WIDEFIELD WATER AND SANITATION DISTRICT

ROLLING HILLS 2MG POTABLE WATER TANK

2019.829.2030

EL PASO COUNTY, COLORADO

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)
E. INTERNATIONAL MECHANICAL CODE (2015)
F. NATIONAL ELECTRICAL CODE (2014)
G. ICC/ANSI 117.1 (2009)
H. INTERNATIONAL ENERGY CONSERVATION CODE (2015)

II. CODE ABSTRACT:

A. GENERAL INFORMATION:

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

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

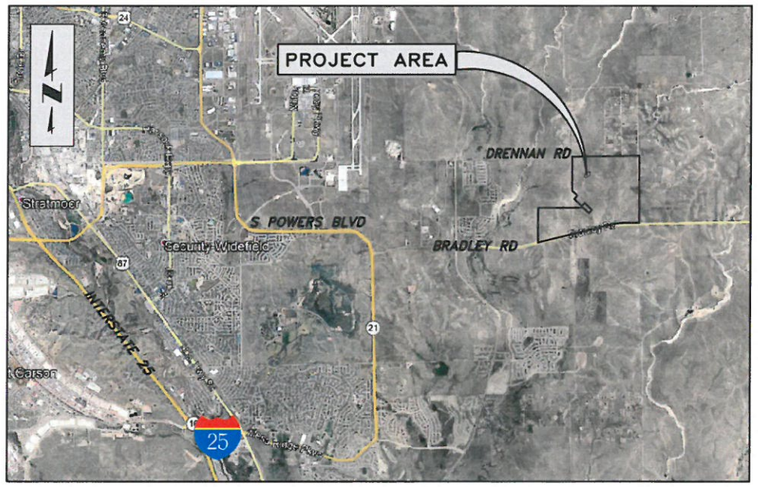
CONSULTING/DESIGN ENGINEER
JDS-HYDRO CONSULTANTS, INC.
5540 TECH CENTER DR, STE 100
COLORADO SPRINGS, CO 80903
CONTACT: GWEN DALL, PE
PHONE: (719) 227-0072

LEGEND

EX PROPERTY LINE	PP SANITARY SEWER LINE ALIGNMENT
EX RIGHT-OF-WAY	PP WATER LINE ALIGNMENT
EX FENCE	PP CONTOURS-MAJOR
EX WATER LINE	PP CONTOURS-MINOR
EX SANITARY SEWER LINE	PP FENCE
EX O.H. ELECTRIC	PP U.G. ELECTRIC LINE
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
EX WATER MANHOLE	PP EROSION CONTROL BALES
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)

PCD FILE NO. PPR216

Widefield Water and Sanitation District



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, CATV
BLUE	POTABLE WATER
PURPLE	IRRIGATION, RECLAIMED WATER, SLURRY 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.

ENGINEER OF RECORD SIGNATURE — DATE 5/11/2021

OWNER'S STATEMENT

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

OWNER SIGNATURE — DATE 5/11/2021

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

BY: — DATE: 5/11/2021

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, P.E. #51810 — DATE 5/11/2021 — PROJECT NO. 102.121
JDS-HYDRO CONSULTANTS, INC.

COLORADO LICENSED GWEN JO DALL 0051810 PROFESSIONAL ENGINEER

NOTE:
SEE FIRM 08041C0709OG (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
- 513 — Base Flood Elevation line and value; elevation in feet*
- A — A — Cross section line

MAP SCALE 1" = 1000'

500 0 1000 2000 FEET

300 0 300 600 METERS

NFIP PANEL 0790G

NATIONAL FLOOD INSURANCE PROGRAM

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	080060	0790	G
EL PASO COUNTY	080059	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 for the subject community.

