

WIDEFIELD WATER AND SANITATION DISTRICT

ROLLING HILLS 2MG POTABLE WATER TANK

2019.829.2030
EL PASO COUNTY, COLORADO



FOR CONSTRUCTION

CODE STATEMENT

I. APPLICABLE CODES INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:

- A. INTERNATIONAL BUILDING CODE (2015)
- B. PIKES PEAK REGIONAL BUILDING CODE (2017)
- C. INTERNATIONAL PLUMBING CODE OF THE INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS (LATEST EDITION)
- D. INTERNATIONAL PLUMBING CODE (2015)
- E. INTERNATIONAL FIRE CODE (2015)
- F. INTERNATIONAL MECHANICAL CODE (2015)
- G. NATIONAL ELECTRICAL CODE (2014)
- H. ICC/ANSI 117.1 (2009)
- I. INTERNATIONAL ENERGY CONSERVATION CODE (2015)

II. CODE ABSTRACT:

A. GENERAL INFORMATION:

<p>LOCATION:</p> <p>OWNER:</p> <p>TAX ID #:</p> <p>PROPERTY STATUS:</p> <p>TOTAL BUILDING AREA:</p> <p>BUILDING CONSTRUCTION TYPE</p> <p>EPC SCHEDULE #:</p> <p>PARCEL OWNER:</p>	<p>ADDRESS: TBD</p> <p>COLORADO SPRINGS, CO 80908</p> <p>OVERALL PARCEL: 01-15-65</p> <p>TANK SITE: APPROXIMATELY 2168' SOUTHWEST OF DRENNAN ROAD AND MOCKINGBIRD LANE INTERSECTION</p> <p>WIDEFIELD WATER AND SANITATION DISTRICT</p> <p>19871569515</p> <p>EXEMPT</p> <p>7,620 SF</p> <p>II-B</p> <p>55000-00-385</p> <p>MURRAY FOUNTAIN, LLC</p>
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B. OCCUPANCY TYPE(S):

OCCUPANCY TYPE: N/A

C. OCCUPANCY LOAD CALCULATION:

N/A - UNOCCUPIED STRUCTURE

PARTICIPANTS

OWNER
WIDEFIELD WATER AND SANITATION DISTRICT
8495 FONTAINE BLVD
COLORADO SPRINGS, CO 80925
CONTACT: ROBERT BANNISTER, PE
PHONE: (719) 955-6118

CONSULTING/DESIGN ENGINEER
JDS-HYDRO CONSULTANTS, INC.
5540 TECH CENTER DR, STE 100
COLORADO SPRINGS, CO 80903
CONTACT: GWEN DALL, PE
PHONE: (719) 227-0072

LEGEND

---	EX PROPERTY LINE	====	PP SANITARY SEWER LINE ALIGNMENT
- - -	EX RIGHT-OF-WAY	====	PP WATER LINE ALIGNMENT
-X-	EX FENCE	====	PP CONTOURS-MAJOR
-W-	EX WATER LINE	====	PP CONTOURS-MINOR
-SS-	EX SANITARY SEWER LINE	-X-	PP FENCE
-OHE-	EX O.H. ELECTRIC	---UG---	PP U.G. ELECTRIC LINE
-GAS-	EX U.G. GAS LINE	-----	PP EASEMENT
-----	EX CONTOURS-MAJOR	-----	PP TEMP. CONSTRUCTION EASEMENT
-----	EX CONTOURS-MINOR	-----	PP EROSION CONTROL SILT FENCE
-----	EX EASEMENT	-----	PP EROSION CONTROL EARTHEN BERM
(W)	EX WATER MANHOLE	-----	PP EROSION CONTROL BALES
(G)	EX GAS METER	-----	PP EROSION CONTROL SOCK
⊙	EX UTILITY POLE	-----	PP EROSION CONTROL BLANKET
⊙	BORE HOLE	-----	PP WATER LINE FITTING
•	ELEVATION	-----	PP WATER VALVE
→	FLOW ARROW	-----	PP HYDRANT ASSEMBLY (ISOLATION VALVE INCLUDED)



VICINITY MAP
N.T.S.

PRE-EXCAVATION CHECKLIST

- Gas and Other Utility Lines Shown on Construction Plans
- Utility Notification Center of Colorado (UNCC)--Call at Least Two (2) Business Days Ahead--1-800-922-1987
- Utilities Located & Marked on the Ground
- Employees Briefed on Marking and Color Codes*
- Employees Trained on Excavation and Safety Procedures for Natural Gas Lines
- When Excavation Approaches Gas Lines, Employees must Expose Lines by Careful Probing and Hand-Digging

COLOR CODE FOR MARKING UNDERGROUND UTILITY LINES

WHITE	PROPOSED EXCAVATION
MAGENTA	TEMPORARY SURVEY MARKINGS
RED	ELECTRIC
YELLOW	GAS, OIL, STEAM
ORANGE	COMMUNICATION, CABLE
BLUE	POTABLE WATER
PURPLE	IRRIGATION, RECLAIMED WATER, REVERSE LINES
GREEN	SEWER

UNCC
UTILITY NOTIFICATION CENTER OF COLORADO
3 Days Before You Dig:
Call: 1-800-922-1987
Click: www.UNCC.org

JDS-HYDRO CONSULTANTS, INC.
5540 TECH CENTER DR., SUITE 100
COLORADO SPRINGS, COLORADO 80919
(719) 227-0072

THE PARTIES RESPONSIBLE FOR THIS PLAN HAVE FAMILIARIZED THEMSELVES WITH ALL CURRENT ACCESSIBILITY CRITERIA AND SPECIFICATION AND THE PROPOSED PLAN REFLECTS ALL SITE ELEMENTS REQUIRED BY THE APPLICABLE ADA DESIGN STANDARDS AND GUIDELINES AS PUBLISHED BY THE UNITED STATES DEPARTMENT OF JUSTICE. APPROVAL OF THIS PLAN BY EL PASO COUNTY DOES NOT ASSURE COMPLIANCE WITH THE ADA OR ANY OTHER FEDERAL OR STATE ACCESSIBILITY LAWS OR ANY REGULATIONS OR GUIDELINES ENACTED OR PROMULGATED UNDER OR WITH RESPECT TO SUCH LAWS.

SURVEY DATA

TOPOGRAPHY SURVEY CONDUCTED BY CLARK LAND SURVEYING (DATED 01/24/20). SEE SURVEY FOR ESTABLISHED CONTROL. THE FOLLOWING COORDINATE SYSTEM AND DATUM RECORD IS AS FOLLOWS:

HORIZONTAL DATUM: MODIFIED COLO STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, NORTH AMERICAN DATUM 1983. SCALE FACTOR 1.000321070

VERTICAL DATUM: BASED ON OPUS SOLUTION RAN ON CONTROL POINT #100 (3-1/2" BRASS CAP IN CONCRETE, "EL PASO CALIBRATION BASELINE" "2003"). ELEVATION=5815.45' (NAVD1988)

UTILITIES SHOWN WITHIN THE SURVEY HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION, EXISTING DRAWINGS AND/OR UTILITY LOCATE MARKINGS. THE SURVEYOR NOR ENGINEER MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR AND ENGINEER FURTHER DO NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE.

SIGNATURE BLOCKS

GRADING AND EROSION CONTROL PLAN APPROVALS

ENGINEER'S STATEMENT

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR DETAILED ROADWAY, DRAINAGE, GRADING AND EROSION CONTROL PLANS AND SPECIFICATIONS, AND SAID PLANS AND SPECIFICATIONS ARE IN CONFORMITY WITH APPLICABLE MASTER DRAINAGE PLANS AND MASTER TRANSPORTATION PLANS. SAID PLANS AND SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR ROADWAY AND DRAINAGE FACILITIES ARE DESIGNED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARATION OF THESE DETAILED PLANS AND SPECIFICATIONS.

Gwen Dall 5/11/2021
ENGINEER OF RECORD SIGNATURE DATE

OWNER'S STATEMENT

I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH ALL THE REQUIREMENTS SPECIFIED IN THESE DETAILED PLANS AND SPECIFICATIONS.

Robert Bannister 5/11/2021
OWNER SIGNATURE DATE

EL PASO COUNTY

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT. FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL, AS AMENDED.

IN ACCORDANCE WITH ECM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATED SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTOR'S DISCRETION.

JENNIFER IRVINE, P.E. COUNTY ENGINEER/ECM ADMINISTRATOR DATE

CONSTRUCTION PLAN APPROVALS

DISTRICT APPROVALS

THE WIDEFIELD WATER AND SANITATION DISTRICT RECOGNIZES THE DESIGN ENGINEER AS HAVING RESPONSIBILITY FOR THE DESIGN. THE WIDEFIELD WATER AND SANITATION DISTRICT HAS LIMITED ITS SCOPE OF REVIEW ACCORDINGLY.

WIDEFIELD WATER AND SANITATION DISTRICT DESIGN APPROVAL

Robert Bannister 5/11/2021
BY: DATE:

2019-829-2030
CIP NO.

IN CASE OF ERRORS OR OMISSIONS WITH THE WATER DESIGN AS SHOWN ON THIS DOCUMENT, THE STANDARDS AS DEFINED IN THE "RULES AND REGULATIONS FOR INSTALLATION OF WATER MAINS AND SERVICES" SHALL RULE. APPROVAL EXPIRES 180 DAYS FROM DESIGN APPROVAL.

ENGINEER'S STATEMENT:

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID DETAILS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE APPLICABLE GOVERNING AGENCIES.

Gwen Dall 5/11/2021
GWEN DALL, P.E. #51810 DATE PROJECT NO. 102.121
JDS-HYDRO CONSULTANTS, INC.

GENERAL NOTES

1. ALL UTILITY CONSTRUCTION TO BE CONDUCTED IN CONFORMANCE WITH THE CURRENT WIDEFIELD WATER AND SANITATION DISTRICT SPECIFICATIONS. COMPACTION REQUIREMENTS SHALL BE 95% STANDARD PROCTOR AS DETERMINED BY ASTM D698, UNLESS OTHERWISE APPROVED BY THE WIDEFIELD WATER AND SANITATION DISTRICT OR A HIGHER STANDARD IS IMPOSED BY ANOTHER AGENCY HAVING RIGHT-OF-WAY JURISDICTION. CONTRACTOR IS ALSO REQUIRED TO COMPLY WITH THE REQUIREMENTS OF THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL.
2. ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION BY THE WIDEFIELD WATER AND SANITATION DISTRICT. THE WIDEFIELD WATER AND SANITATION DISTRICT RESERVES THE RIGHT TO ACCEPT OR REJECT ANY SUCH MATERIALS AND WORKMANSHIP THAT DOES NOT CONFORM TO ITS STANDARDS AND SPECIFICATIONS. WIDEFIELD WATER AND SANITATION DISTRICT CONSTRUCTION SPECIFICATIONS MAY BE OBTAINED FROM THEIR WEBSITE: www.wwsdonline.com
3. ALL CARBON STEEL AND DUCTILE IRON PIPE, TO INCLUDE FITTINGS, VALVES AND FIRE HYDRANTS WILL BE WRAPPED WITH POLYETHYLENE TUBING, BONDED AT EACH JOINT AND ELECTRICALLY ISOLATED.
4. ALL CARBON STEEL AND DUCTILE IRON PIPE AND FITTINGS SHALL HAVE CATHODIC PROTECTION USING NO. 6 WIRE WITH 17 LB. MAGNESIUM ANODES EVERY 400 FEET AND 1 LB. MAGNESIUM ANODES AT EVERY FITTING.
5. PVC MAIN LINES SHALL BE INSTALLED WITH COATED NO. 12 TRACER WIRE.
6. THE CONTRACTOR IS REQUIRED TO NOTIFY THE WIDEFIELD WATER AND SANITATION DISTRICT A MINIMUM OF 48 HOURS AND A MAXIMUM OF 96 HOURS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL ALSO NOTIFY WWSA A WEEK IN ADVANCE OF ANY REQUIRED BASIN OR UTILITY SHUTDOWNS.
7. THE LOCATION OF ALL UTILITIES AS SHOWN ON THESE DRAWINGS ARE APPROXIMATE ONLY. THE LOCATION OF ALL UTILITIES SHALL BE VERIFIED PRIOR TO CONSTRUCTION BY THE CONTRACTOR.
8. THE CONTRACTOR SHALL FIELD EXCAVATE AND VERIFY THE VERTICAL AND HORIZONTAL LOCATION OF ALL TIE-INS. CONTRACTOR SHALL NOTIFY THE WIDEFIELD WATER AND SANITATION DISTRICT AND THE ENGINEER OF THE FIELD VERIFIED INFORMATION PRIOR TO CONSTRUCTION.
9. ALL BENDS SHALL BE FIELD STAKED PRIOR TO CONSTRUCTION.
10. ANY WATER UTILITY MATERIAL REMOVED AND NOT REUSED SHALL BE RETURNED TO THE WIDEFIELD WATER AND SANITATION DISTRICT IF THE DISTRICT SO REQUESTS.
11. THE CONTRACTOR SHALL AT HIS EXPENSE SUPPORT AND PROTECT ALL UTILITY MAINS SO THAT THEY WILL FUNCTION CONTINUOUSLY DURING CONSTRUCTION. SHOULD A UTILITY MAIN FAIL AS A RESULT OF THE CONTRACTOR'S OPERATION, IT WILL BE REPLACED IMMEDIATELY BY EITHER THE CONTRACTOR OR THE WIDEFIELD WATER AND SANITATION DISTRICT AT FULL COST OF LABOR AND MATERIALS TO THE CONTRACTOR.
12. CONTRACTOR IS RESPONSIBLE FOR ALL DEWATERING EFFORTS. ANY PUMPING OR BYPASS OPERATIONS MUST BE REVIEWED AND APPROVED PRIOR TO EXECUTION BY BOTH THE WIDEFIELD WATER AND SANITATION DISTRICT AND THE ENGINEER.
13. CONTRACTOR MUST REPLACE OR REPAIR ANY DAMAGE TO ALL SURFACE IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO FENCES, CURB AND GUTTER AND/OR ASPHALT THAT MAY BE CAUSED DURING CONSTRUCTION.
14. ALL SITE UTILITIES AND IMPROVEMENTS SHALL HAVE AS "AS-BUILT" PLANS PREPARED AND APPROVED PRIOR TO FINAL ACCEPTANCE BY THE WIDEFIELD WATER AND SANITATION DISTRICT.
15. PRIOR TO CONSTRUCTION, A PRE-CONSTRUCTION CONFERENCE IS REQUIRED A MINIMUM OF 72 HOURS IN ADVANCE OF COMMENCEMENT OF WORK.
16. EL PASO COUNTY STORMWATER AND/OR EROSION CONTROL PERMITS, CDPHE STORMWATER CONSTRUCTION ACTIVITY AND DEWATERING PERMITS, AND CITY OF COLORADO SPRINGS WORK IN THE R.O.W. PERMIT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN PRIOR TO CONSTRUCTION.
17. ALL MAIN LINES (PVC AND DUCTILE IRON) SHALL BE INSTALLED WITH COATED NO. 12 TRACER WIRE WITH TEST STATIONS EVERY 500 FT.
18. AERIAL BASEMAP IMAGERY, IF DEPICTED HEREIN, IS NOT TO SCALE AND IS SHOWN FOR CONCEPTUAL REFERENCE ONLY.
19. SEE WIDEFIELD WATER AND WASTEWATER SYSTEM STANDARD SPECIFICATIONS FOR ALL GENERAL AND DESIGN STANDARDS/CIVIL DRAWINGS DETAILS.
20. WATER MAIN INSTALLATION:
THE UNIT PRICE SHALL INCLUDE ALL PIPE, PIPE INSTALLATION, TRENCHING, STABILIZATION, AND BEDDING AS SHOWN ON THE TYPICAL DETAIL, DEWATERING, BACKFILL, TRACER WIRE, COMPACTION, CLEAN-UP, REVEGETATION, FLUSHING, TESTING, GRADING AND ALL WORK INCIDENTAL THERTO TO COMPLETE THE WORK AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN.
21. CONTRACTOR IS TO COORDINATE WITH THE RANCHER WHO RUNS CATTLE ON THE PROPERTY TO ENSURE NO CATTLE ARE HARMED DURING CONSTRUCTION.
22. NO WATER FACILITY SHALL BE PLACED IN SERVICE UNTIL AFTER COMPLETION OF ALL PRESSURE TESTING, DISINFECTION, AND COMPACTION TESTING.
23. SUBSURFACE UTILITY ENGINEERING
23.1. UTILITIES ARE DEPICTED ON THESE PLANS IN ACCORDANCE WITH THEIR ACHIEVED "QUALITY LEVELS" AS DEFINED IN THE AMERICAN SOCIETY OF CIVIL ENGINEER'S DOCUMENT ASCE 38, "STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."
23.2. RELIANCE UPON THESE DATA FOR RISK MANAGEMENT PURPOSES DURING BIDDING DOES NOT RELIEVE THE EXCAVATOR OR UTILITY OWNER FROM FOLLOWING ALL APPLICABLE UTILITY DAMAGE PREVENTION STATUTES, POLICIES, AND/OR PROCEDURES DURING EXCAVATION. IT IS IMPORTANT THAT THE CONTRACTOR INVESTIGATES AND UNDERSTANDS THE SCOPE OF WORK BETWEEN THE PROJECT OWNER AND THEIR ENGINEER REGARDING THE SCOPE AND LIMITS OF THE UTILITY INVESTIGATIONS LEADING TO THESE UTILITY DEPICTIONS.
24. DISINFECTION OF FACILITIES
24.1. THE CONTRACTOR SHALL DISINFECT ALL DOMESTIC WATER LINES ACCORDING TO AWWA C651-14 AND TANK ACCORDING TO AWWA C652-11.
24.2. THE CONTRACTOR SHALL COLLECT SAMPLES FROM THE PIPELINE AND TANK AFTER FINAL FLUSHING AND PRIOR TO PLACING FACILITIES IN SERVICE AND TEST FOR COLIFORM ORGANISMS. THE NUMBER AND FREQUENCY OF SAMPLES SHALL CONFORM WITH THE REQUIREMENTS OF THE PUBLIC HEALTH AGENCY HAVING JURISDICTION.
24.3. REPEAT DISINFECTION UNTIL SATISFACTORY SAMPLES HAVE BEEN OBTAINED IF INITIAL OR SUBSEQUENT DISINFECTION FAILS TO PRODUCE SATISFACTORY SAMPLES

SHEET INDEX

SHEET NUMBER	DESCRIPTION	SHEET NUMBER	DESCRIPTION
	COVER SHEET		
<u>GENERAL</u>		<u>STRUCTURAL</u>	
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G3	FEMA FLOODPLAIN MAP	S3	DOVE APPURTENANCE LAYOUT
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		S5	STRUCTURAL DETAILS
C1	VICINITY MAP	S6	STRUCTURAL DETAILS
C2	OVERALL SITE PLAN	S7	STRUCTURAL DETAILS
C3	SITE DEVELOPMENT PLAN	S8	STRUCTURAL DETAILS
C4	TANK INLET & DRAIN PLAN & PROFILE	S9	STRUCTURAL DETAILS
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C6	TANK CIVIL DETAILS	S11	STRUCTURAL DETAILS
C7	ACCESS ROAD PLAN & SECTION VIEW		
C8	ACCESS ROAD CIVIL DETAILS		
C9	DRAINAGE BASIN PLAN & PROFILE		
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C11	GRADING & EROSION CONTROL PLAN		
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C16	LANDSCAPE PLAN		
C17	LANDSCAPE DETAILS		
C18	LANDSCAPE NOTES		

ABBREVIATIONS

WWSA VA PPNC RHBPS SDS PP EX SCH STA FNPT MNPT FL FH TB MJ BV GV SOV RED	WIDEFIELD WATER AND SANITATION DISTRICT VETERANS AFFAIRS PIKES PEAK NATIONAL CEMETERY ROLLING HILLS BOOSTER PUMP STATION SOUTHERN DELIVERY SYSTEM PROPOSED EXISTING SCHEDULE STATION FEMALE NATIONAL PIPE THREAD MALE NATIONAL PIPE THREAD FLANGE FIRE HYDRANT THRUST BLOCK MECHANICAL JOINT BUTTERFLY VALVE GATE VALVE SIDE OPERATED VALVE REDUCER
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WIDEFIELD WATER AND SANITATION DISTRICT

ROLLING HILLS 2MG POTABLE WATER TANK

GENERAL NOTES

NO.	DESCRIPTION	BY	APP.	DATE
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FOR CONSTRUCTION



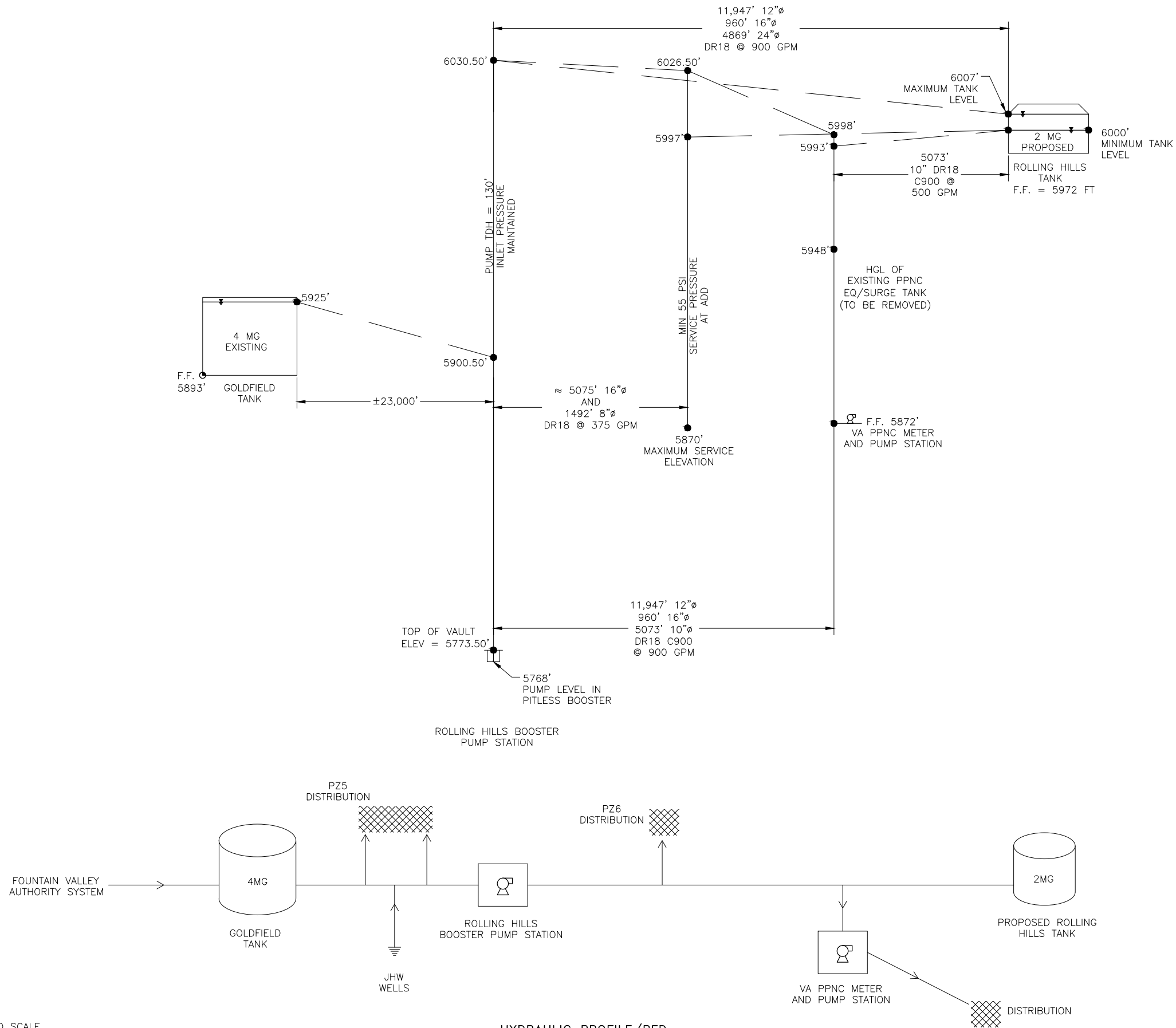
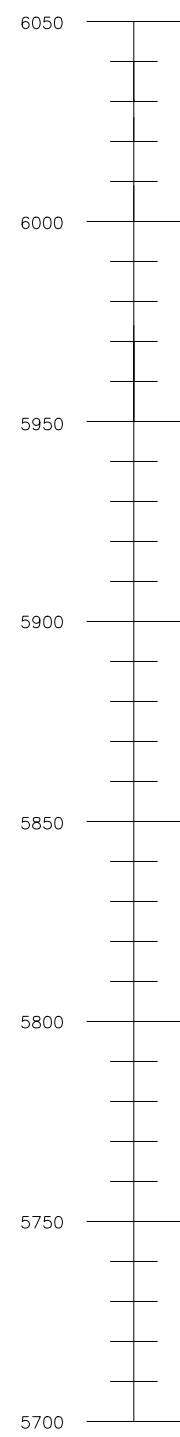
Project No.: 102.121
 Date: 05/06/21
 Design: GJD
 Drawn: SNW
 Check: JPM

G1

SHEET 1 OF 32

JDS-HYDRO CONSULTANTS, INC.
 5640 TECH CENTER DR., SUITE 100
 COLORADO SPRINGS, COLORADO 80919
 (719) 227-0072
DISCLAIMER: THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO JDS-HYDRO CONSULTANTS, INC. JDS-HYDRO ASSUMES NO LIABILITY FOR UNAUTHORIZED CHANGES AND/OR REVISIONS MADE TO PLANS.

2021/05/06 8:59 AM By: Shelby West j:\JDS-Hydro\Project Files\102 Widefield Water And San\102.121 Rolling Hills Tank\Drawings\Working\102121_Hydraulic_Profile.dwg



NOTE:
HORIZONTAL DISTANCES NOT TO SCALE

JDS-HYDRO CONSULTANTS, INC.
5540 TECH CENTER DR., SUITE 100
COLORADO SPRINGS, COLORADO 80919
(719) 227-0072

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WIDEFIELD WATER AND SANITATION DISTRICT
ROLLING HILLS 2MG POTABLE WATER TANK
HYDRAULIC PROFILE/PFD

NO.	DESCRIPTION	BY	APP.	DATE
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FOR CONSTRUCTION



Project No.: 102.121
Date: 05/06/21
Design: GJD
Drawn: SNW
Check: JPM

NOTE:
SEE FIRM 08041C07090G (12/07/08)
REVALIDATIONS PER FEMA.GOV



LEGEND

- SPECIAL FLOOD HAZARD AREAS (SFHAS) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD
- ZONE AE Base Flood Elevations determined.
- FLOODWAY AREAS IN ZONE AE
- Floodway boundary
- Base Flood Elevation line and value; elevation in feet*
- Cross section line

MAP SCALE 1" = 1000'

300 0 1000 2000 FEET
300 0 300 600 METERS

NFP PANEL 0790G

FIRM
FLOOD INSURANCE RATE MAP
EL PASO COUNTY,
COLORADO
AND INCORPORATED AREAS

PANEL 790 OF 1300
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
COLORADO SPRINGS, CITY OF	080000	0790	G
EL PASO COUNTY	080000	0790	G

Notice to User: The Map Number shown below should be used when placing map orders. The Community Number shown above should be used on insurance applications by the subject community.

MAP NUMBER
08041C0790G

MAP REVISED
DECEMBER 7, 2018

Federal Emergency Management Agency

JDS-HYDRO CONSULTANTS, INC.
5640 TECH CENTER DR., SUITE 100
COLORADO SPRINGS, COLORADO 80919
(719) 227-0072

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WIDEFIELD WATER AND SANITATION DISTRICT
ROLLING HILLS 2MG POTABLE WATER TANK
FEMA FLOODPLAIN MAP

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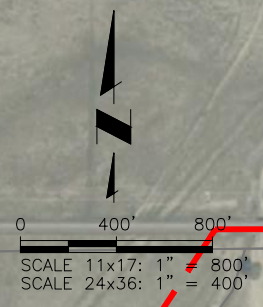
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2021/05/06 8:59 AM By: Shelby West j:\JDS-Hydro\Project Files\102 Widefield Water And San\102.121 Rolling Hills Tank\Drawings\Working\102121_FEMA.dwg

2021/05/06 9:00 AM By: Shelby West j:\JDS-Hydro\Project Files\102_Widefield Water And San\102.121 Rolling Hills Tank\Drawings\Exhibits\102121_Tank_Site.dwg



ADJACENT PROPERTY
SCHEDULE #: 540000150
OWNER: COLORADO CENTRE METRO DISTRICT
LOCATION: DRENNAN RD

ADJACENT PROPERTY
SCHEDULE #: 540000253
OWNER: BLH NO 1 LLC
LOCATION: DRENNAN RD

ADJACENT PROPERTY
SCHEDULE #: 540000254
OWNER: BLH NO 1 LLC
LOCATION: DRENNAN RD

ADJACENT PROPERTY
SCHEDULE #: 5436001028
OWNER: WESLEY & ANGELA GUIER
LOCATION: 3475 LONE FEATHER DR

ADJACENT PROPERTY
SCHEDULE #: 4500000111
OWNER: ELLICOTT FIRE PROTECTION DIST
LOCATION: 3525 S MERIDIAN RD

ADJACENT PROPERTY
SCHEDULE #: 5436003026
OWNER: LONNIE & PATRICIA COLE
LOCATION: 3420 LONE FEATHER DR

ADJACENT PROPERTY
SCHEDULE #: 5436003025
OWNER: LONNIE & PATRICIA COLE
LOCATION: 3480 LONE FEATHER DR

ADJACENT PROPERTY
SCHEDULE #: 4500000110
OWNER: JOSEPH SR & DEE GRAVES
LOCATION: 3875 HAMMER RANCH RD

ADJACENT PROPERTY
SCHEDULE #: 4500000115
OWNER: ANN RUSH
LOCATION: 3870 HAMMER RANCH RD

ADJACENT PROPERTY
SCHEDULE #: 4500000088
OWNER: JOAN TEAKELL
LOCATION: 3955 S MERIDIAN RD

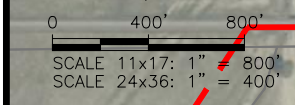
ADJACENT PROPERTY
SCHEDULE #: 4500000095
OWNER: RICKY & TRACY EDWARDS
LOCATION: 4343 S MERIDIAN RD

ADJACENT PROPERTY
SCHEDULE #: 5500000324
OWNER: BULL HILL LLC
LOCATION: 12-15-65

ADJACENT PROPERTY
SCHEDULE #: 4500000125
OWNER: BJ RANCHES LLC
LOCATION: BRADLEY RD

ADJACENT PROPERTY
SCHEDULE #: 5500000384
OWNER: UNITED STATES OF AMERICA
LOCATION: 10545 DRENNAN RD

ADJACENT PROPERTY
SCHEDULE #: 5500000408
OWNER: BLH NO 2 LLC
LOCATION: 10783 BRADLEY RD



DRENNAN ROAD

WIDEFIELD WATER AND SANITATION DISTRICT SERVICE AREA BOUNDARY

ACCESS ROAD EASEMENT RECEPTION #221036967

TANK SITE EASEMENT 3.472 ACRES RECEPTION #221036966

PARCEL CONTAINING EASEMENT FOR SITE SCHEDULE #: 5500000385 OWNER: MURRAY FOUNTAIN, LLC LOCATION: 01-15-65

SEC. 2, T15S, R65W

SEC 2, T15S, R65W
SEC 11, T15S, R65W

SEC 1, T15S, R65W
SEC 12, T15S, R65W

SEC 12, T15S, R65W
SEC 11, T15S, R65W

BRADLEY ROAD

EXISTING WATERLINE

EXISTING HYDRANT

PROPOSED HYDRANT

PROPOSED PIPELINE BY OTHERS

PROPOSED HYDRANT

PROPOSED HYDRANT

1012'

1224'

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 (719) 227-0072

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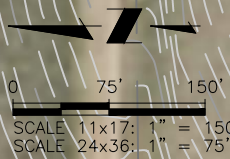
WIDEFIELD WATER AND SANITATION DISTRICT
 ROLLING HILLS 2MG POTABLE WATER TANK
 VICINITY MAP

NO.	DESCRIPTION	BY	APP.	DATE
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FOR CONSTRUCTION



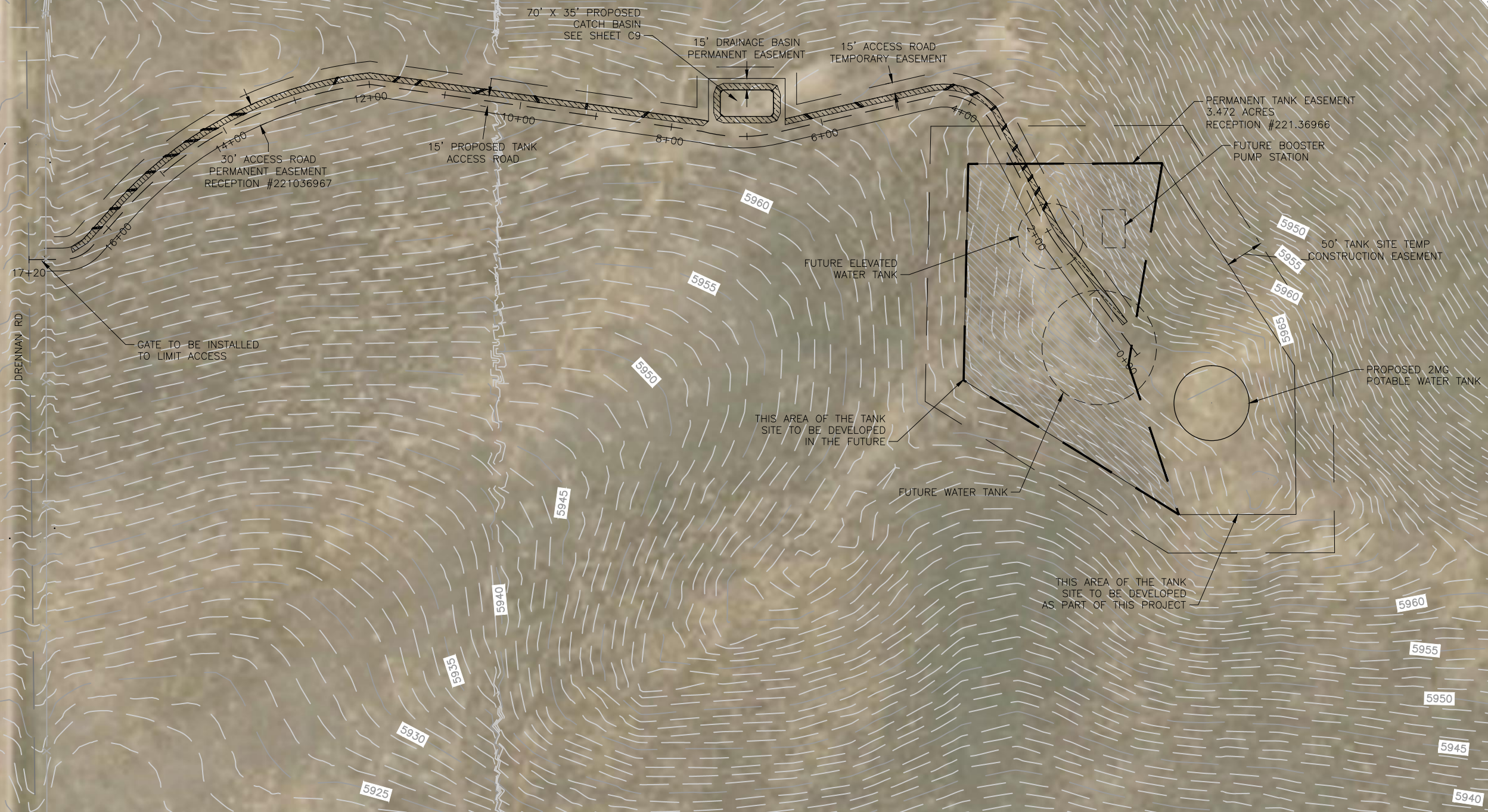
Project No.: 102.121
 Date: 05/06/21
 Design: GJD
 Drawn: SNW
 Check: JPM



NOTE:

1. AERIAL IMAGERY IS NOT ACCURATELY SCALED AND SHOULD BE UTILIZED FOR REFERENCE ONLY (SOURCE: CITE IMAGE DATE HERE IF AVAILABLE)
2. VERTICAL AND HORIZONTAL DATUM IS MODIFIED STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, NORTH AMERICAN DATUM, 1983.

