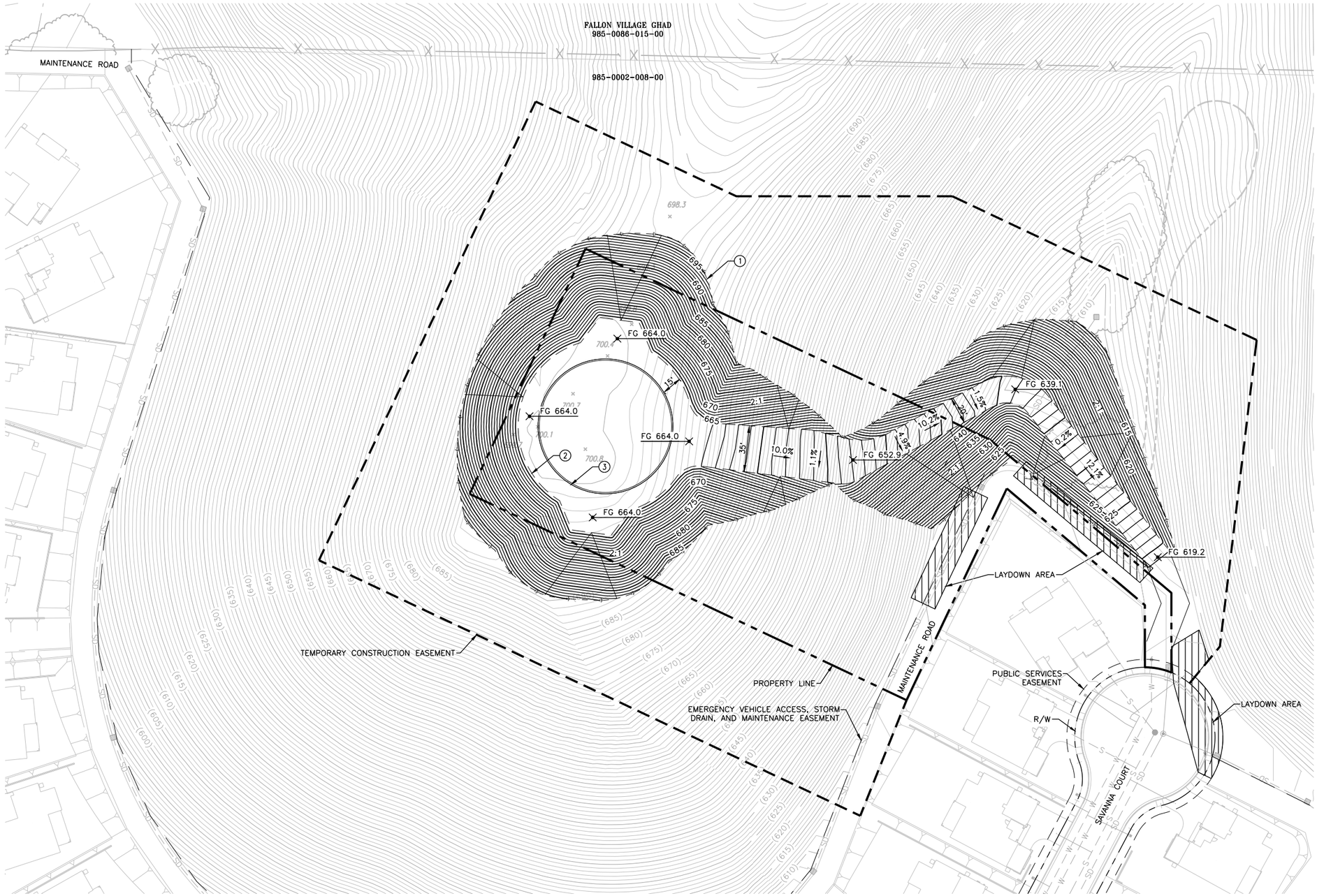
7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

RESERVOIR 20B

SITE PLAN AND HORIZONTAL CONTROL

CIP NO. 14-W008

C-2
5 | 49



CONSTRUCTION NOTES

1. LIMITS OF GRADING
2. TOP/TOE OF SLOPE
3. APPROXIMATE OUTER DIAMETER OF RESERVOIR

GENERAL NOTES

1. TEMPORARY ACCESS ROAD AS SHOWN IS CONCEPTUAL. CONTRACTOR TO DETERMINE FINAL ACCESS ROAD LAYOUT AND SUBMIT TO OWNER FOR APPROVAL.
2. SITE SHALL NOT BE ACCESSED FROM THE NORTH THROUGH GHAD PROPERTY
3. EMERGENCY VEHICLE AND FIRE ACCESS MUST BE MAINTAINED DURING CONSTRUCTION. ROADWAYS, DRIVEWAYS, AND ACCESS ROUTES SHALL BE ACCESSIBLE FOR THE ENTIRETY OF CONSTRUCTION. REFERENCE THE PROJECT'S INITIAL STUDY/MITIGATED NEGATIVE DECLARATION (APPENDIX B OF PROJECT SPECIFICATIONS) FOR FURTHER INFORMATION.
4. IF SLOPES EXCEED 2:1, SUPPLEMENTAL SLOPE STABILIZATION WILL LIKELY BE REQUIRED AS DETERMINED BY THE GEOTECHNICAL ENGINEER PRESENT DURING CONSTRUCTION.

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN: DRAWN BY ACM; DESIGN BY ACM; CHECKED BY KJG / KFM

RECOM'D: DSRSD PRINCIPAL ENGINEER

REVIEW: PLNNG./DEVL.; FIELD OPS.; WWTP OPS.; MECH./MAINT.; ELECT./INSTR.

SCALE AS SHOWN | 2025

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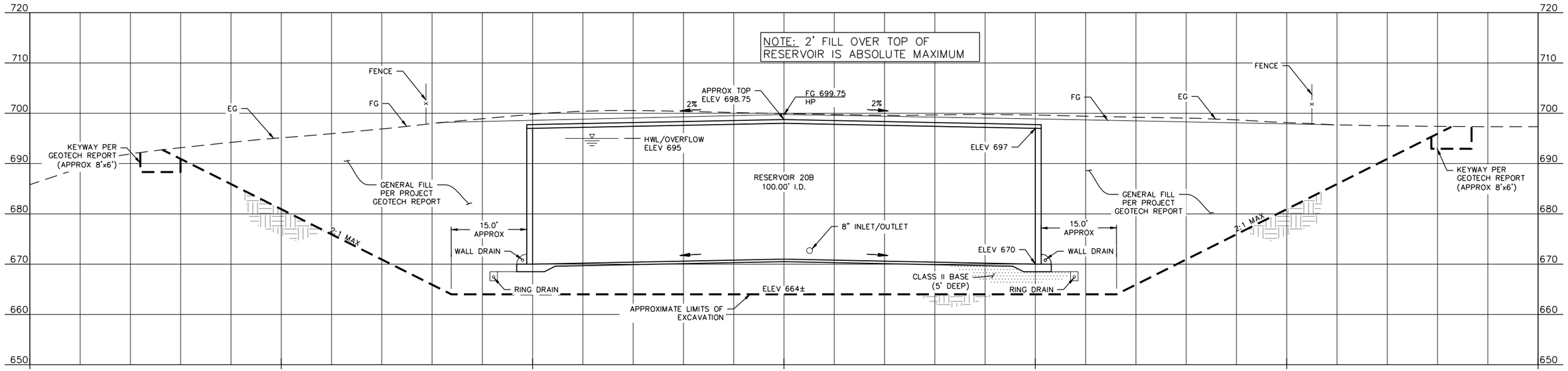
RESERVOIR 20B

ROUGH GRADING

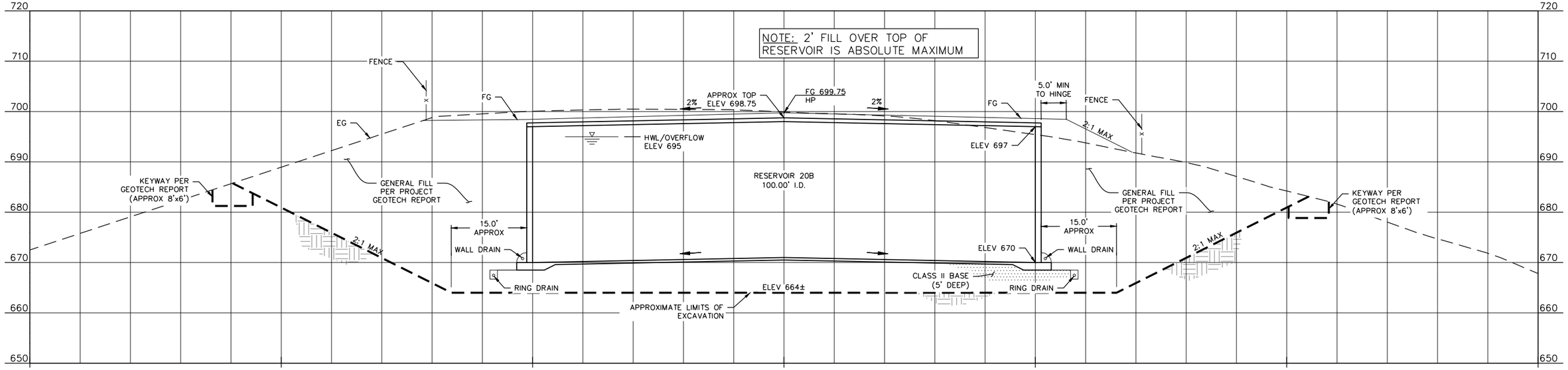
CIP NO. 14-W008

C-3
6 | 49



A C-2 SITE SECTION
VERT/HORIZ SCALE: 1" = 10'

10' 5' 0 10'
SCALE: 1" = 10'



B C-2 SITE SECTION
VERT/HORIZ SCALE: 1" = 10'

10' 5' 0 10'
SCALE: 1" = 10'

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN
DRAWN BY ACM
DESIGN BY ACM
CHECKED BY KJG / KFM

RECOM'D
DSRSD PRINCIPAL ENGINEER

REVIEW
PLNNG./DEVL.
FIELD OPS.
WWTP OPS.
MECH./MAINT.
ELECT./INSTR.
SCALE AS SHOWN | 2025

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REGISTERED PROFESSIONAL ENGINEER
KEVYN J. GUSTOFF
No. 64755
CIVIL
STATE OF CALIFORNIA

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP

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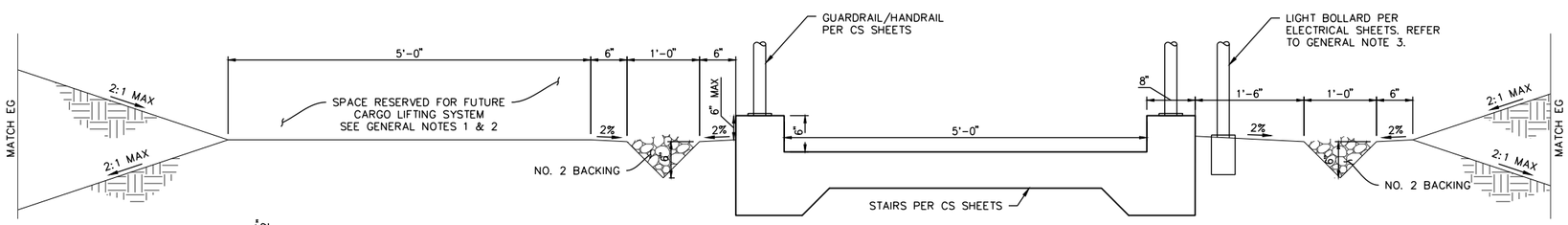
RESERVOIR 20B

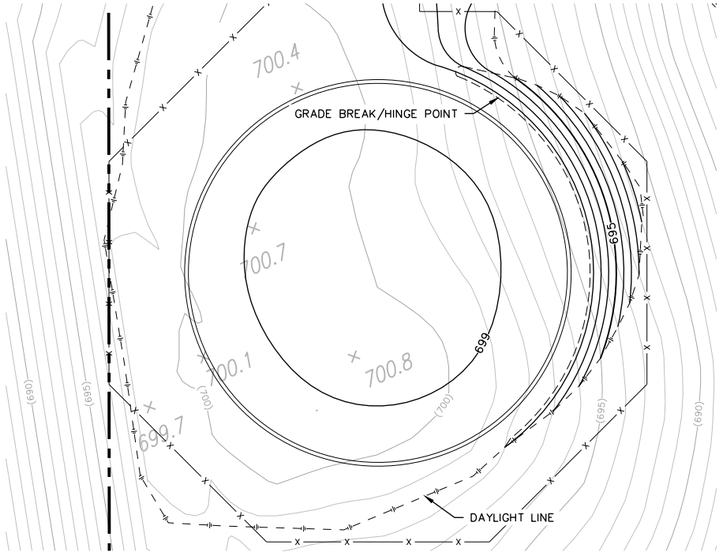
SITE SECTIONS

CIP NO. 14-W008

C-4
7 | 49



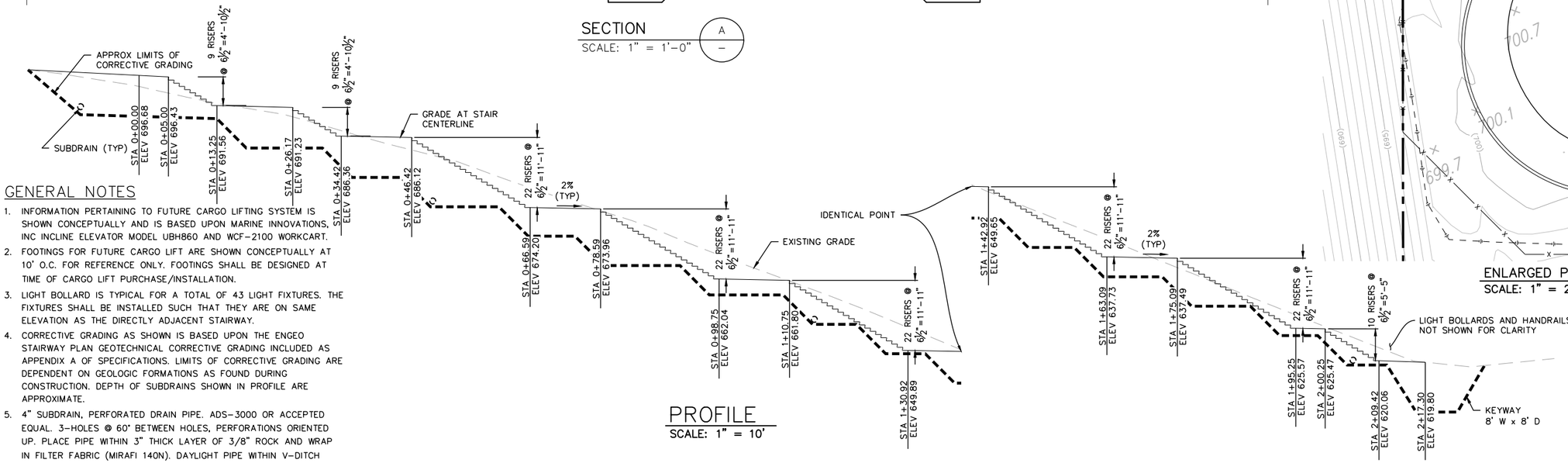
SECTION (A)
SCALE: 1" = 1'-0"



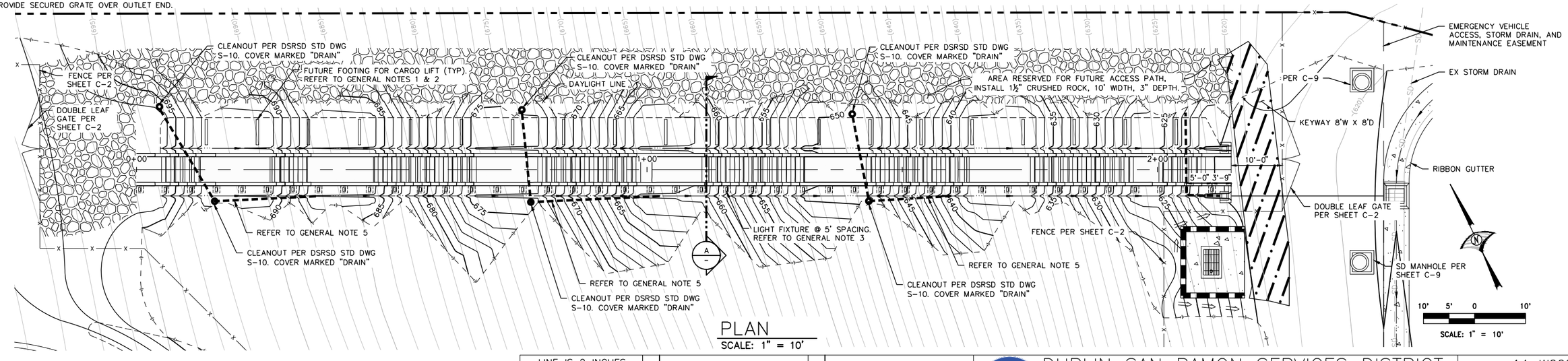
ENLARGED PLAN – GRADING AT RESERVOIR
SCALE: 1" = 20'

GENERAL NOTES

1. INFORMATION PERTAINING TO FUTURE CARGO LIFTING SYSTEM IS SHOWN CONCEPTUALLY AND IS BASED UPON MARINE INNOVATIONS, INC INCLINE ELEVATOR MODEL UBH860 AND WCF-2100 WORKCART.
2. FOOTINGS FOR FUTURE CARGO LIFT ARE SHOWN CONCEPTUALLY AT 10' O.C. FOR REFERENCE ONLY. FOOTINGS SHALL BE DESIGNED AT TIME OF CARGO LIFT PURCHASE/INSTALLATION.
3. LIGHT BOLLARD IS TYPICAL FOR A TOTAL OF 43 LIGHT FIXTURES. THE FIXTURES SHALL BE INSTALLED SUCH THAT THEY ARE ON SAME ELEVATION AS THE DIRECTLY ADJACENT STAIRWAY.
4. CORRECTIVE GRADING AS SHOWN IS BASED UPON THE ENGEO STAIRWAY PLAN GEOTECHNICAL CORRECTIVE GRADING INCLUDED AS APPENDIX A OF SPECIFICATIONS. LIMITS OF CORRECTIVE GRADING ARE DEPENDENT ON GEOLOGIC FORMATIONS AS FOUND DURING CONSTRUCTION. DEPTH OF SUBDRAINS SHOWN IN PROFILE ARE APPROXIMATE.
5. 4" SUBDRAIN, PERFORATED DRAIN PIPE. ADS-3000 OR ACCEPTED EQUAL. 3-HOLES @ 60° BETWEEN HOLES, PERFORATIONS ORIENTED UP. PLACE PIPE WITHIN 3" THICK LAYER OF 3/8" ROCK AND WRAP IN FILTER FABRIC (MIRAFI 140N). DAYLIGHT PIPE WITHIN V-DITCH (TYP). PROVIDE SECURED GRATE OVER OUTLET END.



PROFILE
SCALE: 1" = 10'



PLAN
SCALE: 1" = 10'

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN
DRAWN BY ACM
DESIGN BY ACM
CHECKED BY KJG / KFM

RECOM'D
DSRSD PRINCIPAL ENGINEER

REVIEW
PLNNG./DEVL.
FIELD OPS.
WWTP OPS.
MECH./MAINT.
ELECT./INSTR.

SCALE AS SHOWN 2025

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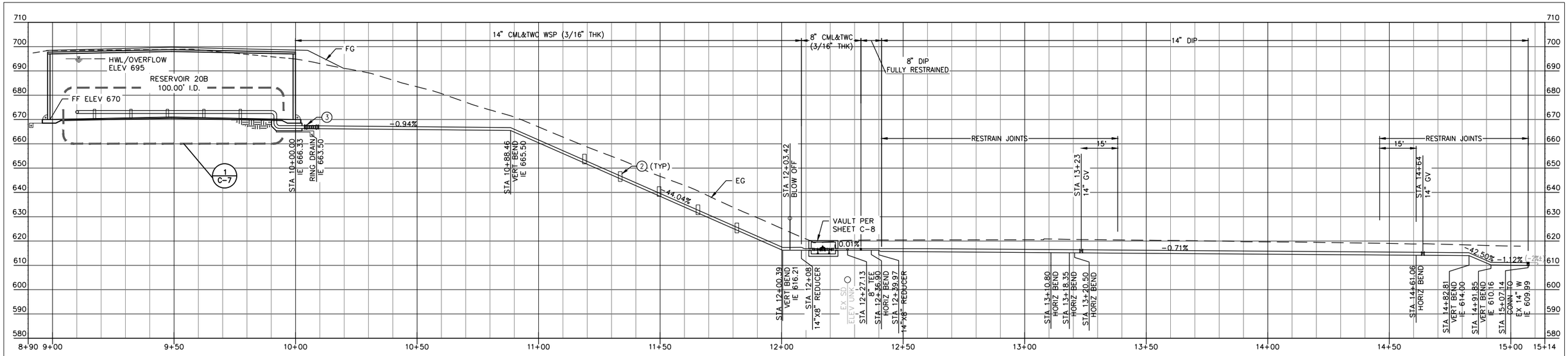
RESERVOIR 20B

STAIRWAY PLAN

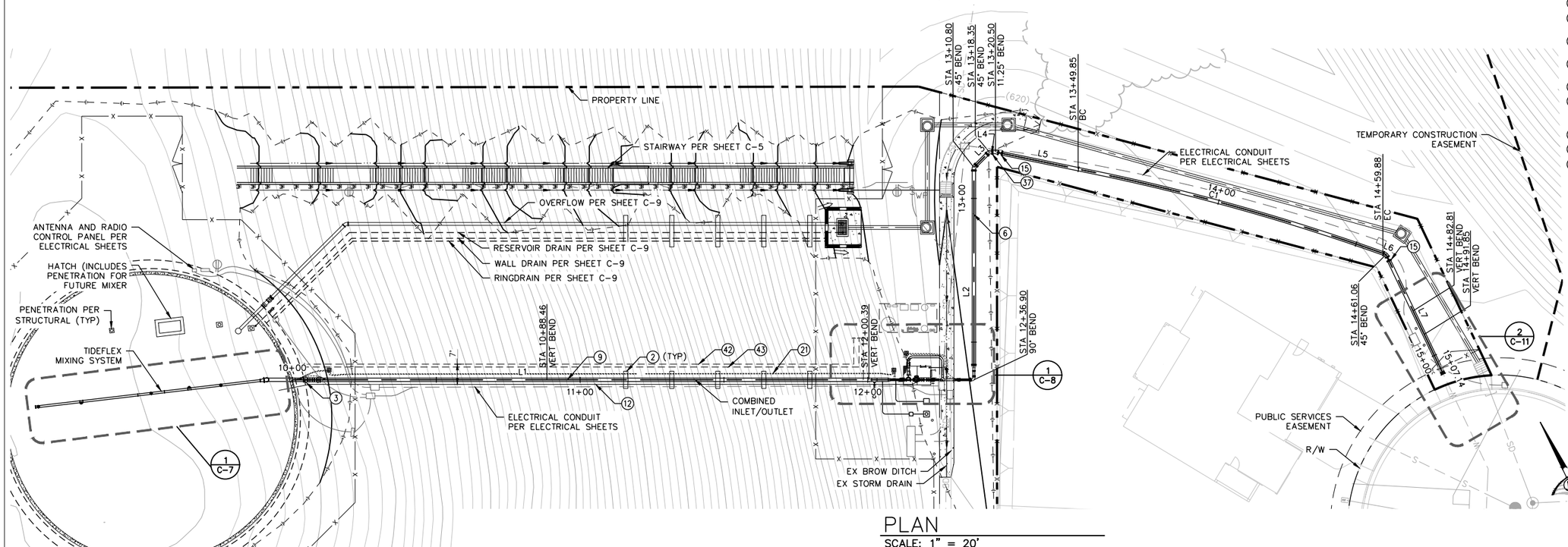
CIP NO. 14-W008

C-5
8 | 49



PROFILE

SCALE: H/V: 1" = 20'



PLAN

SCALE: 1" = 20'

CONSTRUCTION NOTES

(2) TRENCH DAM PER DSRSD STD DWG G-05
(3) EXPANSION JOINT (DOUBLE BALL TYPE)
(6) 14" DUCTILE IRON PIPE, TRENCH PER DSRSD STD DWG G-01
(9) 14" CML&TWC WSP, TRENCH PER DSRSD STD DWG G-01
(12) 3/4" COPPER SENSING LINE WITHIN 3" SCH 80 PVC SLEEVE
(15) GATE VALVE
(21) CATHODIC PROTECTION SYSTEM/ANODE HEADER PER DSRSD STD DWG CP-33. ANODES SHALL HAVE 20' SPACING.
(37) MJ ADAPTER
(42) CHLORINE LINE, 4" SCH 80 PVC (DOUBLE CONTAINED)
(43) AMMONIA LINE, 4" SCH 80 PVC (DOUBLE CONTAINED)

CENTERLINE DATA TABLE

#	BEARING/DELTA	RADIUS	LENGTH
L1	S64° 39' 18.52"E	–	236.90
L2	N25° 20' 41.48"E	–	73.90
L3	N70° 20' 41.48"E	–	7.56
L4	S64° 39' 18.52"E	–	2.15
L5	S52° 56' 39.83"E	–	29.35
C1	S49° 12' 09.26"E	750.00	110.02
L6	S45° 00' 00.00"E	–	1.19
L7	S00° 10' 31.52"E	–	46.07

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN: DRAWN BY ACM; DESIGN BY ACM; CHECKED BY KJG / KFM
RECOM'D: DSRSD PRINCIPAL ENGINEER
REVIEW: PLNNG./DEVL.; FIELD OPS.; WWTP OPS.; MECH./MAINT.; ELECT./INSTR.
SCALE AS SHOWN | 2025

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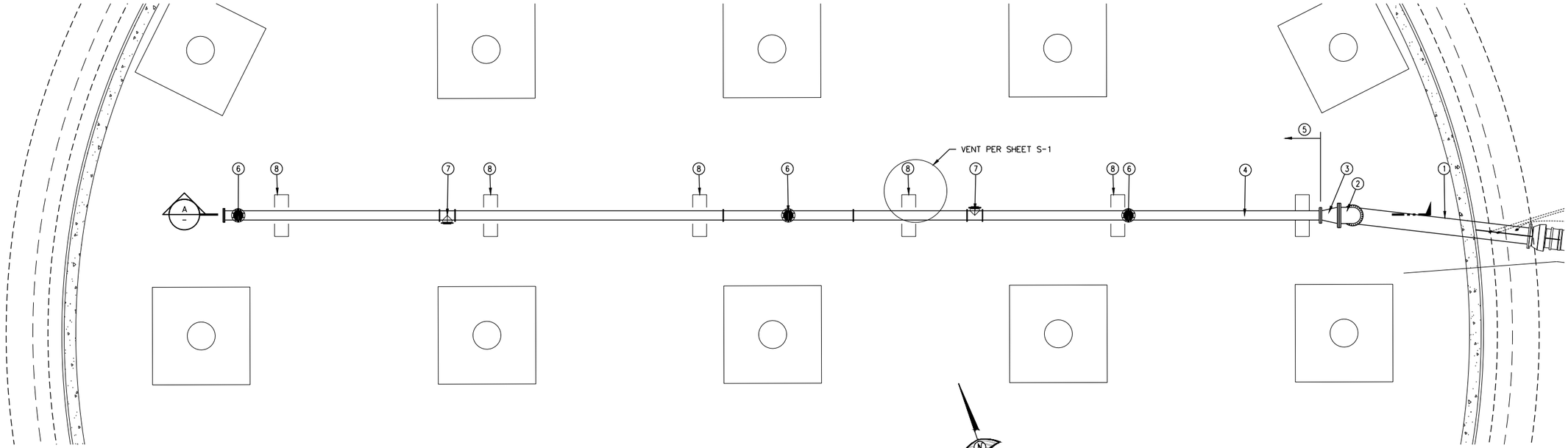
RESERVOIR 20B

INLET AND OUTLET PLAN AND PROFILE

CIP NO. 14-W008

C-6
9 | 49

J:\Jobs\8692_DSRSD\001_Reservoir 20B\Civil\Dwg\9 INLET AND OUTLET PLAN AND PROFILE.dwg 2/19/2026 11:10:07 AM ALIA MEIER

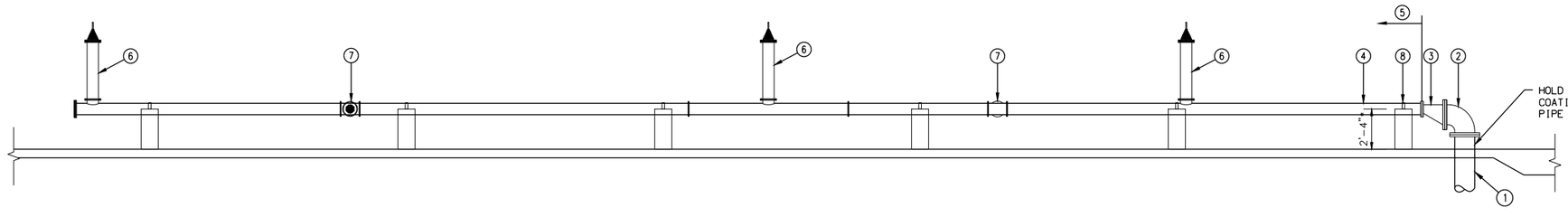


TIDEFLEX MIXING SYSTEM
SCALE: 1/4"=1'-0"
1
C-6

4' 2' 0 4'
SCALE: 1/4" = 1'-0"

CONSTRUCTION NOTES

1. 14" CML&TWC STEEL PIPE
2. 14" SCH 80 PVC 90° BEND
3. 14"x8" SCH 80 PVC ECCENTRIC REDUCER
4. 8" SCH 80 PVC
5. TIDEFLEX MIXING SYSTEM PER RED VALVE
6. TIDEFLEX VARIABLE ORIFICE INLET NOZZLE
7. WATERFLEX OUTLET CHECK VALVE
8. PIPE SUPPORTS PER S-11



ELEVATION
SCALE: 1/4"=1'-0"
A
–

4' 2' 0 4'
SCALE: 1/4" = 1'-0"

*DIMENSION IS APPROXIMATE AND WILL BE DETERMINED BY TIDEFLEX

GENERAL NOTES

1. INFORMATION ON TIDEFLEX MIXING SYSTEM SHOWN INTENDED AS GENERAL REPRESENTATION ONLY.
2. QUANTITY, SIZE, ELEVATIONS, LOCATIONS, AND DISCHARGE ANGLES OF TIDEFLEX INLET NOZZLES AND/OR OUTLET CHECK VALVES ARE TANK-SPECIFIC BASED ON HYDRAULICS, MIXING AND TURNOVER CRITERIA.

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LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN
DRAWN BY ACM
DESIGN BY ACM
CHECKED BY KJG / KFM

RECOM'D
DSRSD PRINCIPAL ENGINEER

REVIEW
PLNNG./DEVL.
FIELD OPS.
WWTP OPS.
MECH./MAINT.
ELECT./INSTR.

SCALE AS SHOWN | 2025

DUBLIN SAN RAMON SERVICES DISTRICT
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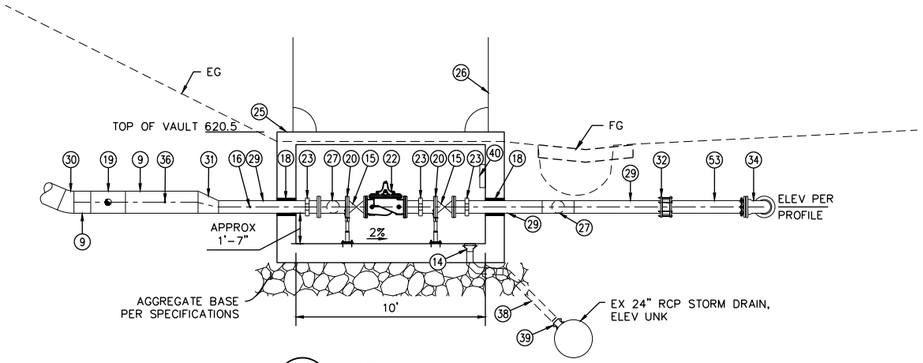
RESERVOIR 20B

INLET AND OUTLET DETAILS – 1

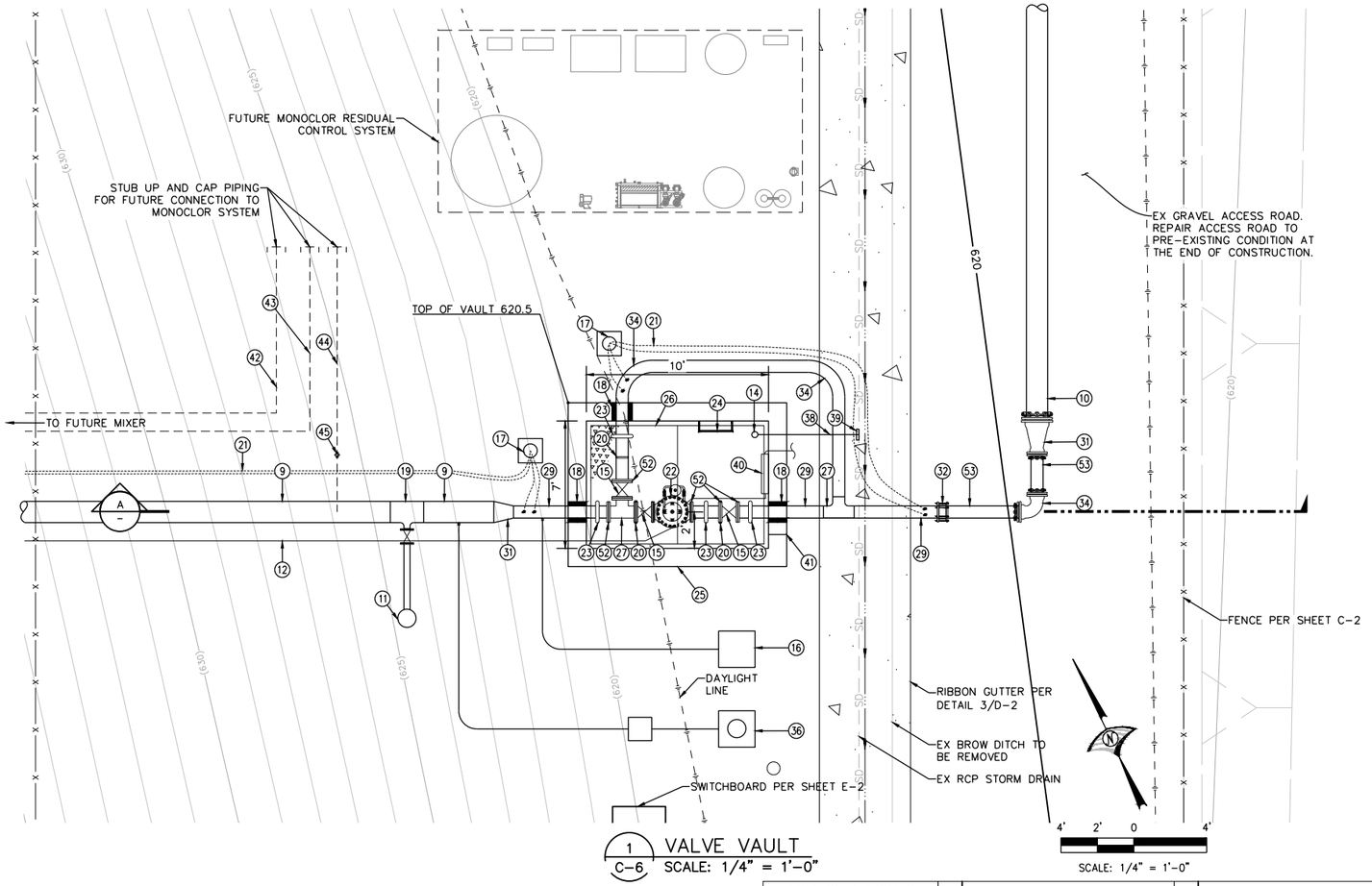
CIP NO. 14-W008

C-7
10 | 49

J:\Jobs\8692_DSRSD\001_Reservoir 20B\Civil\Dwg\10 INLET AND OUTLET DETAILS – 1.dwg 2/19/2026 11:10:47 AM ALIA MEIER



A — SECTION
SCALE: 1/4" = 1'-0"



1 / C-6 VALVE VAULT
SCALE: 1/4" = 1'-0"

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

CONSTRUCTION NOTES

(9) 14" CML&TWC WSP, TRENCH PER DSRSD STD DWG G-01
(10) 14" DIP, TRENCH PER DSRSD STD DWG G-01
(11) 4" BLOW OFF PER DSRSD STD DWG W-9
(12) 3/4" COPPER SENSING LINE WITHIN 3" SCH 80 PVC SLEEVE
(14) FLOOR DRAIN, ZURN Z415N OR EQUAL WITH BACKWATER VALVE
(15) GATE VALVE
(16) CHEMICAL INJECTION PORT PER DETAIL 3/D-1
(17) CP TEST STATION BOX PER DSRSD STD DWG CP-38
(18) LINK SEAL OR APPROVED EQUAL
(19) 14"x4" TEE
(20) PIPE SUPPORT PER DETAIL 4/D-1
(21) CATHODIC PROTECTION SYSTEM/ANODE HEADER PER DSRSD STD DWG CP-33. ANODES SHALL HAVE 20' SPACING.
(22) 8" ALTITUDE CONTROL VALVE, CLA VAL MODEL NO. 131-EF
(23) VICTAULIC COUPLING STYLE W77 OVER THICKENED STEEL COLLAR
(24) LADDER AND LADDER EXTENSION
(25) PRECAST CONCRETE VAULT WITH HATCH (H-20 LOADING) PER CLAVAL/ESI OR ACCEPTED EQUAL
(26) 10'x7' ALUMINUM DOUBLE DOOR HATCH
(27) 8"x8" TEE
(29) 8" WELDED STEEL PIPE
(30) VERTICAL BEND
(31) 14"x8" ECCENTRIC REDUCER
(32) TRANSITION COUPLING, SMITH BLAIR 413
(34) 90° BEND
(36) SAMPLING STATION PER DSRSD STD DWG W-26 MODIFIED TO INCLUDE AN MX WATER QUALITY STATION IN LEIU OF STANDARD SAMPLING STATION AND NO METER
(38) 4" SDR 35 PVC DRAIN PIPE, SLOPE AT 2% MIN
(39) INSERTATEE, CONNECT TO EX RCP
(40) ELECTRONIC VALVE CONTROLLER, CLAVAL VC-22D
(41) HATCH DRAIN PER DETAIL 5/D-1
(42) CHLORINE LINE, 4" SCH 80 PVC (DOUBLE CONTAINED)
(43) AMMONIA LINE, 4" SCH 80 PVC (DOUBLE CONTAINED)
(44) WATER SAMPLE AND RETURN LINE
(45) BALL VALVE WITH VALVE BOX
(52) INSULATING FLANGE PER CP-44
(53) 8" DIP, TRENCH PER DSRSD STD DWG G-01

GENERAL NOTES

1. BURIED STEEL PIPE SHALL BE CEMENT MORTAR LINED AND TAPE WRAPPED WITH MORTAR COATING (CML&TWMC). EXPOSED PIPE (WITHIN VAULT) SHALL BE CEMENT MORTAR LINED AND EPOXY COATED STEEL PIPE.

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN: DRAWN BY ACM; DESIGN BY ACM; CHECKED BY KJG / KFM
RECOM'D: DSRSD PRINCIPAL ENGINEER
REVIEW: PLNNG./DEVL.; FIELD OPS.; WWTP OPS.; MECH./MAINT.; ELECT./INSTR.