MAP NUMBER 08041C0790G

MAP REVISED DECEMBER 7, 2018

Federal Emergency Management Agency

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

WIDEFIELD WATER AND SANITATION DISTRICT

ROLLING HILLS 2MG POTABLE WATER TANK

FEMA FLOODPLAIN MAP

REVISIONS

NO.	DESCRIPTION	BY	APP.	DATE
1				
2				
3				
4				
5				
6				
7				

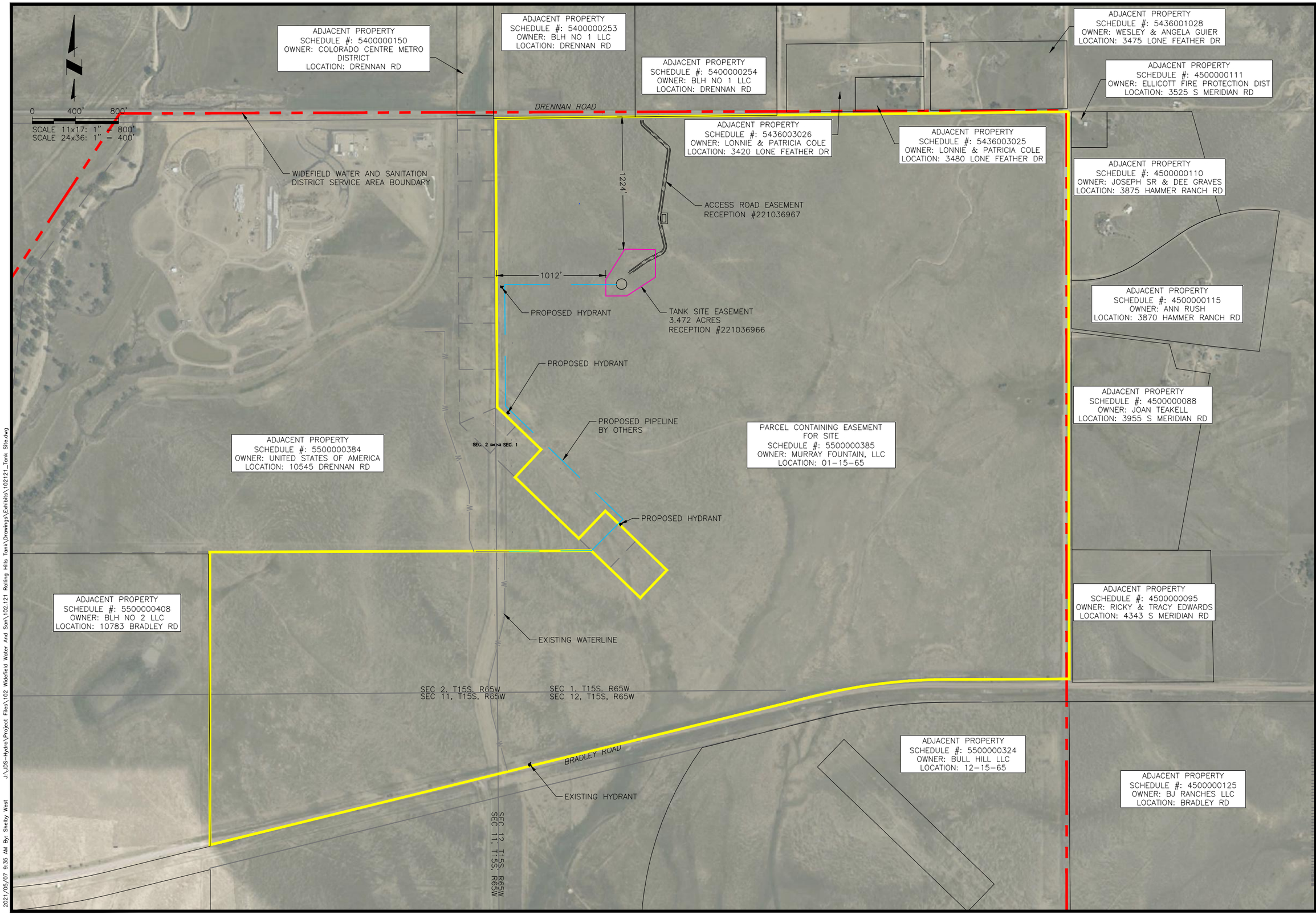
FOR CONSTRUCTION

COLORADO LICENSED
EVELYN JOYCE DALY
0051810
5/6/21
PROFESSIONAL ENGINEER

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

G3

SHEET 3 OF 32



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

WIDEFIELD WATER AND SANITATION DISTRICT

ROLLING HILLS 2MG POTABLE WATER TANK

VICINITY MAP

REVISIONS			
NO.	DESCRIPTION	BY	APP.	DATE
1				
2				
3				
4				
5				
6				
7				

FOR CONSTRUCTION

COLORADO LICENSED
GWENDOLYN JOYCE DAVIS
5/6/21
0051810
PROFESSIONAL ENGINEER

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

C1

SHEET 4 OF 32

J:\JDS-Hydro\Project Files\102 Widefield Water And San\102.121 Rolling Hills Tank\Drawings\Exhibits\102121_Tank Site.dwg
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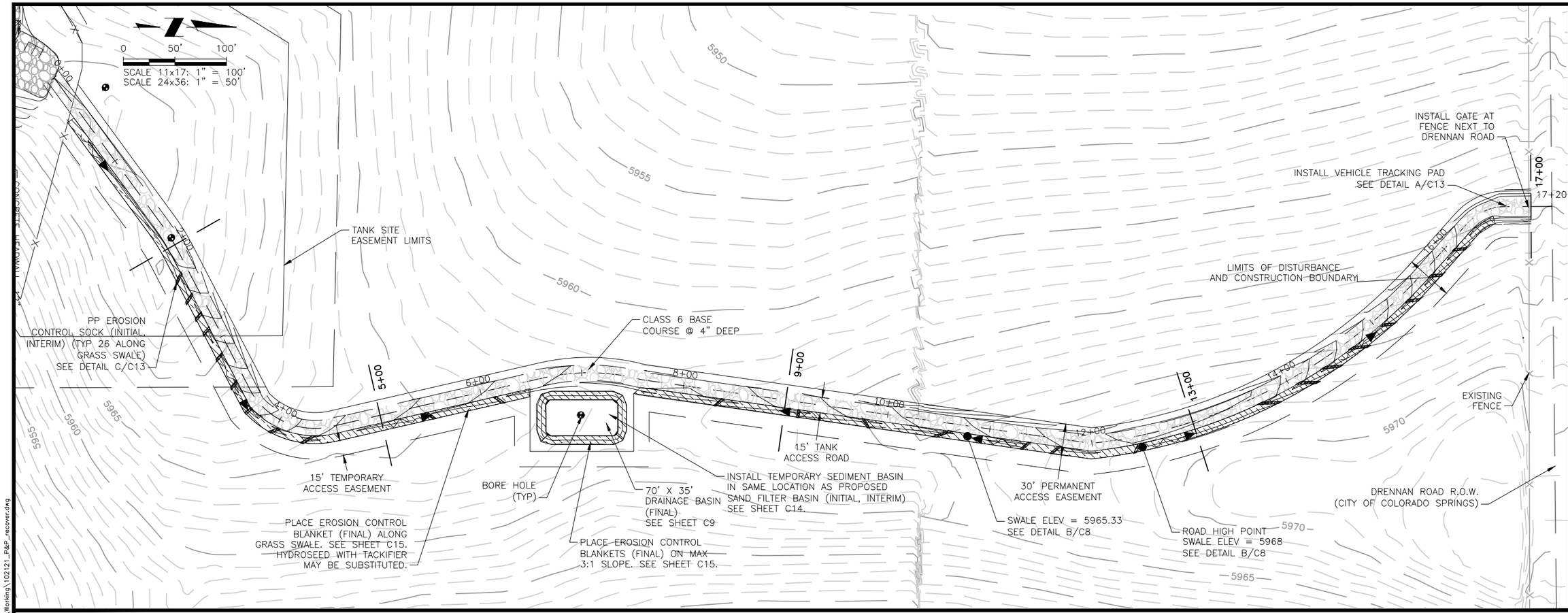

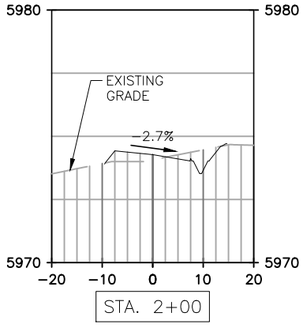

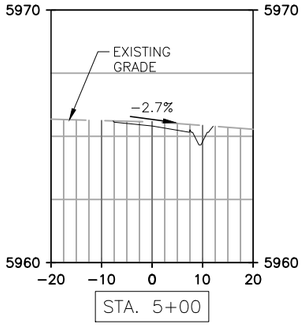

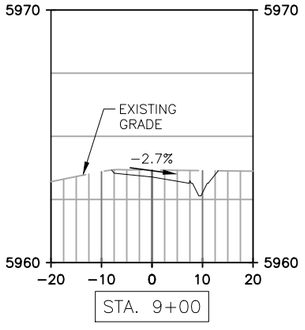

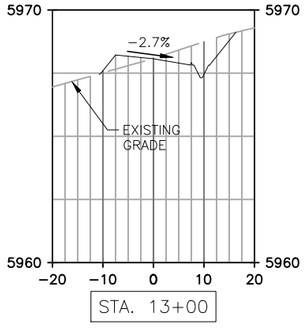

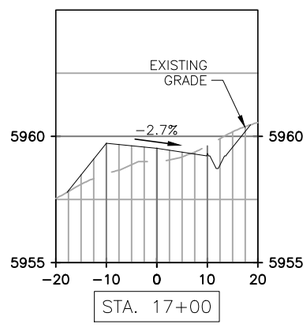

JDS-HYDRO CONSULTANTS, INC.
5540 TECH CENTER DR. SUITE 100
COLORADO SPRINGS, COLORADO 80919
(719) 227-0072

WIDEFIELD WATER AND SANITATION DISTRICT

ROLLING HILLS 2MG POTABLE WATER TANK

ACCESS ROAD PLAN AND SECTION VIEW

REVISIONS				
NO.	DESCRIPTION	BY	APP.	DATE
1				
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6				
7				

