

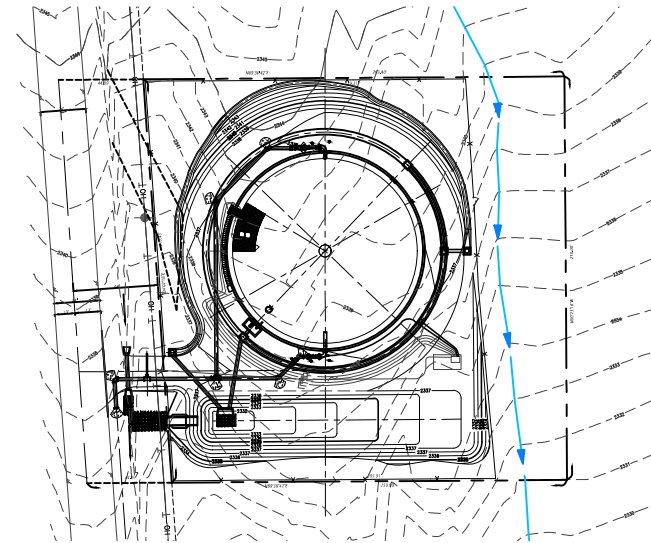
Golden State Water Company

A Subsidiary of American States Water Company

1.5 MG IRWIN RESERVOIR ON IRWIN ROAD COUNTY OF SAN BERNARDINO, CALIFORNIA



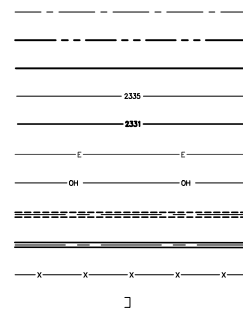
VICINITY MAP
N.T.S.



SITE PLAN
N.T.S.

LEGEND

BLOCK SYMBOL



DESCRIPTION

- ☉ RIGHT-OF-WAY
- PROPERTY LINE
- PROPOSED EDGE OF PAVEMENT
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED ELECTRIC
- EXISTING OVERHEAD TELEPHONE AND ELECTRIC
- FUTURE WATER
- PROPOSED WATER AND DRAIN LINES
- EXISTING FENCE
- PROPOSED PLUG

LIST OF DRAWINGS

SHEET	DRAWING	DESCRIPTION
1	T-1	TITLE SHEET
2	C-1	RESERVOIR GRADING AND PAVING PLAN
3	C-2	PROFILES
4	C-3	CIVIL DETAILS I
5	C-4	CIVIL DETAILS II
6	C-5	CIVIL DETAILS III
7	R-1	RESERVOIR AND PIPING PLAN
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10	R-4	RESERVOIR DETAILS III
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12	R-6	RESERVOIR DETAILS V

LIST OF DRAWINGS CONTINUED

SHEET	DRAWING	DESCRIPTION
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14	E-2	ELECTRICAL SITE PLAN
15	E-3	SOLAR CONTROL PANEL LAYOUT
16	E-4	PLC PANEL INTERIOR LAYOUT
17	E-5	PLC PANEL EXTERIOR LAYOUT
18	E-6	SOLAR CONTROL PANEL WIRING DIAGRAM
19	E-7	PLC I/O DIAGRAM
20	E-8	ELECTRICAL DETAILS & CABLE SCHEDULE
21	I-1	P&ID
22	CP-1	CATHODIC PROTECTION PLAN & SECTION
23	CP-2	CATHODIC PROTECTION NOTES AND DETAILS 1
24	CP-3	CATHODIC PROTECTION DETAILS 2
25	CP-4	CATHODIC PROTECTION DETAILS 3

GENERAL NOTES:

- ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE GOLDEN STATE WATER COMPANY (GSWC) STANDARD DRAWINGS AND SPECIFICATIONS.
- WORKING HOURS SHALL BE AS REQUIRED BY THE COUNTY OF SAN BERNARDINO.
- PRIOR TO THE ACCEPTANCE OF THE WATER SYSTEM BY GSWC, TWO SETS OF "AS-BUILT" PLANS SHALL BE SUBMITTED TO GSWC BY THE CONTRACTOR. CONTRACTOR'S "AS-BUILT" SHALL PROVIDE A THREE-WAY TIEBACK DIMENSION FROM STATIONED OBJECTS, SUCH AS A FIRE HYDRANT, MANHOLE & DRAINAGE INLET TO EACH SERVICE, UNDERGROUND VALVE AND PIPE FITTING.
- TRENCHING, BACKFILL, AND PAVING SHALL BE AS PER GSWC STANDARDS OR THE REQUIREMENTS OF THE COUNTY OF SAN BERNARDINO WHICH EVER IS MORE STRINGENT.
- PROPOSED DUCTILE IRON PIPE FITTINGS SHALL BE MECHANICAL JOINT (MJ) AND RESTRAINED UNLESS OTHERWISE NOTED ON DRAWINGS.
- ALL FITTINGS, VALVES AND EXPOSED METALLIC PARTS SHALL BE ENCASED WITH 8 MIL THICK POLYETHYLENE. POLYETHYLENE ENCASEMENT SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND AWWA STANDARD C105. ALL BOLTS AND THREADS MUST BE COATED WITH A MASTIC COATING ON ALL FITTINGS AND VALVES.
- THE CAPITAL PROGRAM ENGINEER SHALL BE NOTIFIED TWO (2) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION TO SCHEDULE INSPECTION SERVICES. THE CAPITAL PROGRAM ENGINEER OR HIS DESIGNATED INSPECTOR OF RECORD SHALL BE NOTIFIED IMMEDIATELY OF ANY CONFLICTS WITH THE PUBLIC WATER SYSTEM DURING THE CONSTRUCTION OF THIS PROJECT.
- THE GOLDEN STATE WATER COMPANY IS A MEMBER OF THE UNDERGROUND SERVICE ALERT (U.S.A.) ONE CALL PROGRAM. THE CONTRACTOR OR ANY SUBCONTRACTOR FOR THIS CONTRACT SHALL NOTIFY MEMBERS OF U.S.A. TWO (2) WORKING DAYS IN ADVANCE OF PERFORMING ANY EXCAVATION BY CALLING THE TOLL-FREE NUMBER 811.
- THE CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO MATCH PRE-CONSTRUCTION CONDITION OR BETTER AFTER COMPLETION OF THE PROJECT.
- THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF AVAILABLE RECORDS, AND THE ACCURACY OR COMPLETENESS OF THE UTILITIES ON THE DRAWINGS IS NOT GUARANTEED. THESE LOCATIONS ARE APPROXIMATE AND SHALL BE CONFIRMED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION, SO THAT ANY NECESSARY ADJUSTMENT CAN BE MADE IN ALIGNMENT AND/OR GRADE OF THE PROPOSED IMPROVEMENT. THE CONTRACTOR SHALL REPORT ALL DISCREPANCIES TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK. COMMENCEMENT OF WORK SHALL CONSTITUTE FULL ACCEPTANCE OF EXISTING SITE CONDITIONS. ANY DISCREPANCIES FOUND OR ANY DETAILS NOT SHOWN ON THE DRAWINGS SHALL BE RECORDED ON THE AS-BUILTS AND REPORTED TO THE ENGINEER. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURE TO PROTECT ANY UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS.
- CONTRACTOR SHALL PROVIDE MINIMUM OF 5 WORKING DAYS OF ADVANCE NOTICE TO GSWC PRIOR TO PERFORMING THE PIPELINE TIE-IN WORK AND SHALL COORDINATE ITS CONSTRUCTION ACTIVITIES WITH GSWC STAFF.
- CONTRACTOR SHALL NOT BLOCK DRIVEWAYS FOR MORE THAN 8 HOURS AND MUST MAKE PROVISIONS TO ENSURE THAT HOMEOWNERS CAN EXIT THEIR DRIVEWAYS BEFORE CONSTRUCTION EFFORTS BLOCK ACCESS.
- EXISTING SERVICES SHALL NOT BE INTERRUPTED. ABANDONMENT OF OLD SERVICE SHALL BE DONE WHEN THE NEW PIPELINE IS IN SERVICE TO AVOID SERVICE INTERRUPTION.
- CONTRACTOR MUST MEET ALL CAL/OSHA AND CAL/EPA REQUIREMENTS, GSWC SPECIFICATION SECTION 01012 ITEM 1.13, AND AWWA WORK PRACTICES FOR ASBESTOS-CEMENT PIPE OPERATIONS. ALL REMOVED A.C. PIPE SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL LAWS. CONTRACTOR SHALL PROVIDE THE GSWC INSPECTOR WITH PAPER CUSTODY TRAIL DOCUMENTATION OF DISPOSAL.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL, BREAKING AND DISPOSAL OF ANY ROCKS FOUND IN THE TRENCH AND SITE EXCAVATION AREA. INCLUDE ALL ASSOCIATED COSTS IN THE BID ITEMS FOR PIPELINE INSTALLATION AND EARTHWORK. NO CHANGE ORDER WILL BE ISSUED FOR ANY ROCK REMEDIATION NECESSARY TO COMPLETE THE PROJECT.
- THE GEOTECHNICAL ENGINEER OF RECORD SHALL ENSURE THAT THE FUTURE TANK FOUNDATION IS PLACED ON COMPETENT SOILS. THE SITE SOILS SHALL NOT ADVERSELY AFFECT THE TANK OR ANY APPURTENANT STRUCTURE.



Know what's below.
Call before you dig.

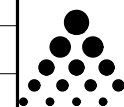
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NO.	BY:	DATE:	REVISION	APPROVED DATE:

THOMAS GUIDE	PAGE	COORD	SCALE:	AS SHOWN

BUDGET YEAR	2019	SYSTEM MAP NO:	SYS_NNN	DRAWING PREPARED BY:	TC

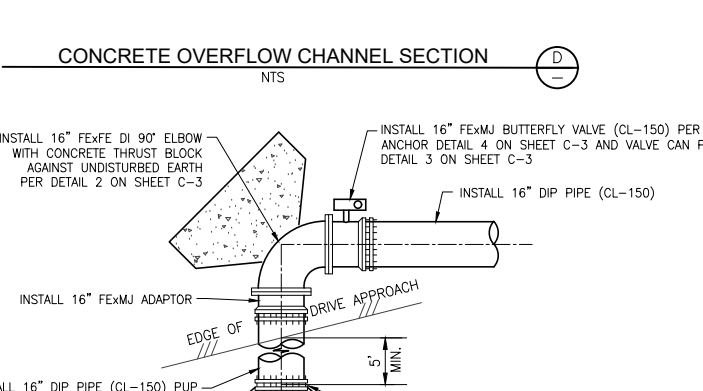
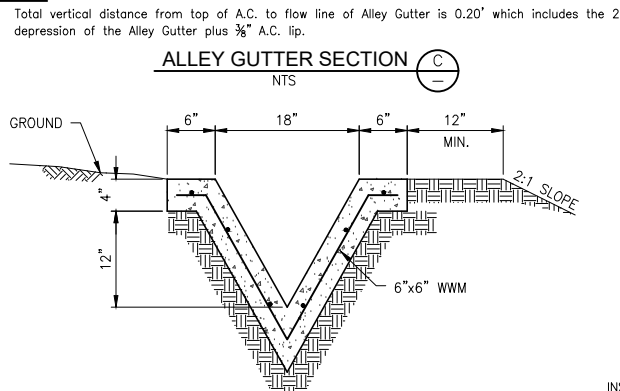
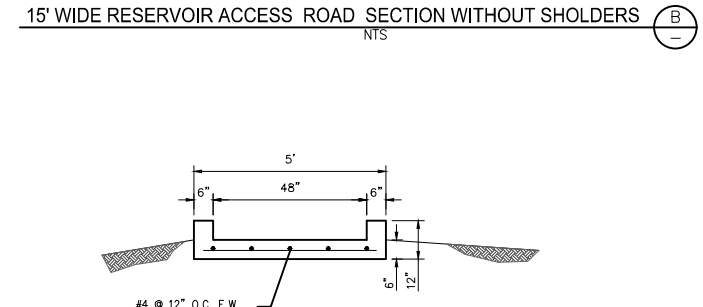
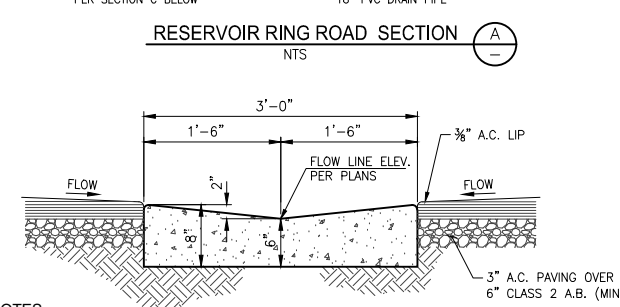
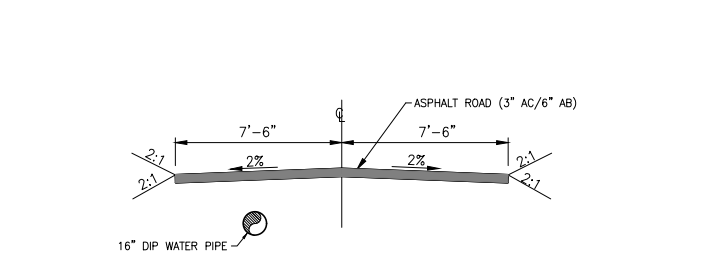
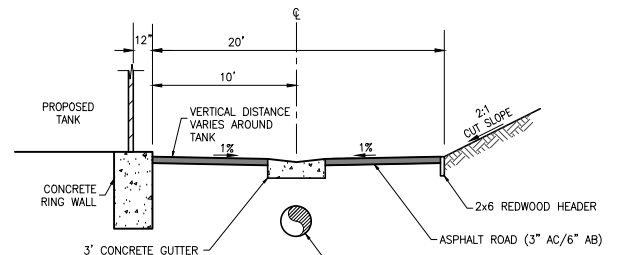
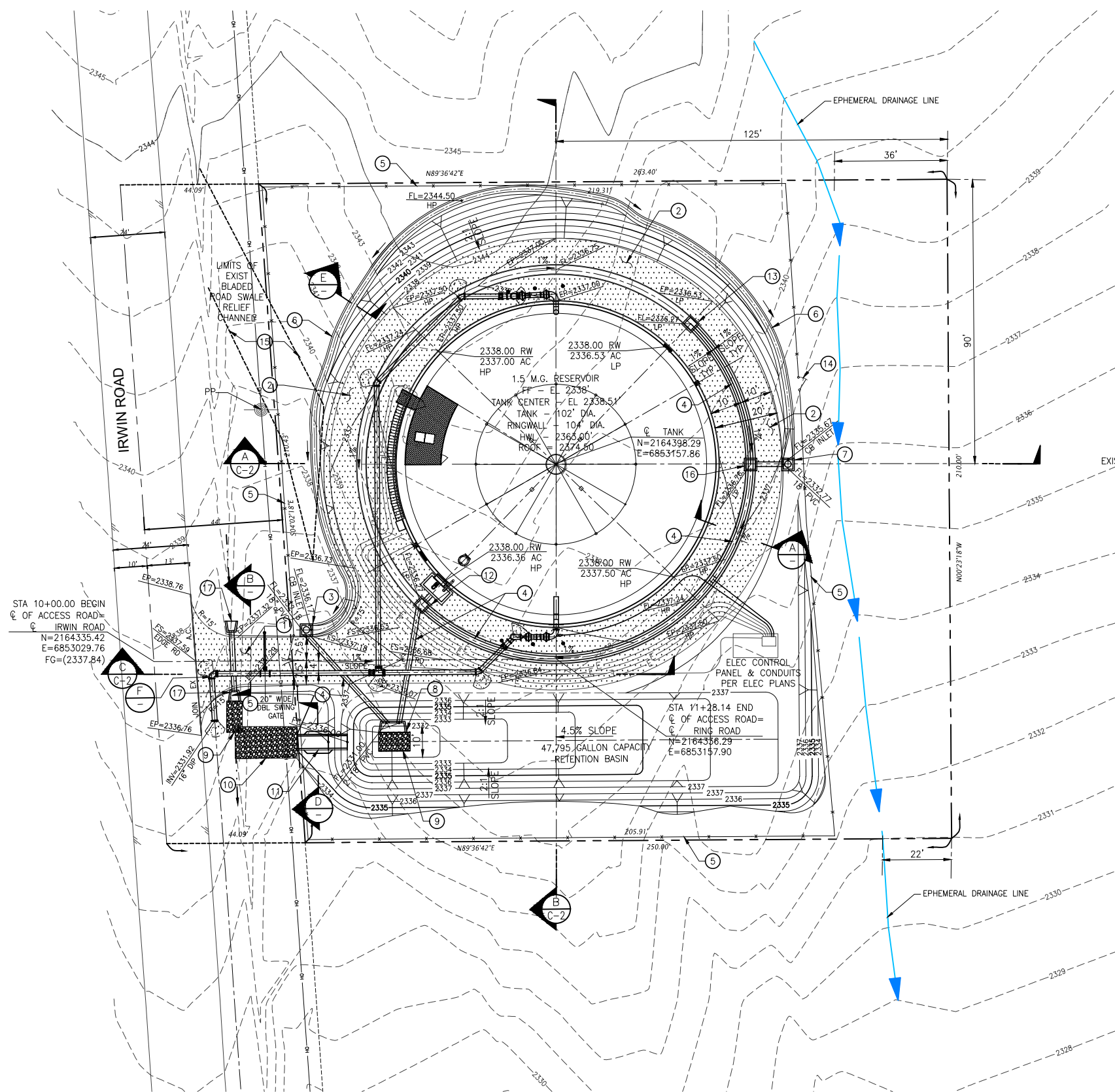


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A Subsidiary of American States Water Company
160 E. VIA VERDE, SUITE 250, SAN DIMAS, CA 91773
PHONE: (909) 305-5427

PROJECT TITLE:	1.5 MG IRWIN RESERVOIR ON IRWIN ROAD	
JURISDICTION:	COUNTY OF SAN BERNARDINO	
DWG NO:	T-1	SHEET NUMBER: 1 of 25
DWG DESC:	TITLE SHEET	W.O. 34731074
FRANCHISE NUMBER:	-	

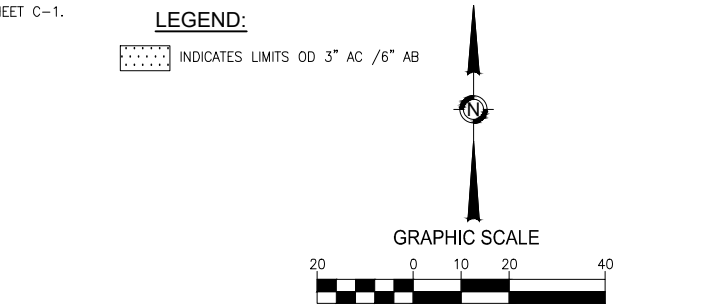
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NOTES:
 1. Total vertical distance from top of A.C. to flow line of Alley Gutter is 0.20' which includes the 2' depression of the Alley Gutter plus 3/8\"/>

- CONSTRUCTION NOTES:**
- INSTALL ACCESS ROAD WITHOUT SHOULDER PER SECTION B ON THIS SHEET.
 - INSTALL RING ROAD AROUND RESERVOIR PER SECTION A ON THIS SHEET.
 - INSTALL CATCH BASIN NUMBER 5 PER DETAIL 5 ON SHEET C-4.
 - INSTALL 18" PVC DRAIN PIPE (DR 11) PER PIPING PLAN ON SHEET R-1, TRENCH DETAIL 1 ON SHEET C-3 AND PER GSWC SPECIFICATIONS
 - INSTALL CHAIN LINK FENCE AND GATE PER DETAIL 7 ON SHEET C-3.
 - INSTALL GUNITE BROW DITCH PER DETAIL E ON THIS SHEET.
 - INSTALL CATCH BASIN NUMBER 4 PER DETAIL 4 ON SHEET C-4.
 - INSTALL OUTLET HEADWALL PER DETAIL 6 ON SHEET C-3.
 - INSTALL 5' x 10' RIPRAP (375 LB MINUS), 3' DEEP.
 - INSTALL 10' x 20' RIPRAP (375 LB MINUS), 3' DEEP.
 - INSTALL 5' WIDE CONCRETE DRAINAGE CHANNEL PER SECTION D ON SHEET C-1.
 - INSTALL CATCH BASIN NUMBER 1 PER DETAIL 1 ON SHEET C-4.
 - INSTALL CATCH BASIN NUMBER 2 PER DETAIL 2 ON SHEET C-4.
 - INSTALL 4' WIDE WALK-THRU GATE PER DETAIL 7 ON SHEET C-3.
 - REGRADE EXISTING ROAD SHOULDER TO REBUILD EARTH BERM AND KEEP WATER FROM RUNNING INTO TANK SITE.
 - INSTALL CATCH BASIN NUMBER 3 PER DETAIL 3 ON SHEET C-4.
 - INSTALL HEADWALL PER DETAIL 5 ON SHEET C-3.