SCALE AS SHOWN | 2025

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RESERVOIR 20B

INLET AND OUTLET DETAILS - 2

CIP NO. 14-W008

C-8
11 | 49

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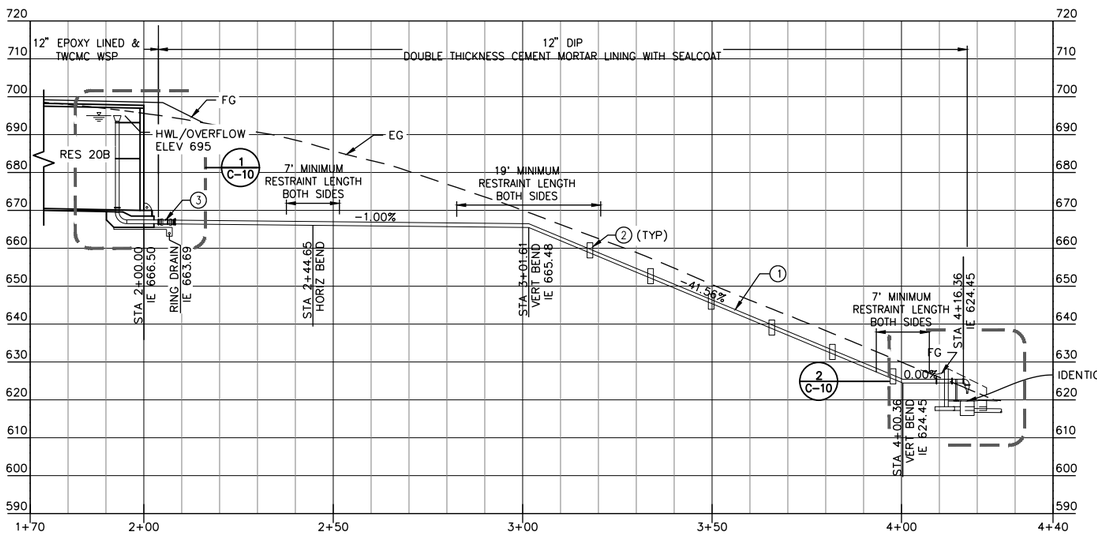
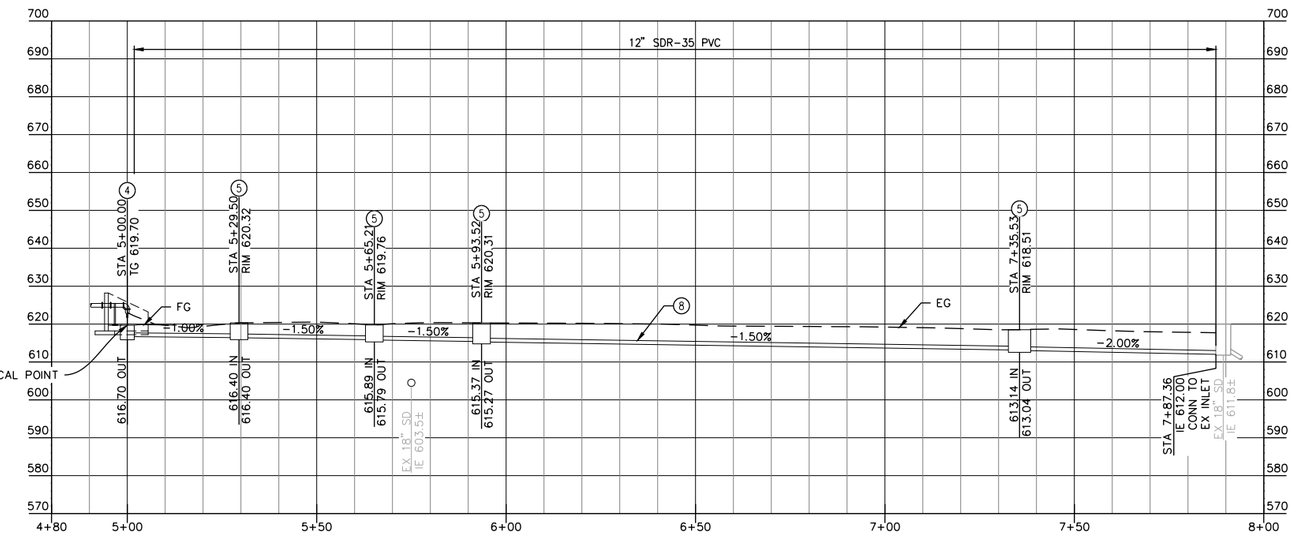
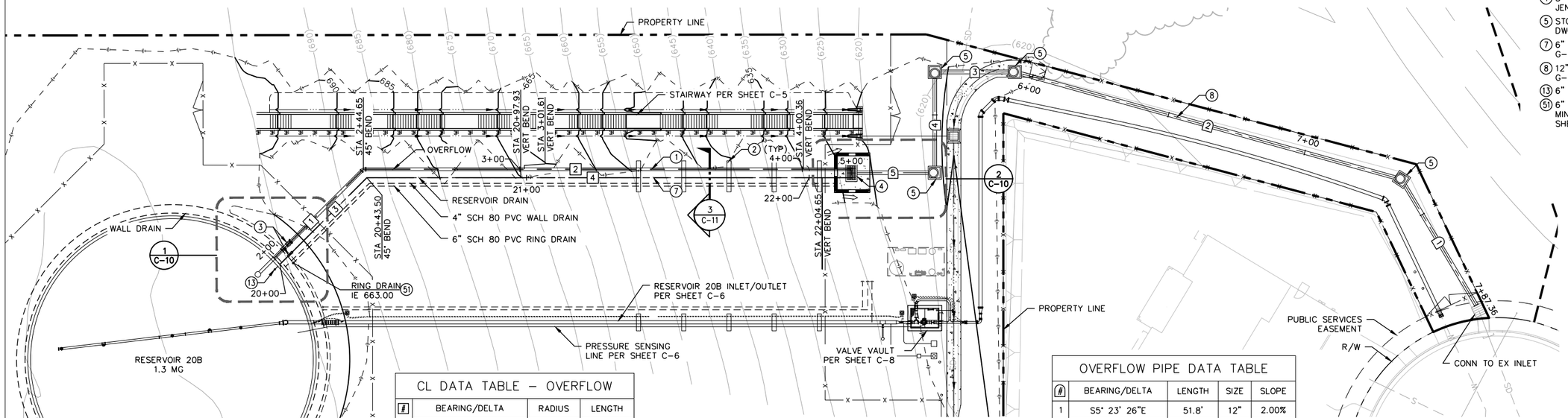




PROFILE
SCALE: H/V: 1" = 20'



PLAN
SCALE: 1" = 20'

CL DATA TABLE – OVERFLOW

#	BEARING/DELTA	RADIUS	LENGTH
1	N70° 25' 15.70"E	–	44.65
2	S64° 39' 18.52"E	–	172.71

CL DATA TABLE – DRAIN

#	BEARING/DELTA	RADIUS	LENGTH
3	N70° 25' 13.07"E	–	43.50
4	S64° 39' 18.52"E	–	171.47

OVERFLOW PIPE DATA TABLE

#	BEARING/DELTA	LENGTH	SIZE	SLOPE
1	S5° 23' 26"E	51.8'	12"	2.00%
2	S49° 06' 40"E	142.0'	12"	1.50%
3	S64° 39' 19"E	28.3'	12"	1.50%
4	N25° 20' 41"E	33.7'	12"	1.50%
5	S64° 39' 19"E	29.5'	12"	1.00%

CONSTRUCTION NOTES
1. 12" DUCTILE IRON PIPE, TRENCH PER DSRSD STD DWG G-01
2. TRENCH DAM PER DSRSD STD DWG G-05
3. EXPANSION JOINT (DOUBLE BALL TYPE)
4. 3' x 5' PRECAST GRATED INLET, DEPTH = 5', JENSEN PRECAST OR EQUAL
5. STORM DRAIN MANHOLE PER CITY OF DUBLIN STD DWG CD-408
7. 6" SCH 80 PVC PIPE, TRENCH PER DSRSD STD DWG G-01, PROFILE PER C-11
8. 12" SDR-35 PVC PIPE, TRENCH PER DSRSD STD DWG G-01
13. 6" MUD VALVE PER MPI OR ACCEPTED EQUAL
51. 6" SCH 80 PERFORATED RING DRAIN AT 1.0% MINIMUM SLOPE, REFER TO STRUCTURAL DETAIL A SHEET S-1

20' 10' 0 20'
SCALE: 1" = 20'

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN: DRAWN BY ACM; DESIGN BY ACM; CHECKED BY KJG / KFM
RECOM'D: DSRSD PRINCIPAL ENGINEER
REVIEW: PLNNG./DEVL.; FIELD OPS.; WWTP OPS.; MECH./MAINT.; ELECT./INSTR.
SCALE AS SHOWN | 2025

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP

WOOD RODGERS
BUILDING RELATIONSHIPS ON PROJECT AT A TIME
3301 C St., Bldg. 100-B Tel 916.341.7760
Sacramento, CA 95816 Fax 916.341.7767

REGISTERED PROFESSIONAL ENGINEER — REVIEW J. GUSTOFSON — No. 64755 — CIVIL — STATE OF CALIFORNIA

DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

RESERVOIR 20B

OVERFLOW PLAN AND PROFILE

CIP NO. 14-W008

C-9 | 12 | 49

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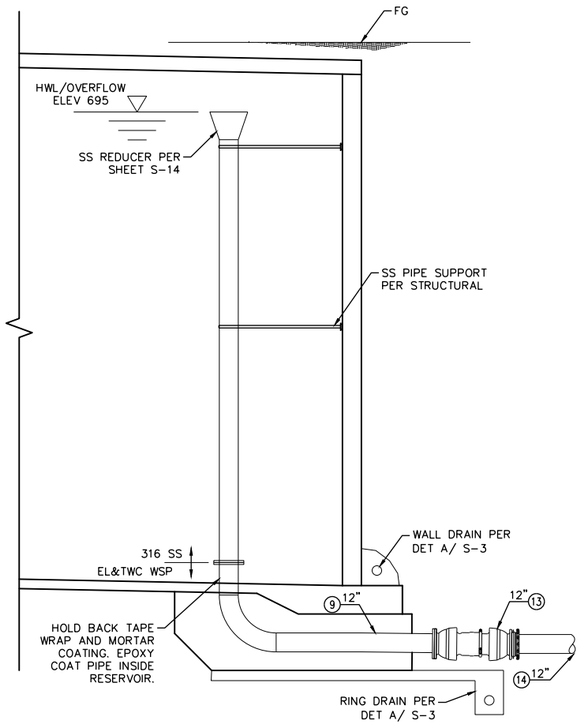
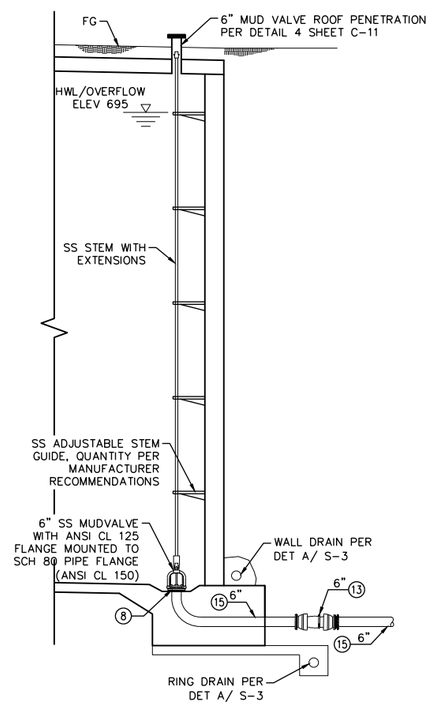
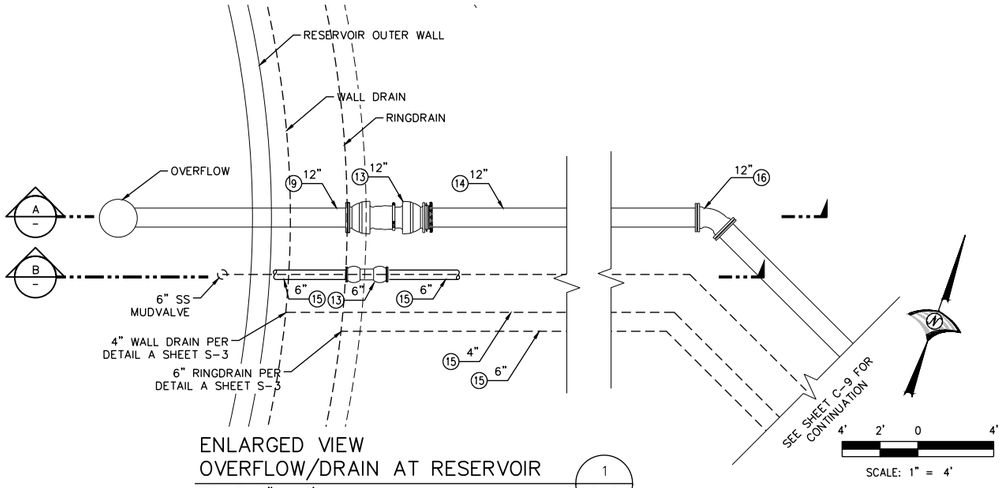


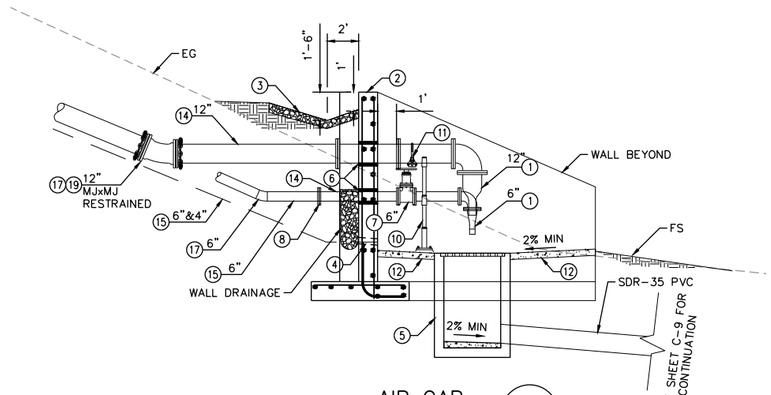
OVERFLOW AT RESERVOIR (A / –)
SCALE: 1"=4'



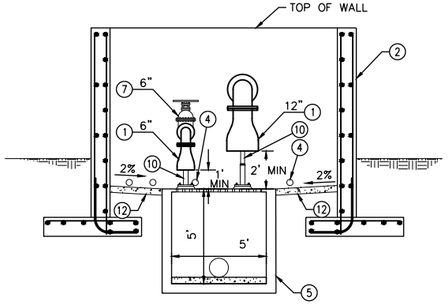
DRAIN AT RESERVOIR (B / –)
SCALE: 1"=4'



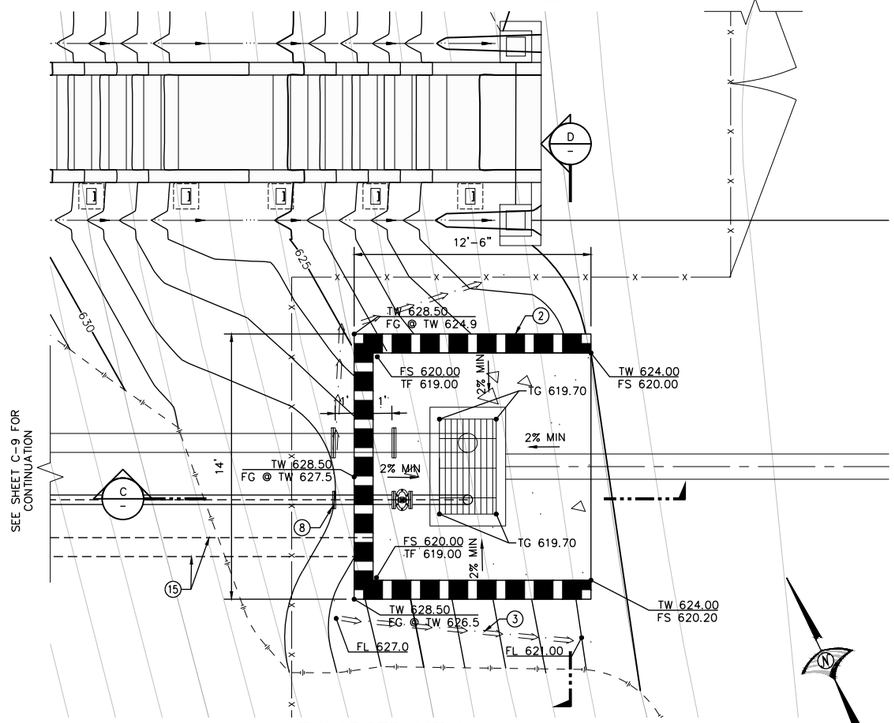
ENLARGED VIEW
OVERFLOW/DRAIN AT RESERVOIR (1 / C-9)
SCALE: 1" = 4'



AIR GAP (C / –)
SCALE: 1"=4'



AIR GAP (D / –)
SCALE: 1"=4'



ENLARGED VIEW
OVERFLOW AIR GAP (2 / C-9)
SCALE: 1" = 4'

CONSTRUCTION NOTES

1. TIDEFLEX CHECK VALVE, SERIES 35
2. REINFORCED CONCRETE RETAINING WALL TYPE 1 PER SPPWC 610-3 (H=8.5' TO 4') AND 617
3. 3/4" GRAVEL SWALE, 5' W x 6" THK
4. WEEP HOLES, 2 EA (5' O.C.) ALONG BACK LENGTH OF WALL. REFER TO SPPWC 617-3. PROVIDE WEAKENED PLANE JOINT PER SPPWC 617-3 AT WEEP HOLE.
5. 3' x 5' PRECAST GRATED INLET, DEPTH = 5', JENSEN PRECAST OR EQUAL
6. LINK SEAL OR APPROVED EQUAL
7. LOCKABLE RWGV, NON-RISING STEM
8. SCH 80 PIPE FLANGE
9. EPOXY LINED AND TAPE WRAP WITH CEMENT MORTAR COATING WSP
10. PIPE SUPPORT PER DETAIL 4/D-1
11. 3/4" SERVICE SADDLE AT BOTTOM OF PIPE (6 O'CLOCK POSITION) FOR DELTA M CORPORATION FS4200 SERIES FLOW SWITCH
12. CONCRETE PAVEMENT/SPLASH PAD (4" PCC OVER 6" AB)
13. DOUBLE BALL EXPANSION JOINT
14. DUCTILE IRON PIPE
15. SCH 80 PVC WITH SOLVENT WELDED FITTINGS
16. 45° BEND
17. 22.5° BEND

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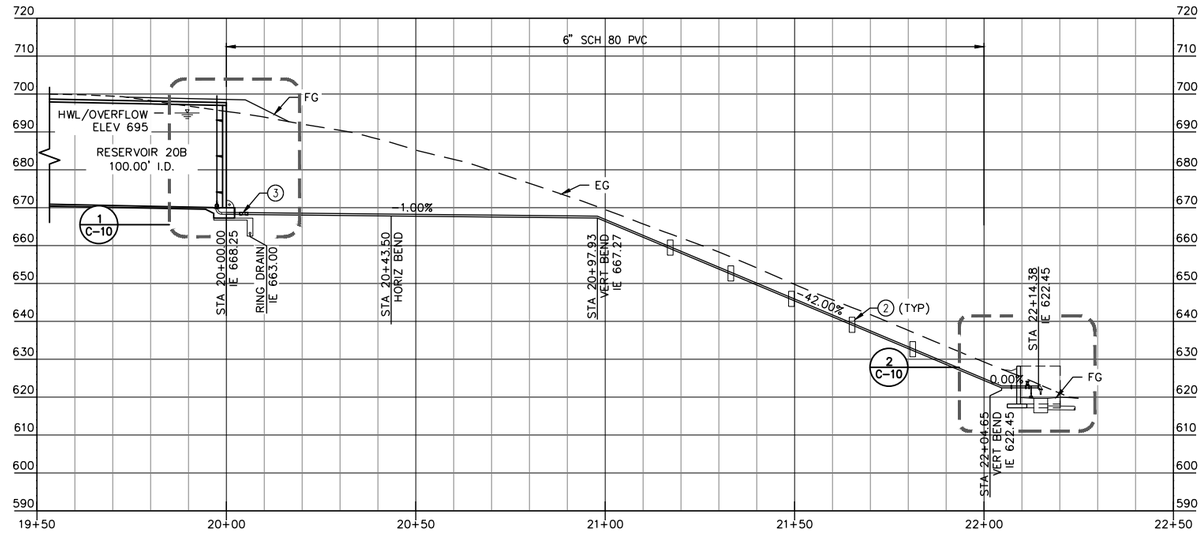
RESERVOIR 20B

OVERFLOW AND DRAIN DETAILS – 1

CIP NO. 14-W008

C-10
13 | 49



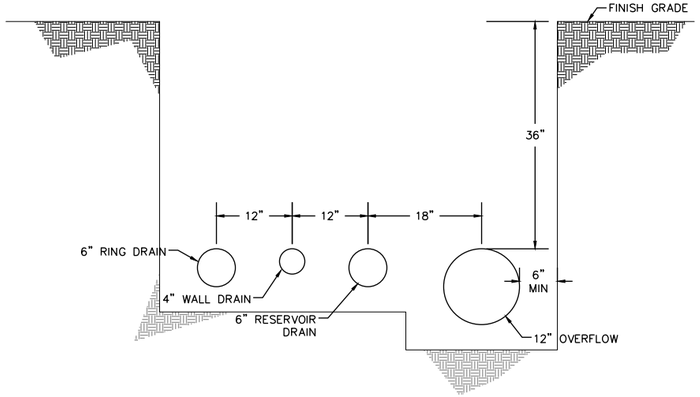
PROFILE – DRAIN LINE (1 / C-9)

SCALE: H/V: 1" = 20'

CONSTRUCTION NOTES

(2) TRENCH DAM PER DSRSD STD DWG G-05

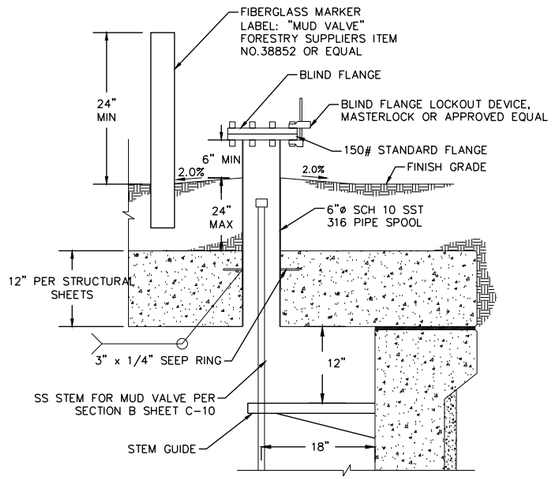
(3) EXPANSION JOINT (DOUBLE BALL TYPE)



NOTE: REFERENCE SDRSD STD DWG G-1 FOR TRENCH DETAIL NOT SHOWN

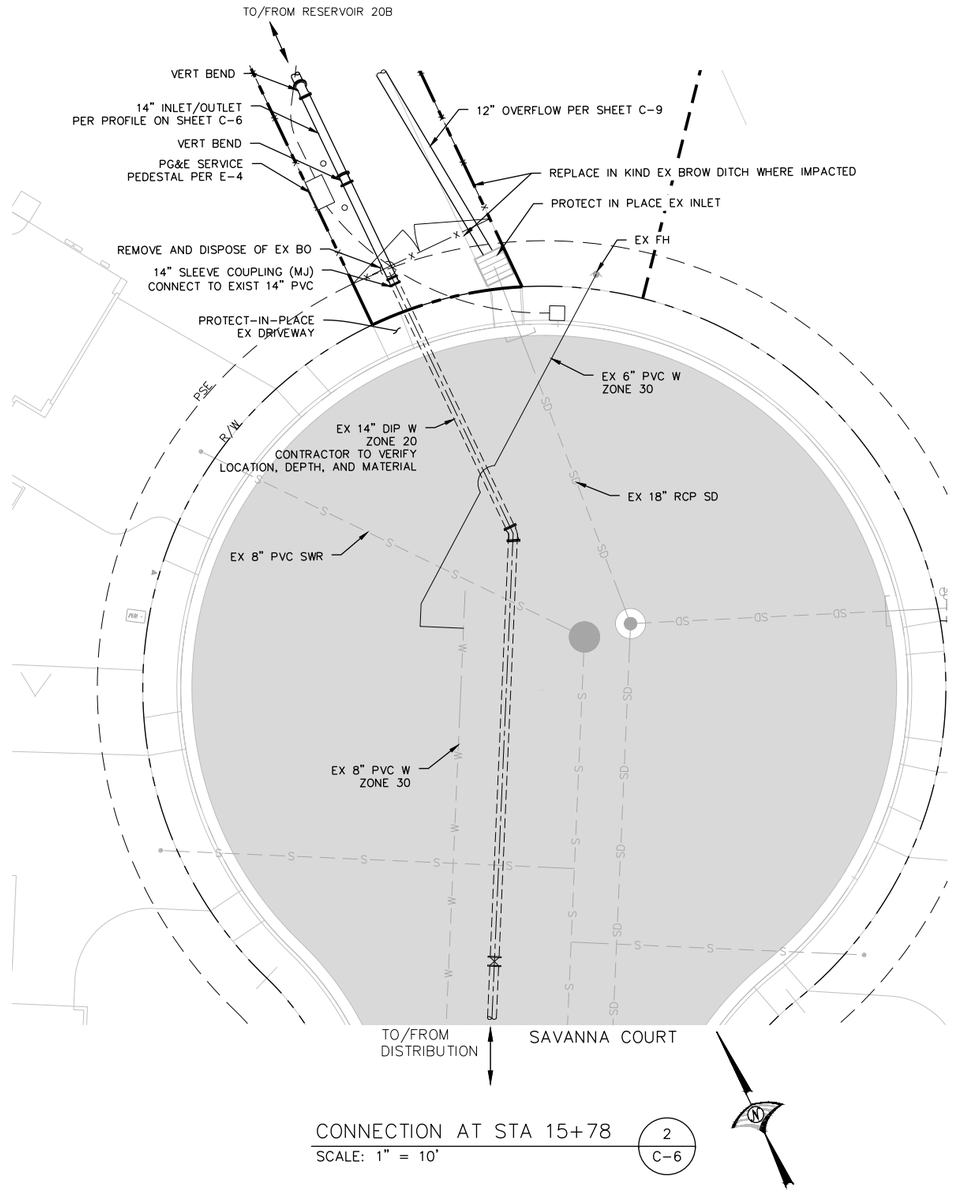
JOINT TRENCH (3 / C-9)

1" = 1'-0"



MUD VALVE ROOF PENETRATION (4 / C-10)

1" = 1'-0"



CONNECTION AT STA 15+78 (2 / C-6)

SCALE: 1" = 10'

LINE IS 2 INCHES AT FULL SCALE
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RECOM'D: DSRSD PRINCIPAL ENGINEER

REVIEW: PLNNG./DEVL.; FIELD OPS.; WWTP OPS.; MECH./MAINT.; ELECT./INSTR.

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RESERVOIR 20B

OVERFLOW AND DRAIN DETAILS – 2

CIP NO. 14-W008

C-11 | 14 | 49

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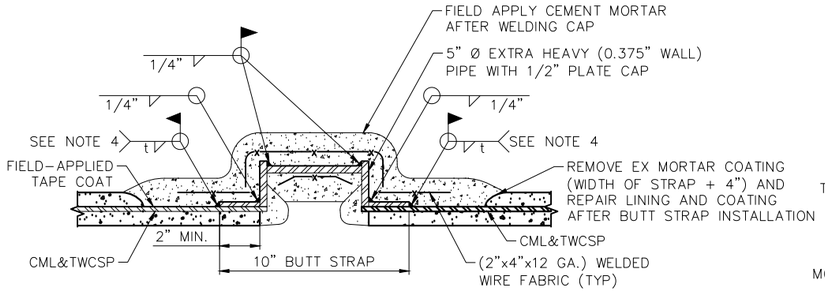
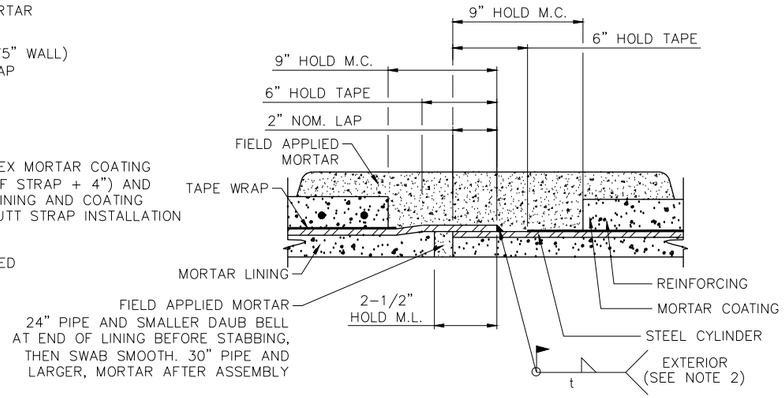


NOTE:

1. SEE SPECS FOR CEMENT MORTAR LINED AND TAPE WRAPPED WITH MORTAR COATING (CML&TWC) STEEL PIPE.
2. ONE HANDHOLE FOR PIPE 16"Ø OR LESS. TWO HANDHOLES FOR PIPE 18"ø TO 30"Ø
3. MULTIPLE PASSES TO BE MADE FOR MINIMUM TOTAL WELD EQUAL TO STEEL THICKNESS. REFER TO SPECS FOR PIPE THICKNESS SCHEDULE. THIS APPLIES TO INTERIOR AND EXTERIOR WELDS.
4. t = PIPE WALL THICKNESS.
5. TACK WIRE TO UNDERSIDE OF CAP FOR MORTAR APPLICATION

BUTT STRAP HANDHOLE (1)
SCALE: NTS — VARIES



NOTES:

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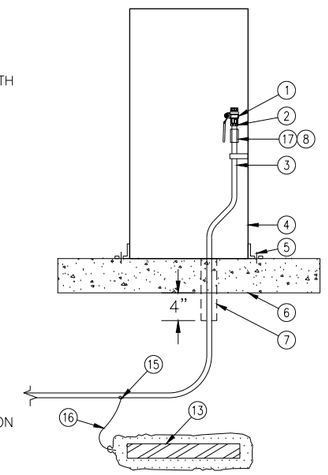
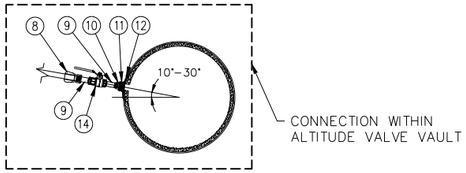
2. MULTIPLE PASSES TO BE MADE FOR MINIMUM TOTAL WELD EQUAL TO STEEL THICKNESS. REFER TO SPECS FOR PIPE THICKNESS SCHEDULE.
3. t = PIPE WALL THICKNESS.

FILLET WELDED LAP-SLIP JOINT FIELD WELDED (2)
SCALE: NTS — VARIES

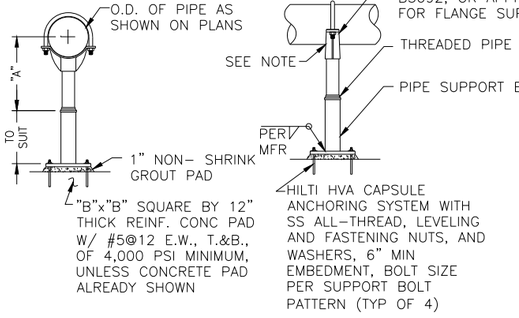
MATERIALS

1. 3/8" FIPT x FIPT BRASS BALL VALVE WITH HANDLE
2. 1"x 3/8" BRASS REDUCING BUSHING
3. 1"x REQUIRED LENGTH COPPER TUBE TYPE "K" SOFT
4. WATER TEST STATION ENCLOSURE, PAINTED WHITE
5. 1/2"x 3-1/2" 304 SS SLEEVE EXPANSION ANCHOR WITH SS NUT AND WASHER (3 EA @ 120° APART)
6. 24"x24"x6" THICK CONCRETE BASE
7. 1"x 1/2" BLACK FOAM SLEEVE
8. 1" STRAIGHT COUPLING COMPRESSION CONNECTION
9. 1" BRASS NIPPLE, THREADED ON BOTH ENDS
10. 1-1/2" TO 1" INSULATING REDUCER BUSHING
11. 1-1/2" EXTRA HEAVY THREADED COUPLING
12. COLLAR
13. SACRIFICIAL PREPACKAGED ZINC ANODE (MIN 15 LBS)
14. 1" FIPT x FIPT BRASS BALL VALVE WITH HANDLE
15. MECHANICAL GROUNDING CLAMP. CLAMP ANODE LEAD WIRE TO COPPER TUBING AND SECURELY WRAP WITH DIELECTRIC TAPE
16. #12 AWG STRANDED COPPER WIRE WITH THW INSULATION
17. 1" BRASS CHECK VALVE, THREADED





CHEMICAL INJECTION PORT (3)
SCALE: NTS — C-8

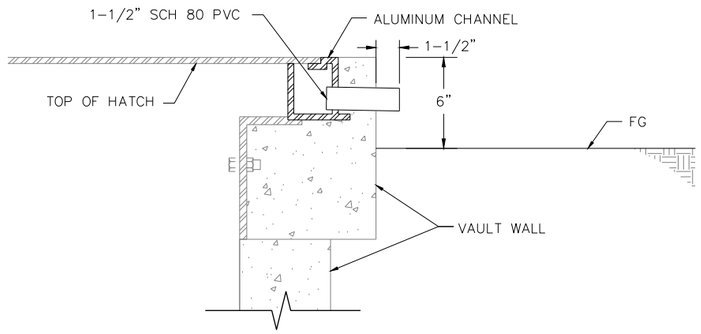


PIPE SIZE	DIMENSIONS (INCHES) A MIN	A MAX	B MIN	MAX LOAD (LBS)
8	12-1/4	16-3/4	36	3800
12	14-3/4	19		3800
14	16	20-1/4		5300

NOTES:

1. FOR TYPE 1 SUPPORTS WITH U-BOLTS ONLY: FOR ALL NON-METALLIC PIPE, PROVIDE TYPE 316 SS PIPE SHIELDS AT ADJUSTABLE PIPE SUPPORTS AND AROUND PIPE, AND PROVIDE TAPE COAT MOLDABLE SEALANT BETWEEN ENTIRE CONTACT SURFACE OF SHIELDS AND PIPE. FOR COPPER PIPE WRAP PIPE WITH 1/8" THICK NEOPRENE STRIP.
2. ALL COMPONENTS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION, UNLESS NOTED OTHERWISE.
3. MINIMUM DIMENSION "B" SHOWN ABOVE IS BASED ON 600 PSF MINIMUM SOIL BEARING CAPACITY AND SHALL NOT BE USED IF SOIL BEARING CAPACITY PER THE GEOTECHNICAL REPORT IS < 600 PSF.

PIPE/FLANGE SUPPORT (4)
SCALE: NTS — C-8



HATCH DRAIN (5)
SCALE: NTS — C-8

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

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RESERVOIR 20B

DETAILS - 1

CIP NO. 14-W008

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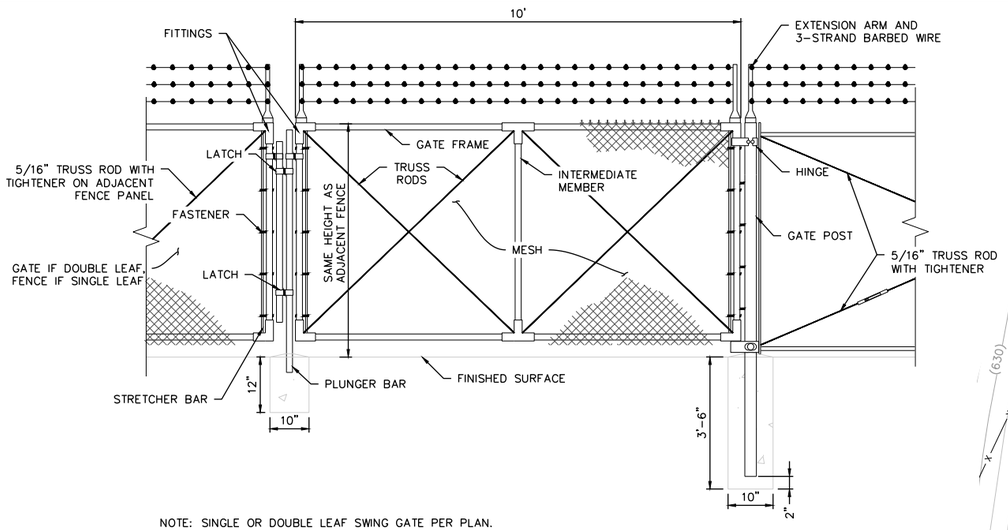
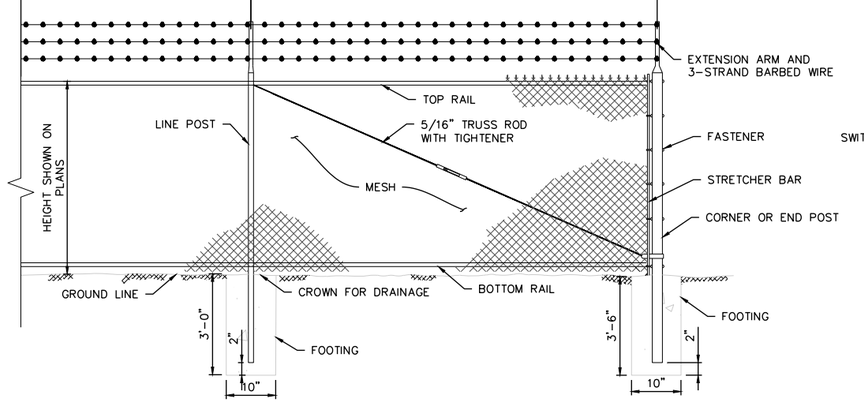


NOTE: SINGLE OR DOUBLE LEAF SWING GATE PER PLAN.

SWING GATE

SCALE: NTS

1 / C-2



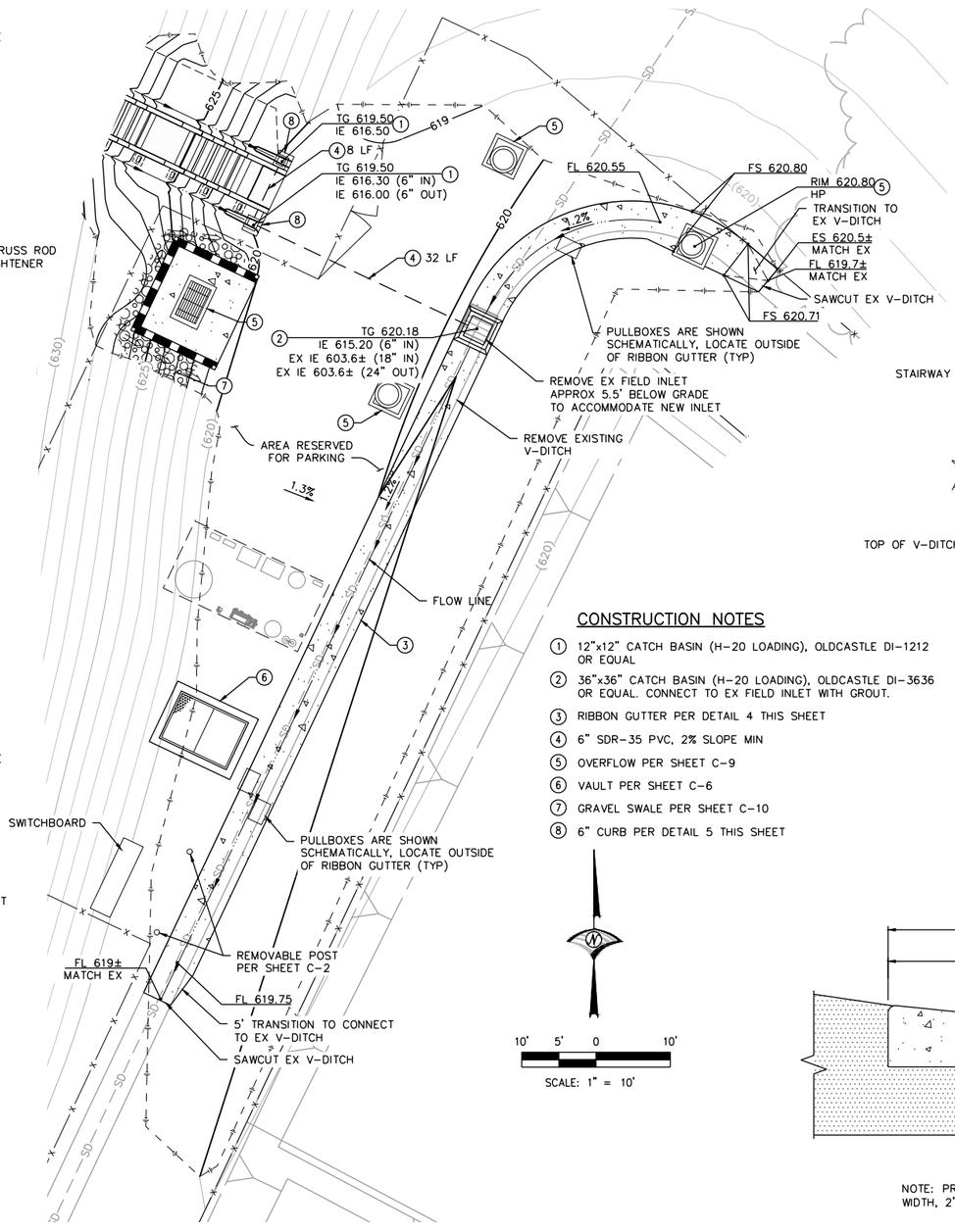
CHAIN LINK FENCE

SCALE: NTS

2 / C-2

FENCE AND GATE NOTES:

1. ALL FOOTINGS SHALL BE 520-C-2500 CONCRETE
2. PROVIDE LOCKABLE HASP FOR ALL GATES



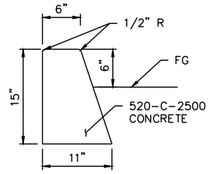
ENLARGED VIEW AT BASE OF HILL

SCALE: 1" = 10'

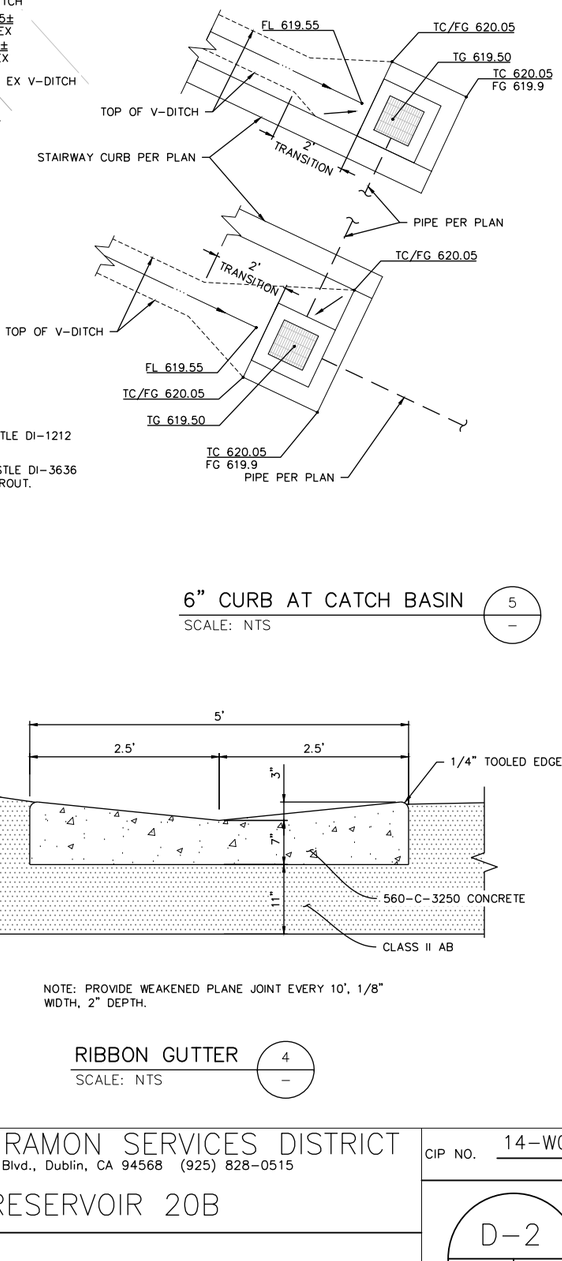
3 / C-2

CONSTRUCTION NOTES

1. 12"x12" CATCH BASIN (H-20 LOADING), OLDCASTLE DI-1212 OR EQUAL
2. 36"x36" CATCH BASIN (H-20 LOADING), OLDCASTLE DI-3636 OR EQUAL. CONNECT TO EX FIELD INLET WITH GROUT.
3. RIBBON GUTTER PER DETAIL 4 THIS SHEET
4. 6" SDR-35 PVC, 2% SLOPE MIN
5. OVERFLOW PER SHEET C-9
6. VAULT PER SHEET C-6
7. GRAVEL SWALE PER SHEET C-10
8. 6" CURB PER DETAIL 5 THIS SHEET



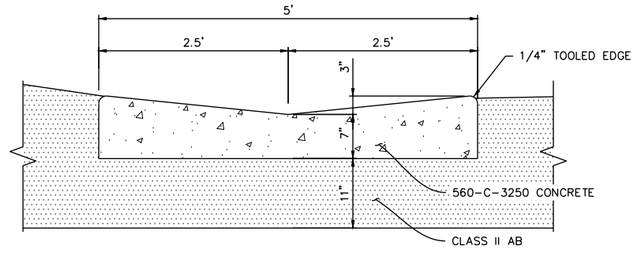
CURB



6" CURB AT CATCH BASIN

SCALE: NTS

5 / –



NOTE: PROVIDE WEAKENED PLANE JOINT EVERY 10', 1/8" WIDTH, 2" DEPTH.