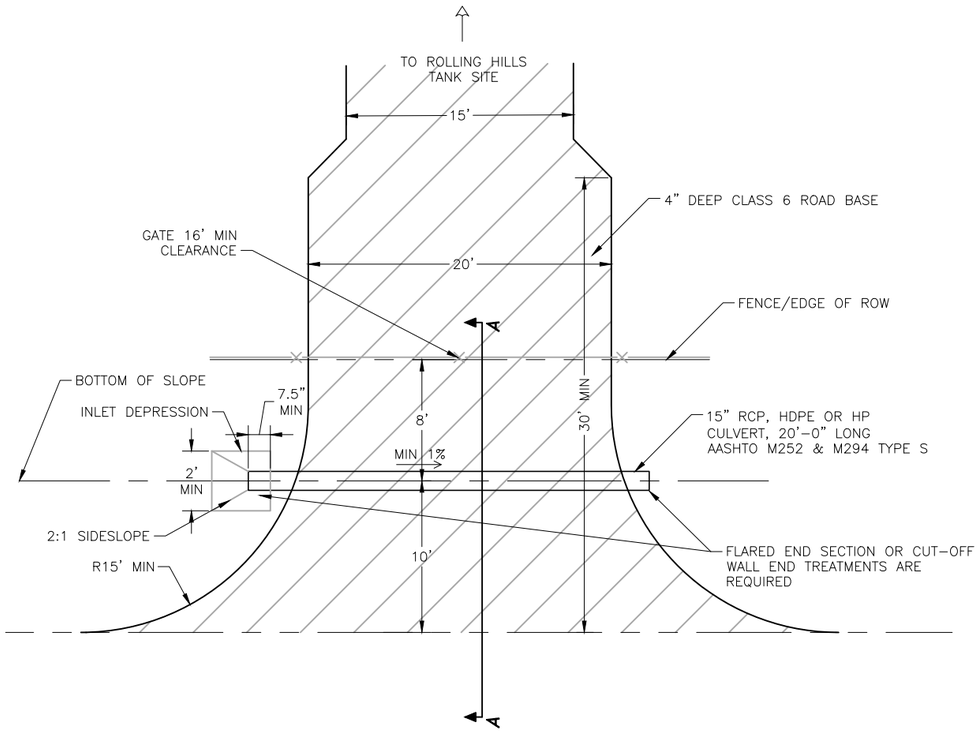
FOR CONSTRUCTION

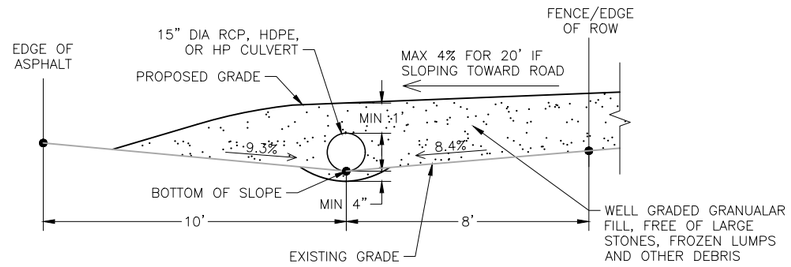
COLORADO LICENSED
GWENDOLYN JOYCE DAVIS
0051810
5/6/21
PROFESSIONAL ENGINEER

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

C7

SHEET 10 OF 32

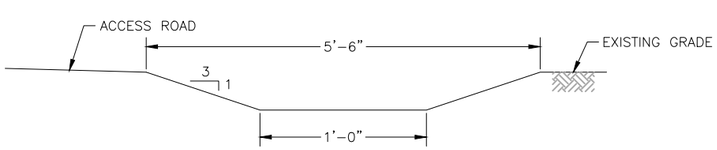




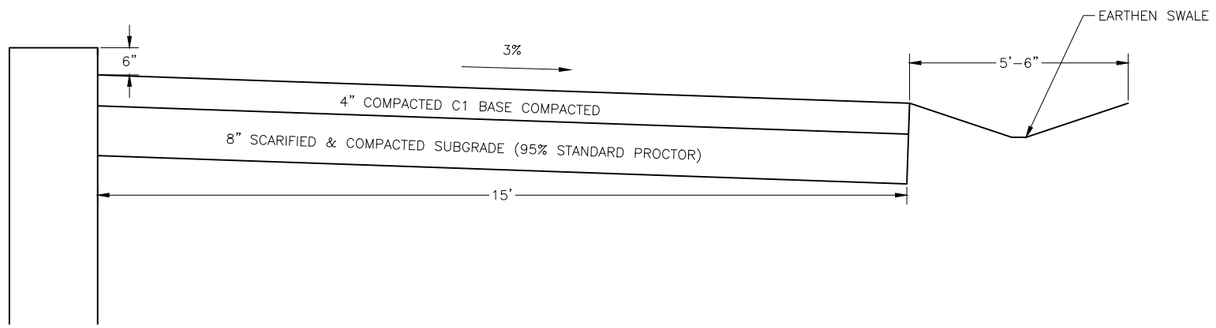
SECTION A–A
SCALE: N.T.S.

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.

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



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



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

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

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

REVISIONS				
NO.	DESCRIPTION	BY	APP.	DATE
1				
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4				
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FOR CONSTRUCTION