SCHEDULE #: 5500000385
 OWNER: MURRAY FOUNTAIN LLC
 LOCATION: 01-15-65



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WIDEFIELD WATER AND SANITATION DISTRICT
 ROLLING HILLS 2MG POTABLE WATER TANK
 OVERALL SITE PLAN

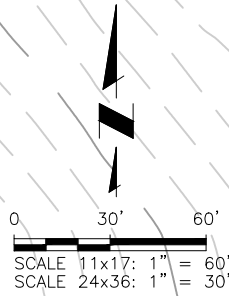
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FOR CONSTRUCTION



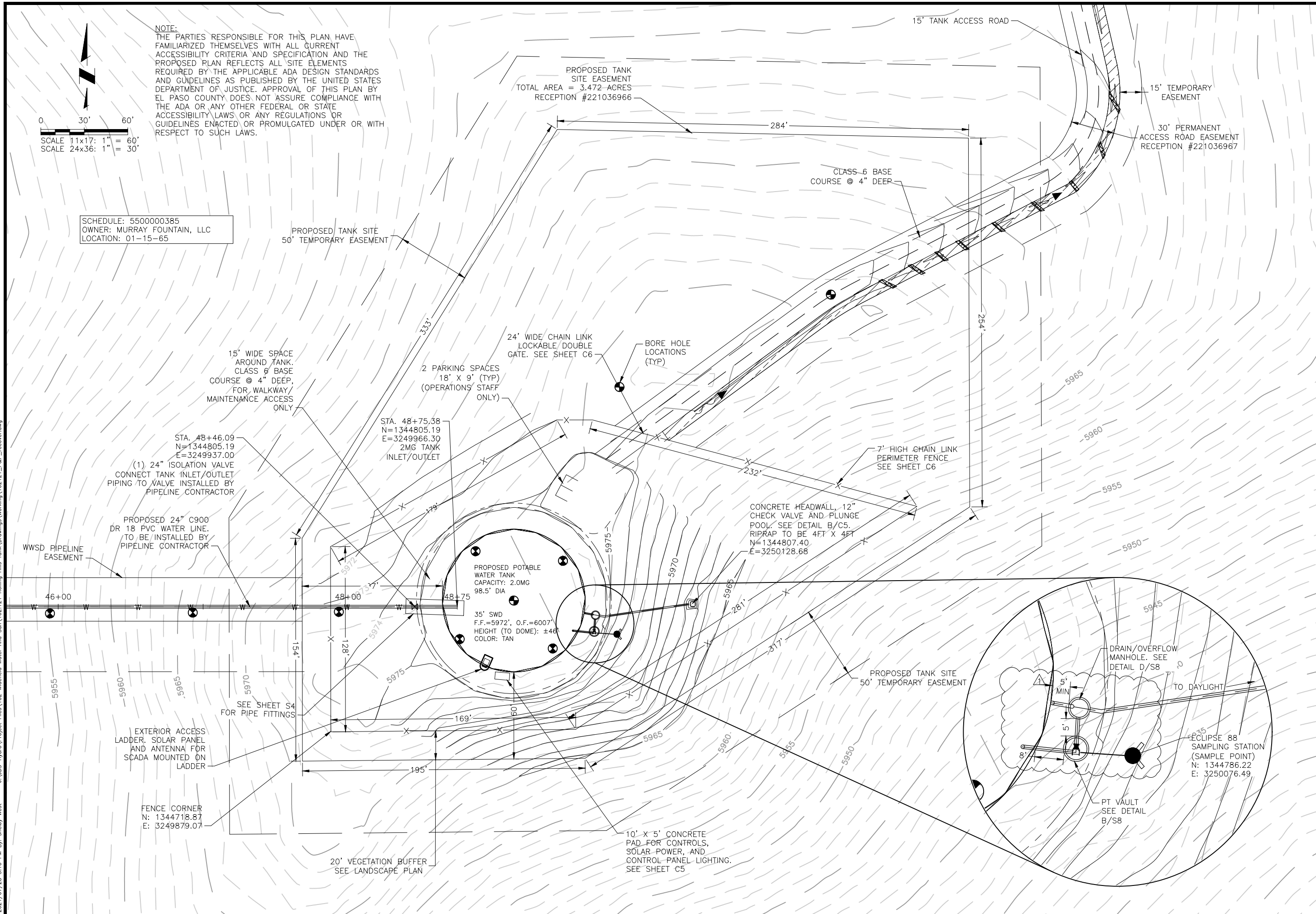
Project No.: 102.121
 Date: 05/06/21
 Design: GJD
 Drawn: SNW
 Check: JPM

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NOTE:
 THE PARTIES RESPONSIBLE FOR THIS PLAN HAVE FAMILIARIZED THEMSELVES WITH ALL CURRENT ACCESSIBILITY CRITERIA AND SPECIFICATION AND THE PROPOSED PLAN REFLECTS ALL SITE ELEMENTS REQUIRED BY THE APPLICABLE ADA DESIGN STANDARDS AND GUIDELINES AS PUBLISHED BY THE UNITED STATES DEPARTMENT OF JUSTICE. APPROVAL OF THIS PLAN BY EL PASO COUNTY DOES NOT ASSURE COMPLIANCE WITH THE ADA OR ANY OTHER FEDERAL OR STATE ACCESSIBILITY LAWS OR ANY REGULATIONS OR GUIDELINES ENACTED OR PROMULGATED UNDER OR WITH RESPECT TO SUCH LAWS.

SCHEDULE: 5500000385
 OWNER: MURRAY FOUNTAIN, LLC
 LOCATION: 01-15-65



JDS-HYDRO CONSULTANTS, INC.
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WIDEFIELD WATER AND SANITATION DISTRICT
 ROLLING HILLS 2MG POTABLE WATER TANK
 SITE DEVELOPMENT PLAN

NO.	DESCRIPTION	BY	APP.	DATE
1	VAULT PLACEMENT	SNW	GJD	07/27/21
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FOR CONSTRUCTION

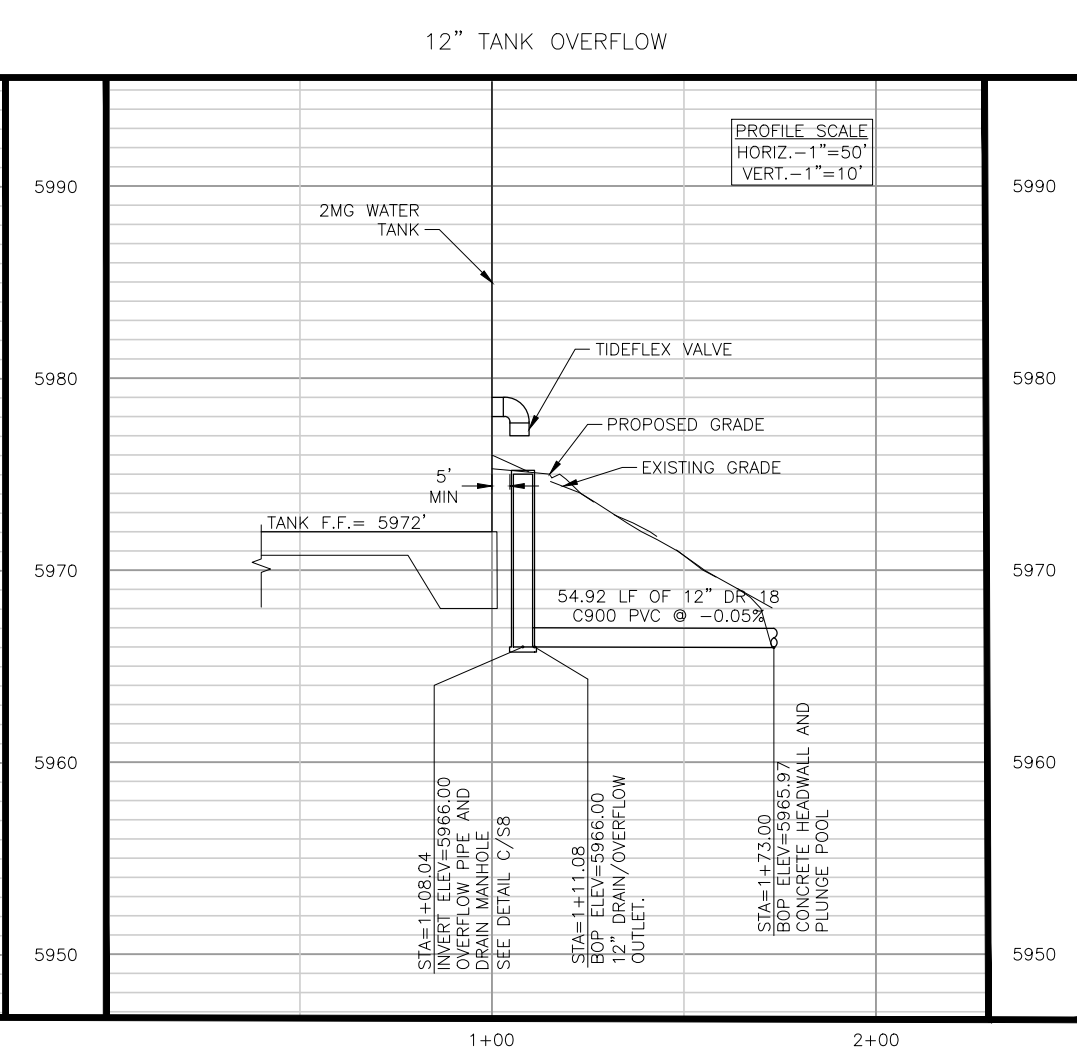
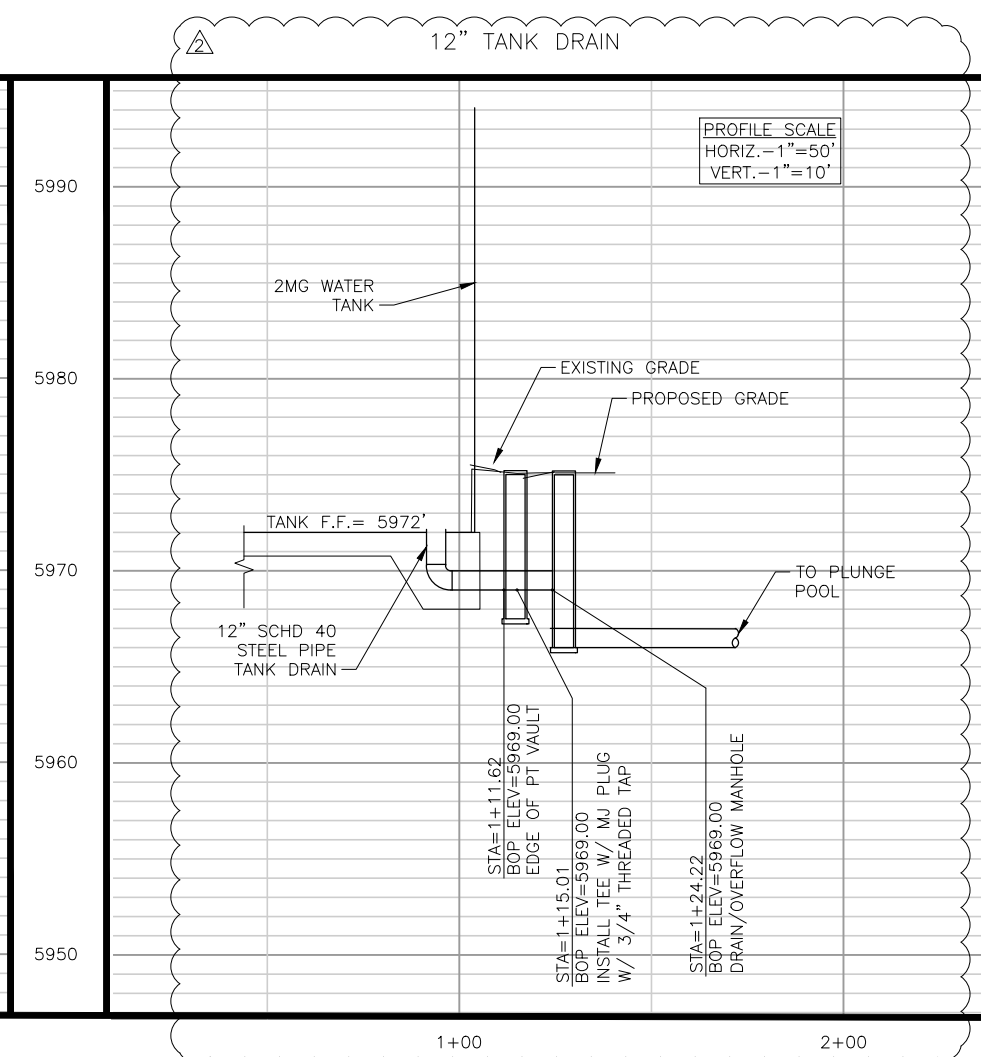
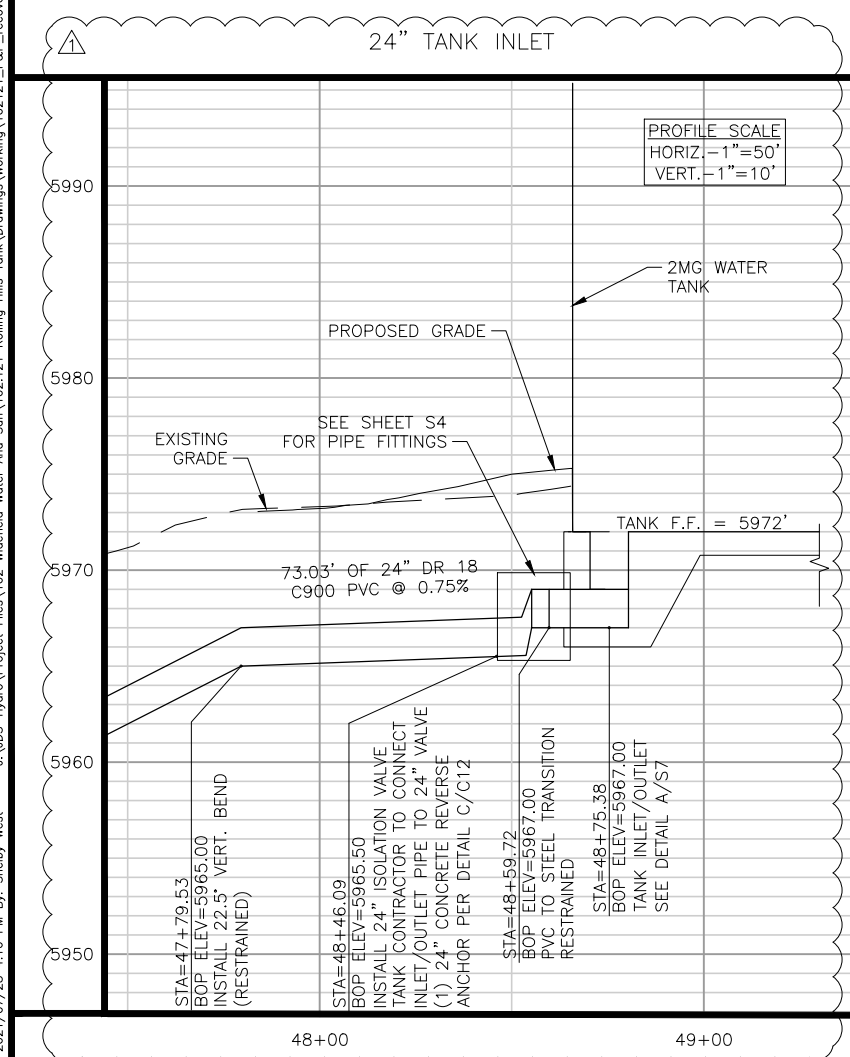
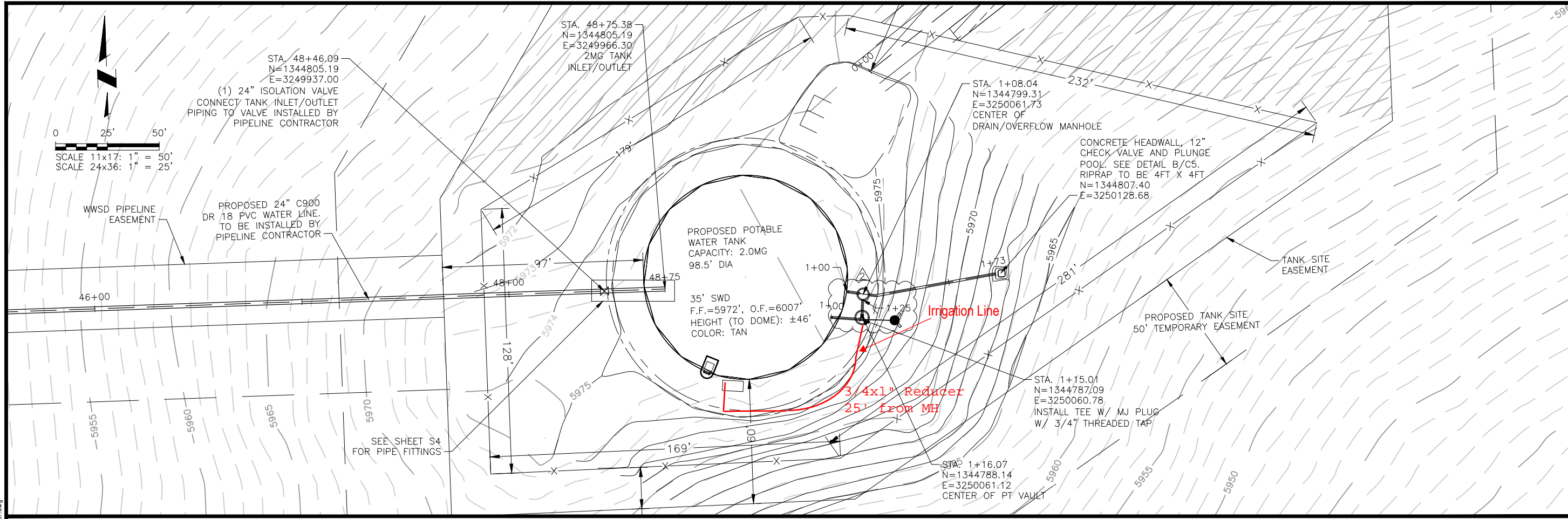


Project No.: 102.121
 Date: 05/06/21
 Design: GJD
 Drawn: SNW
 Check: JPM

C3
 SHEET 6 OF 32

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2021/07/28 4:16 PM By: Shelby West J:\JDS-Hydro-Project_Files\102 Widefield Water And San\102.121 Rolling Hills Tank\Drawings\Working\102121_P&P_recover.dwg



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WIDEFIELD WATER AND SANITATION DISTRICT
 ROLLING HILLS 2MG POTABLE WATER TANK
 TANK INLET, DRAIN, AND OVERFLOW PLAN AND PROFILE

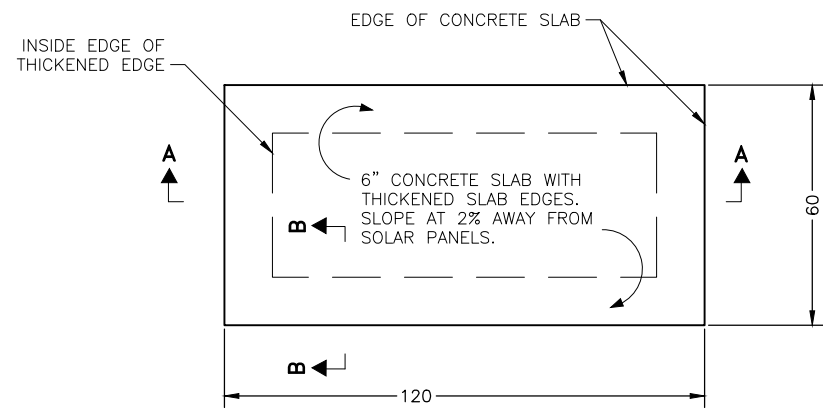
NO.	DESCRIPTION	BY	APP.	DATE
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2	VAULT PLACEMENT	SNW	GJD	07/27/21
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FOR CONSTRUCTION

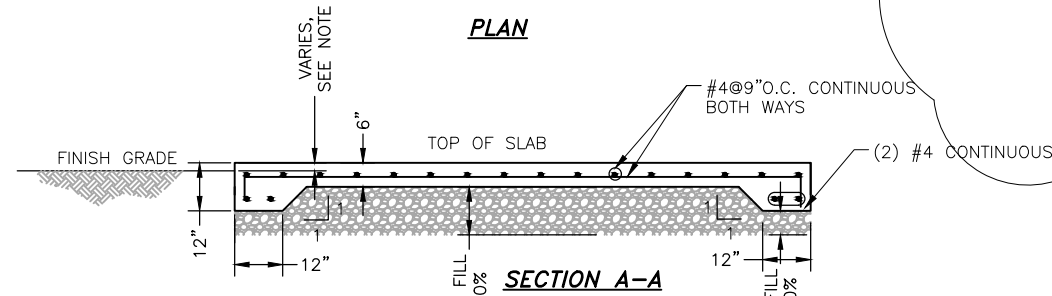
COLORADO LICENSED
 PROFESSIONAL ENGINEER
 JOSHUA JOYCE
 0051810

Project No.: 102.121
 Date: 05/06/21
 Design: GJD
 Drawn: SNW
 Check: JPM

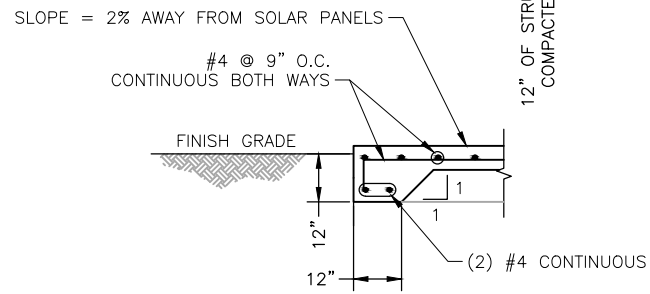
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PLAN

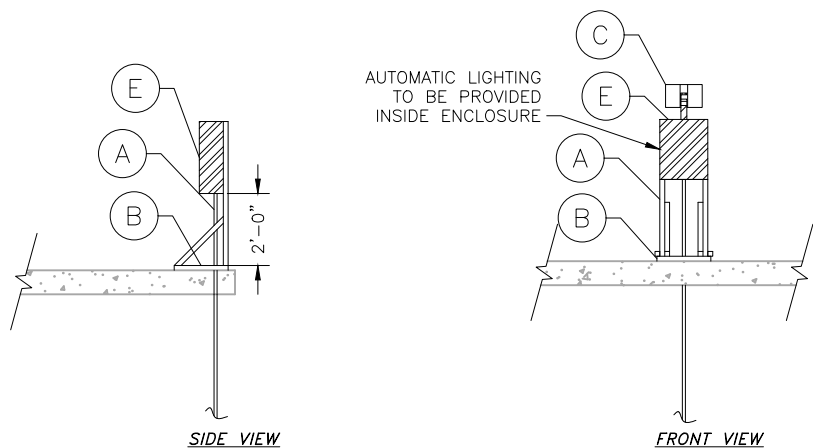


SECTION A-A



SECTION B-B

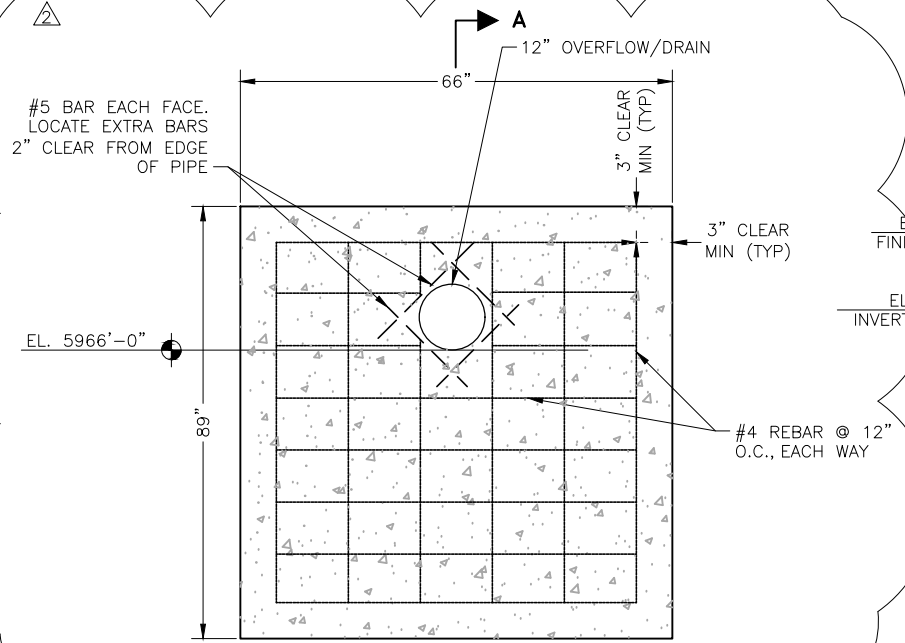
A ELECTRICAL AND CONTROLS PAD DETAIL
C5 SCALE: 1/4" = 1'-0"



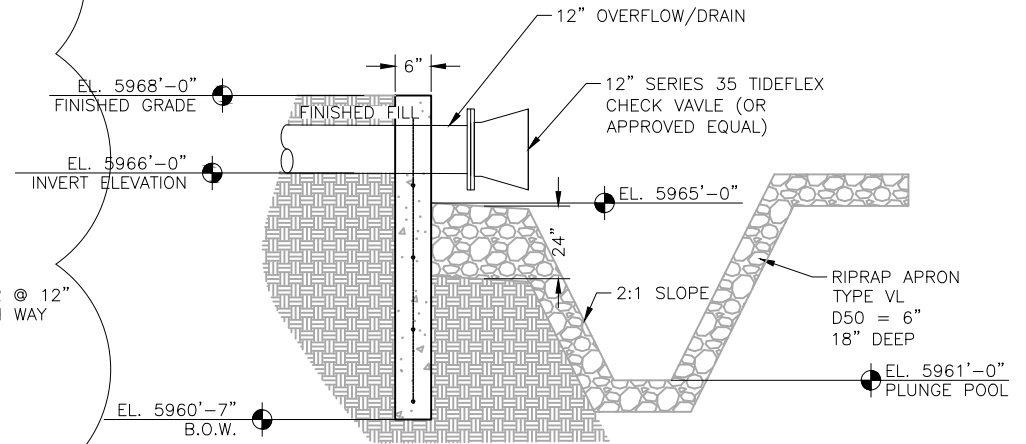
C SOLAR PANEL/RTU
C5 SCALE: N.T.S.

NOTE:
SOLAR PANEL AND ANTENNA TO BE MOUNTED ON TOP OF TANK ON LADDER/HANDRAIL

SOLAR PANEL/RTU SCHEDULE	
A	1" ELECTRICAL CONDUIT
B	1-3/8" 12 GAUGE UNISTRUT STANCHION
C	SOLAR PANEL INCLUDING BATTERY AND CHARGE CONTROLLER
D	ANTENNA - TO BE MOUNTED ON TANK LADDER
E	NEMA TYPE 4 ENCLOSURE WITH MOUNTING PANEL



B CONCRETE HEADWALL AND PLUNGE POOL
C5 SCALE: N.T.S.



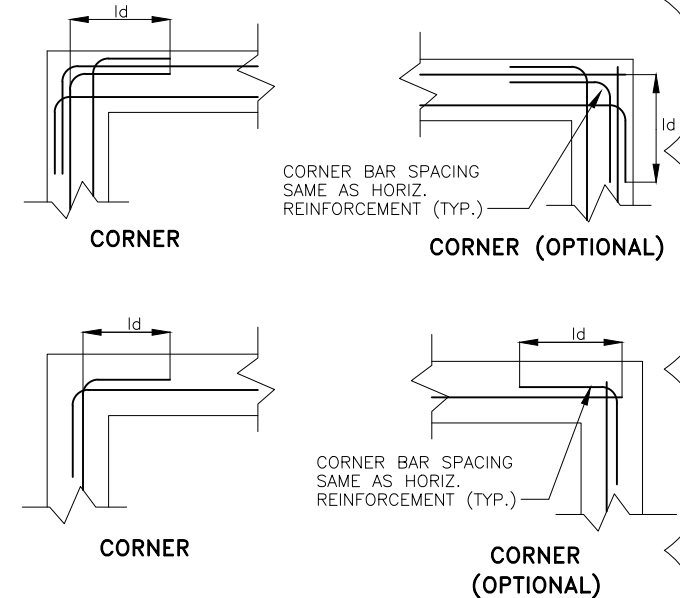
SECTION A-A

SPLICE AND DEVELOPMENT LENGTHS

	WALLS AND SLABS				
	LENGTH OF LAPPED SPLICES FOR REINF. (INCHES)		LENGTH OF END ANCHORAGE FOR DEVELOPMENT OF REINFORCEMENT (INCHES)		
	¹ HOR. BARS	² OTHERS	¹ HOR. BARS	² OTHERS	HOOKS
3	21	16	16	13	6
4	28	22	22	17	8
5	35	27	27	21	10
6	42	32	32	25	12
7	63	48	48	37	14
8	117	90	63	49	16
9	149	114	80	62	18
10	189	145	102	78	20
11	232	178	178	137	22
12	-	-	243	187	38
13	-	-	356	274	50

NOTES:

- HORIZONTAL BARS IN THIS COLUMN MUST HAVE A MINIMUM OF 12" OF CONCRETE THICKNESS BELOW THE BAR. HORIZONTAL BARS IN WALLS ARE ALSO SUBJECT TO THESE STANDARDS
- VERTICAL BARS AND HORIZONTAL BARS WITH LESS THAN 12" OF CONCRETE THICKNESS BELOW THE BAR CAN BE CONSIDERED AS "OTHER BARS"
- STRAIGHT BARS SIZE 7 THROUGH 11 PLACED WITH NO LESS THEN 5 BAR DIAMETER CLEAR SPACING MAY HAVE A DEVELOPMENT LENGTH AND LAP SPLICE LENGTH OF 0.8 TIMES THE LENGTH SHOWN



- NOTES:**
- ALL BENDS SHALL BE 90° HOOKS UNLESS OTHERWISE SPECIFIED IN DRAWING.
 - ld= BAR LAP SPLICE SHALL MEET ACI 318 REQUIREMENTS.

D CONCRETE PAD
C5 SCALE: N.T.S.

WIDEFIELD WATER AND SANITATION DISTRICT

ROLLING HILLS 2MG POTABLE WATER TANK

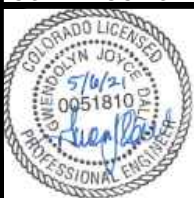
TANK CIVIL DETAILS

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COLORADO SPRINGS, COLORADO 80919
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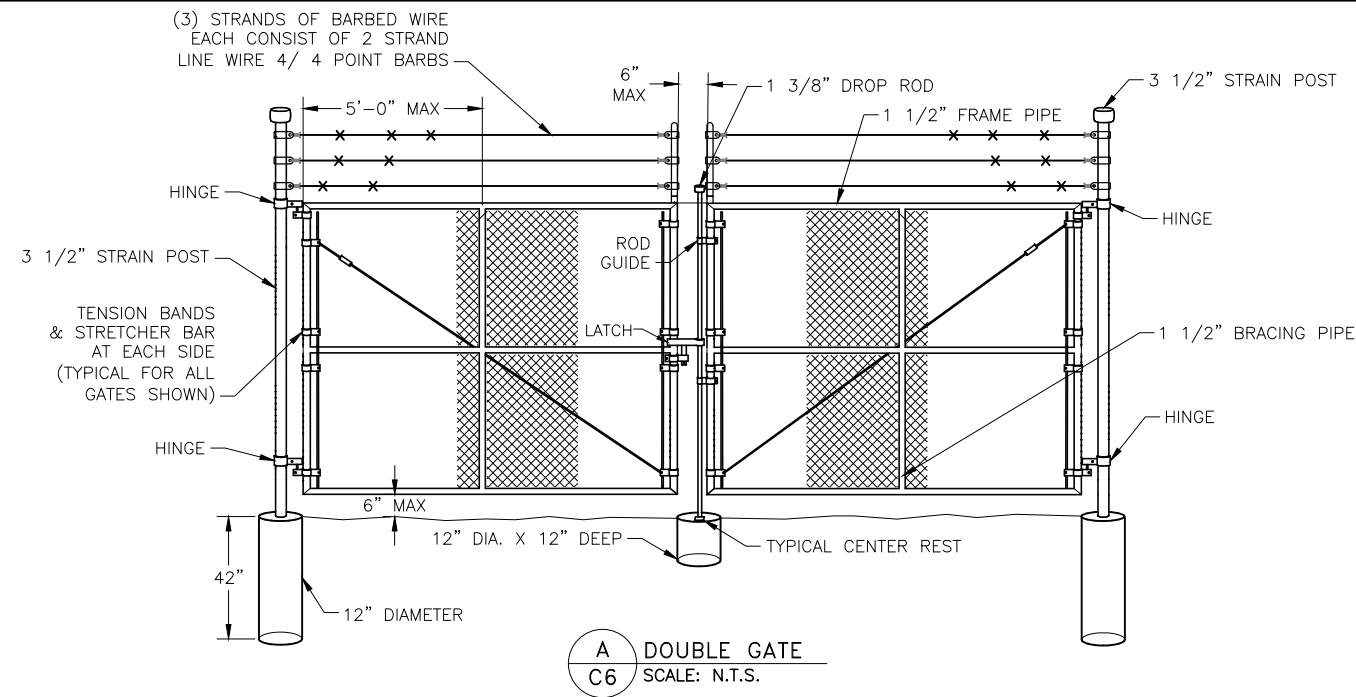
DISCLAIMER: THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO JDS-HYDRO CONSULTANTS, INC. JDS-HYDRO ASSUMES NO LIABILITY FOR UNAUTHORIZED CHANGES AND/OR REVISIONS MADE TO PLANS.

NO.	DESCRIPTION	BY		DATE	
		APP.	DATE	APP.	DATE
1	DETAIL ADDED	SNW	GJD	07/08/21	
2	HEADWALL REVISION	SNW	GJD	08/18/21	
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4					
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FOR CONSTRUCTION

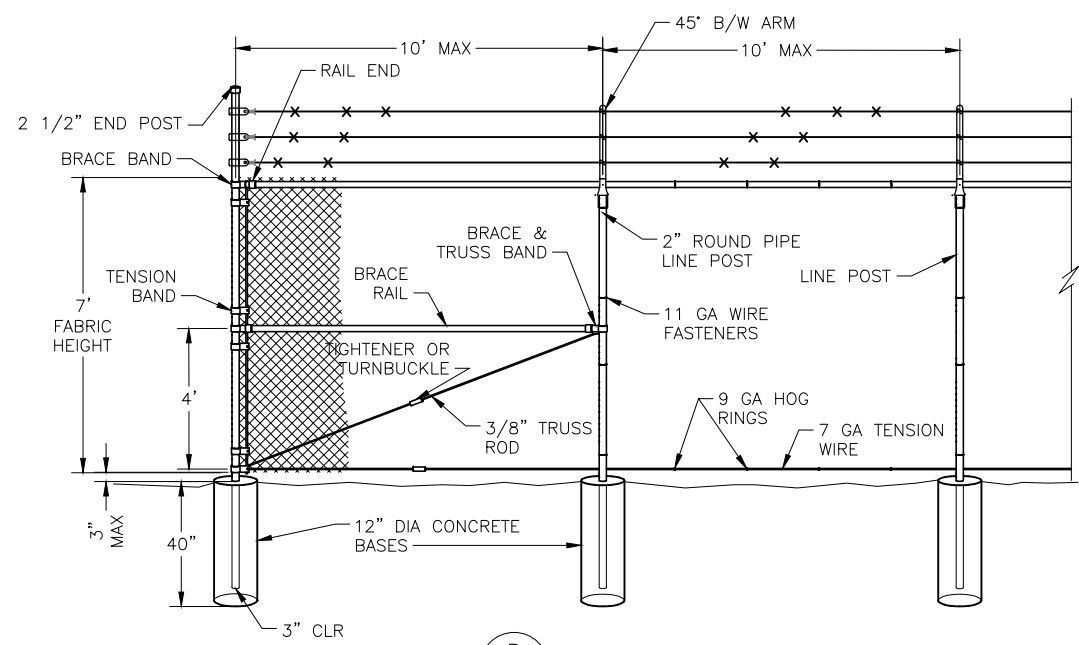


Project No.: 102.121
Date: 05/06/21
Design: GJD
Drawn: SNW
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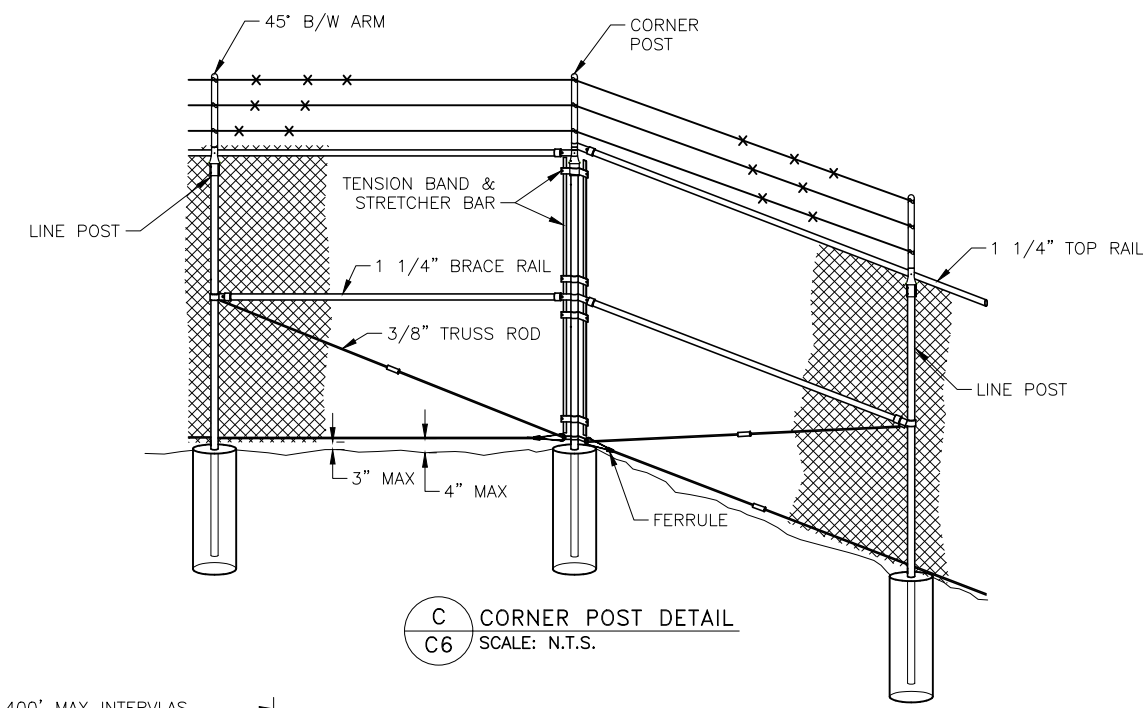


A DOUBLE GATE
C6 SCALE: N.T.S.