RIBBON GUTTER

SCALE: NTS

4 / –

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RESERVOIR 20B

DETAILS – 2

CIP NO. 14-W008

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INTENT OF DRAWINGS

1. TYPICAL DETAILS AND GENERAL NOTES ON THESE DRAWINGS APPLY TO ALL PARTS OF THE JOB EXCEPT WHERE SPECIFICALLY DETAILED OR NOTED OTHERWISE ON THEIR SHEET.
2. RESOLVE ANY CONFLICTS ON THE DRAWINGS WITH THE ARCHITECT AND ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION. DIMENSIONS TAKE PRECEDENCE OVER SCALE OF DRAWINGS. HOWEVER, ANY SIGNIFICANT CONFLICTS SHOULD BE RESOLVED AS NOTED ABOVE.
3. VERIFY ALL DIMENSIONS AND CONDITIONS ON THE JOB. RESOLVE ANY CONFLICTS BETWEEN EXISTING CONDITIONS AND INFORMATION SHOWN ON THESE DRAWINGS WITH THE ARCHITECT AND ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION.
4. THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE MEANS OR METHODS OR SEQUENCES OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY BRACING, SHORING AND SUPPORT NECESSARY TO ACHIEVE THE FINISHED STRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING AND ENFORCING ALL CONSTRUCTION LOAD LIMITS ON THE STRUCTURE.

GENERAL

1. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE DRAWINGS, GENERAL NOTES, AND SPECIFICATIONS.
2. ALL APPLICABLE REQUIREMENTS OF THE LOCAL CONSTRUCTION AND GENERAL INDUSTRY SAFETY ORDERS, THE OCCUPATIONAL SAFETY AND HEALTH ACT, AND THE CONSTRUCTION SAFETY ACT SHALL BE MET.
3. ALL ERECTION PROCEDURES SHALL CONFORM TO OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS. ANY DEVIATION MUST BE APPROVED BY OSHA PRIOR TO ERECTION.
4. ALL NECESSARY PERMITS, LICENSES, APPROVALS, FEES, NOTICES, ETC, SHALL BE OBTAINED PRIOR TO BEGINNING CONSTRUCTION.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE STRUCTURE DURING THE CONSTRUCTION PERIOD. ALL WALLS, FLOORS, AND ROOF MEMBERS SHALL BE SECURELY SHORED AND BRACED AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR SHALL RETAIN A REGISTERED CIVIL ENGINEER TO DESIGN ALL TEMPORARY SHORING, BRACING AND GUYS REQUIRED DURING CONSTRUCTION IN ACCORDANCE WITH ALL NATIONAL, STATE AND LOCAL SAFETY ORDINANCES.
6. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL EXCAVATION PROCEDURES INCLUDING LAGGING, SHORING AND PROTECTION OF ADJACENT PROPERTY, STRUCTURES, STREETS, AND UTILITIES IN ACCORDANCE WITH ALL NATIONAL, STATE AND LOCAL SAFETY ORDINANCES.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL UTILITIES AGENCIES AS TO THE LOCATION OF ALL UNDERGROUND FACILITIES FOR THE PROTECTION OF AND REPAIR OF DAMAGE TO THEM. CALL "UNDERGROUND SERVICE ALERT" FORTY-EIGHT HOURS BEFORE DIGGING.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES AND SHALL CHECK ALL DIMENSIONS. ALL DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE ARCHITECT, ENGINEER, AND SHALL BE RESOLVED BEFORE PROCEEDING WITH THE WORK.
9. SHOP DRAWINGS REQUIRED BY THE CONTRACT DOCUMENTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION. ALL SHOP DRAWINGS SHALL BE REVIEWED BY THE GENERAL CONTRACTOR BEFORE SUBMITTAL. THE ENGINEER'S REVIEW IS TO BE FOR CONFORMANCE WITH THE DESIGN CONCEPT AND GENERAL COMPLIANCE WITH THE RELEVANT CONTRACT DOCUMENTS. THE ENGINEER'S REVIEW DOES NOT RELIEVE THE CONTRACTOR OF THE SOLE RESPONSIBILITY TO REVIEW, CHECK AND COORDINATE THE SHOP DRAWINGS PRIOR TO SUBMISSION. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF SHOP DRAWINGS AS THEY PERTAIN TO MEMBER SIZES, DETAILS, DIMENSIONS, ETC.
10. ALL DETAILS DESIGNATED AS STANDARD OR TYPICAL SHALL APPLY TO ALL APPLICABLE CONDITIONS IN ADDITION TO OTHER SPECIFICALLY REFERENCED DETAILS AND SECTIONS.
11. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO REVIEW BY THE ARCHITECT AND ENGINEER.
12. REFER TO CIVIL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR SIZE AND LOCATION OF ALL OPENINGS REQUIRED FOR DUCTS, PIPES AND PIPE SLEEVES, ELECTRICAL CONDUITS AND OTHER ITEMS TO BE EMBEDDED IN CONCRETE OR OTHERWISE INCORPORATED IN STRUCTURAL WORK. NO PIPE OR DUCTS SHALL BE EMBEDDED INTO STRUCTURAL MEMBERS UNLESS SHOWN ON THE PLANS.
13. CIVIL, MECHANICAL, PLUMBING, AND ELECTRICAL PLANS ARE CONSIDERED A PART OF THE STRUCTURAL DESIGN DRAWINGS AND ARE TO BE USED TO DEFINE DETAIL CONFIGURATIONS INCLUDING, BUT NOT LIMITED TO RELATIVE LOCATION OF MEMBERS, ELEVATIONS, LOCATION OF ALL OPENINGS, ETC.

DESIGN CRITERIA

1. CODES AND STANDARDS:

   2022 CALIFORNIA BUILDING CODE (CBC)

   2021 INTERNATIONAL BUILDING CODE (IBC)

   ASCE 7-16 MINIMUM DESIGN LOADS AND ASSOCIATED CRITERIA FOR BUILDINGS AND OTHER STRUCTURES

   ACI 318-19 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE

2. LIVE LOADS:

   LIVE LOAD = 60.0 PSF (REDUCIBLE)

3. SEISMIC DESIGN PARAMETERS:

   LATITUDE 37.71582 N
   LONGITUDE 121.83496 W

   SITE CLASS C

   S_S = 1.63 Fa = 1.2 S_{DS} = 1.307
   S_1 = 0.6 Fv = 1.4 S_{D1} = 0.56

FOUNDATION

1. FOUNDATION WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT EDITION OF THE CBC, ALL APPLICABLE LOCAL CODES, AND THE GEOTECHNICAL REPORT WHERE PROVIDED.
2. THE FOUNDATION DESIGN IS BASED ON THE RECOMMENDATIONS STATED IN THE FOLLOWING GEOTECHNICAL REPORT:

TITLE	GEOTECHNICAL EXPLORATION
BY	ENGEO
JOB NO	5101.002.001
DATE	JANUARY 26, 2024

3. UNLESS OTHERWISE INDICATED, FOUNDATION WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE ABOVE REFERENCED REPORT. THIS REPORT IS PART OF THESE DOCUMENTS AND SHOULD BE KEPT ON THE JOB SITE AT ALL TIMES.
4. FOUNDATION EXCAVATIONS SHALL BE EXAMINED AND CERTIFIED BY THE GEOTECHNICAL ENGINEER OR THEIR REPRESENTATIVE PRIOR TO THE PLACEMENT OF ANY REINFORCING STEEL OR CONCRETE.
5. UNEXPECTED SOIL CONDITIONS: FOUNDATION DESIGN IS BASED UPON SOIL CONDITIONS SHOWN BY TEST BORINGS IN THE ABOVE REFERENCED REPORT. ANY SUBSURFACE CONDITIONS NOT IN ACCORDANCE WITH THE ABOVE REFERENCED GEOTECHNICAL REPORT SHALL BE REPORTED TO THE GEOTECHNICAL ENGINEER IMMEDIATELY FOR RESOLUTION PRIOR TO CONTINUING ANY WORK.
6. COMPACTION: MATERIAL FOR FILLING AND BACKFILLING SHALL CONSIST OF THE EXCAVATED MATERIAL AND/OR IMPORTED BORROW AS SPECIFIED IN THE ABOVE REFERENCED REPORT. MATERIAL SHALL BE FREE OF ORGANIC MATTER, TRASH, LUMBER OR OTHER DEBRIS. COMPACT IN ACCORDANCE WITH THE ABOVE REFERENCED REPORT.
7. FOOTINGS SHALL BEAR ON UNDISTURBED, FIRM NATURAL SOIL OR COMPACTED FILL AS REQUIRED BY THE GEOTECHNICAL REPORT. EARTH SHALL BE COMPACTED UNDER ALL SLABS AND AROUND THE SIDES OF ALL FOOTINGS.
8. FORM FOOTINGS AS NECESSARY TO ACHIEVE MINIMUM DIMENSIONS SHOWN ON THESE DRAWINGS. EARTH FORMS CAN BE USED IF SOIL CONDITIONS PERMIT EXCAVATION WITHOUT SOIL SLOUGHING DURING STEEL AND CONCRETE PLACEMENT. IF EARTH FORMS ARE USED, INCREASE WIDTH OF FOOTING ONE INCH ON EACH SIDE FROM SIZE SHOWN ON DRAWINGS.
9. FOUNDATION EXCAVATIONS SHALL BE CLEANED OF ANY LOOSENED SOILS, DEBRIS AND STANDING WATER BEFORE PLACING STEEL OR CONCRETE.

CONCRETE

1. ALL STRUCTURAL CONCRETE UNLESS OTHERWISE NOTED SHALL HAVE A DENSITY OF 150 PCF AGGREGATES AND SHALL CONFORM TO ASTM C33 WITH PROVEN SHRINKAGE CHARACTERISTICS OF LESS THAN 0.05%.
2. ALL STRUCTURAL LIGHT WEIGHT CONCRETE SHALL HAVE A DENSITY OF 115 PCF MAXIMUM AND 100 PCF MINIMUM. AGGREGATES SHALL CONFORM TO ASTM C330.
3. ALL CONCRETE SHALL DEVELOP MINIMUM COMPRESSIVE STRENGTHS AT THE END OF 28 DAYS AS FOLLOWS:

	STRENGTH	MAX W/C	MAX AGGREGATE
STAIRS & LANDING	4000 PSI	0.45	1"

4. STRENGTHS AND W/C RATIOS SHOWN ARE MINIMUM REQUIREMENTS AND MAY REQUIRE MORE RESTRICTIVE REQUIREMENTS DUE TO DURABILITY REQUIREMENTS.
5. ALL CEMENT SHALL CONFORM TO ASTM C150 TYPE II MINIMUM. FLY ASH SHALL CONFORM TO ASTM C618 AND SHALL NOT EXCEED 25% OF THE TOTAL CEMENTITIOUS MATERIAL.
6. MINIMUM DURABILITY REQUIREMENTS PER THE CURRENT REFERENCED ACI 318 CHAPTER 19 SHALL BE MET.
7. ADMIXTURES SHALL COMPLY WITH ASTM C494 AND BE OF A TYPE THAT INCREASES THE WORKABILITY OF THE CONCRETE. BUT SHALL NOT BE CONSIDERED TO REDUCE THE SPECIFIED MINIMUM CEMENT CONTENT (CALCIUM CHLORIDE SHALL NOT BE USED).
8. CONCRETE MIX DESIGNS SHALL BE PREPARED BY AN INDEPENDENT LABORATORY, STAMPED BY A LICENSED ENGINEER AND SUBMITTED FOR REVIEW BY THE STRUCTURAL ENGINEER.
9. PLACEMENT OF CONCRETE SHALL BE IN CONFORMANCE WITH THE ACI 301.
10. SET FLOOR SCREEDS TO REQUIRED ELEVATIONS DURING CONCRETE POURING TO COMPENSATE FOR FORM SETTLEMENT.
11. CONCRETE SHALL BE MAINTAINED ABOVE 50°F AND IN A CONTINUOUSLY MOIST CONDITION FOR AT LEAST (7) DAYS AFTER PLACEMENT OR CONTRACTOR SHALL USE OTHER CURING TECHNIQUES TO ENSURE STRUCTURAL INTEGRITY, SERVICEABILITY AND TO MINIMIZE SURFACE CRACKING.
12. CONTROL JOINTS SHALL BE LOCATED AND FORMED AS SHOWN ON THE DRAWINGS. SLAB CONTROL JOINTS SHALL BE PLACED AT POINTS OF LOW STRESS AS WELL AS LOCATED TO MINIMIZE EFFECTS OF SHRINKAGE. KEY AND DOWEL SLAB CONSTRUCTION JOINTS AS SHOWN ON THE PLANS. ALL CONSTRUCTION JOINTS SHALL BE CLEANED THOROUGHLY AND ALL LAITANCE SHALL BE REMOVED FROM THE SURFACE. ALL VERTICAL JOINTS SHALL BE THOROUGHLY WETTED AND SLUSHED WITH A COAT OF NEAT CEMENT OR BONDING AGENT IMMEDIATELY BEFORE POURING NEW CONCRETE.

TESTS, INSPECTIONS AND STRUCTURAL OBSERVATIONS:

1. TESTS AND INSPECTIONS SHALL BE PROVIDED BY A QUALIFIED TESTING AGENCY AS REQUIRED BELOW AND SHALL CONFORM TO THE REQUIREMENTS OF THE **2022 CBC CHAPTER 17**.
2. TESTS: / INSPECTIONS:

TESTS:	INSPECTIONS:
☐ FILL COMPACTION	☒ SPECIAL GRADING, EXCAVATION AND FILLING
☐ REINFORCING STEEL	☐ PILE/PIER INSTALLATION
☒ CONCRETE	☐ REINFORCEMENT PLACEMENT
☐ STRUCTURAL STEEL	☐ CONCRETE PLACEMENT
☒ EPOXY AND EXPANSION ANCHORS	☐ SHOP WELDING
☐ SHOTCRETE	☐ FIELD WELDING
☐ MASONRY	☐ HIGH STRENGTH BOLTING
☐ GROUT AND MORTAR	☐ MASONRY PLACEMENT AND GROUTING
	☐ SHEAR STUD INSTALLATION
	☒ EPOXY AND EXPANSION ANCHORS
	☐ SHOTCRETE
	☐ ANCHOR BOLT SIZE AND PLACEMENT

REINFORCING STEEL

1. ALL REINFORCING STEEL SHALL CONFORM TO ASTM STANDARD AS NOTED:

TYPICAL REBAR:	A615 GRADE 60
REBAR WHERE SPECIFICALLY NOTED:	A615 GRADE 40
REBAR TO BE WELDED:	A706 GRADE 60

2. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A1064. MINIMUM LAP AT SPLICES SHALL BE 12 INCHES.
3. ALL CONCRETE SHALL BE REINFORCED UNLESS SPECIFICALLY NOTED "NOT REINFORCED" IN THE DRAWINGS. IF REINFORCING BARS ARE NOT SHOWN OR NOTED, PROVIDE SAME REINFORCEMENT AS FOR SIMILAR CONDITIONS ELSEWHERE IN THE WORK, OR AS DIRECTED BY THE ENGINEER.
4. REINFORCEMENT BARS #5 AND LARGER SHALL NOT BE SPLICED EXCEPT AS DETAILED AND LOCATED ON DRAWINGS. #4 AND SMALLER BARS WITH LENGTH NOT SHOWN SHALL BE CONTINUOUS, LAPPING IN CONCRETE 1'-6" MINIMUM. WALL HORIZONTAL REINFORCEMENT SPLICES SHALL BE STAGGERED, VERTICAL REINFORCEMENT SHALL BE SPLICED ONLY AT HORIZONTAL SUPPORTS, SUCH AS ROOF OR FLOOR UNLESS OTHERWISE NOTED ON DRAWINGS. ALL SPLICES SHALL BE CLASS B U.O.N.
5. ANCHOR BOLTS, DOWELS AND OTHER EMBEDDED ITEMS SHALL BE ACCURATELY SET IN PLACE AND FIRMLY SUPPORTED BEFORE CONCRETE IS POURED.
6. REINFORCEMENT BARS SHALL BE ACCURATELY PLACED AND FIRMLY SUPPORTED USING TIES AND SUPPORT BARS IN ADDITION TO REINFORCEMENT SHOWN WHERE FIRM AND ACCURATE PLACING IS NECESSARY AS SPECIFIED IN THE ACI STANDARDS. DOWELS SHOULD BE PROVIDED TO MATCH ALL REINFORCEMENT AT CONSTRUCTION JOINTS UNLESS OTHERWISE NOTED.
7. NO REINFORCEMENT WELDING (TACK WELDING INCLUDED) SHALL BE DONE UNLESS SHOWN ON THE DRAWINGS OR APPROVED BY THE ENGINEER.
8. ALL DIMENSIONS SHOWN FOR LOCATION OF REINFORCING ARE TO THE FACE OF BARS AND DENOTE CLEAR COVERAGE UNLESS OTHERWISE NOTED.
9. MINIMUM CONCRETE COVERAGE OF REINFORCING STEEL SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED ON PLANS:

CONCRETE CAST AGAINST EARTH	3"
FORMED CONCRETE EXPOSED TO EARTH OR WEATHER:	
#6-#18 BARS	2"
#5 BAR AND SMALLER	1 ½"
FORMED CONCRETE NOT EXPOSED TO EARTH OR WEATHER:	
BARS IN SLABS AND WALLS	¾"
BARS IN BEAMS AND COLUMNS	1 ½"
EXTERIOR FACE OF TILT-UP WALLS EXPOSED TO WEATHER:	
#8 BARS AND SMALLER	1"
SLABS ON GRADE:	¾" (FROM TOP)

10. DRAWINGS SHOW TYPICAL REINFORCING CONDITIONS.

DEFERRED SUBMITTALS

1. FOLLOWING IS A LIST OF DEFERRED SUBMITTAL ITEMS.

   A. HANDRAIL AND ANCHORAGE

2. PROVIDE SHOP DRAWINGS AND CALCULATIONS FOR THE DEFERRED SUBMITTAL ITEMS TO THE ARCHITECT AND ENGINEER FOR REVIEW PRIOR TO SUBMITTAL TO THE BUILDING DEPARTMENT.
3. DEFERRED SUBMITTAL SHOP DRAWINGS AND CALCULATIONS SHALL BE STAMPED AND SIGNED BY A CIVIL OR STRUCTURAL ENGINEER REGISTERED IN THE STATE OF CALIFORNIA.
4. DO NOT DELIVER PRODUCTS TO THE JOB SITE WITHOUT BUILDING DEPARTMENT APPROVAL.

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

WOOD RODGERS
BUILDING RELATIONSHIPS ON PROJECT AT A TIME
3301 C ST, BLDG. 100-B TEL 916.341.7760
SACRAMENTO, CA 95816 FAX 916.341.7767

REGISTERED PROFESSIONAL ENGINEER ERIC TOSCHI No. 56976 Exp. 06-30-27 CIVIL STATE OF CALIFORNIA

NO.	DATE	REVISIONS AND RECORD OF ISSUE	BY	CK	APP

DESIGN: DRAWN BY FLF; DESIGN BY ECT; CHECKED BY AEJ
RECOM'D: DSRSD PRINCIPAL ENGINEER

REVIEW: PLNNG./DEVL. / FIELD OPS. / WWTP OPS. / MECH./MAINT. / ELECT./INSTR.

SCALE AS SHOWN 2025

DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

RESERVOIR 20B

STRUCTURAL NOTES

CIP NO. 14-W008

CS-1
17 | 49

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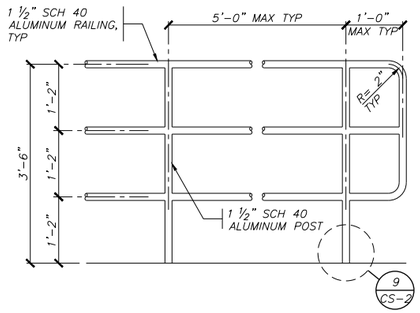
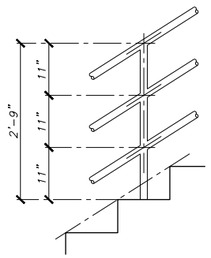


HORIZONTAL RAIL



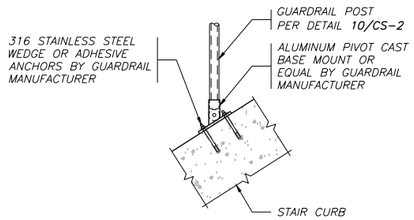
SLOPED RAIL

GUARDRAIL NOTES

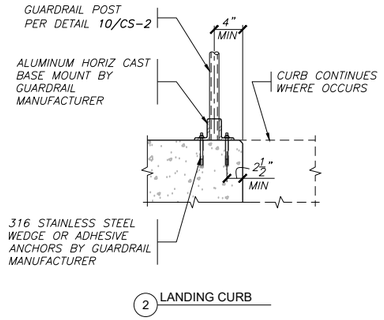
1. REFER TO SPECIFICATION SECTION 05520 FOR GUARDRAIL INFORMATION NOT SHOWN.
2. ALL GUARDRAILS SHALL BE IN ACCORDANCE WITH CURRENT OSHA SAFETY CODE AND 2022 CALIFORNIA BUILDING CODE.
3. COAT ALL SURFACES OF ALUMINUM THAT COME IN CONTACT WITH CONCRETE IN ACCORDANCE WITH SPECIFICATION. PLACE NEOPRENE GASKET BETWEEN ALUMINUM AND STEEL.
4. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS AND CALCULATIONS STAMPED BY A CIVIL OR STRUCTURAL ENGINEER LICENSED IN THE STATE OF CALIFORNIA FOR ALL GUARDRAIL CONNECTIONS AND CONNECTIONS TO STRUCTURAL ELEMENTS.

10 CS-2 TYPICAL ALUMINUM GUARDRAIL

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



1 STAIR CURB



2 LANDING CURB

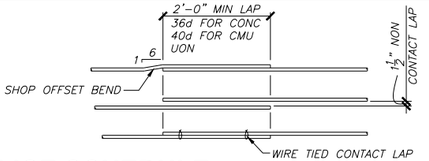
9 CS-2 TYPICAL GUARDRAIL POST CONNECTIONS

SCALE: 1" = 1'-0"

NOTES

1. REINFORCEMENT TABLE IS BASED ON ACI 318-14.
2. HORIZONTAL REINFORCEMENT PLACED SUCH THAT 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE DEVELOPMENT LENGTH OR SPLICE.
3. EMBEDMENT AND LAP LENGTH IS BASED ON NORMAL WEIGHT CONCRETE. FOR LIGHT WEIGHT CONCRETE MULTIPLY THE TENSION DEVELOPMENT AND SPLICE LENGTHS BY 1.3.
4. THE DEVELOPMENT AND LAP SPLICE SCHEDULE CAN BE USED FOR NON CONTACT LAP SPLICE WHEN BAR SPACING IS LESS THAN 6".
5. PROVIDE 1.5 TIMES THE BAR TENSION LAP SPLICE FOR THE BARS WITH CLEAR COVER LESS BAR DIAMETER OR;
   A. BARS WITH CLEAR SPACING LESS THAN 2 BAR DIAMETERS AND NOT CONFINED BY TIES.
   B. BARS WITH CLEAR SPACING LESS THAN BAR DIAMETER AND CONFINED WITH TIES.
6. ALL BAR TENSION LAP SPLICES ARE CLASS B UNLESS OTHERWISE NOTED.
7. FOR 3 BAR BUNDLE MULTIPLY THE TENSION LAP SPLICE BY 1.2. FOR 4 BAR BUNDLE MULTIPLE THE TENSION LAP SPLICE BY 1.33.
8. FOR BAR SIZES #14 AND #18 USE MECHANICAL SPLICES.
9. TENSION LAP SPLICES MAY BE SUBSTITUTED WITH MECHANICAL SPLICES WITH APPROVAL BY THE ENGINEER.

	BAR SIZE		#11	#10	#9	#8	#7	#6	#5	#4		#3	
REINFORCEMENT PROPERTIES	REINF GRADE (ksi)		60	60	60	60	60	60	60	60	40	60	40
	NOMINAL AREA (in)		1.56	1.27	1.00	0.79	0.60	0.44	0.31	0.20	0.20	0.11	0.11
	WEIGHT (lb/ft)		5.313	4.303	3.400	2.670	2.044	1.502	1.043	0.668	0.668	0.376	0.376
	NOMINAL DIA (in)		1.410	1.270	1.128	1.000	0.875	0.750	0.625	0.500	0.500	0.375	0.375
DEVELOPMENT OR CLASS A TENSION LAP SPLICE LENGTH IN INCHES	3000	TYPICAL	78	70	62	55	48	33	28	22	15	17	12
		SEE NOTE 2	101	91	81	72	63	43	36	29	19	22	15
	4000	TYPICAL	67	61	54	48	42	29	24	19	13	15	12
		SEE NOTE 2	87	79	70	62	54	37	31	25	17	19	13
	5000	TYPICAL	60	54	48	43	38	26	22	17	12	13	12
		SEE NOTE 2	78	70	63	56	49	34	28	23	15	17	12
CLASS B TENSION LAP SPLICE LENGTH IN INCHES	3000	TYPICAL	101	91	81	72	63	43	36	29	19	22	15
		SEE NOTE 2	131	118	105	93	81	56	47	37	25	28	19
	4000	TYPICAL	87	79	70	62	54	37	31	25	17	19	13
		SEE NOTE 2	113	102	91	81	71	49	41	33	22	24	16
	5000	TYPICAL	78	70	63	56	49	34	28	23	15	17	12
		SEE NOTE 2	102	92	81	72	63	43	36	29	20	22	15
COMPRESSION LAP SPLICE LENGTH IN INCHES	<3000		55	50	44	39	35	30	25	20	13	15	12
	>3000		43	39	34	30	26	23	19	15	12	12	12
STANDARD HOOK DEVELOPMENT LENGTH IN INCHES	3000		31	28	25	22	20	17	13	11	8	8	6
	4000		27	25	22	19	17	15	12	10	7	8	6
	5000		24	22	20	17	15	13	11	9	6	7	6



5 CS-2 TYPICAL DEVELOPMENT AND LAP SPLICE SCHEDULE

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

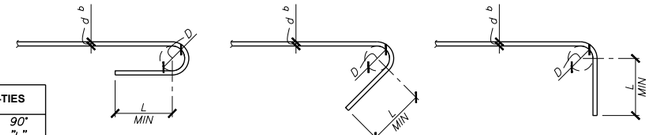
BARS OTHER THAN STIRRUPS, TIES, HOOPS AND CROSS-TIES

BAR SIZE	"D"	180° "L"	135° "L"	90° "L"
#3	2 ¼	2 ½	2 ½	4 ½
#4	3	2 ½	3	6
#5	3 ¾	2 ½	3 ¾	7 ½
#6	4 ½	3	4 ½	9
#7	5 ¼	3 ½	5 ¼	10 ½
#8	6	4	6	12
#9	9 ½	4 ½	6 ¾	13 ½
#10	10 ¾	5 ¼	7 ¾	15 ¼
#11	12	5 ¾	8 ½	17
#14	18 ¼	7	10 ½	21
#18	24	9	13 ½	27

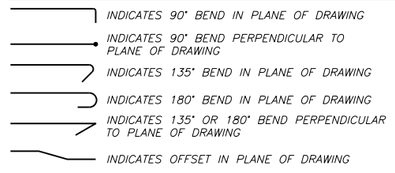
STIRRUPS, TIES, HOOPS AND CROSS-TIES

BAR SIZE	"D"	180° "L"	135° "L"	90° "L"
#3	1 ½	–	4	4
#4	2	–	4	4
#5	2 ½ (1)	–	4	4
#6	4 ½	–	4 ½	9
#7	5 ¼	=	5 ¼	10 ½
#8	6	–	6	12
(1) USE 3 ¾" IN CONC BLK CONSTRUCTION				

NOTE: ALL DIMENSIONS GIVEN ARE IN INCHES.



LEGEND FOR REINF BENDS (NOT SHOWN TO SCALE)



6 CS-2 TYPICAL REINFORCING BAR BENDS AND HOOKS

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

WOOD RODGERS
BUILDING RELATIONSHIPS ON PROJECT AT A TIME
3301 C St, Bldg. 100-B Tel 916.341.7760
Sacramento, CA 95816 Fax 916.341.7767

REGISTERED PROFESSIONAL ENGINEER ERIC TOSCHI No. 56976 Exp. 06-30-27 CIVIL STATE OF CALIFORNIA

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN: DRAWN BY FLF; DESIGN BY ECT; CHECKED BY AEJ

RECOM'D: DSRSD PRINCIPAL ENGINEER

REVIEW: PLNNG./DEVL.; FIELD OPS.; WWTP OPS.; MECH./MAINT.; ELECT./INSTR.

SCALE AS SHOWN 2025

DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

RESERVOIR 20B

REBAR AND HANDRAIL DETAILS

CIP NO. 14-W008

CS-2
18 | 49

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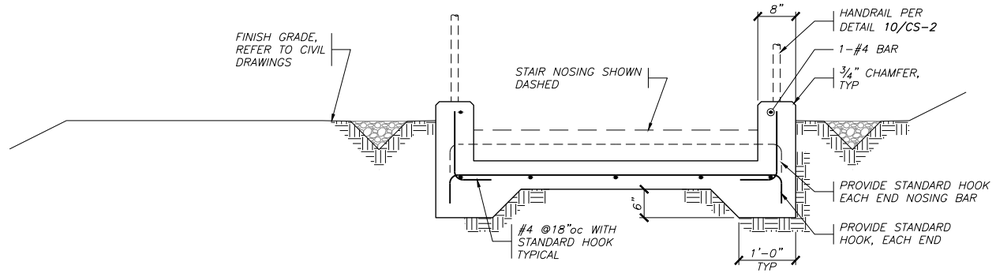
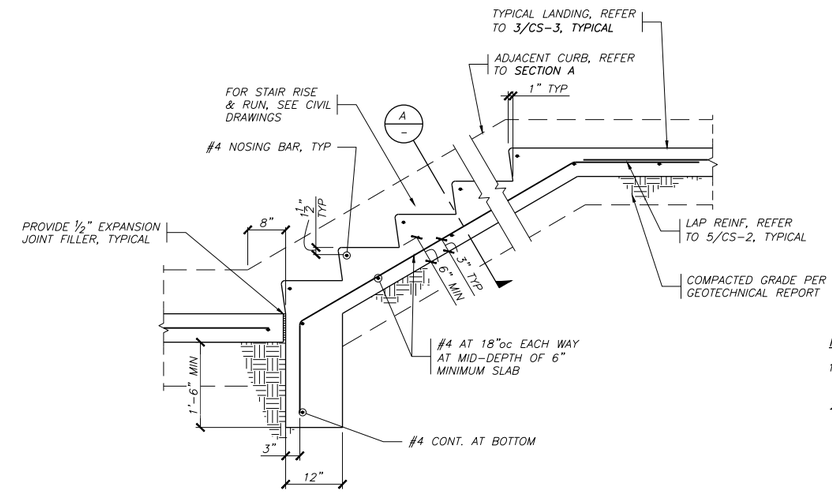


A **SECTION A**



NOTES:

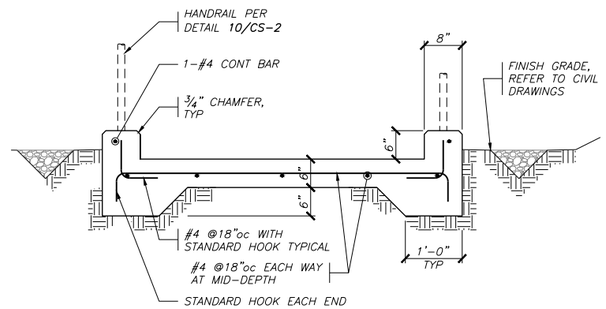
1. REFER TO CIVIL SHEET C-5 FOR STAIR DIMENSIONS, ELEVATIONS AND FINISH GRADES.
2. REFER TO CIVIL SHEET C-5 FOR STAIR RISE AND STAIR RUN.

2 CS-3 STAIRS ON GRADE

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

NOTES:

1. REFER TO CIVIL SHEET C-5 FOR LANDING DIMENSIONS, ELEVATIONS, AND FINISH GRADES.



3 CS-3 TYPICAL LANDING SECTION

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

WOOD RODGERS
BUILDING RELATIONSHIPS ON PROJECT AT A TIME
3301 C St, Bldg. 100-B Tel 916.341.7760
Sacramento, CA 95816 Fax 916.341.7767

REGISTERED PROFESSIONAL ENGINEER — ERIC TOSCHI — No. 56976 — Exp. 06-30-27 — CIVIL — STATE OF CALIFORNIA

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN	
DRAWN BY	FLF
DESIGN BY	ECT
CHECKED BY	AEJ

RECOM'D

DSRSD PRINCIPAL ENGINEER

REVIEW	
PLNNG./DEVL.	
FIELD OPS.	
WWTP OPS.	
MECH./MAINT.	
ELECT./INSTR.	
SCALE AS SHOWN	2025

DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

RESERVOIR 20B

STAIR AND LANDING DETAILS

CIP NO. 14-W008

CS-3
19 | 49

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GENERAL NOTES (MATERIALS MAY NOT BE APPLICABLE)

A. CODES
1. CALIFORNIA BUILDING CODE 2022 (CBC)
2. INTERNATIONAL BUILDING CODE 2021 (IBC)
3. MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES – ASCE 7–16
4. WIRE– AND STRAND–WOUND, CIRCULAR, PRESTRESSED CONCRETE WATER TANKS – AWWA D110–13
5. CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES AND COMMENTARY – ACI 350–06
6. SEISMIC DESIGN OF LIQUID–CONTAINING CONCRETE STRUCTURES AND COMMENTARY – ACI 350.3–06

B. GENERAL/DESIGN LOADS
1. ROOF LIVE LOAD : 100 PSF
2. ROOF DEAD LOAD : 250 PSF
3. TANK LIQUID CONTENTS UNIT WEIGHT : 62.4 PCF

C. GEOTECHNICAL INFORMATION
1. BEARING CAPACITY : 5100 PSF
2. ANTICIPATED DIFFERENTIAL SETTLEMENT : 1/4" OVER 30'

D. SEISMIC LOADINGS
1. RISK CATEGORY : IV
2. SEISMIC IMPORTANCE FACTOR : 1.5 (ASCE 7–22/AWWA D110–13); 1.25 (ACI 350.3–06)
3. SITE CLASS : C
4. S_s : 1.634
5. S_{s1} : 0.600
6. S_{DS} : 1.307
7. S_{D1} : 0.560
8. SEISMIC DESIGN CATEGORY : E
9. BASIC SEISMIC FORCE–RESISTING SYSTEM : ANCHORED FLEXIBLE BASE
10. DESIGN BASE SHEAR : 4475 KIP
11. RESPONSE MODIFICATION FACTORS PER CODE : R=3.25 (ACI 350.3–06, ASCE 7–16)
: R1=3.5 (AWWA D110–13)
12. ANALYSIS PROCEDURE USED : EQUIVALENT LATERAL FORCE ANALYSIS

E. WIND
1. WIND SPEED : 115 MPH
2. EXPOSURE CLASSIFICATION : C (ASSUMED)

F. CONCRETE AND SHOTCRETE

	STRENGTH (28 D)	MAX AGGREGATE	SLUMP	AIR ENTR.	DAMPPROOFING ADMIXTURE
1. FLOOR AND FOOTING	: 4000 PSI	1 1/4"	7" (±1")	N	Y
2. ROOF	: 4000 PSI	3/4"	7" (±1")	N	Y
3. COLUMNS	: 4000 PSI	3/4"	7" (±1")	N	N
4. COREWALL	: 4500 PSI	3/4"	6" (±1")	N	N
5. SHOTCRETE FOR STRAND COVER	: 4500 PSI		7" (±1")	N	Y

6. CONCRETE AND SHOTCRETE SHALL MEET ACI 301, 350, 372R AND 506 (SHOTCRETE ONLY).
7. SEE TECHNICAL SPECIFICATION FOR COMPLETE MIX DESIGN INFORMATION INCLUDING MINIMUM CEMENT CONTENT, MAXIMUM WATER–CEMENT RATIO, AGGREGATE SIZE AND ACCEPTABLE ADMIXTURES.
8. SEE TECHNICAL SPECIFICATIONS FOR CONCRETE PLACING AND FORMING.
9. NON–SHRINK GROUT SHALL BE SIKAGROUT 212, NON–SHRINK, NON–STAIN, NON–METALLIC OR EQUAL.

G. REINFORCING STEEL
1. ALL REINFORCING IN TANK SHALL CONFORM TO ASTM A615 GRADE 60, DEFORMED, UNCOATED UNLESS NOTED OTHERWISE.
2. REINFORCING TO BE WELDED SHALL BE ASTM A706 GRADE 60, DEFORMED, UNCOATED.
3. REINFORCING STEEL CALLED OUT AS GALVANIZED SHALL HAVE A CLASS 1 COATING IN ACCORDANCE WITH ASTM A767, WITHOUT CHROMATE.

H. WATERSTOP, BEARING PAD AND SPONGE RUBBER
1. WATERSTOPS SHALL BE PVC CONFORMING TO CORPS OF ENGINEERS SPECIFICATION CRD–C572. SEE CHART THIS PAGE.
2. FLOOR BEARING PADS SHALL BE 40 DUROMETER CONFORMING TO CLOSED CELL NEOPRENE WITH ASTM D2000 CALLOUT M2 BC 410 A14 B14 OR NEOPRENE ASTM D2000 CALLOUT M 2 BC 414 A14 B14 C12 E014 E034 F17 OR NATURAL RUBBER WITH ASTM D2000 CALLOUT M4 AA 414 A13
3. SPONGE FILLER PAD SHALL BE CLOSED CELL NEOPRENE CONFORMING TO ASTM D1056, TYPE 2, CLASS A, GRADE 3.
4. HYDROPHILIC WATERSTOP SHALL BE ADEKA ULTRASEAL P–201 BY ASAHI DENKA CO. LTD.

I. GALVANIZED STRAND FOR BASE RESTRAINT CABLES AND CIRCUMFERENTIAL PRESTRESSING
1. STRAND SHALL BE GALVANIZED 7 WIRE STRAND CONFORMING TO ASTM A416 PRIOR TO AND ASTM A475 AFTER GALVANIZATION.
2. STRAND TO HAVE A ZINC COATING WITH A MINIMUM WEIGHT OF 0.85 OUNCES PER SQFT.

J. VERTICAL PRESTRESSING
1. VERTICAL THREADBAR IN WALL SHALL BE HIGH STRENGTH BAR CONFORMING TO ASTM A722 GRADE 150 TYPE 2 DYWIDAG BY DSI.
2. THREADBAR BEARING PLATES SHALL BE A36 STEEL.
3. THREADBAR SHEAR CANS SHALL BE ASTM A500 GRADE B OR C HSS TUBING OR ASTM A53 FOR PIPE.

90° HOOK BARS - UNO	
BAR SIZE	MIN HOOK LENGTH
#3	6"
#4	8"
#5	10"
#6	1'–0"

WATERSTOPS				
LOCATION	#*	HEIGHT	BULB OD	TYPE
WALL BASE	735	9"	1"	CENTERBULB
WALL JOINT/PIPE ENCASEMENT	679	6"	---	FLATSTRIP
WALL TO ROOF	732	6"	7/8"	CENTERBULB

* GREENSTREAK PRODUCT NUMBER (SEE SUBMITTAL FOR MORE INFORMATION)

K. FABRICATED APPURTENANCES
1. ALL APPURTENANCES SHALL MEET OSHA STANDARDS.
2. LADDERS SHALL BE EQUIPPED WITH OSHA APPROVED FALL PREVENTION DEVICE WHERE REQUIRED.
3. INTERIOR APPURTENANCES SHALL BE 316L SST WITH 316 SST CONNECTORS.
4. EXTERIOR APPURTENANCES SHALL BE 6061–T6 ALUMINUM WITH 304 SST CONNECTORS.
5. DISSIMILAR METALS SHALL BE ISOLATED.
6. ALL ALUMINUM SHALL BE ISOLATED FROM CONCRETE WITH BITUMASTIC COATINGS, NEOPRENE GASKETS OR PVC SHIMS.

L. CONCRETE ANCHORS
1. ALL CONCRETE WEDGE ANCHORS SHALL BE 316 SST KWIK BOLT TZ2 BY HILTI OR APPROVED EQUAL.
2. ALL CONCRETE POST INSTALLED EPOXY THREADED ROD AND REBAR SHALL UTILIZE HIT–HY 200–R V3 BY HILTI OR APPROVED EQUAL.

M. METALS
1. ALL STAINLESS STEEL SHALL BE 316/316L UNO.
2. ALL ALUMINUM SHALL BE 6061–T6 UNO.

N. PIPING
1. PIPING EXTERIOR OF TANK SHALL BE DESIGNED TO TOLERATE ANTICIPATED TANK SETTLEMENTS.
2. INTERIOR AND EXTERIOR EXPOSED PIPING SHALL BE COATED PER CONTRACT SPECIFICATIONS.
3. PIPE THICKNESS AND PRESSURE CLASS SHALL BE PER CONTRACT SPECIFICATIONS.
4. FULLY ENCASED PIPE NEED NOT BE COATED.
5. INTERIOR OF TANK EXPOSED NUTS AND BOLTS SHALL BE 316 SST.
6. EXTERIOR OF TANK EXPOSED NUTS AND BOLTS SHALL BE 304 SST.
7. FULLY CONCRETE ENCASED NUTS AND BOLTS SHALL BE STEEL.
9. EXPOSED MJ TEE BOLTS SHALL BE PTFE OR XYLAN COATED.
10. FLANGE GASKETS SHALL BE ONE PIECE FULL FACED.
11. ISOLATION KITS SHALL BE UTILIZED ON ALL DISSIMILAR METALS.

