



# TRAILS AT ASPEN RIDGE FILING NO. 5

COLORADO SPRINGS, COLORADO

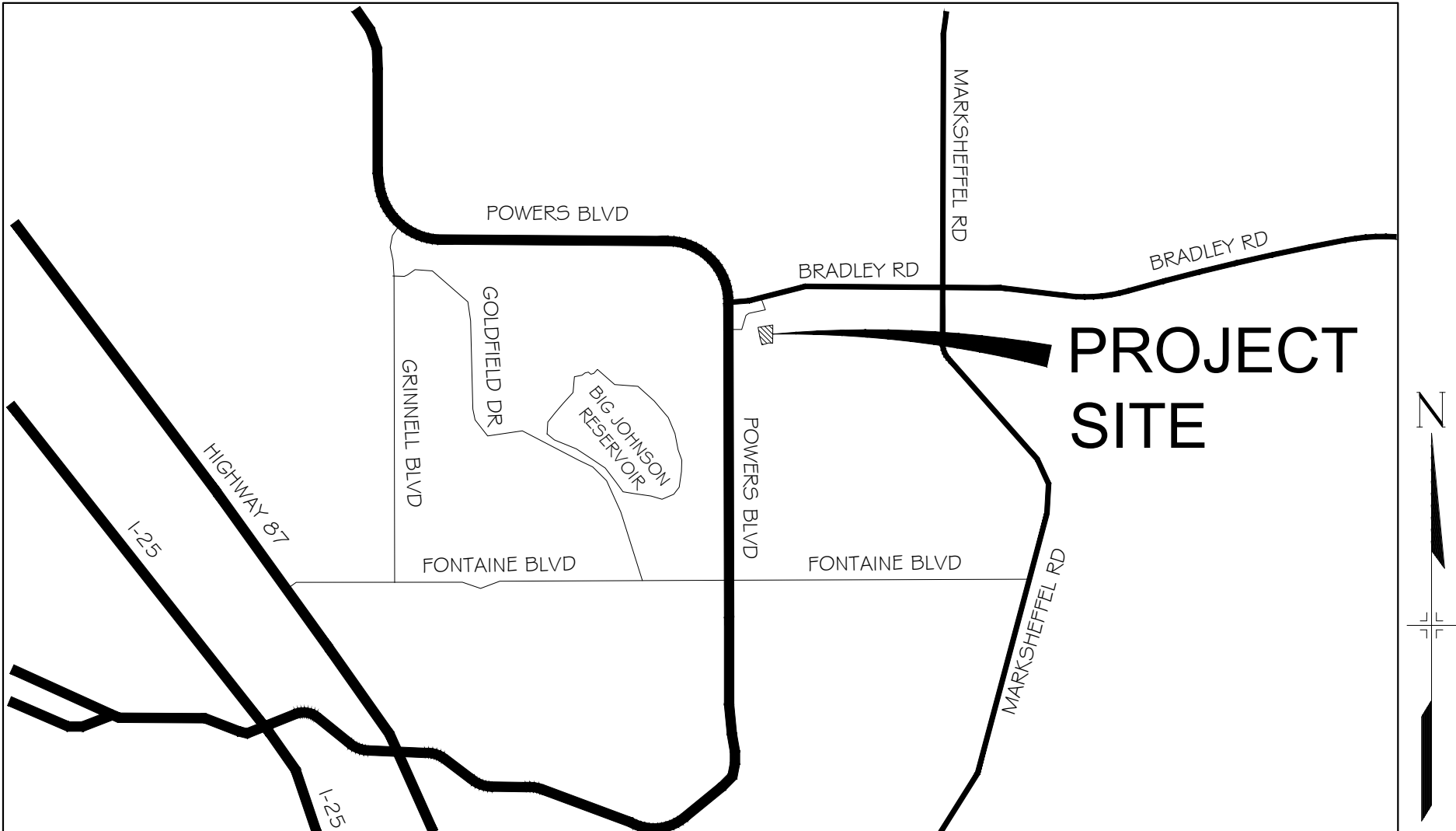
## FINAL GRADING & EROSION CONTROL PLANS