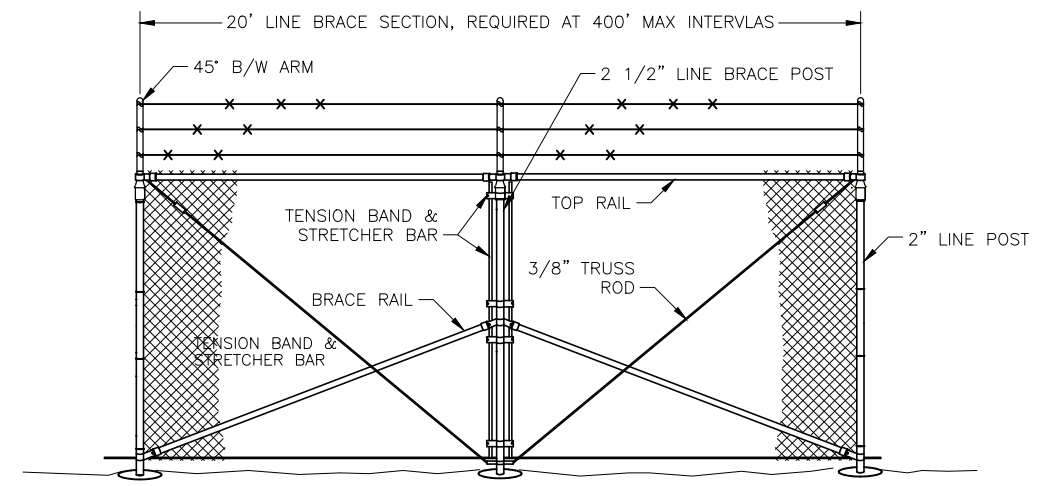
- NOTES:**
1. CHAIN LINK FENCE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 181.
 2. CHAIN LINK FABRIC SHALL BE 2" MESH NO. 9 GAGE GALVANIZED OR ALUMINUM COATED WIRE SECURELY FASTENED TO TENSION WIRE, LINE POSTS, RAILS, BRACES AND STRETCHER BARS SPACED AS SHOWN HEREON. WIRE FASTENERS AND TIE CLIPS SHALL BE NO. 11 GAGE (W&M) GALVANIZED STEEL WIRE OR NO. 7 GAGE (B&S) ALUMINUM WIRE, AND HOG RINGS SHALL BE NO. 9 GAGE, ALL IN CONFORMANCE WITH ASTM F 626.
 3. STEEL POSTS, RAILS AND GATE FRAMES SHALL CONFORM TO AASHTO M 181 TYPE 1, GRADE 1, OR GRADE 2.
 4. TENSION WIRE SHALL BE CONTINUOUS BETWEEN END OR CORNER POST AND LINE BRACE POST. A TURNBUCKLE OR OTHER APPROVED TIGHTENING DEVICE SHALL BE USED FOR EACH CONTINUOUS SPAN OF TENSION WIRE.
 5. TENSION WIRE SHALL BE AS SPECIFIED IN AASHTO M 181.
 6. CONCRETE FOOTINGS SHALL HAVE TOPS CROWNED AT GROUND LEVEL AND SHALL BE CLASS A, AX, OR B.
 7. CHAIN LINK FABRIC OVER 5 FEET HIGH SHALL BE TWISTED AND BARBED ON THE TOP SELVAGE AND KNUCKLED ON THE BOTTOM SELVAGE.
 8. ATTACH FABRIC TO ALL FENCE AND GATE STRUCTURES AT 12" INTERVALS VERTICALLY AND AT 20" HORIZONTALLY.



B END POST DETAIL
C6 SCALE: N.T.S.



C CORNER POST DETAIL
C6 SCALE: N.T.S.



D LINE BRACE POST DETAIL
C6 SCALE: N.T.S.

2021/05/06 9:01 AM By: Shelby West J:\JDS-Hydro\Project Files\102 Widefield Water And San\102.121 Rolling Hills Tank\Drawings\Working\102121_Civil_Details.dwg

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WIDEFIELD WATER AND SANITATION DISTRICT
ROLLING HILLS 2MG POTABLE WATER TANK
TANK CIVIL DETAILS

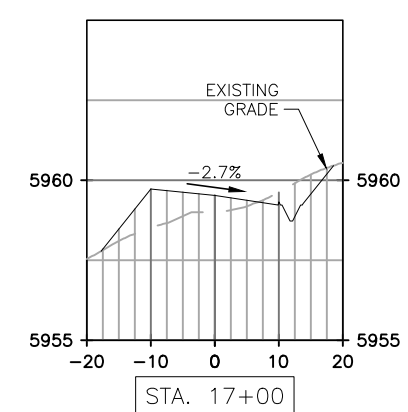
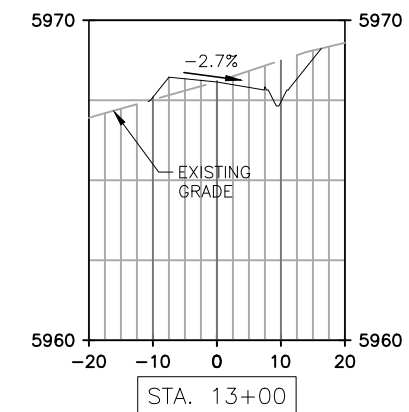
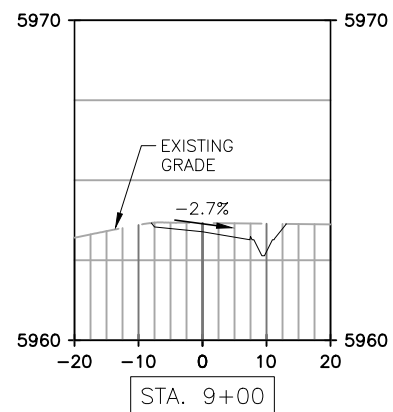
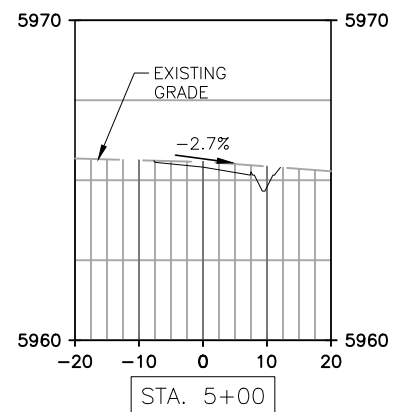
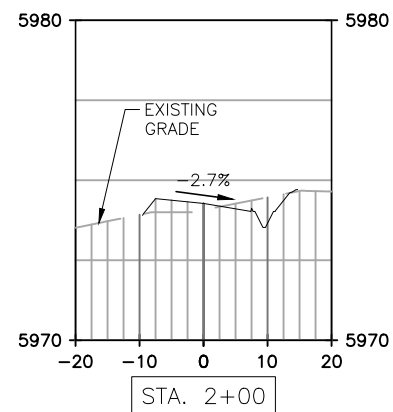
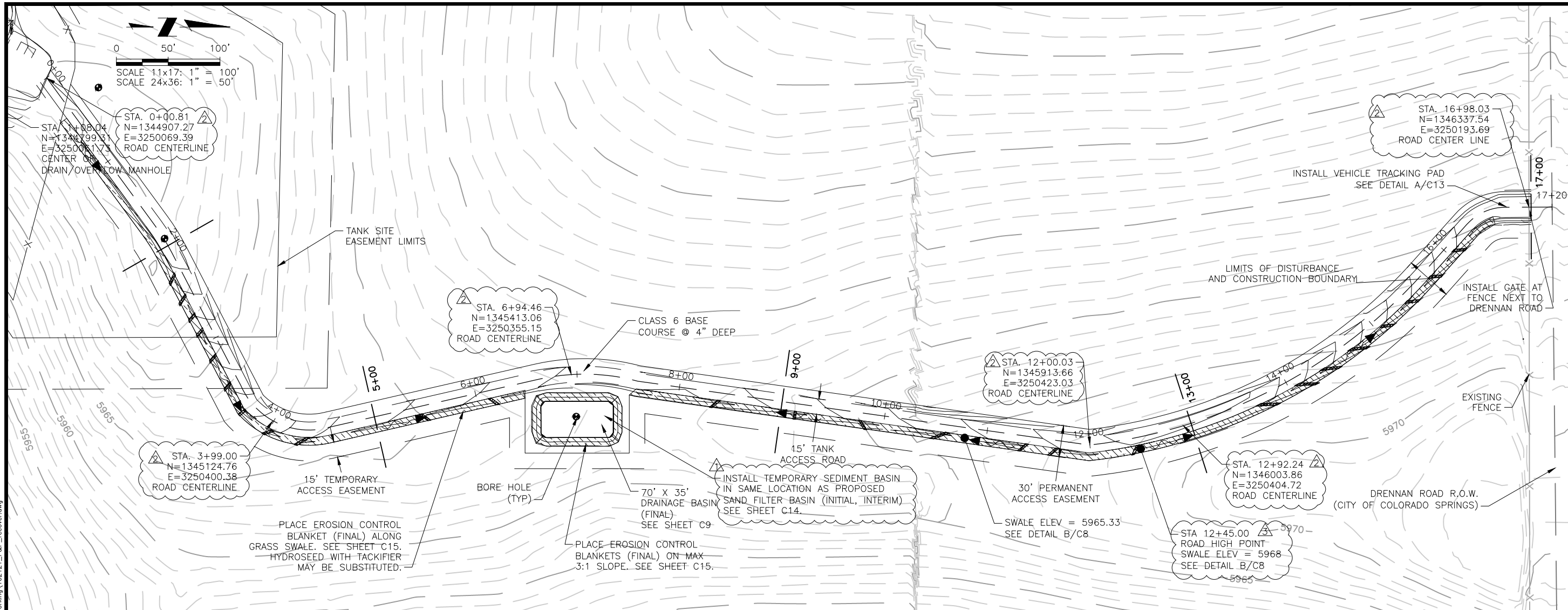
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FOR CONSTRUCTION



Project No.: 102.121
Date: 05/06/21
Design: GJD
Drawn: SNW
Check: JPM

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WIDFIELD WATER AND SANITATION DISTRICT
 ROLLING HILLS 2MG POTABLE WATER TANK
 ACCESS ROAD PLAN AND SECTION VIEW

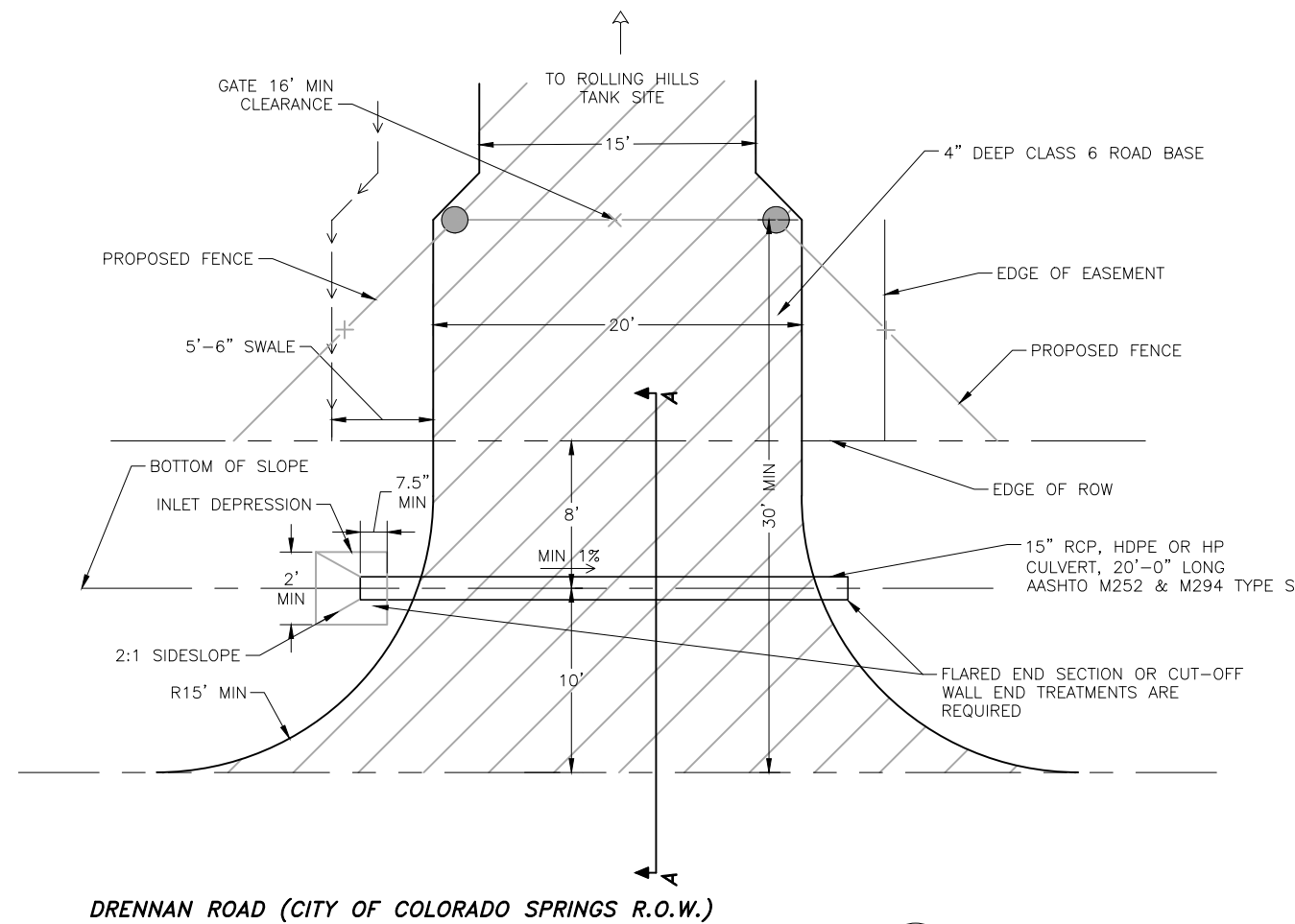
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2	ROAD COORD.	SNW	GJD	06/18/21
3	UPDATED LABEL	SNW	GJD	07/28/21
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FOR CONSTRUCTION

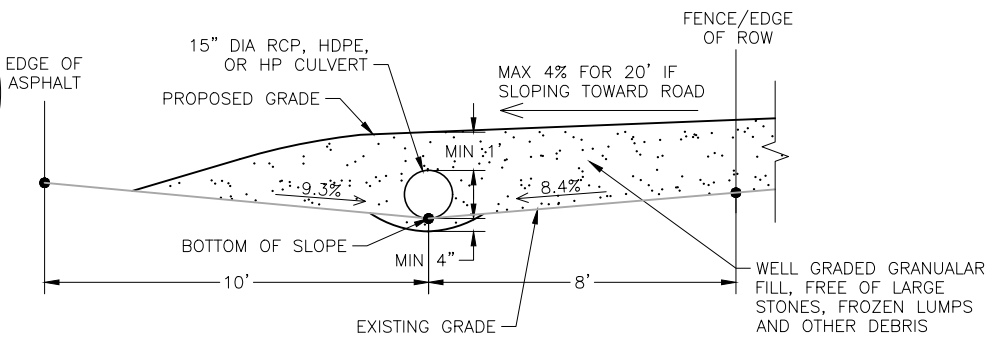


Project No.: 102.121
 Date: 05/06/21
 Design: GJD
 Drawn: SNW
 Check: JPM

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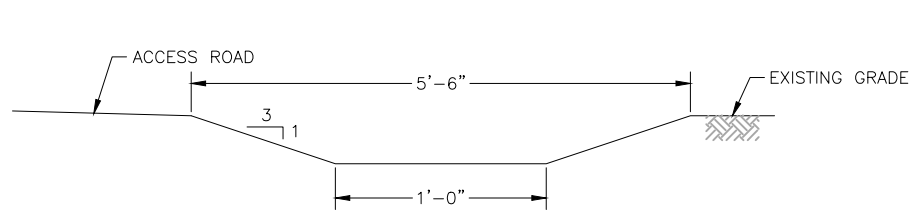


A DRIVEWAY ACCESS ROAD
C8 SCALE: N.T.S.

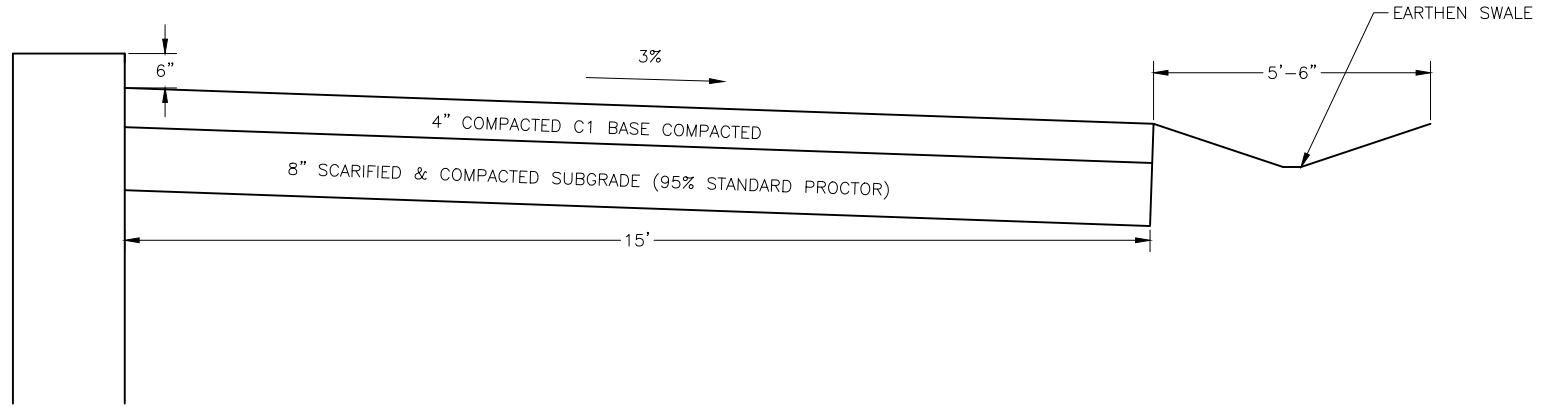


SECTION A-A
SCALE: N.T.S.

- NOTES:**
1. SURFACE TREATMENT OF DRIVEWAY TO BE CLASS 6 ROAD BASE AT 4" DEEP.
 2. DRAIN PIPE TO BE 15" DIAMETER MINIMUM.
 3. PIPE SLOPE TO BE CONSISTANT WITH FLOW LINE OF DITCH, MINIMUM OF 1%.
 4. BACKFILL TO BE PLACED IN 6" LAYERS, DEPOSITED AND COMPACTED ON ALTERNATING SIDES OF THE PIPE.
 5. MEASUREMENTS ARE APPROXIMATE AND SHOULD BE FIELD VERIFIED PRIOR TO COMMENCING CONSTRUCTION.



B TYPICAL GRASS SWALE SECTION
C8 SCALE: N.T.S.



C TANK MAINTENANCE ROAD
C8 SCALE: N.T.S.

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WIDFIELD WATER AND SANITATION DISTRICT
ROLLING HILLS 2MG POTABLE WATER TANK
ACCESS ROAD CIVIL DETAILS

NO.	DESCRIPTION	BY	APP.	DATE
1	FENCE LOCATION	SNW	GJD	06/16/21
2				
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FOR CONSTRUCTION

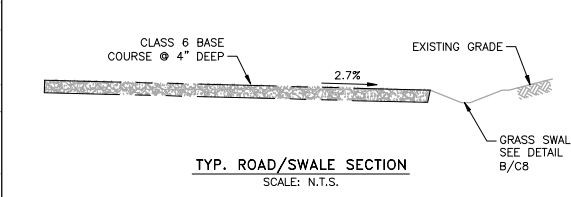


Project No.: 102.121
Date: 05/06/21
Design: GJD
Drawn: SNW
Check: JPM

2021/05/06 09:05 AM By: Shelby West J:\05-Hydro\Project\Task\02-Widefield Water And San\02-121 Rolling Hills Tank\Drawings\Working\02-121_Drainage.dwg

Table 703-7
GRADATION SPECIFICATIONS FOR FILTER MATERIAL

Sieve Size	Mass Percent Passing Square Mesh Sieves		
	Class A	Class B	Class C
75 mm (3")	100	100	100
37.5 mm (1 1/2")			
19.0 mm (3/4")	20-90		100
4.75 mm (No. 4)	0-20	20-60	60-100
1.18 mm (No. 16)		10-30	
300 µm (No. 50)		0-10	10-30
150 µm (No. 100)			0-10
75 µm (No. 200)	0-3	0-3	0-3

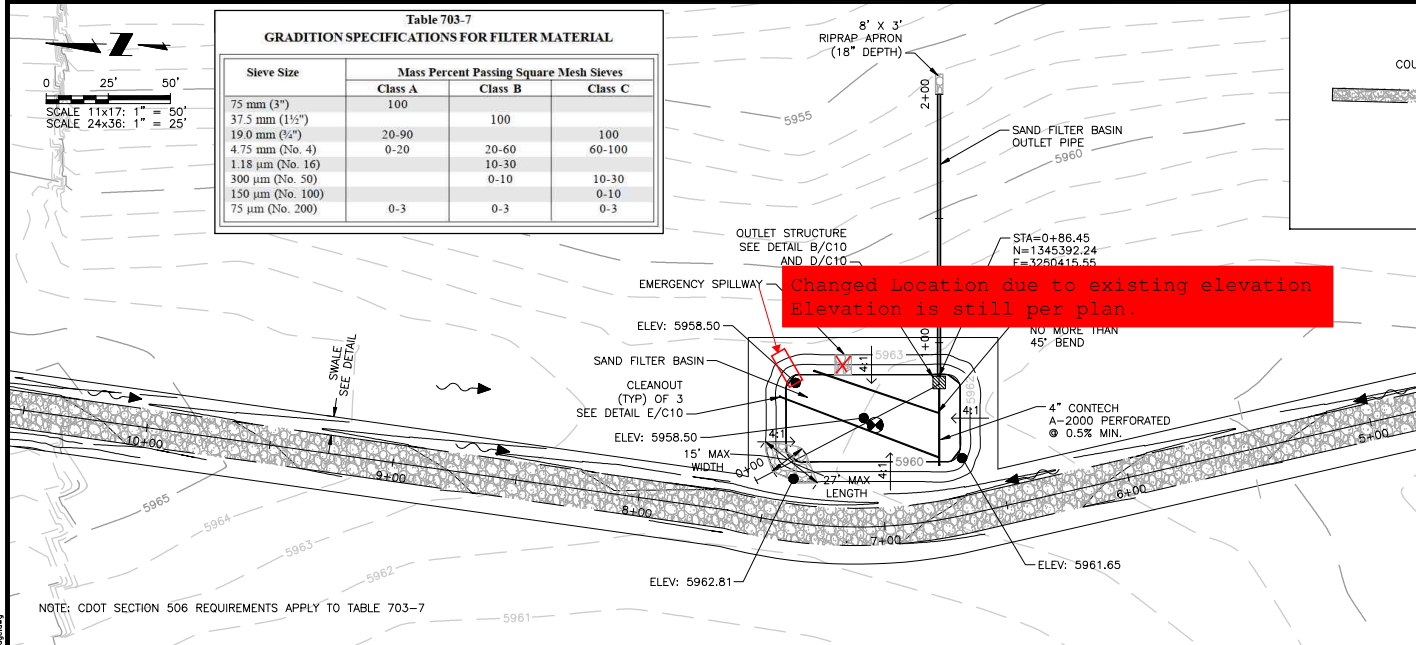


Changed location due to existing elevation
Elevation is still per plan.

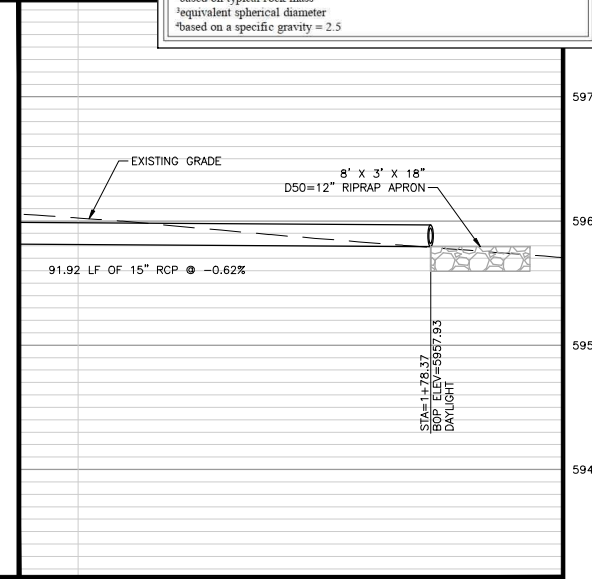
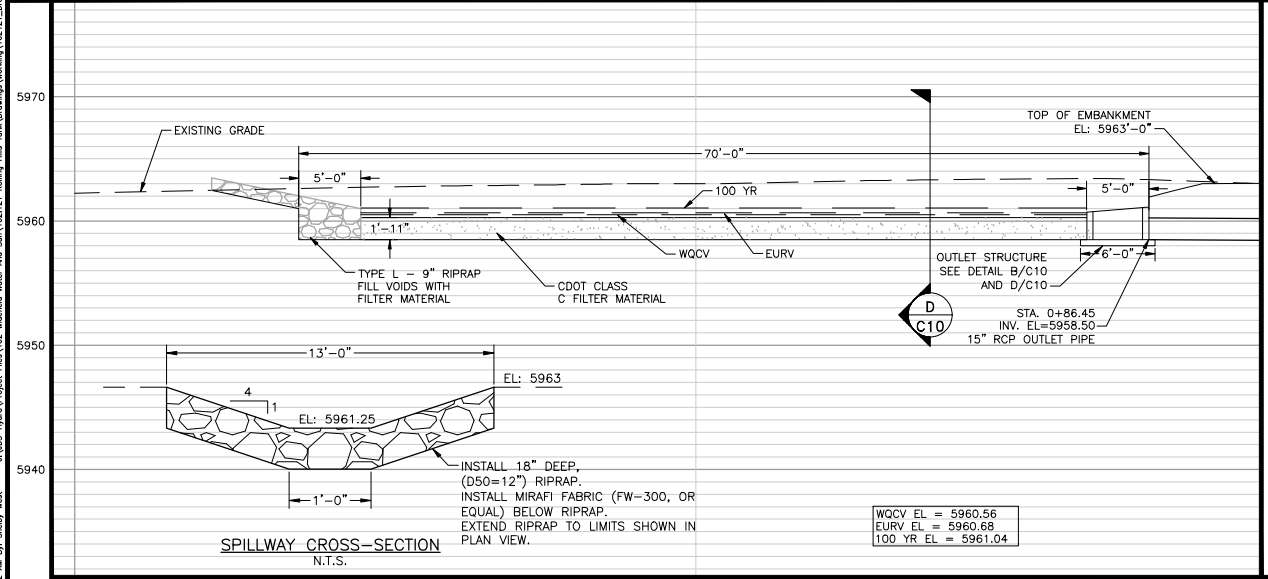
Table 506-2

Pay Item	Stone Size (Nominal)	% of Material Smaller Than Typical Stone ¹	Typical Stone Dimensions ² (Inches)	Typical Stone Weight ³ (Pounds)
Riprap 6	6	70-100	12	85
		50-70	9	35
		35-50	6	10
		2-10	2	0.4
Riprap 9	9	70-100	15	160
		50-70	12	85
		35-50	9	35
		2-10	3	1.3
Riprap 12	12	70-100	21	440
		50-70	18	275
		35-50	12	85
		2-10	4	3
Riprap 18	18	100	30	1280
		50-70	24	650
		35-50	18	275
		2-10	6	10
Riprap 24	24	100	42	3500
		0-70	33	1700
		35-50	24	650
		2-10	9	35

¹d50 = nominal stone size
²based on typical rock mass
³equivalent spherical diameter
⁴based on a specific gravity = 2.5



NOTE: CDOT SECTION 506 REQUIREMENTS APPLY TO TABLE 703-7



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(719) 227-0072

WIDEFIELD WATER AND SANITATION DISTRICT
ROLLING HILLS 2MG POTABLE WATER TANK
DRAINAGE BASIN PLAN AND PROFILE

NO.	DESCRIPTION	BY	DATE
1			
2			
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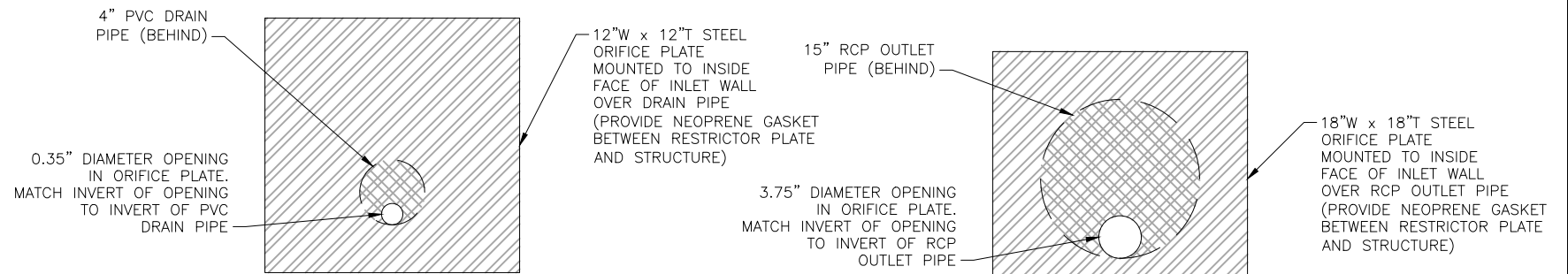
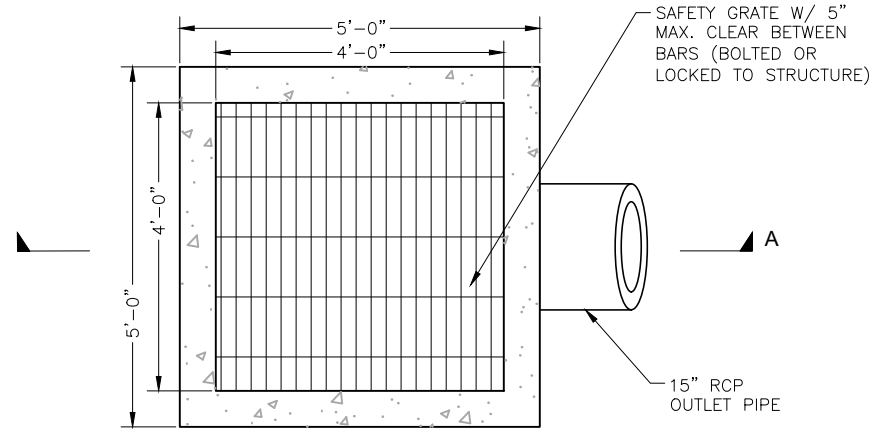
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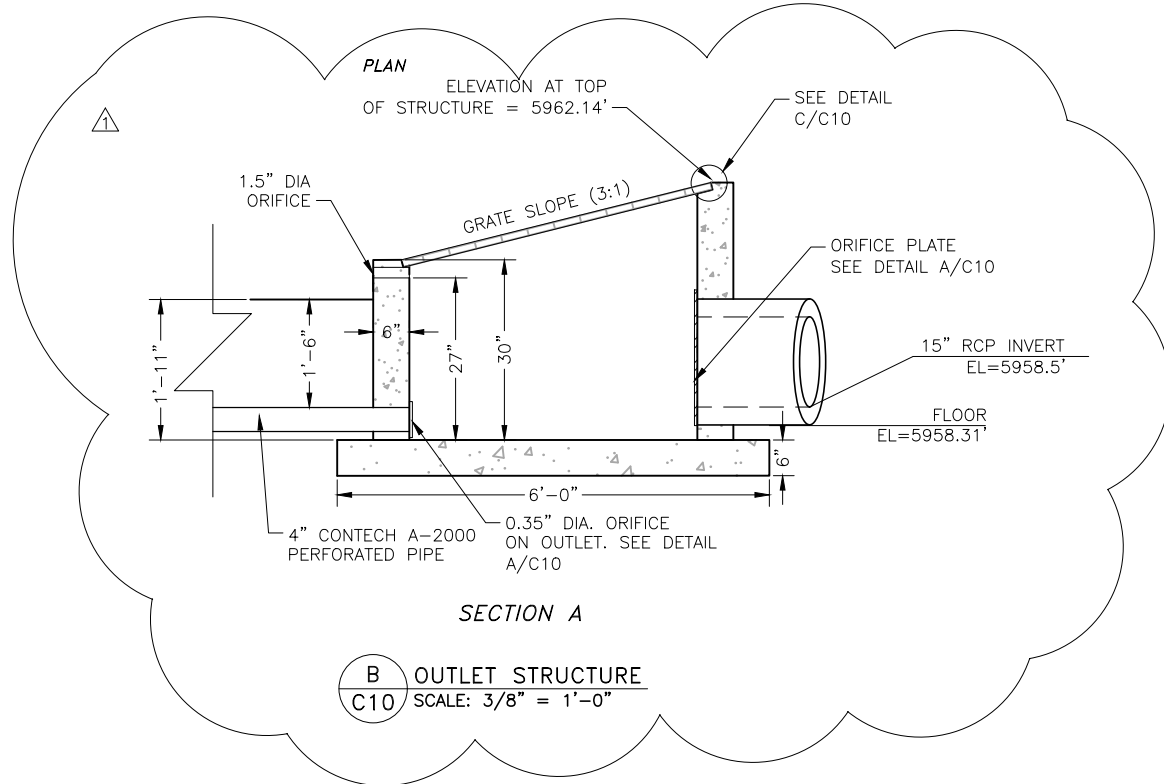
Project No.: 102.121
Date: 05/06/21
Design: GJD
Drawn: SNW
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C9
SHEET 12 OF 32

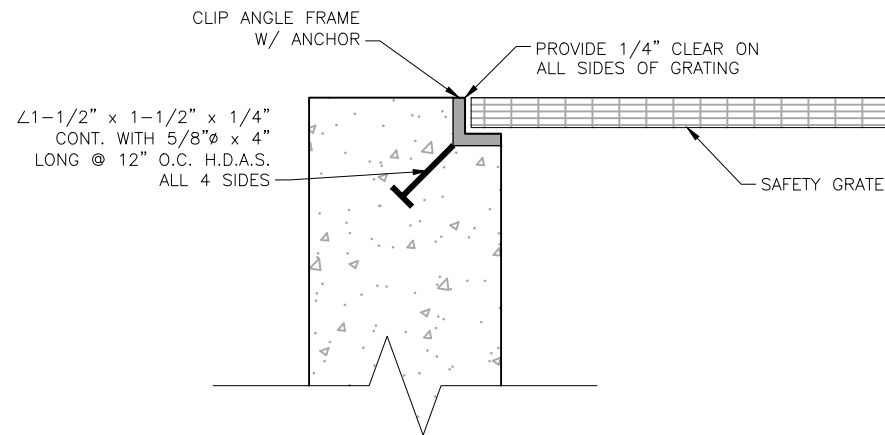
2021/09/10 10:54 AM By: Shelby West J:\JDS-Hydro\Project Files\102 Widefield Water And San\102.121 Rolling Hills Tank\Drawings\Working\102121_Civil_Details.dwg



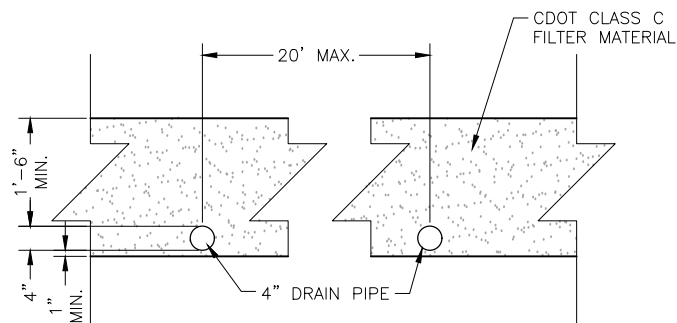
A ORIFICE PLATES
C10 SCALE: N.T.S.