- NOTES:**
- * CONSTRUCT BROW DITCH AT TOP OF CUT SLOPES.
 - * FOLLOW EXISTING TOPO FROM HIGH POINTS TO LOW POINTS. FIELD LOCATE AFTER ROUGH GRADING IS COMPLETE.
 - * CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING HIS/HER OWN ARRANGEMENT OF ANY REQUIRED IMPORTATION OF SELECT FILL MATERIAL (PRE-APPROVED BY SOILS ENGINEER) AND SHALL INCLUDE ALL COST ASSOCIATED WITH HIS BID AT NO ADDITIONAL COST.
 - * WARP AND DEPRESS ALLEY GUTTERS INTO CATCH BASIN INLETS
 - * EXCESS DIRT SHALL BE DISPOSED OF AT THE CONTRACTOR'S COST AND AT A SITE APPROVED BY GOVERNMENT AGENCIES



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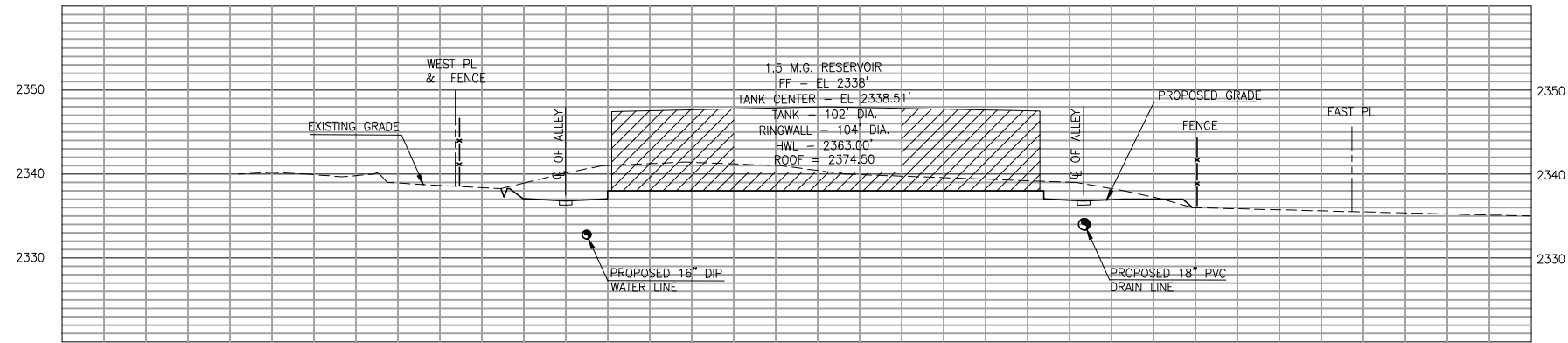
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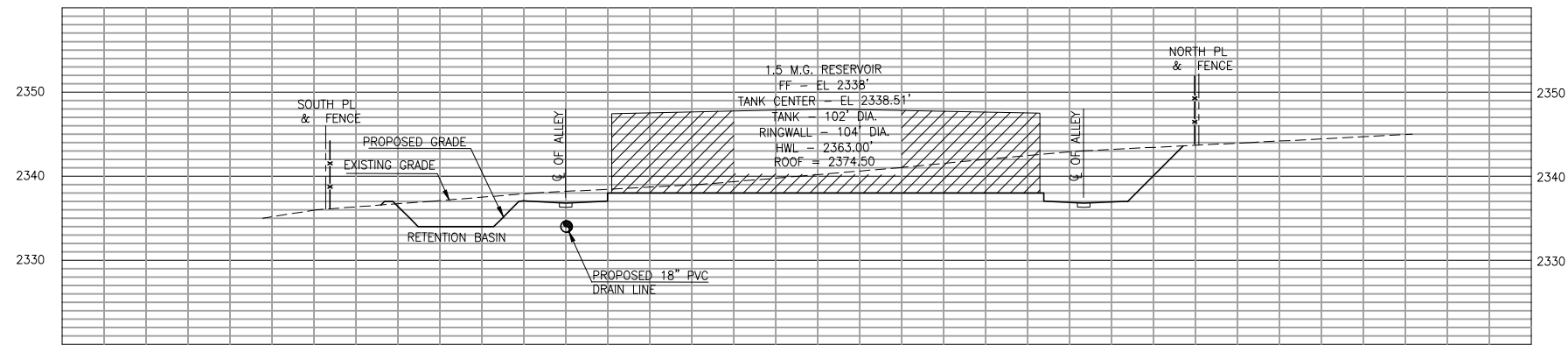
BUDGET YEAR GROUP	2019 NN	SYSTEM MAP NO:	SYS_NNN	DRAWING PREPARED BY:	TC
THOMAS GUIDE	PAGE COORD	SCALE:	1"=20'	DESIGN BY:	PC
DISTRICT:	MOUNTAIN/DESERT	AS-BUILT RECORDS BY:	DATE:	FIELD CHECK & SERVICE SURVEY BY:	DATE:
SYSTEM:	BARSTOW	REVIEWED & APPROVED BY:	MARK A. ESQUER	R.C.E. NO.:	45174

Golden State Water Company
 A Subsidiary of American States Water Company
 160 E. VIA VERDE, SUITE 250, SAN DIMAS, CA 91773
 PHONE: (909) 305-5427

PROJECT TITLE:	1.5 MG IRWIN RESERVOIR ON IRWIN ROAD	JURISDICTION:	COUNTY OF SAN BERNARDINO
DWG NO.:	C-1	SHEET NUMBER:	2 OF 25 SHEET(S)
DWG DESC.:	RESERVOIR GRADING AND PAVING PLAN	W.O.:	34731074
FRANCHISE NUMBER:	-		

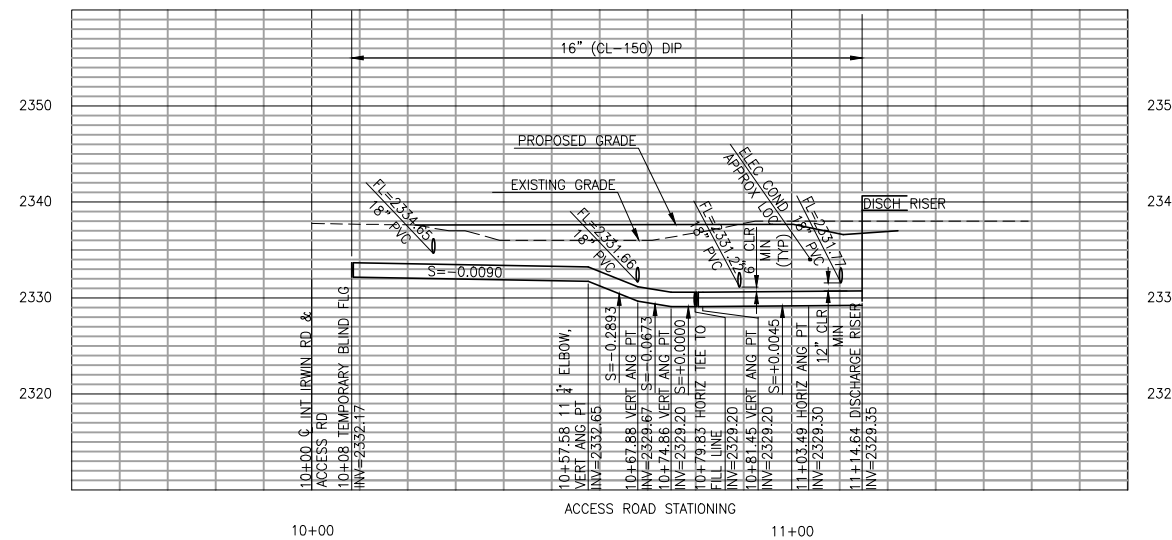


PROFILE A
EAST - WEST SITE CROSS SECTION



PROFILE B
NORTH - SOUTH SITE CROSS SECTION

PROFILE SCALE
HORIZ: 1"=20'
VERT: 1"=10'



PROFILE C
16" DIP INLET/OUTLET WATER PIPE PROFILE

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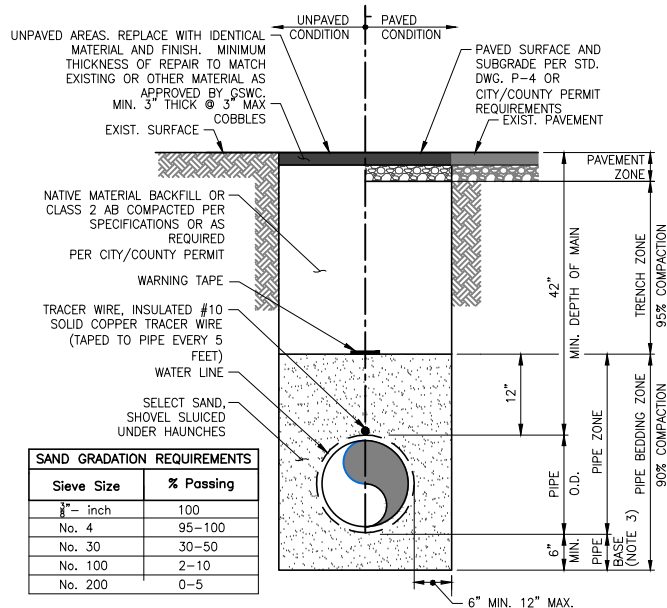
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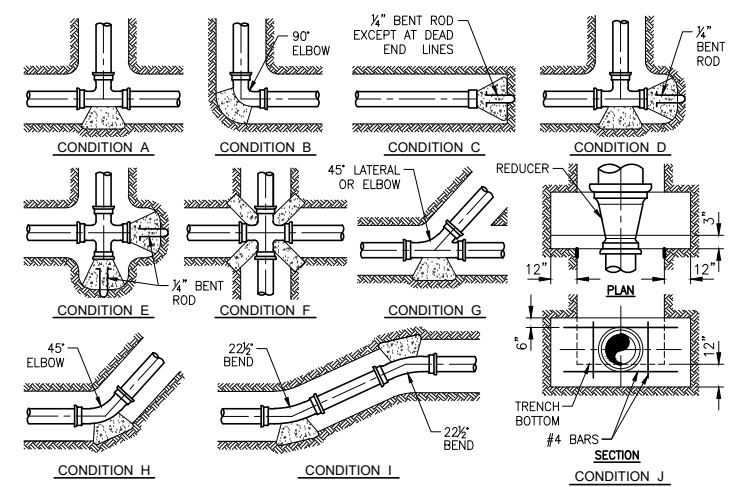
PROJECT TITLE:	1.5 MG IRWIN RESERVOIR ON IRWIN ROAD		
JURISDICTION:	COUNTY OF SAN BERNARDINO		
DWG NO:	C-2	SHEET NUMBER:	3 OF 25 SHEET(S)
DWG DESC:	PROFILES	W.O.:	34731074
FRANCHISE NUMBER:	-		

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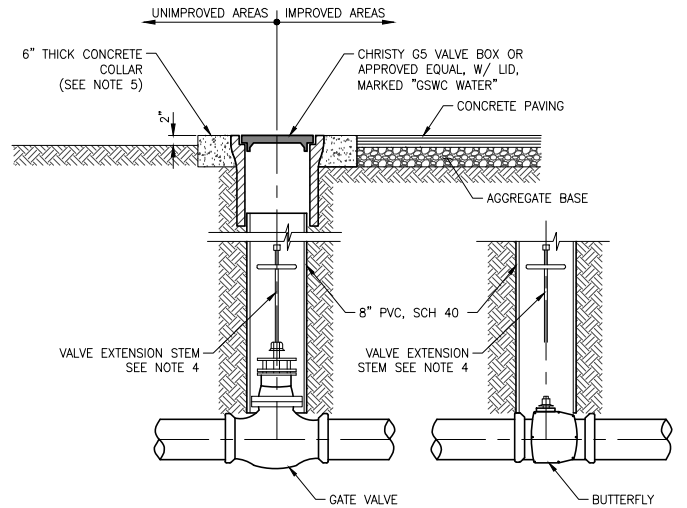
Sieve Size	% Passing
1/2" - inch	100
No. 4	95-100
No. 30	30-50
No. 100	2-10
No. 200	0-5

- NOTES:**
- Trench and pavement per City/County permit requirements or as noted on the drawing and Std. Dwg. P-4.
 - Compaction of backfill per specifications.
 - Pipe base shall be 12" thick where native material has rocks larger than 6 inches in trench bottom.
 - Contractor shall hand excavate "bell hole" for each pipe joint so that the weight of the pipe does not rest on the bell. Contractor to refill and hand-tamp each "bell hole" prior to completing the placement of the bedding.
 - For areas where native soil contains cobbles and large stones (such as Rancho Cordova), place geotechnical filter fabric between Pipe Zone and Trench Zone backfill to prevent migration of rocks to the pipe.
 - Encase D.I.P. and fittings in polyethylene encasement per AWWA Standard C-105, latest edition.
 - Table shows gradation requirements for backfill in Pipe Bedding Zone.
 - Tracer wire shall be tested for electrical continuity by the Contractor prior to acceptance of the project.

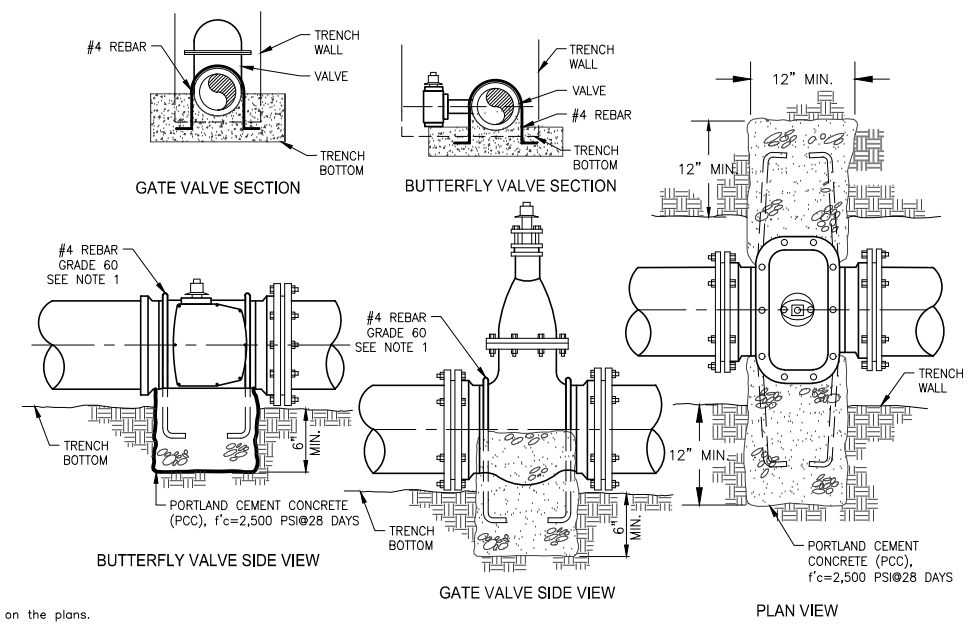


- NOTES:**
- All buried bolts shall be coated with "Bitumastic No. 50" or approved equal.
 - Thrust block areas based on 225 PSI pressure and 2,000 PSF allowable soil pressure with 2 1/2 feet of cover minimum. Additional bearing area required for special conditions shall be approved by the district engineer.
 - Thrust block bearing faces shall be placed against undisturbed soil, approved compacted backfill or class 100-E-100 slurry.
 - Thrust blocks shall be 560-C-3250 concrete, unless specified otherwise.
 - Install 1/4" bend rod handles.
 - Use cardboard separators between blocks, if needed.