COLORADO LICENSED
GWENDOLYN JOYCE DAVIS
5/6/21
0051810
PROFESSIONAL ENGINEER

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

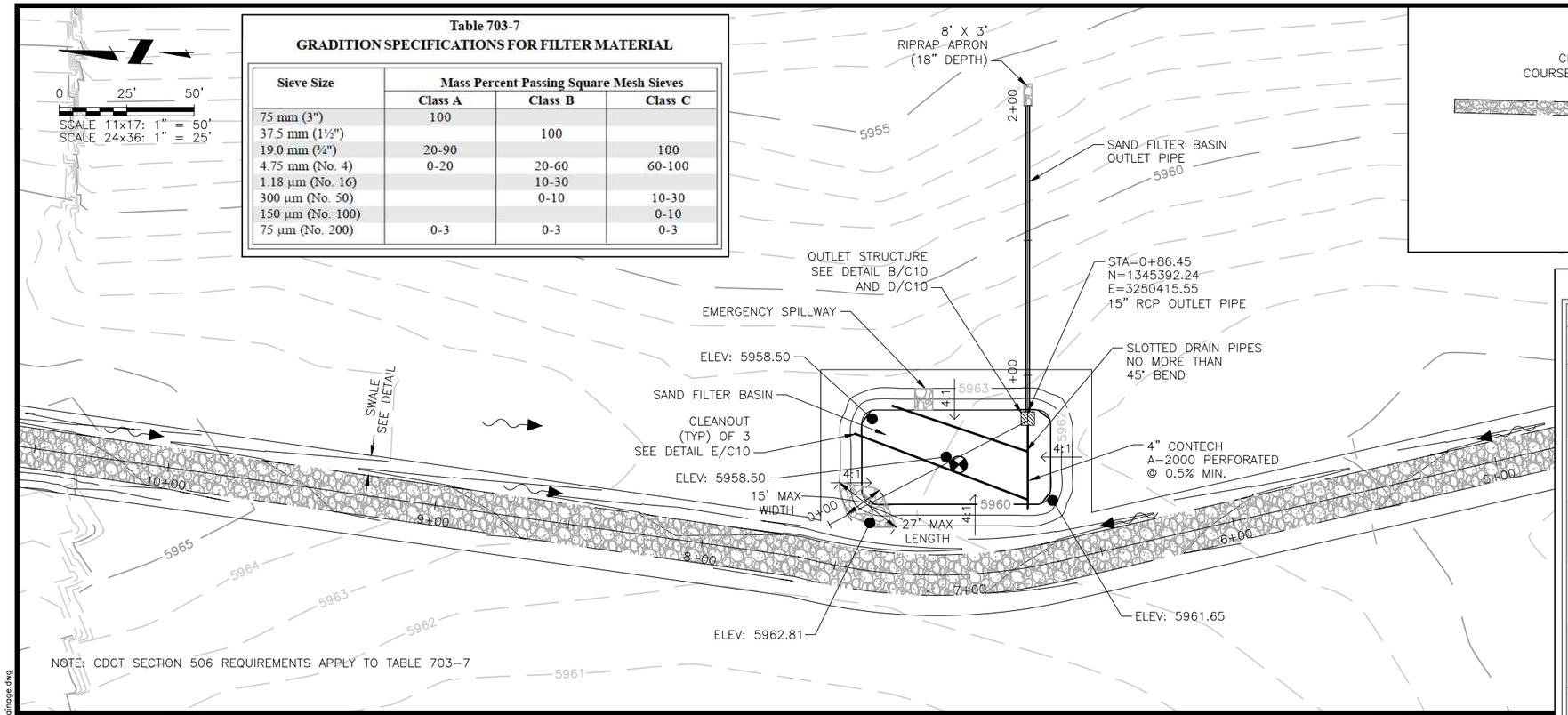
C8
SHEET 11 OF 32

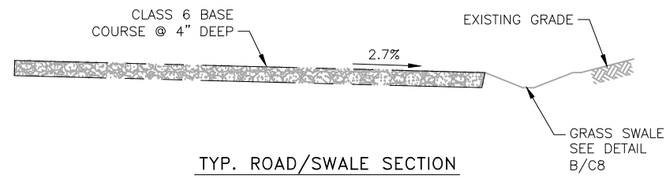
2021/05/07 9:36 AM By: Shelby West J:\JDS-Hydro\Project Files\102 Widefield Water And San\102.121 Rolling Hills Tank\Drawings\Working\102121_Civil Details.dwg

Table 703-7
GRADITION SPECIFICATIONS FOR FILTER MATERIAL

Sieve Size	Mass Percent Passing Square Mesh Sieves		
	Class A	Class B	Class C
75 mm (3")	100		
37.5 mm (1½")		100	
19.0 mm (¾")	20-90		100
4.75 mm (No. 4)	0-20	20-60	60-100
1.18 µm (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

0 25' 50'
SCALE 11x17: 1" = 50'
SCALE 24x36: 1" = 25'



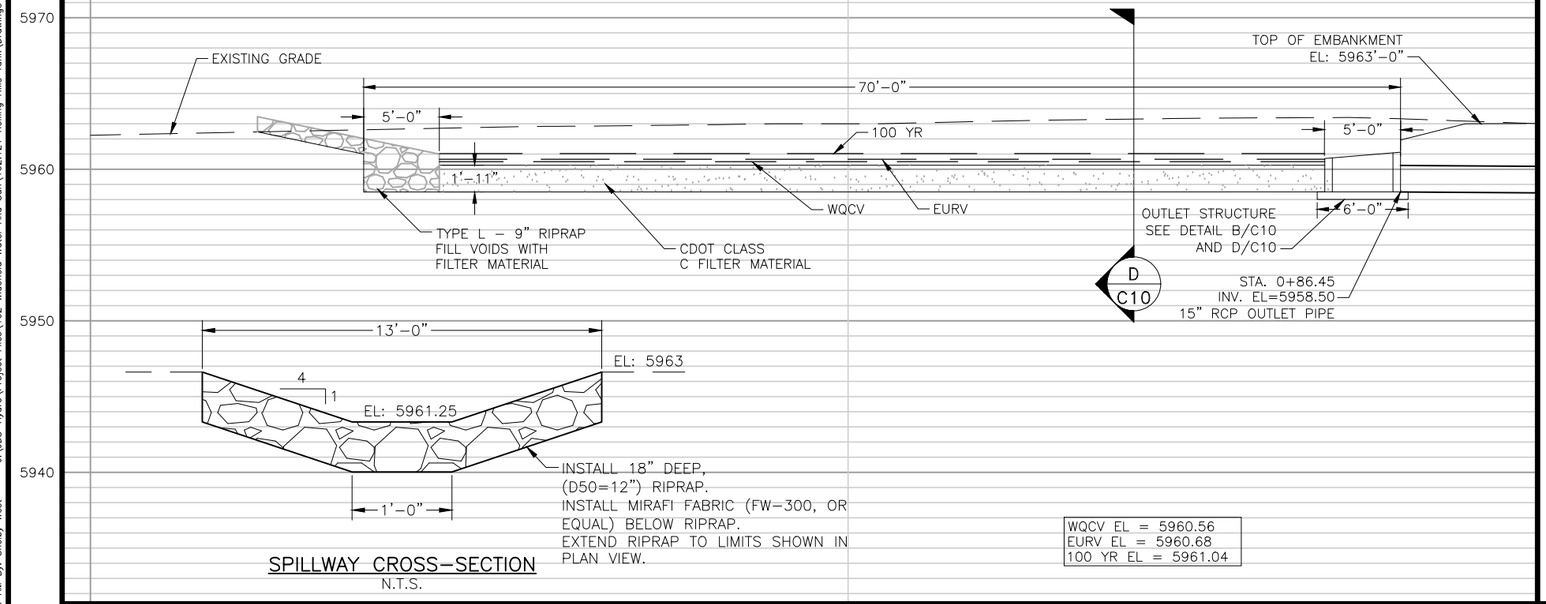


TYP. ROAD/SWALE SECTION
SCALE: N.T.S.

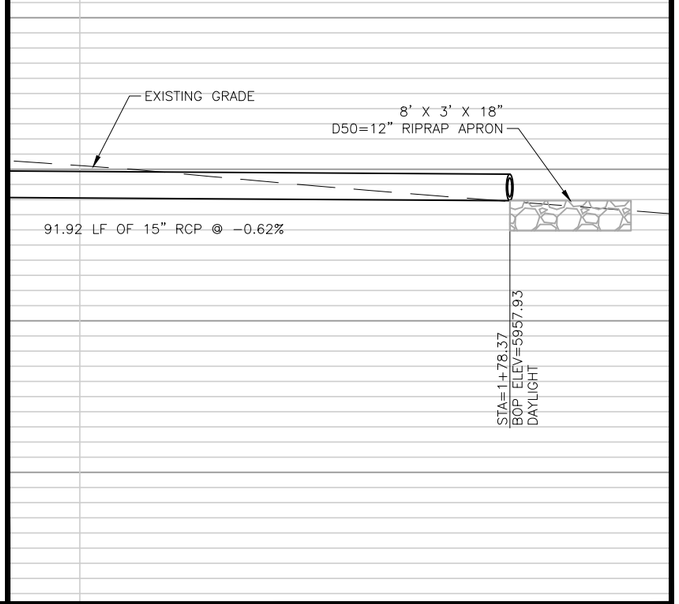
Table 506-2

Pay Item	Stone Size d50[1](Inches)	% of Material Smaller Than Typical Stone[2]	Typical Stone Dimensions[3] (Inches)	Typical Stone Weight[4] (Pounds)
Riprap	6	70-100	12	85
		50-70	9	35
		35-50	6	10
		2-10	2	0.4
Riprap	9	70-100	15	160
		50-70	12	85
		35-50	9	35
		2-10	3	1.3
Riprap	12	70-100	21	440
		50-70	18	275
		35-50	12	85
		2-10	4	3
Riprap	18	100	30	1280
		50-70	24	650
		35-50	18	275
		2-10	6	10
Riprap	24	100	42	3500
		0-70	33	1700
		35-50	24	650
		2-10	9	35

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



SPILLWAY CROSS-SECTION
N.T.S.