OCTOBER 2021

THIS FINAL GRADING PLAN IS AN ACCURATE REPRESENTATION OF THE GENERAL DRAINAGE PATTERNS ON THE SITE, BUT IS NOT A COMPREHENSIVE DETAILED GRADING PLAN THAT ADDRESSES ALL CONDITIONS THAT MAY OCCUR. THE GRADING OF EACH LOT SHOULD BE CHECKED BY THE HOMEBUILDER TO ENSURE THAT DRAINAGE WILL NOT BE COMPROMISED ON THE LOT OR THE ADJACENT LOTS. CONTRACTOR TO CONTACT DESIGN ENGINEER IF FIELD CONDITIONS DIFFER FROM WHAT IS SHOWN WITHIN THESE PLANS.

DWG No.	SHEET NAME	SHEET No.
TS01	TITLE SHEET	1
GN01	GENERAL NOTES	2
GEN01	LEGEND & ABBREVIATION NOTES	3
GEC01	GRADING & EROSION CONTROL PLAN	4
ECN01 - ECN03	EROSION CONTROL NOTES	5 - 7

OWNER/DEVELOPER	COLA, LLC 555 MIDDLE CREEK PARKWAY, SUITE 380 COLORADO SPRINGS, CO 80921 (719) 382-9433
CIVIL ENGINEER	MATRIX DESIGN GROUP 2435 RESEARCH PARKWAY, SUITE 300 COLORADO SPRINGS, CO 80920 NICOLE SCHANEL, (719) 659-6141
WATER & SANITARY SEWER	WIDEFIELD WATER AND SANITATION DISTRICT 8495 FONTAINE BOULEVARD COLORADO SPRINGS, CO 80925 ROBERT BANNISTER, (719) 390-7111
ELECTRIC	MOUNTAINVIEW ELECTRIC ASSOCIATION (719) 495-2283
GAS	COLORADO SPRINGS UTILITIES 1521 HANCOCK EXPRESSWAY COLORADO SPRINGS, CO MARY HOAGLUND (719) 668-4083
STREET	EL PASO COUNTY PUBLIC SERVICES DEPARTMENT (719) 520-6460
DRAINAGE	EL PASO COUNTY PUBLIC SERVICES DEPARTMENT (719) 520-6460
FIRE DEPARTMENT	SECURITY FIRE DEPARTMENT 400 SECURITY BOULEVARD SECURITY, CO 80911 (719) 392-7121



VICINITY MAP

N.T.S.



SITE MAP

1" = 500'

OWNER'S STATEMENT:

I, THE OWNER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

TIM BUSCHAR  
DIRECTOR OF LAND ACQUISITION AND DEVELOPMENT

DATE

ENGINEER'S STATEMENT:

THIS GRADING AND EROSION CONTROL PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. SAID PLAN HAS BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR GRADING AND EROSION CONTROL PLANS. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARING THIS REPORT.

NICOLE SCHANEL, PE #52434

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 DATE 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