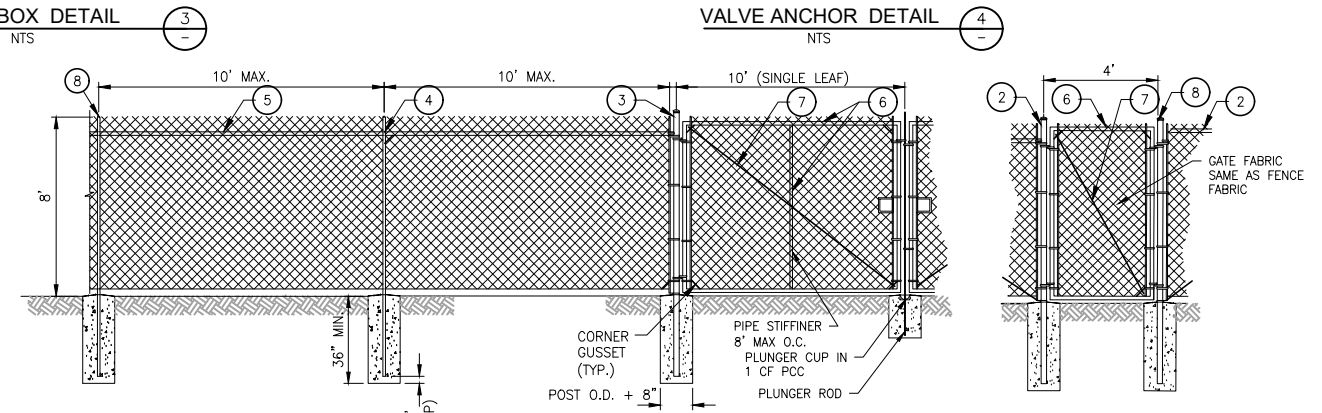
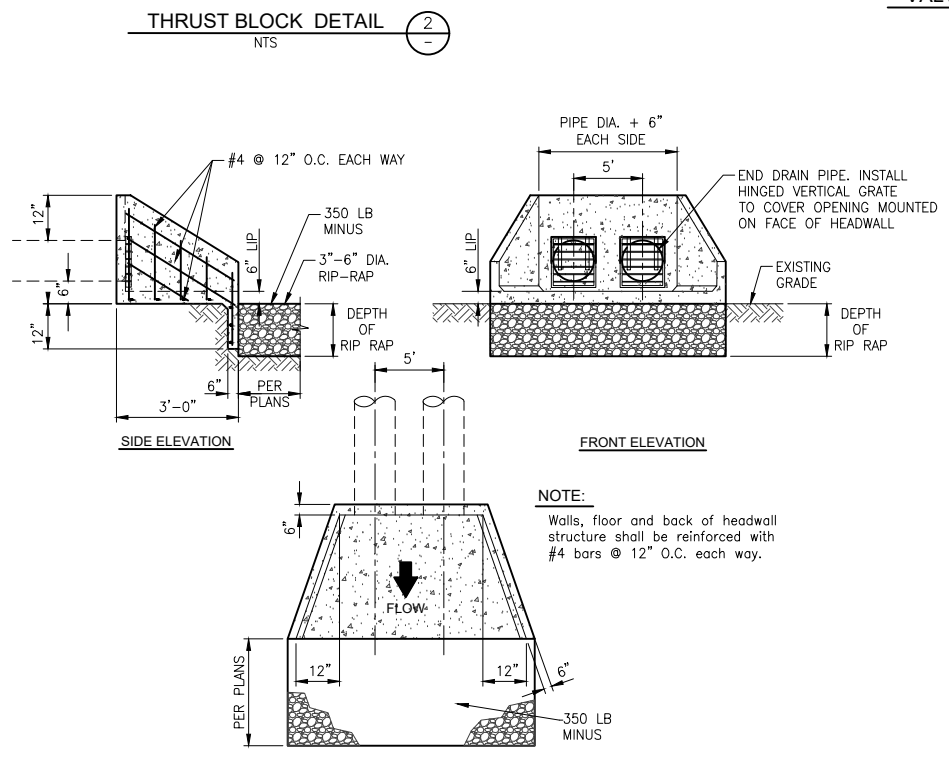
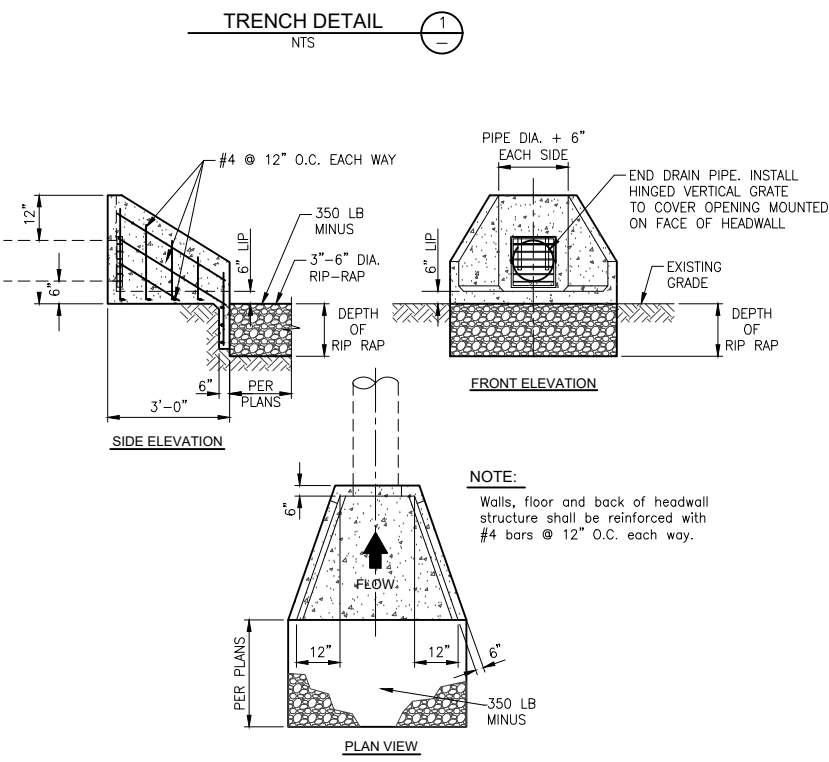
PIPE SIZE	DESCRIPTION									
	A	B	C	D	E	F	G	H	I	J
8"	10.9	15.4	10.9	2 @ 10.9	2 @ 10.9	4 @ 4.2	8.3	8.3	2 @ 4.2	10.1
10"	16.3	28.1	16.3	2 @ 16.3	2 @ 16.3	4 @ 6.4	12.5	12.5	2 @ 6.4	11.3
12"	23.1	32.7	23.1	2 @ 23.1	2 @ 23.1	4 @ 9.0	17.7	17.7	2 @ 9.0	12.5
14"	31.0	43.9	31.0	2 @ 31.0	2 @ 31.0	4 @ 12.1	23.8	23.8	2 @ 12.1	13.8
16"	40.1	56.7	40.1	2 @ 40.1	2 @ 40.1	4 @ 15.7	30.7	30.7	2 @ 15.7	15.1



- NOTES:**
- The following valve box types shall be used unless otherwise noted:
 - Unimproved areas, concrete surfaced streets, concrete pads, or as called out on the plans.
 - All other locations as called out on the plans.
 - Final rim elevation to be 1/8" to 1/4" below final street grade.
 - More stringent installation requirements may be imposed by the entity having the jurisdiction over the valve box installation location.
 - A valve extension stem shall be provided where the depth to the operating nut exceeds 4 feet.
 - Contractor to form 18 inch diameter concrete collar in unimproved areas with sonotube and remove prior to backfill installation (typ).
 - See Potable Water Materials Guidelines for all approved products.

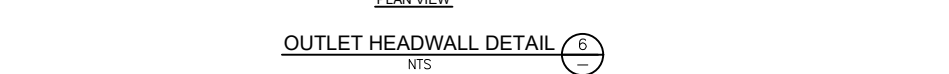
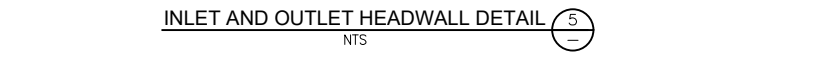
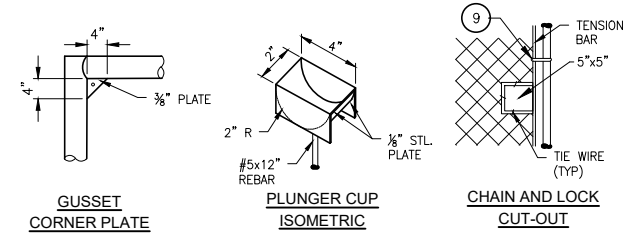


- NOTES:**
- All anchor rods are to be covered with 80 mils of bitumastic compound.
 - The anchor block shall be keyed no less than 12 inches into undisturbed soil of the trench wall and no less than 6 inches into the trench bottom.
 - Anchor block required only when valve is not flanged to a tee or cross.
 - Concrete shall be 2500 psi minimum with 3-inches minimum cover rebar. No concrete shall be poured on valve or joint.
 - Wrap exterior of valve, actuator and rebar with 8 mil polyethylene sheeting and tape.
 - Butterfly valve operators shall be located on the left hand side of the valve when standing on the flanged end of the valve at the tee or cross.



- NOTES:**
- Specific fence and gate design and detail shall be submitted as a shop drawings.
 - All fabric, posts and hardware shall be epoxy powder coated.
 - All chain link fencing to be provided with top rails.

ITEM	DESCRIPTION
1	Corner and End Posts (10' o.c. max) 2 1/2" NPS (2.875")
2	Walk Gate Posts 3" NPS (3.5")
3	Entrance Swing Gate Posts 6 1/2" NPS (6.625")
4	Line Posts (Intermediate) 2" NPS (2.375")
5	Top Rails and Braces 1 1/2" NPS (1.660")
6	Frames for Gates 1 1/2" NPS (1.900")
7	Tension Rod and Tightener for gates 1/4" threaded rod with
8	High-tensile post cap (galvanized) drive fit and screw retained
9	Steel bonds (galvanized) at tension bars (1/2"x1", 16" o.c.)



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THOMAS GROUP: NN	SCALE: NTS	DESIGN BY: PC
DISTRICT: MOUNTAIN/DESERT	AS-BUILT RECORDS	FIELD CHECK & SERVICE SURVEY BY:
SYSTEM: BARSTOW	BY:	DATE:
REVIEWED & APPROVED BY: MARK A. ESQUER	DATE:	R.C.E. NO. 45174

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PROJECT TITLE: 1.5 MG IRWIN RESERVOIR ON IRWIN ROAD

JURISDICTION: COUNTY OF SAN BERNARDINO

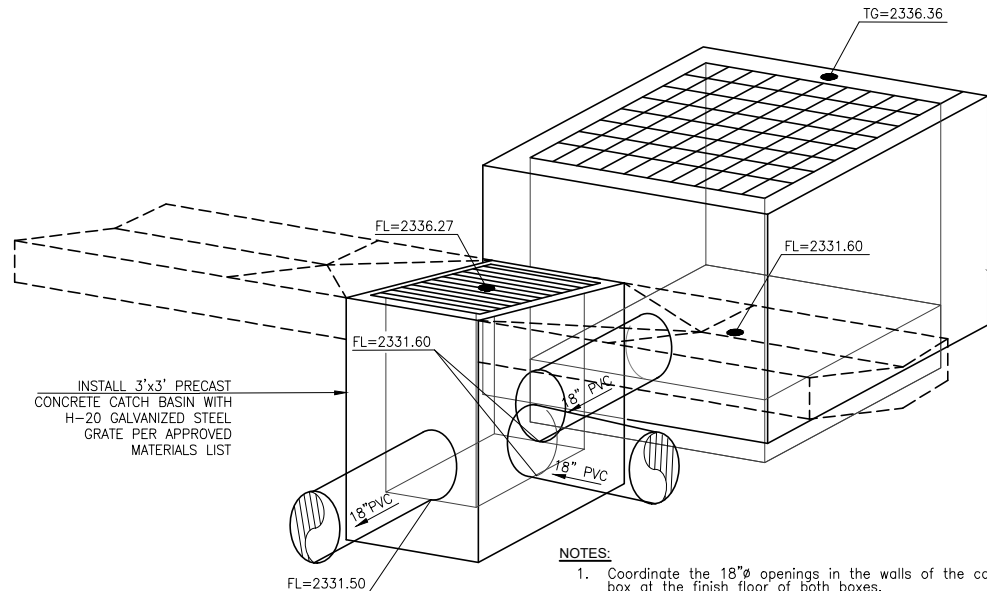
DWG NO: C-3

DWG DESC: CIVIL DETAILS I

FRANCHISE NUMBER: -

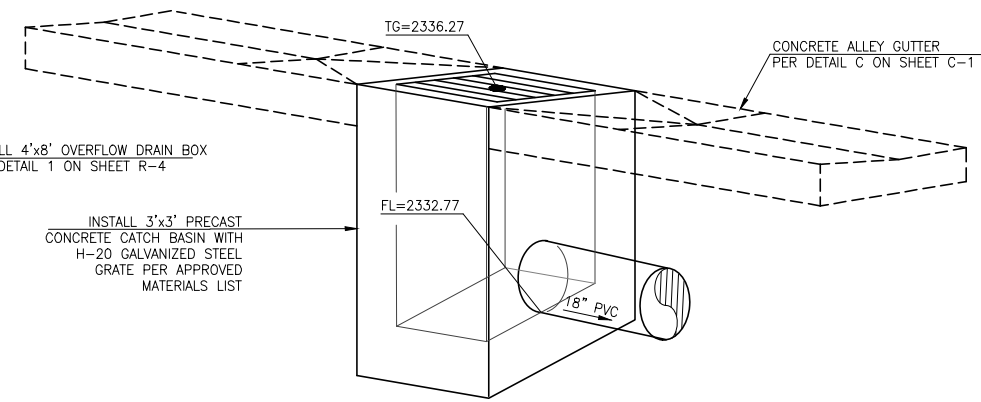
SHEET NUMBER: 4 OF 25 SHEET(S)

W.O. 34731074

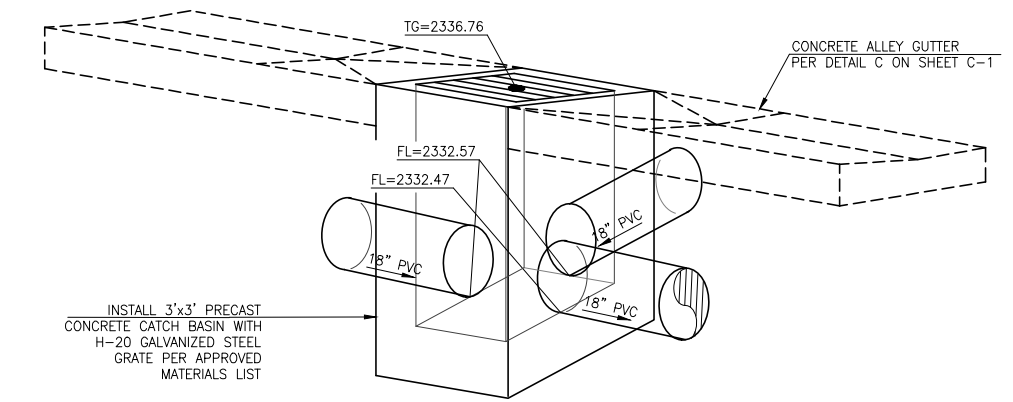


- NOTES:**
1. Coordinate the 18" openings in the walls of the catch basin and floor drain box at the finish floor of both boxes.
 2. Align both structures for the smooth flow between.
 3. Seal around the openings between the structures per the specifications.

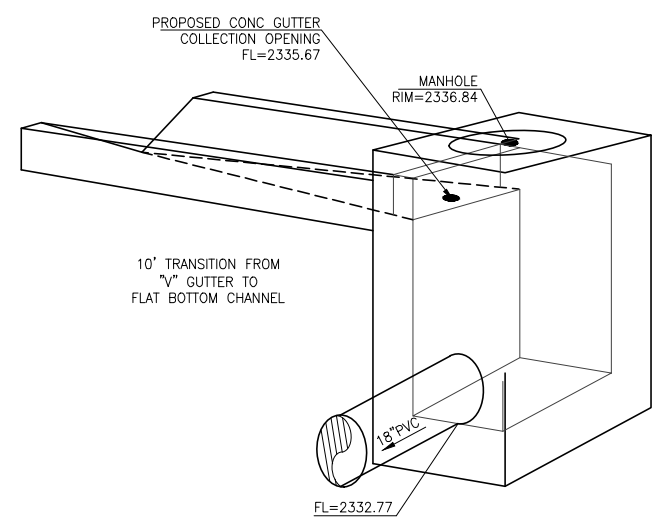
CATCH BASIN NUMBER 1 AND OVERFLOW DRAIN ALIGNMENT DETAIL 1
NTS
STA. 100+37.14



CATCH BASIN NUMBER 2 DETAIL 2
NTS
STA. 102+28.81

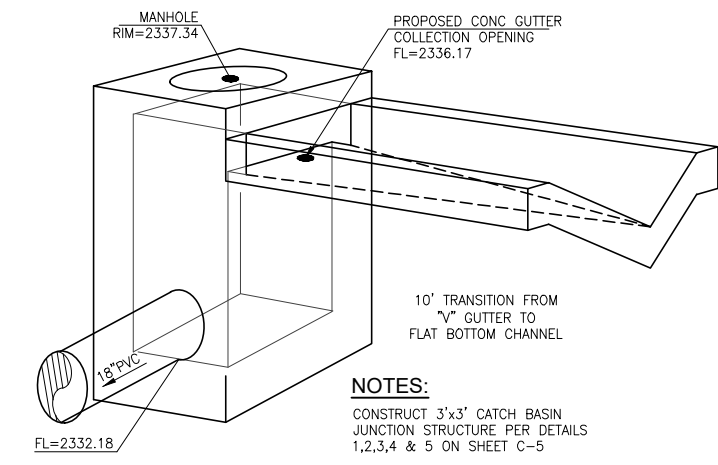


CATCH BASIN NUMBER 3 DETAIL 3
NTS
STA. 101+81.93



- NOTES:**
- CONSTRUCT 3'x3' CATCH BASIN JUNCTION STRUCTURE PER DETAILS 1,2,3,4 & 5 ON SHEET C-5

CATCH BASIN NUMBER 4 DETAIL 4
NTS



- NOTES:**
- CONSTRUCT 3'x3' CATCH BASIN JUNCTION STRUCTURE PER DETAILS 1,2,3,4 & 5 ON SHEET C-5

CATCH BASIN NUMBER 5 DETAIL 5
NTS
STA. 0+31.30



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NO.	BY:	DATE:	REVISION	APPROVED DATE:

BUDGET YEAR: 2019	SYSTEM MAP NO: SYS_NNN	DRAWING PREPARED BY: TC
GROUP: NN		DATE:
THOMAS GUIDE PAGE: COORD	SCALE: NTS'	DESIGN BY: PC
DISTRICT: MOUNTAIN/DESERT	AS-BUILT RECORDS	DATE:
SYSTEM: BARSTOW	BY: DATE:	FIELD CHECK & SERVICE SURVEY BY: DATE:
REVIEWED & APPROVED BY: MARK A. ESQUER	DATE:	R.C.E. NO. 45174

Golden State Water Company
A Subsidiary of American States Water Company
160 E. VIA VERDE, SUITE 250, SAN DIMAS, CA 91773
PHONE: (909) 305-5427

PROJECT TITLE: 1.5 MG IRWIN RESERVOIR ON IRWIN ROAD	JURISDICTION: COUNTY OF SAN BERNARDINO	SHEET NUMBER: 5 OF 25 SHEET(S)
DWG NO: C-4	DWG DESC: CIVIL DETAILS II	W.O. 34731074
FRANCHISE NUMBER: -		

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TANK NOTES:

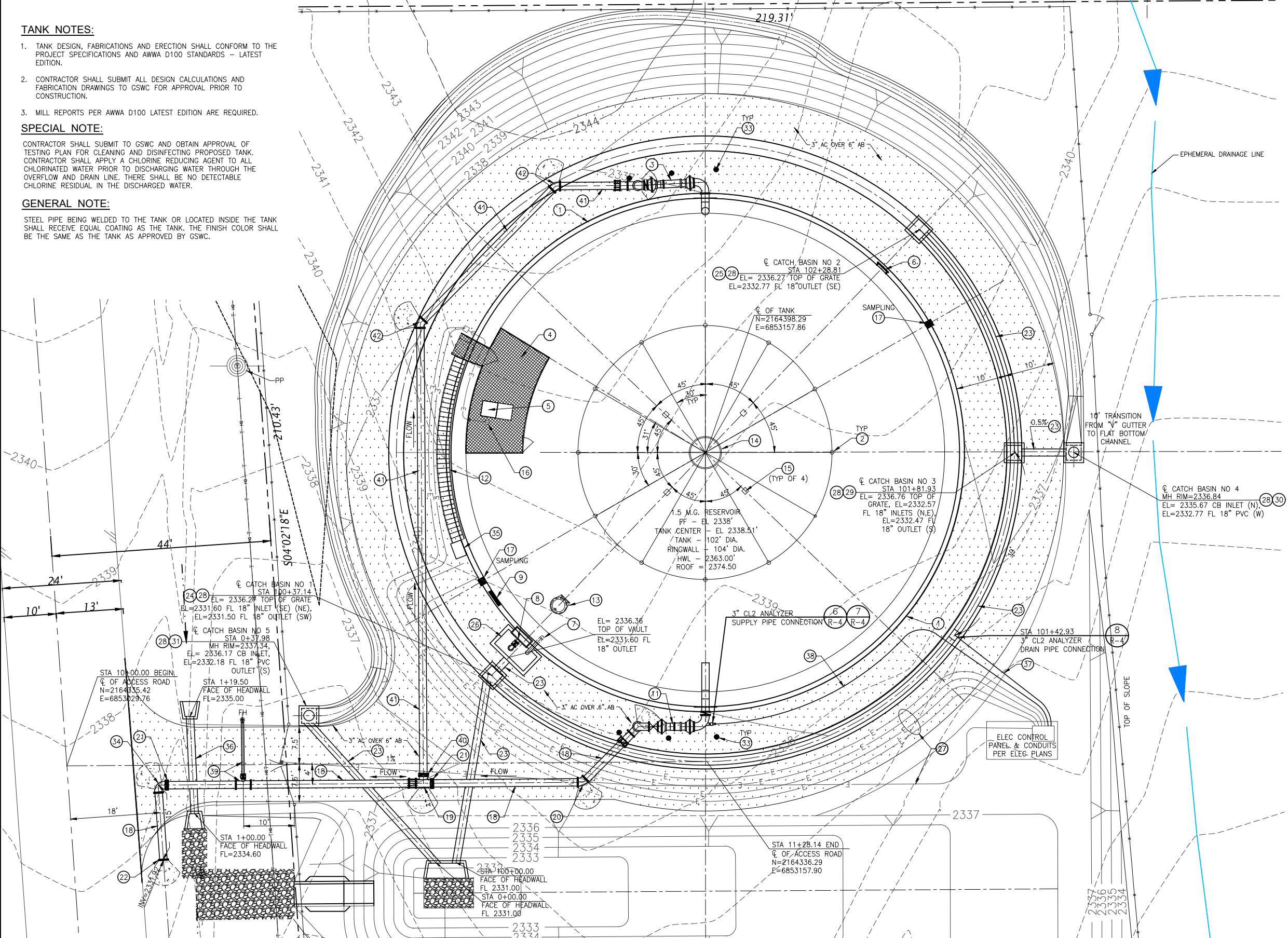
1. TANK DESIGN, FABRICATIONS AND ERECTION SHALL CONFORM TO THE PROJECT SPECIFICATIONS AND AWWA D100 STANDARDS - LATEST EDITION.
2. CONTRACTOR SHALL SUBMIT ALL DESIGN CALCULATIONS AND FABRICATION DRAWINGS TO GSWC FOR APPROVAL PRIOR TO CONSTRUCTION.
3. MILL REPORTS PER AWWA D100 LATEST EDITION ARE REQUIRED.