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WIDEFIELD WATER AND SANITATION DISTRICT

ROLLING HILLS 2MG POTABLE WATER TANK

DRAINAGE BASIN PLAN AND PROFILE

REVISIONS				
NO.	DESCRIPTION	BY	APP.	DATE
1				
2				
3				
4				
5				
6				
7				

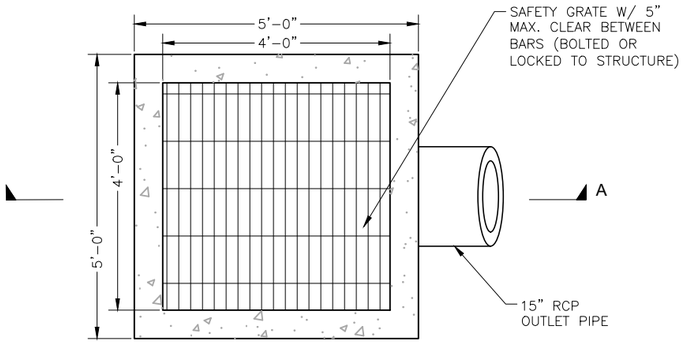
FOR CONSTRUCTION

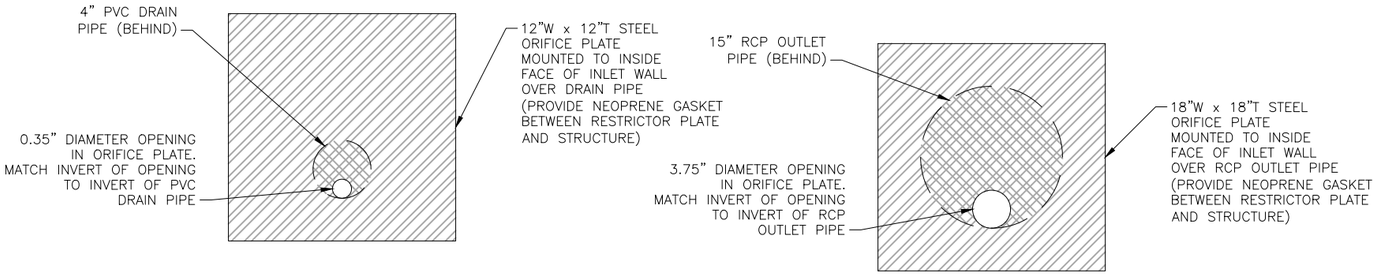
COLORADO LICENSED
GWENDOLYN JOYCE DAY
5/6/21
0051810
PROFESSIONAL ENGINEER

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

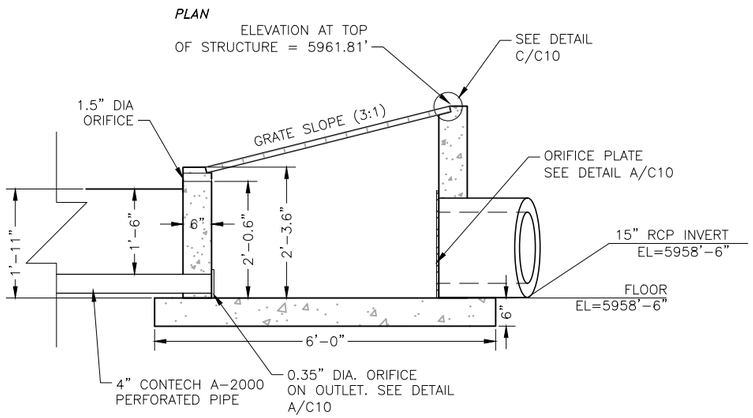
C9

SHEET 12 OF 32

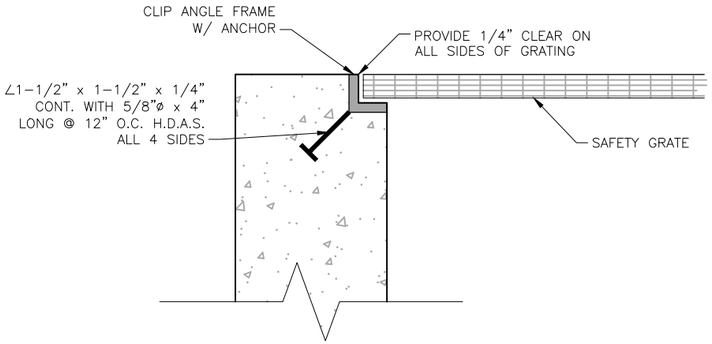




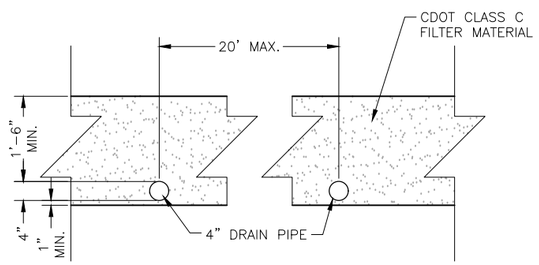
A / C10 ORIFICE PLATES
SCALE: N.T.S.



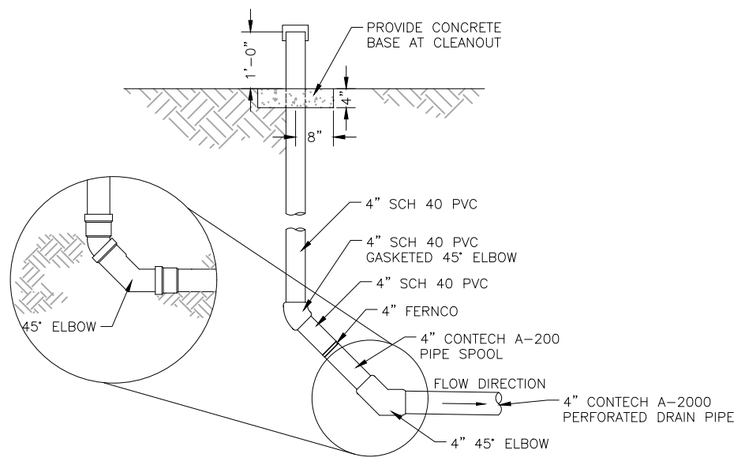
B / C10 OUTLET STRUCTURE
SCALE: 3/8" = 1'-0"