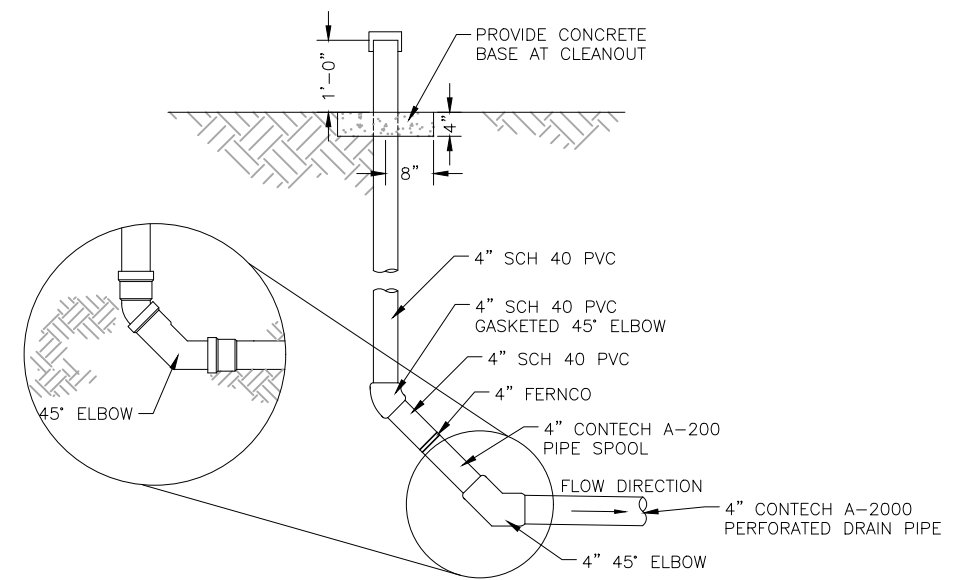
B OUTLET STRUCTURE
C10 SCALE: 3/8" = 1'-0"



C GRATING DETAIL
C10 SCALE: N.T.S.



D DRAINAGE BASIN SECTION (SEE SHEET C9)
C10 SCALE: 3/8" = 1'-0"



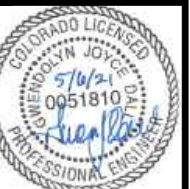
E CLEANOUT
C10 SCALE: N.T.S.

JDS-HYDRO CONSULTANTS, INC.
5640 TECH CENTER DR., SUITE 100
COLORADO SPRINGS, COLORADO 80919
(719) 227-0072
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WIDEFIELD WATER AND SANITATION DISTRICT
ROLLING HILLS 2MG POTABLE WATER TANK
DRAINAGE BASIN CIVIL DETAILS

NO.	REVISIONS		DATE
	DESCRIPTION	BY APP.	
1	DETAIL UPDATE	SNW GJD	08/10/21
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FOR CONSTRUCTION



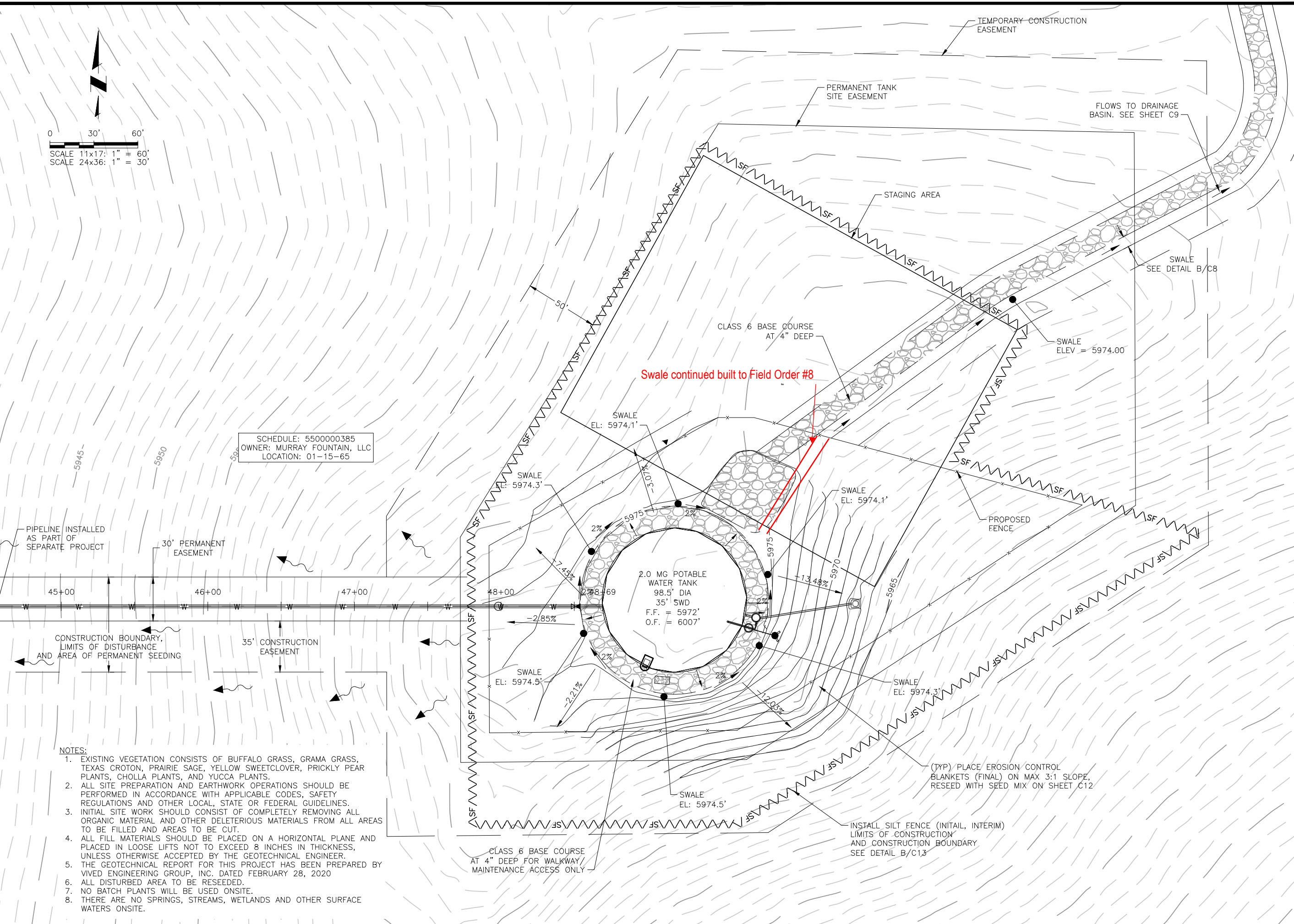
Project No.: 102.121
Date: 05/06/21
Design: GJD
Drawn: SNW
Check: JPM

C10
SHEET 13 OF 32

2021/05/06 9:08 AM By: Shelby West j:\JDS-Hydro\Project Files\102 Widfield Water And San\102.121 Rolling Hills Tank\Drawings\Working\102121_Erosion Control.dwg

0 30' 60'
SCALE 11x17: 1" = 60'
SCALE 24x36: 1" = 30'

SCHEDULE: 5500000385
OWNER: MURRAY FOUNTAIN, LLC
LOCATION: 01-15-65



NOTES:

1. EXISTING VEGETATION CONSISTS OF BUFFALO GRASS, GRAMA GRASS, TEXAS CROTON, PRAIRIE SAGE, YELLOW SWEETCLOVER, PRICKLY PEAR PLANTS, CHOLLA PLANTS, AND YUCCA PLANTS.
2. ALL SITE PREPARATION AND EARTHWORK OPERATIONS SHOULD BE PERFORMED IN ACCORDANCE WITH APPLICABLE CODES, SAFETY REGULATIONS AND OTHER LOCAL, STATE OR FEDERAL GUIDELINES.
3. INITIAL SITE WORK SHOULD CONSIST OF COMPLETELY REMOVING ALL ORGANIC MATERIAL AND OTHER DELETERIOUS MATERIALS FROM ALL AREAS TO BE FILLED AND AREAS TO BE CUT.
4. ALL FILL MATERIALS SHOULD BE PLACED ON A HORIZONTAL PLANE AND PLACED IN LOOSE LIFTS NOT TO EXCEED 8 INCHES IN THICKNESS, UNLESS OTHERWISE ACCEPTED BY THE GEOTECHNICAL ENGINEER.
5. THE GEOTECHNICAL REPORT FOR THIS PROJECT HAS BEEN PREPARED BY VIVED ENGINEERING GROUP, INC. DATED FEBRUARY 28, 2020
6. ALL DISTURBED AREA TO BE RESEDED.
7. NO BATCH PLANTS WILL BE USED ONSITE.
8. THERE ARE NO SPRINGS, STREAMS, WETLANDS AND OTHER SURFACE WATERS ONSITE.

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WIDFIELD WATER AND SANITATION DISTRICT
ROLLING HILLS 2MG POTABLE WATER TANK
GRADING AND EROSION CONTROL PLAN

NO.	DESCRIPTION	BY	APP.	DATE
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FOR CONSTRUCTION



Project No.: 102.121
Date: 05/06/21
Design: GJD
Drawn: SNW
Check: JPM

C11
SHEET 14 OF 32

EROSION CONTROL NOTES

- STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS. ALL WORK AND EARTH DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFF-SITE WATERS, INCLUDING WETLANDS.
- NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OF GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE, AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.
- A SEPARATE STORMWATER MANAGEMENT PLAN (SMWO) FOR THIS PROJECT SHALL BE COMPLETED AND AN EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP) ISSUED PRIOR TO COMMENCING CONSTRUCTION. MANAGEMENT OF THE SWMP DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE DESIGNATED QUALIFIED STORMWATER MANAGER OR CERTIFIED EROSION CONTROL INSPECTOR. THE SWMP SHALL BE LOCATED ON SITE AT ALL TIMES DURING CONSTRUCTION AND SHALL BE KEPT UP TO DATE WITH WORK PROGRESS AND CHANGES IN THE FIELD.
- ONCE THE ESQCP IS APPROVED AND A "NOTICE TO PROCEED" HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL THE INITIAL STAGE EROSION AND SEDIMENT CONTROL MEASURES AS INDICATED ON THE APPROVED GEC. A PRECONSTRUCTION MEETING BETWEEN THE CONTRACTOR, ENGINEER, AND EL PASO COUNTY WILL BE HELD PRIOR TO ANY CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE APPLICANT TO COORDINATE THE MEETING TIME AND PLACE WITH COUNTY STAFF.
- CONTROL MEASURES MUST BE INSTALLED PRIOR TO COMMENCEMENT OF ACTIVITIES THAT COULD CONTRIBUTE POLLUTANTS TO STORMWATER. CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, AND DISTURBED LAND AREAS SHALL BE INSTALLED IMMEDIATELY UPON COMPLETION OF THE DISTURBANCE.
- ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE MAINTAINED AND REMAIN IN EFFECTIVE OPERATION CONDITION UNTIL PERMANENT SOIL EROSION CONTROL MEASURE ARE IMPLEMENTED AND FINAL STABILIZATION IS ESTABLISHED. ALL PERSONS ENGAGED IN LAND DISTURBANCE ACTIVITIES SHALL ASSESS THE ADEQUACY OF CONTROL MEASURES AT THE SITE AND IDENTIFY IF CHANGES TO THOSE CONTROL MEASURES ARE NEEDED TO ENSURE THE CONTINUED EFFECTIVE PERFORMANCE OF THE CONTROL MEASURES. ALL CHANGES TO TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES MUST BE INCORPORATED INTO THE STORMWATER MANAGEMENT PLAN.
- TEMPORARY STABILIZATION SHALL BE IMPLEMENTED ON DISTURBED AREAS AND STOCKPILES WHERE GROUND DISTURBING CONSTRUCTION ACTIVITY HAS PERMANENTLY CEASED OR TEMPORARILY CEASED FOR LONGER THAN 14 DAYS.
- FINAL STABILIZATION MUST BE IMPLEMENTED AT ALL APPLICABLE CONSTRUCTION SITES. FINAL STABILIZATION IS ACHIEVED WHEN ALL GROUND DISTURBING ACTIVITIES ARE COMPLETE AND ALL DISTURBED AREAS EITHER HAVE A UNIFORM VEGETATIVE COVER WITH INDIVIDUAL PLANT DENSITY OF 70 PERCENT OF PRE-DISTURBANCE LEVELS ESTABLISHED OR EQUIVALENT PERMANENT ALTERNATIVE STABILIZATION METHOD IS IMPLEMENTED. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE REMOVED UPON FINAL STABILIZATION AND BEFORE PERMIT CLOSURE.
- ALL PERMANENT STORMWATER MANAGEMENT FACILITIES SHALL BE INSTALLED AS DESIGNED IN THE APPROVED PLANS. ANY PROPOSED CHANGES THAT EFFECT THE DESIGN OR FUNCTION OF PERMANENT STORMWATER MANAGEMENT STRUCTURES MUST BE APPROVED BY THE ECM ADMINISTRATOR PRIOR TO IMPLEMENTATION.
- EARTH DISTURBANCES SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY MINIMIZE ACCELERATED SOIL EROSION AND RESULTING SEDIMENTATION. ALL DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND SHALL BE LIMITED TO THE SHORTEST PRACTICAL PERIOD OF TIME. PRE-EXISTING VEGETATION SHALL BE PROTECTED AND MAINTAINED WITHIN 50 HORIZONTAL FEET OF A WATERS OF THE STATE UNLESS SHOWN TO BE INFEASIBLE AND SPECIFICALLY REQUESTED AND APPROVED.
- COMPACTION OF SOIL MUST BE PREVENTED IN AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES OR WHERE FINAL STABILIZATION WILL BE ACHIEVED BY VEGETATION COVER. AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES SHALL ALSO BE PROTECTED FROM SEDIMENTATION DURING CONSTRUCTION UNTIL FINAL STABILIZATION IS ACHIEVED. IF COMPACTION PREVENTION IS NOT FEASIBLE DUE TO SITE CONSTRAINTS, ALL AREAS DESIGNATED FOR INFILTRATION AND VEGETATION CONTROL MEASURES MUST BE LOOSEENED PRIOR TO INSTALLATION OF THE CONTROL MEASURE(S).
- ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER AROUND, THROUGH, OR FROM THE EARTH DISTURBANCE AREA SHALL BE A STABILIZED CONVEYANCE DESIGNED TO MINIMIZE EROSION AND THE DISCHARGE OF SEDIMENT OFF SITE.
- CONCRETE WASH WATER SHALL BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE SWMP. NO WASH WATER SHALL BE DISCHARGED TO OR ALLOWED TO ENTER STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES. CONCRETE WASHOUTS SHALL NOT BE LOCATED IN AN AREA WHERE SHALLOW GROUNDWATER MAY BE PRESENT, OR WITHIN 50 FEET OF A SURFACE WATER BODY, CREEK OR STREAM.
- DURING DEWATERING OPERATIONS OF UNCONTAMINATED GROUND WATER MAY BE DISCHARGED ON SITE, BUT SHALL NOT LEAVE THE SITE IN THE FORM OF SURFACE RUNOFF UNLESS AN APPROVED STATE DEWATERING PERMIT IS IN PLACE.
- EROSION CONTROL BLANKETING OR OTHER PROTECTIVE COVERING SHALL BE USED ON SLOPES STEEPER THAN 3:1.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL WASTES FROM THE CONSTRUCTION SITE FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATORY REQUIREMENTS. NO CONSTRUCTION DEBRIS, TREE SLASH, BUILDING MATERIAL WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, OR DISCHARGED AT THE SITE.
- WASTE MATERIALS SHALL NOT BE TEMPORARILY PLACED OR STORED IN THE STREET, ALLEY, OR OTHER PUBLIC WAY, UNLESS IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. CONTROL MEASURES MAY BE REQUIRED BY EL PASO COUNTY ENGINEERING IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES.
- TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFF-SITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
- THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, SOIL, AND SAND THAT MAY ACCUMULATE IN ROADS, STORM DRAINS AND OTHER DRAINAGE CONVEYANCE SYSTEMS AND STORMWATER APPURTENANCES AS A RESULT OF SITE DEVELOPMENT.

- THE QUANTITY OF MATERIALS STORED ON THE PROJECT SITE SHALL BE LIMITED, AS MUCH AS PRACTICAL, TO THAT QUANTITY REQUIRED TO PERFORM THE WORK IN AN ORDERLY SEQUENCE. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURER'S LABELS.
- NO CHEMICAL(S) HAVING THE POTENTIAL TO BE RELEASED IN STORMWATER ARE TO BE STORED OR USED ONSITE UNLESS PERMISSION FOR THE USE OF SUCH CHEMICAL(S) IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING APPROVAL FOR THE USE OF SUCH CHEMICAL(S), SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
- BULK STORAGE OF ALLOWED PETROLEUM PRODUCTS OR OTHER ALLOWED LIQUID CHEMICALS IN EXCESS OF 55 GALLONS SHALL REQUIRE ADEQUATE SECONDARY CONTAINMENT PROTECTION TO CONTAIN ALL SPILLS ONSITE AND TO PREVENT ANY SPILLED MATERIALS FROM ENTERING STATE WATERS, ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR OTHER FACILITIES.
- NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE CURB AND GUTTER OR DITCH EXCEPT WITH APPROVED SEDIMENT CONTROL MEASURES.
- OWNER/DEVELOPER AND THEIR AGENTS SHALL COMPLY WITH THE "COLORADO WATER QUALITY CONTROL ACT" (TITLE 25, ARTICLE 8, CRS), AND THE "CLEAN WATER ACT" (33 USC 1344), IN ADDITION TO THE REQUIREMENTS OF THE LAND DEVELOPMENT CODE, DCM VOLUME II AND THE ECM APPENDIX I. ALL APPROPRIATE PERMITS MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION (1041, NPDES, FLOODPLAIN, 404, FUGITIVE DUST, ETC.). IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND OTHER LAWS, RULES, OR REGULATIONS OR OTHER FEDERAL, STATE, LOCAL, OR COUNTY AGENCIES, IN THE MOST RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.
- ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE ONLY AT APPROVED CONSTRUCTION ACCESS POINTS.
- PRIOR TO CONSTRUCTION THE PERMITTEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
- A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND SHALL BE UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
- THE SOILS REPORT FOR THIS SITE HAS BEEN PREPARED BY VIVID ENGINEERING GROUP AND SHALL BE CONSIDERED A PART OF THESE PLANS. (REV 2: 01/07/21)
- AT LEAST TEN (10) DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB ON (1) ACRE OR MORE, THE OWNER OR OPERATOR OF CONSTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FOR STORMWATER DISCHARGE TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, WATER QUALITY DIVISION. THE APPLICATION CONTAINS CERTIFICATION OF COMPLETION OF A STORMWATER MANAGEMENT PLAN (SWMP), OF WHICH THIS GRADING AND EROSION CONTROL PLAN MAY BE A PART. FOR INFORMATION OR APPLICATION MATERIALS CONTACT:

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
 WATER QUALITY CONTROL DIVISION
 WQCD - PERMITS
 4300 CHERRY CREEK DRIVE SOUTH
 DENVER, CO 80246-1530
 ATTN: PERMITS UNIT

ESTIMATED TIMING, CONSTRUCTION STAGING AND SEQUENCING:

INSTALL TEMPORARY EROSION CONTROL - 1 WEEK
 PERIMETER SILT FENCING - STRAW BALE BARRIERS
 PROJECT INSTALLATION - 5 MONTHS
 INSTALL FINAL SITE IMPROVEMENTS - 4 WEEKS
 REMOVE TEMPORARY EROSION CONTROL - 2 DAYS

MINIMUM BEST MANAGEMENT PRACTICES ELEMENTS:

- STEP 1- EROSION AND SEDIMENT CONTROL
 INSTALL SEDIMENT TRAPPING DEVICES (PERIMETER CONTROLS) PRIOR TO THE START OF CONSTRUCTION.
- STEP 2- SPILL PREVENTION AND RESPONSE
- STEP 3- MATERIAL MANAGEMENT
 MATERIAL AND EQUIPMENT STORAGE AREAS SHALL BE SECURE AND CONTAINED TO PREVENT DISCHARGE OF ANY MATERIAL IN RUNOFF. WASTE SHALL BE CONTAINED AND DISPOSED OF PROPERLY. MAINTAIN BMP'S DURING BUILDING AND UTILITY CONSTRUCTION.
- STEP 4- INSPECTION AND MAINTENANCE (SEE EROSION CONTROL NOTES)
- STEP 5- INSTALL FINAL STABILIZATION - BASE COURSE, LANDSCAPING, EROSION CONTROL BLANKETS, AND SEEDING.
- STEP 6- REMOVE TEMPORARY CONTROLS - SILT FENCING AFTER PERMANENT FEATURES ARE INSTALLED.

FINAL STABILIZATION AND LONG-TERM STORMWATER MANAGEMENT:

FINAL STABILIZATION MEASURES INCLUDE BASE COURSE AND REVEGETATION

EARTHWORK SUMMARY

PROPOSED SITE:
 CUT - 1210.22 CY
 FILL - 580.23 (*1.15) = 667.26 CY
 NET = 542.96 CY CUT

PROPOSED ACCESS ROAD
 CUT - 316.29 CY
 FILL - 323.09 (*1.15) = 371.55 CY
 NET = 1.26 CY FILL

PROPOSED DRAINAGE BASIN
 CUT - 469.66 CY
 FILL - 2.35 (*1.15) = 2.70 CY
 NET = 466.96 CY CUT

STANDARD NOTES FOR EL PASO COUNTY CONSTRUCTION PLANS

- ALL DRAINAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD NOTIFICATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, BEFORE BEGINNING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CALL 811 TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC).
- CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP), THE SOILS AND GEOTECHNICAL REPORT, AND THE APPROPRIATE DESIGN AND CONSTRUCTION SPECIFICATIONS AT THE JOB SITE AT ALL TIMES, INCLUDING THE FOLLOWING:
 - A. EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
 - B. CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL VOLUMES 1 AND 2
 - C. COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
 - D. CDOT M & S STANDARDS.
- NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING. ANY MODIFICATIONS NECESSARY TO MEET CRITERIA AFTER-THE-FACT WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
- IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ACCURATELY SHOW EXISTING CONDITIONS, BOTH ONSITE AND OFFSITE, ON THE CONSTRUCTION PLANS. ANY MODIFICATIONS NECESSARY DUE TO CONFLICTS, OMISSIONS, OR CHANGED CONDITION WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
- CONTRACTOR SHALL SCHEDULE A RE-CONSTRUCTION MEETING WITH EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT (PCD) - INSPECTION, PRIOR TO STARTING CONSTRUCTION.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES AND TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, U.S. ARMY CORPS OF ENGINEERS-ISSUED 401 AND/OR 404 PERMITS, AND COUNTY AND STATE FUGITIVE DUST PERMITS.
- CONTRACTOR SHALL NOT DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE DESIGN ENGINEER AND PCD. CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY ERRORS OR INCONSISTENCIES.
- ALL STORM DRAIN PIPE SHALL BE CLASS III RCP UNLESS OTHERWISE NOTED AND APPROVED BY PCD.
- CONTRACTOR SHALL COORDINATE GEOTECHNICAL TESTING PER ECM STANDARDS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY PCD PRIOR TO PLACEMENT OF CURB AND GUTTER AND PAVEMENT.
- ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT THE APPROVED CONSTRUCTION ACCESS POINTS.
- SIGHT VISIBILITY TRIANGLES AS IDENTIFIED IN THE PLANS SHALL BE PROVIDED AT ALL INTERSECTIONS. OBSTRUCTIONS GREATER THAN 18 INCHES ABOVE FLOWLINE ARE NOT ALLOWED WITHIN SITE TRIANGLES.
- SIGNING AND STRIPING SHALL COMPLY WITH EL PASO COUNTY DOT AND MUTCD CRITERIA [IF APPLICABLE, ADDITIONAL SIGNING AND STRIPING NOTES WILL BE PROVIDED.]
- CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DOT, INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.
- THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWNER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFF-SITE DISTURBANCE, GRADING, OR CONSTRUCTION.

SEED MIX

AREAS DISTURBED BY THE EARTHWORK SHALL BE PERMANENTLY REVEGETATED WITH NATIVE GRASSES. NATIVE SEED MIX FOR THIS PROJECT SHALL BE AS FOLLOWS:

COMMON NAME	RECOMMENDED CULTIVAR	% OF SEED MIX	NON IRRIGATED PLS RATE PER ACRE	
			DRILL	BROADCAST
BIG BLUESTEM, NATIVE	KAW, BISON, CHAMP	20.00%	5.5	11.0
BLUE GRAMA, NATIVE	LOVINGTON, HACHITA, ALMA	10.00%	1.5	3.0
GREEN NEEDLEGRASS, NATIVE	LODORM	10.00%	5.0	10.0
WESTERN WHEATGRASS, NATIVE	ARRIBA, BARTON	20.00%	8.0	16.0
SIDEOATS GRAMA, NATIVE	VAUGHN, BUTTE, EL RENO, NINER	10.00%	4.5	9.0
SWITHGRASS, NATIVE	BLACKWELL, GREENVILLE	10.00%	2.0	4.0
PRAIRIE SANDREED, NATIVE	GOSHEN, PRONGHORN	10.00%	3.5	7.0
YELLOW INDIANGRASS, NATIVE	CHEYENNE, HOLT, LLANO	10.00%	5.0	10.0

SEEDING APPLICATION: DRILL SEED 1/4" TO 1/2" INTO TOPSOIL. IN AREAS INACCESSIBLE TO A DRILL, HAND BROADCAST AT DOUBLE THE RATE AND RAKE 1/4" TO 1/2" INTO THE TOPSOIL.
 MULCHING APPLICATION: 2 TONS NATIVE HAY PER ACRE, MECHANICALLY CRIMPED INTO THE TOPSOIL.


JDS-HYDRO CONSULTANTS, INC.
 5640 TECH CENTER DR, SUITE 100
 COLORADO SPRINGS, COLORADO 80919
 (719) 227-0072

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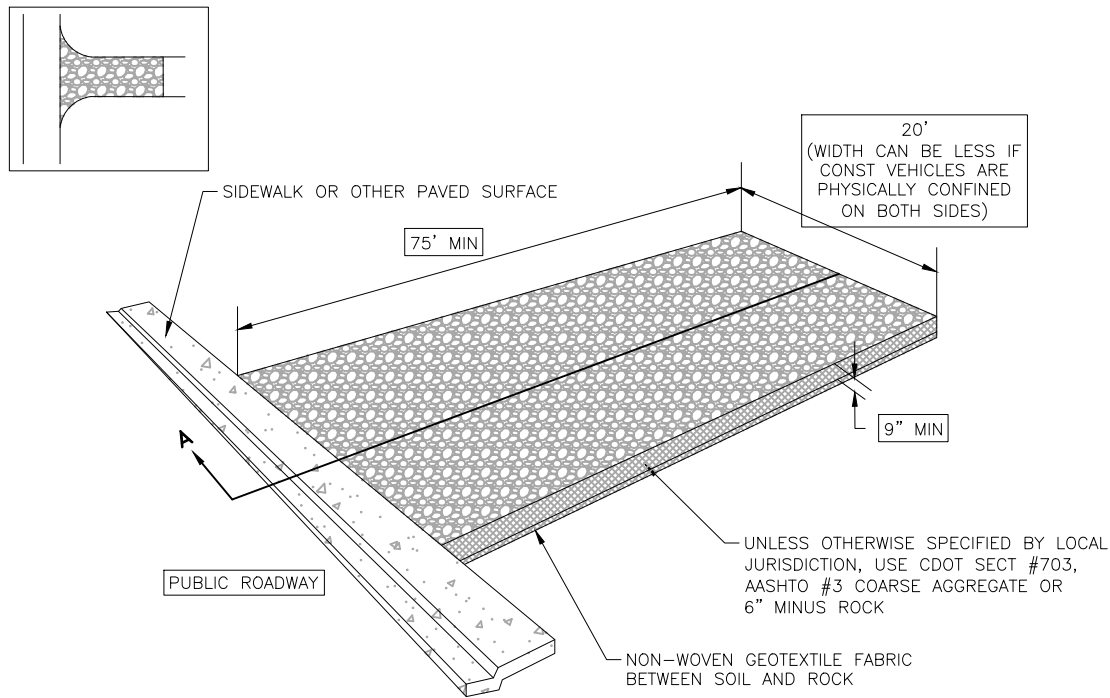
WIDEFIELD WATER AND SANITATION DISTRICT
 ROLLING HILLS 2MG POTABLE WATER TANK
 EROSION CONTROL NOTES

NO.	DESCRIPTION	BY	DATE
1			
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FOR CONSTRUCTION



Project No.: 102.121
 Date: 05/06/21
 Design: GJD
 Drawn: SNW
 Check: JPM

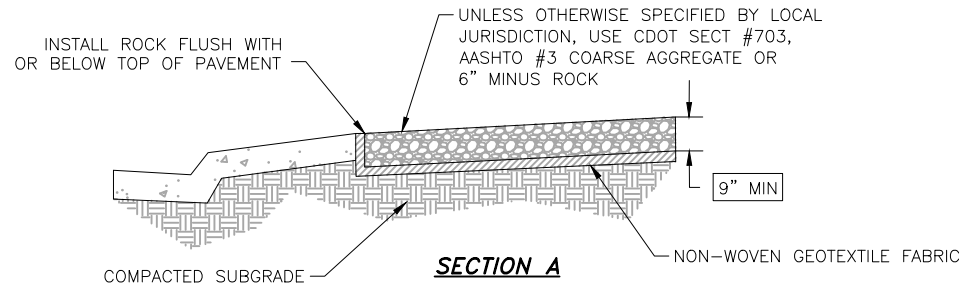


STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES:

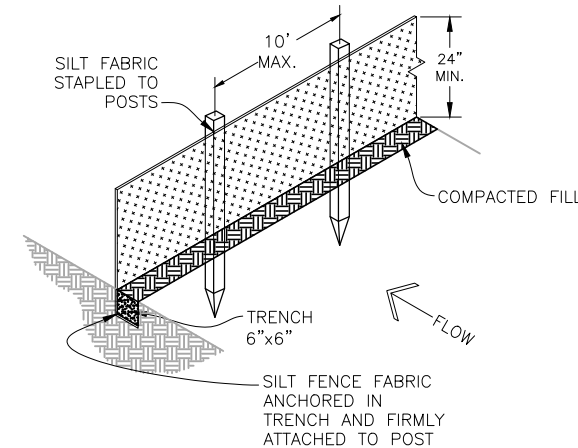
1. SEE PLAN VIEW FOR LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S).
2. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHTS-OF-WAY.
3. STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND-DISTURBING ACTIVITIES.
4. A NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK.
5. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

STABILIZED CONSTRUCTION ENTRANCE/EXIT MAINTENANCE NOTES:

1. INSPECT VEHICLE TRACKING PAD EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT VEHICLE TRACKING PAD AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN VEHICLE TRACKING PAD IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE VEHICLE TRACKING PAD HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.
5. SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED THROUGHOUT THE DAY AND AT THE END OF THE DAY BY SHOVELING OR SWEEPING. SEDIMENT MAY NOT BE WASHED DOWN STORM SEWER DRAINS.
6. STABILIZED ENTRANCE IS TO BE REMOVED WHEN THERE IS NO LONGER THE POTENTIAL FOR VEHICLE TRACKING. WHEN A CONSTRUCTION ENTRANCE/EXIT IS REMOVED, EXCESS SEDIMENT FOR THE AGGREGATE TO BE REMOVED AND DISPOSED OF APPROPRIATELY.



A VEHICLE TRACKING PAD DETAIL
C13 SCALE:



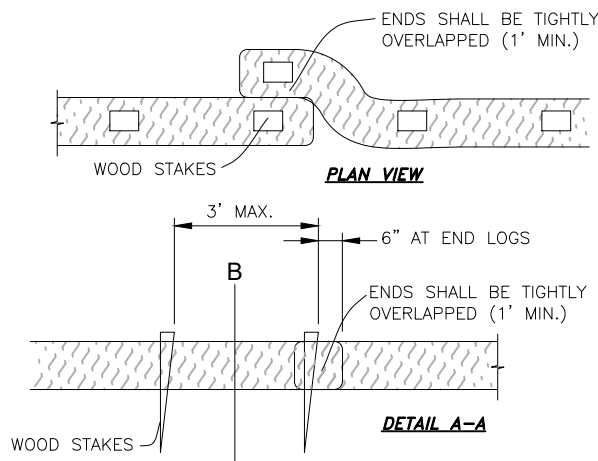
INSTALLATION REQUIREMENTS:

1. SILT FENCES SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
2. WHEN JOINTS ARE NECESSARY, SILT FENCE GEOTEXTILE SHALL BE SPLICED TOGETHER ONLY AT SUPPORT POST AND SECURELY SEALED.
3. METAL POSTS SHALL BE "STUDDED TEE" OR "U" TYPE WITH MINIMUM WEIGHT OF 1.33 POUNDS PER LINEAR FOOT. WOOD POSTS SHALL HAVE A MINIMUM DIAMETER OR CROSS SECTION DIMENSION OF 2 INCHES.
4. THE FILTER MATERIAL SHALL BE FASTENED SECURELY TO METAL OR WOOD POSTS USING WIRE TIES, OR TO WOOD POSTS WITH 3/4" LONG #9 HEAVY-DUTY STAPLES. THE SILT FENCE GEOTEXTILE SHALL NOT BE STAPLED TO EXISTING TREES.
5. WHILE NOT REQUIRED, WIRE MESH FENCE MAY BE USED TO SUPPORT THE GEOTEXTILE. WIRE FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY-DUTY WIRE STAPLES AT LEAST 3/4" LONG. TIE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 6" AND SHALL NOT EXTEND MORE THAN 3' ABOVE THE ORIGINAL GROUND SURFACE.
6. ALONG THE TOE OF FILLS, INSTALL THE SILT FENCE ALONG A LEVEL CONTOUR AND PROVIDE AN AREA BEHIND THE FENCE FOR RUNOFF TO POND AND SEDIMENT TO SETTLE. A MINIMUM DISTANCE OF 5 FEET FROM THE TOE OF THE FILL IS RECOMMENDED.
7. THE HEIGHT OF THE SILT FENCE FROM THE GROUND SURFACE SHALL BE MINIMUM OF 24 INCHES AND SHALL NOT EXCEED 36 INCHES; HIGHER FENCES MAY INPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE.

MAINTENANCE REQUIREMENTS:

1. CONTRACTOR SHALL INSPECT SILT FENCES IMMEDIATELY AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS OF NO RAINFALL. DAMAGED, COLLAPSED, UNENTRENCHED OR INEFFECTIVE SILT FENCES SHALL BE PROMPTLY REPAIRED OR REPLACED.
2. SEDIMENT SHALL BE REMOVED FROM BEHIND SILT FENCE WHEN IT ACCUMULATES TO HALF THE EXPOSED GEOTEXTILE HEIGHT.
3. SILT FENCES SHALL BE REMOVED WHEN ADEQUATE VEGETATIVE COVER IS ATTAINED.

B SILT FENCE DETAIL
C13 SCALE: N.T.S.

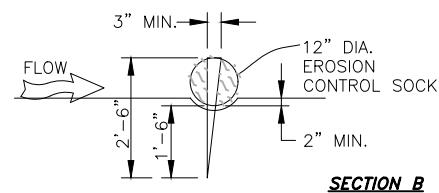


EROSION CONTROL SOCK INSTALLATION NOTES:

1. SEE PLAN VIEW FOR THE LOCATION AND LENGTH OF EROSION CONTROL SOCK.
2. EROSION CONTROL SOCKS INDICATED ON THE PLANS SHALL BE INSTALLED AFTER ANY LAND-DISTURBING ACTIVITIES OCCUR.
3. EROSION CONTROL SOCKS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR, OR COCONUT FIBER.
4. NOT FOR USE IN CONCENTRATED FLOW AREAS.
5. THE EROSION CONTROL SOCK SHALL BE TRENCHED INTO THE GROUND A MINIMUM OF 1/3 OF THE DIAMETER OF THE ECS.