PCD FILING NO.: SF-21-038

REFERENCE DRAWINGS						SHEET KEY		BENCHMARK				SEAL		TRAILS AT ASPEN RIDGE- F5					
X-Title-GEC X-886-PR SITE X-886-PR SITE - F6 X-886-PR SITE - F5 X-886-PR SITE - F4 X-886-PR SITE - F3 X-886-PR SITE - F7 X-886-EX-BASE X-886-EX SURVEY X-886-PR SITE-F1 X-886-PR SITE-F2 886-PR Legacy Drive-Roundabout 886-pr legacy drive								COLORADO SPRINGS UTILITIES (FIMS) MONUMENT F206 A BERNTSEN TOP SECURITY MONUMENT SYSTEM WITH A 3.5-INCH DIAMETER ALUMINUM CAP IN A ROAD BOX, LOCATED ON THE NORTHWEST CORNER OF FONTAINE BOULEVARD AND POWERS BOULEVARD. ELEVATION - 5897.89' U.S. SURVEY FT				<div><div>PRELIMINARY</div><div>THIS DRAWING HAS NOT BEEN APPROVED BY GOVERNING AGENCIES AND IS SUBJECT TO CHANGE</div></div>							
No.		DATE		DESCRIPTION		BY		BASIS OF BEARING		PREPARED BY:				GRADING AND EROSION CONTROL PLAN					
				REVISIONS				BEARINGS ARE BASED ON THE NORTH LINE OF THE NORTHWEST QUARTER OF SECTION 9, TOWNSHIP 15 SOUTH, RANGE 65 WEST OF THE 6TH P.M. SAID LINE BEARS S89°51'23"E FROM THE NORTHWEST CORNER OF SAID SECTION 9 (2 ½" AULM. CAP PLS 17664) TO THE N ½ CORNER OF SAID SECTION 9 (3 ½" AULM. CAP PLS 10377)						TITLE SHEET					
												FOR AND ON BEHALF OF MATRIX DESIGN GROUP, INC. PROJECT No. 21.886.048							
				FILE NAME: S:\21.886.048 (Trails at Aspen Ridge - F5)\100 Dwg\104 Plan Sets\Construction Plans\GEC Plan\TS01.dwg								DESIGNED BY: CRD		SCALE		DATE ISSUED: OCTOBER 2021		DRAWING No.	
				CTB FILE: ----								DRAWN BY: CRD		HORIZ.		N.A.			
				PLOT DATE: March 17, 2022 1:03:51 PM								CHECKED BY: NMS		VERT.		N.A.		SHEET	
				THIS DRAWING IS CURRENT AS OF PLOT DATE AND MAY BE SUBJECT TO CHANGE.												1 OF 7		TS01	



GENERAL CONSTRUCTION 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 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.
3. A SEPARATE STORMWATER MANAGEMENT PLAN (SMWP) FOR THIS PROJECT SHALL BE COMPLETED AND AN EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP) ISSUED PRIOR TO COMMENCING CONSTRUCTION. DURING CONSTRUCTION THE SWMP 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. TEMPORARY SEDIMENT AND EROSION 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 OPERATING CONDITION UNTIL PERMANENT SOIL EROSION CONTROL MEASURES 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 PRIOR TO IMPLEMENTATION.
7. 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. AN AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN 60 DAYS SHALL ALSO BE STABILIZED.
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 PLAN 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 DEFINED IN THE APPROVED PLANS. ANY PROPOSED CHANGES THAT EFFECT THE HYDROLOGY OR HYDRAULICS OF A PERMANENT STORMWATER MANAGEMENT STRUCTURES MUST BE APPROVED BY THE ECM ADMINISTRATOR PRIOR TO IMPLEMENTATION.
10. ANY EARTH DISTURBANCE 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 INFEASIBLE.

11. COMPACTION OF SOIL MUST BE PREVENTED IN AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES OR WHERE FINAL STABILIZATION WILL BE ACHIEVED BY VEGETATIVE COVER. AREAS DESIGNATED FOR INFILTRATION CONTROL SHALL ALSO BE PROTECTED FROM SEDIMENTATION DURING CONSTRUCTION UNTIL FINAL STABILIZATION IS ACHIEVED.
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 RUNOFF TO STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES. CONCRETE WASHOUT SHALL NOT BE LOCATED IN AN AREA WHERE SHALLOW GROUNDWATER MAY BE PRESENT, OR WITHIN 50 FEET OF A SURFACE WATER BODY.
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 OF OTHER FEDERAL, STATE, LOCAL, OR

COUNTY AGENCIES, 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 ENTECH ENGINEERING, INC., DATED AUGUST 9, 2019 AND SHALL BE CONSIDERED A PART OF THESE PLANS.
29. AT LEAST TEN (10) DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB ONE (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