O. CONSTRUCTION
1. TOLERANCES SHALL MEET ACI 117, ACI 350, ACI 372R AND AWWA D110.
2. ALL REINFORCING SUPPORTS SHALL CONFORM TO CONTRACT SPECIFICATION REQUIREMENTS. IN ADDITION, NO FERROUS BAR SUPPORTS SHALL BE UTILIZED WHEN IN DIRECT CONTACT WITH EARTH/SOIL, WEATHER OR TANK CONTENTS.
3. CONCRETE PLACEMENT SHALL MEET ACI 305 AND 306 FOR HOT AND COLD WEATHER CONCRETING RESPECTIVELY.
4. CHAMFER ALL CONCRETE EXPOSED CORNERS 3/4" UNO.
5. TOP OF FLOOR TO RECEIVE A HARD STEEL TROWEL FINISH.
6. WALLS: INTERIOR SHALL RECEIVE A FORM FINISH. EXTERIOR SHALL RECEIVE A SHOTCRETE NATURAL GUN FINISH.
7. ROOF: TOP SHALL RECEIVE A RADIAL LIGHT BROOM FINISH. BOTTOM SHALL RECEIVE A FORM FINISH.
8. POST INSTALLED CONCRETE ANCHORS TO BE INSTALLED PER MANUFACTURER'S RECOMMENDATION. THIS INCLUDES BUT IS NOT LIMITED TO: MINIMUM EMBEDMENT DEPTH, HOLE DRILLING, HOLE CLEANING, EPOXY SET TIME, TORQUE.
9. EXTERIOR WALL APPURTENANCE INSTALLATION
   a. INSTALL INSERTS BEFORE SHOTCRETING TO MARK HOLE LOCATION.
   b. DRILL AND PLACE ANCHORS AFTER WRAPPING AND BEFORE FINAL SHOTCRETING.
   c. TAKE EXTREME CARE TO AVOID DAMAGING THE PRESTRESSING STRAND.
   d. PLACE A STEEL PIPE AROUND THE DRILL BIT TO KEEP THE BIT FROM COMING IN CONTACT WITH THE PRESTRESSING STRAND.
10. MAXIMUM EMBEDMENT INTO SHOTCRETE NOT INSTALLED PER SECTION 0.9 SHALL BE LIMITED TO 1" UNO.
11. TANK SHALL NOT BE GROUNDED FOR LIGHTNING PROTECTION IN ANYWAY.

P. EARTHWORK
1. SUBGRADE AND SUBBASE SHALL BE PREPARED PER GEOTECHNICAL REPORT BY ENGEO DATED 01/26/2024 AND CONTRACT DOCUMENTS. GEOTECHNICAL ENGINEER TO INSPECT AND CONFIRM PERFORMANCE PER SECTION C OF THIS DRAWING IS MET.
2. MINIMUM COMPACTION OF CRUSHED ROCK AND SUBGRADE UNDER AND AROUND FLOOR, FOOTING AND PIPE BLOCKS SHALL EQUAL 95% RELATIVE COMPACTION AS DETERMINED IN ACCORDANCE WITH ASTM D1557.
3. COMPACTION OF BACKFILL AROUND TANK SHALL EQUAL 90% RELATIVE COMPACTION AS DETERMINED IN ACCORDANCE WITH ASTM D1557. USE ONLY HAND HELD COMPACTION EQUIPMENT WITHIN 5' OF TANK WALL AND LIGHTWEIGHT EQUIPMENT (15,600 LBS MAX) BEYOND THE 5' AND WITHIN 15' OF THE TANK SO AS NOT TO DAMAGE THE WALL. BRING UP THE BACKFILL AROUND THE TANK IN UNIFORM LIFTS WHEN POSSIBLE. DIFFERENCE IN BACKFILL HEIGHTS DURING INSTALLATION SHALL NEVER EXCEED THE FINAL DIFFERENCE IN BACKFILL HEIGHTS.
4. COMPACTION OF BACKFILL ON TOP OF THE TANK SHALL EQUAL 85% RELATIVE DENSITY PER ASTM D 1557. FILL MATERIAL MAY NOT BE STOCKPILED ON TOP OF THE TANK. COMPACTION EQUIPMENT SHALL BE LESS THAN 10,000 POUNDS. DO NOT USE VIBRATORY COMPACTION.

Q. SPECIAL INSPECTIONS
1. SPECIAL INSPECTIONS REQUIRED FOR THIS PROJECT AND SHALL BE PERFORMED IN ACCORDANCE WITH IBC 2021 SECTION 1704, AND AS DEFINED BY SECTION 202. SPECIAL INSPECTIONS SHALL BE PERFORMED BY A REGISTERED DEPUTY INSPECTOR EMPLOYED BY THE OWNER IN THESE CATEGORIES:
   a. CONCRETE PLACEMENT
   b. REINFORCING STEEL PLACEMENT
   c. PRESTRESSING
   d. STRUCTURAL WELDING
   e. GRADING, EXCAVATING AND FILLING
   f. CONCRETE ANCHORS

R. STRUCTURAL OBSERVATIONS
1. THE DESIGN ENGINEER, OR ANOTHER ENGINEER DESIGNATED BY THE DESIGN ENGINEER SHALL PERFORM STRUCTURAL OBSERVATION AS REQUIRED BY CBC 2022 SECTION 1704 AND AS DEFINED BY SECTION 202. 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 72 HOURS ADVANCE NOTICE TO THE DESIGN ENGINEER WHEN HIS WORK IS READY FOR STRUCTURAL OBSERVATION FOR EACH OF THESE STAGES:
   a. CONCRETE FOUNDATION SLAB OF STRUCTURE
   b. FIRST CONCRETE WALL OF STRUCTURE
   c. FIRST CONCRETE ELEVATED SLAB OF STRUCTURE

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

WHB ENGINEERS

REGISTERED PROFESSIONAL ENGINEER KARL C. KUEBLER No. 67975 Exp. 06-30-27 CIVIL STATE OF CALIFORNIA

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP

DESIGN: DRAWN BY GM; DESIGN BY KCK; CHECKED BY ADB
RECOM'D: DSRSD PRINCIPAL ENGINEER
REVIEW: PLNNG./DEVL.; FIELD OPS.; WWTP OPS.; MECH./MAINT.; ELECT./INSTR.
SCALE AS SHOWN 2025

DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828–0515

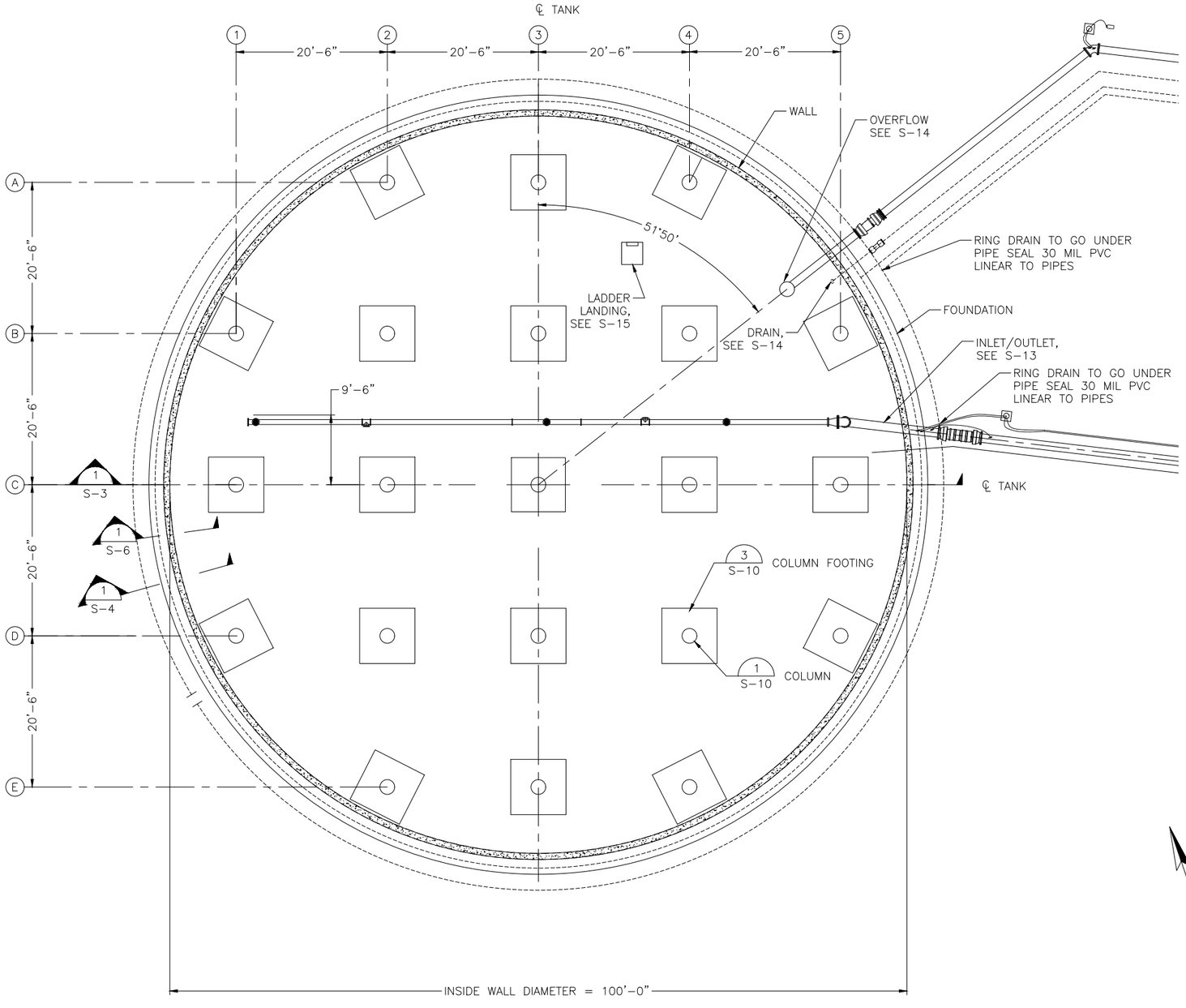
RESERVOIR 20B

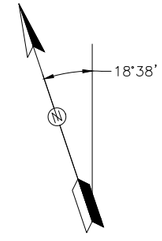
GENERAL NOTES

CIP NO. 14–W008

GS-01
20 | 49

10/2/2025
P:\WHB_SOUTH\WOODRG\WOODRG.001 DSRSD 20B RESERVOIR\4_ENGDESIGN\2_DWGS\100% STRUCTURAL\S–5 BASE RESTRAINT CABLE.DWG





NOTES

GENERAL

1. REFER TO CONTRACT DRAWINGS FOR PIPING LOCATIONS.
2. APPURTENANCE LOCATIONS TO BE CONFIRMED AND FINAL LOCATIONS TO BE DETERMINED IN THE FIELD BY THE ENGINEER OR OWNER.

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN: DRAWN BY GM; DESIGN BY KCK; CHECKED BY ADB

RECOM'D: DSRSD PRINCIPAL ENGINEER

REVIEW: PLNNG./DEVL.; FIELD OPS.; WWTP OPS.; MECH./MAINT.; ELECT./INSTR.

SCALE AS SHOWN 2025

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP

WHB ENGINEERS

REGISTERED PROFESSIONAL ENGINEER
KARL C. KUEBLER
No. 67975
Exp. 06-30-27
CIVIL
STATE OF CALIFORNIA

DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

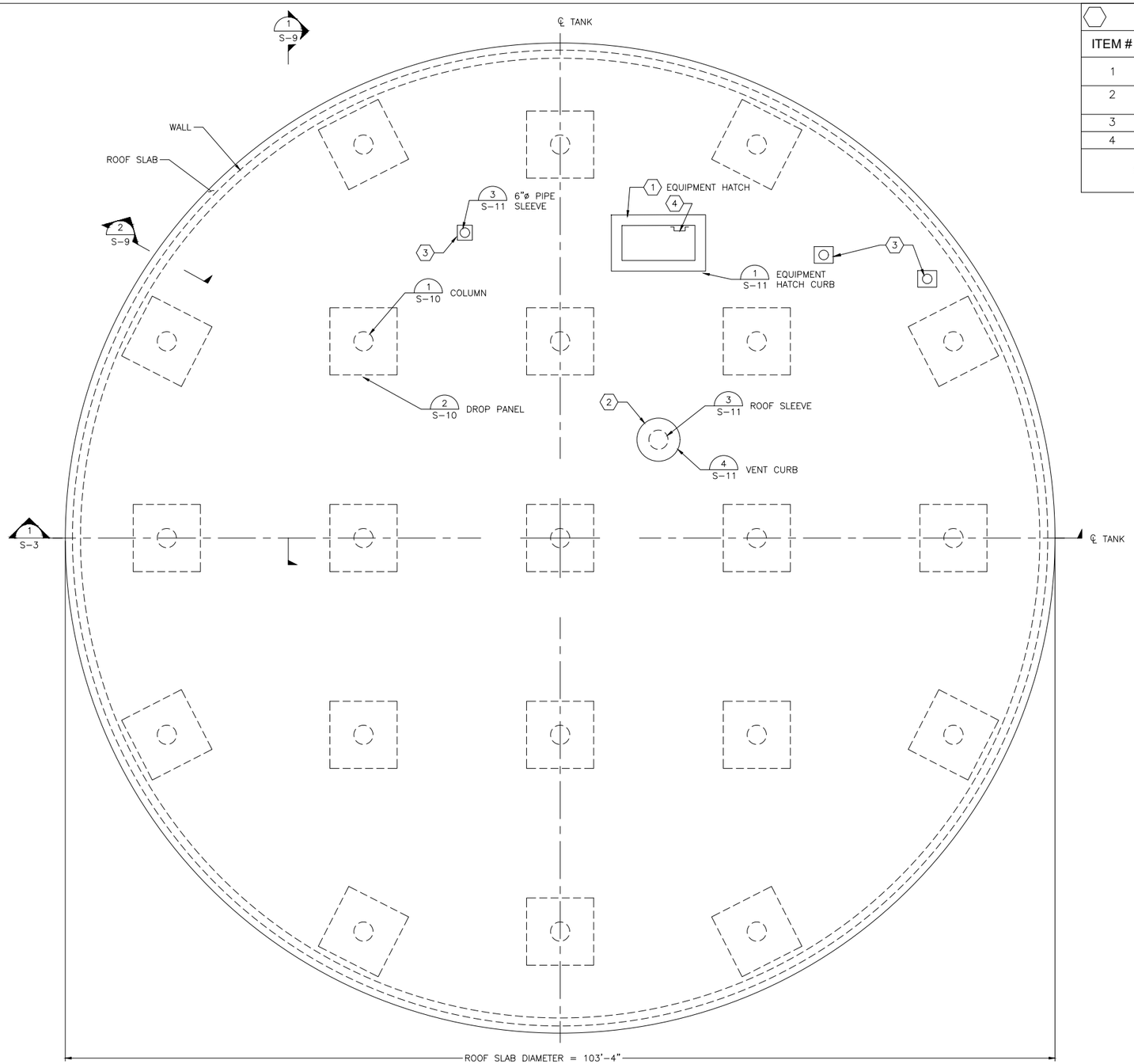
RESERVOIR 20B

FLOOR PLAN

CIP NO. 14-W008

S-1
21 | 49

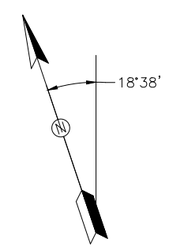
P:\WHB_SOUTH\WOODRG\WOODRG.001 DSRSD 20B RESERVOIR\4_ENGDESIGN\2_DWGS\100% STRUCTURAL\S-5 BASE RESTRAINT CABLE.DWG 10/2/2025



TANK APPURTENANCES

ITEM #	QTY	DESCRIPTION
1	1	4'-0"X8'-0" DOUBLE LEAF ALUMINUM HATCH WITH 150 PSF RATING MODEL SRRI BY USF FABRICATORS
2	1	OMEGA HIGH SECURITY VENT, SIZE LARGE
3	3	CUSTOM FABRICATED SST 316L PIPE SPOOL AND 150# FLANGE, SEE DETAIL 3 ON S-11
4	1	CUSTOM FABRICATED SST316L INTERIOR LADDER, SEE DETAIL 1 ON S-15

SEE PROJECT SUBMITTALS AND FABRICATION PACKAGE FOR APPURTENANCE DETAILS



NOTES

GENERAL
1. REFER TO CONTRACT DRAWINGS FOR PIPING LOCATIONS.
2. APPURTENANCE LOCATIONS TO BE CONFIRMED AND FINAL LOCATIONS TO BE DETERMINED IN THE FIELD BY THE ENGINEER OR OWNER.

ROOF PLAN 1/2

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN: DRAWN BY GM; DESIGN BY KCK; CHECKED BY ADB
RECOM'D: DSRSD PRINCIPAL ENGINEER
REVIEW: PLNNG./DEVL.; FIELD OPS.; WWTP OPS.; MECH./MAINT.; ELECT./INSTR.
SCALE AS SHOWN 2025

WHB ENGINEERS

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DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

RESERVOIR 20B

ROOF PLAN

CIP NO. 14-W008

S-2
22 | 49

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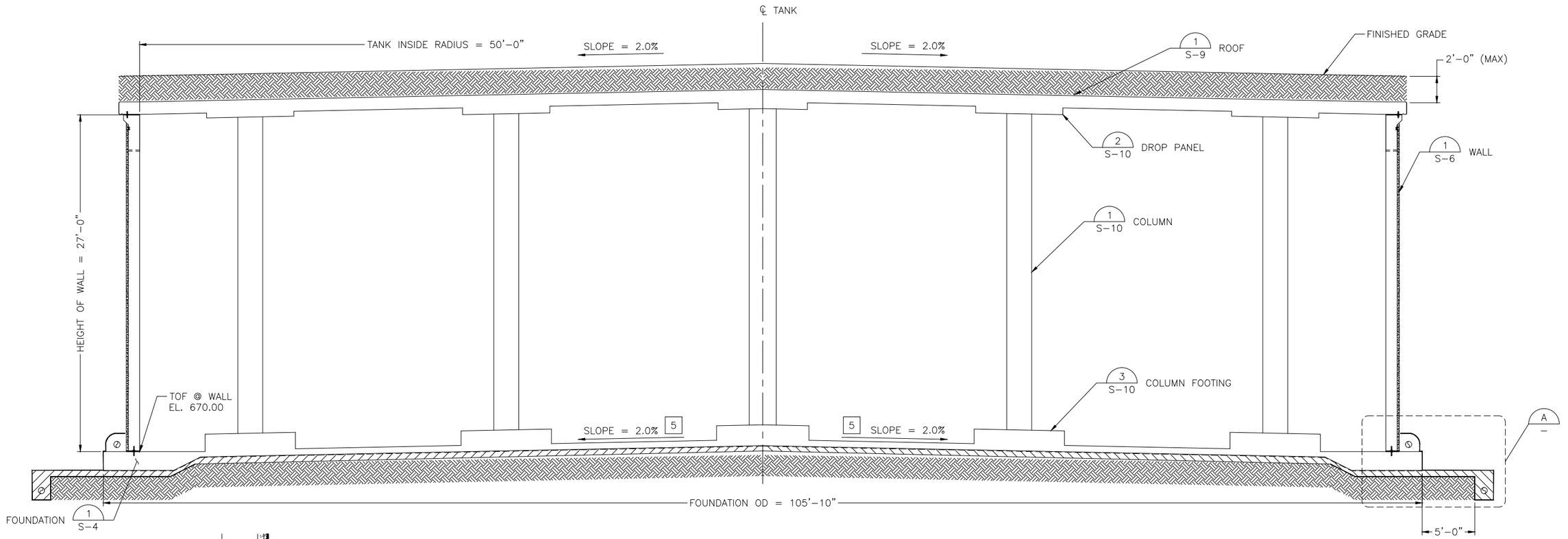
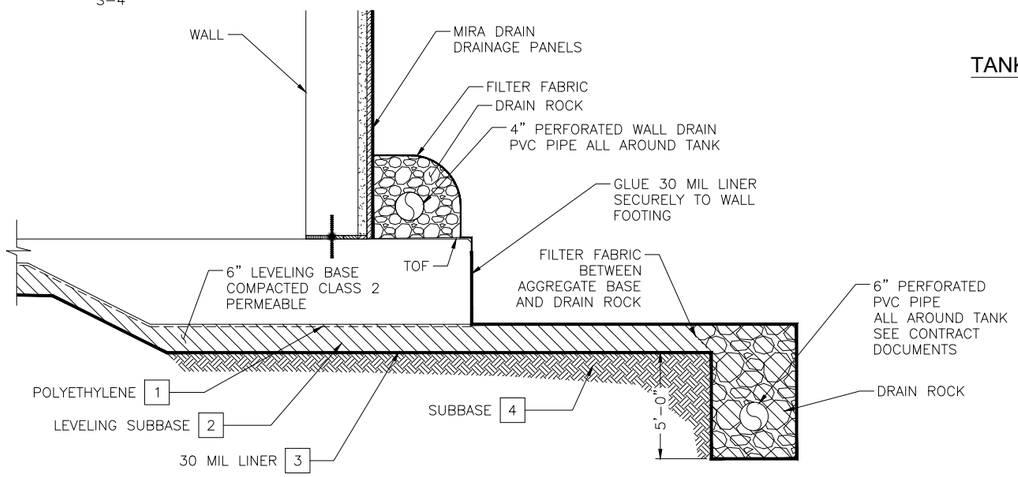


TANK SECTION 1 S-2



SUBBASE AND FOOTING EDGE A –

NOTES

SUBBASE

1. 6 MIL POLYETHYLENE SHALL BE PLACED ON TOP OF THE FINAL LEVELING BASE DIRECTLY BELOW THE ENTIRE CONCRETE FOUNDATION. LAP EDGES MIN. 6". THIS LINER MAY BE PUNCTURED, TEARS OVER 6" IN LENGTH SHALL BE TAPED.
2. LEVELING SUBBASE
3. 30 MIL LINER
4. SEE EARTHWORK NOTES ON GS-01 FOR SUBBASE PREPARATION AND INSTALLATION.
5. SLOPE FLOOR AT 2%.

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN	
DRAWN BY	GM
DESIGN BY	KCK
CHECKED BY	ADB
RECOM'D	DSRSD PRINCIPAL ENGINEER

REVIEW	
PLNNG./DEVL.	
FIELD OPS.	
WWTP OPS.	
MECH./MAINT.	
ELECT./INSTR.	
SCALE AS SHOWN	2025

WHB ENGINEERS

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DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP

DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

RESERVOIR 20B

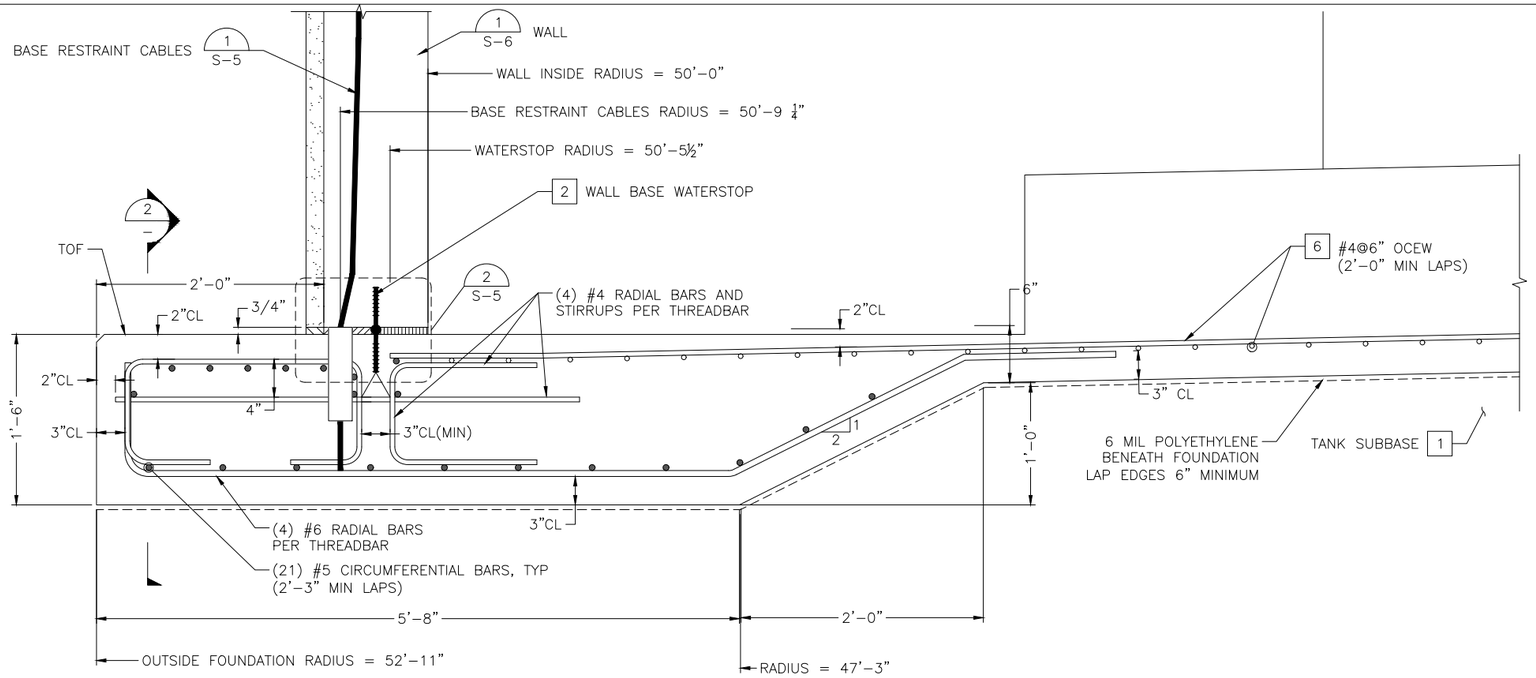
TANK SECTION

CIP NO. 14-W008

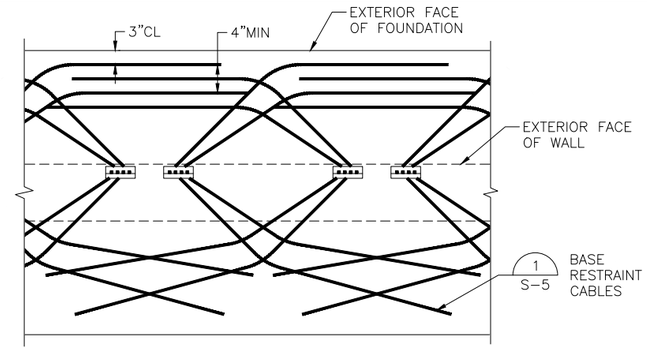
S-3
23 49

10/2/2025

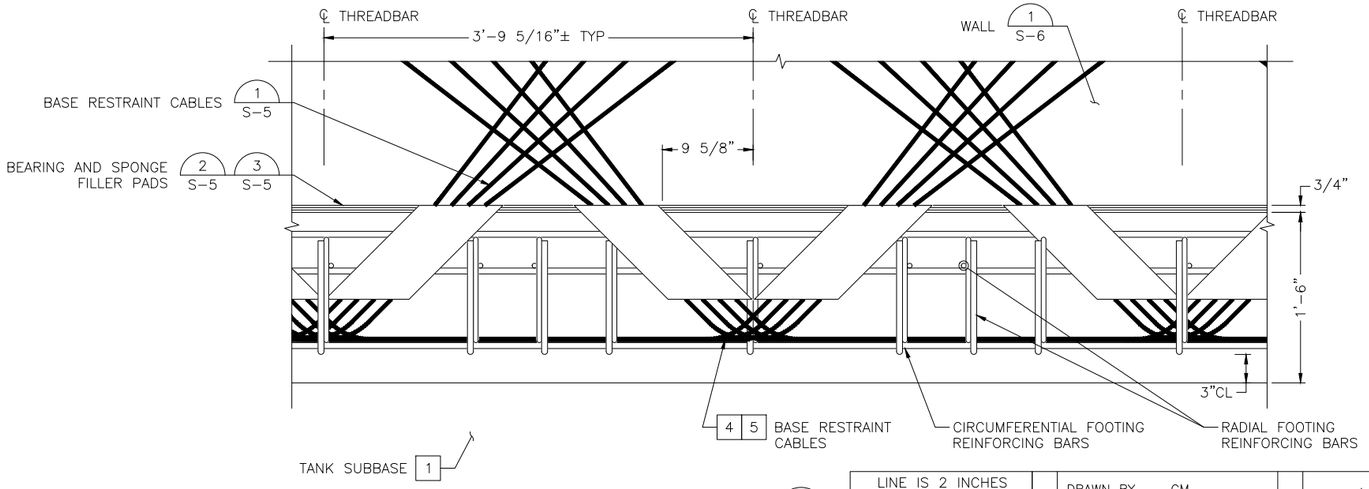
P:\WHB_SOUTH\WOODRG\WOODRG.001 DSRSD 20B RESERVOIR\4_ENGDESIGN\2_DWGS\100% STRUCTURAL\S-5 BASE RESTRAINT CABLE.DWG



FOUNDATION SECTION 1 7



BASE RESTRAINT CABLE PLAN A 3 4 5



FOUNDATION ELEVATION 2

NOTES

FOUNDATION

1. SEE DWG. GS-01 FOR FOUNDATION SUBBASE PREPARATION.
2. WATERSTOP TO BE TIED OFF IN BOTH DIRECTIONS AT 12" O.C.
3. BASE RESTRAINT CABLE STRAND ENDS TO BE SPACED ±6"O.C. (4" MIN.)
4. BASE RESTRAINT CABLES MAY BE BUNDLED WITHIN 12" OF BOOT.
5. BASE RESTRAINT CABLES MAY BE BENT AT BOTTOM OF BOOT TO FACILITATE INSTALLATION.
6. UPPER LAYER OF FLOOR REINFORCEMENT (IN ONE DIRECTION) MAY BE SHIFTED TO BELOW BOTTOM LAYER OF FLOOR REINFORCEMENT (IN TRANSVERSE DIRECTION) TO ACT AS A BURY OR CARRIER BAR. THE CLEAR DISTANCE FROM THE COMPACTED SOIL TO THESE BURY BARS SHALL BE CAREFULLY INSPECTED AND IN NO LOCATION SHALL THE COVER BE LESS THAN 2".
7. THE COMBINED FLOOR AND WALL FOOTING SHALL BE POURED MONOLITHICALLY.

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN: DRAWN BY GM; DESIGN BY KCK; CHECKED BY ADB
RECOM'D: DSRSD PRINCIPAL ENGINEER
REVIEW: PLNNG./DEVL.; FIELD OPS.; WWTP OPS.; MECH./MAINT.; ELECT./INSTR.
SCALE AS SHOWN 2025

WHB ENGINEERS

REGISTERED PROFESSIONAL ENGINEER KARL C. KUEBLER No. 67975 Exp. 06-30-27 CIVIL STATE OF CALIFORNIA

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP

DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

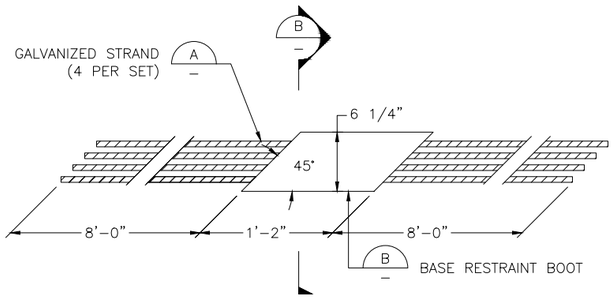
RESERVOIR 20B

FOUNDATION SECTION & ELEVATION

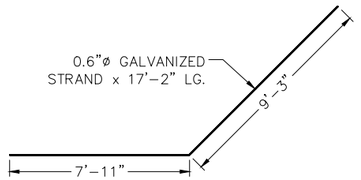
CIP NO. 14-W008

S-4
24 49

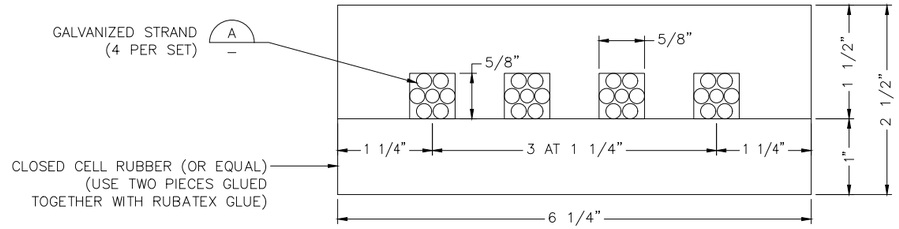
P:\WHB_SOUTH\WOODRG\W0ODRG.001 DSRSD 20B RESERVOIR\4_ENGDESIGN\2_DWGS\100% STRUCTURAL\S-5 BASE RESTRAINT CABLE.DWG 10/2/2025



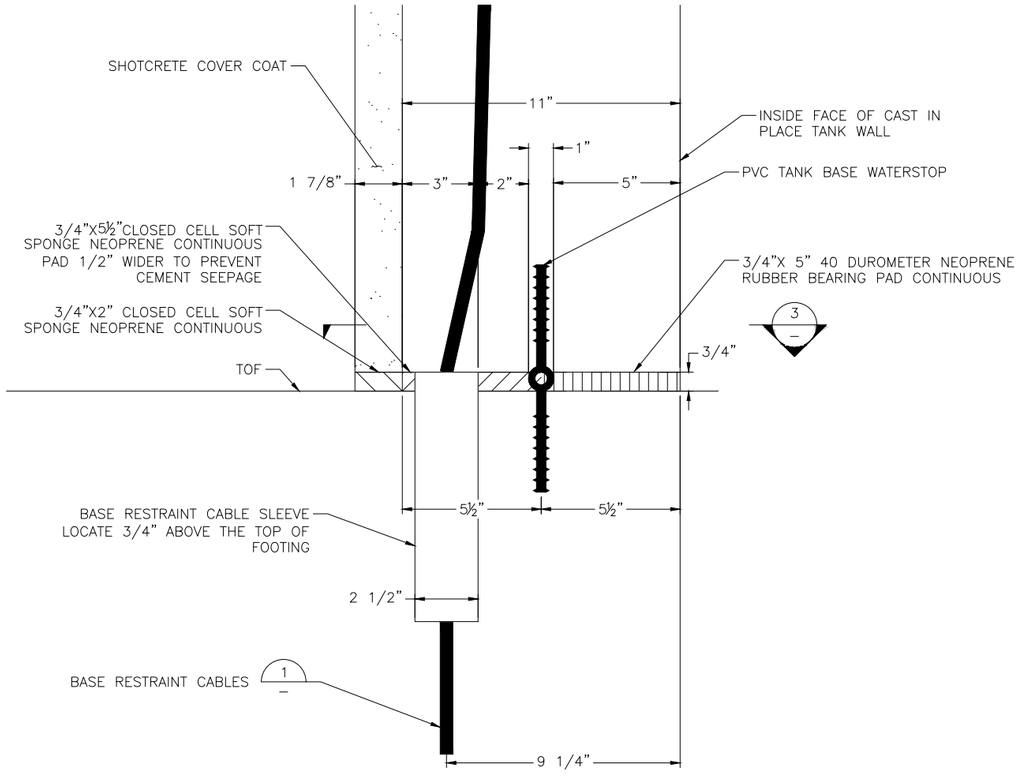
BASE RESTRAINT CABLE SET 1
168 REQ'D



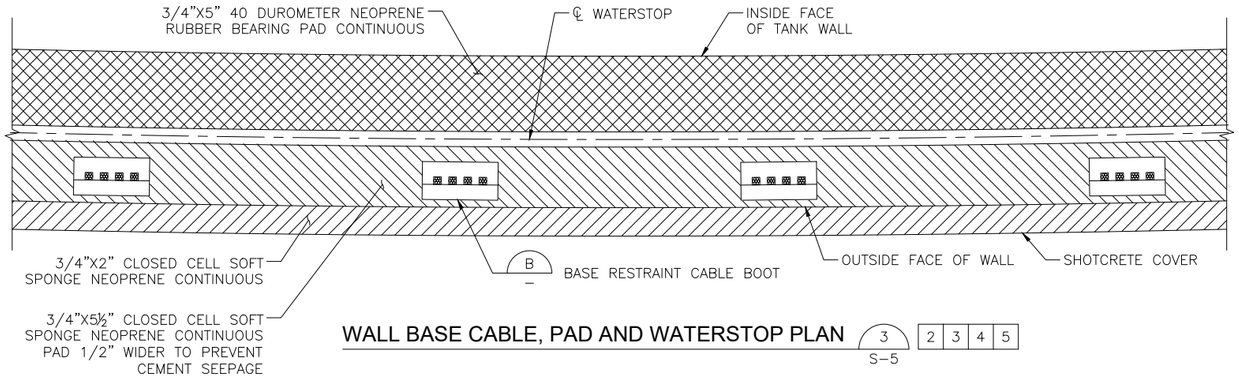
BASE RESTRAINT CABLE A 1
672 REQ'D



BASE RESTRAINT BOOT B



WALL BASE CABLE, PAD AND WATERSTOP SECTION 2 (2 3 4 5)
S-4



WALL BASE CABLE, PAD AND WATERSTOP PLAN 3 (2 3 4 5)
S-5

NOTES

BASE RESTRAINT CABLE
1. CABLES MAY BE BENT AS SHOWN TO FACILITATE INSTALLATION.

WALL BASE
2. GLUE ALL PADS TO TOP OF WALL FOOTING WITH CONTACT CEMENT.
3. FILL ALL VOIDS AND SEAL ALL JOINTS BETWEEN BASE PADS, BASE RESTRAINT CABLE SLEEVE AND WATERSTOP WITH SIKA 1A (OR APPROVED EQUAL).
4. BEARING PADS SHALL NOT BE CUT CIRCUMFERENTIALLY. THEY MAY HAVE RADIAL JOINTS.
5. SOFT NEOPRENE PADS MAY HAVE CIRCUMFERENTIAL AND/OR RADIAL JOINTS.

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER
KARL C. KUEBLER
No. 67975
Exp. 06-30-27
CIVIL
STATE OF CALIFORNIA

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP

DESIGN
DRAWN BY GM
DESIGN BY KCK
CHECKED BY ADB

RECOM'D
DSRSD PRINCIPAL ENGINEER

REVIEW
PLNNG./DEVL.
FIELD OPS.
WWTP OPS.
MECH./MAINT.
ELECT./INSTR.
SCALE AS SHOWN 2025

DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

RESERVOIR 20B

BASE RESTRAINT CABLE
& WALL BASE PAD

CIP NO. 14-W008

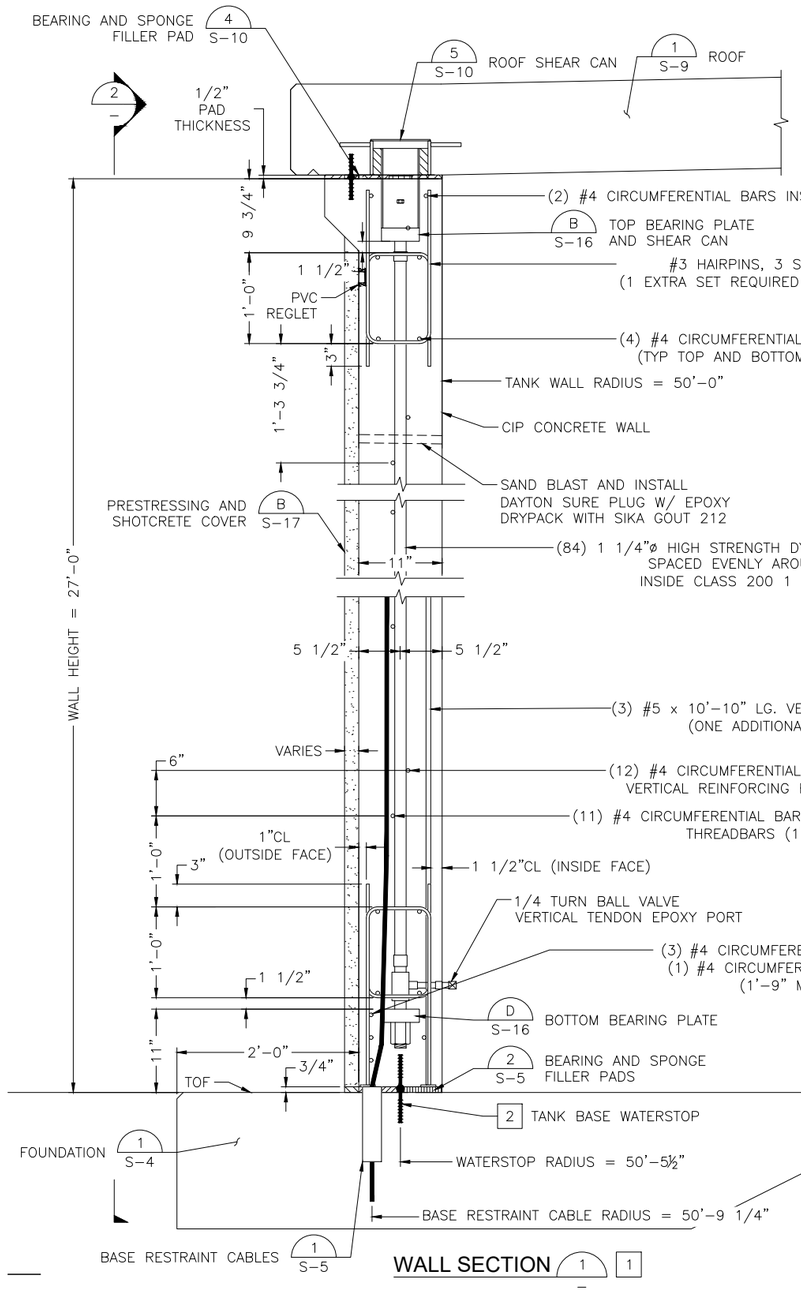
S-5
25 49

P:\WHB_SOUTH\WOODRG\WOODRG.001 DSRSD 20B RESERVOIR\4_ENGDESIGN\2_DWGS\100% STRUCTURALS\S-5 BASE RESTRAINT CABLE.DWG 10/2/2025

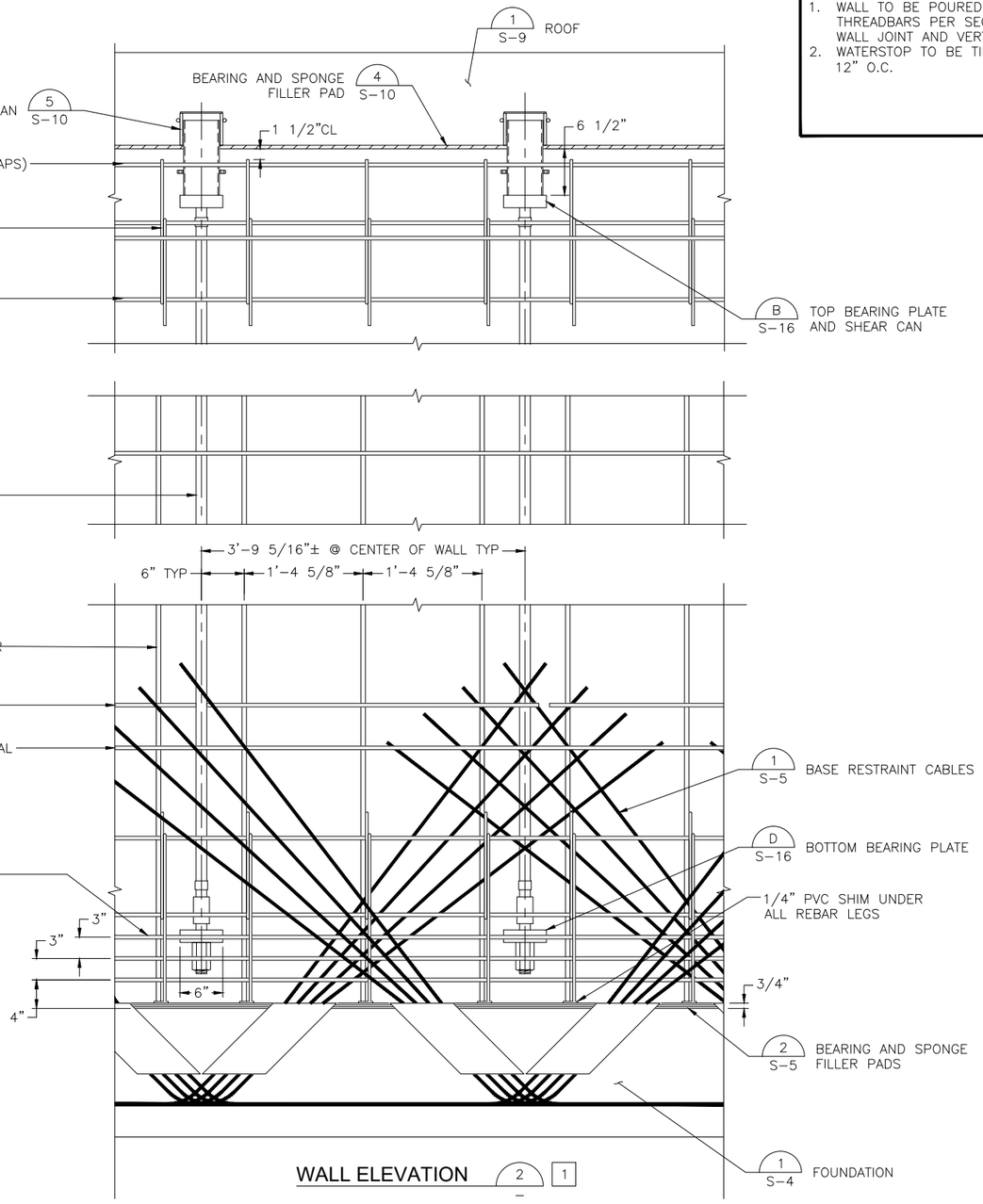
NOTES

WALL

1. WALL TO BE POURED IN 7 SECTIONS WITH 12 THREADBARS PER SECTION. SEE DWG. S-16 FOR WALL JOINT AND VERTICAL PRESTRESSING DETAILS.
2. WATERSTOP TO BE TIED OFF IN BOTH DIRECTIONS AT 12" O.C.