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



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



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

WIDEFIELD WATER AND SANITATION DISTRICT

ROLLING HILLS 2MG POTABLE WATER TANK

DRAINAGE BASIN CIVIL DETAILS

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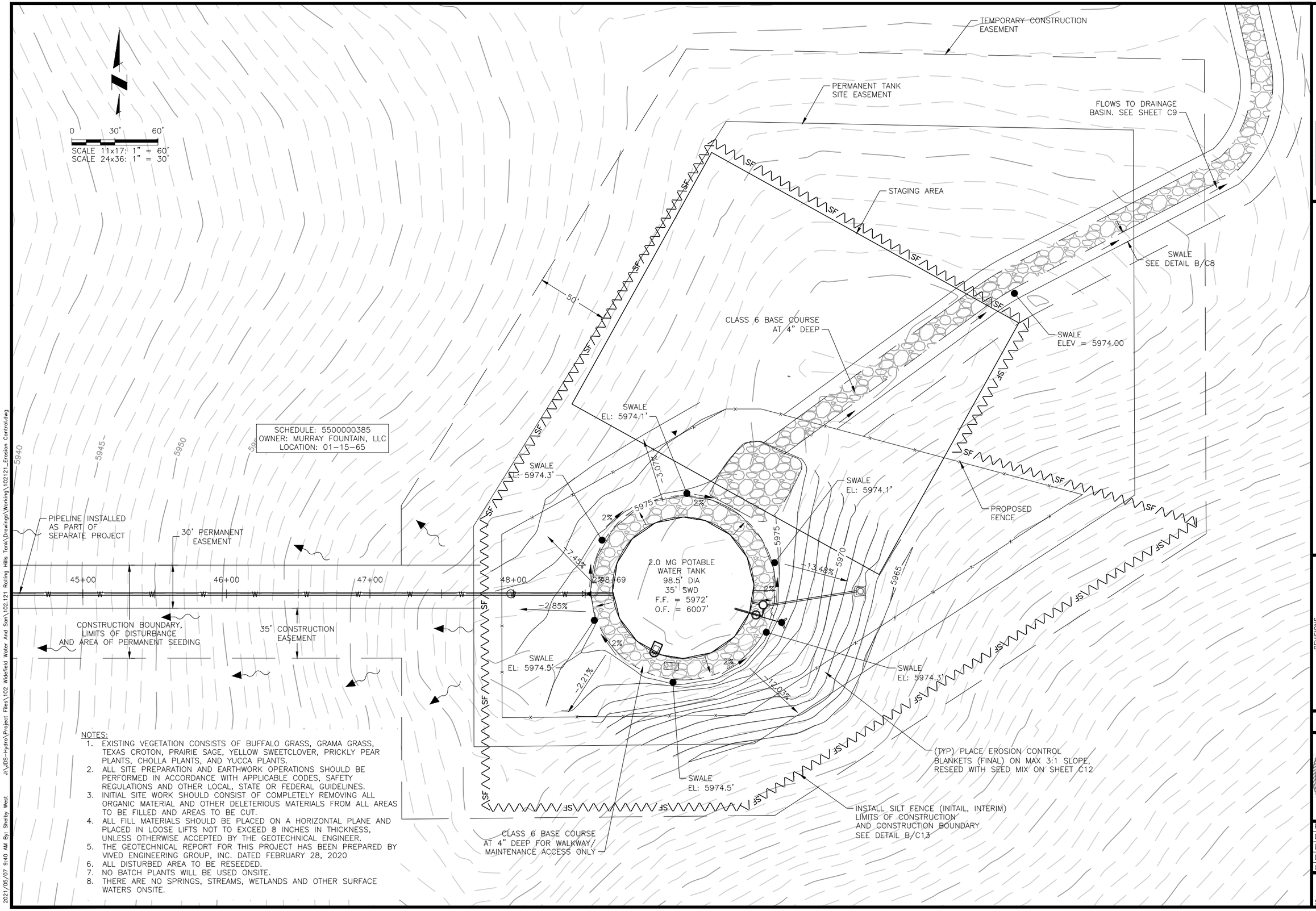
FOR CONSTRUCTION

GWENDOLYN JOYCE 0051810 PROFESSIONAL ENGINEER 5/6/21

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

C10

SHEET 13 OF 32



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 RESEEDED.
7. NO BATCH PLANTS WILL BE USED ONSITE.
8. THERE ARE NO SPRINGS, STREAMS, WETLANDS AND OTHER SURFACE WATERS ONSITE.

JDS-HYDRO CONSULTANTS, INC.
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WIDEFIELD WATER AND SANITATION DISTRICT

ROLLING HILLS 2MG POTABLE WATER TANK

GRADING AND EROSION CONTROL PLAN

REVISIONS			
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FOR CONSTRUCTION

COLORADO LICENSED
BRANDON JOYCE DALY
5/6/21
0051810
PROFESSIONAL ENGINEER

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

C11

SHEET 14 OF 32

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2021/05/07 9:40 AM By: Shelby West

EROSION CONTROL NOTES

1. 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.
2. 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.
3. 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.
4. 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.
5. 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.
6. 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.
7. TEMPORARY STABLIZATION SHALL BE IMPLEMENTED ON DISTURBED AREAS AND STOCKPILES WHERE GROUND DISTURBING CONSTRUCTION ACTIVITY HAS PERMANENTLY CEASED OR TEMPORARILY CEASED FOR LONGER THAN 14 DAYS.
8. 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.
9. 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.
10. 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.
11. 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 LOOSENED PRIOR TO INSTALLATION OF THE CONTROL MEASURE(S).
12. 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.
13. 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.
14. 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.
15. EROSION CONTROL BLANKETING OR OTHER PROTECTIVE COVERING SHALL BE USED ON SLOPES STEEPER THAN 3:1.
16. 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.
17. 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.
18. TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFF-SITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
19. 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.
20. 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.
21. 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.
22. 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.
23. NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE CURB AND GUTTER OR DITCH EXCEPT WITH APPROVED SEDIMENT CONTROL MEASURES.
24. 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.
25. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE ONLY AT APPROVED CONSTRUCTION ACCESS POINTS.
26. PRIOR TO CONSTRUCTION THE PERMITTEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
27. 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.
28. 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)
29. 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) = 317.55 CY
NET = 1.26 CY FILL

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

STANDARD NOTES FOR EL PASO COUNTY CONSTRUCTION PLANS

1. 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.
2. 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).
3. 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.
4. 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.
5. 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.
6. CONTRACTOR SHALL SCHEDULE A RE-CONSTRUCTION MEETING WITH EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT (PCD) - INSPECTION, PRIOR TO STARTING CONSTRUCTION.
7. 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.
8. 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.
9. ALL STORM DRAIN PIPE SHALL BE CLASS III RCP UNLESS OTHERWISE NOTED AND APPROVED BY PCD.
10. 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.
11. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT THE APPROVED CONSTRUCTION ACCESS POINTS.
12. 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.
13. SIGNING AND STRIPING SHALL COMPLY WITH EL PASO COUNTY DOT AND MUTCD CRITERIA [IF APPLICABLE, ADDITIONAL SIGNING AND STRIPING NOTES WILL BE PROVIDED.]
14. CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DOT, INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.
15. 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.
5540 TECH CENTER DR., SUITE 100
COLORADO SPRINGS, COLORADO 80919
(719) 227-0072

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

EROSION CONTROL NOTES

REVISIONS

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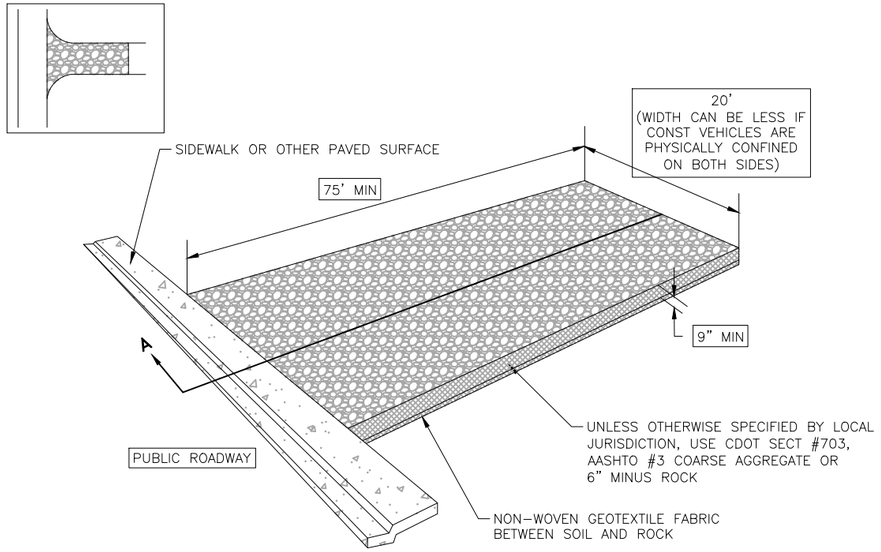
FOR CONSTRUCTION