EROSION CONTROL SOCK MAINTENANCE NOTES:

1. CONTRACTOR SHALL INSPECT EROSION CONTROL SOCKS DAILY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT UPSTREAM SEDIMENT AS NECESSARY.
2. SEDIMENT ACCUMULATED UPSTREAM OF EROSION CONTROL SOCKS SHALL BE REMOVED WHEN THE UPSTREAM SEDIMENT DEPTH IS WITHIN 1/2 THE HEIGHT OF THE CREST OF LOG.
3. EROSION CONTROL SOCKS SHALL BE REMOVED AT THE END OF CONSTRUCTION. IF ANY DISTURBED AREA EXISTS AFTER REMOVAL, IT SHALL BE DRILL SEEDING AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE OWNER.



C EROSION CONTROL SOCK
C13 SCALE: N.T.S.

NO.	DESCRIPTION	BY	DATE
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FOR CONSTRUCTION



Project No.: 102.121
Date: 05/06/21
Design: GJD
Drawn: SNW
Check: JPM

2021/07/27 9:48 AM By: Shelby West J:\JDS-Hydro\Project Files\102 Widfield Water And San\102.121 Rolling Hills Tank\Drawings\Working\102121_Erosion Control.dwg

Circular Perforation Sizing

Hole Diameter (in)	Hole Diameter (in)	Area per Row (in ²)		
		n = 1	n = 2	n = 3
1/4	0.250	0.05	0.10	0.15
5/16	0.313	0.08	0.15	0.23
3/8	0.375	0.11	0.22	0.33
7/16	0.438	0.15	0.30	0.45
1/2	0.500	0.20	0.39	0.58
5/8	0.625	0.31	0.61	0.92
11/16	0.688	0.37	0.74	1.11
3/4	0.750	0.44	0.88	1.33
7/8	0.875	0.60	1.20	1.80
1	1.000	0.79	1.57	2.36
1 1/8	1.125	0.99	1.99	2.98
1 1/4	1.250	1.23	2.45	3.68
1 3/8	1.375	1.48	2.97	4.45
1 1/2	1.500	1.77	3.53	5.30
1 5/8	1.625	2.07	4.15	6.22
1 3/4	1.750	2.41	4.81	7.22
1 7/8	1.875	2.76	5.52	8.28
2	2.000	3.14	6.28	9.42

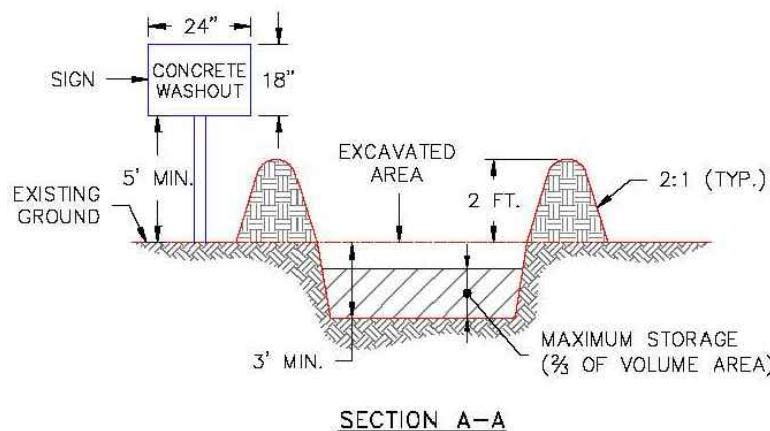
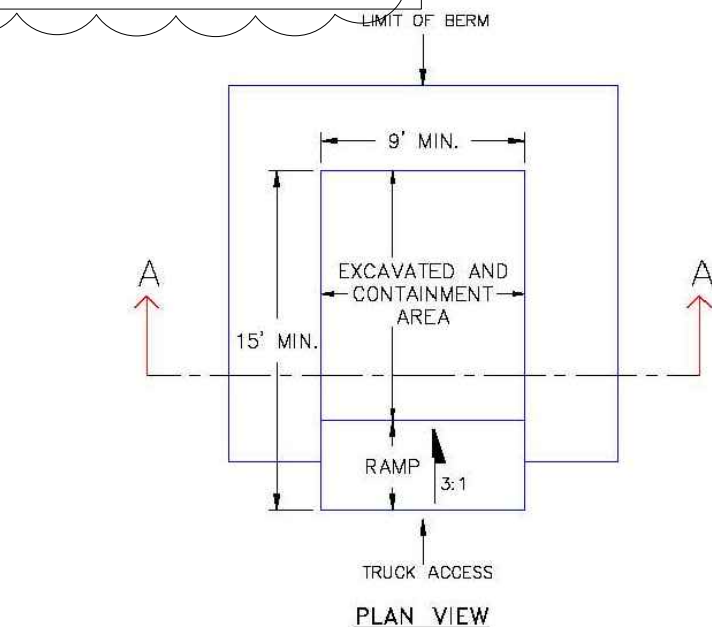
n = Number of columns of perforations
Minimum steel plate thickness 1/4" 5/16" 3/8"

TABLE SB-2

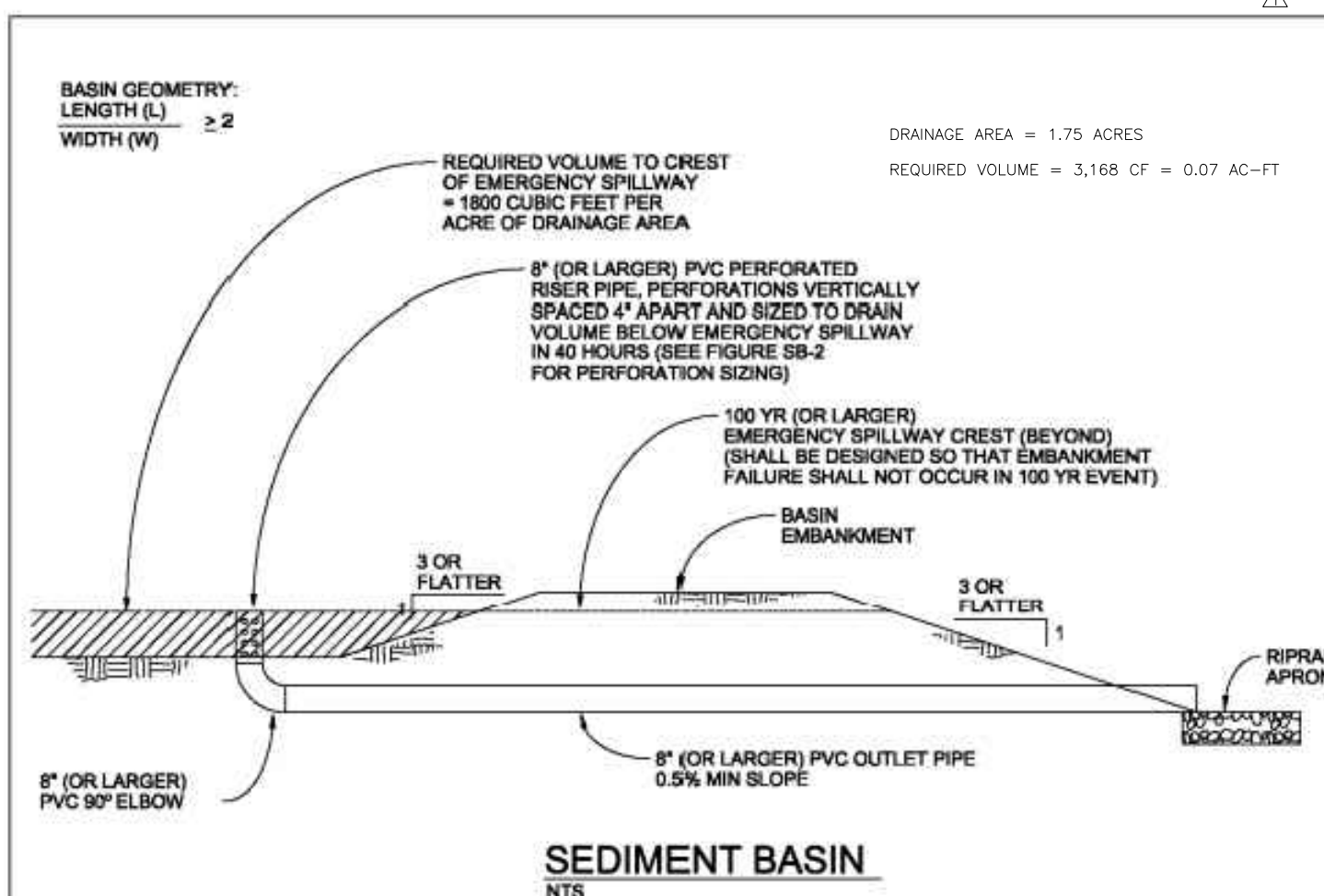
Required Area per Row (in²)

Design Volume (acre-ft)	Depth at Outlet (ft)							
	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5
2	15.04	7.71	5.10	3.75	2.95	2.41	2.02	1.73
1	7.52	3.86	2.55	1.88	1.48	1.21	1.01	0.87
0.8	4.51	2.31	1.53	1.13	0.88	0.72	0.61	0.52
0.4	3.01	1.54	1.02	0.75	0.59	0.48	0.40	0.35
0.2	1.50	0.77	0.51	0.38	0.30	0.24	0.20	0.17
0.1	0.75	0.39	0.26	0.19	0.15	0.12	0.10	0.09
0.06	0.45	0.23	0.15	0.11	0.09	0.07	0.06	0.05
0.04	0.30	0.15	0.10	0.08	0.06	0.05	0.04	0.03
0.02	0.15	0.08	0.05	0.04	0.03	0.02	0.02	0.02
0.01	0.08	0.04	0.03	0.02	0.01	0.01	0.01	0.01

TABLE SB-1



- NOTES:**
- SIGN MATERIAL, EXCAVATION, AND RESTORATION ARE INCLUDED IN THE COST OF THE CONCRETE WASHOUT STRUCTURE.
 - EROSION BALES MAY BE USED AS AN ALTERNATIVE FOR THE BERM.



SEDIMENT BASIN NOTES

INSTALLATION REQUIREMENTS

- SEDIMENT BASINS SHALL BE INSTALLED BEFORE ANY CLEARING AND/OR GRADING IS UNDERTAKEN.
- THE AREA UNDER WHICH THE EMBANKMENT IS TO BE INSTALLED SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ALL VEGETATION AND ROOT MAT.
- THE OUTLET OF THE BASIN SHALL BE DESIGNED TO DRAIN ITS VOLUME IN 40 HOURS.
- THE OUTLET IS TO BE LOCATED AT THE FURTHEST DISTANCE FROM THE INLET OF THE BASIN. BAFFLES MAY BE NEEDED TO INCREASE THE FLOW LENGTH AND SETTLING TIME.
- EMBANKMENT MATERIAL SHALL CONSIST OF SOIL WITH A MINIMUM OF 15% PASSING A #200 SIEVE. EXCAVATED SOIL CAN BE USED IF IT MEETS THIS REQUIREMENT.
- EMBANKMENT IS TO BE COMPACTED TO AT LEAST 90% OF MAXIMUM DENSITY AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D 698.
- WHEN A BASIN IS INSTALLED NEAR A RESIDENTIAL AREA, FOR SAFETY REASONS, A SIGN SHALL BE POSTED AND THE AREA SECURED WITH A FENCE.

MAINTENANCE REQUIREMENTS

- CONTRACTOR SHALL INSPECT SEDIMENT BASINS AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS NO RAINFALL.
- SEDIMENT BASINS SHALL BE CLEANED OUT BEFORE SEDIMENT HAS FILLED HALF THE VOLUME OF THE BASIN.
- SEDIMENT BASINS SHALL REMAIN OPERATIONAL AND PROPERLY MAINTAINED UNTIL THE SITE AREA IS PERMANENTLY STABILIZED WITH ADEQUATE VEGETATIVE COVER AND/OR OTHER PERMANENT STRUCTURE AS APPROVED BY THE CITY.

DATE APPROVED: 1/1/08	Concrete Washout Structure	
John A. McCarty	Standard Drawing	
DEPARTMENT OF TRANSPORTATION	REVISION DATE: 7/17/07	FILE NAME: SD_3-84

City of Colorado Springs Stormwater Quality	Figure SB-1 Sediment Basin Construction Detail and Maintenance Requirements
--	--

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5640 TECH CENTER DR., SUITE 100
COLORADO SPRINGS, COLORADO 80919
(719) 227-0072

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WIDFIELD WATER AND SANITATION DISTRICT
ROLLING HILLS 2MG POTABLE WATER TANK
GRADING AND EROSION CONTROL DETAILS

NO.	DESCRIPTION	BY	APP.	DATE
1	TEMP. SED. BASIN	SNW	GJD	05/11/21
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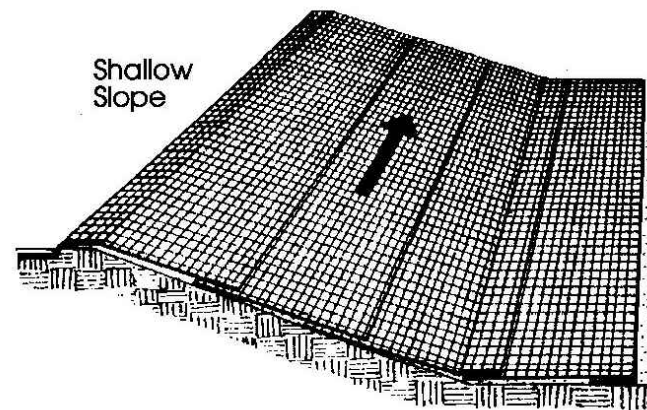
FOR CONSTRUCTION



Project No.: 102.121
Date: 05/06/21
Design: GJD
Drawn: SNW
Check: JPM

2021/05/06 9:02 AM By: Shelby West j:\JDS-Hydro\Project_Files\102_Widefield Water And San\102.121_Rolling Hills Tank\Drawings\Working\102121_Erosion Control.dwg

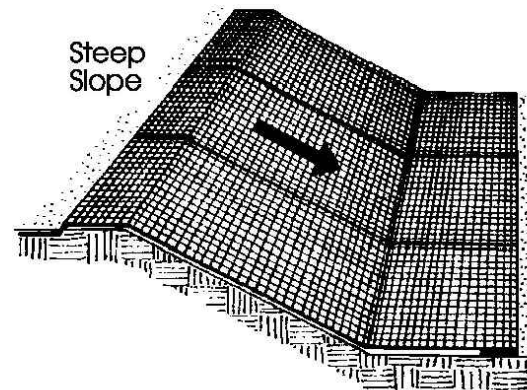
From: Virginia Soil and Water Conservation Commission, 1985



Shallow Slope

On shallow slopes, strips of netting may be applied across the slope.

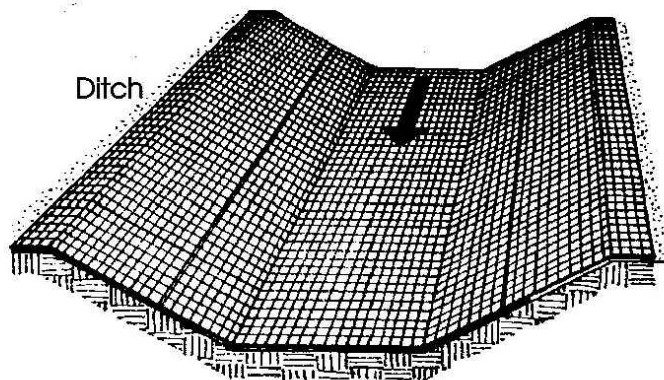
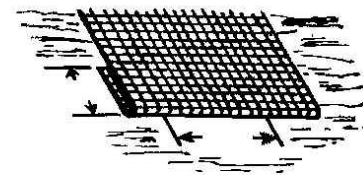
Where there is a berm at the top of the slope, bring the netting over the berm and anchor it behind the berm.



Steep Slope

On steep slopes, apply strips of netting parallel to the direction of flow and anchor securely.

Bring netting down to a level area before terminating the installation. Turn the end under 6" and staple at 12" intervals.



Ditch

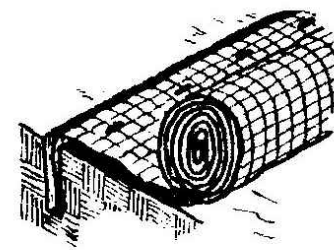
In ditches, apply netting parallel to the direction of flow. Use check slots every 15 feet. Do not join strips in the center of the ditch.

City of Colorado Springs
Storm Water Quality

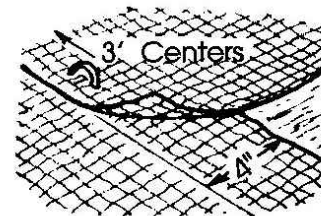
Figure ECB-1
Erosion Control Blanket
Application Examples

DEN\M\153722.CS.CB\FigECB-1/9-99

From: Virginia Soil and Water Conservation Commission, 1985

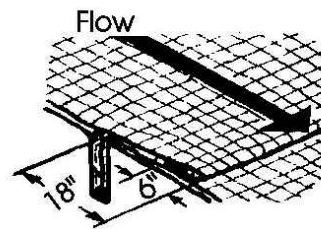
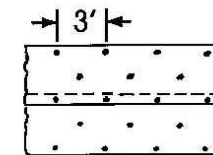


Anchor Slot: Bury the up-channel end of the net in a 6" deep trench. Tamp the soil firmly. Staple at 12" intervals across the net.



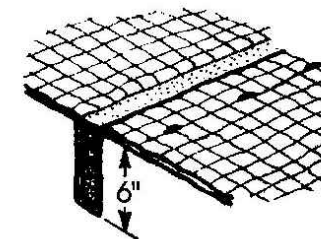
3' Centers

Overlap: Overlap edges of the strips at least 4". Staple every 3 feet down the center of the strip.

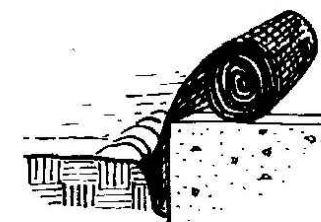


Flow

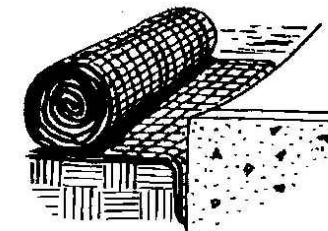
Joining Strips: Insert the new roll of net in a trench, as with the Anchor Slot. Overlap the up-channel end of the previous roll 18" and turn the end under 6". Staple the end of the previous roll just below the anchor slot and at the end at 12" intervals.



Check Slots: On erodible soils or steep slopes, check slots should be made every 15 feet. Insert a fold of the net into a 6" trench and tamp firmly. Staple at 12" intervals across the net. Lay the net smoothly on the surface of the soil - do not stretch the net, and do not allow wrinkles.



Anchoring Ends At Structures: Place the end of the net in a 6" slot on the up-channel side of the structure. Fill the trench and tamp firmly. Roll the net up the channel. Place staples at 12" intervals along the anchor end of the net.



City of Colorado Springs
Storm Water Quality

Figure ECB-2
Erosion Control Blanket
Installation Requirements

DEN\M\153722.CS.CB\FigECB-2/9-99

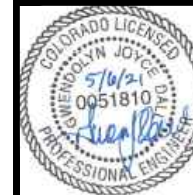
WIDEFIELD WATER AND SANITATION DISTRICT

ROLLING HILLS 2MG POTABLE WATER TANK

GRADING AND EROSION CONTROL DETAILS

NO.	DESCRIPTION	BY	APP.	DATE
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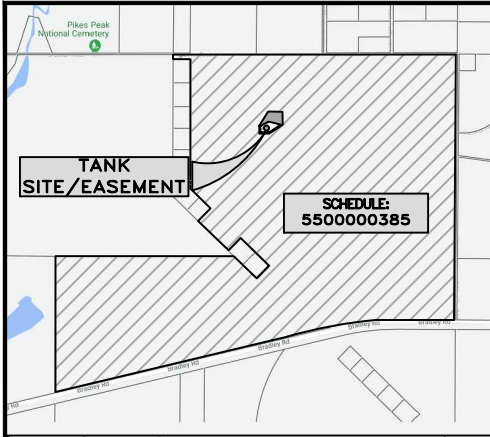
FOR CONSTRUCTION



Project No.: 102.121
Date: 05/06/21
Design: GJD
Drawn: SNW
Check: JPM

C15
SHEET 18 OF 32

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COLORADO SPRINGS, COLORADO 80919
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OVERALL PROJECT LOCATION
SCALE: N.T.S.

PROPOSED TANK SITE EASEMENT (3.472 AC). INTERNAL LANDSCAPE REQUIREMENTS WITHIN ENTIRE EASEMENT ARE N/A WITH TANK CONSTRUCTION PORTION OF PROJECT. LANDSCAPING REMAINING SHALL BE ADDRESSED UPON FUTURE DEVELOPMENT PER EPC LDC CH 6.2.2(E)(3)(c)

- NOTES:
- SEE SHEET C17 FOR LANDSCAPING NOTES AND QUANTITY SUMMARY TABLE
 - SEE SHEET C6 FOR FENCING AND GATE DETAILS
 - SEE EROSION CONTROL SHEETS FOR NATIVE SEED MIX DETAILS
 - SEE SITE PLAN FOR TANK SITE EASEMENT EXTENTS/BOUNDARY LINE

15' WIDE GRAVEL TANK ACCESS ROAD (TO BE REMOVED DURING FUTURE SURROUNDING DEVELOPMENT). EPC ROADWAY-LANDSCAPING REQUIREMENTS N/A

24' WIDE CHAIN LINK LOCKABLE DOUBLE GATE

GATE ACCESS CORNER
N: 1344928.0691
E: 1344928.0691

GATE ACCESS CORNER
N: 1344921.9251
E: 3250105.2578

6' HIGH CHAIN LINK PERIMETER FENCE/LANDSCAPE BOUNDARY
59,914 SF (1.37 AC)

15' WIDE GRAVEL ACCESS FOR PRIVATE WALKWAY/ MAINTENANCE ACCESS ONLY

GRAVEL PARKING AREA (OPERATIONS STAFF ONLY)

PROPOSED 2.0 MG POTABLE WATER TANK
98.5' DIA
35' SWD
F.F. = 5972'
O.F. = 6007'

MAINTAIN A MINIMUM OF 10'± FROM PIPELINE TO VEGETATION INSTALLATION

20' LANDSCAPE BUFFER (STEEL EDGING NOT REQUIRED ALONG FENCE LINE)

30' PERMANENT EASEMENT

35' TEMPORARY EASEMENT

DISTURBED AREAS SHALL INCLUDE NATIVE SEEDING REVEGETATION. NOT SHOWN FOR CLARITY. SEE EROSION CONTROL SHEETS

PROPOSED 50' TEMPORARY EASEMENT

20' LANDSCAPE BUFFER (STEEL EDGING NOT REQUIRED ALONG FENCE LINE)

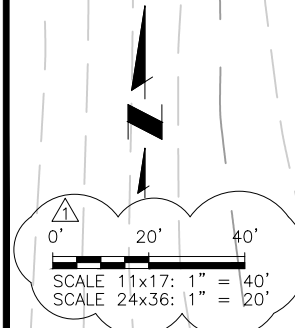
IRRIGATION BOX WITH CONTROL VALVE

IRRIGATION SYSTEM CONNECTION

DRIP SYSTEM

FENCE CORNER
N: 1344718.87
E: 3249879.07

20' LANDSCAPE BUFFER (STEEL EDGING NOT REQUIRED ALONG FENCE LINE)



LEGEND - MATERIALS		SCHEDULE - HARDSCAPE		SCHEDULE - XERIC/LOW WATER VEGETATION						
NO.	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	BOTANICAL NAME	COMMON NAME	QTY.	MATURE SIZE	PLANTING SIZE (MIN)	COMMENTS
1	TYP PLANTING REF: SHEET C8	(Symbol)		(Symbol)	EVERGREEN TREE					
2	STEEL EDGE, TYP FOR SEPARATION BETWEEN SEED, GRAVEL/MULCH, AND BASECOURSE AREAS REF: DETAIL C/C8	(Symbol)	3/8" GRAVEL "MULCH": WASHED RIVER ROCK OR APPROVED EQUAL	(Symbol)	PINUS EDULIS	PINON PINE	5	25'-0" x 15'-0"	4' MIN. HEIGHT	MUST ARRIVE BALLED AND BURLAPPED. PRUNE TO SHAPE TREE AT EARLY GROWTH
3	GRAVEL "MULCH" @ 4" DEPTH MIN	(Symbol)	BASECOURSE: CLASS VI AGGREGATE SEE SPECS	(Symbol)	JUNIPERUS SCOPULORUM	ROCKY MOUNTAIN JUNIPER	20	15'-0" x 8'-0"	4' MIN. HEIGHT	MUST ARRIVE BALLED AND BURLAPPED. PRUNE OUT SPORE HORNS WHEN SEEN IN SPRING
4	BASECOURSE @ 4" DEPTH MIN	(Symbol)								

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WIDEFIELD WATER AND SANITATION DISTRICT
ROLLING HILLS 2MG POTABLE WATER TANK
LANDSCAPE PLAN

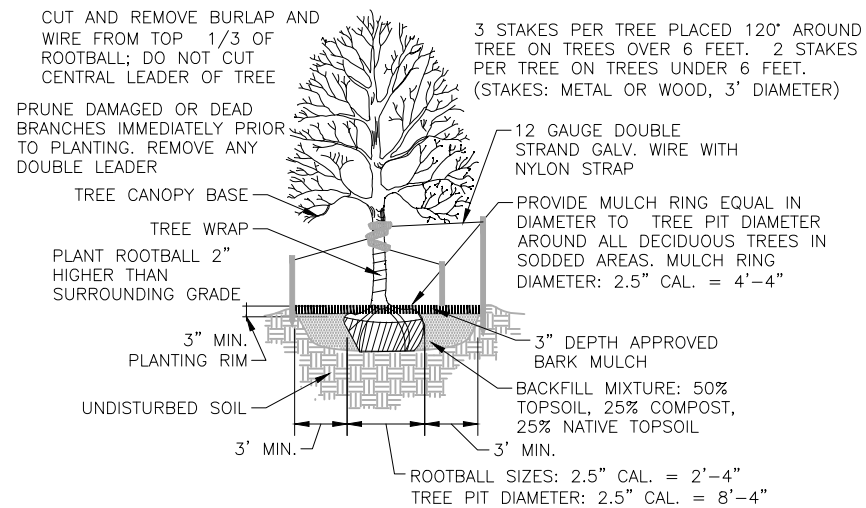
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FOR CONSTRUCTION

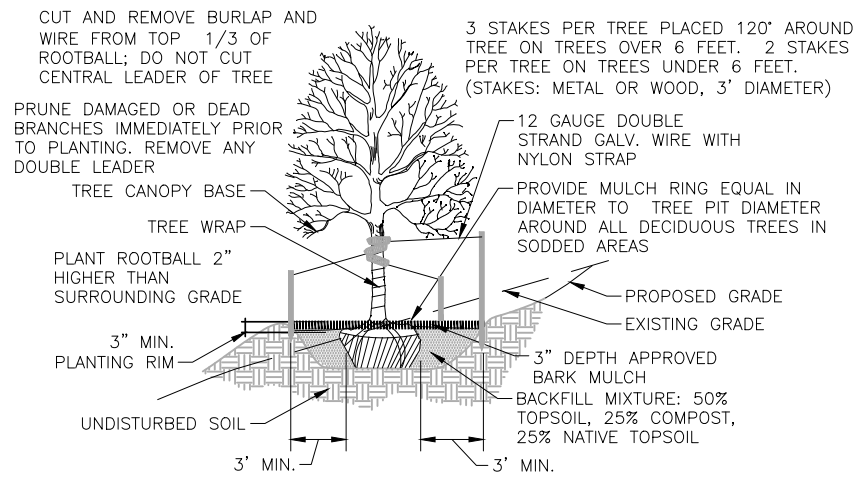


Project No.: 102.121
Date: 05/06/21
Design: GGM
Drawn: GGM
Check: JPM

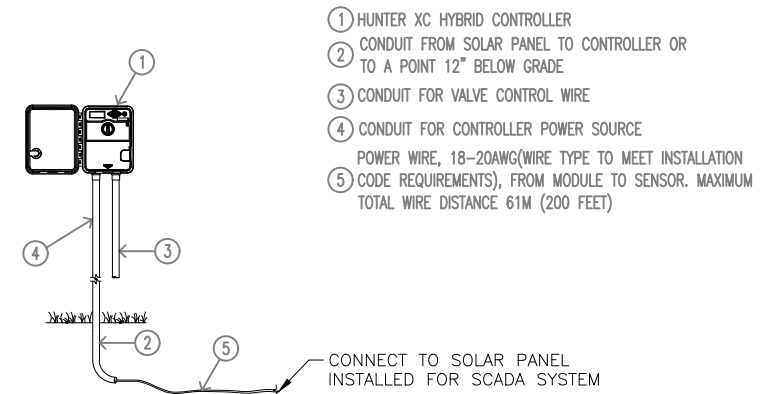
C16
SHEET 19 OF 32



A TREE PLANTING
C17 SCALE: N.T.S.

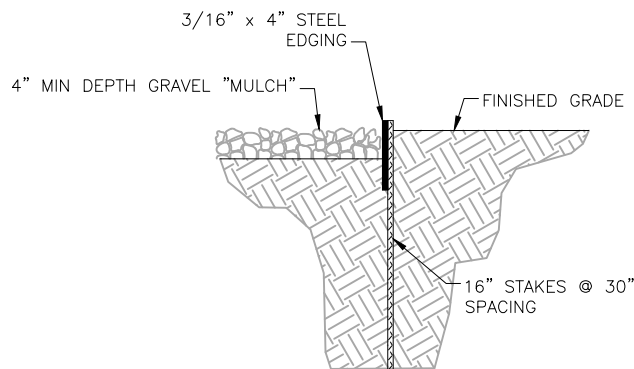


B TREE PLACEMENT ON SLOPES
C17 SCALE: N.T.S.

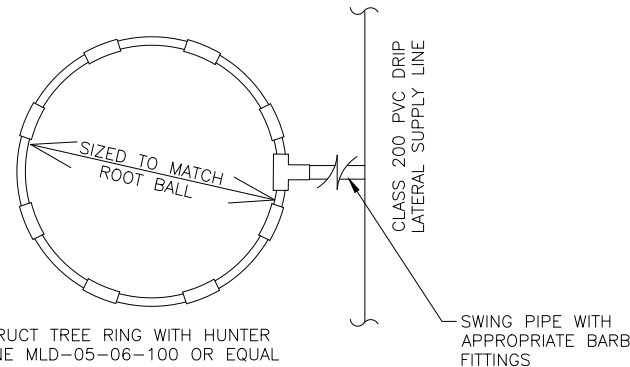


C AUTOMATIC CONTROLLER
C17 SCALE: N.T.S.

NOTES:
CONTROLLER SHALL BE MOUNTED SECURELY TO SUITABLE POST OR UNISTRUT STANCHION USING APPROPRIATE FASTENERS. ALL EXPOSED CONDUIT SHALL BE E.M.T. OR EQUAL AND APPROVED BY LOCAL CODES. ALL CONDUIT CONNECTIONS SHALL BE MADE USING WATERTIGHT CONNECTORS



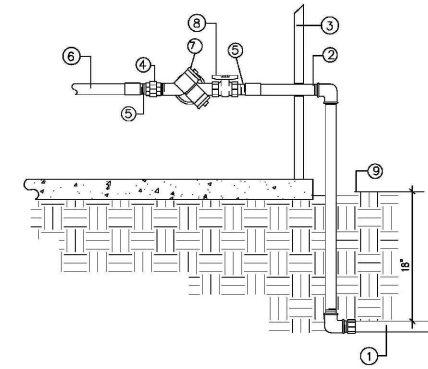
D LANDSCAPE STEEL EDGE
C17 SCALE: N.T.S.



E TREE RING
C17 SCALE: N.T.S.

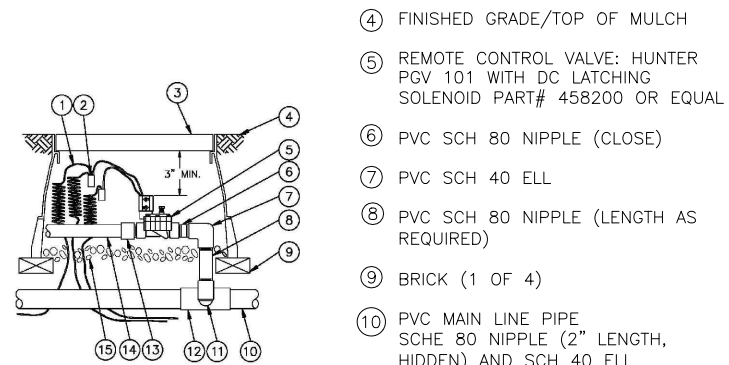
NOTE:
CONSTRUCT TREE RING WITH HUNTER DRIPLINE MLD-05-06-100 OR EQUAL

- 1 PVC MAIN LINE
- 2 CONNECTION TO COPPER STUB-OUT
- 3 BUILDING WALL
- 4 GALVANIZED UNION
- 5 GALVANIZED NIPPLE -3" LENGTH
- 6 MAIN LINE FROM WATER METER
- 7 REDUCED PRESSURE BACKFLOW PREVENTER OR APPROVED EQUAL
- 8 SHUT-OFF VALVE
- 9 FINISHED GRADE



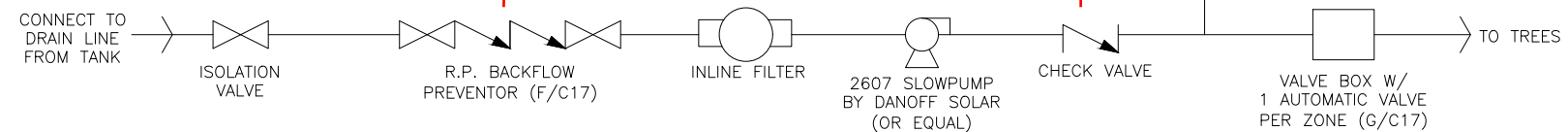
F R.P. BACKFLOW PREVENTER
C17 SCALE: N.T.S.

Swapped Backflow with check valve



- 1 30" LINEAR LENGTH OF WIRE, COILED
- 2 WATERPROOF CONNECTION
- 3 VALVE BOX WITH COVER
- 4 FINISHED GRADE/TOP OF MULCH
- 5 REMOTE CONTROL VALVE: HUNTER PGV 101 WITH DC LATCHING SOLENOID PART# 458200 OR EQUAL
- 6 PVC SCH 80 NIPPLE (CLOSE)
- 7 PVC SCH 40 ELL
- 8 PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
- 9 BRICK (1 OF 4)
- 10 PVC MAIN LINE PIPE SCHE 80 NIPPLE (2" LENGTH, HIDDEN) AND SCH 40 ELL
- 11 PVC SCH 40 TEE OR ELL
- 12 PVC SCH 40 MALE ADAPTER
- 13 PVC LATERAL PIPE
- 14 3" MINIMUM DEPTH OF 3/4" WASHED GRAVEL

G AUTOMATIC VALVE ASSEMBLY
C17 SCALE: N.T.S.



- NOTES:
- OVERALL LAYOUT DEPICTED. ALL REQUIRED FITTINGS, PIPING AND CONTROLS TO BE PROVIDED. CONTRACTOR TO CONFIRM DESIGN.
 - PUMP DESIGN ASSUMED AT 60FT TOTAL LIFT, 6.09 GPM, 250 WATTS, 1/2 HP, 24 VDC. ALLOW FOR 4 - 6 GPM TO TREES WITH A RUN TIME OF 90 - 120 MINUTES.
 - FIVE ZONES ASSUMED WITH 1/2" TO 3/4" TRUNK LINE.

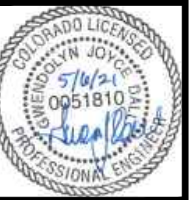
H IRRIGATION PUMP ARRANGEMENT
C17 SCALE: N.T.S.