NRCS SOIL SURVEY FOR EL PASO COUNTY

SOIL ID NO.	SOIL TYPE	HYDROLOGIC CLASSIFICATION
52	MANZANST CLAY LOAM (0%-3% SLOPES)	C
56	NELSON-TASSEL FINE SANDY LOAM (3%-18% SLOPES)	B
86	STONEHAM SANDY LOAM (3%-8% SLOPES)	B

TIMING

ANTICIPATED STARTING AND COMPLETION TIME PERIOD OF SITE GRADING:  
NOVEMBER 2021 THRU APRIL 2022

EXPECTED DATE ON WHICH THE FINAL STABILIZATION WILL BE COMPLETED:  
APRIL 2023

AREAS

TOTAL AREA: 9.35 ACRES

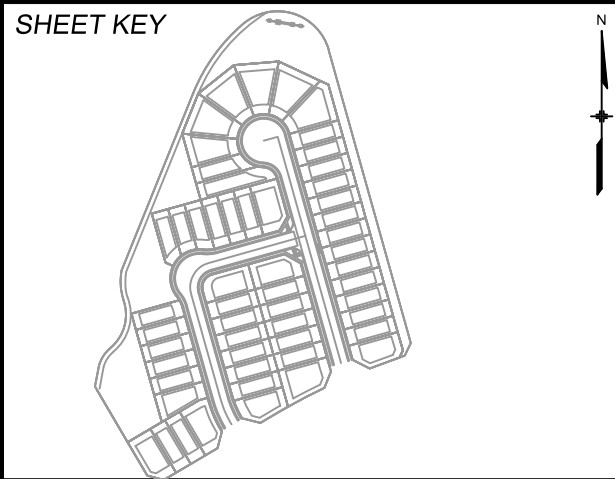
RECEIVING WATERS

NAME OF RECEIVING WATERS  
FOUNTAIN CREEK (ULTIMATE)

ENGINEER'S NOTES:

THE EXISTING VEGETATION CONSISTS OF NATIVE GRASSES AND SCRUB OAK. BASED ON SITE VISITS AND A REVIEW OF AERIAL PHOTOGRAPHY, THE VEGETATIVE COVER AT ASPEN RIDGE FILING NO. 5 IS APPROXIMATELY 100%.

REFERENCE DRAWINGS					
X-Title-GEC X-886-PR-SITE X-886-PR-SITE - F6 X-886-PR-SITE - F5 X-886-PR-SITE - F4 X-886-PR-SITE - F3 X-886-PR-SITE - F7 X-886-EX-BASE X-886-EX-SURVEY X-886-PR-SITE_F1 X-886-PR-SITE_F2 886-PR Legacy Drive-Roundabout 886-pr legacy drive					
No.	DATE	DESCRIPTION	BY		
REVISIONS					
COMPUTER FILE MANAGEMENT					
FILE NAME: S:\21.886.048 (Trails at Aspen Ridge - F5)\100 Dwg\104 Plan Sets\Construction Plans\GEC Plan\TS01.dwg					
CTB FILE: ---					
PLOT DATE: March 17, 2022 1:03:59 PM					
THIS DRAWING IS CURRENT AS OF PLOT DATE AND MAY BE SUBJECT TO CHANGE.					



**BENCHMARK**  
COLORADO SPRINGS UTILITIES (FIMS) MONUMENT F206  
A BERNTSEN TOP SECURITY MONUMENT SYSTEM WITH A 3.5-INCH DIAMETER ALUMINUM CAP IN A ROAD BOX, LOCATED ON THE NORTHWEST CORNER OF FONTAINE BOULEVARD AND POWERS BOULEVARD.  
ELEVATION - 5897.89' U.S. SURVEY FT

**BASIS OF BEARING**  
BEARINGS ARE BASED ON THE NORTH LINE OF THE NORTHWEST QUARTER OF SECTION 9, TOWNSHIP 15 SOUTH, RANGE 65 WEST OF THE 6TH P.M. SAID LINE BEARS S89°51'23"E FROM THE NORTHWEST CORNER OF SAID SECTION 9 (2 1/2" AULM. CAP PLS 17664) TO THE N 1/2 CORNER OF SAID SECTION 9 (3 1/2" AULM. CAP PLS 10377)