WALL SECTION 1 1



WALL ELEVATION 2 1

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN
DRAWN BY GM
DESIGN BY KCK
CHECKED BY ADB

RECOM'D
DSRSD PRINCIPAL ENGINEER

REVIEW
PLNNG./DEVL.
FIELD OPS.
WWTP OPS.
MECH./MAINT.
ELECT./INSTR.
SCALE AS SHOWN 2025

DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

RESERVOIR 20B

WALL SECTION & ELEVATION

CIP NO. 14-W008

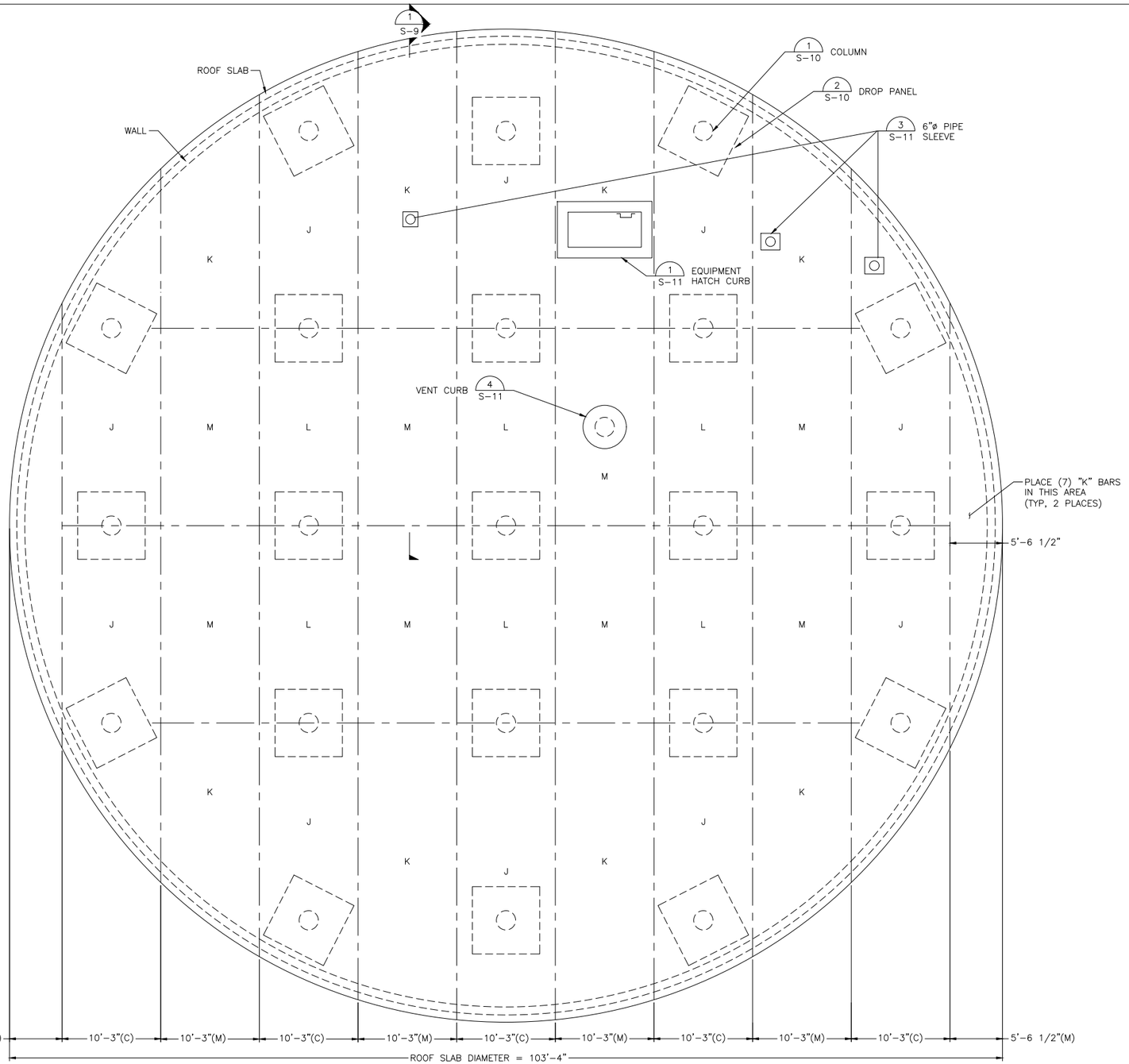
S-6
26 49

WHB ENGINEERS

REGISTERED PROFESSIONAL ENGINEER
KARL C. KUEBLER
No. 67975
Exp. 06-30-27
CIVIL
STATE OF CALIFORNIA

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP

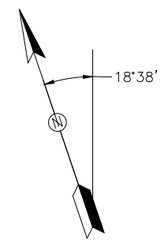
P:\WHB_SOUTH\WOODRG\WOODRG.001 DSRSD 20B RESERVOIR\4_ENGDESIGN\2_DWGS\100% STRUCTURAL\S-5 BASE RESTRAINT CABLE.DWG 10/2/2025



(C) COLUMN STRIP; (M) MIDDLE STRIP

FIRST LAYER REINFORCING (1) 1 - 6

REINFORCING SCHEDULE			
ITEM	QTY.	SIZE	LENGTH
J	15	#7	VARIES
K	15	#6	VARIES
L	15	#7	23'-6"
M	15	#6	23'-6"



NOTES

ROOF REINFORCING NOTES:

1. SPLICES SHALL ONLY BE ALLOWED AT LOCATIONS SHOWN ON THIS DRAWING.
2. AT THE CONTRACTOR'S OPTION, WITHIN ANY BAY, THE BARS FROM ONE SPAN MAY BE EXTENDED TO PROVIDE THE STEEL FOR THE NEXT ADJACENT SPAN. IF BARS OF DIFFERENT SIZES ARE USED IN ADJACENT SPANS AND THE CONTRACTOR ELECTS TO EXTEND THE STEEL FROM ONE SPAN TO THE NEXT, THE LARGER SIZE BAR SHALL BE USED.
3. #4 BARS WITH 1 1/2" COVER MAY BE USED AS BURY OR CARRIER BARS FOR THE BOTTOM MAT OF REINFORCING.
4. REGULAR ROOF REINFORCEMENT MAY NOT BE USED AS BURY OR CARRIER BARS.
5. THE 2ND LAYER OF BOTTOM MAT REINFORCING SHALL BE SIMILAR TO SHOWN AND PLACED TRANSVERSE.
6. AT LEAST (2) BARS IN THE COLUMN STRIP SHALL PASS THROUGH THE COLUMN CORE AND BE ANCHORED WITH A STANDARD HOOK AT THE EXTERIOR OF THE SLAB.

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN: DRAWN BY GM; DESIGN BY KCK; CHECKED BY ADB
RECOM'D: DSRSD PRINCIPAL ENGINEER
REVIEW: PLNNG./DEVL.; FIELD OPS.; WWTP OPS.; MECH./MAINT.; ELECT./INSTR.
SCALE AS SHOWN 2025

WHB ENGINEERS

REGISTERED PROFESSIONAL ENGINEER KARL C. KUEBLER No. 67975 Exp. 06-30-27 CIVIL STATE OF CALIFORNIA

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP

DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

RESERVOIR 20B

ROOF REINFORCING – BOTTOM MAT

CIP NO. 14-W008

S-7
27 | 49

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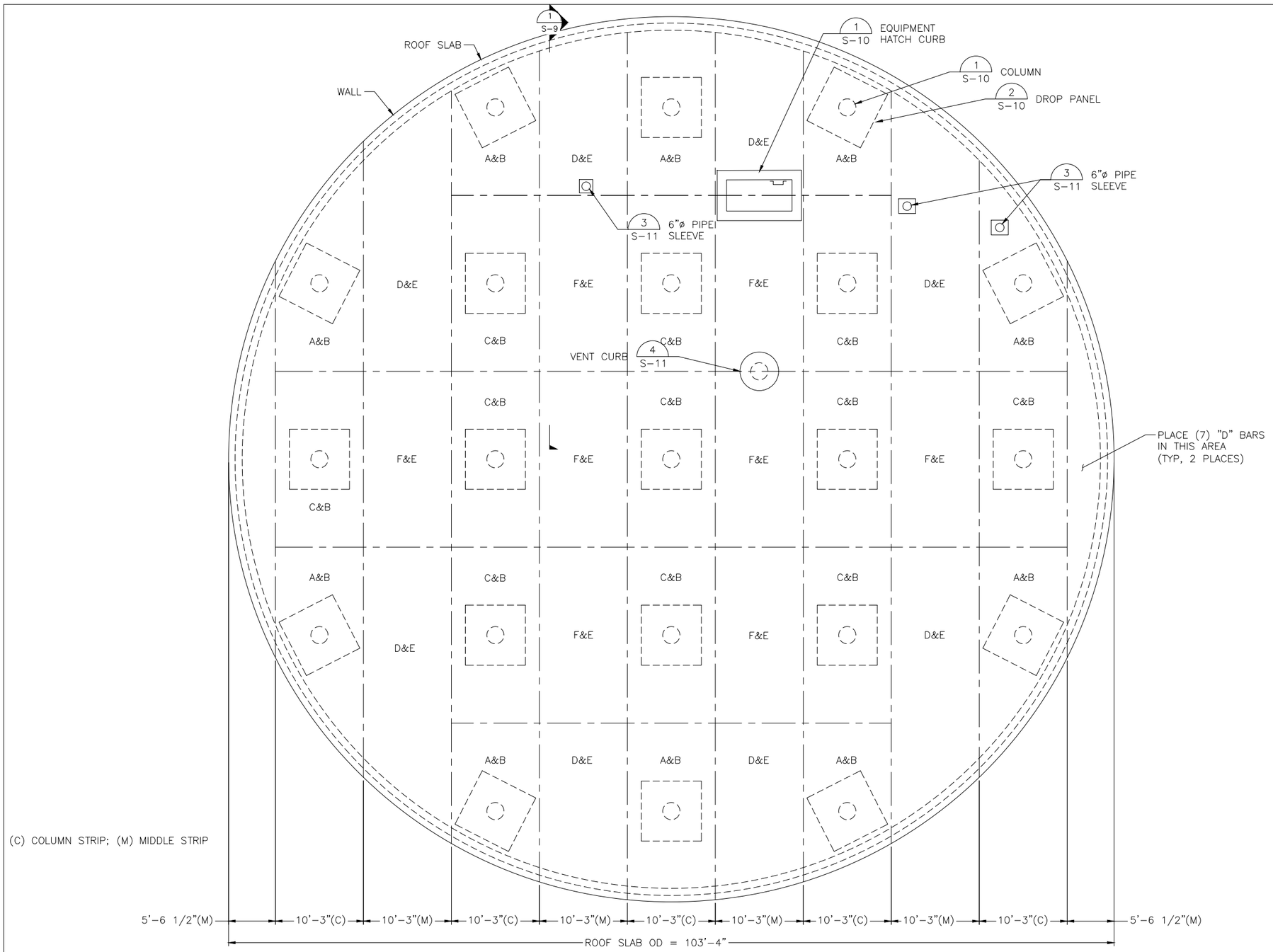
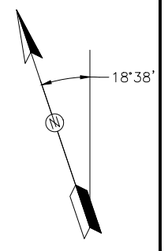


REINFORCING SCHEDULE			
ITEM	QTY.	SIZE	LENGTH
A	8	#7	VARIES
B	7	#7	11'-0"
C	8	#7	23'-6"
D	8	#6	VARIES
E	7	#6	11'-0"
F	8	#6	23'-6"



ROOF REINFORCING NOTES:

1. SPLICES SHALL ONLY BE ALLOWED AT LOCATIONS SHOWN ON THIS DRAWING.
2. WHERE SHORT BARS ARE USED IN THE SAME BAY WITH LONGER BARS, ALTERNATE PLACING THE SHORT BARS WITH THE LONGER BARS ACROSS THE WHOLE BAY. ALL BARS TO BE CENTERED ON COLUMN.
3. AT THE CONTRACTOR'S OPTION, WITHIN ANY BAY, THE BARS FROM ONE SPAN MAY BE EXTENDED TO PROVIDE THE STEEL FOR THE NEXT ADJACENT SPAN. IF BARS OF DIFFERENT SIZES ARE USED IN ADJACENT SPANS AND THE CONTRACTOR ELECTS TO EXTEND THE STEEL FROM ONE SPAN TO THE NEXT, THE LARGER SIZE BAR SHALL BE USED.
4. THE FINAL LAYER OF TOP MAT REINFORCING IS SHOWN. THE THIRD LAYER SHALL BE SIMILAR TO SHOWN AND PLACED TRANSVERSE.
5. THE FIRST LAYER OF REINFORCING IN THE BOTTOM MAT SHALL BE PLACED IN THE SAME DIRECTION AS THE FINAL LAYER OF REINFORCING IN THE TOP MAT.

FINAL LAYER REINFORCING 1/– 1-5

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN: DRAWN BY GM; DESIGN BY KCK; CHECKED BY ADB

RECOM'D: DSRSD PRINCIPAL ENGINEER

REVIEW: PLNNG./DEVL.; FIELD OPS.; WWTP OPS.; MECH./MAINT.; ELECT./INSTR.

SCALE AS SHOWN 2025

WHB ENGINEERS

REGISTERED PROFESSIONAL ENGINEER KARL C. KUEBLER No. 67975 Exp. 06-30-27 CIVIL STATE OF CALIFORNIA

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP

DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

RESERVOIR 20B

ROOF REINFORCING – TOP MAT

CIP NO. 14-W008

S-8
28 | 49

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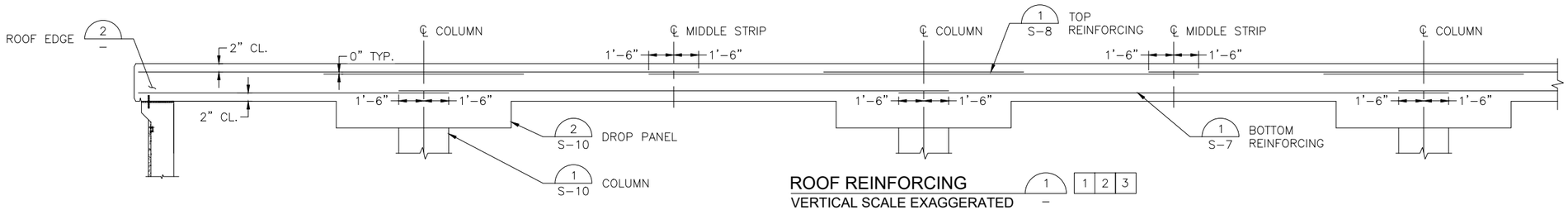
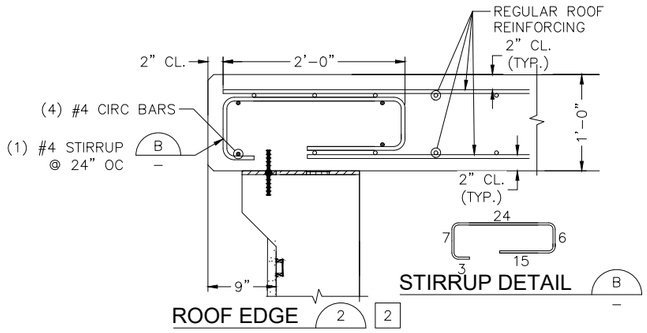


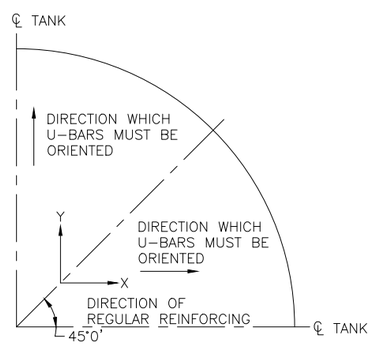
ROOF REINFORCING 1 | 1 | 2 | 3

VERTICAL SCALE EXAGGERATED



ROOF EDGE 2 | 2

STIRRUP DETAIL B



U-BAR ORIENTATION A | 2

ROOF NOTES:
1. TRANSVERSE REINFORCING SIMILAR.
2. U-BARS TO ALIGN WITH MAT ONE AND SUPPORT MAT 3, OR ALIGN WITH MAT 2 AND 3. SEE DETAIL "A".
3. ROOF SHALL BE PLACED MONOLITHICALLY

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN
DRAWN BY GM
DESIGN BY KCK
CHECKED BY ADB

RECOM'D
DSRSD PRINCIPAL ENGINEER

REVIEW
PLNNG./DEVL.
FIELD OPS.
WWTP OPS.
MECH./MAINT.
ELECT./INSTR.

SCALE AS SHOWN 2025

DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

RESERVOIR 20B

ROOF REINFORCING SECTIONS

CIP NO. 14-W008

S-9
29 | 49

WHB ENGINEERS

REGISTERED PROFESSIONAL ENGINEER
KARL C. KUEBLER
No. 67975
Exp. 06-30-27
CIVIL
STATE OF CALIFORNIA

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP

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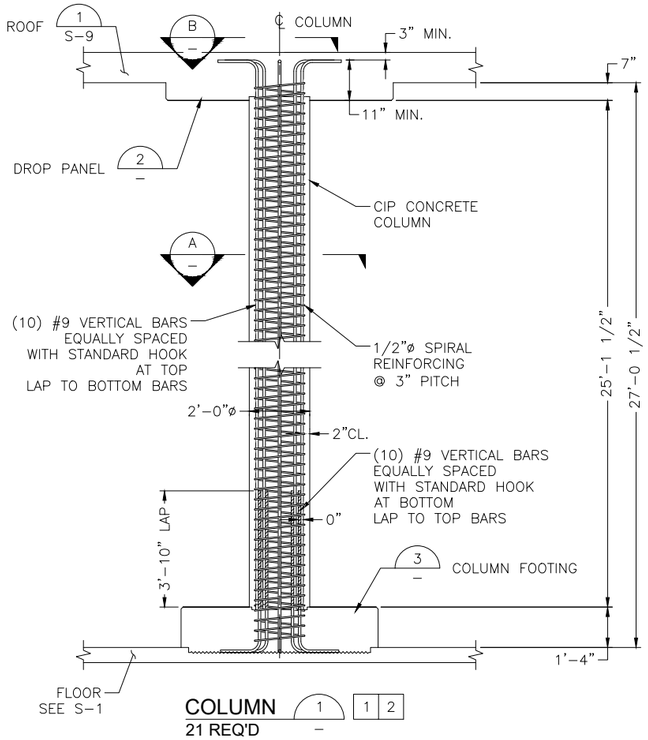
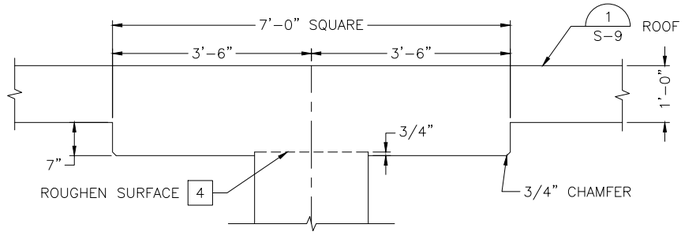
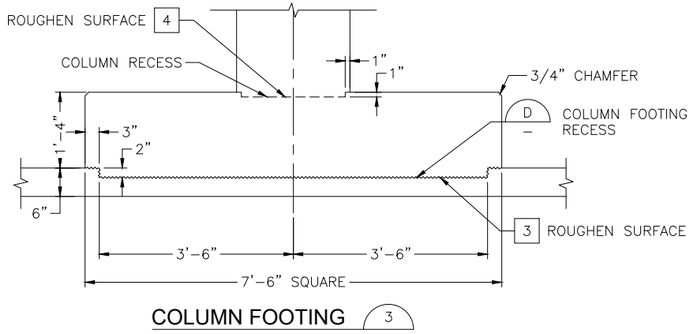


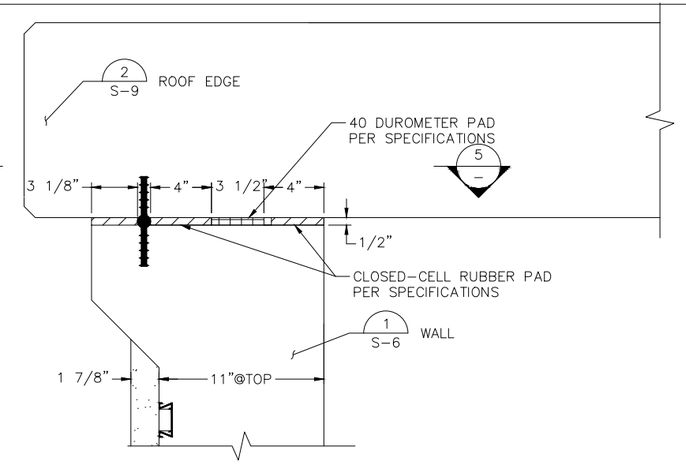
COLUMN 1 | 1 | 2
21 REQ'D



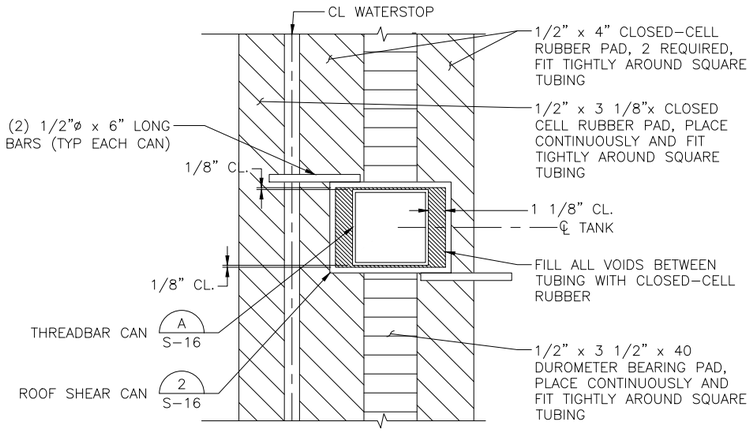
DROP PANEL 2 –



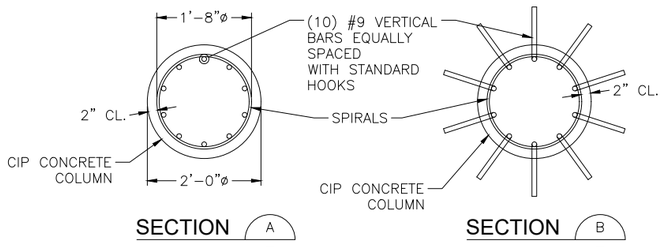
COLUMN FOOTING 3 –



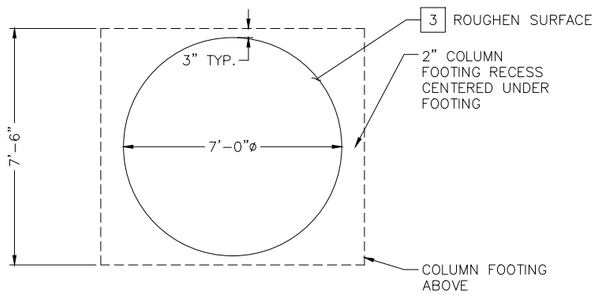
WALL - ROOF SECTION 4 –



WALL - ROOF PLAN 5 –



SECTION A – SECTION B –



COLUMN FOOTING RECESS D 2 –

NOTES

COLUMN NOTES:

1. POUR A 1" THICK LAYER OF (1C:1S) MIX AT THE BASE OF THE COLUMNS IMMEDIATELY PRIOR TO BEGINNING THE COLUMN POUR.
2. POUR A 1/2" THICK LAYER OF (1C:1S) MIX AT THE COLUMN FOOTING RECESS IMMEDIATELY PRIOR TO BEGINNING THE COLUMN FOOTING POUR.
3. COLUMN FOOTING RECESSES ALONG WITH FLOOR AREA BENEATH FOOTING SHALL BE ROUGHENED TO 1/4" AMPLITUDE AND CLEANED OF CURING COMPOUNDS BY SANDBLASTING, OR EQUAL, PRIOR TO POURING THE COLUMN FOOTING.
4. TOP OF COLUMN FOOTING BENEATH COLUMN AND TOP OF COLUMN TO BE ROUGHENED TO 1/4" AMPLITUDE PRIOR TO POURING COLUMN AND DROP PANEL RESPECTIVELY.

WHB ENGINEERS

REGISTERED PROFESSIONAL ENGINEER KARL C. KUEBLER No. 67975 Exp. 06-30-27 CIVIL STATE OF CALIFORNIA

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP

DESIGN: DRAWN BY GM; DESIGN BY KCK; CHECKED BY ADB

RECOM'D: DSRSD PRINCIPAL ENGINEER

REVIEW: PLNNG./DEVL. | FIELD OPS. | WWTP OPS. | MECH./MAINT. | ELECT./INSTR.

SCALE AS SHOWN 2025

DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

RESERVOIR 20B

COLUMN & ROOF EDGE SUPPORT

CIP NO. 14-W008

S-10
30 | 49

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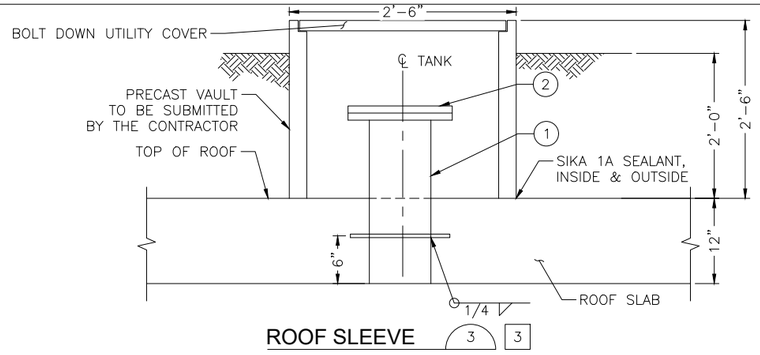
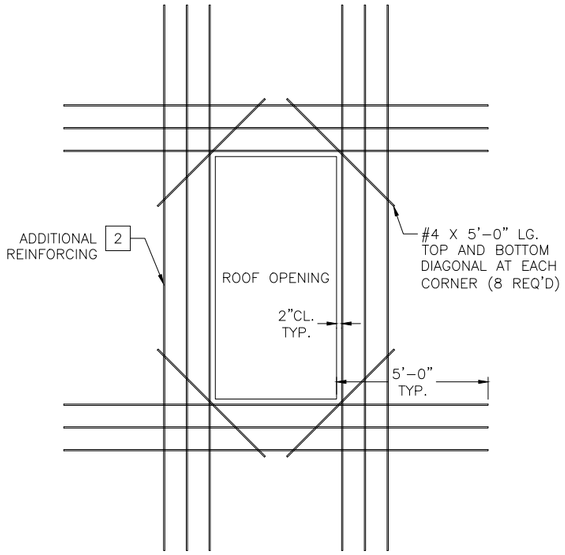
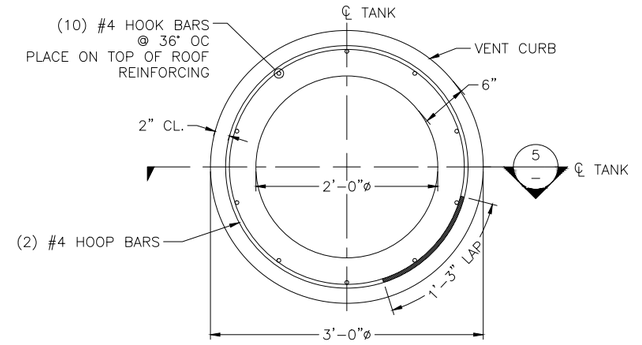


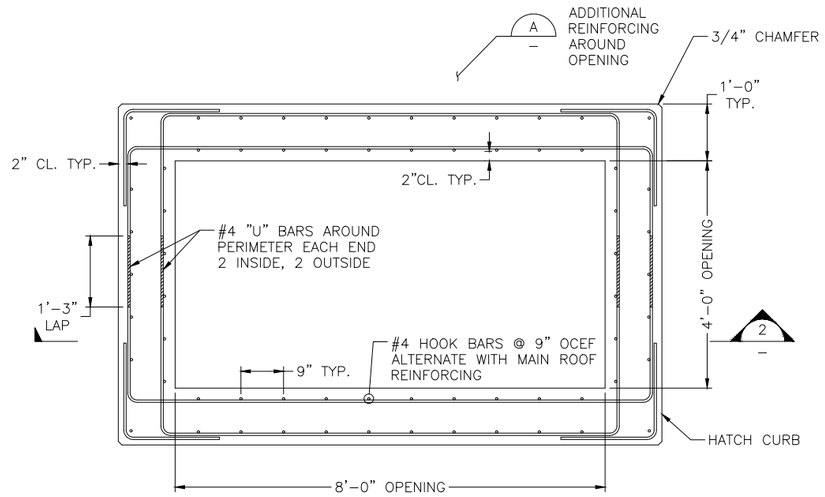
ROOF SLEEVE 3 — 3



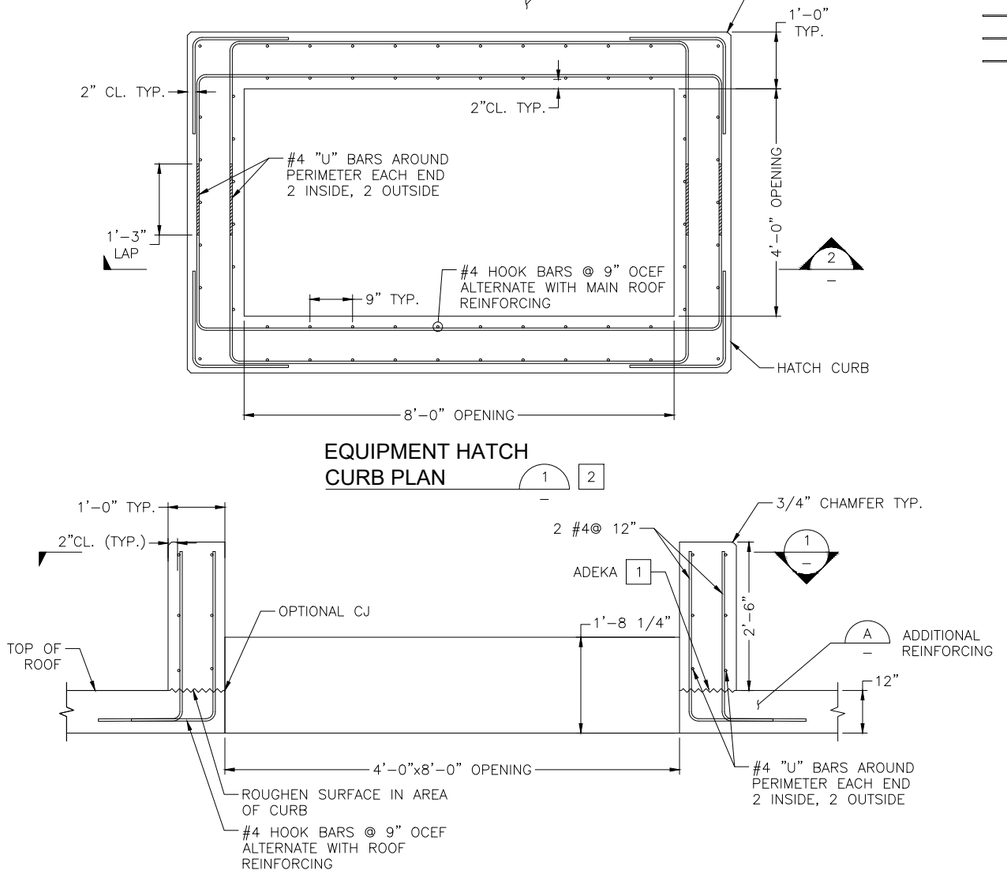
TYPICAL ROOF OPENING A — 2



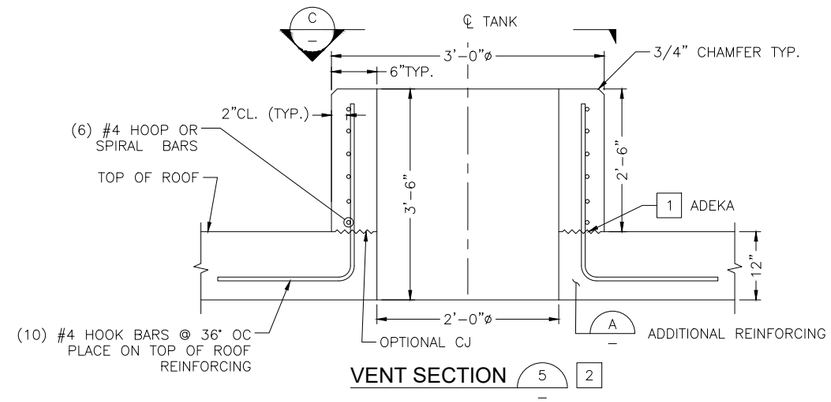
VENT PLAN 4 — 2



EQUIPMENT HATCH CURB PLAN 1 — 2



EQUIPMENT HATCH CURB SECTION 2 — 2



VENT SECTION 5 — 2

PIPING

#	QTY	DIA.	JOINT	LENGTH OR TYPE	MATERIAL	BOLT QTY.	BOLT SIZE	BOLT MATERIAL	DESCRIPTION - COATING, FABRICATIONS, GASKETS
1	3	6"	FLG x PE	2'-0"	316L SST	N/A	N/A	N/A	1/4" THICK x 1" WIDE WELDED WALL COLLAR AS SHOWN.
2	3	6"	FLG.	–	316L SST	8	3/4"x3 1/2" LG.	316 SST	BLIND FLANGE

NOTES

CURBS AND OPENINGS

1. PLACE 1/4"ø CONTINUOUS BEAD OF ADEKA ON CONSTRUCTION JOINT AT CENTER OF CURB.
2. CUT MAIN ROOF REINFORCING AND PROVIDE 2" CL. TO PENETRATIONS. REPLACE EQUAL AMOUNT OF STEEL ON EACH SIDE OF OPENING.
3. SPREAD REINFORCING TO EACH SIDE OF PIPE AND PROVIDE 2" CL.

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN: DRAWN BY GM; DESIGN BY KCK; CHECKED BY ADB

RECOM'D: DSRSD PRINCIPAL ENGINEER

REVIEW: PLNNG./DEVL.; FIELD OPS.; WWTP OPS.; MECH./MAINT.; ELECT./INSTR.

SCALE AS SHOWN 2025

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP

WHB ENGINEERS

REGISTERED PROFESSIONAL ENGINEER — KARL C. KUEBLER — No. 67975 — Exp. 06-30-27 — CIVIL — STATE OF CALIFORNIA

DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

RESERVOIR 20B

ROOF PENETRATIONS

CIP NO. 14-W008

S-11
31 | 49

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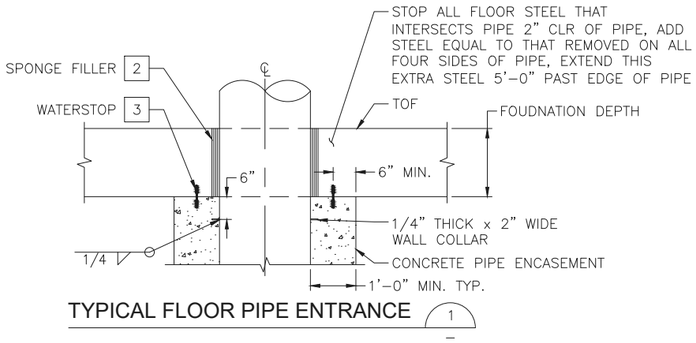
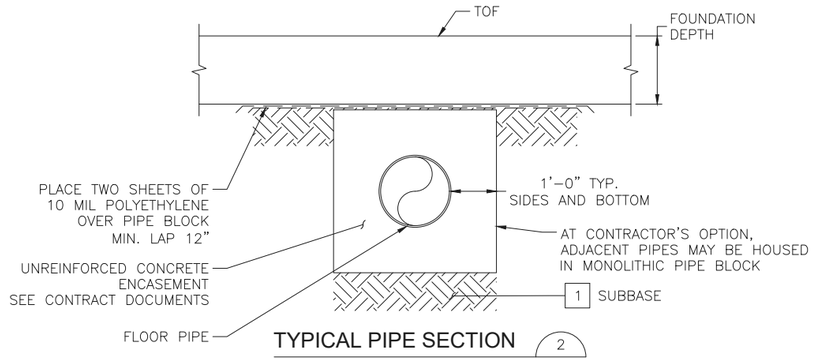
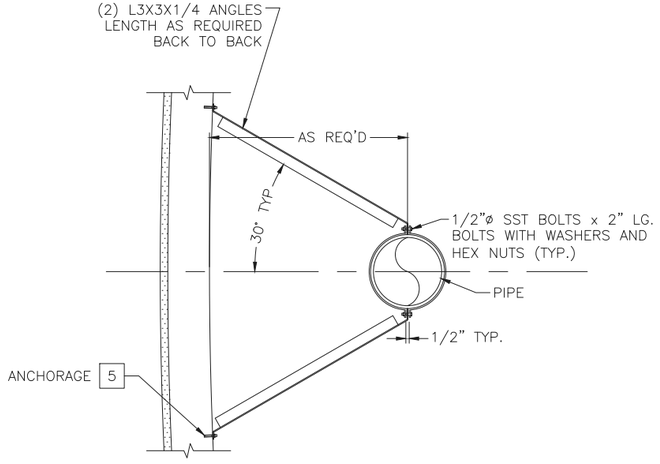


TYPICAL FLOOR PIPE ENTRANCE 1



TYPICAL PIPE SECTION 2



TYPICAL PIPE BRACKET 3 4

NOTES

FLOOR PIPE:

1. SEE DWGS. GS–01 FOR SUBBASE INSTALLATION AND PREPARATION.
2. WRAP PIPE WITH 1" THICK SPONGE FILLER PAD THROUGH ENTIRE THICKNESS OF FLOOR OR FOOTING. SEAL JOINTS WITH SIKA–1A TO ENSURE NO CEMENT PASTE SEEPS THROUGH TO PIPE.
3. INSTALL FLATSTRIP WATERSTOP AROUND PERIMETER OF PIPE. WATERSTOP TO HAVE FULLY WELDED SEAMS PER MANUFACTURER'S RECOMMENDATIONS. WATERSTOP TO BE FULLY SUPPORTED PRIOR TO POURING PIPE PIT. PIPE ENCASEMENT CONCRETE TO BE POURED TO MID POINT OF WATERSTOP.

PIPE BRACKETS:

4. ALL MATERIAL TO BE 316 SST.
5. ANCHOR BRACKET TO WALL UTILIZING 1/2"ø X 3 3/4" LG. 316 SST WEDGE ANCHORS. (2 1/4" MIN. EMBEDMENT)

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN: DRAWN BY GM; DESIGN BY KCK; CHECKED BY ADB; PROJ. MGR.

RECOM'D: DSRSD PRINCIPAL ENGINEER

REVIEW: PLNNG./DEVL.; FIELD OPS.; WWTP OPS.; MECH./MAINT.; ELECT./INSTR.