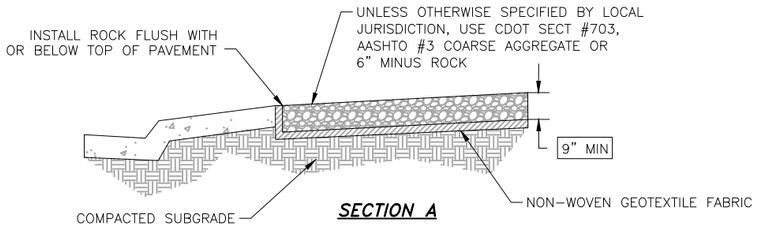
COLORADO LICENSED
CAROLYN JOYCE
5/6/21
0051810
PROFESSIONAL ENGINEER

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

C12
SHEET 15 OF 32

2021/05/07 9:41 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





SECTION A

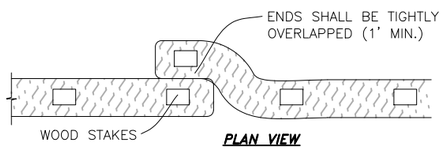
A / C13 VEHICLE TRACKING PAD DETAIL
SCALE:

STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES:

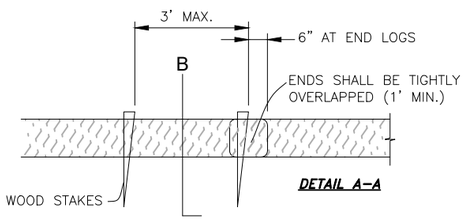
1. SEE PLAN VIEW FOR LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S).
2. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHTS-OF-WAY.
3. STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND-DISTURBING 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:

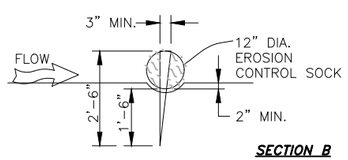
1. INSPECT VEHICLE TRACKING PAD EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT VEHICLE TRACKING PAD AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
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.



PLAN VIEW



DETAIL A-A



SECTION B

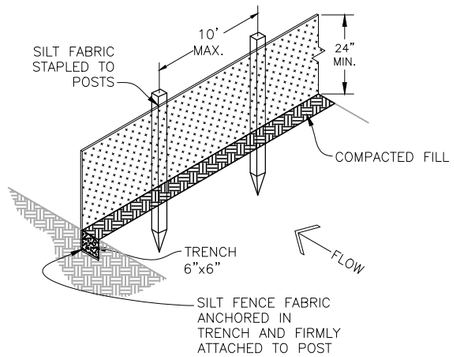
C / C13 EROSION CONTROL SOCK
SCALE: N.T.S.

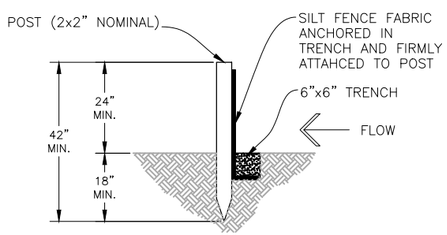
EROSION CONTROL SOCK INSTALLATION NOTES

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 ⅓ 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 ½ 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 SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE OWNER.





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

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

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COLORADO SPRINGS, COLORADO 80919
(719) 227-0072

WIDEFIELD WATER AND SANITATION DISTRICT

ROLLING HILLS 2MG POTABLE WATER TANK

GRADING AND EROSION CONTROL DETAILS

REVISIONS				
NO.	DESCRIPTION	BY	APP.	DATE
1				
2				
3				
4				
5				
6				
7				

FOR CONSTRUCTION

COLORADO LICENSED
ROBIN M. JOYCE
5/6/21
0051810
REGISTERED PROFESSIONAL ENGINEER

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

C13

SHEET 16 OF 32

Circular Perforation Sizing

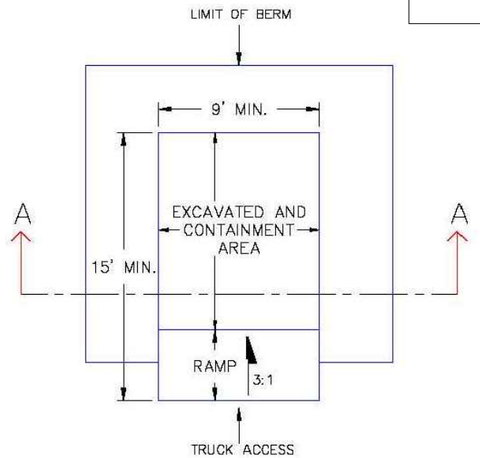
Hole Diameter (in)	Hole Diameter (in)	Area per Row (in^2) n = 1	n = 2	n = 3
1/4	0.250	0.05	0.10	0.15
5/16	0.313	0.08	0.15	0.23
3/8	0.375	0.11	0.22	0.33
7/16	0.438	0.15	0.30	0.45
1/2	0.500	0.20	0.39	0.59
9/16	0.563	0.25	0.50	0.75
5/8	0.625	0.31	0.61	0.92
11/16	0.688	0.37	0.74	1.11
3/4	0.750	0.44	0.88	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

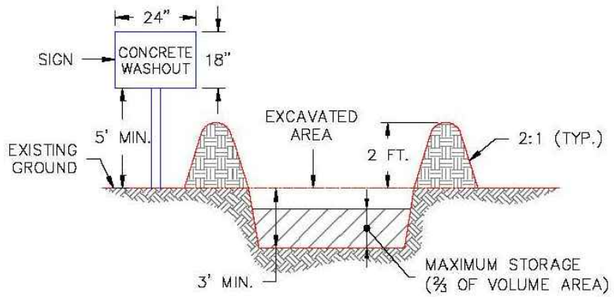
Required Area per Row (in^2)

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	3.76	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
0.6	4.51	2.31	1.53	1.13	0.89	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