SPECIAL NOTE:

CONTRACTOR SHALL SUBMIT TO GSWC AND OBTAIN APPROVAL OF TESTING PLAN FOR CLEANING AND DISINFECTING PROPOSED TANK. CONTRACTOR SHALL APPLY A CHLORINE REDUCING AGENT TO ALL CHLORINATED WATER PRIOR TO DISCHARGING WATER THROUGH THE OVERFLOW AND DRAIN LINE. THERE SHALL BE NO DETECTABLE CHLORINE RESIDUAL IN THE DISCHARGED WATER.

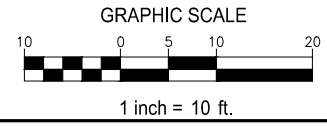
GENERAL NOTE:

STEEL PIPE BEING WELDED TO THE TANK OR LOCATED INSIDE THE TANK SHALL RECEIVE EQUAL COATING AS THE TANK. THE FINISH COLOR SHALL BE THE SAME AS THE TANK AS APPROVED BY GSWC.



CONSTRUCTION NOTES:

1. INSTALL CONCRETE RINGWALL FOOTING, SEE DETAIL 4 ON SHEET R-2.
2. INSTALL HANDHOLES EQUALLY SPACED PER THE CATHODIC PROTECTION PLAN DRAWINGS. SUBMIT SHOP DRAWINGS DETAILING HANDHOLES AND INSTALLATION.
3. INSTALL 12" INLET PIPING, SEE DETAIL 1 ON SHEET R-3.
4. INSTALL NON-SLIP SURFACE AND 42" HIGH HANDRAIL WITH 36" ENTRANCE GATE, SEE DETAILS ON SHEET R-6 AND PER CAL OSHA REQUIREMENTS.
5. INSTALL 36"x36" LOCKABLE ROOF ACCESS HATCH AND STAINLESS STEEL INTERIOR LADDER WITH SAF-T-CLIMB FALL PREVENTION SYSTEM, SEE DETAILS 3,4 AND 5 ON SHEET R-5 AND DETAIL 7 ON SHEET R-6.
6. INSTALL 36" DIA SHELL ACCESS WAY, SEE DETAIL 4 ON SHEET R-4.
7. INSTALL 24" OVERFLOW, SEE DETAIL 2 ON SHEET R-2.
8. INSTALL FLUSH-TYPE CLEANOUT MANWAY, SEE DETAIL 2 ON SHEET R-4.
9. INSTALL VAREC 6700 SERIES HALF SCALE WATER LEVEL INDICATOR OR APPROVED EQUAL WITH INSULATED WIRE, SEE DETAIL 8 ON SHEET R-6.
10. NOT IN USE
11. INSTALL 16" OUTLET PIPING, SEE DETAIL 2 ON SHEET R-3.
12. INSTALL CIRCULAR STAIRWAY AND SAFETY RAILING, SEE DETAILS 1, 2, 3, 4 AND 5 ON SHEET R-6.
13. INSTALL 30" DIA SEALED FLANGE ROOF HATCH, SEE DETAIL 2 ON SHEET R-5.
14. INSTALL ROOF VENT, SEE DETAIL 1 ON SHEET R-5.
15. INSTALL U-BOLT LANYARD ROOF ANCHOR, SEE DETAIL 3 ON SHEET R-4, (4 REQUIRED).
16. INSTALL ROOF NOZZLE TO LEVEL TRANSDUCER PER DETAIL 4 ON SHEET R-5 AND DETAILS 7 AND 9 ON SHEET R-6 AT ROOF HATCH PER ELECTRICAL PLANS.
17. INSTALL SAMPLE POINT PER DETAIL 5 ON SHEET R-4.
18. INSTALL 16" D.I.P. PIPE (CL-150) PER PROFILE C ON SHEET C-2 AND PER TRENCH DETAIL 1 ON SHEET C-3.
19. INSTALL 16"x16"x12" TEE WITH FULLY RESTRAINED JOINTS AND THRUST BLOCK PER DETAIL 2 ON SHEET C-3.
20. INSTALL 16" 45° DI BEND WITH FULLY RESTRAINED JOINTS AND THRUST BLOCK PER DETAIL 2 ON SHEET C-3.
21. INSTALL 16" BUTTERFLY VALVE (CL-150) PER ANCHOR DETAIL 4 ON SHEET C-3 AND VALVE CAN PER DETAIL 3 ON SHEET C-3.
22. INSTALL 16" MJ TEMPORARY PLUG WITH THRUST BLOCK PER DETAIL F ON SHEET C-1 AND 2 ON SHEET C-3.
23. INSTALL 18" PVC DRAIN PIPE (DR 11) PER TRENCH DETAIL 1 ON SHEET C-3 AND PER GSWC SPECIFICATIONS.
24. INSTALL CATCH BASIN NUMBER 1 PER DETAIL 1 ON SHEET C-4.
25. INSTALL CATCH BASIN NUMBER 2 PER DETAIL 2 ON SHEET C-4.
26. INSTALL 4'x8" OVERFLOW DRAIN BOX PER DETAIL 2 ON SHEET R-2.
27. INSTALL ELECTRICAL CONDUITS PER THE ELECTRICAL PLANS.
28. INSTALL 36"x36" PRECAST CONCRETE CATCH BASIN WITH H-20 GALVANIZED STEEL GRATE PER APPROVED MATERIALS LIST.
29. INSTALL CATCH BASIN NUMBER 3 PER DETAIL 3 ON SHEET C-4.
30. INSTALL CATCH BASIN NUMBER 4 PER DETAIL 4 ON SHEET C-4.
31. INSTALL CATCH BASIN NUMBER 5 PER DETAIL 5 ON SHEET C-4.
32. NOT IN USE
33. INSTALL VEHICLE BARRIER PER DETAIL 5 ON SHEET R-2.
34. INSTALL 16" 90° DI BEND WITH FULLY RESTRAINED JOINTS AND THRUST BLOCK PER DETAIL 2 ON SHEET C-3.
35. INSTALL 2'-4"W x 4'x10'L CONCRETE STAIR LANDING PAD PER DETAILS 1,3 AND 4 ON SHEET R-6.
36. INSTALL 24" RCP (2000 D) PER TRENCH DETAIL 1 ON SHEET C-3 AND PER GSWC SPECIFICATIONS.
37. INSTALL 3" (SH 80) PVC ANALYZER DRAIN PIPE PER TRENCH DETAIL 1 ON SHEET C-3 AND PER GSWC SPECIFICATIONS.
38. INSTALL 2" SCH. 80 P.V.C. W/ 3/8" TUBING WITH TRENCH PER DETAIL 1 ON SHEET C-3 AND PER GSWC SPECIFICATIONS.
39. INSTALL 6" STANDARD WET BARREL FIRE HYDRANT PER DETAIL 6 ON SHEET C-5.
40. INSTALL 12" BUTTERFLY VALVE (CL-150) PER DETAIL 4 ON SHEET C-3 AND VALVE CAN PER DETAIL 3 ON SHEET C-3.
41. INSTALL 12" D.I.P. PIPE (CL-150) PER PROFILE C ON SHEET C-2 AND PER TRENCH DETAIL 1 ON SHEET C-3.
42. INSTALL 12" 45° DI BEND WITH FULLY RESTRAINED JOINTS AND THRUST BLOCK PER DETAIL 2 ON SHEET C-3.



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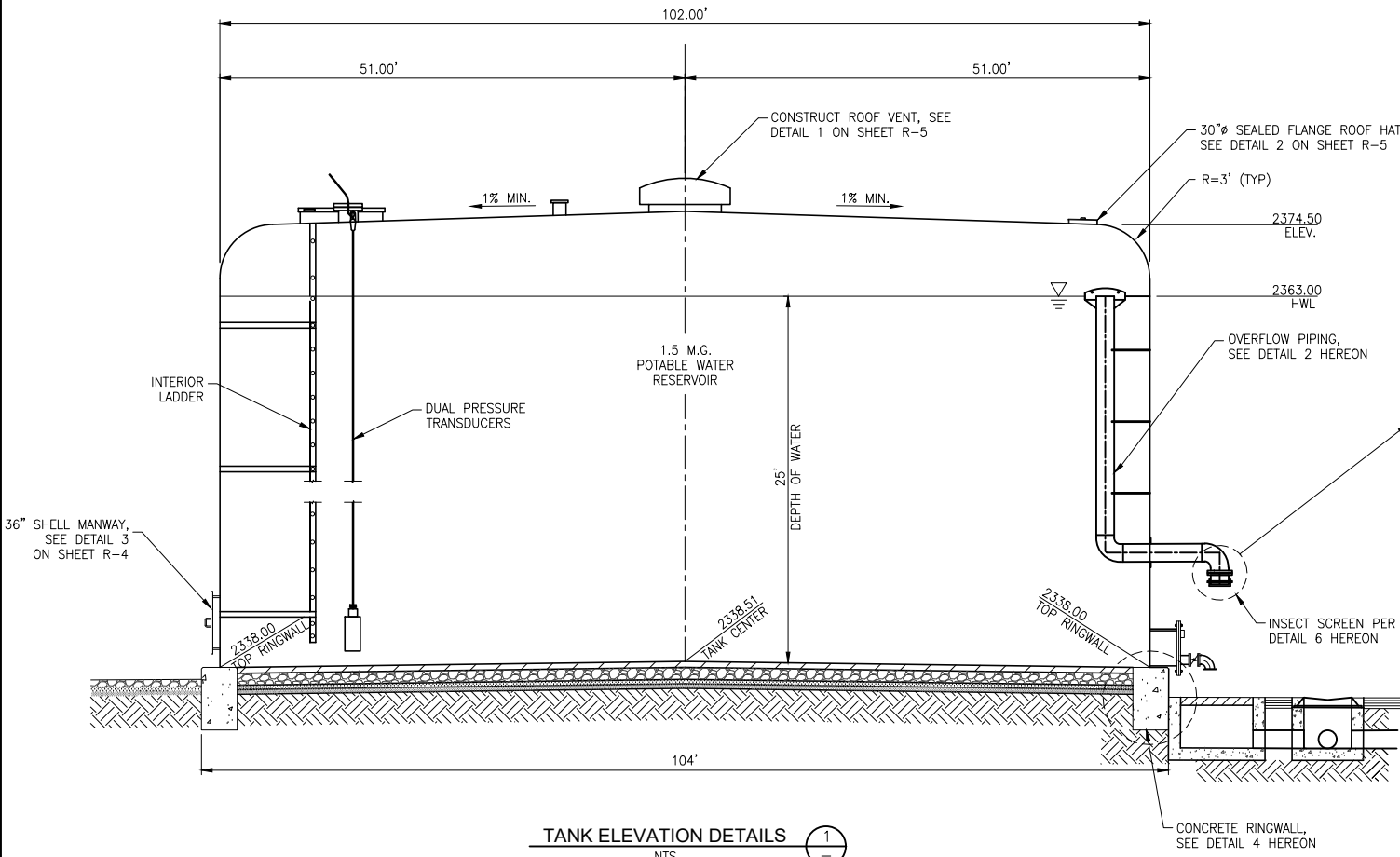
NO.	BY:	DATE:	REVISION	APPROVED BY:	DATE:

BUDGET YEAR GROUP	2019 NN	SYSTEM MAP NO:	SYS_NNN	DRAWING PREPARED BY:	TC
THOMAS GUIDE	PAGE COORD	SCALE:	1"=10'	DESIGN BY:	PC
DISTRICT:	MOUNTAIN/DESERT	AS-BUILT RECORDS BY:	DATE:	FIELD CHECK & SERVICE SURVEY BY:	DATE:
SYSTEM:	BARSTOW	REVIEWED & APPROVED BY:	MARK A. ESQUER	R.C.E. NO.:	45174

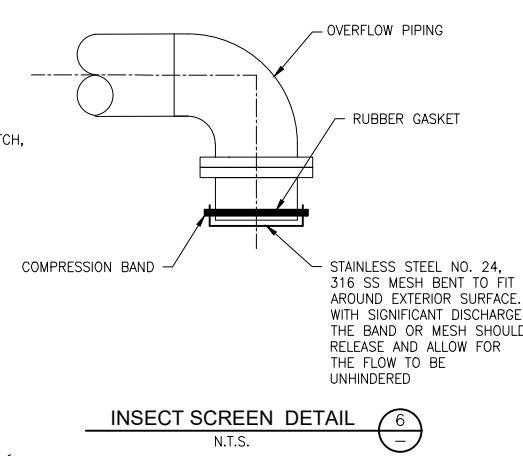
Golden State Water Company
A Subsidiary of American States Water Company
160 E. VIA VERDE, SUITE 250, SAN DIMAS, CA 91773
PHONE: (909) 305-5427

PROJECT TITLE:	1.5 MG IRWIN RESERVOIR ON IRWIN ROAD		
JURISDICTION:	COUNTY OF SAN BERNARDINO		
DWG NO.:	R-1	SHEET NUMBER:	7 OF 25 SHEET(S)
DWG DESC.:	RESERVOIR AND PIPING PLAN		
FRANCHISE NUMBER:	-		
PROJECT NO.:	34731074		

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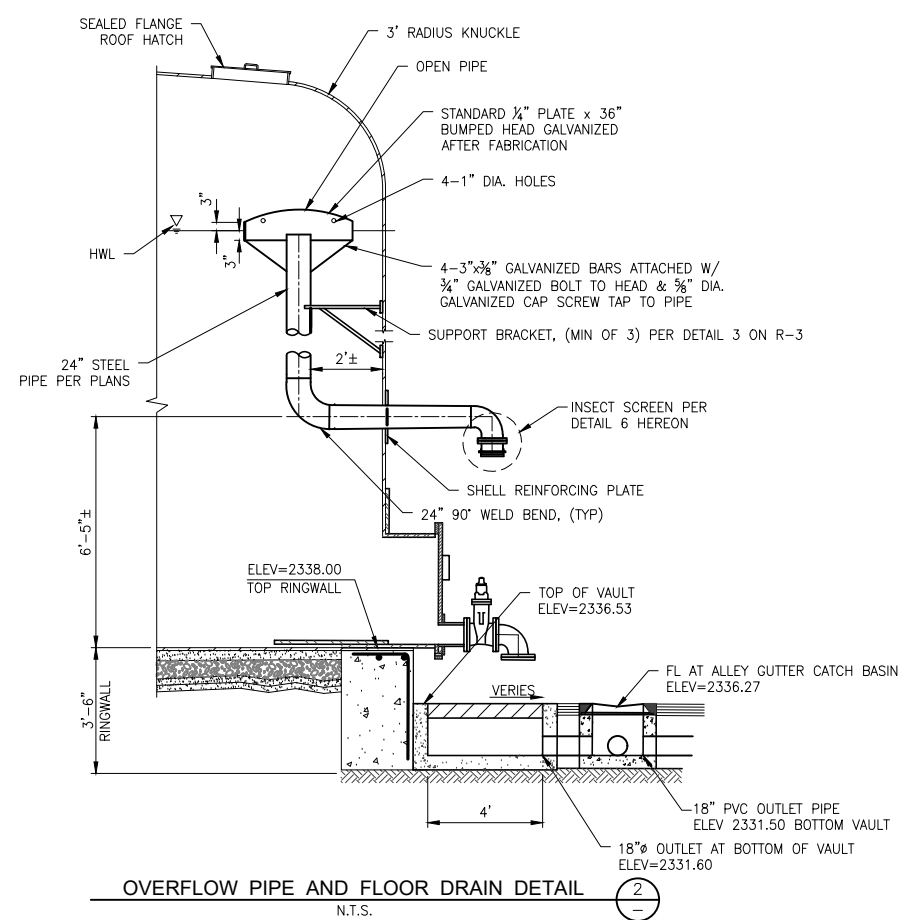


TANK ELEVATION DETAILS (1)
NTS

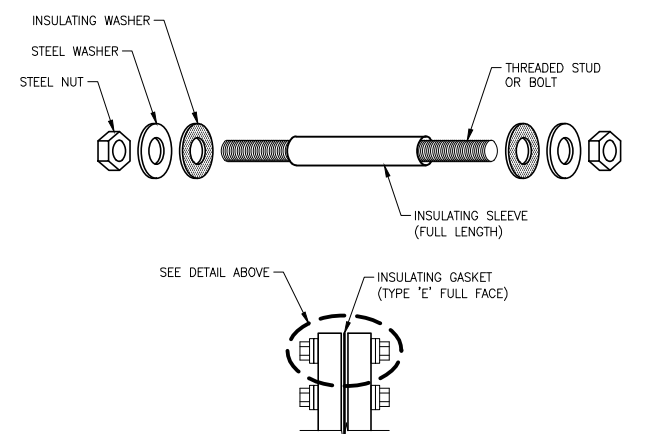


INSECT SCREEN DETAIL (6)
N.T.S.

- NOTES:**
- FOR BIDDING PURPOSES ASSUME 5-FOOT OVEREXCAVATING AND RECOMPACTION UNDERNEATH THE BOTTOM OF THE RINGWALL AND 5- FEET BEYOND THE RINGWALL WITH 12 INCH LAYER OF STRUCTURAL BEDDING MATERIAL COMPACT TO 95%.
 - CONCRETE GRADE RING SHALL BE CONSTRUCTED IN ONE CONTINUOUS CONCRETE PLACEMENT, NO CONSTRUCTION JOINTS ARE ALLOWED. DETAIL IS FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL SUBMIT CONCRETE RINGWALL DESIGN CALCULATIONS AND REINFORCING REQUIREMENTS. RINGWALL SHALL BE CONSTRUCTED PER AWWA-D100-11 REQUIREMENTS AND GEOTECHNICAL REPORT PREPARED BY _____.
 - PROVIDE CONCRETE CYLINDER TEST.

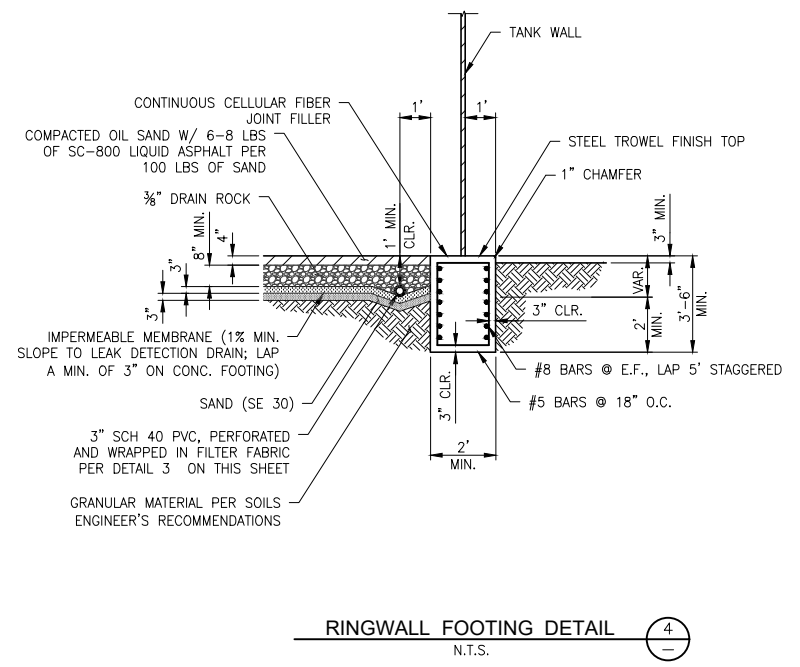


OVERFLOW PIPE AND FLOOR DRAIN DETAIL (2)
N.T.S.