SCALE AS SHOWN 2025

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WHB ENGINEERS

REGISTERED PROFESSIONAL ENGINEER — KARL C. KUEBLER — No. 67975 — Exp. 06-30-27 — CIVIL — STATE OF CALIFORNIA

DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828–0515

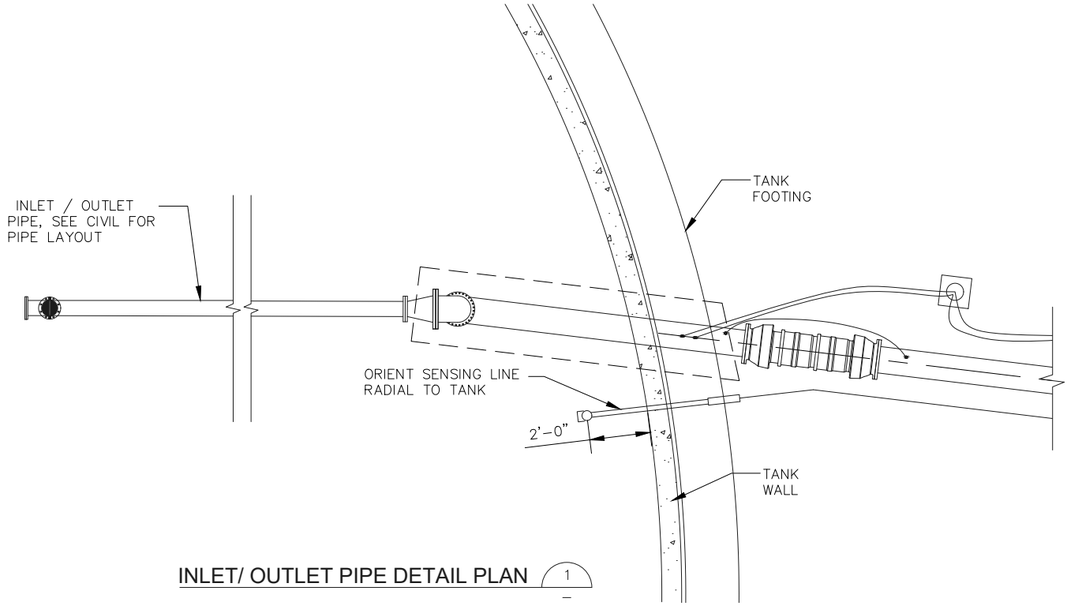
RESERVOIR 20B DESIGN PROJECT

PIPE DETAILS

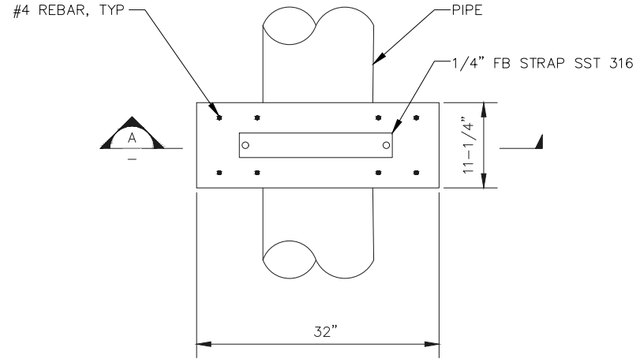
CIP NO. 14–W008

S-12
32 49

P:\WHB_SOUTH\WOODRG\WOODRG.001 DSRSD 20B RESERVOIR\4_ENGDESIGN\2_DWGS\100% STRUCTURAL\S–13 PIPE DETAILS.DWG 10/2/2025

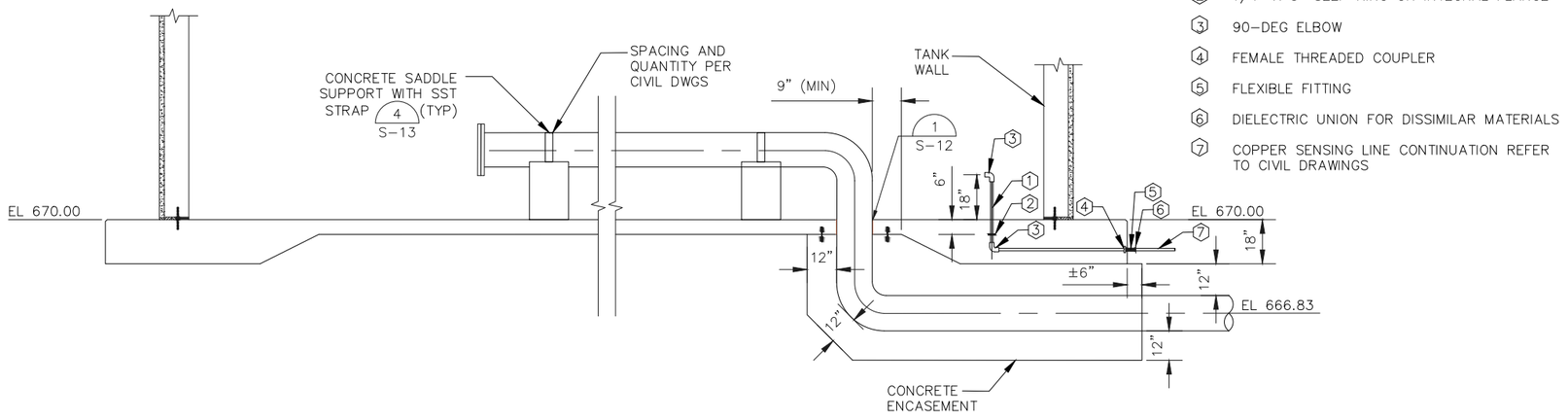


INLET/ OUTLET PIPE DETAIL PLAN 1

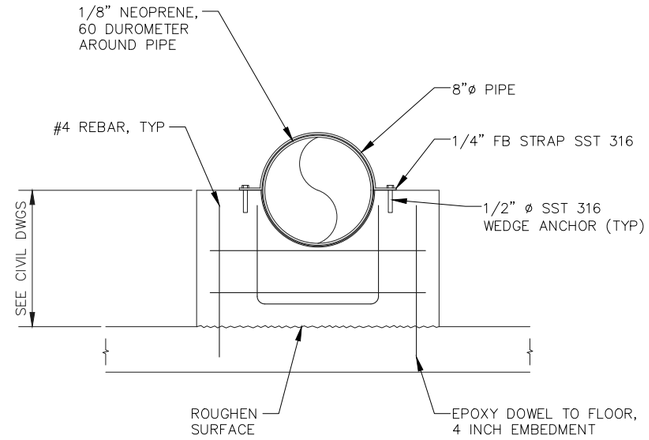


PIPE SUPPORT SADDLE PLAN 3

1. 3/4" ø SST SENSING LINE
2. 1/4" X 3" SEEP RING OR INTEGRAL FLANGE
3. 90-DEG ELBOW
4. FEMALE THREADED COUPLER
5. FLEXIBLE FITTING
6. DIELECTRIC UNION FOR DISSIMILAR MATERIALS
7. COPPER SENSING LINE CONTINUATION REFER TO CIVIL DRAWINGS



INLET/ OUTLET PIPE DETAIL ELEVATION 2



PIPE SUPPORT SADDLE SECTION A 4

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN		REVIEW	
	DRAWN BY GM		PLNNG./DEVL.
	DESIGN BY KCK		FIELD OPS.
	CHECKED BY ADB		WWTP OPS.
RECOM'D	PROJ. MGR.		MECH./MAINT.
	DSRSD PRINCIPAL ENGINEER		ELECT./INSTR.
			SCALE AS SHOWN 2025

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP

WHB ENGINEERS

REGISTERED PROFESSIONAL ENGINEER KARL C. KUEBLER No. 67975 Exp. 06-30-27 CIVIL STATE OF CALIFORNIA

DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

RESERVOIR 20B DESIGN PROJECT

PIPE DETAILS

CIP NO. 14-W008

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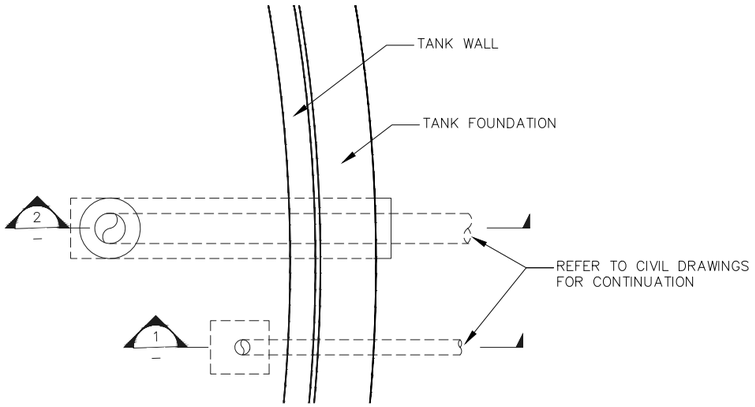
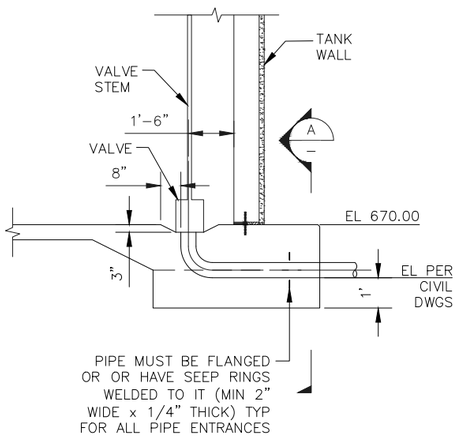
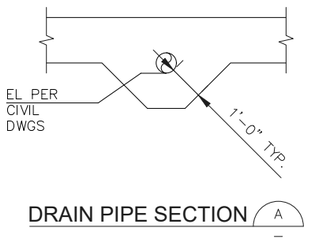
P:\WHB_SOUTH\WOODRG\WOODRG.001 DSRSD 20B RESERVOIR\4_ENGDESIGN\2_DWGS\100% STRUCTURAL\S-13 PIPE DETAILS.DWG 10/9/2025



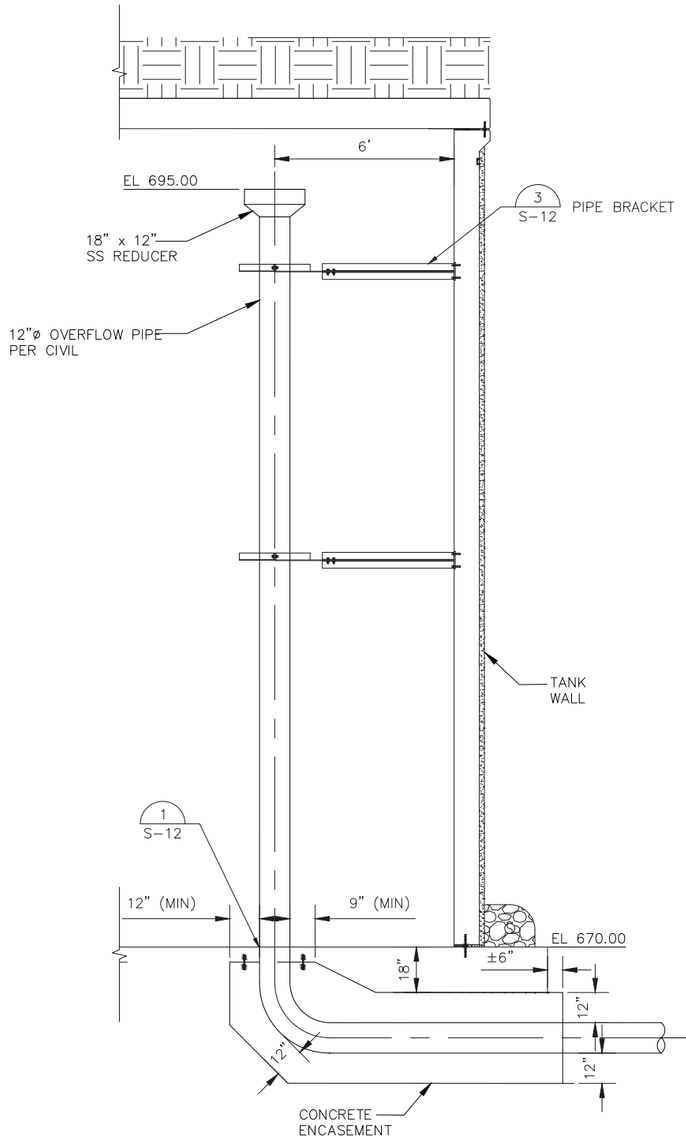
12" OVERFLOW PIPE AND 6" DRAIN PIPE DETAIL 3



6" DRAIN PIPE DETAIL 1



DRAIN PIPE SECTION A



12" OVERFLOW PIPE DETAIL 2

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN		REVIEW	
	DRAWN BY GM		PLNNG./DEVL.
	DESIGN BY KCK		FIELD OPS.
	CHECKED BY ADB		WWTP OPS.
RECOM'D	PROJ. MGR.		MECH./MAINT.
	DSRSD PRINCIPAL ENGINEER		ELECT./INSTR.
		SCALE AS SHOWN	2025

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP

REGISTERED PROFESSIONAL ENGINEER
KARL C. KUEBLER
No. 67975
Exp. 06-30-27
CIVIL
STATE OF CALIFORNIA

WHB ENGINEERS

DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

RESERVOIR 20B DESIGN PROJECT

PIPE DETAILS

CIP NO. 14-W008

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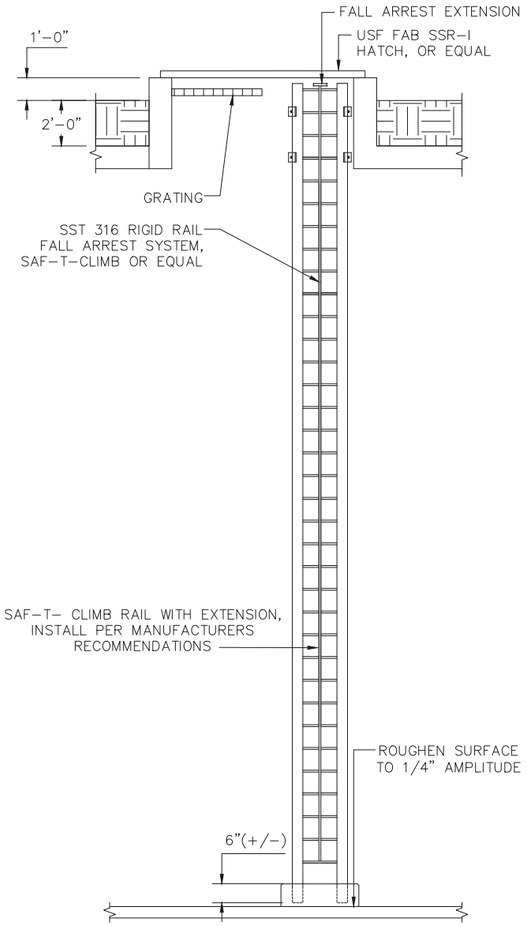
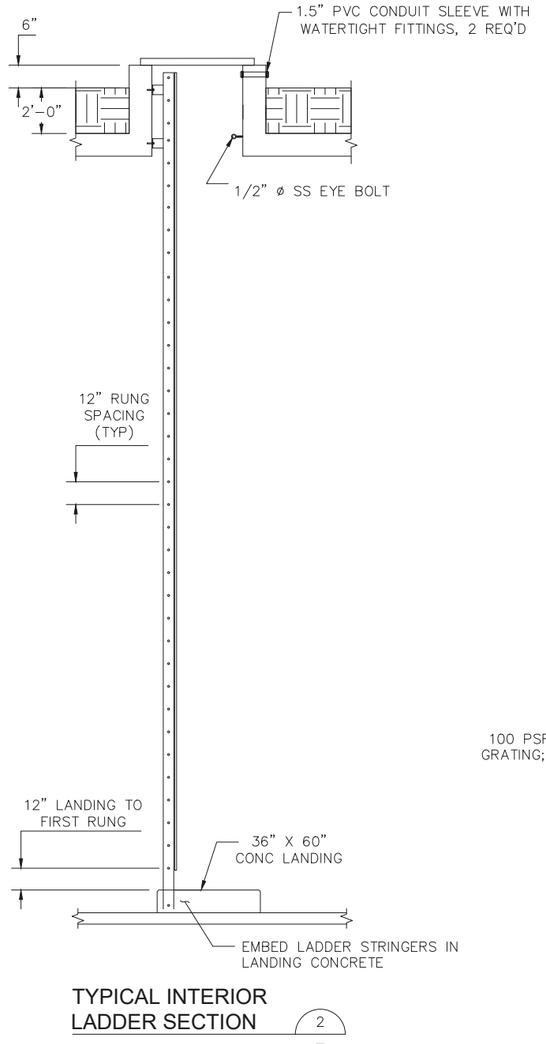
34 49

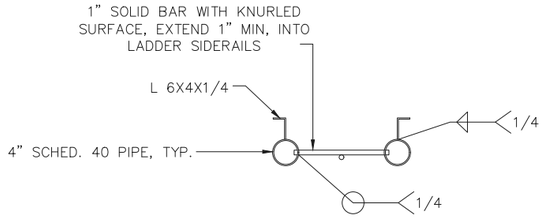
P:\WHB_SOUTH\WOODRG\WOODRG.001 DSRSD 20B RESERVOIR\4_ENGDESIGN\2_DWGS\100% STRUCTURAL\S-13 PIPE DETAILS.DWG 10/2/2025



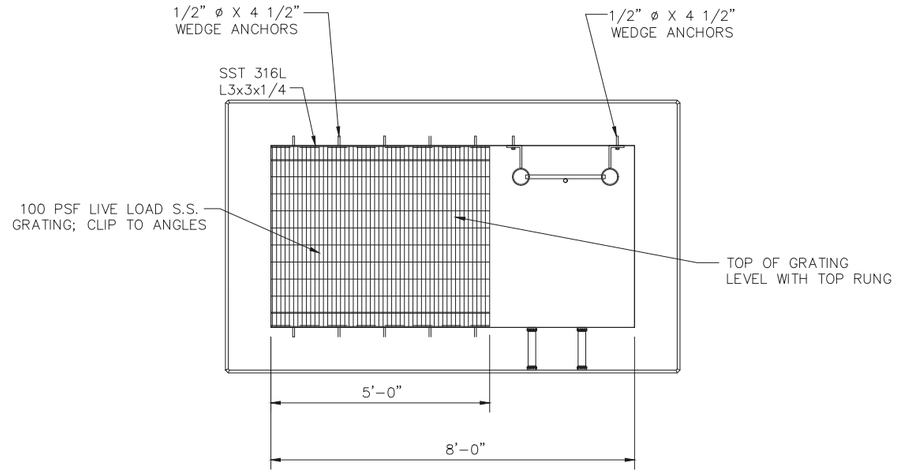
TYPICAL ELEVATION OF INTERIOR LADDER AND ROOF HATCH 1



TYPICAL INTERIOR LADDER SECTION 2



TYPICAL LADDER SECTION 3



ROOF HATCH PLAN SECTION 4

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN: DRAWN BY GM; DESIGN BY KCK; CHECKED BY ADB
RECOM'D: PROJ. MGR.; DSRSD PRINCIPAL ENGINEER
REVIEW: PLNNG./DEVL.; FIELD OPS.; WWTP OPS.; MECH./MAINT.; ELECT./INSTR.
SCALE AS SHOWN 2025

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WHB ENGINEERS

REGISTERED PROFESSIONAL ENGINEER — KARL C. KUEBLER — No. 67975 — Exp. 06-30-27 — CIVIL — STATE OF CALIFORNIA

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7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

RESERVOIR 20B DESIGN PROJECT

LADDER DETAILS

CIP NO. 14-W008

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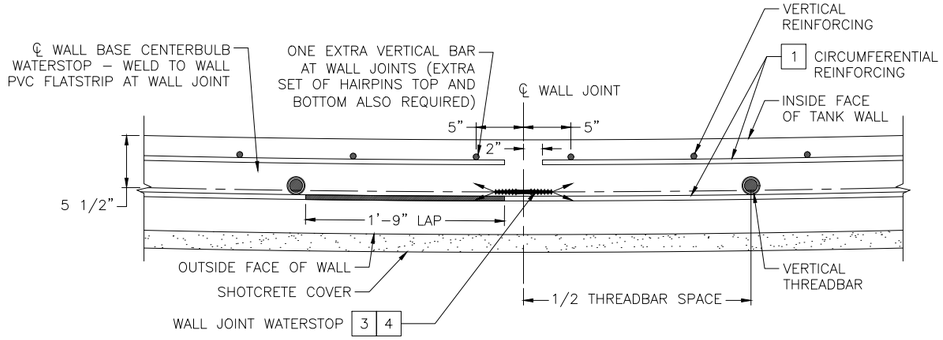
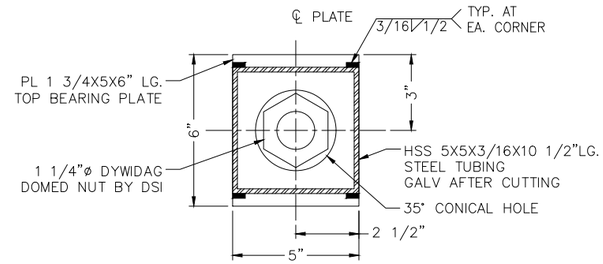
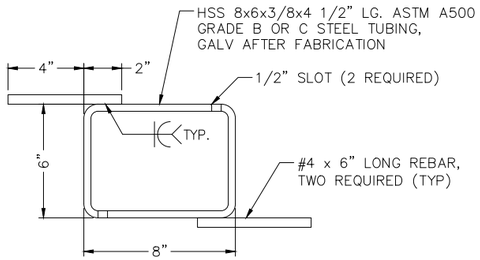
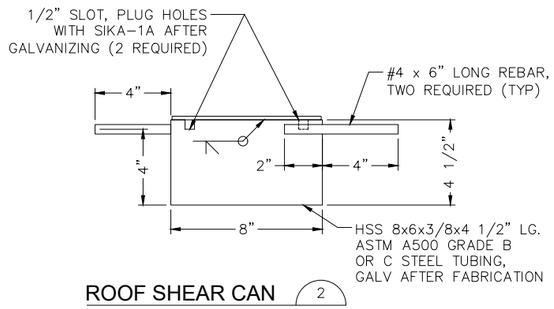


WALL JOINT PLAN 1 2

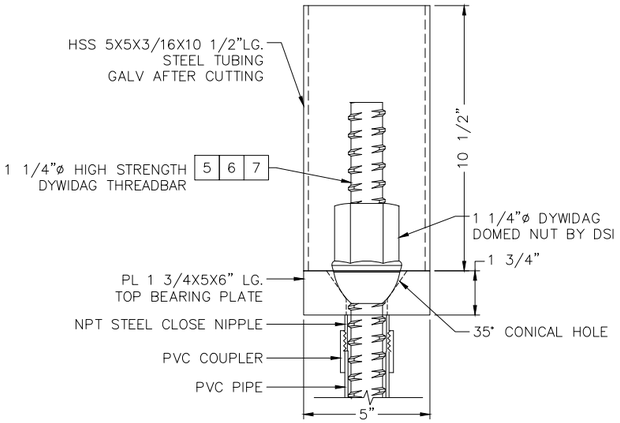


TOP BEARING PLATE AND SHEAR CAN SECTION A

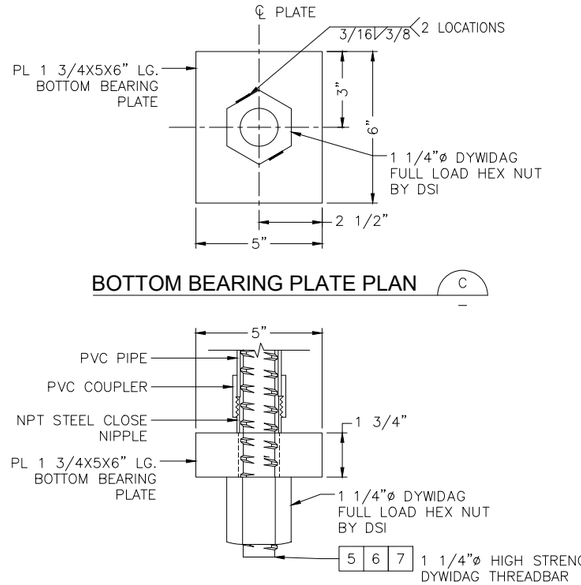




ROOF SHEAR CAN 2



TOP BEARING PLATE AND SHEAR CAN ELEVATION B



BOTTOM BEARING PLATE PLAN C

BOTTOM BEARING PLATE ELEVATION D

VERTICAL THREADBAR ASSEMBLY 3 5 TO 11

NOTES

WALL JOINT

1. EIGHT CIRCUMFERENTIAL BARS AT THE BASE OF THE WALL AND SIX CIRCUMFERENTIAL BARS AT THE TOP OF THE WALL INSIDE THE HAIRPINS ALONG WITH EVERY OTHER CIRCUMFERENTIAL BAR TIED TO THE THREADBARS ARE TO EXTEND THROUGH THE WALL JOINTS. INSIDE FACE CIRCUMFERENTIAL REINFORCING TIED TO VERTICAL REINFORCING SHALL NOT EXTEND THROUGH THE WALL JOINT. CIRCUMFERENTIAL REINFORCEMENT TO BE PROVIDED WITH 1'–9" LAPS WHERE REQUIRED.
2. AT THE CONTRACTOR'S OPTION SOME OR ALL OF THE BASE RESTRAINT CABLES AT THE WALL JOINT MAY BE BENT BACK SO THEY DO NOT INTERFERE WITH THE WALL JOINT. IF CABLES ARE TO BE BENT BACK, BOTTOM 18" (MIN) OF CABLE TO BE PLACED AT CORRECT ANGLE.
3. WALL JOINT WATERSTOP TO TERMINATE 2" FROM TOP OF WALL.
4. TIE OFF WATERSTOP AT 12" OC BOTH WEBS.

VERTICAL PRESTRESSING

5. THREADBARS SHALL BE COATED WITH UNOCAL SOLUBLE OIL 10 RUSTBAN OR EQUAL PRIOR TO INSTALLATION INTO PVC PIPE.
6. DURING EACH WALL POUR, FLUSH THE VERTICAL THREADBARS WITH CLEAN WATER FROM A HOSE PLACED THROUGH AN OPENING IN THE WOODEN CAP OVER THE TOP CAN.
7. VERTICAL POST–TENSIONING OPERATION MAY COMMENCE ONCE TANK CONCRETE COREWALL HAS REACHED A MINIMUM CONCRETE COMPRESSIVE STRENGTH OF 4,000 PSI.
8. PUMP EACH VERTICAL THREADBAR FROM THE BOTTOM GROUT CONNECTION WITH A 2–PART WATER INSENSITIVE EPOXY UNTIL THE ENTIRE NUT AT THE TOP ANCHOR CONNECTION HAS BEEN COVERED. MIX NONSHRINK GROUT TO POURABLE OR FLUID AND FILL REMAINDER OF WALL CAN TO TOP IMMEDIATELY AFTER THE INSIDE OF THE WALL CAN TUBING HAS BEEN COATED WITH A BONDING AGENT. LOCATION OF THE VERTICAL THREADBARS IS SHOWN ON DWG. W–301.
9. EACH VERTICAL THREADBAR SHALL BE STRESSED TO AN INITIAL FORCE OF 137.3 KIPS (± 2.80 KIPS):
10. ELONGATION OF BAR TO BE 1.147 IN.

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

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RECOM'D: DSRSD PRINCIPAL ENGINEER
REVIEW: PLNNG./DEVL.; FIELD OPS.; WWTP OPS.; MECH./MAINT.; ELECT./INSTR.
SCALE AS SHOWN 2025

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WHB ENGINEERS

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RESERVOIR 20B

WALL JOINT

CIP NO. 14–W008

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10/2/2025
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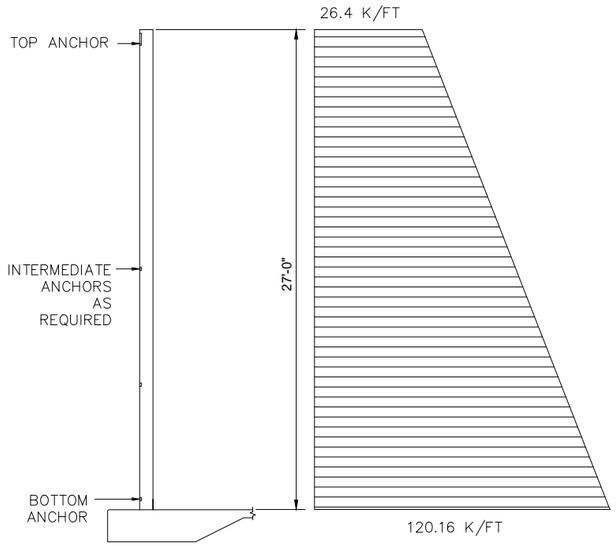
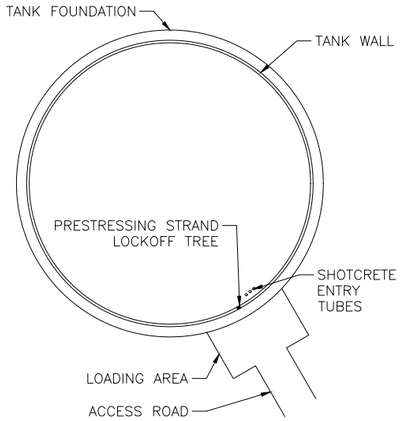
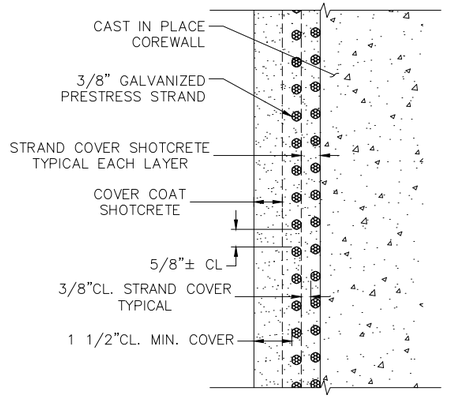


WALL ANCHOR

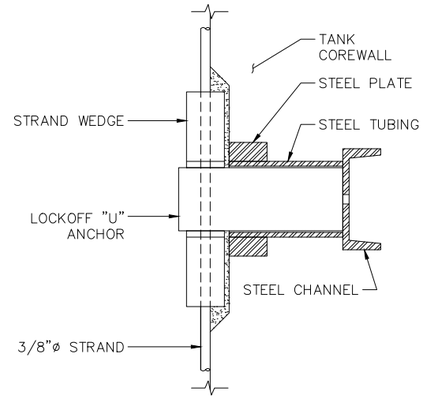
FINAL FORCE REQUIREMENTS (1)



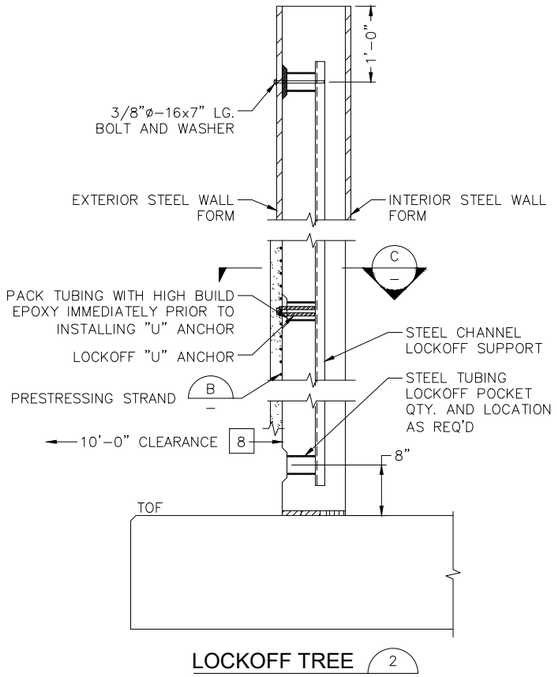
LOCKOFF TREE PLAN LOCATION (A)



PRESTRESSING (B 1-7)



LOCKOFF POINT (C)



LOCKOFF TREE (2)

NOTES

CIRCUMFERENTIAL PRESTRESSING

1. THE MAXIMUM STRESS TOLERANCE IN ANY STRAND AT ANY POINT AT ANY ELEVATION ON THE TANK WALL AT ANY TIME DURING THE WRAPPING OPERATION SHALL NOT EXCEED ± 320 POUNDS FROM THE AVERAGE FORCE SETTING OF 14,950 POUNDS.
2. THE CONTRACTOR SHALL PROVIDE A CONTINUOUSLY ELECTRONICALLY RECORDED FORCE APPLICATION GRAPH FOR THE FULL LENGTH OF ALL WRAPPED STRAND AS PERMANENT DOCUMENTED EVIDENCE THAT THE FORCE APPLICATION REQUIREMENTS HAVE BEEN MET. ALL SUCH FORCE READINGS MUST BE BASED ON CONTINUOUS SENSING OF THE STRAND BETWEEN THE TENSIONING DRUM AND THE WALL AS THE STRAND IS BEING LAID ON THE WALL.
3. THE STRAND SHALL BE 3/8"ø.
4. PRIOR TO PLACING ANY STRAND OR SHOTCRETE ON THE WALL, ALL EXTERIOR SURFACES OF THE CONCRETE COREWALL WHICH WILL RECEIVE STRAND SHALL BE ABRASIVELY BLASTED WITH A SELF-CONTAINED WATER-BLASTING SYSTEM TO REMOVE ALL LAITANCE, FORM OIL, OR OTHER TYPES OF COATINGS. THE SURFACE SHALL BE CUT TO A MINIMUM CSP5 PROFILE AS ESTABLISHED BY ICRI. ONCE THE ABRASIVE BLASTING IS COMPLETE THE TANK WALL SURFACE SHALL BE PRESSURE WASHED TO REMOVE ALL DUST RESIDUE ON THE WALL SURFACE.
5. IF MULTIPLE LAYERS OF STRAND ARE REQUIRED, PROVIDE 3/8" MINIMUM OF SHOTCRETE COVERAGE BETWEEN LAYERS.
6. PROVIDE 1 1/2" MINIMUM OF SHOTCRETE COVERAGE OVER THE OUTER LAYER OF STRAND.
7. ALL SHOTCRETE TO BE APPLIED WITH AN AUTOMATED PROCESS KEEPING THE NOZZLE AT A CONSTANT DISTANCE AND ANGLE AS IT TRAVELS AT A UNIFORM BI-DIRECTIONAL SPEED. FINAL SHOTCRETE COVER TO HAVE A NATURAL GUN FINISH.
8. CLEARANCE AROUND TANK TO BE UNOBSTRUCTED FOR 360 DEGREES AROUND CIRCUMFERENCE OF TANK FOR PRESTRESSING MACHINE OPERATION.

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN: DRAWN BY GM; DESIGN BY KCK; CHECKED BY ADB
RECOM'D: DSRSD PRINCIPAL ENGINEER
REVIEW: PLNNG./DEVL.; FIELD OPS.; WWTP OPS.; MECH./MAINT.; ELECT./INSTR.
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WHB ENGINEERS

DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

RESERVOIR 20B

CIRCUMFERENTIAL PRESTRESSING

CIP NO. 14-W008

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CONTROL DIAGRAM SYMBOLS

- 120V — CONTROL TRANSFORMER, PRIMARY AND SECONDARY VOLTAGES SHOWN, SIZE AS SHOWN OR SPECIFIED
- 3P 40A — CIRCUIT BREAKER, THERMAL–MAGNETIC, 3 POLE, UON, RATING IN AMPS
- DESIGNATES PLC INPUT TERMINATION OR CONTROL PANEL TERMINATION
- ID, FUSE — MODIFIERS: CLF = CURRENT LIMITING FUSE; DE = DUAL ELEMENT; F = CLASS F
- ID, DESCPTN — PUSHBUTTON, MOMENTARY CONTACT, NORMALLY OPEN
- ID, DESCPTN — PUSHBUTTON, MOMENTARY CONTACT, NORMALLY CLOSED
- ID, DESCPTN — STOP PUSHBUTTON WITH LOCKOUT
- 2 CR — CONTROL RELAY OPERATING COIL FUNCTION: CR= CONTROL RELAY; U = UNLATCH; L = LATCH
- OL — THERMAL OVERLOAD RELAY
- 2CR 2CR — OUTPUT CONTACTS
- 2 TR — TIMING RELAY OPERATING COIL ON/OFF/DELAY; RANGE: SEC/MIN; SET: SEC/MIN
- O, H, A, X, X — SELECTOR SWITCH 3 POSITION MAINTAINED CONTACT (X = CONTACTS CLOSED)
- LINE, L — INDICATING LIGHT PUSH TO TEST, TEST VOLTAGE TERMINAL SHOWN; L = LENS COLOR; A = AMBER; B = BLUE; G = GREEN; R = RED; W = WHITE
- 2–WAY SOLENOID VALVE
- A — DETAIL NUMBER; DETAIL DESIGNATION; WHERE DETAIL IS LOCATED

NORMALLY OPEN	NORMALLY CLOSE	DEFINITION
2TR, TC	2TR, TO	DELAY ON COIL ENERGIZATION (ON DELAY)
		POSITION (LIMIT) SWITCH
		TEMPERATURE SWITCH
		PRESSURE SWITCH
		LEVEL SWITCH

CIRCUITS AND RACEWAYS

- RACEWAY EXPOSED
- RACEWAY UNDERGROUND
- RACEWAY CONCEALED IN CONCRETE ENCASEMENT
- RACEWAY TURNED TOWARD THE VIEWER
- RACEWAY TURNED DOWN
- CONDUIT CAPPED FOR FUTURE USE
- HH23 — HH: HANDHOLE, MH: MANHOLE
- J — JUNCTION BOX
- TB — TERMINAL BOX
- 3#10 AWG, GNDG, 1"C — RACEWAY SIZE WITH CONDUCTOR CONTENTS AND SIZES
- LPUV–1 — CIRCUIT HOMERUN WITH DESTINATION NOTED
- ICXXX — INSTRUMENTATION CONDUIT
- CCXXX — CONTROL CONDUIT
- P–4XX — POWER CONDUIT WITH 480V CIRCUITS
- LP–2XX — POWER CIRCUIT 240V WITH POWER SOURCE IDENTIFICATION
- LP–1XX — POWER CIRCUIT 120V WITH POWER SOURCE IDENTIFICATION

GROUNDING

- GROUND ROD WITH GROUND WELL
- GROUND CONNECTION, BOLTED TYPE
- GROUND CONNECTION, COMPRESSION TYPE
- G — GROUNDING CONDUCTOR, MINIMUM #4/0 BARE COPPER
- INSTRUMENT CABLE SHIELD GROUND

MOTORS AND EQUIPMENT

- DISCONNECT SWITCH, NON–FUSED, HEAVY DUTY PADLOCKABLE, INDUSTRIAL TYPE
- M — M = MOTOR; SV = SOLENOID VALVE; 125 = 125HP
- FIELD INSTRUMENT
- CONTROL STATION (SEE CONTROL DIAGRAMS FOR DEVICES REQUIRED)

TELEPHONE AND COMMUNICATION SYSTEMS: UNLESS OTHERWISE SPECIFIED, TELEPHONE OUTLETS SHALL BE MOUNTED AT SAME HEIGHT AS THE RECEPTACLES, VERIFY.

- EXTERNAL LINE OR PLANT PHONE SYSTEM OUTLET
- COM. — ETHERNET COMMUNICATION PORT
- DENOTES DEMOLITION

LIGHTING

FIXTURE IDENTIFICATION:

5 XX R / 2/40 / 8'–6"

- NUMBER OF FIXTURES (SHOWN ONLY WHEN REQUIRED FOR CLARITY)
- FIXTURE TYPE REFER TO FIXTURE SCHEDULE TYPE APPLIES TO ALL FIXTURES OF THE SAME SHAPE WITHIN A ROOM OR AREA.
- MOUNTING: CEILING (C), RECESSED (R) POLE (PP), STANCHION (S), PENDANT (P), WALL (W).
- MOUNTING HEIGHT, FLOOR TO BOTTOM OF FIXTURE UON. AS HIGH AS POSSIBLE (AHAP)
- NUMBER OF LAMPS/LAMP WATTAGE

LIGHTING FIXTURE SHAPES AND SCALE ARE REPRESENTED WHERE POSSIBLE. THE EXAMPLES SHOWN BELOW ARE TYPICAL APPLICATIONS.

- FLUORESCENT FIXTURE
- WALL MOUNTED FIXTURE
- EMERGENCY LIGHTING UNIT SELF CONTAINED

MISCELLANEOUS

- GROUND CONNECTION
- PROGRAMMABLE LOGIC CONTROLLER I/O
- E150 TYP — TYPICAL DETAIL DESIGNATION
- T — THERMOSTAT
- 5 — NOTE DESIGNATION
- △ — DESIGNATES EQUIPMENT OR DEVICE LOCATED AT LOAD IN THE FIELD
- ✳ — DESIGNATES EQUIPMENT OR DEVICES LOCATED IN MCC
- ◇ — DESIGNATES PLC WIRING TERMINAL
- PHOTO ELECTRIC FIRE DETECTOR
- IONIZATION SMOKE DETECTOR
- REMOVABLE POST
- E — END–OF–LINE DEVICE
- F — FIRE ALARM PULL STATION
- F — COMBINATION STROBE LIGHT/HORN
- A — REFERENCE DESIGNATION WITH DRAWING NUMBER WHERE DETAIL IS SHOWN
- SURGE SUPPRESSOR
- —K— — KIRK–KEY INTERLOCK
- NEMA 4X — CORROSIVE AREA
- NEMA 8 — CLASSIFIED HAZARDOUS AREA (OUTDOOR)
- NEMA 12 — GENERAL PURPOSE AREA

WIRING DEVICES

SWITCHES: UNLESS OTHERWISE SPECIFIED, ALL SWITCHES ARE WALL MOUNTED

- $ — TOGGLE SWITCH, SINGLE POLE, 20 AMP
- $ $ — GANGED SWITCHES IN COMMON BOX WITH COMMON WALL PLATE
- $ A, 3 — SUPERSCRIPT INDICATES CIRCUIT CONTROLLED: a, b, c, ETC. MAY BE COMBINED WITH CIRCUIT NUMBER: 1a, 4b, ETC.
- SUBSCRIPT MODIFIER INDICATES: 2 = DOUBLE POLE; 3 = THREE WAY; 4 = FOUR WAY; K = KEY OPERATED; MC = MOMENTARY CONTACT, THREE POSITION; MS = MANUAL (MOTOR) STARTER OR SWITCH; R = RHEOSTAT (DIMMER, SPEED CONTROL); WP = WEATHER PROOF

RECEPTACLES: UNLESS OTHERWISE SPECIFIED, ALL RECEPTACLES ARE 125 VOLT, SINGLE PHASE, STRAIGHT BLADE, NON LOCKING, GROUNDING STYLE.