JDS-HYDRO CONSULTANTS, INC.
5640 TECH CENTER DR., SUITE 100
COLORADO SPRINGS, COLORADO 80919
(719) 227-0072

WIDEFIELD WATER AND SANITATION DISTRICT
ROLLING HILLS 2MG POTABLE WATER TANK
LANDSCAPE DETAILS

NO.	DESCRIPTION	BY	APP.	DATE
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FOR CONSTRUCTION



Project No.: 102.121
Date: 05/06/21
Design: GGM
Drawn: GGM
Check: JPM

2021/05/06 9:03 AM By: Shelby West j:\JDS-Hydro\Project Files\102_Widefield Water And San\102.121_Rolling Hills Tank\Drawings\Working\102121_Landscape_Details.dwg

LANDSCAPE MAINTENANCE

1. THE OWNER IS RESPONSIBLE FOR ALL REGULAR AND NORMAL MAINTENANCE OF REQUIRED LANDSCAPING INCLUDING WEEDING, IRRIGATION, FERTILIZING, PRUNING, AND MOWING.
2. REPLACEMENT OF DEAD, DISEASED, OR SUBSTANTIALLY DAMAGED PLANT MATERIALS SHALL OCCUR WITHIN 6 MONTHS FROM WHEN THE PLANT MATERIAL DIED, OR WHEN THE INSPECTION DETERMINED THE PLANT MATERIAL WAS DEAD OR DAMAGED. REPLACEMENT SHALL BE OF THE SAME OR SIMILAR TYPE AS ORIGINALLY APPROVED. AN ALTERNATIVE TYPE OF SPECIES SHALL REQUIRE APPROVAL BY THE PCD DIRECTOR.
3. MAINTENANCE INSPECTIONS MAY BE PERFORMED PERIODICALLY. FAILURE TO MAINTAIN THE LANDSCAPING IN COMPLIANCE WITH THE APPROVAL IS CONSIDERED A ZONING VIOLATION.

LANDSCAPE PLANTINGS/INSTALLATIONS:

1. PLANT QUANTITY AND SUBSTITUTION: IN CASE OF DISCREPANCY IN PLANT QUANTITIES SHOWN ON THE PLANT TABLE AND THOSE SHOWN ON THE PLANTING PLAN, THE QUANTITIES SHOWN ON THE PLANTING PLAN SHALL GOVERN. THE MINIMUM ACCEPTABLE SIZES OF PLANTS MEASURED BEFORE PRUNING WITH BRANCHES IN NORMAL POSITION SHALL CONFORM TO THE PLANTING SIZES AS SPECIFIED IN THE SCHEDULE. ANY SUBSTITUTION OF PLANT SIZE OR SPECIES MUST BE SUBMITTED TO THE ENGINEER IN WRITING FOR APPROVAL PRIOR TO INSTALLATION.
2. ACCEPTABLE PLANT MATERIAL: ALL PLANTS SHALL MEET OR EXCEED STANDARDS SET BY THE "COLORADO NURSERY ASSOCIATION," AND THE "AMERICAN STANDARD OF NURSERY STOCK." ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES, HEALTHY, FREE OF DISEASE, INSECT PESTS, MECHANICAL INJURIES, AND HAVE ADEQUATE ROOT SYSTEMS. ALL PLANTINGS SHALL BE INSTALLED PER PLANTING DETAILS. ALL PLANT MATERIAL SHALL BE INSPECTED BY THE ENGINEER OR OWNER PRIOR TO INSTALLATION. STAKING/CONTRACTOR INSPECTION NOTE: ALL PLANTING LOCATIONS TO BE STAKED AND INSPECTED BY CONTRACTOR PRIOR TO INSTALLATION. ALL PLANTS TO BE INSPECTED AT NURSERY LOCATION PRIOR TO TRANSPORTING TO THE SITE.
3. SITE DISTURBANCE: ALL AREAS OF SITE DISTURBANCE DUE TO CONSTRUCTION SHALL BE RENOVATED OR PLANTED PER THIS PLAN UNLESS OTHERWISE NOTED.
4. SOIL AMENDMENTS: CONTRACTOR SHALL AMEND PLANTING AREAS AS FOLLOWS:
 -ADD MINIMUM OF 3 CUBIC YARDS OF WELL-COMPOSTED, AGED MANURE OR PREMIUM COMPOST PER 1000 S.F.
 -ALL AMENDED AREAS SHALL BE TILLED TO A DEPTH OF 6" PRIOR TO PLANTING.
 -3 CUBIC YARDS PER 1000 S.F. OF WELL-COMPOSTED, AGED MANURE OR PREMIUM COMPOST.
 -ALL AMENDED AREAS SHALL BE TILLED TO A DEPTH OF 6" PRIOR TO PLANTING.
5. SEEDED TURF: ALL SEEDED OR HYDRO-MULCHED AREAS SHALL DEMONSTRATE 95% GERMINATION PRIOR TO FINAL ACCEPTANCE.
6. IRRIGATION: OWNER TO HAND WATER FOR ONE TO TWO GROWING SEASONS UNTIL ESTABLISHED AND ON AN AS-NEEDED BASIS THEREAFTER. DISTURBED AREA SEED/GRASS MIXTURE MUST BE IRRIGATED BY OWNER UNTIL ESTABLISHED AND IN TIMES OF DROUGHT. THE ON-GOING MAINTENANCE OF THE NATIVE GRASS IS THE RESPONSIBILITY OF OWNER.
7. INORGANIC MULCH AND FABRIC: ALL PLANTINGS TO RECEIVE 3-INCH DEPTH OF INORGANIC MULCH. MULCH RINGS TO BE 15-INCH DIA. FOR (5) GALLON SHRUBS/GRASSES. HIGH QUALITY COMMERCIAL-GRADE (SPUN-BONDED POLYPROPYLENE OR EQUAL) LANDSCAPING FABRIC SHALL BE APPLIED UNDER ALL ROCK BASES.
8. STEEL EDGE: ALL EDGER SHALL BE ACME 4" PERFORATED STEEL EDGER "SELF COLORING" 14 GAUGE OR APPROVED EQUAL.
9. APPROVAL: ANY FIELD CHANGES OR DEVIATIONS TO THESE PLANS WITHOUT PRIOR APPROVAL OF AN AMENDED DEVELOPMENT PLAN MAY RESULT IN A DELAY OF FINAL APPROVAL AND THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
10. FINAL TREE AND SHRUB LOCATIONS: ALL TREE LOCATIONS SHALL BE STAKED FOR APPROVAL BY OWNER REPRESENTATIVE/ENGINEER PRIOR TO PLANTING. SHRUBS SHALL BE PLACED IN THEIR LOCATIONS PER THIS PLAN AND APPROVED BY OWNER REPRESENTATIVE/ENGINEER. THE FINAL LOCATION OF TREES TO BE PLANTED MAY REQUIRE ADJUSTMENT BASED ON APPROVAL OF THE FINAL UTILITIES PLANS AND ASSOCIATED FINAL PLAT AND EASEMENTS.

SEED MIX

AREAS DISTURBED BY THE EARTHWORK SHALL BE PERMANENTLY REVEGETATED WITH NATIVE GRASSES. NATIVE SEED MIX FOR THIS PROJECT SHALL BE AS FOLLOWS:

COMMON NAME	RECOMMENDED CULTIVAR	% OF SEED MIX	NON IRRIGATED PLS RATE PER ACRE	
			DRILL	BROADCAST
BIG BLUESTEM, NATIVE	KAW, BISON, CHAMP	20.00%	5.5	11.0
BLUE GRAMA, NATIVE	LOVINGTON, HACHITA, ALMA	10.00%	1.5	3.0
GREEN NEEDLEGRASS, NATIVE	LODORM	10.00%	5.0	10.0
WESTERN WHEATGRASS, NATIVE	ARRIBA, BARTON	20.00%	8.0	16.0
SIDEOATS GRAMA, NATIVE	VAUGHN, BUTTE, EL RENO, NINER	10.00%	4.5	9.0
SWITHGRASS, NATIVE	BLACKWELL, GREENVILLE	10.00%	2.0	4.0
PRAIRIE SANDREED, NATIVE	GOSHEN, PRONGHORN	10.00%	3.5	7.0
YELLOW INDIANGRASS, NATIVE	CHEYENNE, HOLT, LLANO	10.00%	5.0	10.0

ALTERNATIVE LANDSCAPING DATA:	
NET SITE AREA (LESS FUTURE EASEMENT DEVELOPMENT)	59,914
BUFFER BETWEEN NON-RESIDENTIAL & FUTURE RESIDENTIAL	
DEPTH REQUIRED/PROVIDED	15'/20'
TREES REQUIRED (@ 1/25 LF)/PROVIDED	25/25
LIVE GROUND COVERAGE REQUIRED/PROVIDED	75%/70%
OTHER	
PARKING LOT LANDSCAPE (N/A)	
ROAD FRONTAGE LANDSCAPE (N/A)	
INTERNAL LANDSCAPE (N/A)	

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WIDEFIELD WATER AND SANITATION DISTRICT
 ROLLING HILLS 2MG POTABLE WATER TANK
 LANDSCAPE NOTES

NO.	DESCRIPTION	BY	APP.	DATE
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FOR CONSTRUCTION



Project No.: 102.121
 Date: 05/06/21
 Design: GJD
 Drawn: GMM
 Check: JPM

2021/05/06 9:03 AM By: Shelby West j:\JDS-Hydro\Project Files\102_Widefield Water And San\102.121_Rolling Hills Tank\Drawings\Working\102121_Tank.dwg

GENERAL DESIGN CRITERIA:

1. BUILDING CODES:
 - A. THESE GENERAL NOTES APPLY TO ALL STRUCTURAL DRAWINGS. THIS PROJECT IS DESIGNED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE (IBC), 2015 EDITION, THE MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES (ASCE 7), AND THE PIKES PEAK REGIONAL BUILDING CODE, 2017 EDITION.
 - B. ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH APPLICABLE PROVISIONS OF THE CODES SPECIFIED ABOVE.
2. FOUNDATION DESIGN IN ACCORDANCE WITH SUBSURFACE SOIL INVESTIGATION BY VIVID ENGINEERING GROUP, DATED MARCH 5, 2020. (VIVID PROJECT NO. D20-2-282, REV 1)
3. TANK DESIGN SHALL CONFORM TO AWWA D110 TYPE III.
4. TANK DATA:
 - NOMINAL CAPACITY 2,000,000 GALLONS
 - INSIDE DIAMETER 98.5 FEET
 - WALL HEIGHT 35 FEET
 - OVERFLOW ELEV. 6007.00 FEET
 - FINISH FLOOR ELEV. 5972.00 FEET
 - DRAIN PIPE SIZE 12 INCHES
 - INLET/OUTLET PIPE SIZE 24 INCHES
 - ROOF VENT SHALL HAVE SUFFICIENT CAPACITY TO PASS 267.4 CFM OF AIR DURING FILLING AND 668.4 CFM WHILE EMPTYING SO THAT EXCESSIVE PRESSURE/VACUUM WILL NOT DEVELOP.
 - THE MAXIMUM DESIGNED FLOWRATE INTO THE TANK IS 2,700 GPM
 - THE MAXIMUM DESIGN FLOWRATE OUT OF THE TANK IS 45,000 GPM TO ACCOUNT FOR A PIPE BREAK.
 - THE VENT SHALL BE CONSTRUCTED TO PREVENT THE ENTRANCE OF BIRDS, INSECTS, OR CONTAMINATING MATERIALS. THE VENT SHALL BE EASILY DISMANTLED FOR CLEANING.
 - THE VENT SHALL BE SCREENED WITH FIBERGLASS 24 MECH SCREEN.
5. NO BACKFILLING OPERATIONS SHALL BE PERFORMED AGAINST FOUNDATION WALLS UNTIL THE CONCRETE HAS BEEN ALLOWED TO SUFFICIENTLY CURE.
6. SIZE AND LOCATION OF ALL EXISTING FACILITIES SHALL BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION.
7. EROSION CONTROL MEASURES SHALL BE IMPLEMENTED IN A MANNER THAT WILL PROTECT ADJACENT PROPERTIES AND PUBLIC FACILITIES FROM ADVERSE EFFECTS OF EROSION AND SEDIMENTATION AS A RESULT OF EARTHWORK AND CONSTRUCTION ACTIVITIES WITHIN THE PROJECT SITE.
8. REFER TO THE GEOTECHNICAL REPRT FOR LEVELING BASE SPECIFICATION, COMPACTION REQUIREMENTS, AND FOUNDATION PREPARATION. LEVELING BASE MATERIAL SHALL BE PROVIDED BENEATH THE TANK FLOOR, FOOTING, AND BOTTOM OF PIPE ENCASEMENTS.
9. THE GEOTECHNICAL ENGINEER SHALL EVALUATE THE SUBGRADE PRIOR TO PLACEMENT OF THE LEVELING BASE TO DETERMINE CONFIRMATION WITH THE GEOTECHNICAL REPORT.
10. REFER TO THE GEOTCHNICAL REPORT FOR SULFATE CONTENT FOR SOILS. ASSUME A CLASS 2 EXPOSURE OF SULFATE ATTACK.

TANK MATERIAL SPECIFICATIONS:

LOCATION OF CONCRETE	28 DAY COMPRESSIVE STRENGTH	MAXIMUM AGGREGATE SIZE
PRECAST DOME PANELS	4,000 PSI	3/4
CIP CONCRETE DOME	4,000 PSI	3/8
DOME SLOTS	4,000 PSI	3/8
DOME RING	4,000 PSI	3/8
PRECAST WALL PANELS	4,000 PSI	3/4
WALL SLOTS	4,000 PSI	#4 SIEVE
WALL ENCASEMENT	4,000 PSI	3/4
COVE	4,000 PSI	3/8
FOUNDATION & FLOOR	4,000 PSI	1-1/4
FLOOR PIPE ENCASEMENTS	4,000 PSI	1-1/4

		MIX PROPORTIONS
COREWALL SHOTCRETE	4,500 PSI	1:3
WIRE COVER SHOTCRETE	4,500 PSI	1:3
COVERCOAT SHOTCRETE	4,500 PSI	1:4
TEMPORARY OPENING SHOTCRETE	4,500 PSI	1:3

- CONCRETE: SHALL CONFORM TO ACI 301 & 372R.
- SHOTCRETE: SHALL CONFORM TO ACI 506.
- REINFORCING BARS: SHALL BE ASTM A615, GRADE 60, DEFORMED, UNCOATED.
- REINFORCING MESH: SHALL BE ASTM A1064.
- PRESTRESS WIRE: SHALL BE ASTM A821, MIN. TENSILE STRENGTH = 210 ksi
- STEEL DIAPHRAGM: SHALL BE ASTM A1008, MIN. THICKNESS = 0.017 in
- WALL SLOT PLATE (IF REQUIRED): SHALL BE ASTM A569, 10 GAUGE, LOW CARBON STEEL, NOT PICKLED OR OILED.
- TANK WALL PVC WATERSTOP: SHALL BE 9" RIBBED CENTER BULB WATERSTOP #718 AS MANUFACTURED BY GREENSTREAK OR EQUAL.
- PIPE ENCASEMENT PVC WATERSTOP: SHALL BE 6" FLATSTRIP WATERSTOP #783 AS MANUFACTURED BY GREENSTREAK OR EQUAL.
- DUROMETER PAD: SHALL BE 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
- SPONGE FILLER PAD: SHALL BE CLOSED CELL NEOPRENE, CONFORMING TO ASTM D1056, TYPE 2 CLASS A, GRADE 1.
- POLYSULFIDE: SHALL BE PSI-275 BY POLYMERIC SYSTEMS INC., T-2235-M BY POLYSPEC, OR EQUAL.
- NON-SHRINK GROUT: SHALL BE QUICKCRETE 1585-01 GROUT, NON-SHRINK, NON-STAIN, NON-METALLIC, OR EQUAL.
- ADEKA: SHALL BE UNTRASEAL P-201, OR EQUAL.
- EXTERIOR TANK COATING: CAST-IN-PLACE DOME SURFACE SHALL RECEIVE ONE COAT OF TAMOSEAL W/AKKRO-7T, OR EQUAL FOLLOWED BY ONE COAT OF TAMMSCOAT, OR EQUAL. THE EXPOSED TANK WALL SURFACE SHALL RECEIVE TWO COATS OF TAMMSCOAT SMOOTH, OR EQUAL. THE COATING IS MANUFACTURED BY THE EUCLID CHEMICAL COMPANY, OR EQUAL.
- LADDER SAFETY CLIMBING DEVICE SHALL BE S.S. LAD-SAF CABLE SYSTEM AS MANUFACTURED BY DBI-SALA, INC., OR APPROVED EQUAL.

TANK DESIGN CRITERIA:

- GOVERNING BUILDING CODES: 2015 INTERNATIONAL BUILDING CODE
- ADDITIONAL CODES USED:
 - AWWA D110 "STANDARD FOR WIRE AND STRAND-WOUND, CIRCULAR, PRESTRESSED CONCRETE WATER TANKS"
 - ACI 350 "CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES AND COMMENTARY"
 - ACI 350.03 "SEISMIC DESIGN OF LIQUID-CONTAINING CONCRETE STRUCTURES AND COMMENTARY"
- STRUCTURAL DESIGN LOADS:
 - ROOF LIVE LOADS:
 - SITE ELEVATION 5975 FT
 - GROUND SNOW LOAD (Pg) 27 PSF MIN.
 - SNOW LOAD EXPOSURE FACTOR (Ce) 1.0
 - SNOW LOAD IMPORTANCE FACTOR (Is) 1.1
 - SNOW LOAD THERMAL FACTOR (Ct) 1.0
 - FLAT ROOF SNOW LOAD (Pf) 30 PSF MIN.
 - WIND LOAD:
 - ULTIMATE DESIGN WIND SPEED (Vult) 140 MPH
 - NOMINAL DESIGN WIND SPEED (Vasd) 101 MPH
 - WIND EXPOSURE CATEGORY C
 - SEISMIC DESIGN:
 - SEISMIC ZONE 1 (AWWA D110)
 - IMPORTANCE FACTOR 1 = 1.25 (AWWA D110)
 - SOIL PROFILE COEFFICIENT 1.2 (AWWA D110)
 - SITE CLASSIFICATION C (ASCE 7 & D110)
 - IMPORTANCE FACTOR 1 = 1.5 (ASCE 7 & D110)
 - RESPONSE MODIFICATION FACTORS:
 - AWWA D110 Ri = 3.5 FOR IMPULSIVE
 - AWWA D110 Rc = 1.0 FOR CONVECTIVE
 - ASCE 7 R = 1.5
 - MAPPED SPECTRAL RESPONSE ACCELERATIONS:
 - Ss 0.167
 - St 0.059
 - SEISMIC DESIGN OCCUPANCY CATEGORY IV
 - SEISMIC RESPONSE COEFFICIENTS:
 - AWWA D110 Cs = 0.091 FOR IMPULSIVE
 - AWWA D110 Csc = 0.028 FOR CONVECTIVE
 - ASCE 7 Cs = 0.041 FOR IMPULSIVE
 - ASCE 7 Csc = 0.022 FOR CONVECTIVE

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WIDEFIELD WATER AND SANITATION DISTRICT
 ROLLING HILLS 2MG POTABLE WATER TANK
STRUCTURAL NOTES

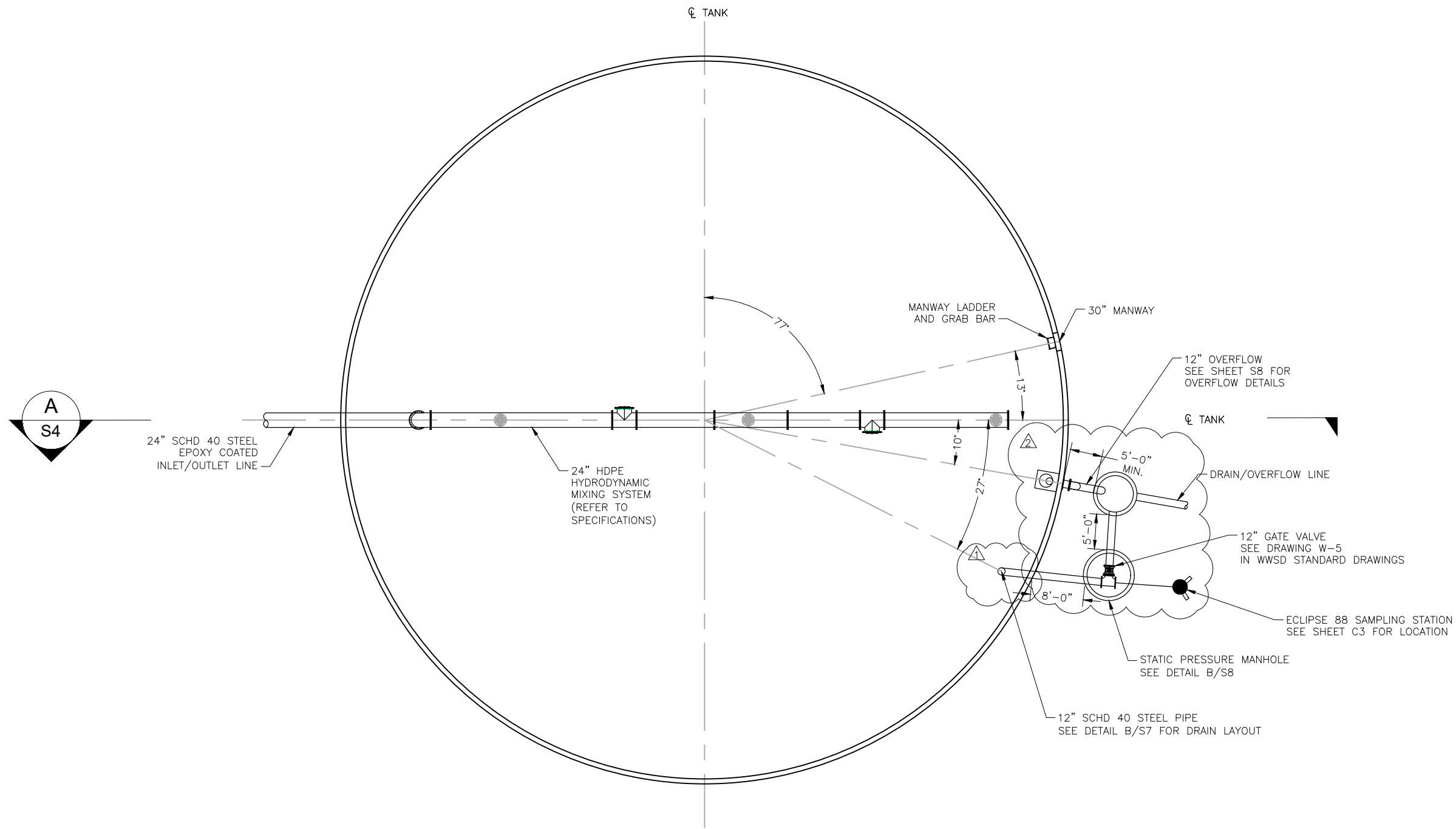
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FOR CONSTRUCTION



Project No.: 102.121
 Date: 05/06/21
 Design: GJD
 Drawn: SNW
 Check: JPM

2021/07/27 9:29 AM By: Shelby West j:\JDS-Hydro\Project Files\102 Widefield Water And San\102.121 Rolling Hills Tank\Drawings\Working\102.121_Tank.dwg



NOTES:

1. SPLICE CIRCUMFERENTIAL JOINT REINFORCING BETWEEN RADIAL JOINTS.
2. DOME PANELS, OR CAST-IN-PLACE DOME, DOME RING, AND DOME SLOTS SHALL RECEIVE A LIGHT BROOM FINISH.
3. ALL APPURTENANCE LOCATIONS SHOWN ON THIS DRAWING ARE OF A DIAGRAMIC NATURE AND FINAL LOCATIONS ARE TO BE LOCATED IN THE FIELD.
4. TEMPORARY WALL OPENING LOCATION TO BE DETERMINED IN THE FIELD.

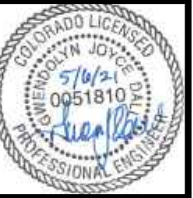
A
S2
TANK APPURTENANCE LAYOUT
 SCALE: 1/16" = 1'-0"

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WIDEFIELD WATER AND SANITATION DISTRICT
 ROLLING HILLS 2MG POTABLE WATER TANK
TANK APPURTENANCE LAYOUT

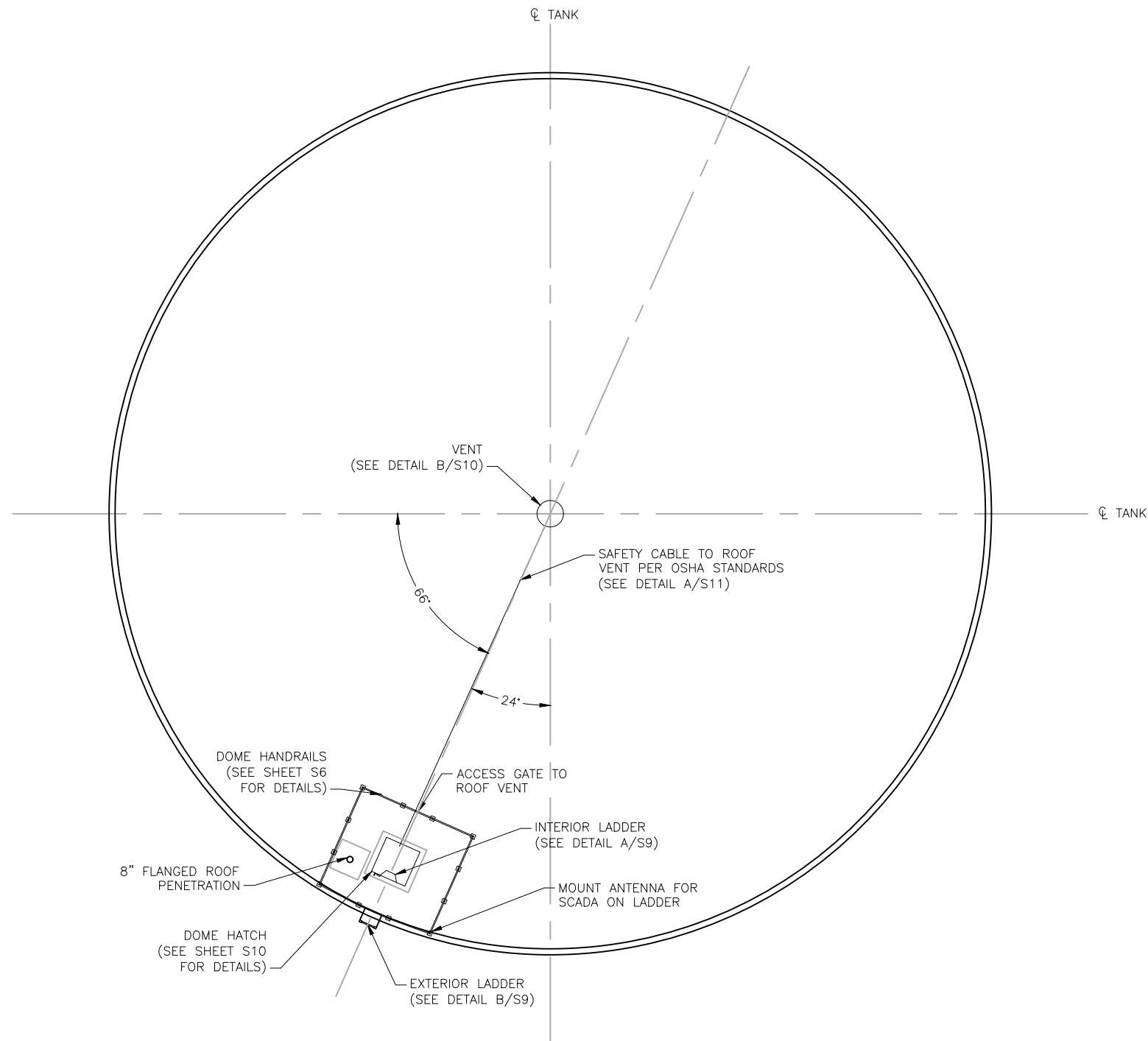
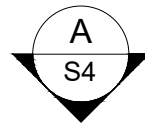
NO.	REVISIONS	DESCRIPTION	BY		DATE	
			APP.	SNW	GJD	GJD
1		DRAIN LOCATION	SNW	GJD	07/27/21	
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FOR CONSTRUCTION



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- NOTES:**
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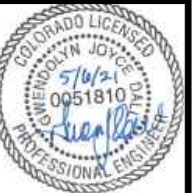
A
S3
DOME APPURTENANCE LAYOUT
 SCALE: 1/16" = 1'-0"

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WIDEFIELD WATER AND SANITATION DISTRICT
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 DOME APPURTENANCE LAYOUT

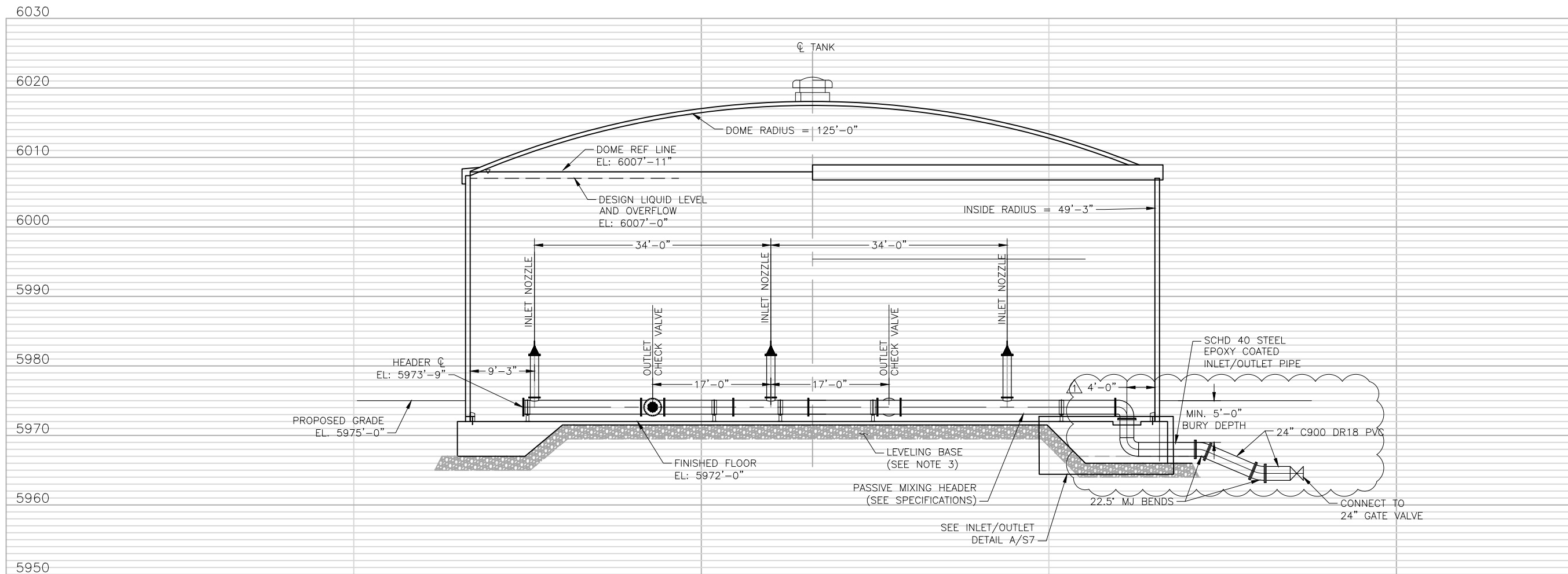
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A TANK SECTION A
S4 SCALE: 1/16" = 1'-0"

NOTES:

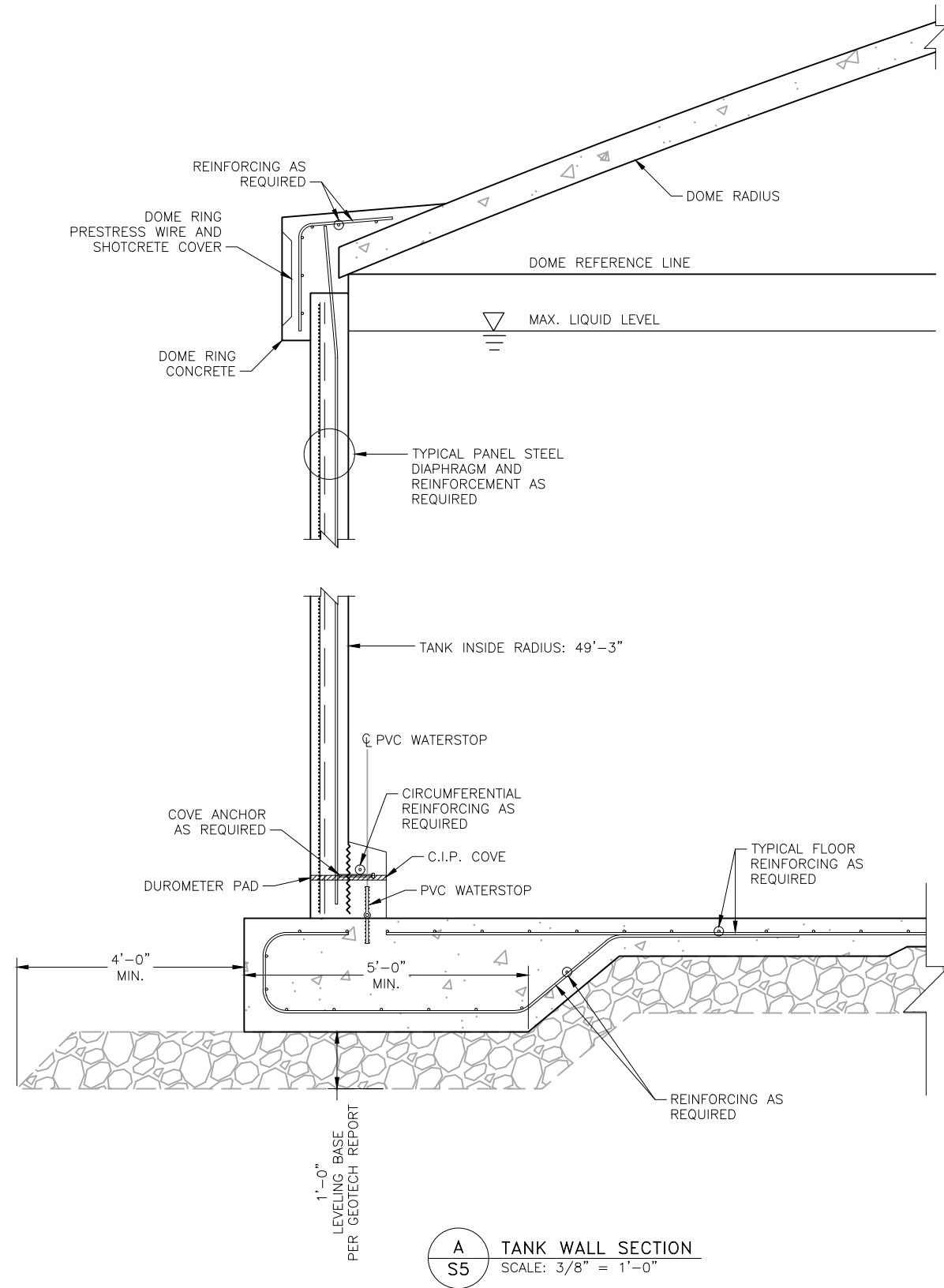
1. REFER TO CONTRACT DOCUMENTS FOR INFORMATION CONCERNING TANK BASE PREPARATION, BACKFILLING, AND SITE GRADING.
2. GEOTECHNICAL ENGINEER MUST INSPECT AND EVALUATE THE SUB-GRADE PRIOR TO PLACEMENT OF LEVELING BASE TO CONFIRM MINIMUM DESIGN CRITERIA IS BEING MET.
3. LEVELING BASE SHALL CONSIST OF 12" OF STONE MEETING THE REQUIREMENTS OF ASTM C33 COARSE AGGREGATE, CRUSHED STONE W/ 100% PASSING THE 1" US SIEVE SIZE AND NOT MORE THAN 8% PASSING THE #200 SIEVE SIZE. LEVELING BASE SHALL EXTEND A MINIMUM OF 48 INCHES BEYOND EDGE OF FOOTINGS.
4. REFER TO TANK & PIPING SECTION DRAWINGS IN CIVIL SHEETS AND STRUCTURAL DETAIL SHEETS FOR BURIED PIPE PENETRATIONS.
5. REFER TO SPECIFICATIONS FOR HYDRODYNAMIC MIXING SYSTEM INFORMATION.