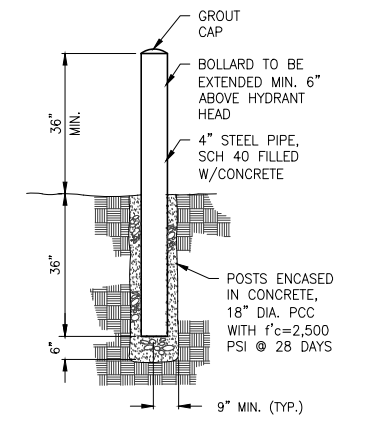


- NOTES:**
- Gasket shall be Type 'E' full face phenolic with O-Ring.
 - Sleeve shall be G10 Class.
 - Washers shall be G10 Class.

INSULATING FLANGE GASKET DETAIL (3)
NTS



RINGWALL FOOTING DETAIL (4)
N.T.S.



- NOTES:**
- Orientation of barricade may be changed according to field conditions.
 - Bollard coating color per local fire department requirements. A. in lieu of painting a protective polyethylene sleeve may be put over steel post colored to meet local fire department requirements.
 - Coating material shall be per GSWD painting specifications for above grade steel piping. A. A polyethylene encased steel post (Sch.40 pipe) may be used instead of a painted post.
 - See Potable Water Material Guidelines for acceptable manufacturers.

VEHICAL BARRICADE DETAIL (5)
N.T.S.



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NO.	BY:	DATE:	REVISION	APPROVED BY:	DATE:

BUDGET YEAR: 2019	SYSTEM MAP NO: SYS_NNN	DRAWING PREPARED BY: TC
GROUP: NN	SCALE: NTS	DATE: _____
THOMAS GUIDE PAGE: _____	DESIGN BY: PC	DATE: _____
COORD: _____	DATE: _____	DATE: _____
DISTRICT: MOUNTAIN/DESERT	AS-BUILT RECORDS	FIELD CHECK & SERVICE SURVEY BY: _____
SYSTEM: BARSTOW	BY: _____	DATE: _____
REVIEWED & APPROVED BY: MARK A. ESQUER	DATE: _____	DATE: _____
	R.C.E. NO. 45174	

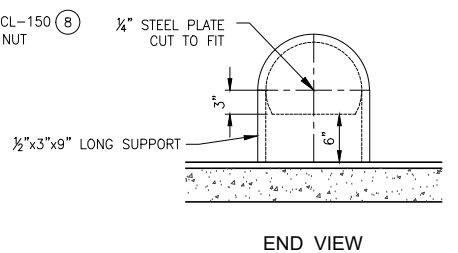
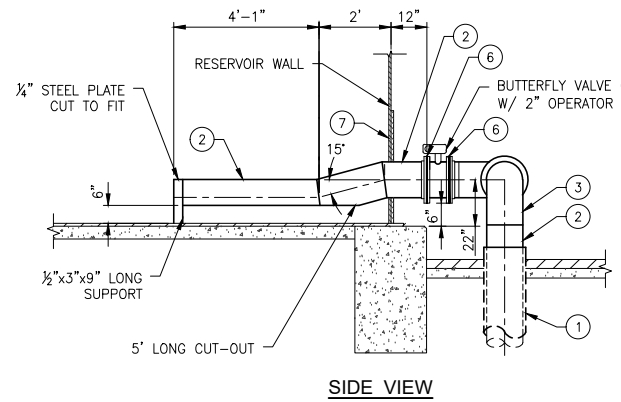
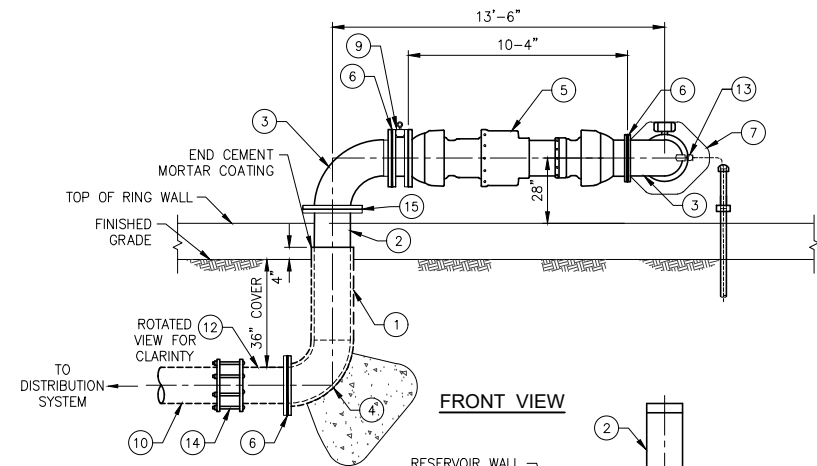
Golden State Water Company
A Subsidiary of American States Water Company
160 E. VIA VERDE, SUITE 250, SAN DIMAS, CA 91773
PHONE: (909) 305-5427

PROJECT TITLE: 1.5 MG IRWIN RESERVOIR ON IRWIN ROAD	JURISDICTION: COUNTY OF SAN BERNARDINO	SHEET NUMBER: 8 OF 25 SHEET(S)
DWG NO: R-2	DWG DESC: RESERVOIR DETAILS I	W.O. 34731074
FRANCHISE NUMBER: _____		

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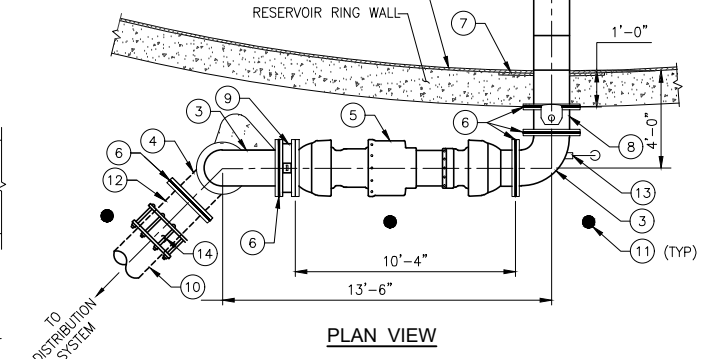
CONSTRUCTION NOTES FOR INLET:

- 1 INSTALL 12" WELDED STEEL PIPE, SCH. 40, CMC AND EPOXY LINED.
- 2 INSTALL 12" WELDED STEEL PIPE, SCH. 40, PAINTED AND EPOXY LINED.
- 3 INSTALL 12" 90° WELDED STEEL L.R. BEND, SCH. 40, WITH THRUST BLOCK PER DETAIL 2 ON SHEET C-3.
- 4 INSTALL 12" 90° WELDED STEEL L.R. BEND, SCH. 40, EPOXY LINED.
- 5 INSTALL 12" 45° WELDED STEEL L.R. BEND, SCH. 40, EPOXY LINED.
- 6 INSTALL 12" FLEX-TEND FORCE BALANCED EXPANSION JOINT FROM EBAA IRON.
- 7 INSTALL 12" SLIP-ON WELDED FLANGE W/ INSULATING GASKET PER DETAIL 3 ON SHEET R-2.
- 8 INSTALL SHELL REINFORCING PLATE PER DETAIL 4 ON AND AWWA D-100.
- 9 INSTALL SUPPORT BRACKET PER DETAIL 3 ON THIS SHEET.
- 10 INSTALL VEHICLE BARRIER PER DETAIL 5 ON SHEET R-2.
- 11 INSTALL 12" BUTTERFLY VALVE, F.E.
- 12 INSTALL 12" D.I.P. PIPE.
- 13 INSTALL 12" FLEXIBLE COUPLING (FULLY RESTRAINED).
- 14 INSTALL 12" DI FLGxPE ADAPTOR.
- 15 INSTALL 12" SLIP-ON WELDED FLANGE.

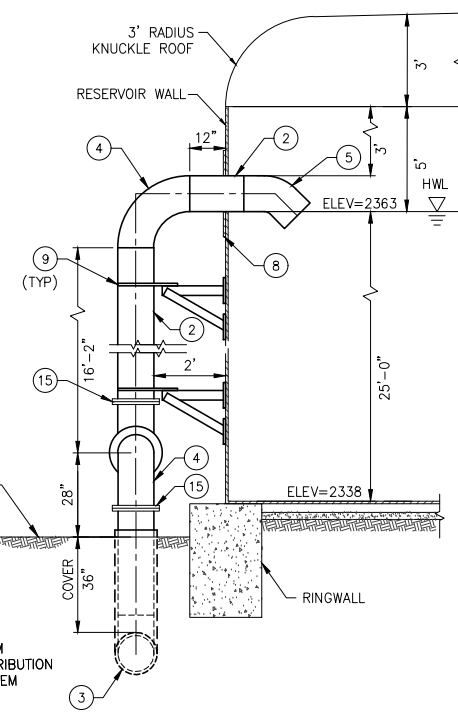
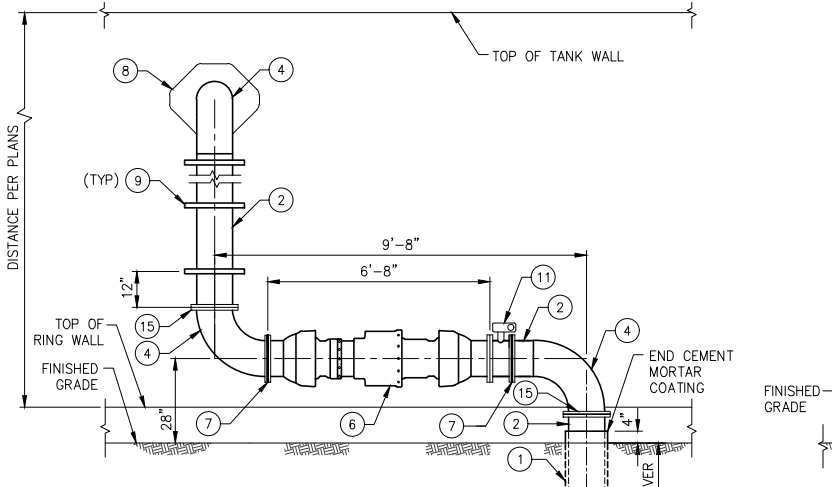


CONSTRUCTION NOTES FOR OUTLET:

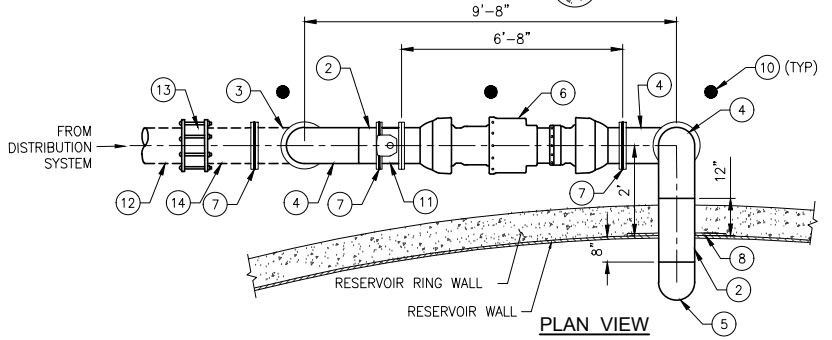
- 1 INSTALL 16" WELDED STEEL PIPE, SCH. 40, CMC AND EPOXY LINED.
- 2 INSTALL 16" WELDED STEEL PIPE, SCH. 40, EPOXY LINED.
- 3 INSTALL 16" 90° L.R. WELDED STEEL BEND, SCH. 40 EPOXY LINED.
- 4 INSTALL 16" 90° L.R. STEEL, CMC AND EPOXY LINED BEND W/ THRUST BLOCK PER DETAIL 2 ON SHEET C-3.
- 5 INSTALL 16" FLEX-TEND FORCE BALANCED EXPANSION JOINT FROM EBAA IRON.
- 6 INSTALL 16" SLIP-ON WELDED FLANGE WITH INSULATING GASKET PER DETAIL 3 ON SHEET R-2.
- 7 INSTALL SHELL REINFORCING PLATE PER DETAIL 4 ON THIS SHEET AND AWWA D-100.
- 8 INSTALL 16" BUTTERFLY VALVE, F.E., WITH 2" OPERATION NUT.
- 9 INSTALL 16" WAFER SWING CHECK, CLA-VAL SERIES 501A.
- 10 INSTALL 16" D.I.P. PIPE.
- 11 INSTALL VEHICLE BARRIER PER DETAIL 5 ON SHEET R-2.
- 12 INSTALL 16" DI FLGxPE ADAPTOR.
- 13 INSTALL CL2 PIPE TAP PER DETAIL 6 ON SHEET R-4.
- 14 INSTALL 16" FLEXIBLE COUPLING (FULLY RESTRAINED).
- 15 INSTALL 16" SLIP-ON WELDED FLANGE.



OUTLET CONNECTION DETAIL 2
N.T.S.



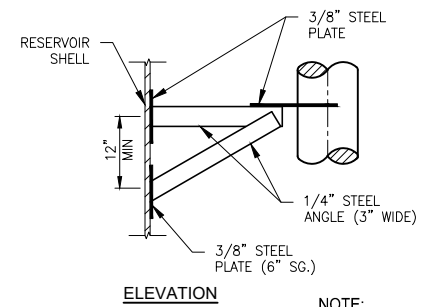
SIDE VIEW



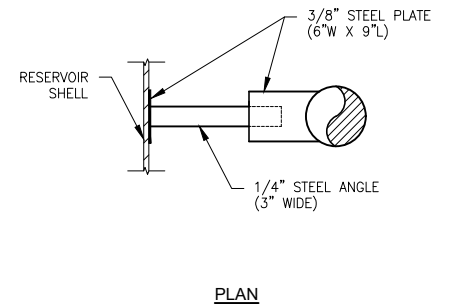
INLET CONNECTION DETAIL 1
N.T.S.

NOTES:

1. DISINFECT RESERVOIR PER AWWA C652, LATEST EDITION.
2. ALL ABOVE GRADE STEEL PIPE AND FITTINGS 4-INCHES AND SMALLER SHALL BE EPOXY LINED AND PAINTED OR FOR 6-INCHES AND LARGER SHALL BE CML AND PAINTED, UNLESS OTHERWISE NOTED.
3. ALL BELOW GRADE STEEL PIPE AND FITTINGS SHALL BE EPOXY LINED AND CEMENT COATED UNLESS OTHERWISE NOTED. COATING SHALL TERMINATE AT 4 INCHES ABOVE GROUND.
4. BRACING OF INLET AND OVERFLOW PIPE SHALL BE EVENLY SPACED ALONG RISER PIPE.
5. FLANGED CONNECTIONS BETWEEN DUCTILE IRON AND STEEL PIPE SHALL INCLUDE AN INSULATING GASKET TO ELECTRICALLY ISOLATE EACH METAL SURFACE FROM THE OTHER.

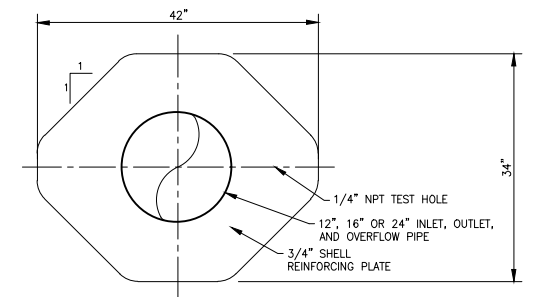


ELEVATION



PLAN

SUPPORT BRACKET DETAIL 3
N.T.S.



REINFORCING PLATE DETAIL 4
N.T.S.