PREPARED BY:

SEAL		TRAILS AT ASPEN RIDGE- F5			
PRELIMINARY THIS DRAWING HAS NOT BEEN APPROVED BY GOVERNING AGENCIES AND IS SUBJECT TO CHANGE		GRADING AND EROSION CONTROL PLAN			
FOR AND ON BEHALF OF MATRIX DESIGN GROUP, INC. PROJECT No. 21.886.048		GENERAL NOTES			
DESIGNED BY:	CRD	SCALE	DATE ISSUED:	OCTOBER 2021	DRAWING No.
DRAWN BY:	CRD	HORIZ	N.A.		GN01
CHECKED BY:	NMS	VERT.	N.A.	SHEET 2 OF 7	



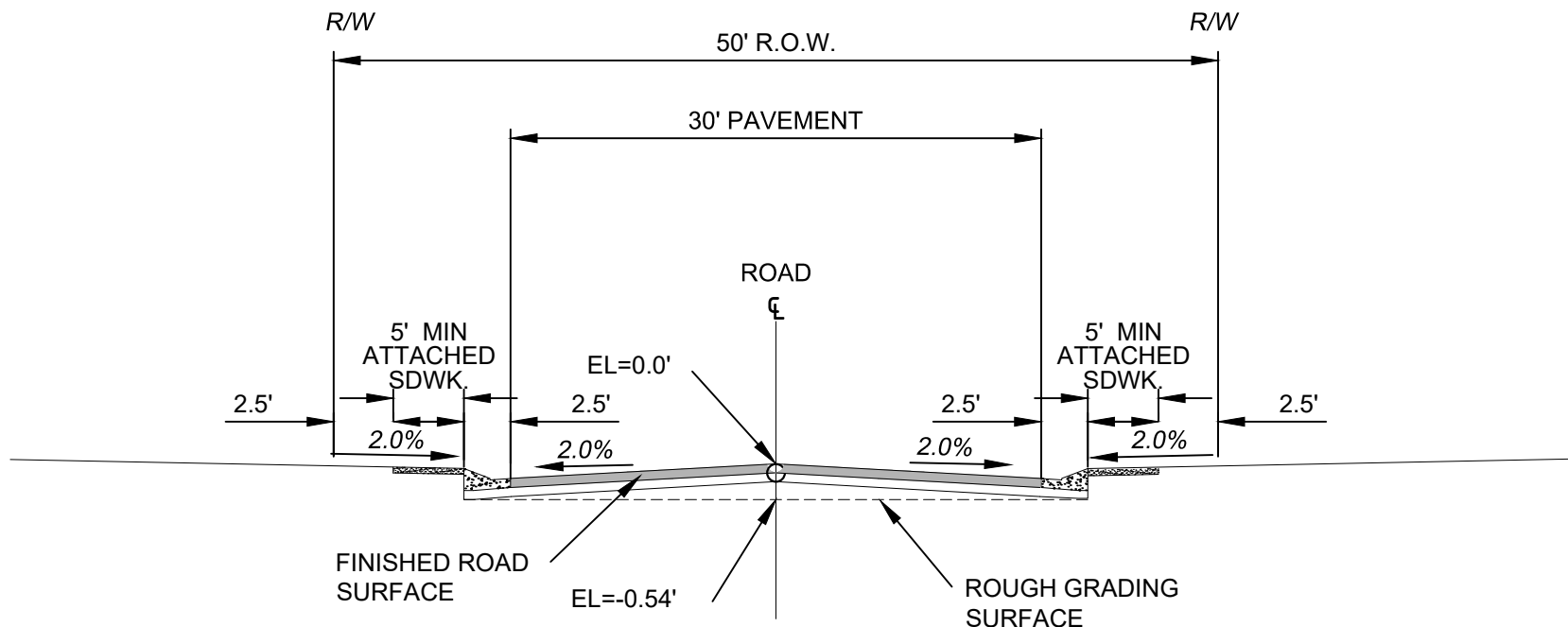


SYMBOLS

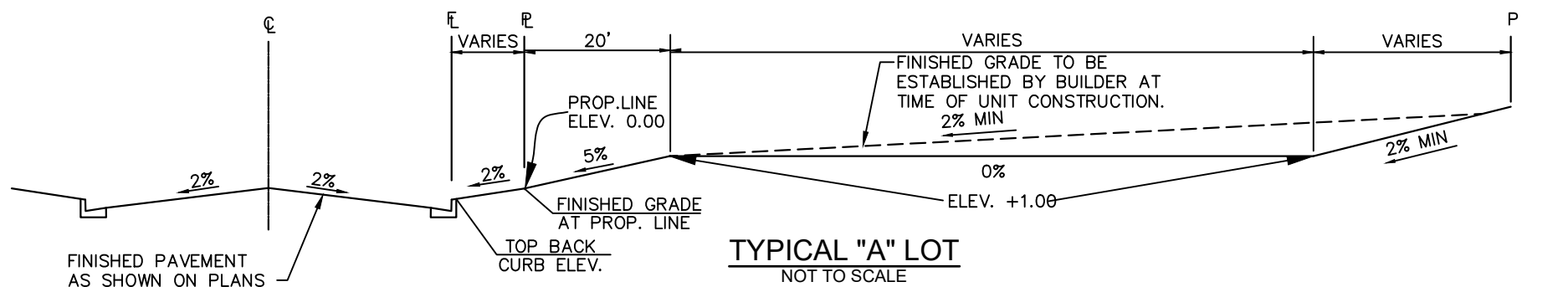
	PROPOSED WATER		PROPOSED CENTERLINE
	PROPOSED HYDRANT		EXISTING FENCE
	PROPOSED VALVE		PROPOSED FENCE
	PROPOSED THRUST BLOCK		RIGHT OF WAY
	EXISTING SANITARY		EASEMENT
	EXISTING SANITARY		PROPERTY BOUNDARY
	PROPOSED SANITARY		EXISTING CURB & GUTTER
	PROPOSED SANITARY MANHOLE		PROPOSED CURB & GUTTER
	PROPOSED WATER SERVICE WITH PLUG		EXISTING CONTOUR
	PROPOSED SANITARY SERVICE WITH PLUG		PROPOSED CONTOUR
	PROPOSED STORM		EXISTING UNDERGROUND UTILITY
	PROPOSED STORM MANHOLE		EXISTING WATER
	PROPOSED STORM INLET		EXISTING HYDRANT
	PROPOSED RETAINING WALL		EXISTING WATER VALVE