NO.	DESCRIPTION	REVISIONS		DATE
		BY	APP.	
1	PIPE ADJUSTMENT	SNW	GJD	07/15/21
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FOR CONSTRUCTION

Project No.: 102.121
 Date: 05/06/21
 Design: GJD
 Drawn: SNW
 Check: JPM

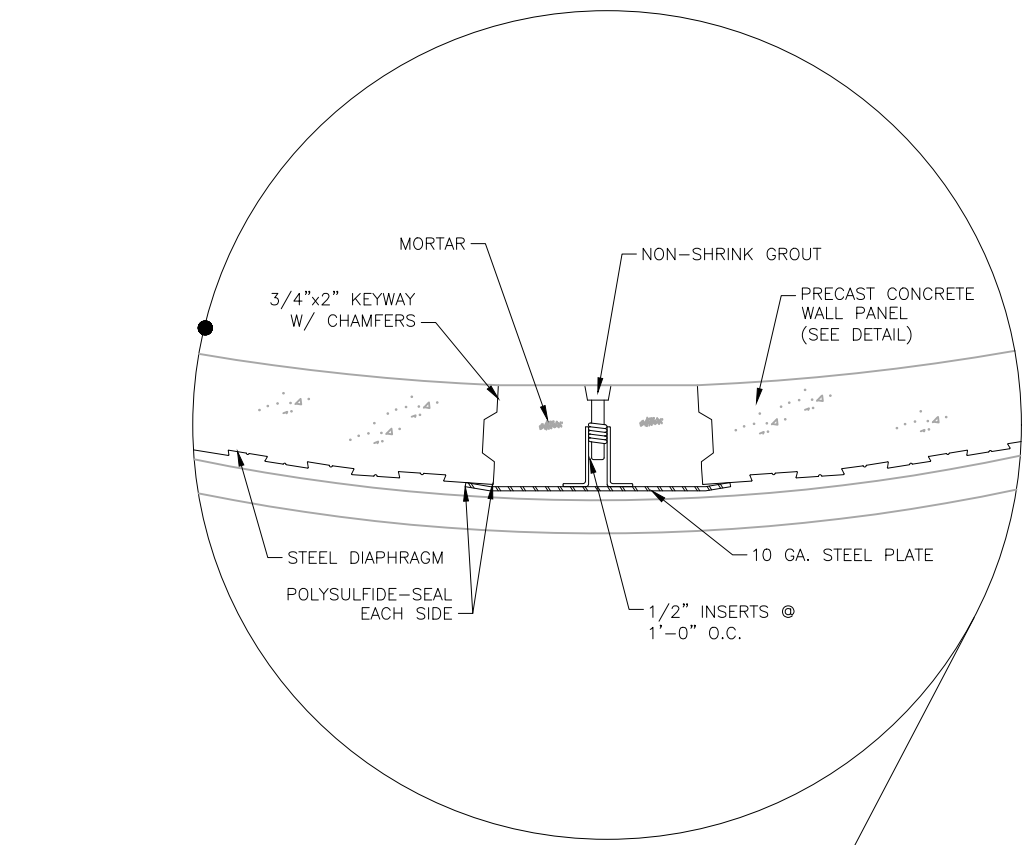
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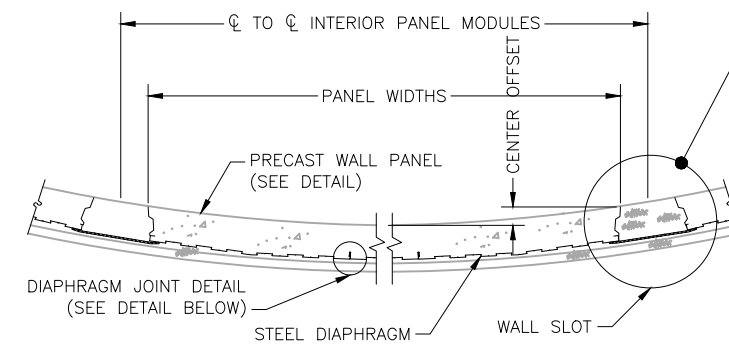
A TANK WALL SECTION
SCALE: 3/8" = 1'-0"

NOTES:

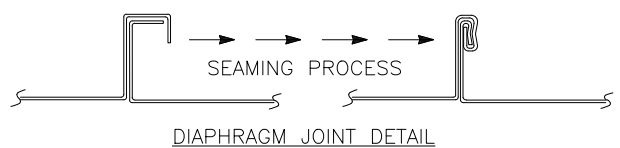
1. ALL REINFORCEMENT SHALL BE GRADE 60 AND DETERMINED BY TANK DESIGNER/MANUFACTURER.
2. TANK FLOOR SHALL RECEIVE A BULL-FLOAT AND/OR A FRESNO FINISH.
3. SECURE WATERSTOP WITH GROMMETS AND TIE-WIRE TO REBAR.
4. LEVELING BASE MATERIAL SHALL BE PROVIDED BENEATH TANK FLOOR, FOOTING, AND BOTTOM OF PIPE ENCASUREMENTS.
5. LEVELING BASE MATERIAL SHALL BE WELL-COMPACTED NO. 57 STONE OR CDOT CLASS 5 OR 6 AGGREGATE COURSE BASE.



WALL SLOT DETAIL
SCALE: N.T.S.



TYPICAL CIRCUMFERENTIAL WALL SECTION



B WALL PANEL & JOINT
SCALE: N.T.S.

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WIDEFIELD WATER AND SANITATION DISTRICT
ROLLING HILLS 2MG POTABLE WATER TANK
TANK STRUCTURAL DETAILS

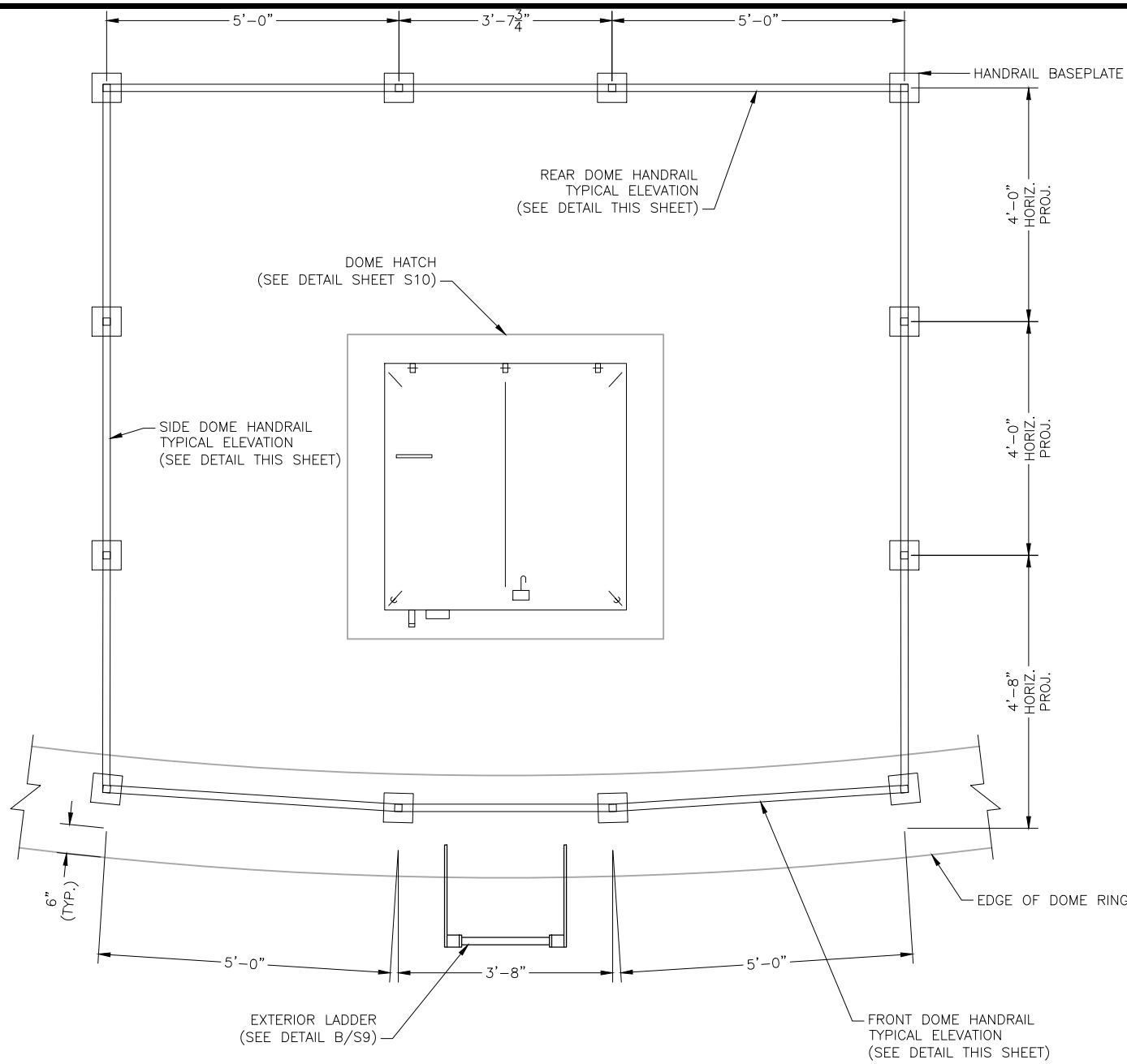
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FOR CONSTRUCTION

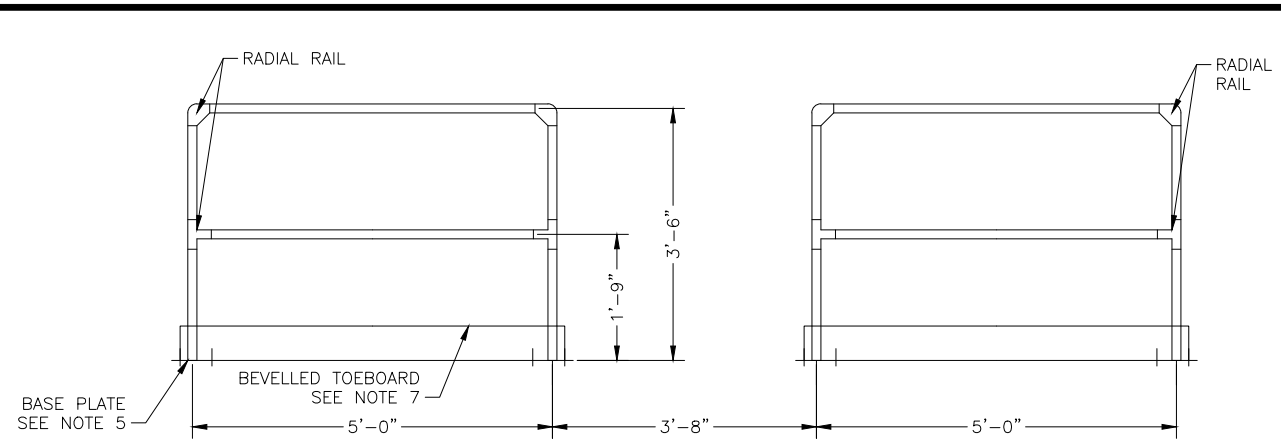


Project No.: 102.121
Date: 05/06/21
Design: GJD
Drawn: SNW
Check: JPM

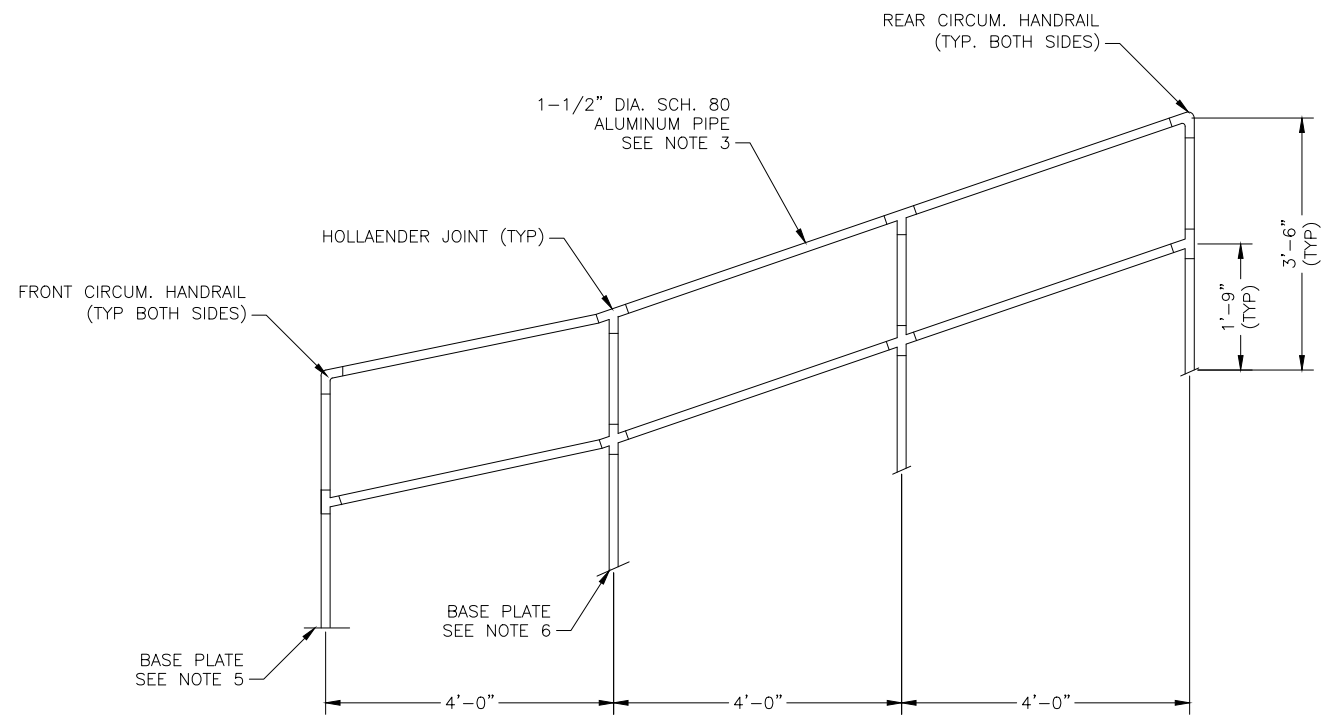
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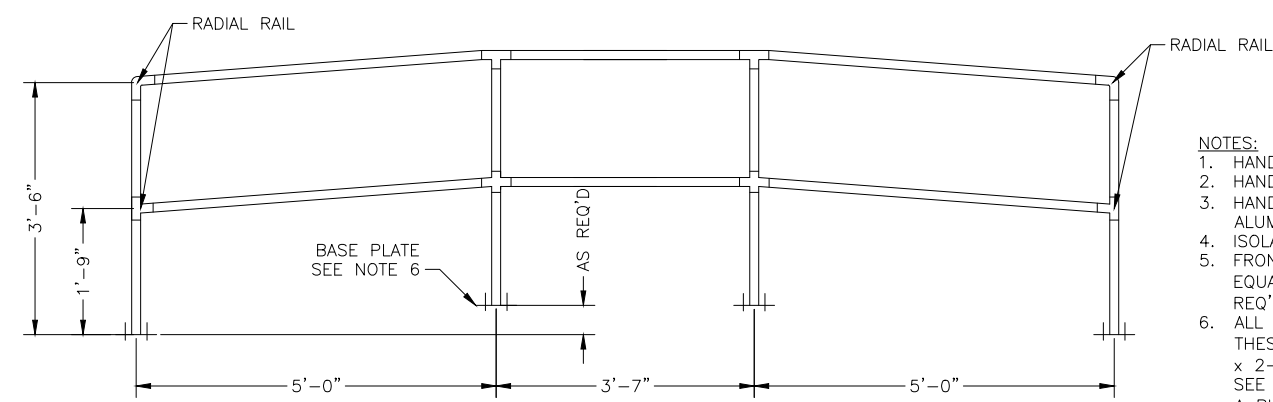
A PLAN
S6 SCALE: 3/8" = 1'-0"



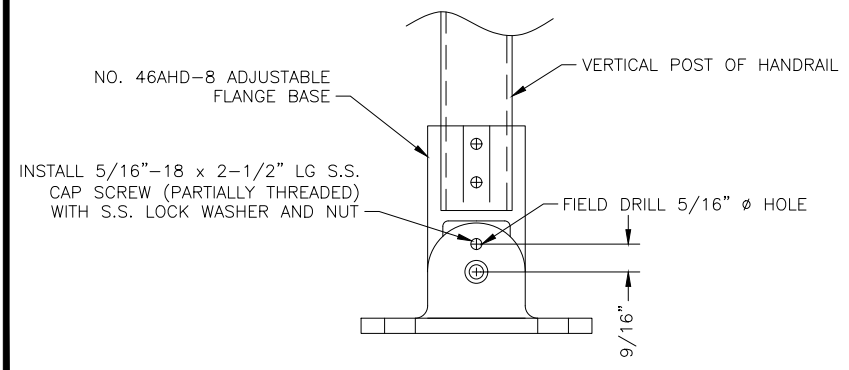
B FRONT ELEVATION
S6 SCALE: 3/8" = 1'-0"



C SIDE ELEVATION - TYP BOTH SIDES, BOTH HANDRAILS
S6 SCALE: 3/8" = 1'-0"



E REAR ELEVATION
S6 SCALE: 3/8" = 1'-0"



D PLATE DETAIL
S6 SCALE: N.T.S.

- NOTES:**
- HANDRAIL FITTINGS SHALL BE SPEED-RAIL BY HOLLAENDER, INC OR EQUAL.
 - HANDRAIL SHALL BE LOCATED AS SHOWN ON SHEET S3.
 - HANDRAIL SHALL BE 1-1/2" DIA. SCH. 80 6061-T6 OR 6005-T5 ANODIZED ALUMINUM PIPE HANDRAIL.
 - ISOLATE ALUMINUM FROM THE CONCRETE WITH THICK NEOPRENE GASKETS.
 - FRONT BASEPLATES SHALL BE SQUARE FIXED NO. 45SBCS FLOOR FLANGE OR EQUAL. SECURE TO DOME WITH 1/2" x 3-3/4" 316 S.S. WEDGE ANCHORS (4 REQ'D PER PLATE) (2-1/4" MIN. EMBEDMENT).
 - ALL OTHER BASEPLATES SHALL NO. 46 AHD-8 ADJUSTABLE FLANGES OR EQUAL. THESE BASEPLATES SHALL BE FIELD DRILLED AND SECURED WITH A 5/16" -18 x 2-1/2" LG. S.S. HEX HEAD CAP SCREW W/SPLIT LOCKWASHER AND NUT. SEE DETAIL THIS SHEET. ROTATE THESE BASEPLATES AS REQUIRED TO MAINTAIN A PLUMB POST. SECURE TO DOME WITH 1/2" x 3-3/4" 316 S.S. WEDGE ANCHORS (4 REQ'D PER PLATE) (2-1/2" MIN. EMBEDMENT).
 - HOLLAENDER BEVELLED TOE BOARD SHALL BE ATTACHED TO FRONT RAIL USING #49C HOLLAENDER CLIPS.
 - ALL HANDRAIL JOINTS SHALL BE ADJUSTABLE.
 - ALL SET SCREWS SHALL BE 316 S.S.

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WIDFIELD WATER AND SANITATION DISTRICT
ROLLING HILLS 2MG POTABLE WATER TANK
TANK STRUCTURAL DETAILS

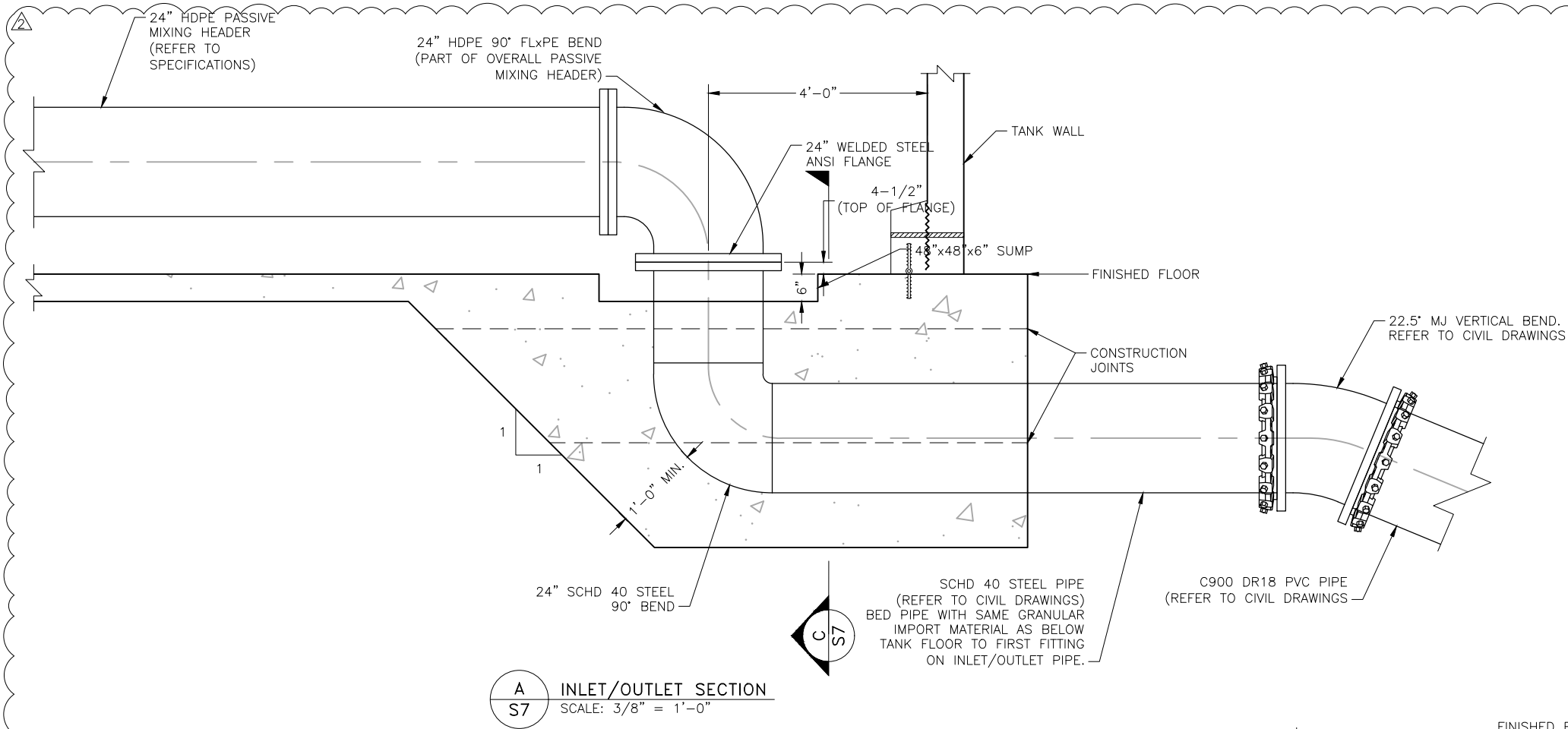
NO.	DESCRIPTION	BY	APP.	DATE
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FOR CONSTRUCTION

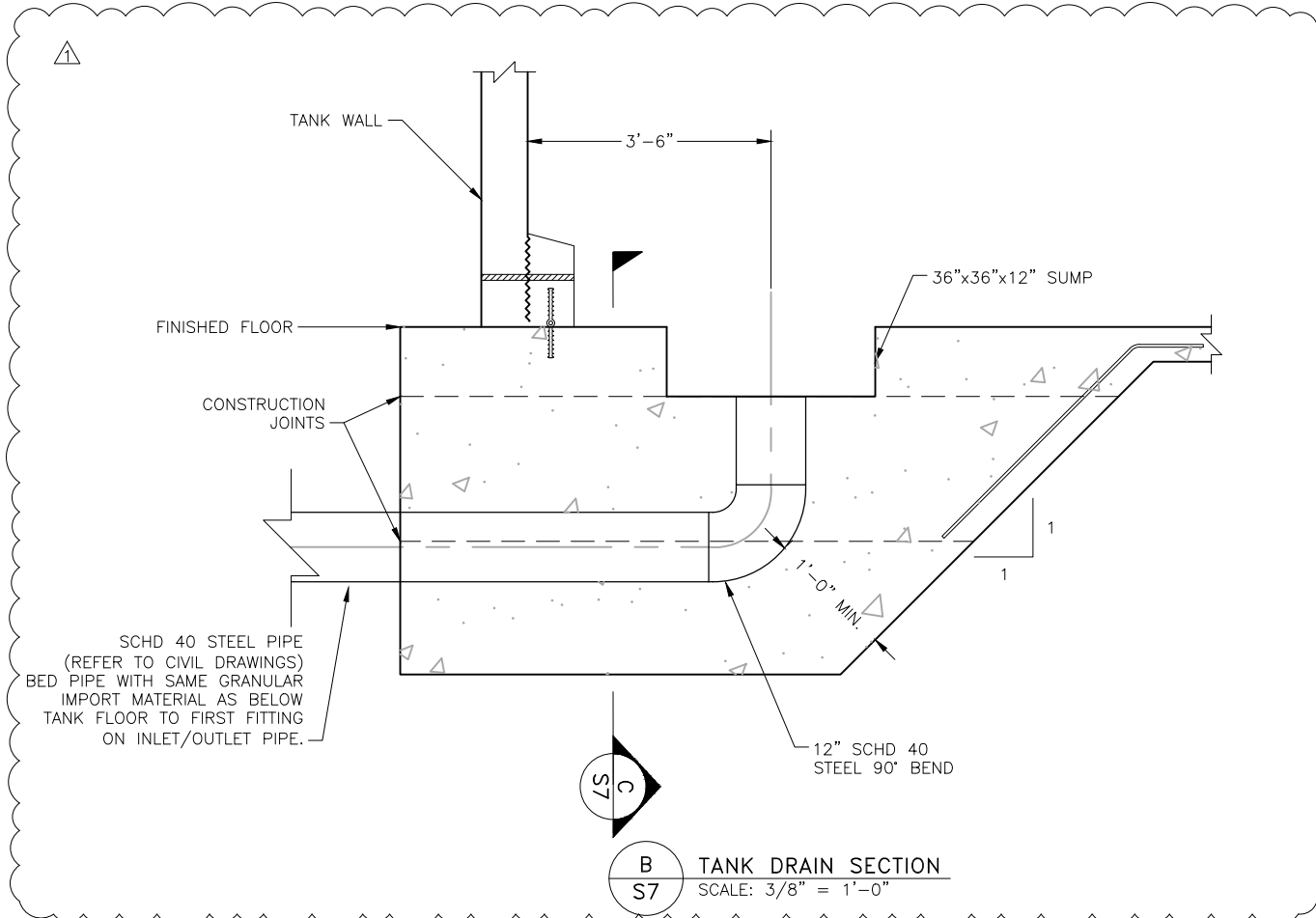


Project No.: 102.121
Date: 05/06/21
Design: GJD
Drawn: SNW
Check: JPM

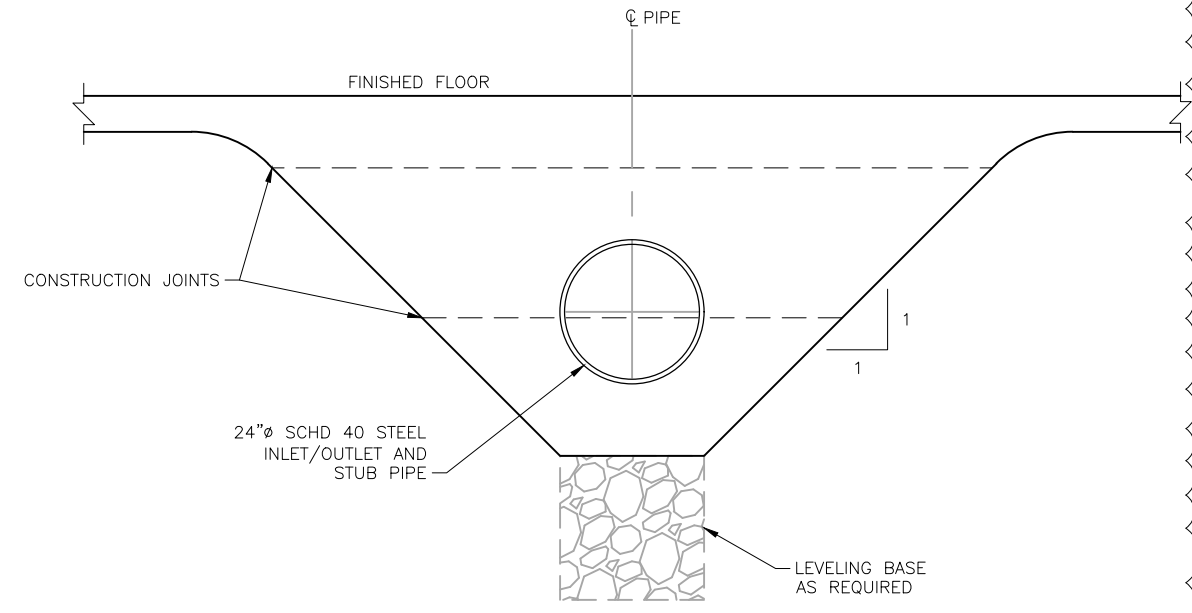
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A INLET/OUTLET SECTION
S7 SCALE: 3/8" = 1'-0"



B TANK DRAIN SECTION
S7 SCALE: 3/8" = 1'-0"



C PENETRATIONS
S7 SCALE: 3/8" = 1'-0"

- NOTES:**
1. INLET/OUTLET AND FUTURE STUB SHALL BE ANSI SCHD 40 STEEL PIPE FROM TANK TO FIRST OUTER FITTING CONNECTION (I.E. MJ VALVE, MJ BEND).
 2. INTERIOR OF SCHD 40 STEEL PIPING SHALL BE COATED WITH AN AWWA APPROVED EPOXY FOR DRINKING WATER.
 3. EXTERIOR OF SCHD 40 PIPING SHALL BE EPOXY COATED AS DESCRIBED IN THE SPECIFICATIONS.
 4. ALL BURIED DUCTILE IRON, STEEL PIPE, AND MJ FITTINGS SHALL BE CATHODICALLY PROTECTED USING 17 L.B MAGNESIUM ANODES.

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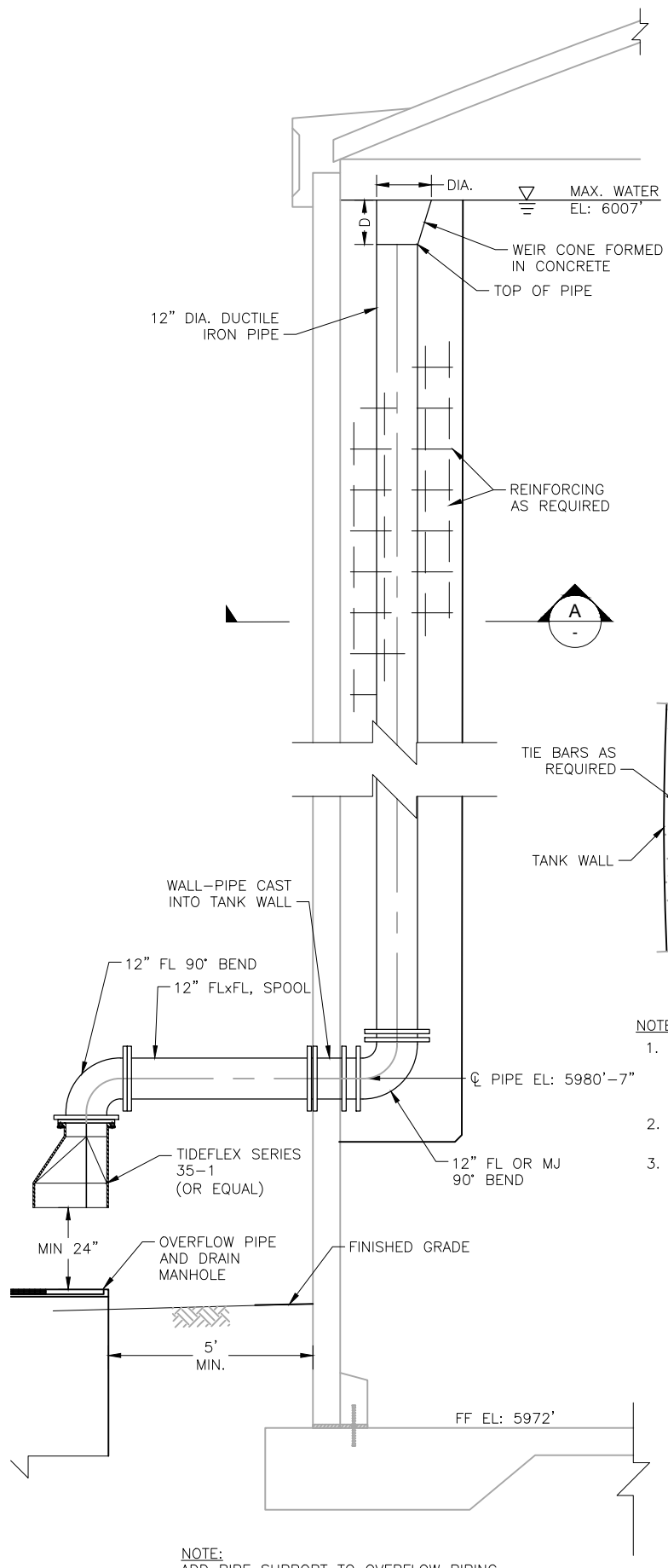
WIDEFIELD WATER AND SANITATION DISTRICT
ROLLING HILLS 2MG POTABLE WATER TANK
TANK STRUCTURAL DETAILS

REVISIONS		BY	APP.	DATE
NO.	DESCRIPTION	DRAIN LOCATION	SNW GJD	06/08/21
1	DRAIN LOCATION	SNW	GJD	07/15/21
2	REMOVE REINF.	SNW	GJD	
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FOR CONSTRUCTION

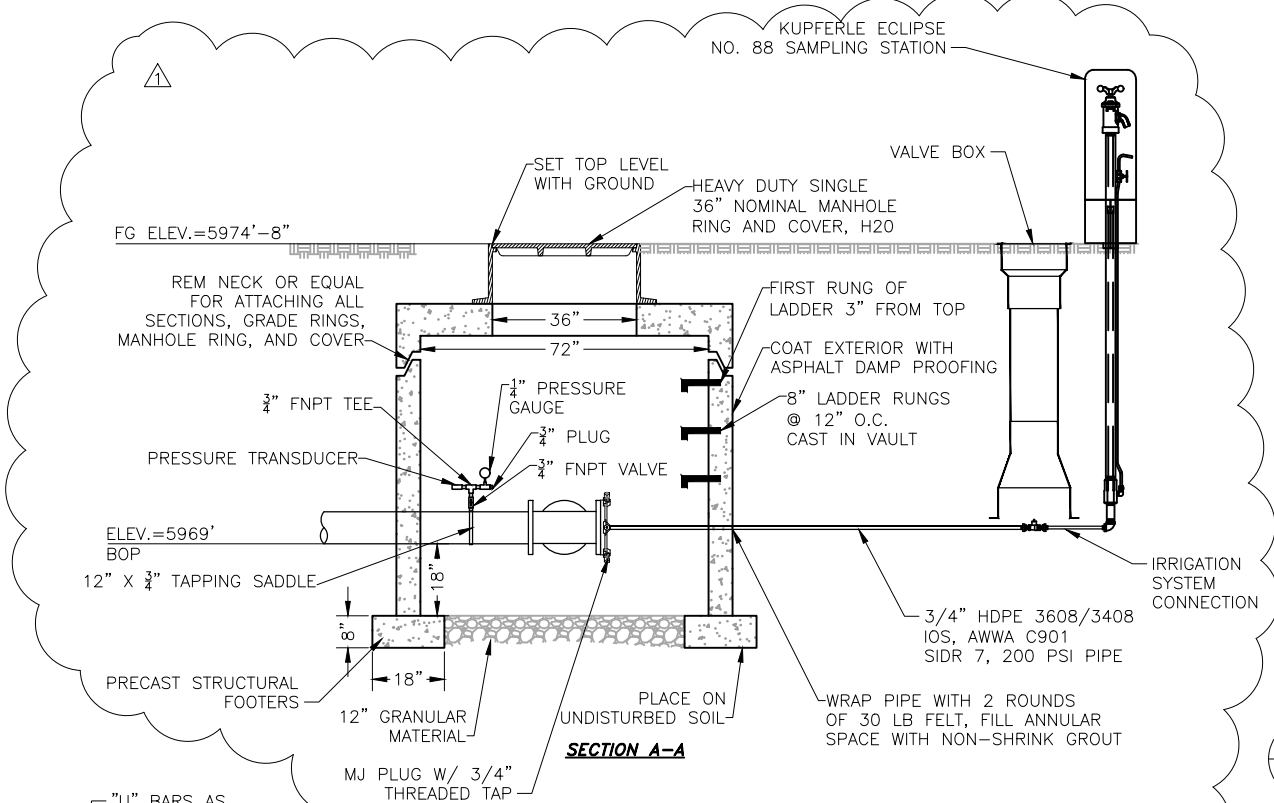
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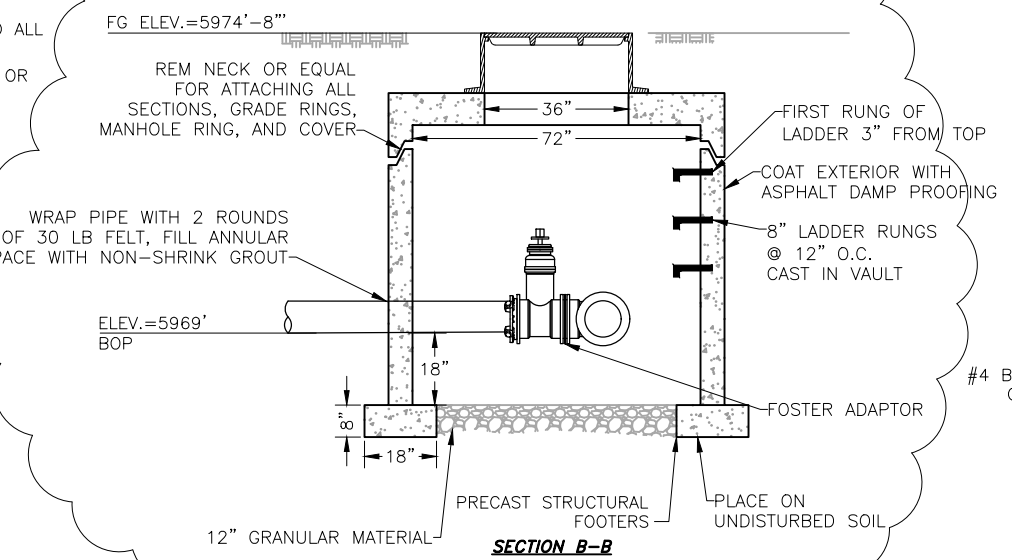
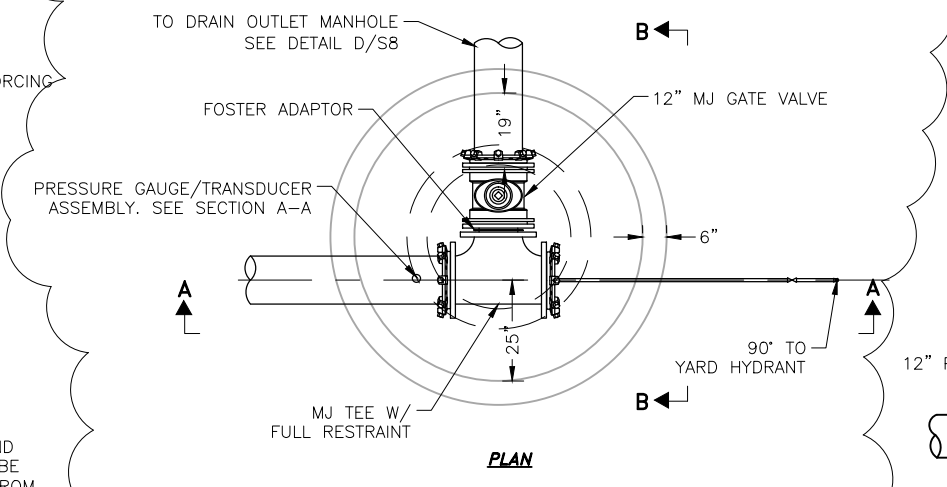