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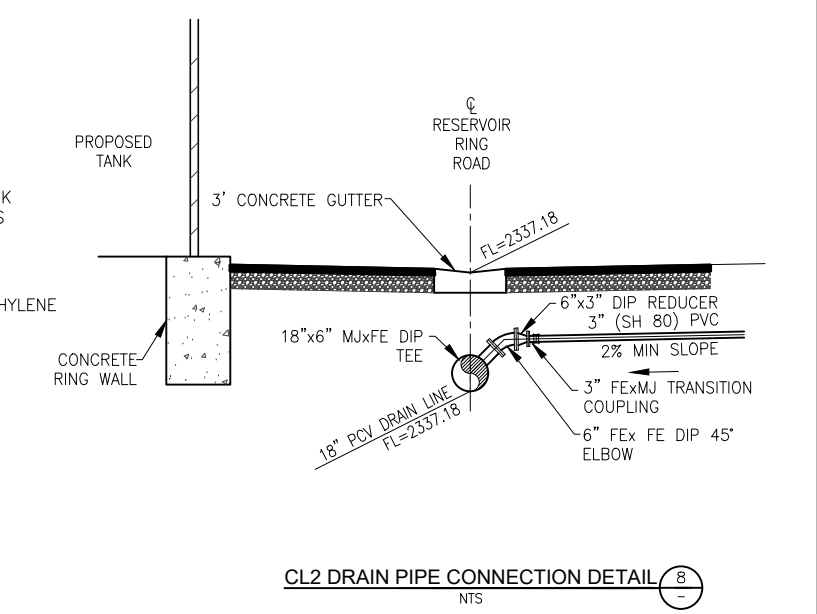
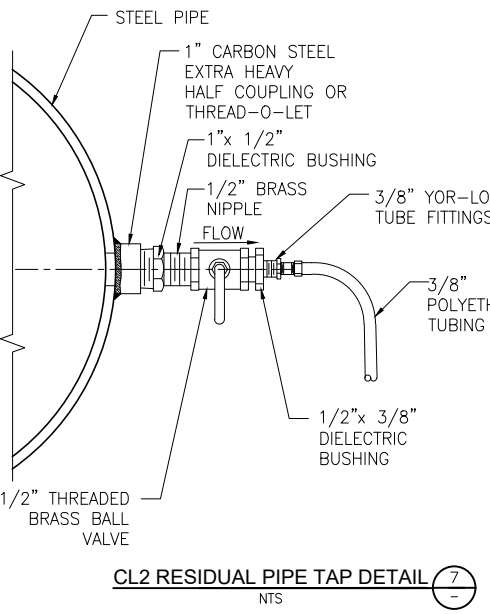
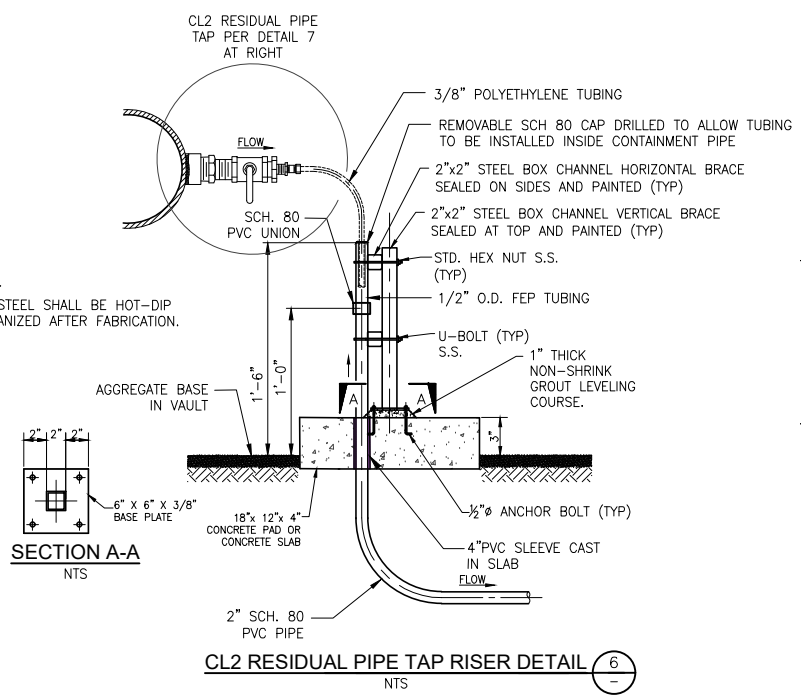
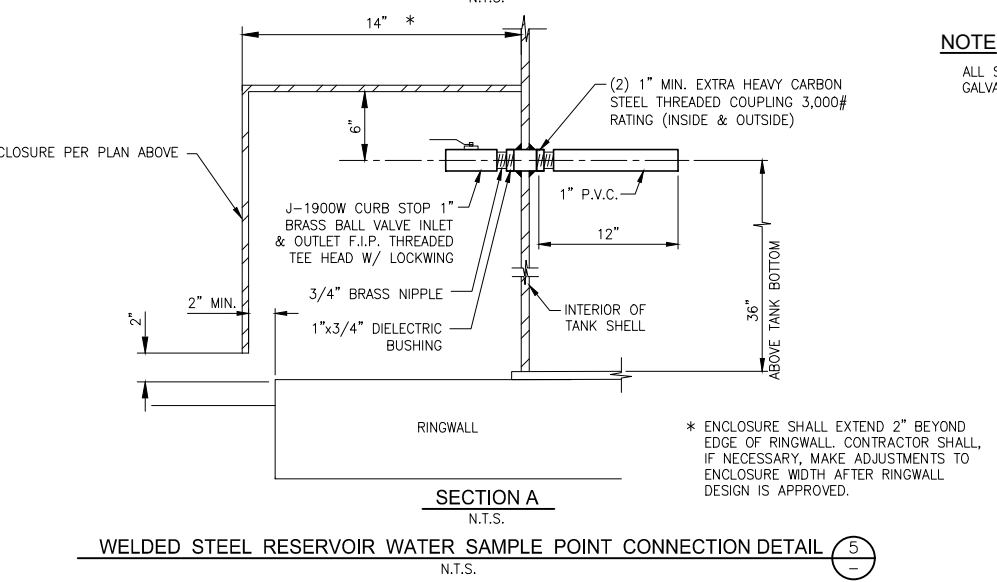
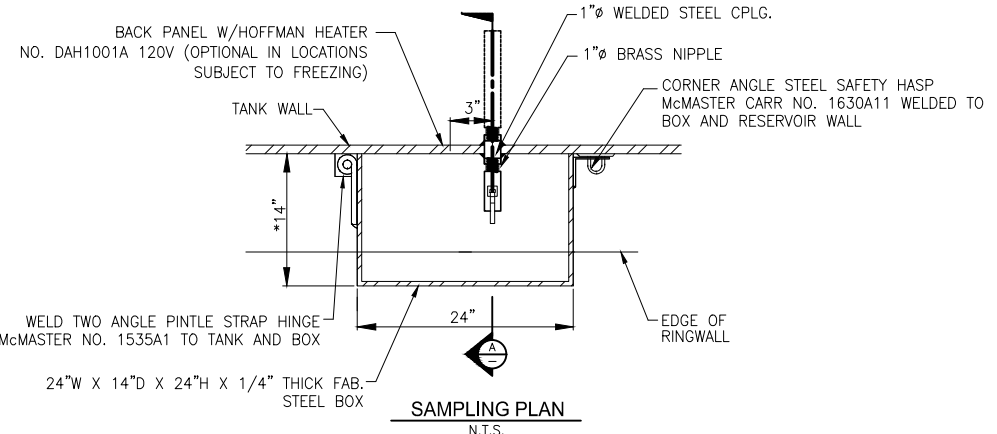
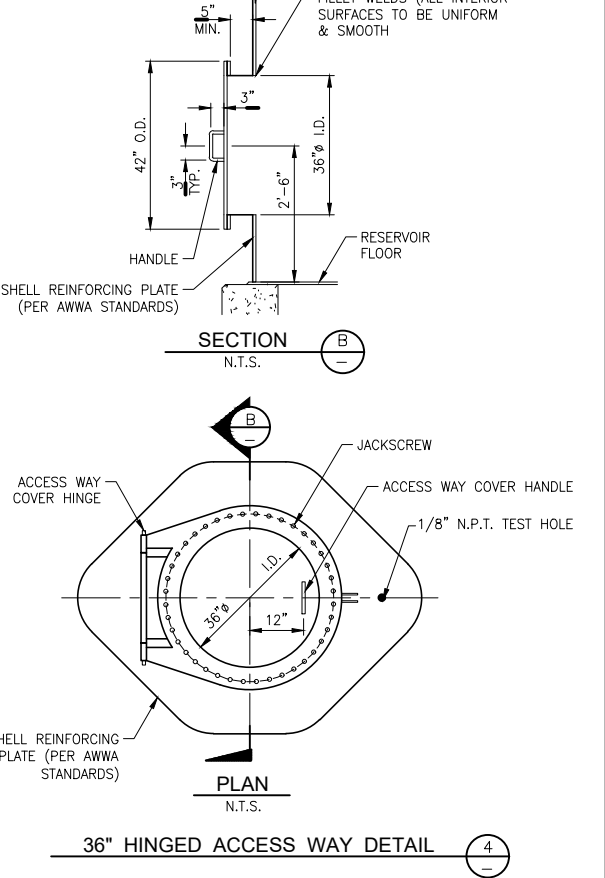
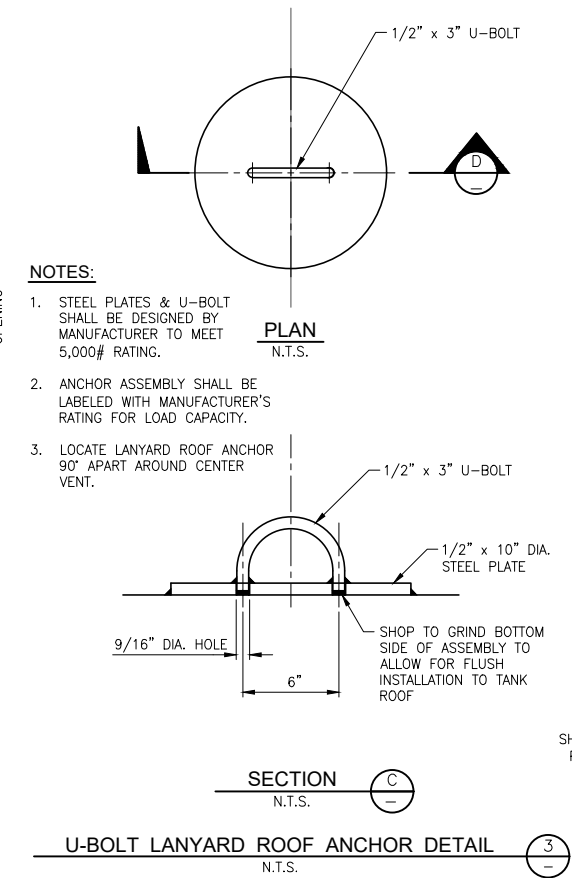
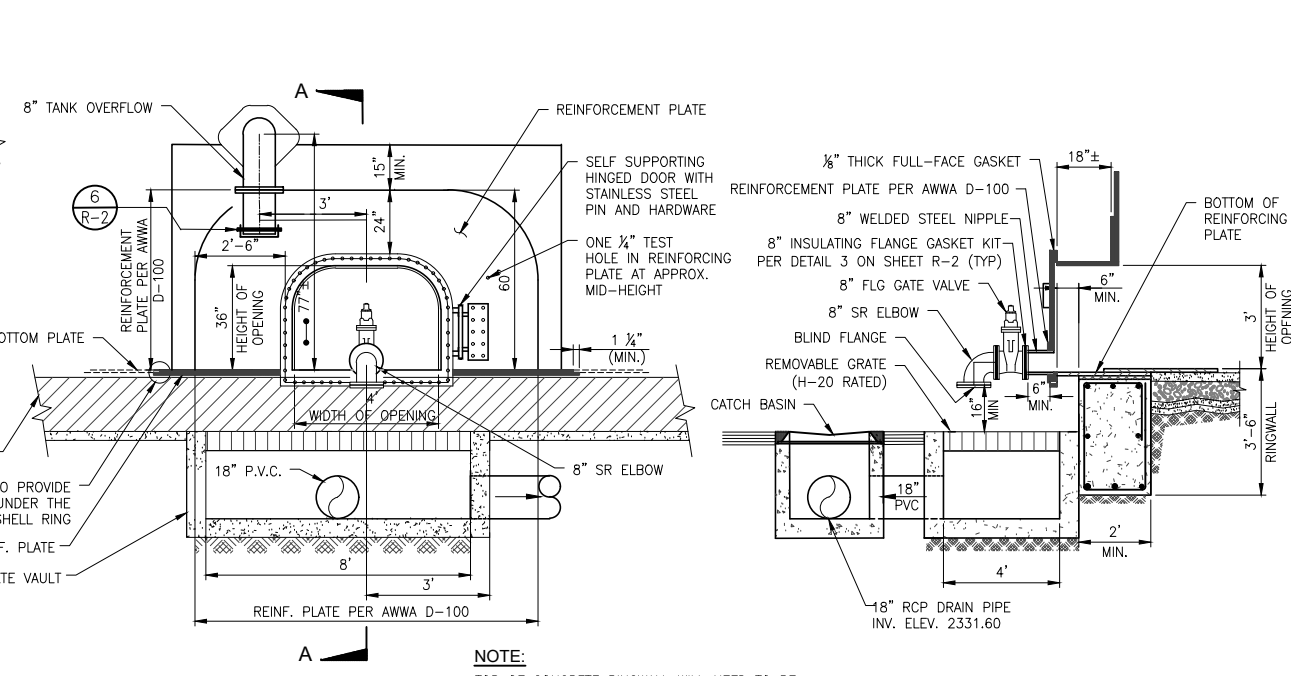
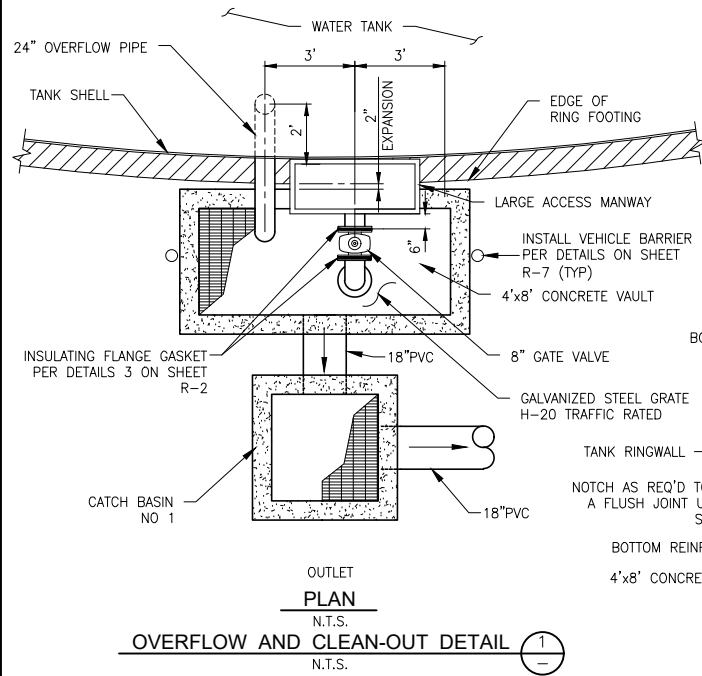
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BUDGET YEAR: 2019	GROUP: NN	SYSTEM MAP NO: SYS_NNN	DRAWING PREPARED BY: TC
THOMAS GUIDE PAGE: COORD	SCALE: NTS	DESIGN BY: PC	DATE:
DISTRICT: MOUNTAIN/DESERT	AS-BUILT RECORDS BY: DATE:	FIELD CHECK & SERVICE SURVEY BY: DATE:	DATE:
SYSTEM: BARSTOW	REVIEWED & APPROVED BY: MARK A. ESQUER	R.C.E. NO: 45174	

Golden State Water Company
A Subsidiary of American States Water Company
160 E. VIA VERDE, SUITE 250, SAN DIMAS, CA 91773
PHONE: (909) 305-5427

PROJECT TITLE: 1.5 MG IRWIN RESERVOIR ON IRWIN ROAD	JURISDICTION: COUNTY OF SAN BERNARDINO	SHEET NUMBER: 9 OF 25 SHEET(S)
DWG NO: R-3	DWG DESC: RESERVOIR DETAILS II	W.O. 34731074
FRANCHISE NUMBER:		

X:\Projects\347 - Irwin Reservoir & Trans Main\EDC\CAD\Plan Sheets\34731074 Irwin Reservoir NEW.dwg 7/21/2020 8:26 AM Cook, Thomas



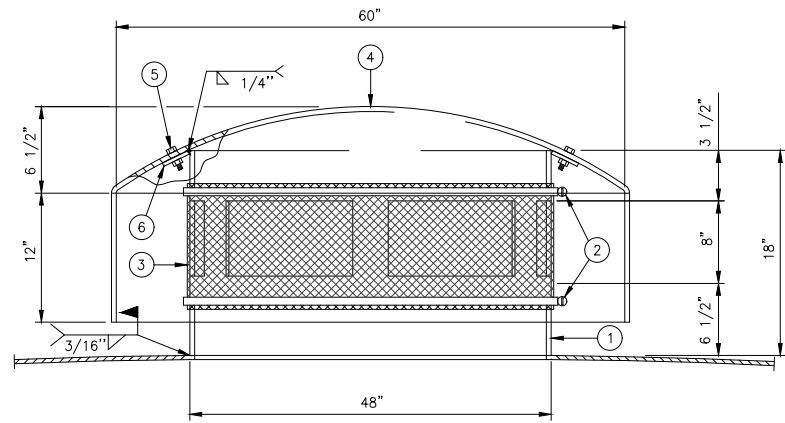
- NOTES:**
- STEEL PLATES & U-BOLT SHALL BE DESIGNED BY MANUFACTURER TO MEET 5,000# RATING.
 - ANCHOR ASSEMBLY SHALL BE LABELED WITH MANUFACTURER'S RATING FOR LOAD CAPACITY.
 - LOCATE LANYARD ROOF ANCHOR 90° APART AROUND CENTER VENT.

NOTE:
TOP OF CONCRETE RINGWALL WILL NEED TO BE NOTCHED TO SUIT BOTTOM REINFORCING PLATE FLUSH-TYPE CLEANOUT MANHOLE, CONTRACTOR SHALL VERIFY WITH TANK MANUFACTURE EXACT DIMENSIONS AND LIMITS OF REQUIRED WORK ON CONCRETE RINGWALL.

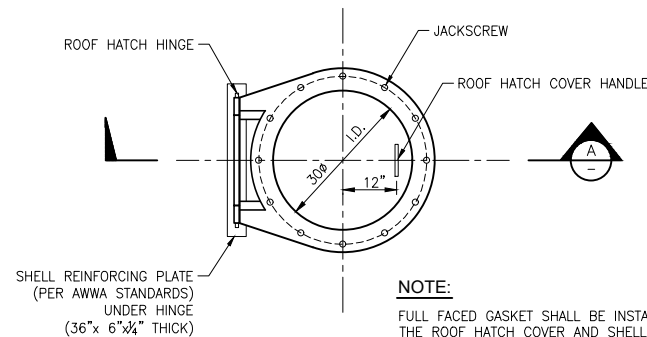
NOTE:
ALL STEEL SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.

* ENCLOSURE SHALL EXTEND 2" BEYOND EDGE OF RINGWALL. CONTRACTOR SHALL, IF NECESSARY, MAKE ADJUSTMENTS TO ENCLOSURE WIDTH AFTER RINGWALL DESIGN IS APPROVED.

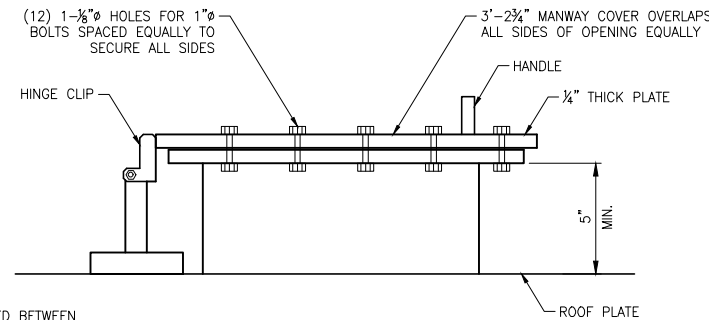
<p>Know what's below. Call before you dig.</p>	THIS PLAN WAS PREPARED BY THE STAFF OF GSWC ENGINEERING DESIGN. ENGINEERING DESIGN MADE A REASONABLE REVIEW OF AVAILABLE RECORDS AND A VISUAL INSPECTION OF THE PROJECT AREA TO COMPLETE THE INFORMATION GIVEN HEREON INCLUDING THE EXISTENCE AND LOCATION OF SUBSTRUCTURES AND UNDERGROUND UTILITY PIPES. HOWEVER GSWC DOES NOT WARRANT THE INFORMATION GIVEN HEREON.				<p>Golden State Water Company A Subsidiary of American States Water Company 160 E. VIA VERDE, SUITE 250, SAN DIMAS, CA 91773 PHONE: (909) 305-5427</p>	PROJECT TITLE: 1.5 MG IRWIN RESERVOIR ON IRWIN ROAD	
	THE CONTRACTOR, IN ADDITION TO COMPLYING WITH THE PROCEDURES OF UNDERGROUND SERVICE ALERT, IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO LOCATE AND PROTECT THE ABOVE AND BELOW GROUND STRUCTURES IN THE VICINITY OF THE PROJECT.		JURISDICTION: COUNTY OF SAN BERNARDINO			SHEET NUMBER: 10 OF 25	
	BY: _____ DATE: _____		REVISION: _____			W.O. 34731074	
	APPROVED BY: _____ DATE: _____		THOMAS GUIDE PAGE COORD _____ SCALE: NTS			FRANCHISE NUMBER: _____	
DISTRICT: MOUNTAIN/DESERT		AS-BUILT RECORDS BY: _____ DATE: _____		FIELD CHECK & SERVICE SURVEY BY: _____ DATE: _____	R-4		
SYSTEM: BARSTOW		REVIEWED & APPROVED BY: _____ DATE: _____		DATE: _____	RESERVOIR DETAILS III		
MARK A. ESQUER		R.C.E. NO. 45174		PROJECT NUMBER: _____			



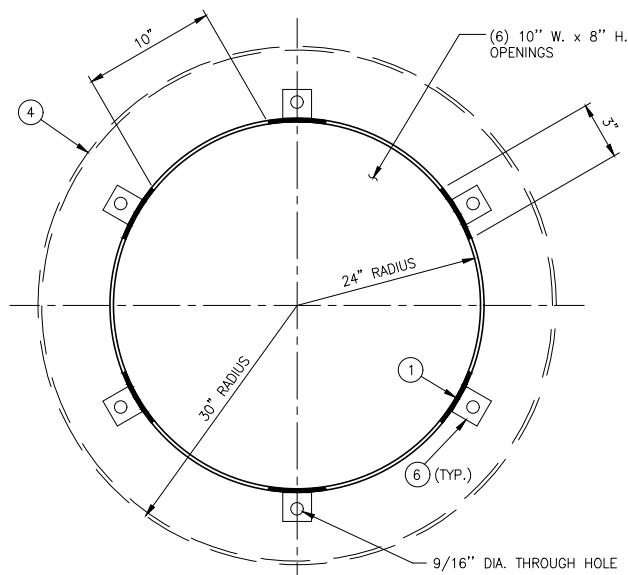
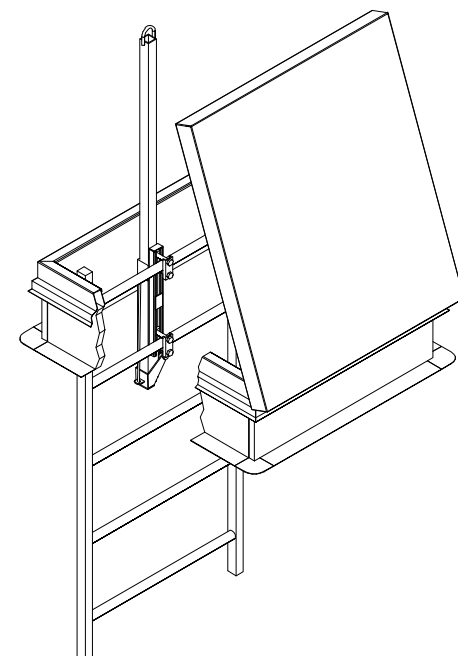
SIDE VIEW



FRONT
N.T.S.