ABBREVIATIONS

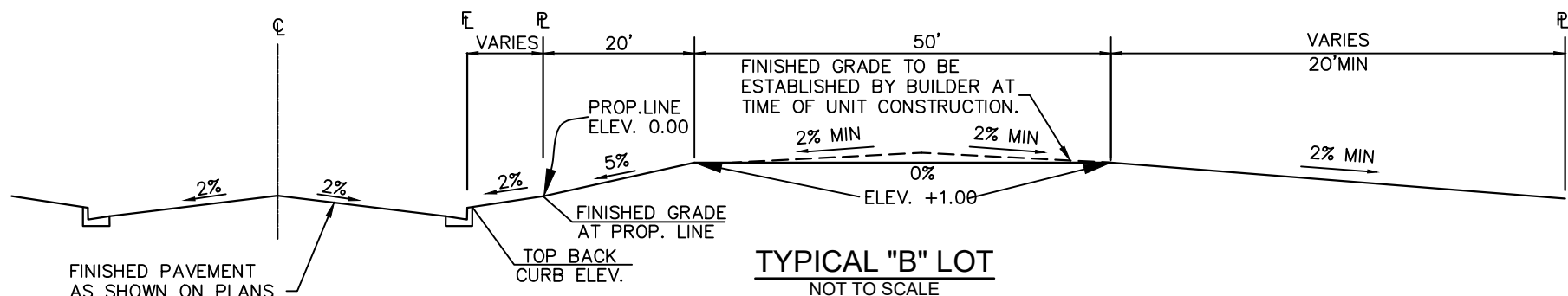
AD	ALGEBRAIC DIFFERENCE	NC	NORMAL CROWN
ASSY	ASSEMBLY	NIC	NOT IN CONTRACT
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS	NO	NUMBER
APPROX	APPROXIMATE or APPROXIMATELY	NOM	NOMINAL
AVE	AVENUE	NTS	NOT TO SCALE
AVG	AVERAGE	OC	ON CENTER
B/C	BACK OF CURB	O/S	OFFSET
± or B/L	BASELINE	P	PROPOSED
BLVD	BOULEVARD	PC	POINT OF CURVATURE
BTM	BOTTOM	PCC	POINT OF COMPOUND CURVE
CI	CAST IRON	PCR	POINT OF CURB RETURN
CEN	CENTER	PE	PLAIN END
± or CL	CENTERLINE	PIE	PUBLIC IMPROVEMENT EASEMENT
CFS	CUBIC FEET PER SECOND	PGL	PROFILE GRADE LINE
CLR	CLEAR	± or P/L	PROPERTY LINE
CMP	CORRUGATED METAL PIPE	PRC	POINT OF REVERSE CURVE
CONC	CONCRETE	PT	POINT OF TANGENCY
CONST	CONSTRUCTION	PVC	POINT OF VERTICAL CURVE or POLYVINYL CHLORIDE
CONT	CONTINUOUS	PVI	POINT OF VERTICAL INTERSECTION
DIA	DIAMETER	PVMT	PAVEMENT
DN	DOWN	PVT	POINT OF VERTICAL TANGENT
DWG	DRAWING	R OR RAD	RADIUS
EA	EACH	RC	REVERSE CROWN
EGL	ENERGY GRADE LINE	RCP	REINFORCED CONCRETE PIPE
ELEV or EL	ELEVATION	RED	REDUCER
ELL	ELBOW	REF	REFERENCE
ESMT	EASEMENT	REINF	REINFORCING
EW	EACHWAY	REQ	REQUIRED
EX or EXIST	EXISTING	REV	REVISION
FES	FLARED END SECTION	ROW	RIGHT-OF-WAY
FIN	FINISHED	RT	RIGHT
± or FL	FLOWLINE	SCH	SCHEDULE
FLG	FLANGE	SD	STORM SEWER
FT	FOOT / FEET	SQ	SQUARE
FRP	FIBERGLASS REINFORCED PIPE	ST	STREET
GAL	GALLON	STA	STATION
GALV	GALVANIZED	STD	STANDARD
GAU	GAUGE (MATERIAL)	STL	STEEL
GV	GATE VALVE	SS OR SAN	SANITARY SEWER
GW	GROUNDWATER	SW OR S/W	SIDEWALK
HBP	HOT BITUMINOUS PAVEMENT	TAN	TANGENT
HERCP	HORIZONTAL ELLIPTICAL REINFORCED CONCRETE PIPE	TB	THRUST BLOCK
HGL	HYDRAULIC GRADE LINE	TBC	TOP BACK OF CURB
HP	HIGH POINT	TFC	TOP FACE OF CURB
HORIZ	HORIZONTAL	THD	THREADED
HCL	HORIZONTAL CONTROL LINE	THK	THICKNESS
HR	HOUR	TYP	TYPICAL
INV	INVERT	UG	UNDERGROUND
K	VERTICAL CURVE FACTOR	UTIL	UTILITY
LBS	POUNDS	VC	VERTICAL CURVE
LF	LINEAR FEET	VERT	VERTICAL
LN	LANE	W	WIDTH
LP	LOW POINT	W/	WITH
LS	LANDSCAPING		
LT	LEFT		
MAX	MAXIMUM		
MFGR	MANUFACTURER		
MH	MANHOLE		
MID	MIDDLE or MIDPOINT		
MIN	MINIMUM		
MJ	MECHANICAL JOINT		
MSL	MEAN SEA LEVEL		