- DUPLEX RECEPTACLE, 20 AMP, 3 WIRE. MODIFIERS: WP = WEATHER PROOF; GFI = GROUND FAULT CIRCUIT INTERRUPTER; H = HAZARDOUS AREA–EXPLOSION PROOF
- SPECIAL RECEPTACLE
- TWIST LOCK RECEPTACLE

STANDARD ABBREVIATIONS

A	AMMETER
AFF	ABOVE FINISHED FLOOR
ATS	AUTOMATIC TRANSFER SWITCH
BCW	BARE COPPER WIRE
C	CONDUIT
C.O.	CONDUIT ONLY (EMPTY CONDUIT)
CP	CONTROL PANEL
CPB	COMMUNICATIONS PULL BOX
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL RELAY
CT	CONTACTOR (HEAVY DUTY)
DPDT	DOUBLE POLE DOUBLE THROW
(E) OR EXIST.	EXISTING
FLA	FULL LOAD AMPERE
FM	FIBER OPTIC MODEM
FS	FLOAT SWITCH
FVNV	FULL VOLTAGE NON–REVERSING STARTER
G	GROUND
HDD	HORIZONTAL DIRECTIONAL DRILLING
HP	HORSE POWER
HZ	HERTZ
KVAR	REACTIVE POWER
KW	KILOWATT
KWHR	KILOWATT HOUR
I/O	INPUT/OUTPUT
ISR	INTRINSICALLY SAFE RELAY
LC	LOAD CENTER
LOS	LOCKOUT STOP
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MFM	MULTI–FUNCTION METER
MIN	MINIMUM
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
OIT	OPERATOR INTERFACE TERMINAL
PAIR OR PR	TWISTED, SHIELDED PAIRS
PB	PULL BOX
PFR	POWER FAILURE RELAY
PLC	PROGRAMMABLE LOGIC CONTROLLER
POC	POINT OF CONNECTION
PP	POWER POLE
PPB	POWER PULL BOX
PS	PUMP STATION
RTD	RESISTANCE THERMAL DETECTOR
RTU	REMOTE TERMINAL UNIT
SCADA	SUPERVISORY CONTROL & DATA ACQUISITION
SPD	SURGE PROTECTION DEVICE
SSRS	SOLID STATE REDUCED VOLTAGE STARTER
SPDT	SINGLE POLE DOUBLE THROW
SWGR	SWITCHGEAR
TDR	TIME DELAY RELAY
TS	TEMPERATURE SWITCH
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLTMETER
VFD	VARIABLE FREQUENCY DRIVE
WP	WEATHER PROOF (NEMA 4X)
XFMR	TRANSFORMER

ONE–LINE DIAGRAM SYMBOLS

- 2 — SIZE 2 COMBINATION FULL VOLTAGE NON–REVERSING MAGNETIC STARTER MCP SIZED BY MANUFACTURER (OVERLOAD RELAY NOT SHOWN). RV = REDUCED VOLTAGE; 2S2W = TWO–SPEED TWO–WINDING; 2 = SIZE 2
- MPD 413 — DESIGNATE NAME AND CIRCUIT NUMBER OF 480V POWER CIRCUIT
- 3 400/3 — CURRENT TRANSFORMER WITH RATIO AND NUMBER OF UNITS
- 200A — DISCONNECT 200 AMP SHOWN
- MAIN SERVICE METER (BY UTILITY COMPANY)
- FU — FUSE WITH BLOWN INDICATOR
- MFM — MULTI–FUNCTION ELECTRONIC METER
- PFR — POWER FAILURE RELAY
- REACTOR (3%)
- 480/277V, 5.75% Z — POWER TRANSFORMER; IMPEDANCE SHOWN
- 600KW 60HZ — 480V 3ø, 4W — GENERATOR. POWER RATING, FREQUENCY, VOLTAGE.

GENERAL NOTES

1. THIS DRAWING IS GENERAL IN NATURE. SOME SYMBOLS SHOWN HERE ON MAY NOT BE USED ON THE CONTRACT DRAWINGS.
2. IDENTIFICATIONS (ID), SIZES, RATINGS, LOCATIONS AND SIMILAR INFORMATION SHOWN ASSOCIATED WITH SYMBOLS ARE OPTIONAL; EXAMPLES OF SUCH INFORMATION ARE SHOWN WITH SOME SYMBOLS FOR CLARITY.
3. THE ELECTRICAL DRAWINGS USE THE ONE–LINE DIAGRAMS AND PANEL SCHEDULES IN CONJUNCTION WITH SHOWING THE LOCATION OF THE ELECTRICAL/INSTRUMENTATION SOURCES AND LOADS/DEVICES SHOWN ON THE PLAN DRAWINGS TO DEPICT THE WORK. THE CONTRACTOR SHALL USE THESE DOCUMENTS TO DETERMINE AND PROVIDE THE NECESSARY RACEWAY AND WIRING SYSTEM FOR EACH CIRCUIT. ALL INDOOR RACEWAY SHALL BE RUN EXPOSED, AND ROUTED BY THE CONTRACTOR, UNLESS OTHERWISE NOTED. THE TYPE OF RACEWAY AND WIRE USED SHALL BE AS SPECIFIED IN THE SPECIFICATIONS UNLESS OTHERWISE NOTED.
4. THE LOCATION OF THE CONTROL STATIONS SHOWN ON THE PLAN DRAWINGS ARE DIAGRAMMATIC AND THE ACTUAL LOCATION SHALL BE COORDINATED IN THE FIELD WITH THE CONSTRUCTION MANAGER.
5. THE EXACT LOCATION OF THE MOTORS AND ACCESSORIES ARE NOT SHOWN. THE CONTRACTOR SHALL COORDINATE THE STRUCTURAL AND MECHANICAL DRAWINGS FOR CONDUIT STUBOUT AND TERMINATION LOCATIONS.
6. ALL EQUIPMENT SHALL BE LABELED WITH NAMEPLATES. DESCRIPTION OF EQUIPMENT SHALL BE IN ACCORDANCE WITH THE ONE–LINE DIAGRAM DESCRIPTION. A LIST OF THE NAMEPLATES SHALL BE SUBMITTED TO THE CONSTRUCTION MANAGER PRIOR TO ENGRAVING.
7. UNLESS OTHERWISE NOTED, ALL CONVENIENCE OUTLETS SHALL BE MOUNTED AT 48–INCHES ABOVE FINISHED FLOOR. ALL LIGHT SWITCHES SHALL BE MOUNTED AT 54–INCHES ABOVE FINISHED FLOOR.
8. EACH CONVENIENCE OUTLET AND LIGHTING CIRCUIT SHALL BE PROVIDED WITH A #12AWG GREEN GROUNDING CONDUCTOR.
9. ALL TYPICAL DETAILS SHALL APPLY REGARDLESS THEY ARE REFERENCED ON ANY DRAWING OR NOT.
10. FOR PACKAGED EQUIPMENT, CONTRACTOR SHALL FOLLOW THE MANUFACTURER'S RECOMMENDED INSTALLATION AND SHALL INSTALL THEM PER APPROVED SHOP DRAWINGS.
11. FOR CLARITY, CONTROL SCHEMATIC DIAGRAMS DO NOT SHOW REQUIRED EQUIPMENT GROUNDING CONDUCTOR WHICH SHALL BE PROVIDED FOR EACH POWER CIRCUIT.
12. ALL EXPOSED CONDUITS SHALL BE PVC–COATED RIGID GALVANIZED STEEL CONDUITS, ALL ASSOCIATED CONDUIT ACCESSORIES SUCH AS FITTINGS, BOXES, CONDUITS ETC. SHALL ALSO BE PVC–COATED.
13. UNLESS OTHERWISE NOTED, ALL EQUIPMENT AND ASSOCIATED INSTALLATION IN NEMA 4X AREAS SHALL BE CORROSIVE RESISTANT WITH STAINLESS STEEL MATERIALS AND ENCLOSURES.

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN: DRAWN BY LD; DESIGN BY TP; CHECKED BY DTN
RECOM'D: STEVE DELIGHT, DSRSD PRINCIPAL ENGINEER
REVIEW: PLNNG./DEVL.; FIELD OPS.; WWTP OPS.; MECH./MAINT.; ELECT./INSTR. M. NAKAMURA

SCALE NTS | 2025

DTN ENGINEERS, INC.
Oakland, San Francisco, Orange County, CA
REGISTERED PROFESSIONAL ENGINEER — DIEP TAN NGUYEN — NO. EE 18687 — EXP. 6/30/27 — ELECTRICAL — STATE OF CALIFORNIA
01/14/26

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP

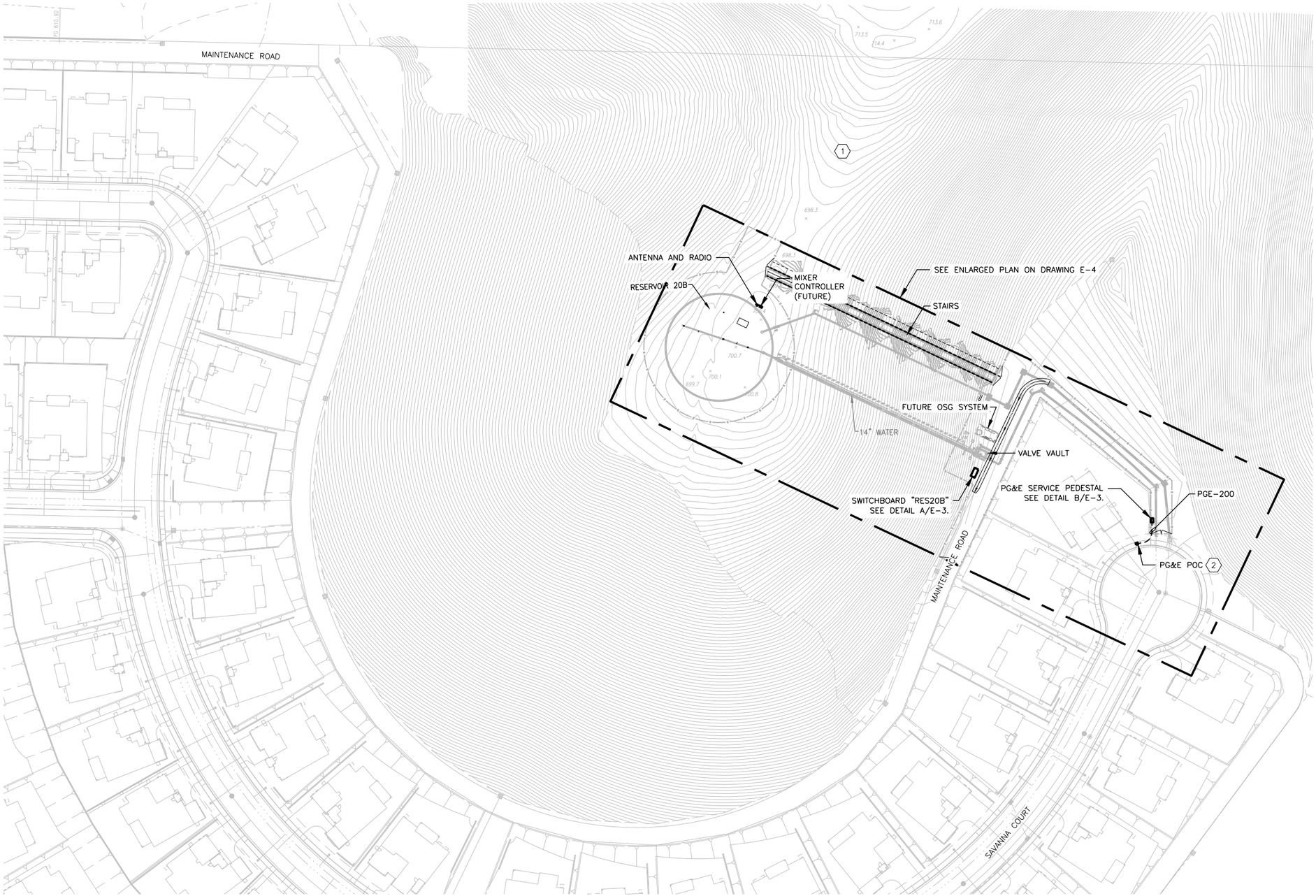
DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828–0515

RESERVOIR 20B DESIGN PROJECT

LEGEND AND NOTES

CIP NO. 14–W008

E-1
38 | 49



SHEET NOTES:

1. SEE ENLARGED FLOOR PLAN SHOWN ON DRAWING E-4 FOR REQUIRED WORK.
2. EXACT LOCATION OF PG&E POINT OF CONNECTION SHALL BE AS PER PG&E PM DRAWING NO. 35661278.

N

50' 25' 0 50'

SCALE: 1" = 50'

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN		RECOM'D
DRAWN BY	LD	
DESIGN BY	TP	
CHECKED BY	DTN	
		STEVE DELIGHT, DSRSD PRINCIPAL ENGINEER

REVIEW: PLNNG./DEVL. | FIELD OPS. | WWTP OPS. | MECH./MAINT. | ELECT./INSTR. M. NAKAMURA

SCALE 1"=50' | 2025

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP

DTN ENGINEERS, INC.
Oakland, San Francisco, Orange County, CA

REGISTERED PROFESSIONAL ENGINEER — DIEP TAN NGUYEN — No. E1-18687 — EXP. 6/30/27 — ELECTRICAL — STATE OF CALIFORNIA — 01/14/26

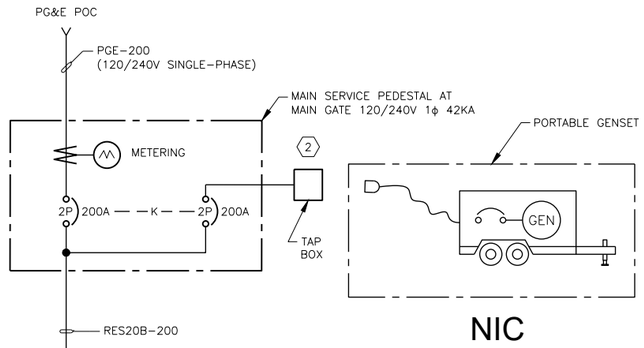
DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

RESERVOIR 20B DESIGN PROJECT

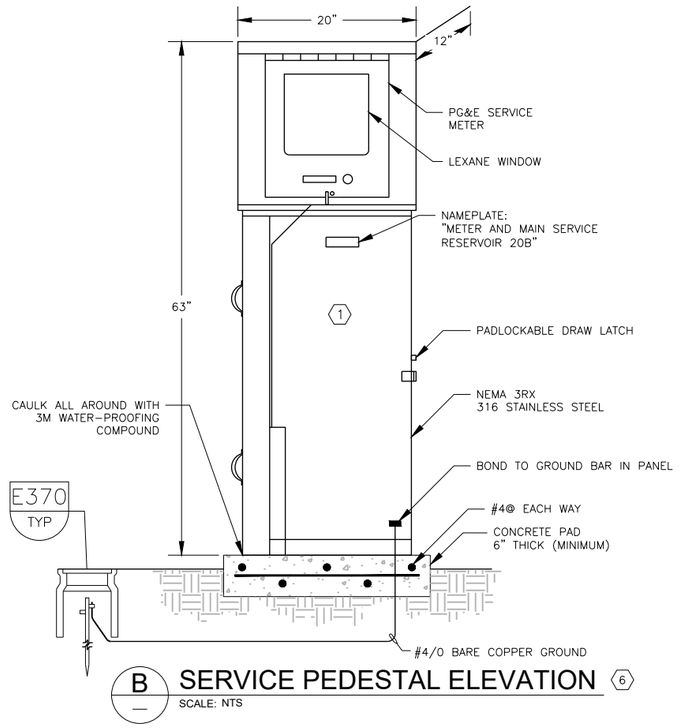
SITE PLAN

CIP NO. 14-W008

E-2
39 | 49



NIC

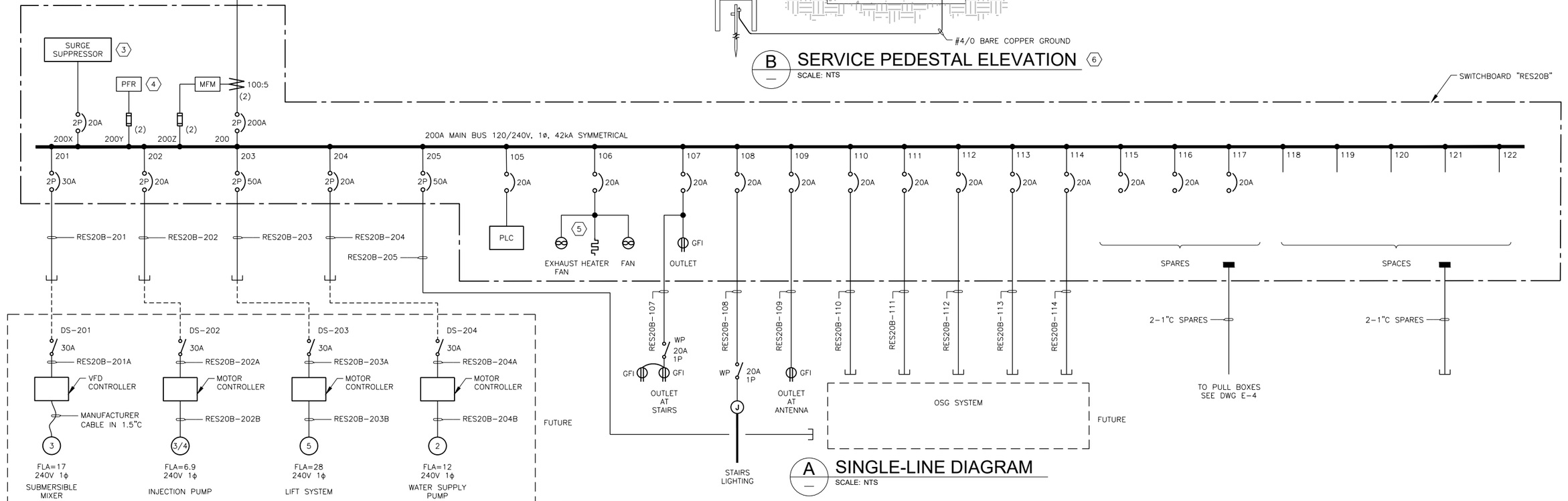


B SERVICE PEDESTAL ELEVATION 6

SCALE: NTS

SHEET NOTES:

1. THE PULL SECTION AND THE METERING SECTION SHALL BE IN FULL COMPLIANCE WITH PG&E AND APPLICABLE EUSERC REQUIREMENTS.
2. THIS CAMLOK TAP BOX SHALL HAVE THE FOLLOWING FEATURES:
   1. HEAVY DUTY, NEMA 3RX RATED, 200A 3P AND GROUND, 600VAC, 120/240V SINGLE-PHASE, 42KA.
   2. MALE CONFIGURATION.
   3. CIRCUIT BREAKER.
   4. MANUFACTURED BY ESL POWER SYSTEM SERIES 4620 AS DISTRICT'S STANDARD.
3. THIS SURGE SUPPRESSOR SHALL HAVE THE FOLLOWING CHARACTERISTICS:
   1. SUITABLE FOR USE WITH 120/240V SINGLE-PHASE SYSTEM.
   2. NEMA 4X HOUSING SUITABLE FOR SURFACE MOUNTING INSIDE A SWITCHBOARD OR PANELBOARD.
   3. 100KA PEAK PER PHASE.
   4. GREEN LED STATUS LIGHT.
   5. DRY CONTACT FOR ALARM.
   6. MANUFACTURED BY HUBBELL CATALOG NO. HBL3W100C, SQUARE D, OR EQUAL.
4. POWER FAILURE RELAY SHALL MONITOR VOLTAGE OF EACH PHASE IN THE 120/240V SINGLE-PHASE SYSTEM. IT SHALL HAVE THE FOLLOWING CHARACTERISTICS:
   1. UL APPROVED.
   2. SUITABLE FOR 120/240V SINGLE-PHASE SYSTEM CONNECTION.
   3. 3A ALARM DRY CONTACT.
   4. 120/240V, LED INDICATING LIGHT.
   5. ADJUSTABLE VOLTAGE RANGE SETTINGS.
   6. MANUFACTURED BY EATON EMR6 SERIES, LITTELFUSE 50R4003, OR EQUAL.
5. EACH FAN AND HEATER SHALL BE CONTROLLED BY ITS OWN THERMOSTAT.
6. AT FOUR FEET AWAY FROM THE SERVICE PEDESTAL, FURNISH AND INSTALL THE CAMLOK TAP BOX AS INDICATED PER NOTE 2. PROVIDE CONCRETE BASE SUPPORT FOR THE CAMLOK TAP BOX IN SIMILAR MANNER AS TYPICAL DETAIL E330/TYP.



A SINGLE-LINE DIAGRAM

SCALE: NTS

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN: DRAWN BY LD; DESIGN BY TP; CHECKED BY DTN

RECOM'D: STEVE DELIGHT, DSRSD PRINCIPAL ENGINEER

REVIEW: PLNNG./DEVL.; FIELD OPS.; WWTP OPS.; MECH./MAINT.; ELECT./INSTR. M. NAKAMURA

SCALE NTS | 2025

DTN ENGINEERS, INC.
Oakland, San Francisco, Orange County, CA

REGISTERED PROFESSIONAL ENGINEER
DEEP TAN NGUYEN
No. E-18687
Exp. 6/30/27
ELECTRICAL
STATE OF CALIFORNIA
01/14/26

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP

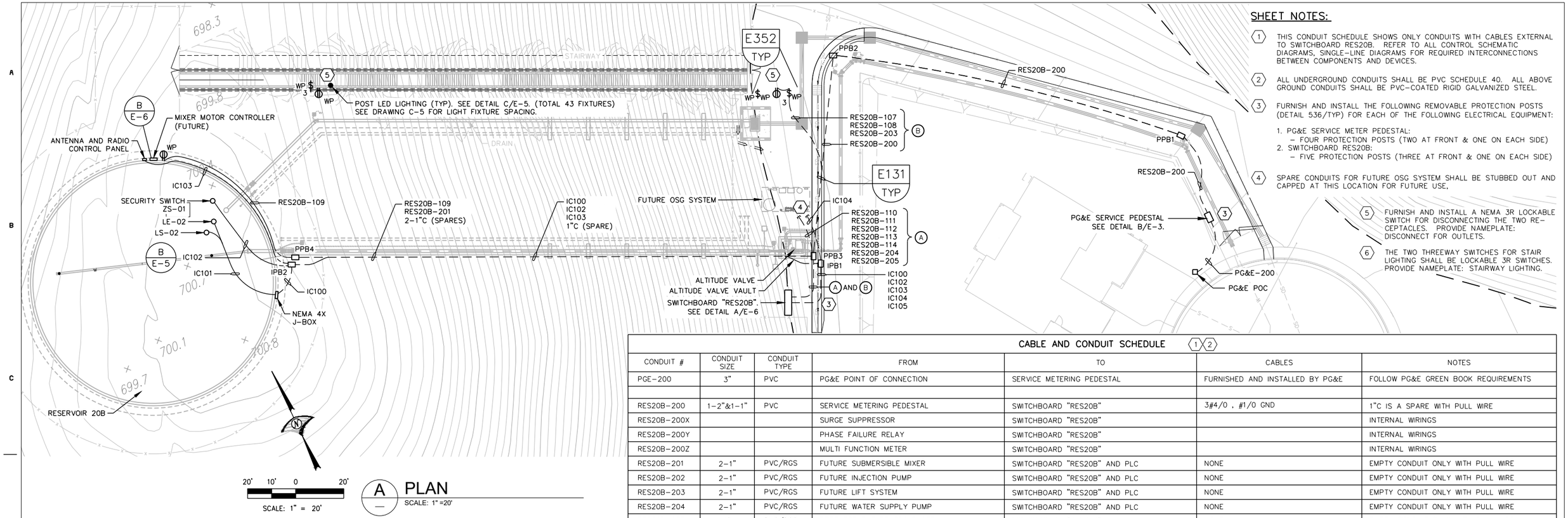
DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

RESERVOIR 20B DESIGN PROJECT

ELECTRICAL
SINGLE-LINE DIAGRAM

CIP NO. 14-W008

E-3
40 | 49



A PLAN
SCALE: 1" =20'

SHEET NOTES:

1. THIS CONDUIT SCHEDULE SHOWS ONLY CONDUITS WITH CABLES EXTERNAL TO SWITCHBOARD RES20B. REFER TO ALL CONTROL SCHEMATIC DIAGRAMS, SINGLE-LINE DIAGRAMS FOR REQUIRED INTERCONNECTIONS BETWEEN COMPONENTS AND DEVICES.
2. ALL UNDERGROUND CONDUITS SHALL BE PVC SCHEDULE 40. ALL ABOVE GROUND CONDUITS SHALL BE PVC-COATED RIGID GALVANIZED STEEL.
3. FURNISH AND INSTALL THE FOLLOWING REMOVABLE PROTECTION POSTS (DETAIL 536/TYP) FOR EACH OF THE FOLLOWING ELECTRICAL EQUIPMENT:
   1. PG&E SERVICE METER PEDESTAL:
      - FOUR PROTECTION POSTS (TWO AT FRONT & ONE ON EACH SIDE)
   2. SWITCHBOARD RES20B:
      - FIVE PROTECTION POSTS (THREE AT FRONT & ONE ON EACH SIDE)
4. SPARE CONDUITS FOR FUTURE OSG SYSTEM SHALL BE STUBBED OUT AND CAPPED AT THIS LOCATION FOR FUTURE USE,
5. FURNISH AND INSTALL A NEMA 3R LOCKABLE SWITCH FOR DISCONNECTING THE TWO RECEPTACLES. PROVIDE NAMEPLATE: DISCONNECT FOR OUTLETS.
6. THE TWO THREEWAY SWITCHES FOR STAIR LIGHTING SHALL BE LOCKABLE 3R SWITCHES. PROVIDE NAMEPLATE: STAIRWAY LIGHTING.

CABLE AND CONDUIT SCHEDULE (1)(2)

CONDUIT #	CONDUIT SIZE	CONDUIT TYPE	FROM	TO	CABLES	NOTES
PGE-200	3"	PVC	PG&E POINT OF CONNECTION	SERVICE METERING PEDESTAL	FURNISHED AND INSTALLED BY PG&E	FOLLOW PG&E GREEN BOOK REQUIREMENTS
RES20B-200	1-2"&1-1"	PVC	SERVICE METERING PEDESTAL	SWITCHBOARD "RES20B"	3#4/0 , #1/0 GND	1"C IS A SPARE WITH PULL WIRE
RES20B-200X			SURGE SUPPRESSOR	SWITCHBOARD "RES20B"		INTERNAL WIRINGS
RES20B-200Y			PHASE FAILURE RELAY	SWITCHBOARD "RES20B"		INTERNAL WIRINGS
RES20B-200Z			MULTI FUNCTION METER	SWITCHBOARD "RES20B"		INTERNAL WIRINGS
RES20B-201	2-1"	PVC/RGS	FUTURE SUBMERSIBLE MIXER	SWITCHBOARD "RES20B" AND PLC	NONE	EMPTY CONDUIT ONLY WITH PULL WIRE
RES20B-202	2-1"	PVC/RGS	FUTURE INJECTION PUMP	SWITCHBOARD "RES20B" AND PLC	NONE	EMPTY CONDUIT ONLY WITH PULL WIRE
RES20B-203	2-1"	PVC/RGS	FUTURE LIFT SYSTEM	SWITCHBOARD "RES20B" AND PLC	NONE	EMPTY CONDUIT ONLY WITH PULL WIRE
RES20B-204	2-1"	PVC/RGS	FUTURE WATER SUPPLY PUMP	SWITCHBOARD "RES20B" AND PLC	NONE	EMPTY CONDUIT ONLY WITH PULL WIRE
RES20B-205	1"	PVC/RGS	PPB3 FOR FUTURE OSG SYSTEM	SWITCHBOARD "RES20B"	NONE	EMPTY CONDUIT ONLY WITH PULL WIRE
RES20B-105			PLC	SWITCHBOARD "RES20B"		INTERNAL WIRINGS
RES20B-106			HEATER/EXHAUST FAN	SWITCHBOARD "RES20B"		INTERNAL WIRINGS
RES20B-107	1"	PVC/RGS	STAIRS OUTLET	SWITCHBOARD "RES20B"	2#10, #10 GND	x
RES20B-108	1"	PVC/RGS	STAIRS LIGHTING	SWITCHBOARD "RES20B"	2#10, #10 GND	x
RES20B-109	1"	PVC/RGS	OUTLET AT RADIO AREA	SWITCHBOARD "RES20B"	2#10, #10 GND	x
RES20B-110	2"	PVC/RGS	FUTURE OSG SYSTEM	SWITCHBOARD "RES20B"	NONE	EMPTY CONDUIT ONLY WITH PULL WIRE
RES20B-111		PVC/RGS	FUTURE OSG SYSTEM	SWITCHBOARD "RES20B"	NONE	EMPTY CONDUIT ONLY WITH PULL WIRE
RES20B-112		PVC/RGS	FUTURE OSG SYSTEM	SWITCHBOARD "RES20B"	NONE	EMPTY CONDUIT ONLY WITH PULL WIRE
RES20B-113		PVC/RGS	FUTURE OSG SYSTEM	SWITCHBOARD "RES20B"	NONE	EMPTY CONDUIT ONLY WITH PULL WIRE
RES20B-114	1"	PVC/RGS	FUTURE OSG SYSTEM	SWITCHBOARD "RES20B"	NONE	EMPTY CONDUIT ONLY WITH PULL WIRE
IC100	1"	PVC/RGS	LEVEL TRANSMITTER	PLC	1 PAIR	x
IC101	1"	PVC/RGS	LEVEL ELEMENT AND FLOAT SWITCH	LEVEL TRANSMITTER	MFR CABLE AND 2#14	x
IC102	1"	PVC/RGS	HATCH SECURITY SYSTEM ZS-01	PLC SYSTEM	4#14 (2 SPARES)	x
IC103	1"	PVC/RGS	RADIO CONTROL PANEL	PLC SYSTEM	4#14 AND 12-STRAND FIBER CABLE	x
IC104	2-2"	PVC/RGS	FUTURE OSG SYSTEM	PLC SYSTEM (VIA IPB1)	NONE	EMPTY CONDUIT ONLY WITH PULL WIRE
IC105	1"	PVC/RGS	ALTITUDE VALVE CONTROLLER	PLC	CAT6 & 2#14	

PULL BOX SCHEDULE

PULL BOX	DIMENSIONS	NOTES
PPB1	24" X 36" X 30"D	SEE DETAIL E705A/TYP ON DWG E-7
PPB2	24" X 36" X 30"D	SEE DETAIL E705A/TYP ON DWG E-7
PPB3	36" X 36" X 36"D	SEE DETAIL E705/TYP ON DWG E-7
PPB4	36" X 36" X 36"D	SEE DETAIL E705/TYP ON DWG E-7
IPB1	24" X 36" X 30"D	SEE DETAIL E705A/TYP ON DWG E-7
IPB2	24" X 36" X 30"D	SEE DETAIL E705A/TYP ON DWG E-7

C PULL BOX SCHEDULE
SCALE: NTS

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN: DRAWN BY LD; DESIGN BY TP; CHECKED BY DTN

RECOM'D: STEVE DELIGHT, DSRSD PRINCIPAL ENGINEER

REVIEW: PLNNG./DEVL.; FIELD OPS.; WWTP OPS.; MECH./MAINT.; ELECT./INSTR. M. NAKAMURA

SCALE NTS | 2025

NO.	BY	CK	APP	DATE	REVISIONS AND RECORD OF ISSUE

DTN ENGINEERS, INC.
Oakland, San Francisco, Orange County, CA

REGISTERED PROFESSIONAL ENGINEER — DIEP TAN NGUYEN — NO. E-18687 — EXP. 6/30/27 — ELECTRICAL — STATE OF CALIFORNIA
01/14/26

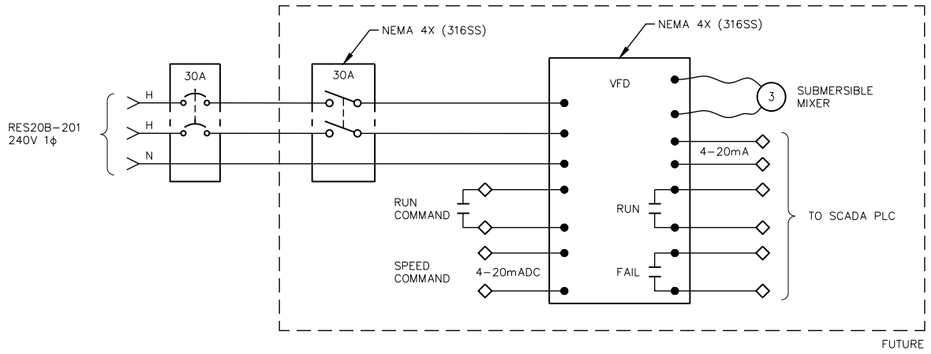
DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

RESERVOIR 20B DESIGN PROJECT

ELECTRICAL ENLARGED SITE PLAN

CIP NO. 14-W008

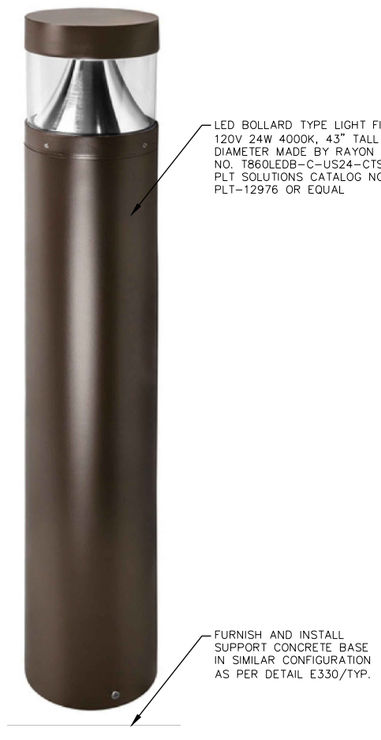
E-4
41 | 49



A MIXER SCHEMATIC DIAGRAM (FUTURE)

SCALE: NTS

FUTURE WATER SUPPLY PUMP IS SIMILAR



C STAIR LED LIGHTS

SCALE: NTS

(TYPICAL LIGHT FOR TOTAL OF 43 LIGHT FIXTURES)

LINE IS 2 INCHES AT FULL SCALE

IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN

DRAWN BY LD

DESIGN BY TP

CHECKED BY DTN

RECOM'D

STEVE DELIGHT
DSRSD PRINCIPAL ENGINEER

REVIEW

PLNNG./DEVL.

FIELD OPS.

WWTP OPS.

MECH./MAINT.

ELECT./INSTR. M. NAKAMURA

SCALE NTS | 2025

DTN ENGINEERS, INC.
Oakland, San Francisco, Orange County, CA

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DIEP TAN NGUYEN
No. E1-10687
EXP. 6/30/27
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7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

RESERVOIR 20B DESIGN PROJECT

ELECTRICAL
MISC. WIRING DIAGRAM & DETAILS

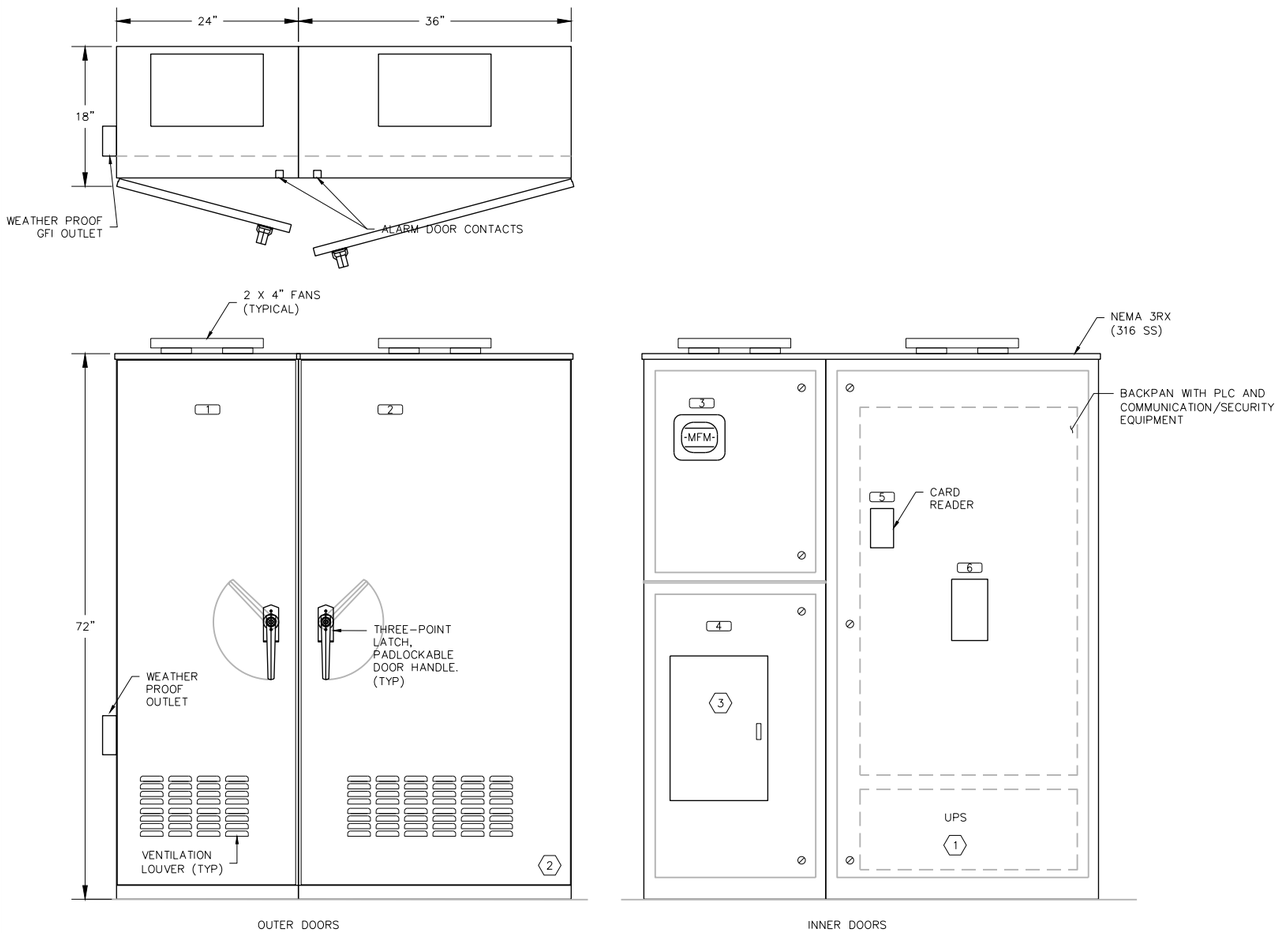
CIP NO. 14-W008

E-5
42 | 49

NAME PLATE SCHEDULE WHITE TEXT ON BLACK BACKGROUND				
TAG #	QTY	TYPE	SIZE	INSCRIPTION
1	1	PLATE	2" X 6"	SWITCHBOARD RES20B
2	1	PLATE	1" X 4"	RESERVOIR 20B PLC
3	1	PLATE	1" X 4"	POWER METER
4	1	PLATE	1" X 4"	DISTRIBUTION PANELBOARD
5	1	PLATE	1" X 4"	SECURITY CARD READER
6	1	PLATE	1" X 4"	RESERVOIR LEVEL TRANSMITTER

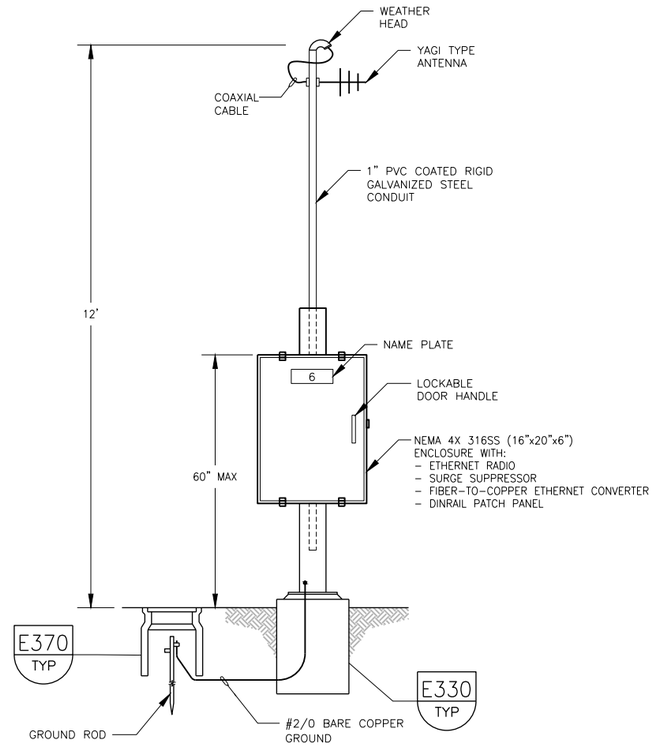
SHEET NOTES:

1. UPS UNIT SHALL BE PROVIDED WITH STEEL BRACKETS TO HOLD DOWN THE UNIT SECURELY.
2. PROVIDE INTERNAL DOOR LATCH TO HOLD DOOR AT FULL OPEN POSITION.
3. PANELBOARD TYPE WITH MAIN CIRCUIT BREAKER AND 36 CIRCUITS.



A SWITCHBOARD RES20B ELEVATION

SCALE: NTS



B RADIO AND ANTENNA DETAIL

SCALE: NTS

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN: DRAWN BY LD; DESIGN BY TP; CHECKED BY DTN

RECOM'D: STEVE DELIGHT, DSRSD PRINCIPAL ENGINEER

REVIEW: PLNNG./DEVL.; FIELD OPS.; WWTP OPS.; MECH./MAINT.; ELECT./INSTR. M. NAKAMURA

SCALE NTS | 2025

DTN ENGINEERS, INC.
Oakland, San Francisco, Orange County, CA

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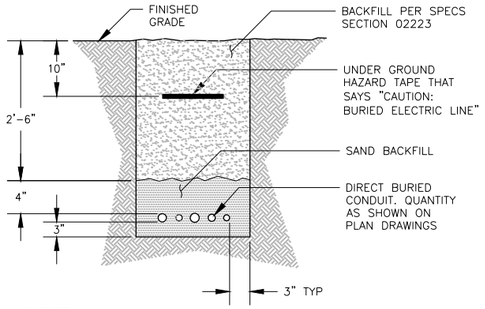
7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

RESERVOIR 20B DESIGN PROJECT

ELECTRICAL CONSTRUCTION DETAILS

CIP NO. 14-W008

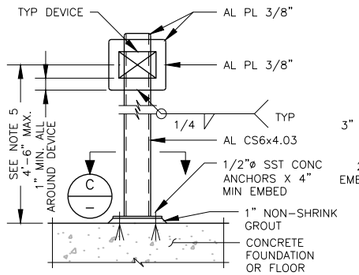
E-6
43 | 49

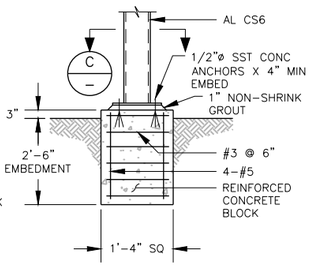


NOTES:

1. ALL DIMENSIONS ARE MINIMUM UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
2. REFER TO SPECIFICATIONS FOR TRENCH BACKFILL REQUIREMENTS.
3. A SEPARATION OF 12" MIN SHALL BE PROVIDED BETWEEN POWER AND SIGNAL CONDUITS.
4. UNDERGROUND HAZARD TAPE SHALL BE DETECTABLE TYPE, 6" WIDE ALUMINUM BACKING, RED BACKGROUND WITH BLACK LETTERING.

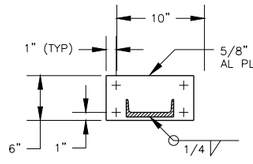
E131 TYP — DIRECT BURIED CONDUIT
SCALE: NTS



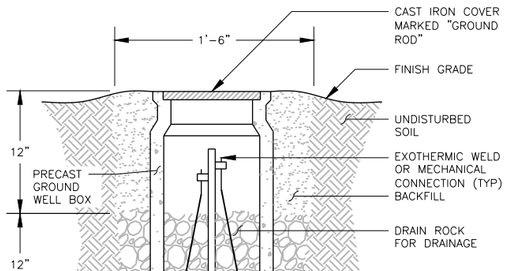


NOTES:

1. WHERE SEPARATE FOUNDATION IS REQUIRED, SEE B –
2. COAT ALUMINUM SURFACES IN CONTACT W/CONCRETE PER SPECS.
3. USE SST FASTENERS FOR MOUNTING DEVICES.
4. WEIGHT OF DEVICE(S) SHALL NOT EXCEED 100 POUNDS.
5. FOR SUPPORT FOR DEVICES MOUNTED ON CONTAINMENT WALL, 36" MAX. FROM BASE TO CENTER OF DEVICE.