A
S8 OVERFLOW PIPE SECTION
SCALE: 1/4" = 1'-0"

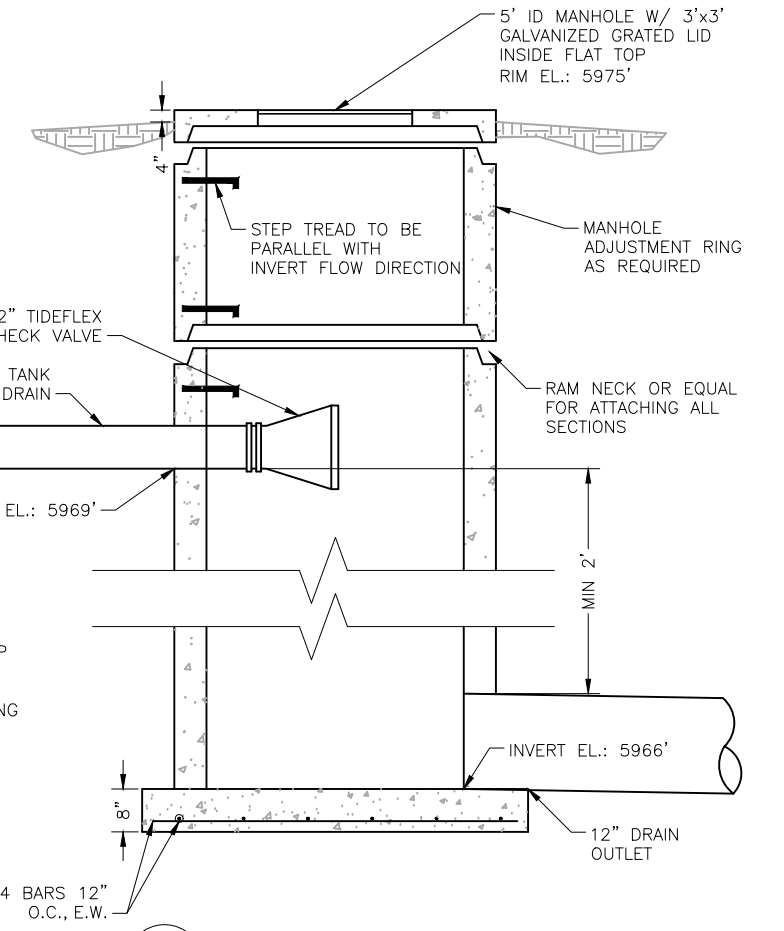
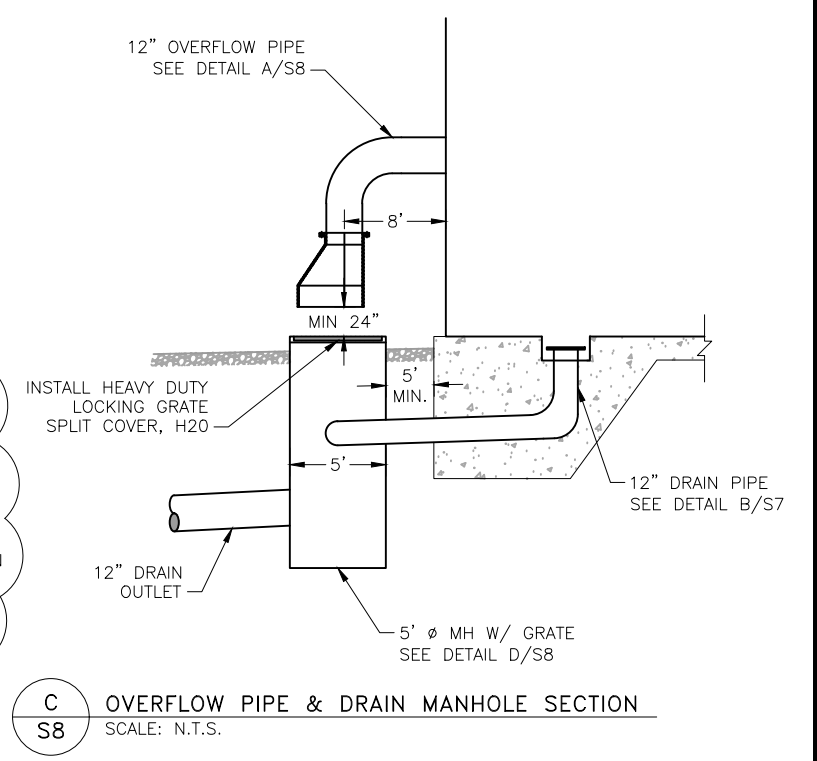
- NOTES:
1. OVERFLOW DUCTILE IRON PIPE AND FITTINGS ARE NOT REQUIRED TO BE COATED (ONLY PRIMED/COATED FROM THE MANUFACTURER).
 2. ADEKA (OR EQUAL) SEAL AROUND ALL PIPE PENETRATIONS.
 3. WEIR CONE MAY BE CONCENTRIC OR ECCENTRIC.



B
S8 STATIC PRESSURE MANHOLE DETAIL
SCALE: N.T.S.



C
S8 OVERFLOW PIPE & DRAIN MANHOLE SECTION
SCALE: N.T.S.



D
S8 DRAIN OUTLET MANHOLE
SCALE: N.T.S.

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WIDEFIELD WATER AND SANITATION DISTRICT
ROLLING HILLS 2MG POTABLE WATER TANK
TANK STRUCTURAL DETAILS

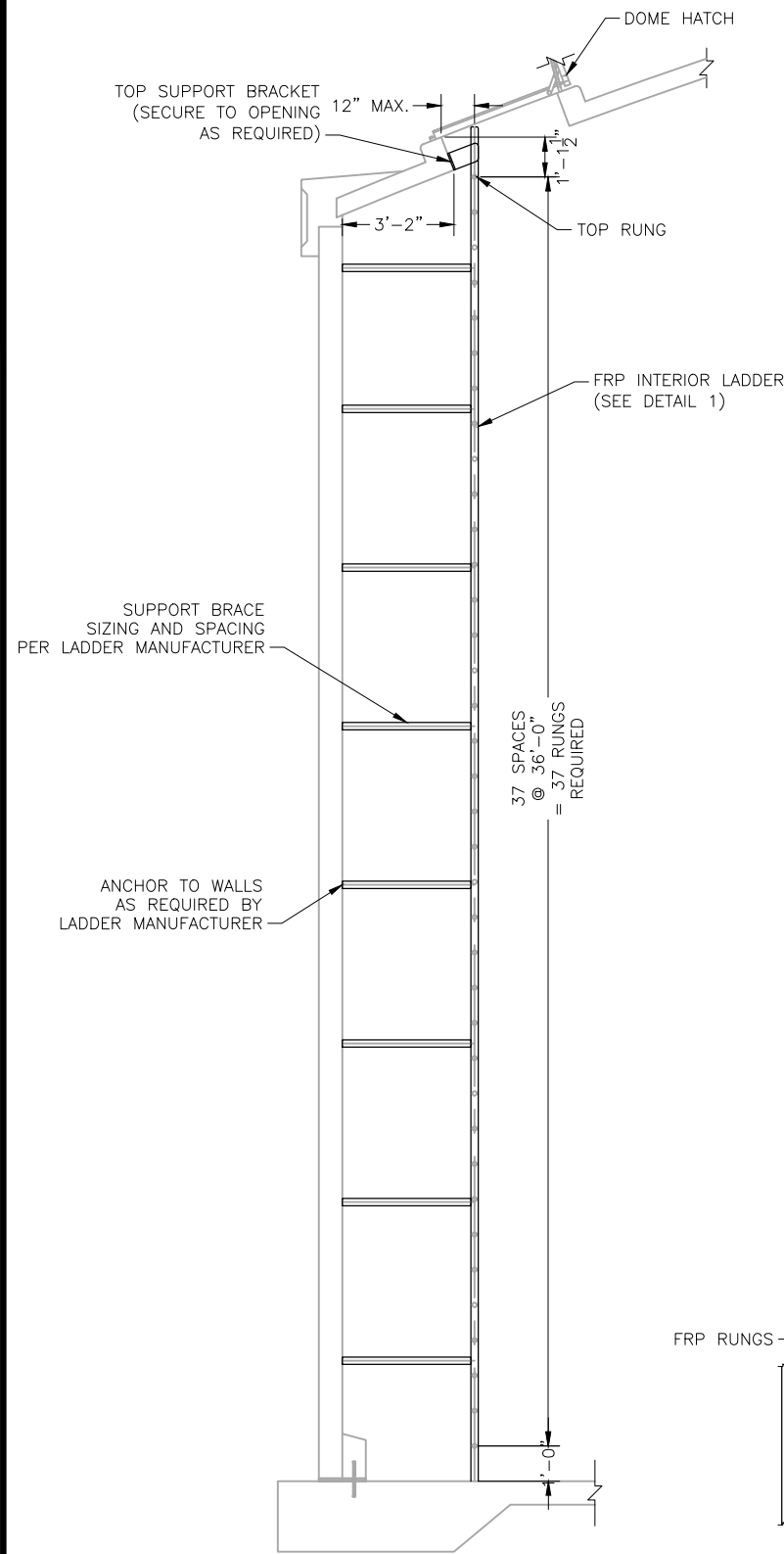
NO.	DESCRIPTION	BY	APP.	DATE
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FOR CONSTRUCTION



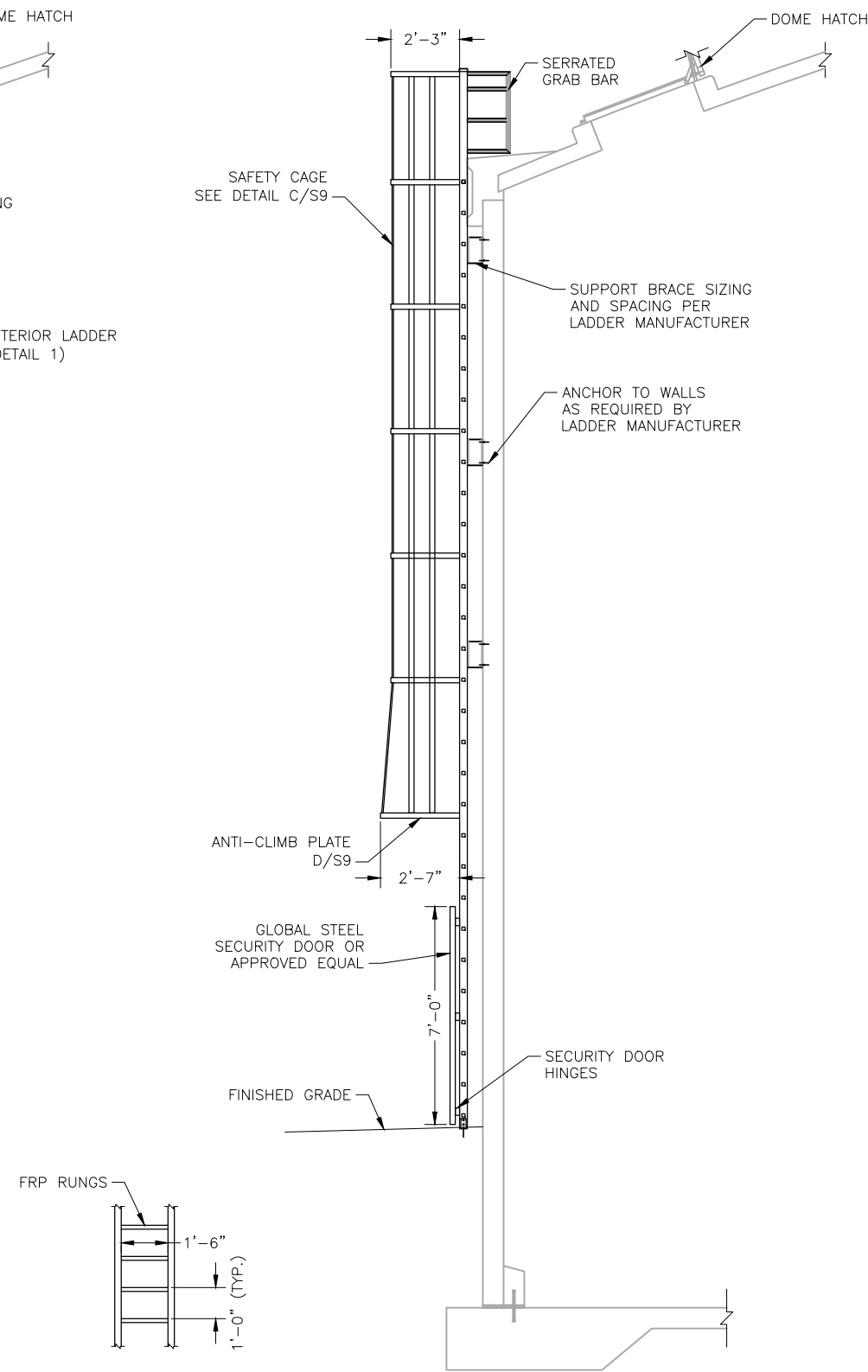
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Date: 05/06/21
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Drawn: SNW
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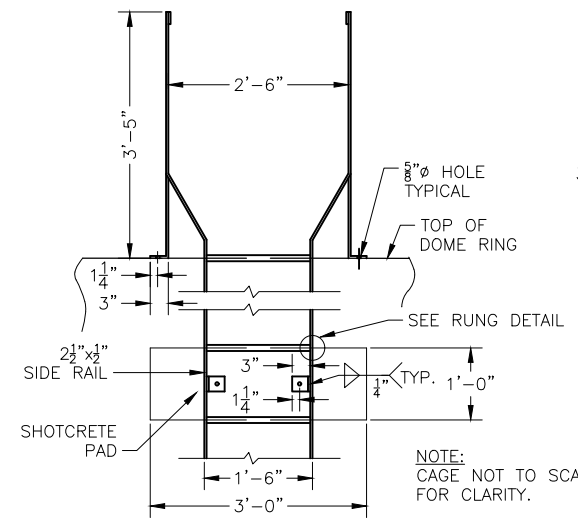
NOTE:
1. STAINLESS STEEL OSHA COMPLIANT TRACK RESTRAINT SYSTEM SHALL BE INSTALLED ON BOTH INTERIOR AND EXTERIOR LADDERS.

A
S9 INTERIOR LADDER SECTION
SCALE: 3/16" = 1'-0"



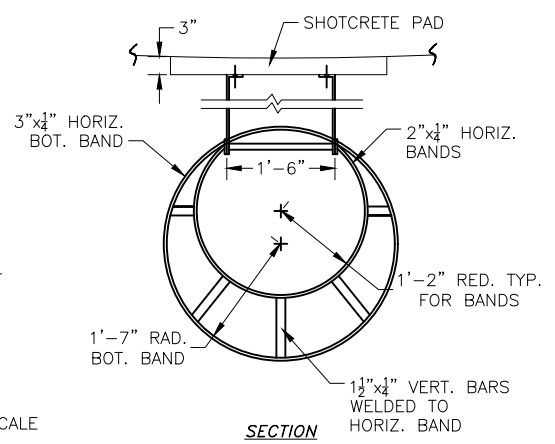
NOTE:
1. OSHA COMPLIANT TRACK RESTRAINT SYSTEM SHALL BE INSTALLED (S.S.)

B
S9 EXTERIOR LADDER SECTION
SCALE: 3/16" = 1'-0"

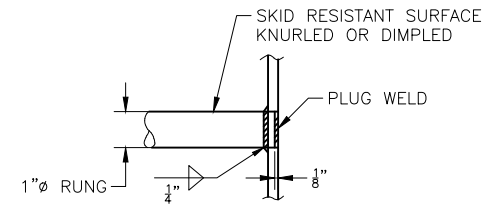


NOTE:
CAGE NOT TO SCALE FOR CLARITY.

ELEVATION



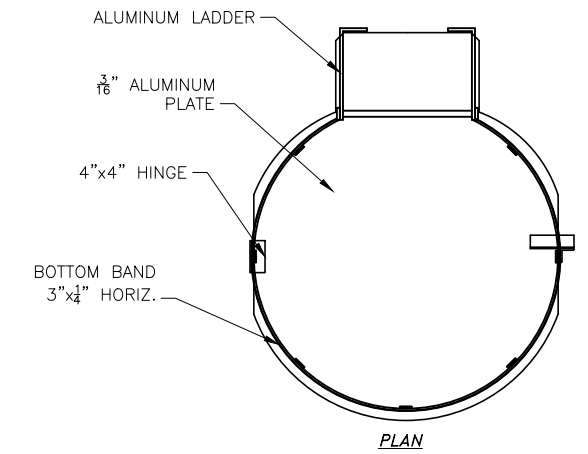
SECTION



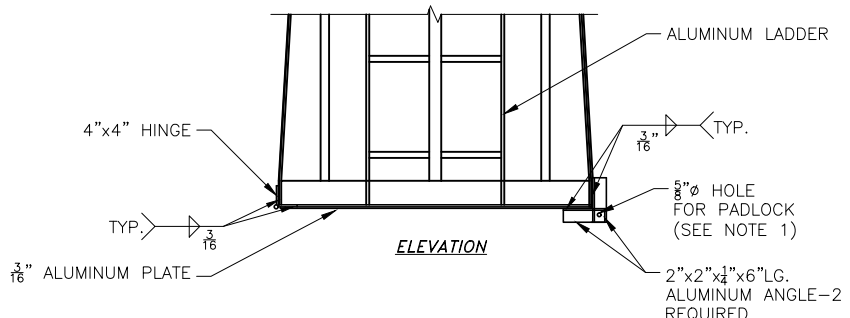
RUNG DETAIL

NOTES:
1. LADDER SHALL BE 6061-T6 ALUMINUM.
2. ALL ALUMINUM SURFACES IN CONTACT WITH CONCRETE SHALL RECEIVE A PVC SHIM.
3. LADDERS SHALL BE CONNECTED TO TANK USING STAINLESS STEEL WEDGE ANCHORS.
4. BASE OF LADDER SHALL BE EQUIPPED WITH ANTI-CLIMB PLATE.

C
S9 EXTERIOR LADDER DETAIL
SCALE: 3/16" = 1'-0"



PLAN



ELEVATION

NOTES:
1. CONTRACTOR TO FURNISH PADLOCK AND KEYS.
2. MATERIAL SHALL BE ALUMINUM 6061-T6.

D
S9 ANTI-CLIMB PLATE
SCALE: N.T.S.

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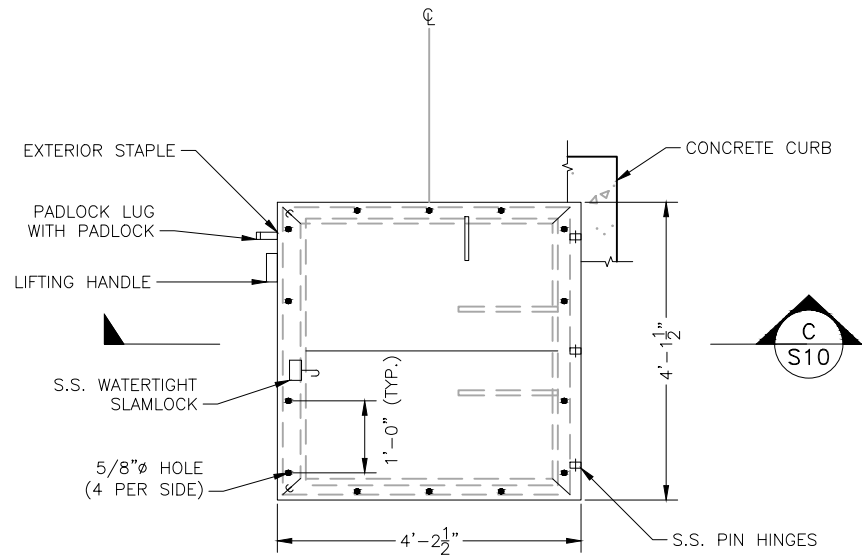
WIDEFIELD WATER AND SANITATION DISTRICT
ROLLING HILLS 2MG POTABLE WATER TANK
TANK STRUCTURAL DETAILS

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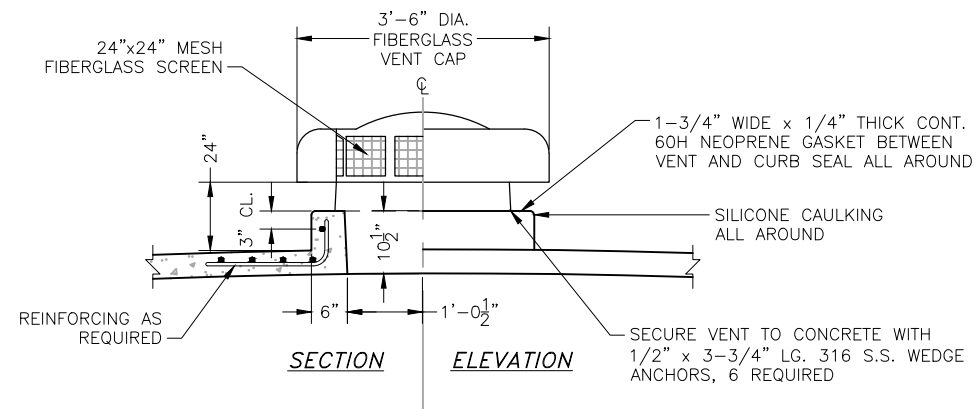
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Project No.: 102.121
Date: 05/06/21
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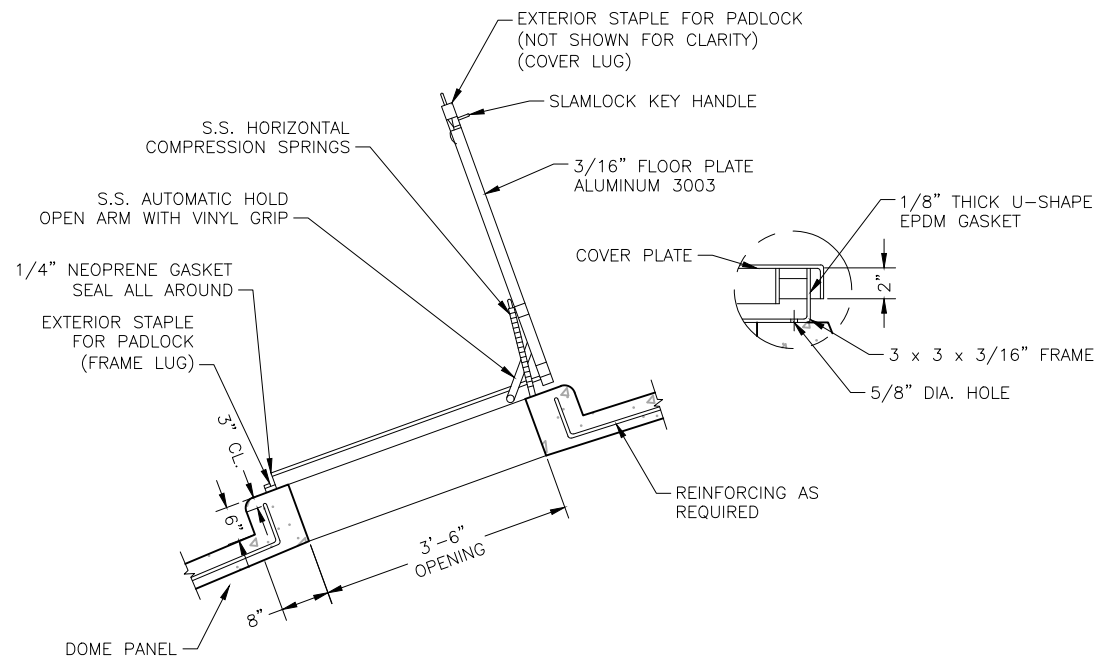
A
S10 DOME HATCH PLAN
SCALE: N.T.S.



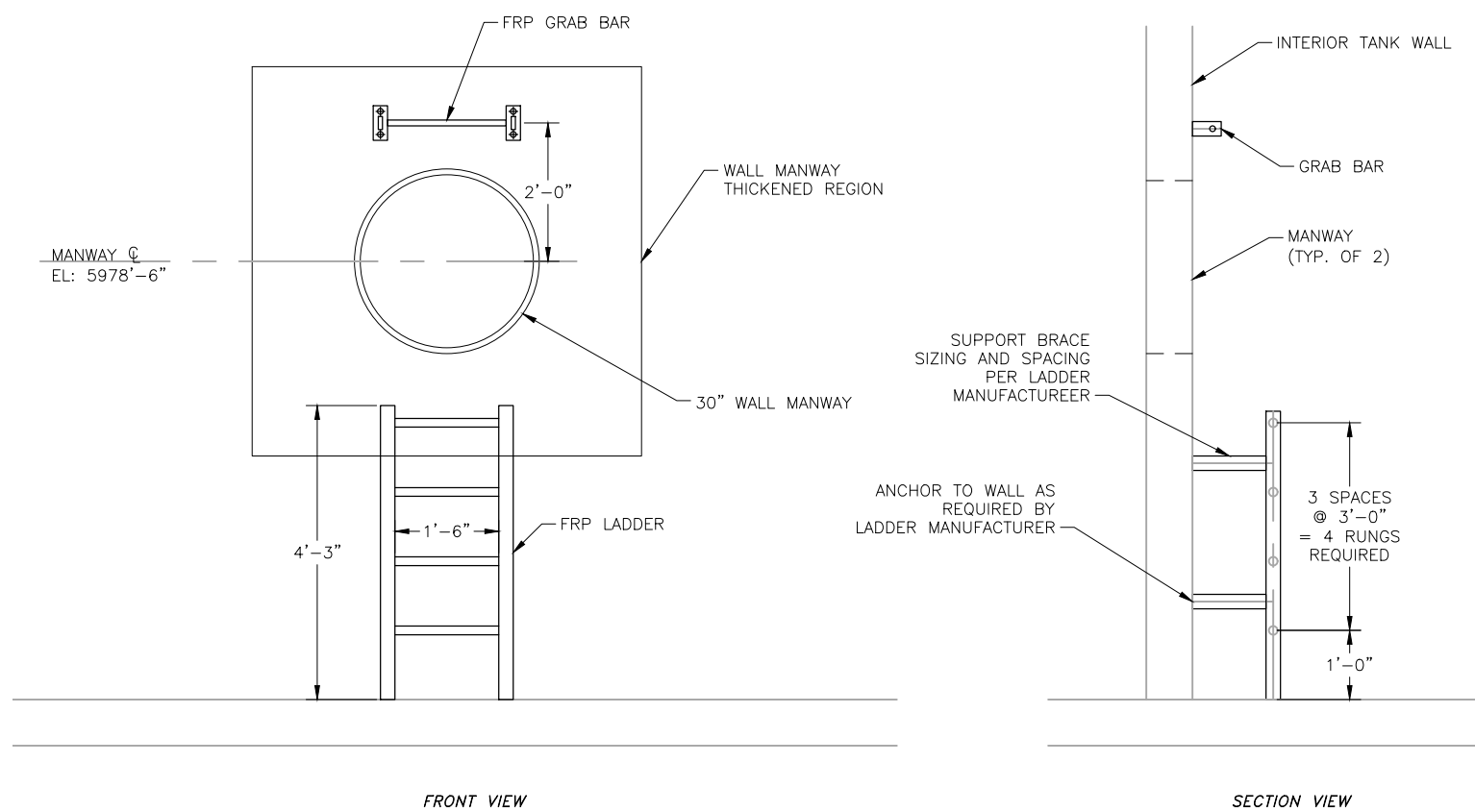
B
S10 VENT SECTION & ELEVATION
SCALE: N.T.S.

NOTES:

1. ALL ALUMINUM SHALL BE ISOLATED FROM CONCRETE BY A NEOPRENE GASKET.
2. COVER HATCH WITH POLYETHYLENE FOR PROTECTION DURING CONSTRUCTION.
3. LOCATE HATCH AS SHOWN ON SHEET S2.
4. ONE (1) HATCH REQUIRED THIS TYPE.
5. HATCH TO BE SECURED TO DOME WITH 3-1/2" x 3-3/4" LG. 316 S.S. WEDGE ANCHORS EACH SIDE (11 REQUIRED).
6. CONTRACTOR TO PROVIDE PADLOCK AND KEYS.
7. HATCH TO BE RATED FOR 150 PSF AT L/75 DEFLECTION.



C
S10 DOME HATCH SECTION
SCALE: N.T.S.



D
S10 WALL MANWAY, LADDER & GRAB BAR (TYP. OF 2)
SCALE: 3/8" = 1'-0"

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WIDEFIELD WATER AND SANITATION DISTRICT
ROLLING HILLS 2MG POTABLE WATER TANK
TANK STRUCTURAL DETAILS

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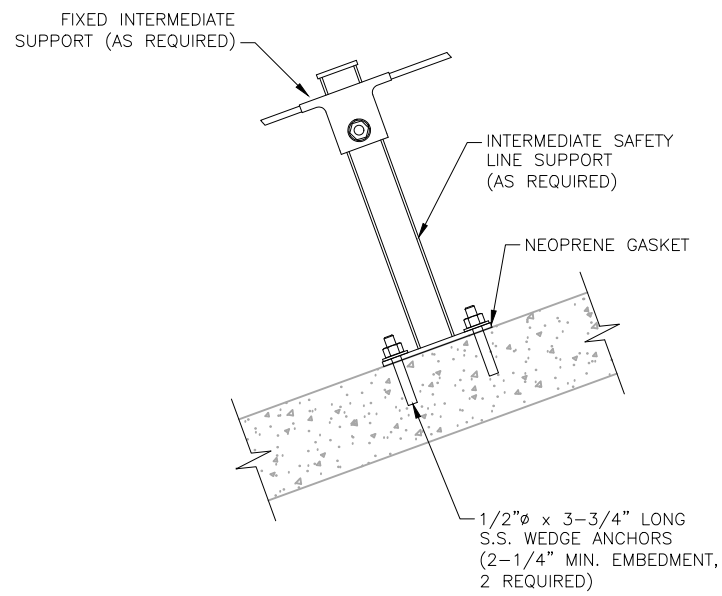
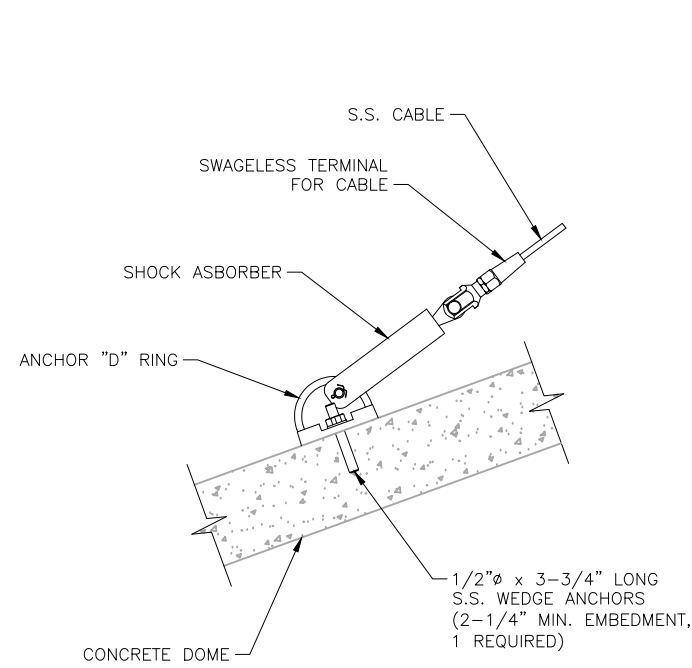
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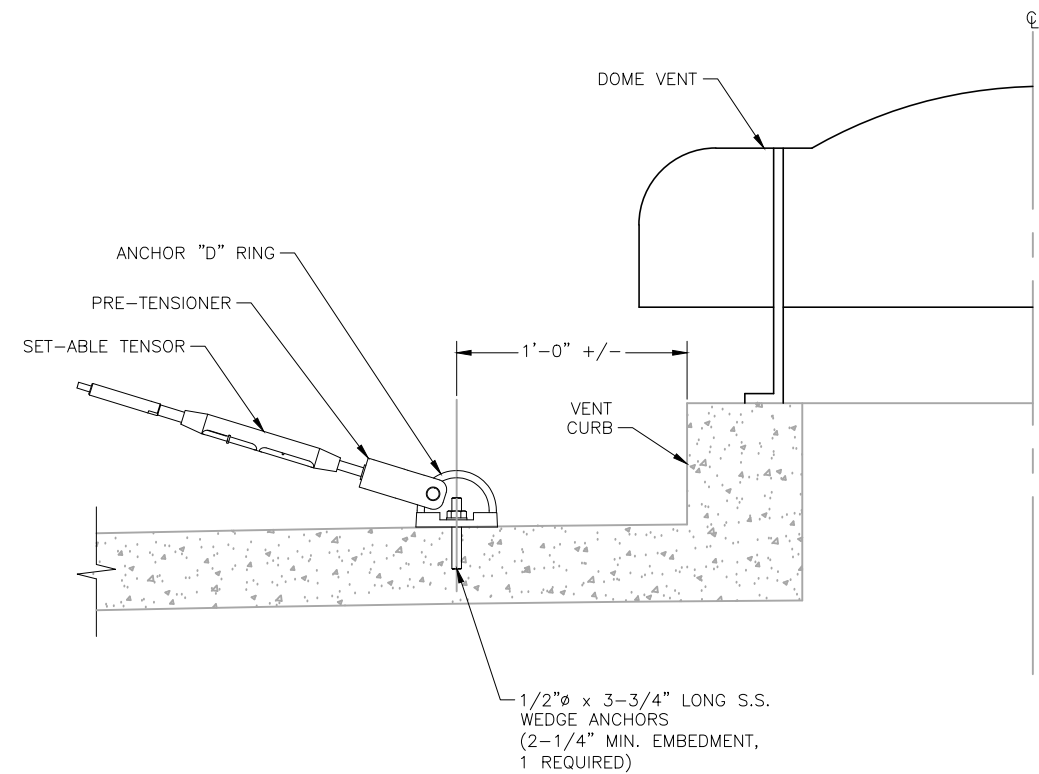
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NOTE:
INSTALL SAFETY RUNNERS ON CABLE AS
REQUIRED BY DESIGN.

A DOME SAFETY LINE
S11 SCALE: N.T.S.

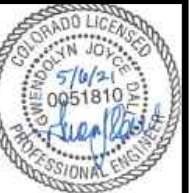


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WIDEFIELD WATER AND SANITATION DISTRICT
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S11
SHEET 32 OF 32