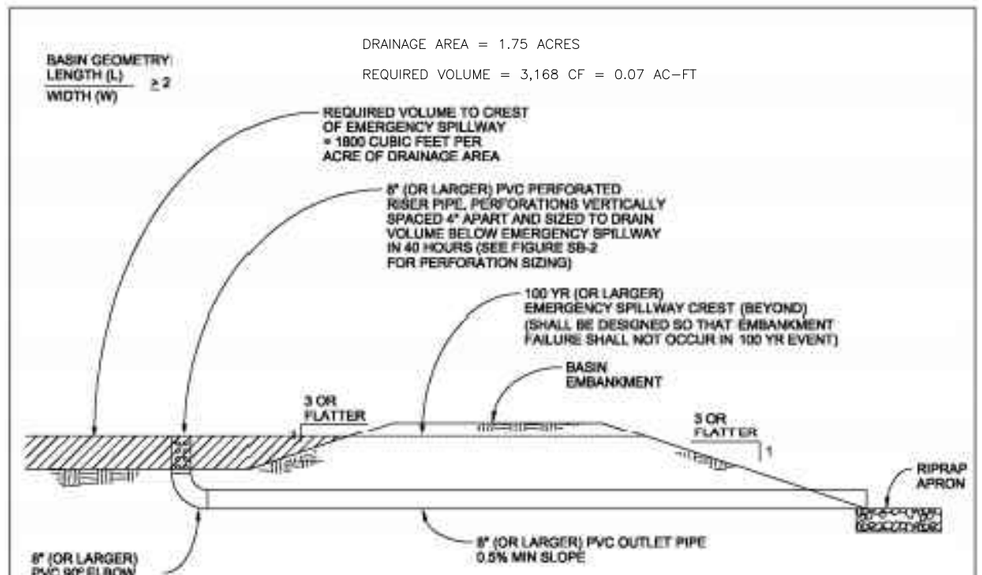
PLAN VIEW



SECTION A–A

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

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



SEDIMENT BASIN
NTS

SEDMENT BASIN NOTES

INSTALLATION REQUIREMENTS

1. SEDIMENT BASINS SHALL BE INSTALLED BEFORE ANY CLEARING AND/OR GRADING IS UNDERTAKEN.
2. THE AREA UNDER WHICH THE EMBANKMENT IS TO BE INSTALLED SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ALL VEGETATION AND ROOT MAT.
3. THE OUTLET OF THE BASIN SHALL BE DESIGNED TO DRAIN ITS VOLUME IN 40 HOURS.
4. 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.
5. 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.
6. EMBANKMENT IS TO BE COMPACTED TO AT LEAST 90% OF MAXIMUM DENSITY AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D 698.
7. 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

1. CONTRACTOR SHALL INSPECT SEDIMENT BASINS AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS NO RAINFALL.
2. SEDIMENT BASINS SHALL BE CLEANED OUT BEFORE SEDIMENT HAS FILLED HALF THE VOLUME OF THE BASIN.
3. 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.

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

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

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

REVISIONS NO.	DESCRIPTION	BY	APP.	DATE
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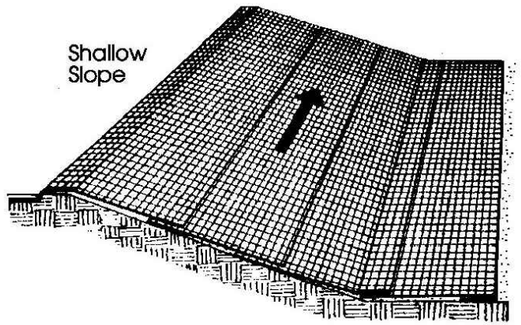
7				

FOR CONSTRUCTION

COLORADO LICENSED
LINDSAY JOYCE
5/6/21
0051810
DATE
REGISTERED PROFESSIONAL ENGINEER

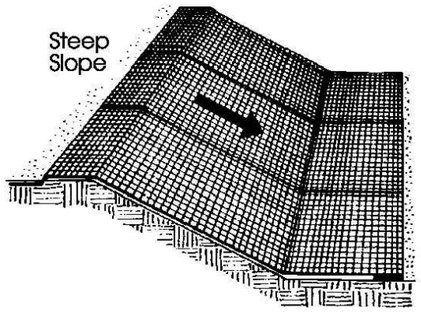
Project No.:	102.121
Date:	05/06/21
Design:	GJD
Drawn:	SNW
Check:	JPM

C14
SHEET 17 OF 32



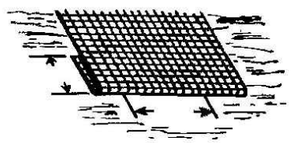
On shallow slopes, strips of netting may be applied across the slope.

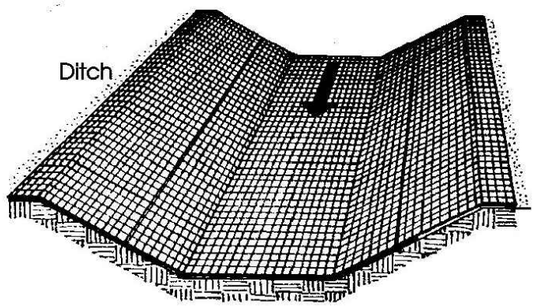
Where there is a berm at the top of the slope, bring the netting over the berm and anchor it behind the berm.



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.



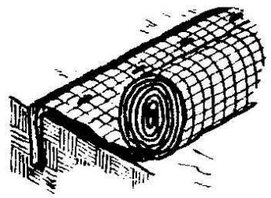


In ditches, apply netting parallel to the direction of flow. Use check slots every 15 feet. Do not join strips in the center of the ditch.

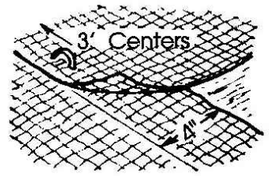
From: Virginia Soil and Water Conservation Commission, 1985

City of Colorado Springs Storm Water Quality	Figure ECB-1 Erosion Control Blanket Application Examples

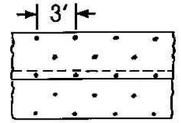
DEN/MM/153722.CS.CB/FigECB-1/9-99

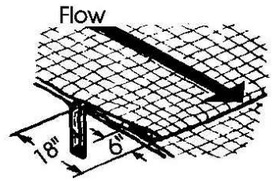


Anchor Slot: Bury the up-channel end of the net in a 6" deep trench. Tamp the soil firmly. Staple at 12" intervals across the net.

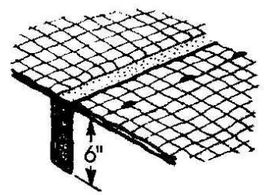


Overlap: Overlap edges of the strips at least 4". Staple every 3 feet down the center of the strip.

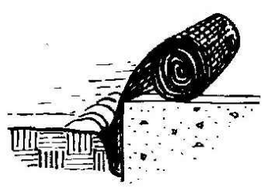




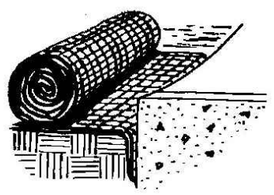
Joining Strips: Insert the new roll of net in a trench, as with the Anchor Slot. Overlap the up-channel end of the previous roll 18" and turn the end under 6". Staple the end of the previous roll just below the anchor slot and at the end at 12" intervals.



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.



From: Virginia Soil and Water Conservation Commission, 1985

City of Colorado Springs Storm Water Quality	Figure ECB-2 Erosion Control Blanket Installation Requirements

DEN/MM/153722.CS.CB/FigECB-2/9-99

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WIDEFIELD WATER AND SANITATION DISTRICT

ROLLING HILLS 2MG POTABLE WATER TANK

GRADING AND EROSION CONTROL DETAILS

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FOR CONSTRUCTION

COLORADO LICENSED
GWENDOLYN JOY
5/6/21
0051810
REGISTERED
PROFESSIONAL ENGINEER

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

C15

SHEET 18 OF 32