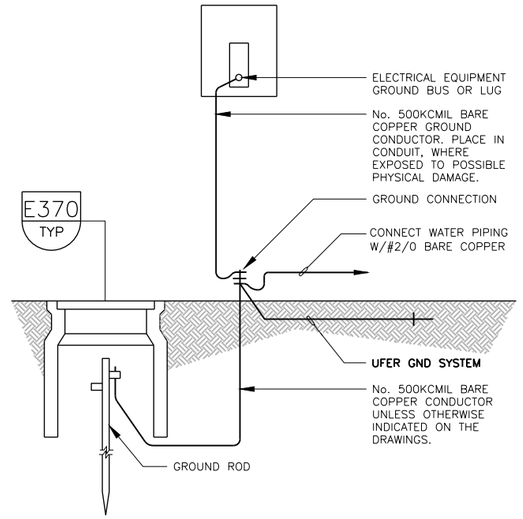
E330 TYP — DEVICE SUPPORT AND MOUNTING
SCALE: NTS



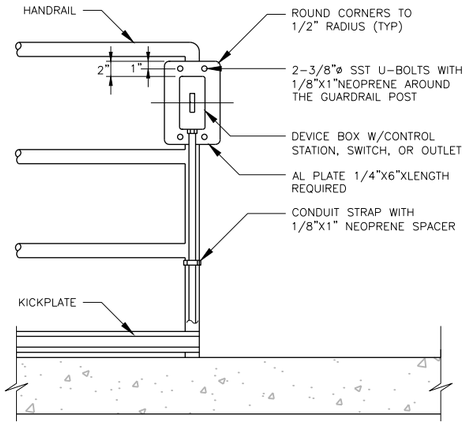
NOTES:

COORDINATE FINAL LOCATION AND ELEVATION WITH THE OWNER PRIOR TO INSTALLATION

E370 TYP — GROUND WELL
SCALE: NTS

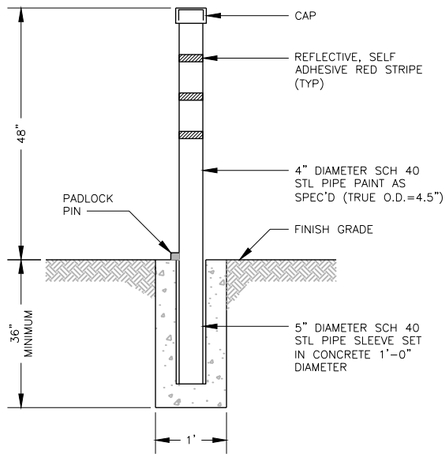


E372 TYP — SERVICE GROUNDING DETAIL
SCALE: NTS

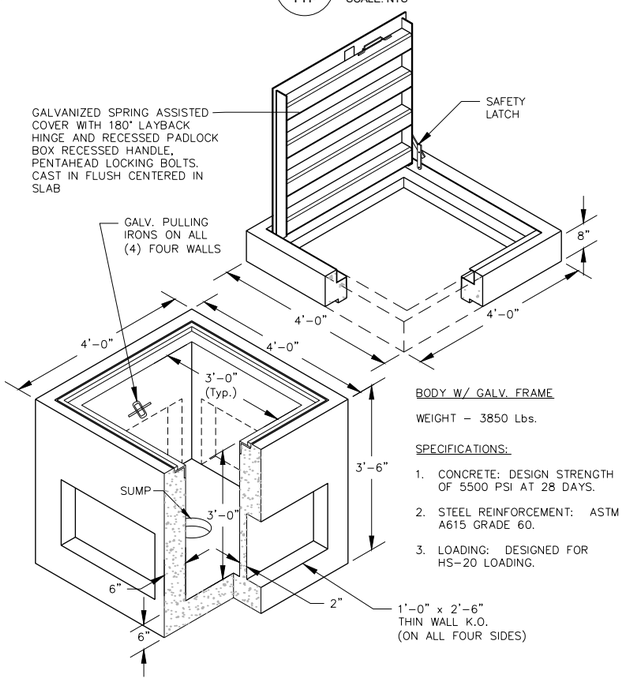


(*) USE DOUBLE GANG BOX FOR LIGHT SWITCH AND OUTLET.

E352 TYP — GUARD RAIL MTD SWITCH
SCALE: NTS



E526 TYP — REMOVABLE PROTECTION POST
SCALE: NTS



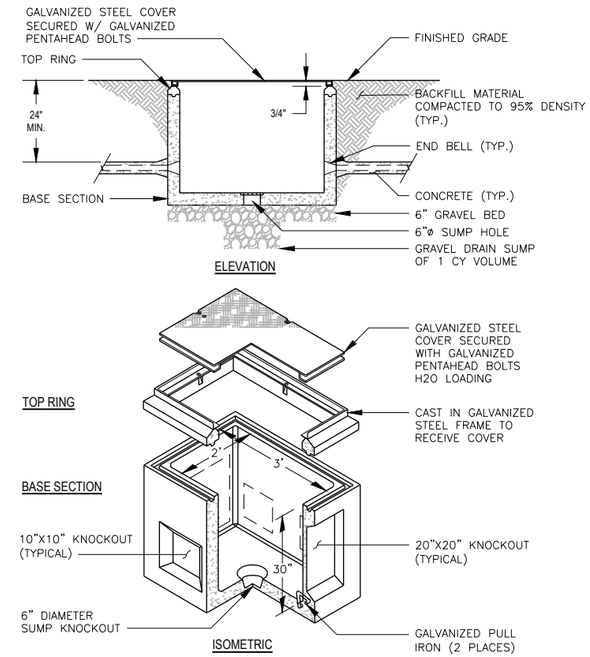
BODY W/ GALV. FRAME

WEIGHT – 3850 Lbs.

SPECIFICATIONS:

1. CONCRETE: DESIGN STRENGTH OF 5500 PSI AT 28 DAYS.
2. STEEL REINFORCEMENT: ASTM A615 GRADE 60.
3. LOADING: DESIGNED FOR HS-20 LOADING.

E705 TYP — TRAFFIC RATED POWER PULL BOX
SCALE: NTS



E705A TYP — TRAFFIC RATED INSTRUMENTATION AND POWER PULLBOX
SCALE: NTS

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN		REVIEW	
DRAWN BY	LD	PLNNG./DEVL.	
DESIGN BY	TP	FIELD OPS.	
CHECKED BY	DTN	WWTP OPS.	
RECOM'D	STEVE DELIGHT, DSRSD PRINCIPAL ENGINEER	MECH./MAINT.	
		ELECT./INSTR.	M. NAKAMURA
		SCALE	NTS 2025

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP

DTN ENGINEERS, INC.
Oakland, San Francisco, Orange County, CA

REGISTERED PROFESSIONAL ENGINEER — DIEP TAN NGUYEN — No. E-18687 — EXP. 6/30/27 — ELECTRICAL — STATE OF CALIFORNIA — 01/14/26

DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

RESERVOIR 20B DESIGN PROJECT

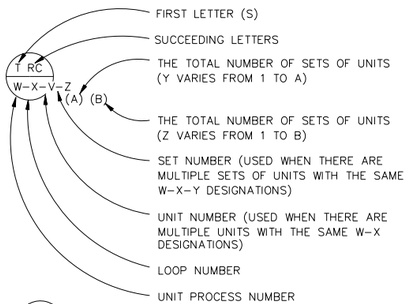
ELECTRICAL TYPICAL DETAILS

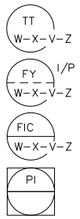
CIP NO. 14-W008

E-7
44 | 49

INSTRUMENT IDENTIFICATION

EXAMPLE SYMBOLS





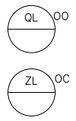
FIELD MOUNTED INSTRUMENT

REAR–OF–PANEL MOUNTED INSTRUMENT

PANEL MOUNTED INSTRUMENT

SHARED DISPLAY, SHARED CONTROL (DCS) PRIMARY LOCATION, NORMALLY ACCESSIBLE TO OPERATOR

SPECIAL CASES



ON AND OFF EVENT LIGHTS

OPENED AND CLOSED POSITION LIGHTS

OPENED AND CLOSED POSITION SWITCHES

ON–OFF HAND SWITCH. MAINTAINED CONTACT SWITCH (CONTROLLED DEVICE WILL RESTART ON RETURN OF POWER AFTER POWER FAILURE).

STOP–START HAND SWITCH MOMENTARY CONTACT SWITCHES (CONTROLLED DEVICE WILL NOT RESTART ON RETURN OF POWER AFTER POWER FAILURE).

ELECTRIC ACTUATOR WITH INTEGRAL OPEN–STOP–CLOSE MOMENTARY CONTACT CONTROL SWITCH

FLOW INDICATING, COMPUTER/MANUAL CONTROL STATION

FLOW INDICATING, COMPUTER/AUTO/MANUAL CONTROL STATION

INTERNATIONAL SOCIETY FOR AUTOMATION (ISA) TABLE

	FIRST LETTER (S)		SUCCEEDING LETTERS		
LETTER	PROCESS OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS (+)		ALARM		
B	BURNER FLAME		USERS CHOICE (+)	USERS CHOICE (+)	USERS CHOICE (+)
C	CONDUCTIVITY			CONTROL	
D	DENSITY (S.G)	DIFFERENTIAL			
E	VOLTAGE		PRIMARY ELEMENT		
F	FLOW RATE	RATIO			
G	GAUGE		GLASS	GATE	
H	HAND (MANUAL)				HIGH
I	CURRENT		INDICATE		
J	POWER	SCAN			
K	TIME OR SCHEDULE			CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW
M	MOTION				MIDDLE
N	USERS CHOICE (+)		USERS CHOICE (+)	USERS CHOICE (+)	USERS CHOICE (+)
O	USERS CHOICE (+)		ORIFICE		
P	PRESSURE (OR VACUUM)		POINT (TEST CONNECTION)		
Q	QUANTITY OR EVENT(+)	INTEGRATE	INTEGRATE		
R			RECORD OR PRINT		
S	SPEED OR FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE (+)		MULTIFUNCTION (+)	MULTIFUNCTION (+)	MULTIFUNCTION (+)
V	VISCOSITY			VALVE OR DAMPER	
W	WEIGHT OR FORCE		WELL		
X	UNCLASSIFIED (+)		UNCLASSIFIED (+)	UNCLASSIFIED (+)	UNCLASSIFIED (+)
Y	USERS CHOICE (+)			RELAY OR COMPUTE (+)	
Z	POSITION			DRIVE, ACTUATE OR UNCLASSIFIED FINAL CONTROL ELEMENT	

(+) WHEN USED, EXPLANATION IS SHOWN ADJACENT TO INSTRUMENT SYMBOL. SEE ABBREVIATIONS AND LETTER SYMBOLS.

TRANSDUCERS

A	ANALOG	I	CURRENT
D	DIGITAL	P	PNEUMATIC
E	VOLTAGE	PF	PULSE FREQUENCY
F	FREQUENCY	PD	PULSE DURATION
H	HYDRAULIC	R	RESISTANCE

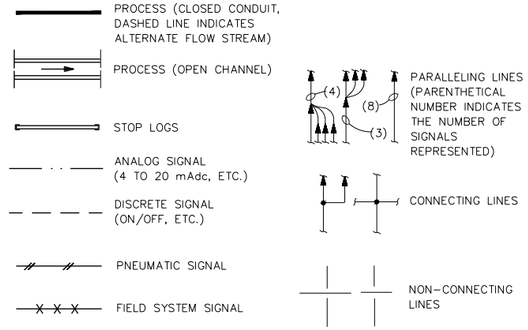
EXAMPLE:

CURRENT TO PNEUMATIC TRANSDUCER (BACK OF PANEL, IN A FLOW LOOP)

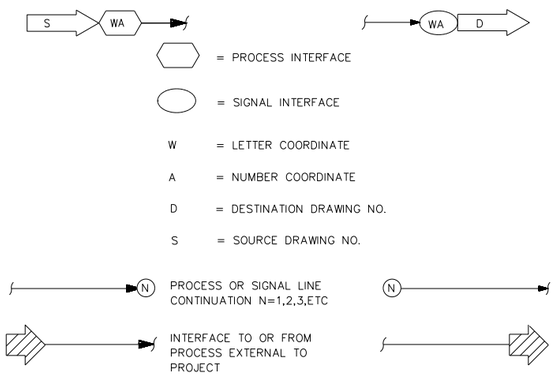
SELF CONTAINED VALVE & EQUIPMENT TAG NUMBERS

PA: PLANT ABBREVIATION
W: UNIT PROCESS NUMBER
D: ARV = AIR RELEASE VALVE
AVRV = AIR AND VACUUM RELEASE VALVE
E = EJECTOR
FCV = FLOW CONTROL VALVE
G = GATE
LCV = LEVEL CONTROL VALVE
M = MECHANICAL EQUIPMENT
P = PUMP
PCV = PRESSURE CONTROL VALVE
VRV = VACUUM RELIEF VALVE
PSV = PRESSURE RELIEF VALVE
T = TANK
TCV = TEMPERATURE CONTROL VALVE
AHU = AIR HANDLING UNIT
X: LOOP NUMBER
Y: UNIT NUMBER

LINE LEGEND



INTERFACE SYMBOLS



GENERAL NOTES

1. P & ID'S ARE FOR INFORMATION ON CONTROL CONCEPTS AND INSTRUMENTATION ONLY. REFER TO PLANS AND SPECIFICATIONS FOR DETAILS: PIPING: VALVING: PACKAGED EQUIPMENT CONTROLS AND MISCELLANEOUS ITEMS.
2. THIS IS A STANDARD LEGEND. THEREFORE, NOT ALL OF THE SYMBOLS ARE USED IN THIS PROJECT.

ABBREVIATIONS & LETTER SYMBOLS

AI	ANALOG INPUT
AM	AUTO–MANUAL
AO	ANALOG OUTPUT
CAM	COMPUTER–AUTO–MANUAL
CM	COMPUTER–MANUAL
CP–X	CONTROL PANEL NO. X
CG	COMBUSTIBLE GAS
CO	CARBON MONOXIDE
CTEL	CONNECT TO EXISTING LINE
CP/DCS	CONTROL PANEL/DCS
DSRSD	DUBLIN SAN RAMON SERVICES DISTRICT
DCS	DISTRIBUTED CONTROL SYSTEM
DCU	DISTRIBUTED CONTROL UNIT
DI	DISCRETE INPUT
DO	DISCRETE OUTPUT
(E)	EXISTING
ES	EMERGENCY STOP
FLP	FAIL IN LAST POSITION
FBM	FIELD BUS MODULE
FM	FORCE MAIN
FOR	FORWARD–OFF–REVERSE
FP–W–X	FIELD PANEL NO. WX WHERE W = UNIT PROCESS NUMBER X = PANEL NUMBER)
FR	FORWARD–REVERSE
FS	FAST – SLOW
GBT	GRAVITY BELT THICKENER
H_2S	HYDROGEN SULFIDE
HOA	HAND–OFF–AUTO
HOR	HAND–OFF–REMOTE
LA	LOCAL–AUTO
LP/DCS	LOCAL PANEL–DISTRIBUTED CONTROL SYSTEM
LOC	LOCAL (AT FIELD DEVICE)
LOS	LOCKOUT STOP
LP	LOCAL PANEL
L/S	LEAD–STANDBY
LR	LOCAL–REMOTE
MA	MANUAL–AUTO
MCC–X	MOTOR CONTROL CENTER NO. X
MW	MOTOR WINDINGS
NS	NORTH–SOUTH
O_2	OXYGEN
OC	OPEN–CLOSE (D)
OCA	OPEN–CLOSE–AUTO
OCR	OPEN–CLOSE–REMOTE
OCU	ODOR CONTROL UNIT
OO	ON–OFF – RTU REMOTE TERMINAL UNIT
OOA	ON–OFF–AUTO
OOR	ON–OFF–REMOTE
ORP	OXIDATION REDUCTION POTENTIAL
OSC	OPEN–STOP–CLOSE
REV	REVERSE
SBD	SODIUM BISULFITE DRAIN
SHD	SODIUM HYPOCHLORITE DRAIN
SLOS	START–LOCKOUT–STOP
S/D	SEDIMENTATION–DEWATERING
S/D/C	SEDIMENTATION–DEWATERING–CLOSED
SS	START–STOP
SSC	SUPERVISORY SET POINT CONTROL
VFD	VARIABLE FREQUENCY DRIVE
VHC	VOLATILE HYDROCARBON
*	PROVIDED AS PACKAGED EQUIPMENT

RTU TERMINATIONS

△ DISCRETE INPUT
▽ DISCRETE OUTPUT
▲ ANALOG INPUT
▼ ANALOG OUTPUT

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN: DRAWN BY LD; DESIGN BY TP; CHECKED BY DTN
RECOM'D: STEVE DELIGHT, DSRSD PRINCIPAL ENGINEER
REVIEW: PLNNG./DEVL.; FIELD OPS.; WWTP OPS.; MECH./MAINT.; ELECT./INSTR. M. NAKAMURA
SCALE NTS | 2025

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP

DTN ENGINEERS, INC.
Oakland, San Francisco, Orange County, CA
REGISTERED PROFESSIONAL ENGINEER — DIEP TAN NGUYEN — No. E-10687 — EXP. 6/30/27 — ELECTRICAL — STATE OF CALIFORNIA
01/14/26

DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828–0515

RESERVOIR 20B DESIGN PROJECT

P&ID
LEGEND AND NOTES

CIP NO. 14–W008

I-1
45 | 49

SHEET NOTES:

1. ALL INSTRUMENT TAG AND LOOP NUMBER SHALL PREFIX "RES20B". FOR EXAMPLE: RES20B-LIT-02.

SCADA SYSTEM

PLC-1

CP-1

FIELD

ZI 05

ZIC 05

RESERVOIR HATCH INTRUSION
ZA 01
ZAH 01
ZS 01

RESERVOIR LEVEL
LI 02
LIT 02

RESERVOIR HI HI LEVEL ALARM
LAH 02

ACCESS HATCH

LE 02

LS 02

AUTHO. ENTRY
ZL 03
ZS 03C

SWITCHBOARD INTRUSION
ZA 03
ZAH 03

ZS 03A

ZS 03B

SWITCHBOARD

RADIO ENCL. INTRUSION
ZA 04
ZAH 04

ZS 04

RADIO ENCLOSURE

POWER FAIL
JA 06
MS 06

UPS ON BATTERY
YL 07

UPS STATUS
YL 07
UPS-1 07

UPS STATUS
YA 07
FAIL

PRE-ENGINEERED OSG/MONOCHLOR SYSTEM

FUTURE

M

RESERVOIR 20B
1.3 MILLION GALLONS

OVERFLOW

BLOW OFF

SAMPLE PORT

CHLORINE INJECTION PORT

AIR RELEASE AND VACUUM RELIEF VALVE

ZIT 05

ALTITUDE CONTROL VALVE

SOV 05A

SOV 05B

FROM PUMP STATION TO DISTRIBUTION

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN
DRAWN BY LD
DESIGN BY TP
CHECKED BY DTN

RECOM'D
STEVE DELIGHT
DSRSD PRINCIPAL ENGINEER

REVIEW
PLNNG./DEVL.
FIELD OPS.
WWTP OPS.
MECH./MAINT.
ELECT./INSTR. M. NAKAMURA

SCALE NTS | 2025

DTN ENGINEERS, INC.
Oakland, San Francisco, Orange County, CA

REGISTERED PROFESSIONAL ENGINEER
DIEP TAN NGUYEN
No. E-18687
EXP. 6/30/27
ELECTRICAL
STATE OF CALIFORNIA
01/14/26

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP

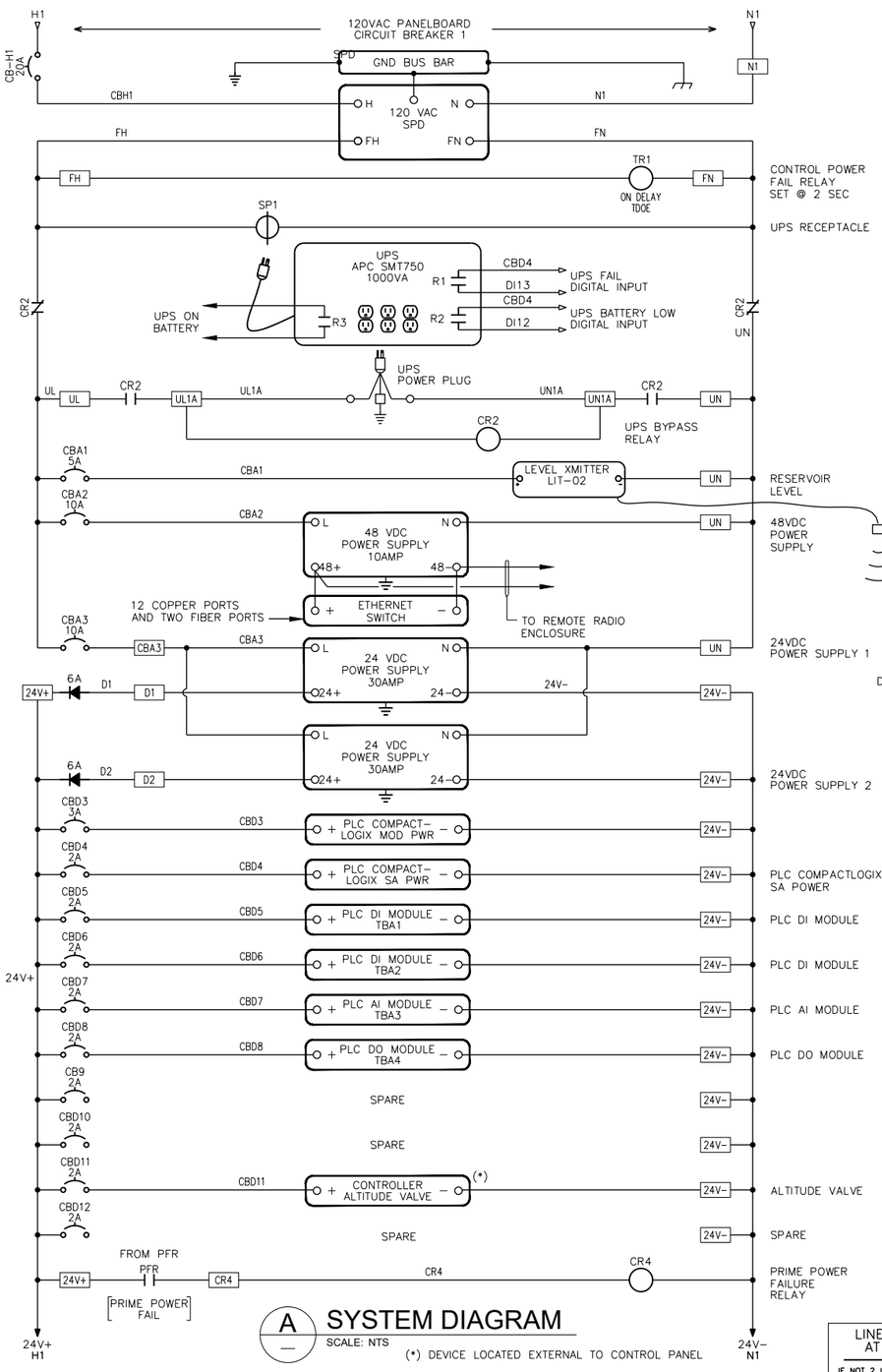
DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

RESERVOIR 20B DESIGN PROJECT

P&ID
RESERVOIR 20B

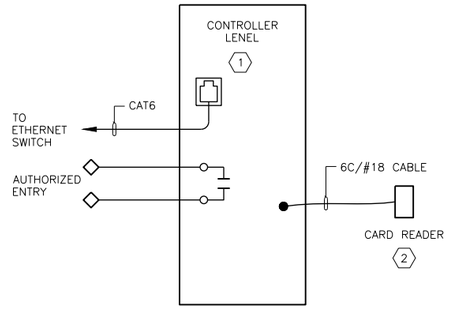
CIP NO. 14-W008

I-2
46 | 49

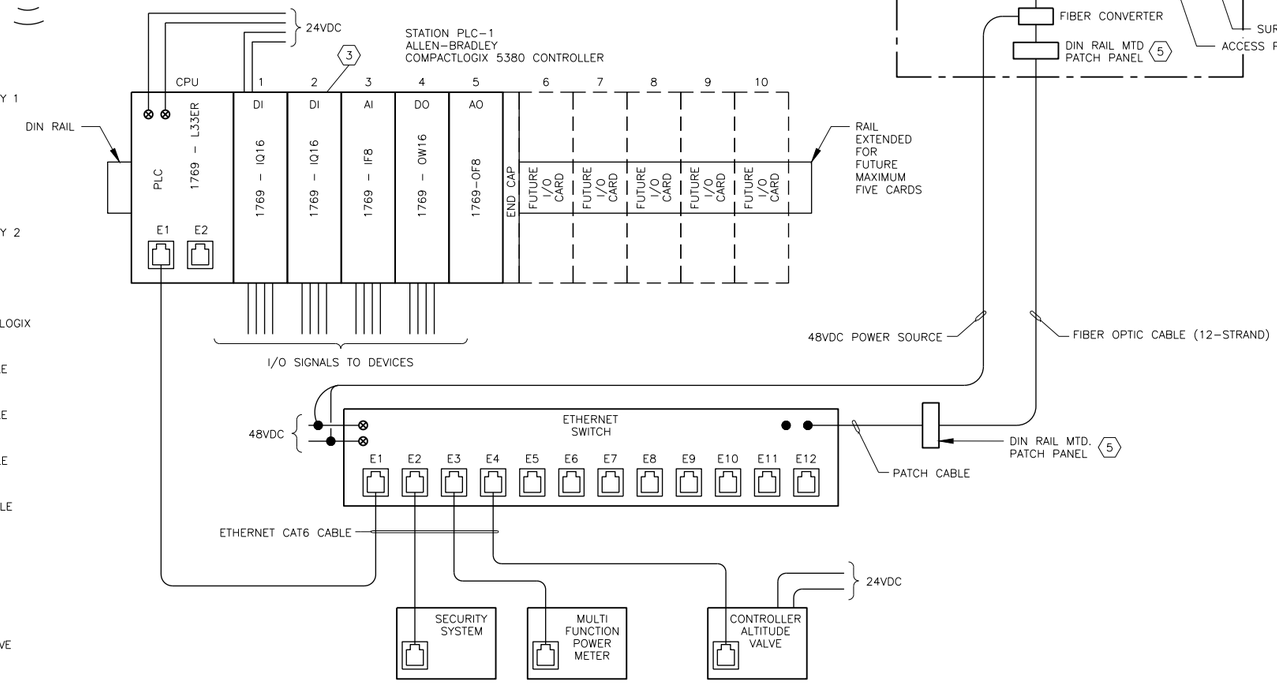


A SYSTEM DIAGRAM
SCALE: NTS

(*) DEVICE LOCATED EXTERNAL TO CONTROL PANEL



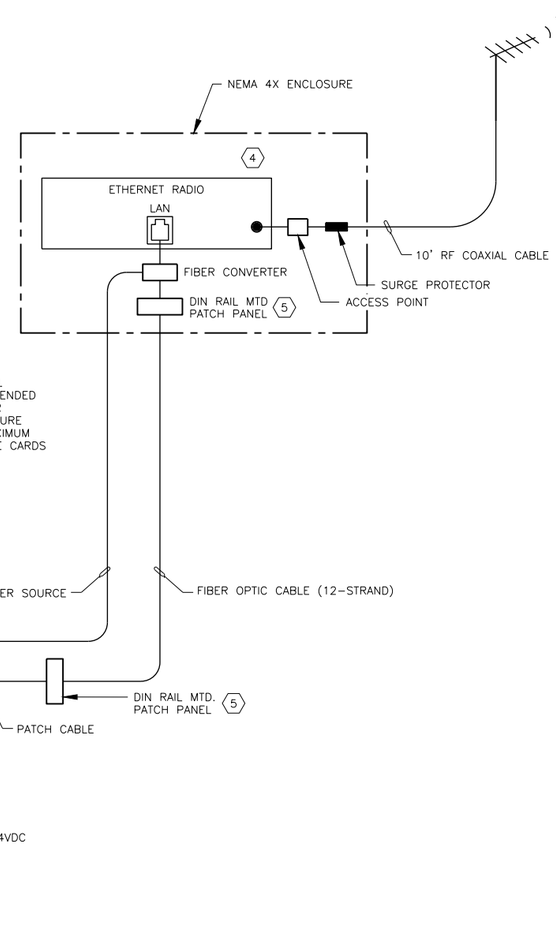
B SECURITY BLOCK DIAGRAM
SCALE: NTS



C SCADA PLC COMMUNICATION DIAGRAM
SCALE: NTS

SHEET NOTES:

1. THE CONTROLLER SHALL BE LENEL LNL-X2210 TO MATCH THE DISTRICT STANDARDS.
2. THE CARD READER SHALL BE HID GLOBAL CATALOG HID-921PTNTEK00000 TO MATCH THE DISTRICT STANDARDS.
3. THE PLC SHALL BE ALLEN BRADLEY COMPACTLOGIX TO MATCH THE DISTRICT STANDARDS. ALL I/O POINTS SHALL BE COMPLETELY WIRED TO TERMINAL STRIPS.
4. THE ETHERNET RADIO SHALL BE CAMBIUM NETWORKS MODEL PMP450i 4.9GHZ MICROWAVE RADIO TO MATCH THE DISTRICT STANDARDS.
5. PATCH PANEL SHALL HAVE CAPACITY TO ACCOMMODATE 12-STRAND FIBER OPTIC CABLE COMPLETELY HOOKED UP TO SIX DUPLEX LC CONNECTORS. (TYPICAL FOR BOTH ENDS).



LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN	DRAWN BY	LD
	DESIGN BY	TP
	CHECKED BY	DTN
RECOM'D	STEVE DELIGHT, DSRSD PRINCIPAL ENGINEER	
REVIEW	PLNNG./DEVL.	
	FIELD OPS.	
	WWTP OPS.	
	MECH./MAINT.	
	ELECT./INSTR.	M. NAKAMURA
	SCALE	NTS
		2025

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP
01/14/26					

ENGINEERS, INC.
Oakland, San Francisco, Orange County, CA

REGISTERED PROFESSIONAL ENGINEER — DEEP TAN NGUYEN — No. E-18687 — EXP. 6/30/27 — ELECTRICAL — STATE OF CALIFORNIA

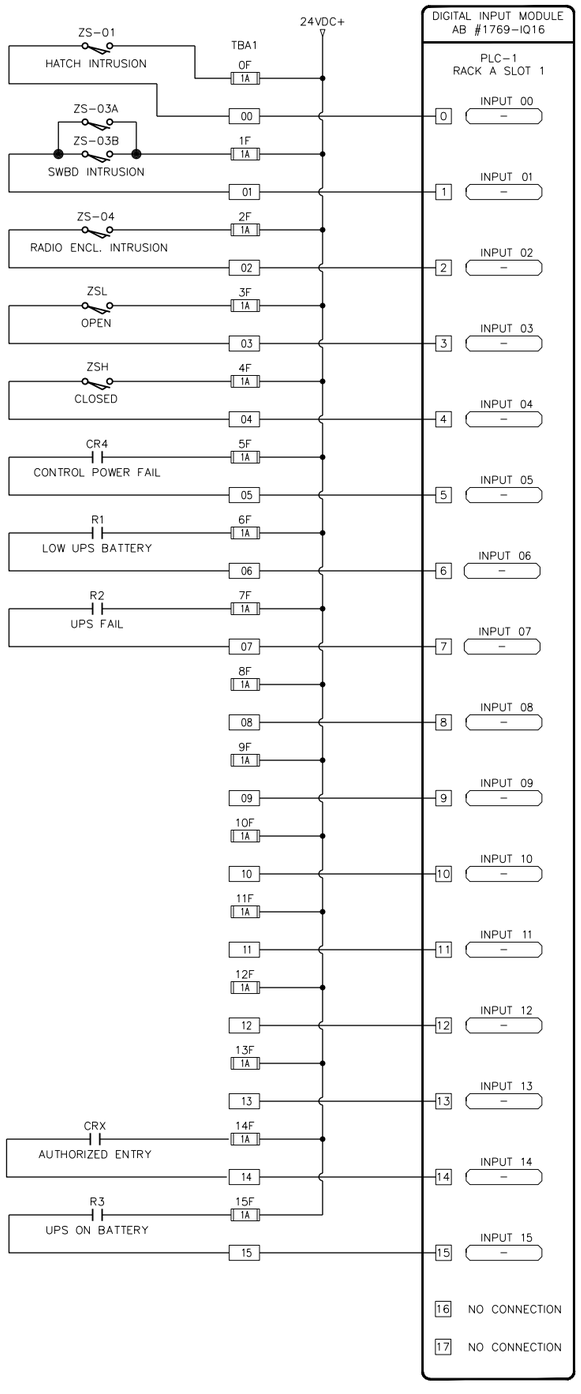
DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

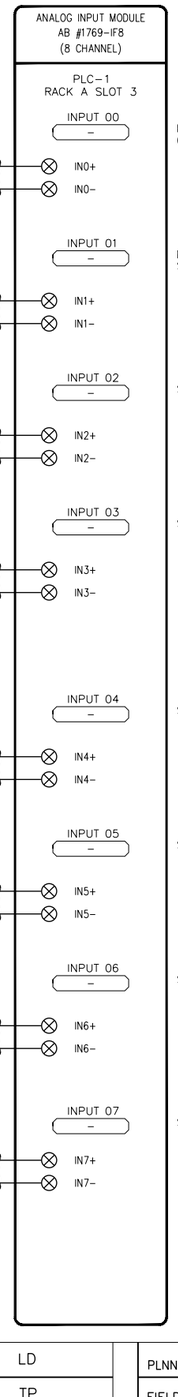
RESERVOIR 20B DESIGN PROJECT

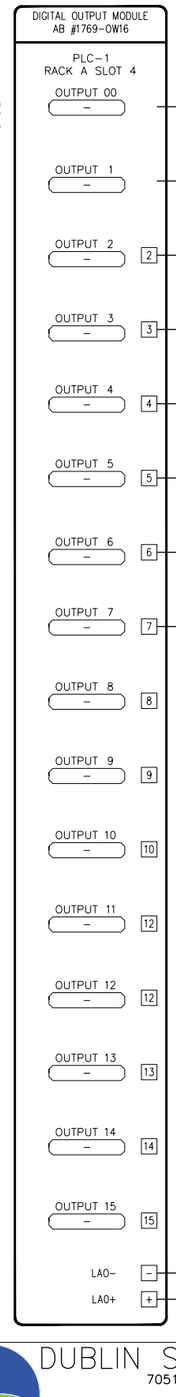
P&ID
PLC COMMUNICATION & WIRING DIAGRAM

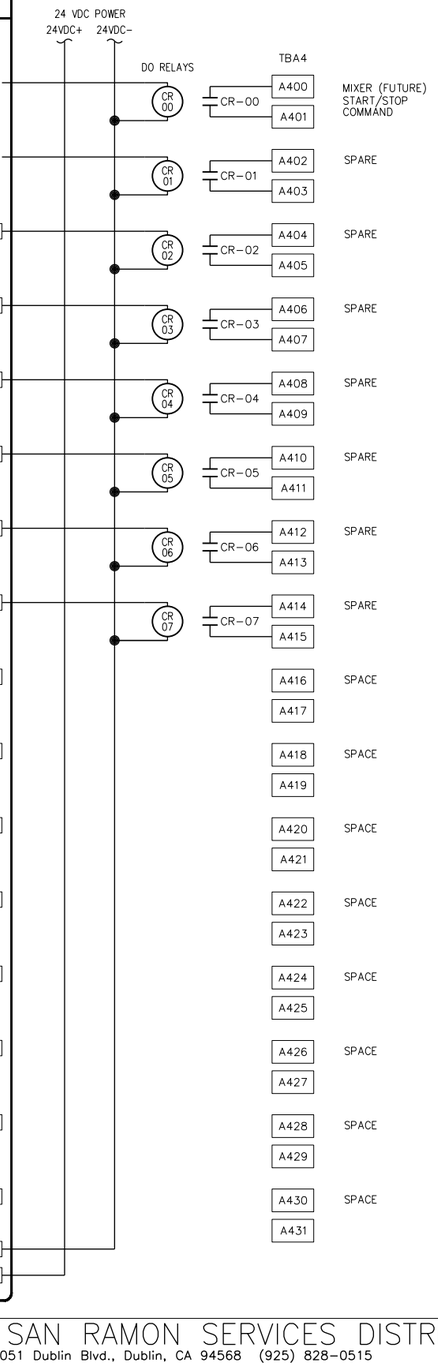
CIP NO. 14-W008

I-3
47 | 49









SHEET NOTES:

1. ALL I/O POINTS SHALL BE WIRED TO TERMINAL STRIPS.
2. THERE IS AN ANALOG OUTPUT MODULE REQUIRED BUT NOT SHOWN.

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN	DRAWN BY LD
	DESIGN BY TP
	CHECKED BY DTN
RECOM'D	STEVE DELIGHT, DSRSD PRINCIPAL ENGINEER
REVIEW	PLNNG./DEVL.
	FIELD OPS.
	WWTP OPS.
	MECH./MAINT.
	ELECT./INSTR. M. NAKAMURA
	SCALE NTS 2025

DTN ENGINEERS, INC.
Oakland, San Francisco, Orange County, CA

REGISTERED PROFESSIONAL ENGINEER — DIEP TAN NGUYEN — No. E-18687 — EXP. 6/30/27 — ELECTRICAL — STATE OF CALIFORNIA — 01/14/26

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DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

RESERVOIR 20B DESIGN PROJECT

CIP NO. 14-W008

P&ID
PLC I/O WIRING DIAGRAM

I-4
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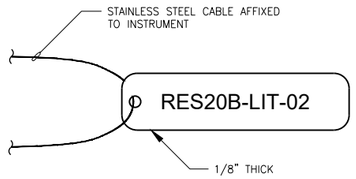
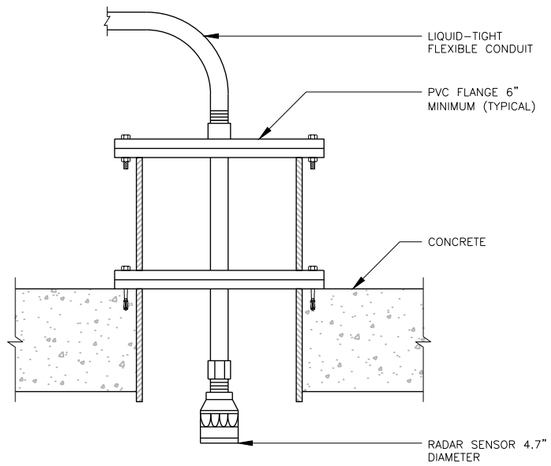


NOTES:

1. TAG SHALL BE 316 STAINLESS STEEL WITH DIMENSIONS AS SHOWN.
2. LETTERS SHALL BE ENGRAVED, BLACK, 3/8" TALL (MIN).
3. SEE "I" SERIES DRAWING FOR TAG IDENTIFICATION FOR FIELD INSTRUMENTS.
4. REFER TO DIV 13 SPECS FOR MORE DETAILS.

A — FIELD INSTRUMENT TAG

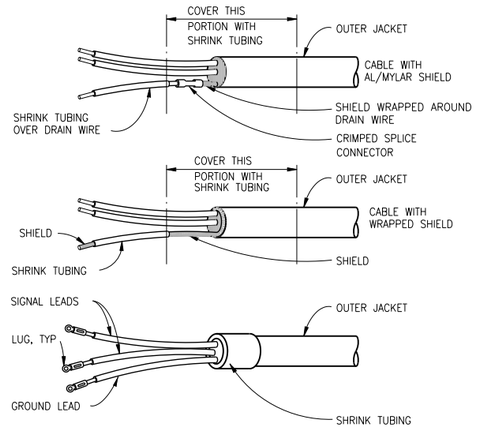
SCALE: NTS



RADAR SENSOR INSTALLATION DETAIL ①②

I105 TYP

SCALE: NTS



NOTES:

1. SHIELD GROUNDED AT TERMINATION CABLES MAY BE MULTIPLE PAIRS.
2. FOR USE WHENEVER SHIELDED CONTROL CABLES ARE USED. APPLIES AT TERMINATIONS WHERE SHIELD IS TO BE GROUNDED. SEE OTHER DETAILS FOR GROUNDING SHIELD. GROUND ONE END OF CABLE ONLY.

I417 TERMINATION OF SHIELDED CABLE

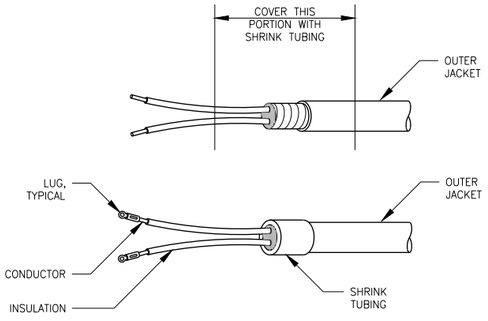
TYP

SCALE: NTS

SHEET NOTES:

① FOR CONDUIT PENETRATIONS, REFER TO STRUCTURAL DETAIL FOR EXACT CONFIGURATION.

② CONDUIT INSTALLATION AND PENETRATION SHALL ALSO BE REQUIRED FOR A BACKUP HIHI LEVEL FLOAT. PROVIDE NEMA 4X JUNCTION BOX AT TOP.



NOTES:

1. SHIELD NOT GROUNDED AT TERMINATION.
2. FOR USE WHENEVER SHIELDED CONTROL CABLES ARE USED. APPLIES AT TERMINATIONS WHERE SHIELD IS NOT GROUNDED. SEE OTHER DETAILS FOR GROUNDING SHIELD. GROUND ONE END OF CABLE ONLY.

TERMINATION OF SHIELDED CONTROL CABLE

I418 TYP

SCALE: NTS

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN		REVIEW	
	DRAWN BY LD		PLNNG./DEVL.
	DESIGN BY TP		FIELD OPS.
	CHECKED BY DTN		WWTP OPS.
RECOM'D	STEVE DELIGHT, DSRSD PRINCIPAL ENGINEER		MECH./MAINT.
			ELECT./INSTR. M. NAKAMURA
			SCALE NTS 2025

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP
01/14/26					

DTN ENGINEERS, INC.
Oakland, San Francisco, Orange County, CA

REGISTERED PROFESSIONAL ENGINEER — DIEP TAN NGUYEN — No. E-19687 — EXP. 6/30/27 — ELECTRICAL — STATE OF CALIFORNIA

DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

RESERVOIR 20B DESIGN PROJECT

P&ID
CONSTRUCTIONS DETAILS

CIP NO. 14-W008

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