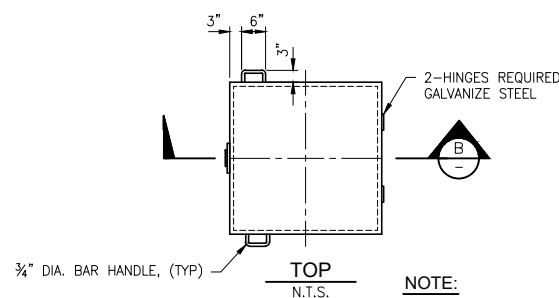


SECTION A-A
N.T.S.

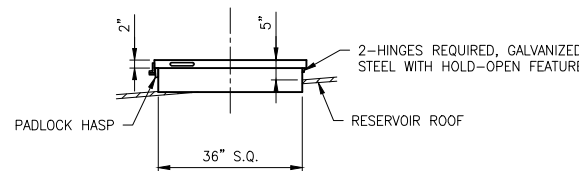


TOP VIEW

SEALED FLANGED ROOF HATCH DETAIL 2
N.T.S.

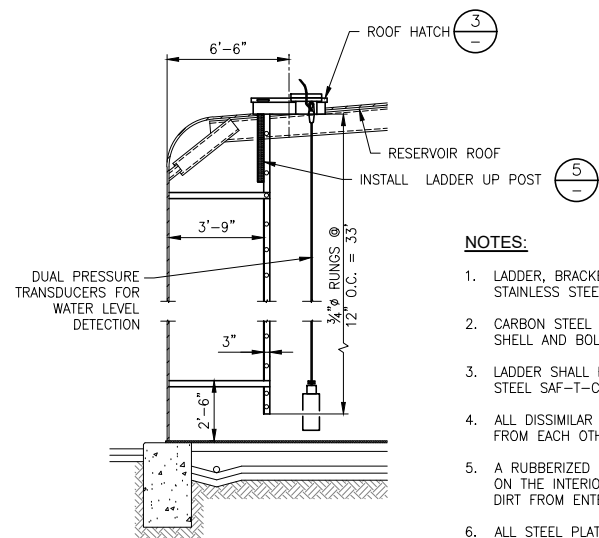


TOP
N.T.S.



SECTION B-B
N.T.S.

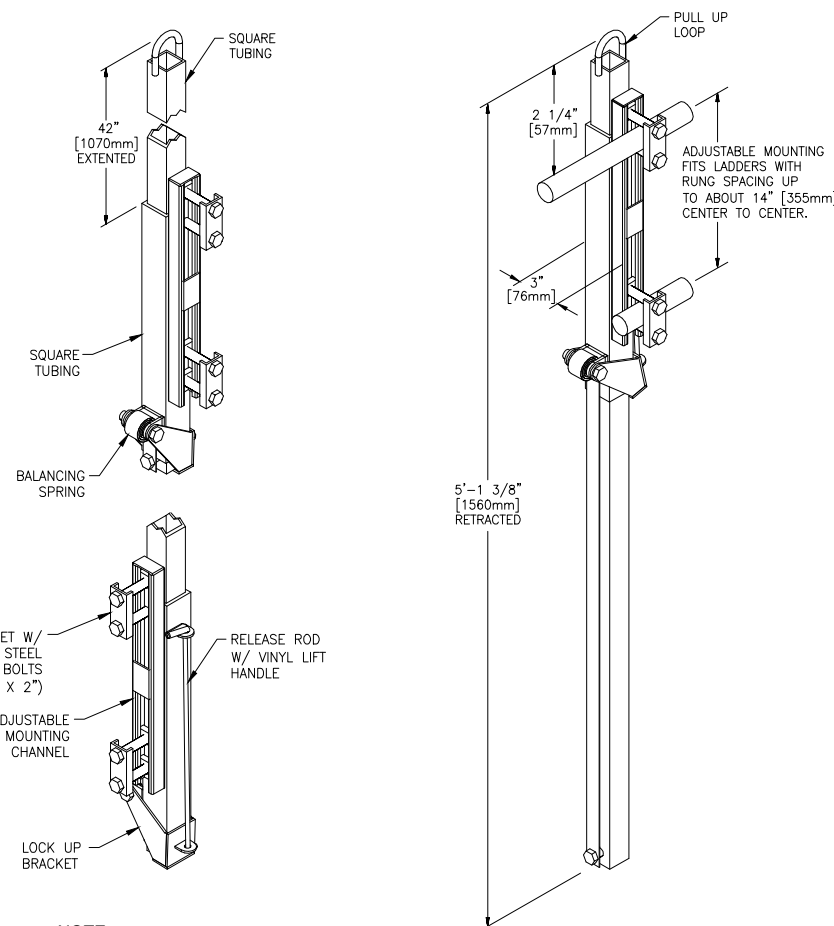
HINGED ROOF HATCH DETAIL 3
N.T.S.



INTERIOR LADDER DETAIL 4
N.T.S.

NOTES:

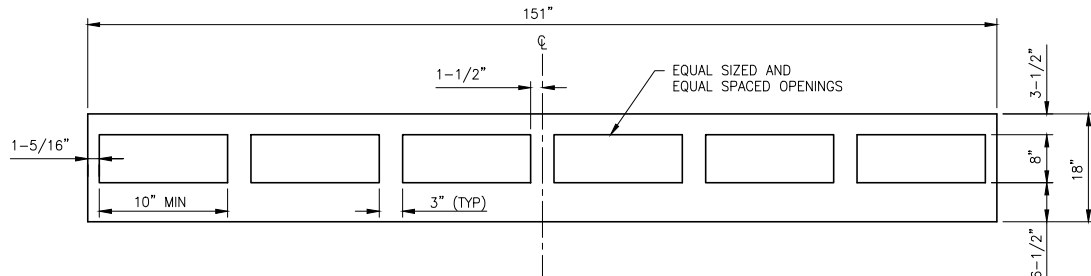
- LADDER, BRACKETS, & HARDWARE SHALL BE TYPE 316 STAINLESS STEEL.
- CARBON STEEL BRACKETS SHALL BE WELDED TO TANK SHELL AND BOLTED TO LADDER.
- LADDER SHALL BE EQUIPPED WITH TYPE 316 STAINLESS STEEL SAF-T-CLIMB FALL PREVENTION SYSTEM.
- ALL DISSIMILAR METALS SHALL BE ELECTRICALLY ISOLATED FROM EACH OTHER.
- A RUBBERIZED WATER PROOF GASKET SHALL BE INSTALLED ON THE INTERIOR OF THE HATCH THAT PREVENTS DUST AND DIRT FROM ENTERING THE TANK.
- ALL STEEL PLATE FOR ROOF HATCH AND NECK SHALL BE 3/8" THICK MIN.



NOTE:

CLAMP BRACKET MAY BE REVERSED TO ACCOMMODATE RUNG SIZES OF 3/4" [19mm] TO 1 1/4" [32mm] WITH STANDARD 2" [51mm] BOLTS FURNISHED. LARGER RUNGS WILL REQUIRE LONGER BOLTS.

INTERIOR LADDER W/ BILCO LADDER UP POST DETAIL 5
N.T.S.



48" DIA. CENTER ROOF VENT DETAIL 1
N.T.S.

MATERIALS LIST			
ASSEMBLY	ITEM	DESCRIPTION	QTY
48" DIA. ROOF VENT	1	NECK: 1/4" THK. x 18" WIDE	A36 1
	2	1/2" WORM DRIVE BAND	S.S. 2
	3	316 SS WIRE CLOTH METAL #24 MESH	S.S. 1
	4	60" DIA. x 3/16" THK. DISHED HEAD	A36 1
	5	BOLTS WITH NUT, 1/2" DIA., 1 1/4" LONG	HDG 6
	6	PLATE: 1/4" x 2" x 2" W/ 9/16" DIA. THROUGH HOLE	A36 6

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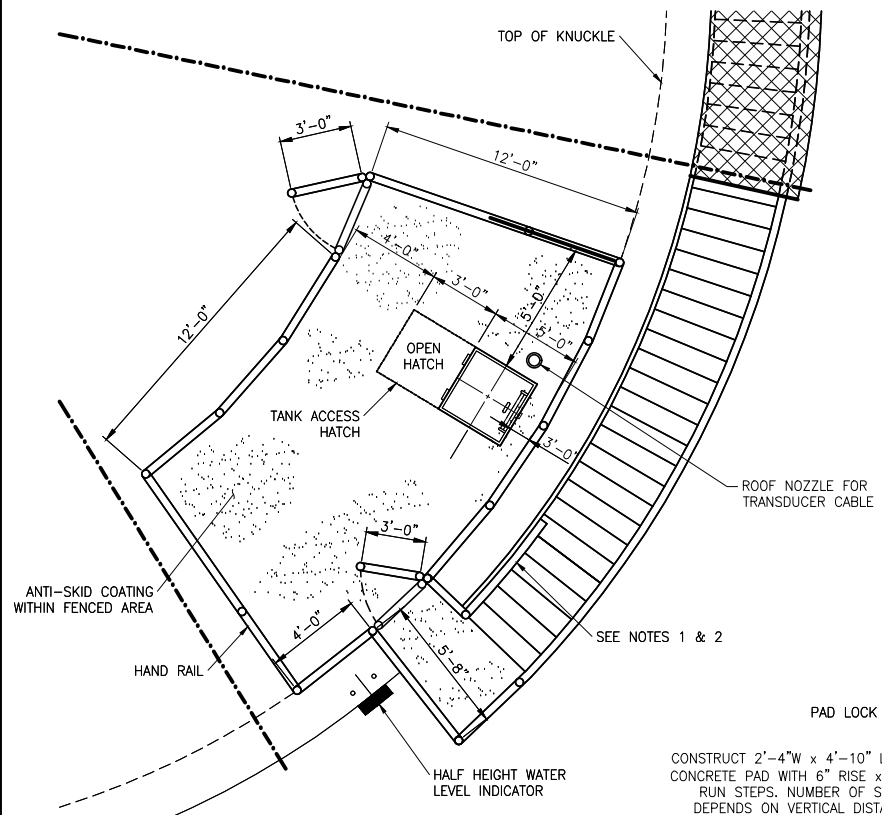
BY:	DATE:	REVISION	APPROVED DATE:

BUDGET YEAR: 2019	GROUP: NN	SYSTEM MAP NO: SYS_NNN	DRAWING PREPARED BY: TC
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SYSTEM: BARSTOW	REVIEWED & APPROVED BY: MARK A. ESQUER	DATE:	R.C.E. NO. 45174

Golden State Water Company
A Subsidiary of American States Water Company
160 E. VIA VERDE, SUITE 250, SAN DIMAS, CA 91773
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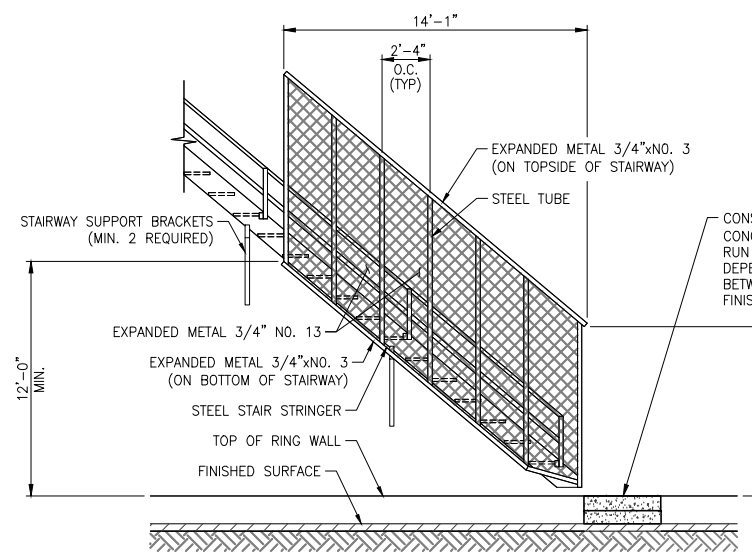
PROJECT TITLE: 1.5 MG IRWIN RESERVOIR ON IRWIN ROAD	JURISDICTION: COUNTY OF SAN BERNARDINO	SHEET NUMBER: 11 OF 25 SHEET(S)
DWG NO: R-5	DWG DESC: RESERVOIR DETAILS IV	W.O. 34731074
FRANCHISE NUMBER:		

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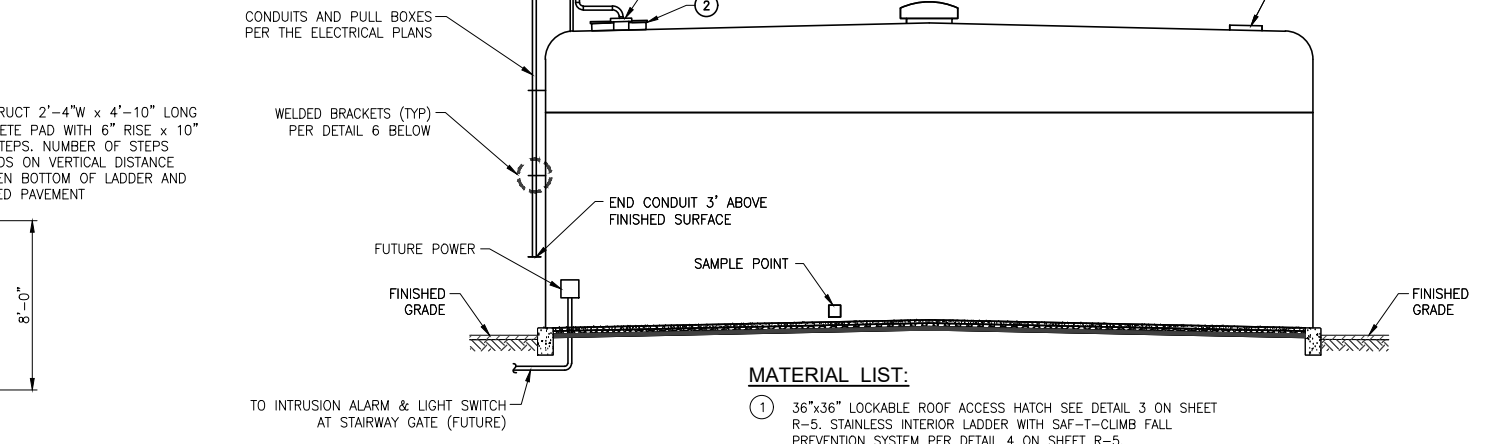
- NOTES:**
1. CONSTRUCT HANDRAIL AGAINST TANK FROM TOP OF PLATFORM TO 1 FOOT BELOW BOTTOM OF KNUCKLE.
 2. HANDRAIL TO EXTEND 1-1/2" MIN. FROM THE TANK SHELL AT ALL LOCATIONS.
 3. FURNISH AND INSTALL 4" HIGH x 1/4" THICK KICK PLATE UNDER HANDRAIL ALL AROUND. LEAVE 1/4" SPACE AT BOTTOM FOR DRAINAGE.

TANK ROOF WORKING AREA DETAIL (1)
N.T.S.



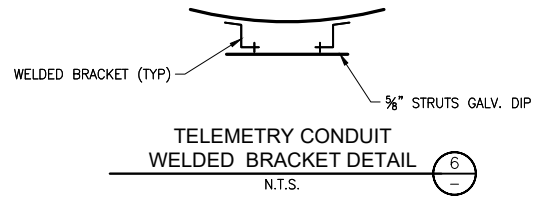
ANTI-CLIMB STAIRWAY CAGE DETAIL (3)
N.T.S.

NOTE:
NOTHING TO BE INSTALLED UNDER STAIR CAGE THAT COULD BE USED TO ASSIST CLIMBING EFFORTS.

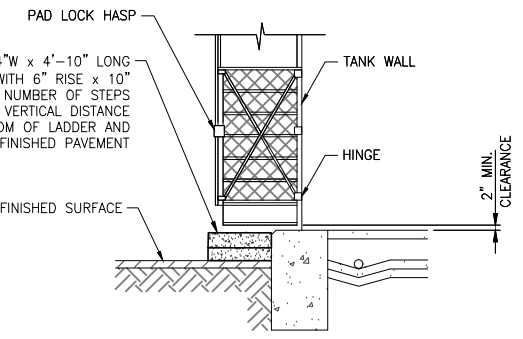


- MATERIAL LIST:**
1. 36"x36" LOCKABLE ROOF ACCESS HATCH SEE DETAIL 3 ON SHEET R-5. STAINLESS INTERIOR LADDER WITH SAF-T-CLIMB FALL PREVENTION SYSTEM PER DETAIL 4 ON SHEET R-5.

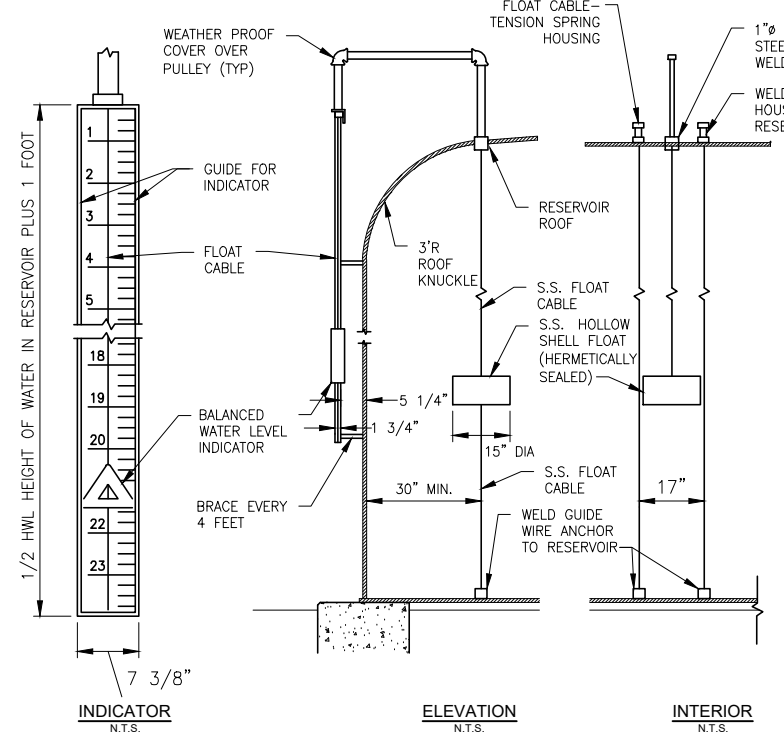
RESERVOIR DETAIL (7)
N.T.S.



TELEMETRY CONDUIT WELDED BRACKET DETAIL (6)
N.T.S.

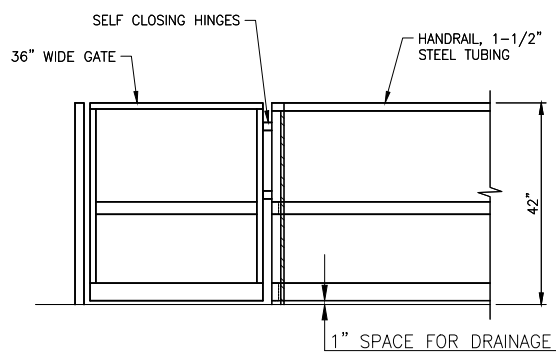


ANTI-CLIMB STAIRWAY GATE DETAIL (4)
N.T.S.

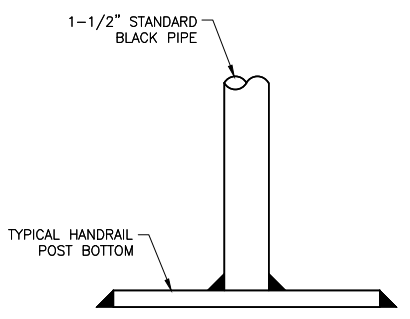


HALF HEIGHT WATER LEVEL INDICATOR (8)
N.T.S.

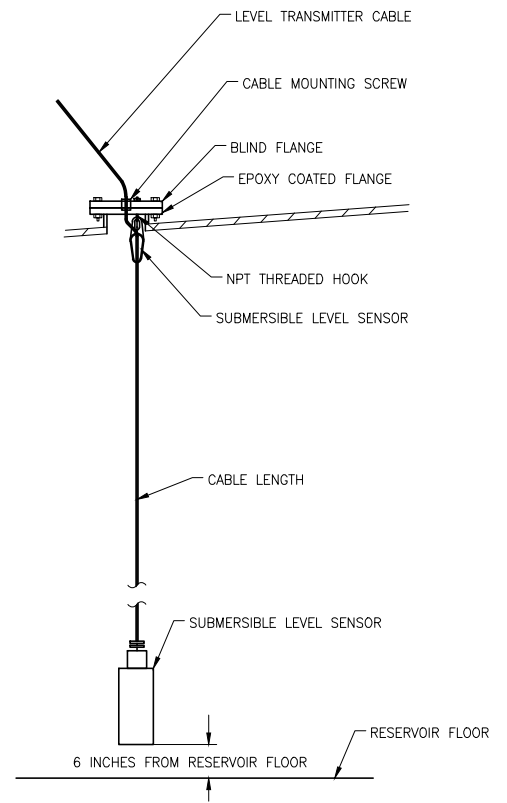
- NOTES:**
1. See plans for location of level indicator on tank.
 2. Locate level indicator as close to roof hatch as possible for maintenance access.



RAIL DETAIL (2)
N.T.S.



HANDRAIL POST BOTTOM DETAIL (5)
N.T.S.



PRESSURE TRANSDUCER WITH ROOF NOZZEL DETAIL (9)
N.T.S.



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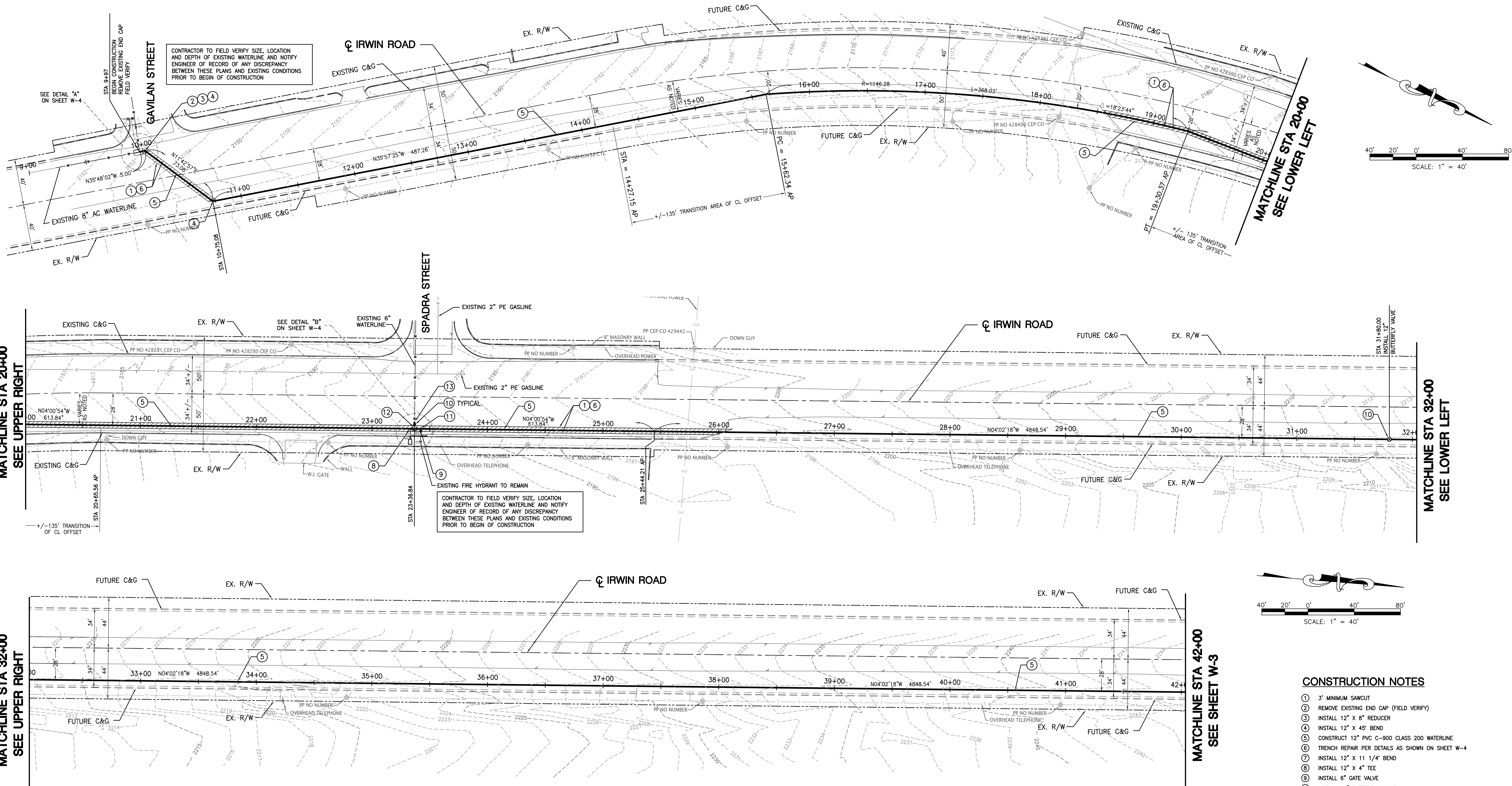
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BUDGET YEAR: 2019	GROUP: NN	SYSTEM MAP NO: SYS_NNN	DRAWING PREPARED BY: TC
THOMAS GUIDE PAGE: COORD	SCALE: NTS	DESIGN BY: PC	DATE:
DISTRICT: MOUNTAIN/DESERT	AS-BUILT RECORDS	FIELD CHECK & SERVICE SURVEY BY:	DATE:
SYSTEM: BARSTOW	BY: DATE:	DATE:	DATE:
REVIEWED & APPROVED BY: MARK A. ESQUER	R.C.E. NO. 45174	DATE:	DATE:

Golden State Water Company
A Subsidiary of American States Water Company
160 E. VIA VERDE, SUITE 250, SAN DIMAS, CA 91773
PHONE: (909) 305-5427

PROJECT TITLE: 1.5 MG IRWIN RESERVOIR ON IRWIN ROAD	JURISDICTION: COUNTY OF SAN BERNARDINO	SHEET NUMBER: 12 OF 25 SHEET(S)
DWG NO: R-6	DWG DESC: RESERVOIR DETAILS V	W.O. 34731074
FRANCHISE NUMBER: -		

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CONTRACTOR TO FIELD VERIFY SIZE, LOCATION AND DEPTH OF EXISTING WATERLINE AND NOTIFY ENGINEER OF RECORD OF ANY DISCREPANCY BETWEEN THESE PLANS AND EXISTING CONDITIONS PRIOR TO BEGIN OF CONSTRUCTION

CONTRACTOR TO FIELD VERIFY SIZE, LOCATION AND DEPTH OF EXISTING WATERLINE AND NOTIFY ENGINEER OF RECORD OF ANY DISCREPANCY BETWEEN THESE PLANS AND EXISTING CONDITIONS PRIOR TO BEGIN OF CONSTRUCTION

PRELIMINARY
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BENCHMARK
2" IP WITH BRASS CAP, C.S.M. PER NGS EV0049 NORTH WEST CORNER SECTION 19 T10N R1W. ELEV= 2524.00, NAVD29

BASIS OF BEARING
BASIS TAKEN FROM WESTERLY LINE OF SECTION 19 PER C.S. 7035-1, DATED JULY 1965 BEING N0016'23"W.



Merrell-Johnson Engineering, Inc.
12138 INDUSTRIAL BLVD. #240 VICTORVILLE, CALIFORNIA 92395 (760) 241-6146 (760) 241-0566 FAX

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BUDGET YEAR	SYSTEM MAP NO.	THOMAS GUIDE	SCALE: AS SHOWN	DRWG PREPARED BY: JMF	DATE: 02/23/09
BY: DATE	REVISION	APPROVED BY: DATE	DESIGN BY: JMF	DATE: 02/23/09	FIELD CHECK BY: DATE
PLANS & SPECS. REVIEWED BY:	DATE:	R.C.E. NO.	CONSTRUCTION COMPLETED BY: DATE:	AS BUILT DONE FOR RECORD BY: DATE:	ENT. SYSTEM & WALL MAPS PROCESSED TAX CODE NO.

- CONSTRUCTION NOTES**
- ① 3" MINIMUM SAWCUT
 - ② REMOVE EXISTING END CAP (FIELD VERIFY)
 - ③ INSTALL 12" X 8" REDUCER
 - ④ INSTALL 12" X 45' BEND
 - ⑤ CONSTRUCT 12" PVC C-900 CLASS 200 WATERLINE
 - ⑥ TRENCH REPAIR PER DETAILS AS SHOWN ON SHEET W-4
 - ⑦ INSTALL 12" X 11 1/4' BEND
 - ⑧ INSTALL 12" X 4" TEE
 - ⑨ INSTALL 6" GATE VALVE
 - ⑩ INSTALL 12" BUTTERFLY VALVE
 - ⑪ INSTALL 12" X 6" TEE
 - ⑫ INSTALL 12" TEE
 - ⑬ INSTALL 12" X 6" REDUCER
 - ⑭ INSTALL 12" MJ END CAP

Golden State Water Company
1920 WEST CORPORATE WAY, ANAHEIM, CA 92801
PHONE: (714) 535-7711 FAX: (714) 535-8685
DISTRICT: MOUNTAIN DESERT SYSTEM: BARSTOW

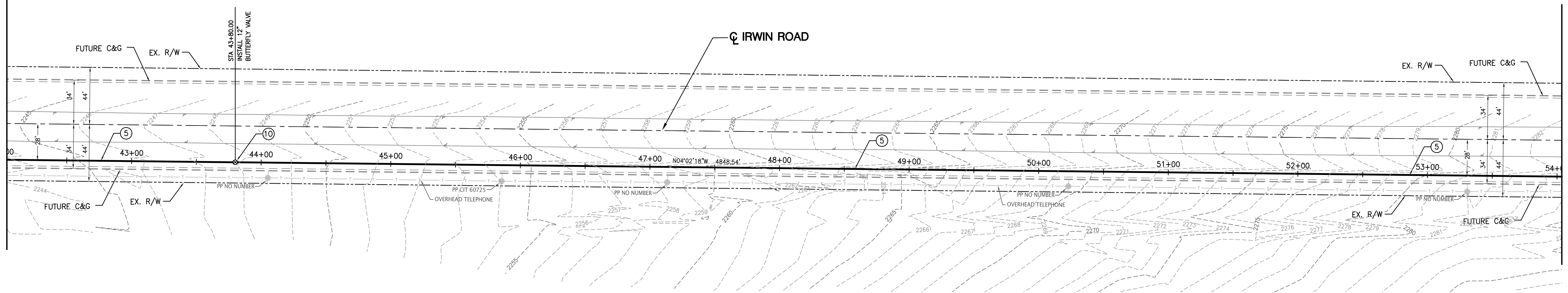
WATER IMPROVEMENT PLANS
IRWIN ROAD
PLAN VIEW STA 9+97 TO STA 42+00

FRANCHISE NUMBER: SHEET W-2 OF W-4
REVIEWED & APPROVED BY: DATE: R.C.E. NO.
AS BUILT REC & LOGGED GWO CLOSED
ENTERED IN DATABASE EST./GWO. 34700515



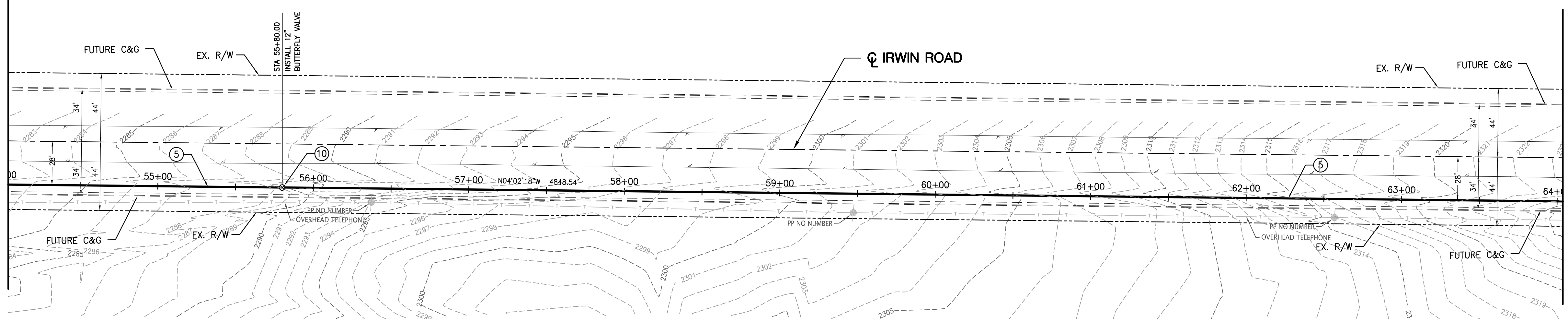
DIGALERT
CALL BEFORE YOU DIG
1-800-422-4133
UNDERGROUND SERVICE ALERT
Call at least 2 working days prior to excavating

MATCHLINE STA 42+00
SEE SHEET W-3



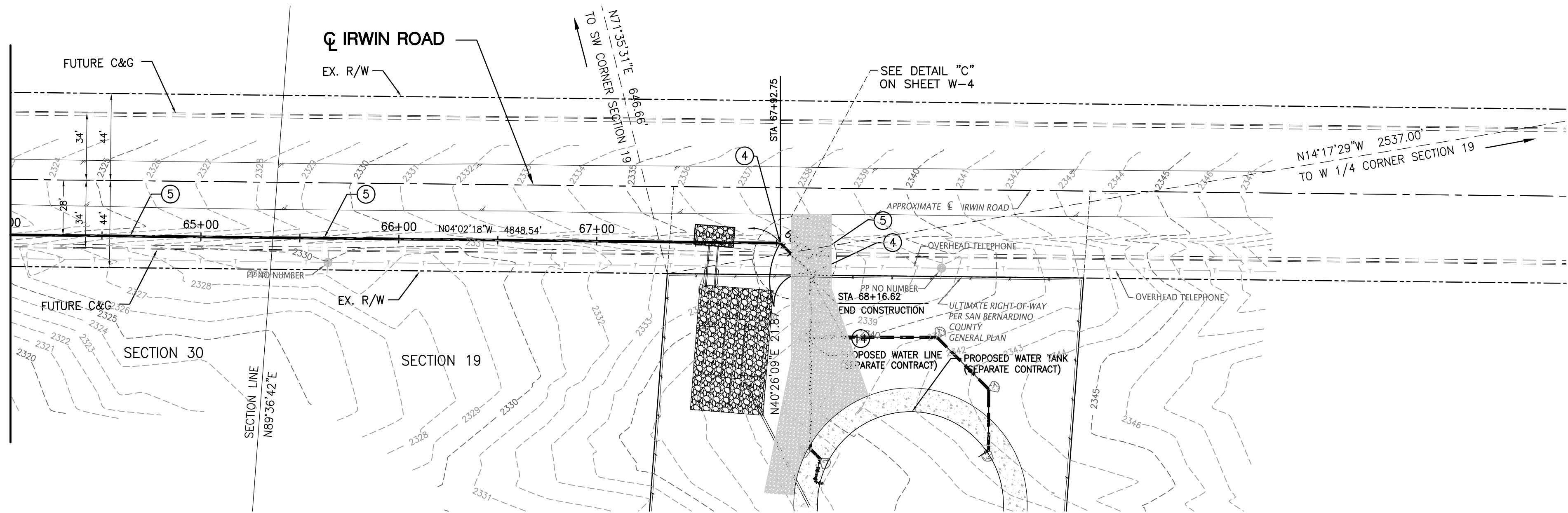
MATCHLINE STA 54+00
SEE LOWER LEFT

MATCHLINE STA 54+00
SEE UPPER RIGHT



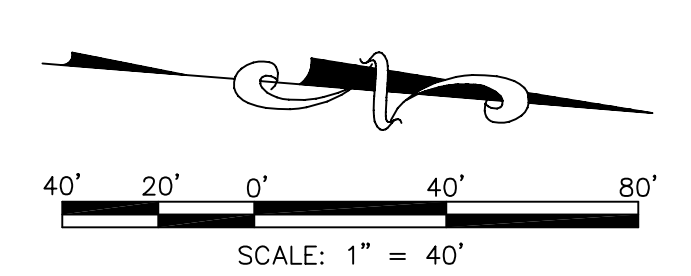
MATCHLINE STA 64+00
SEE LOWER LEFT

MATCHLINE STA 64+00
SEE UPPER RIGHT



CONSTRUCTION NOTES

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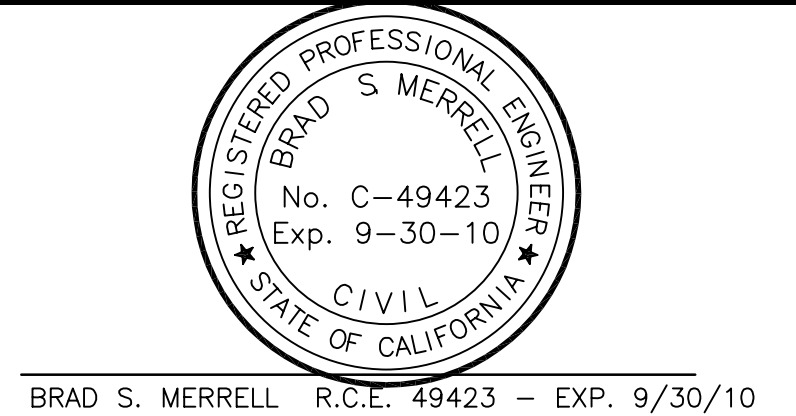


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BUDGET V.D. OR	SYSTEM MAP NO:	THOMAS GUIDE	SCALE: AS SHOWN	DRWG PREPARED BY: JMF	DATE: 02/23/09
BY: DATE	REVISION	APPROVED BY: DATE	DESIGN BY: JMF	DATE: 02/23/09	FIELD CHECK BY: DATE
PLANS & SPECS. REVIEWED BY:	DATE: R.C.E. NO.	CONSTRUCTION BY: DATE	CONSTRUCTION COMPLETED BY: DATE	REVIEWED & APPROVED BY: DATE: R.C.E. NO.	DISTRICT AS-BUILT (REDLINE) BY: DATE
DISTRICT ENG. DATE:	AS BUILT DONE FOR RECORD BY:	ENT. SYSTEM & WALL MAPS BY:	PROCESSED TAX CODE NO.	ENTERED IN DATABASE BY: DATE	AS BUILT REC & LOGGED BY: DATE
				EST./GWO. 34700515	

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DISTRICT: MOUNTAIN DESERT
SYSTEM: BARSTOW

WATER IMPROVEMENT PLANS
IRWIN ROAD
PLAN VIEW STA 42+00 TO STA 68+13.08

FRANCHISE NUMBER: SHEET W-3 OP W-4



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