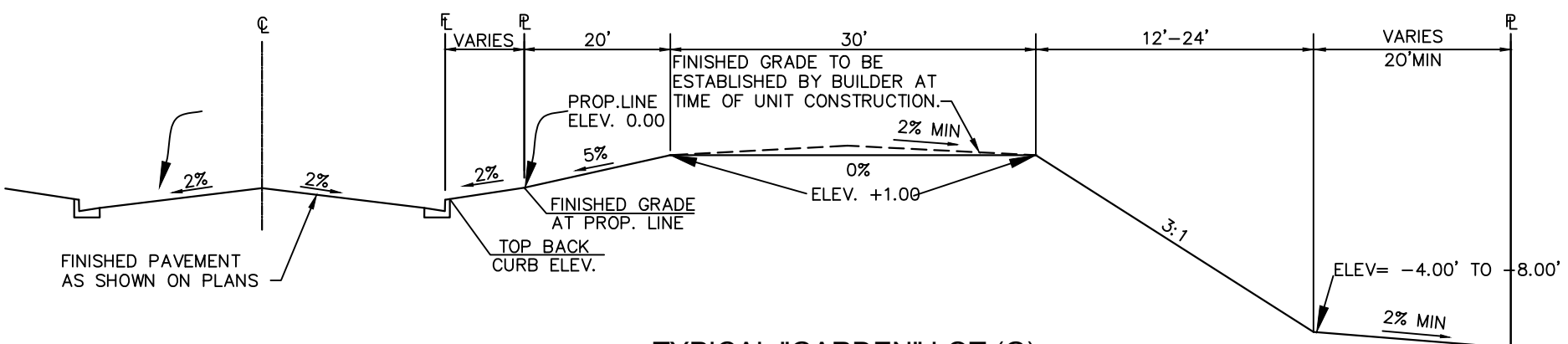
TYPICAL SECTION  
(URBAN LOCAL ROADWAY)  
SCALE : N.T.S.



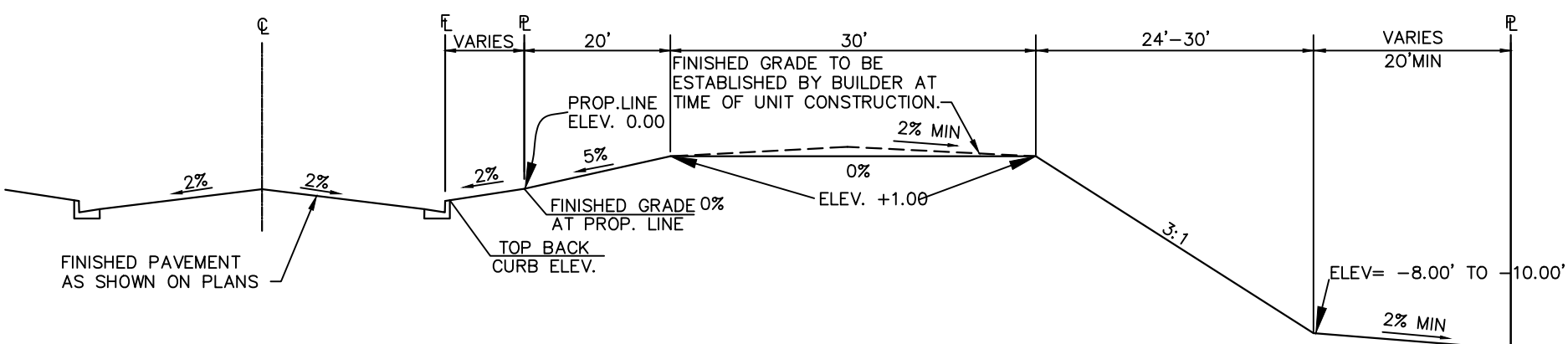
TYPICAL "A" LOT  
NOT TO SCALE



TYPICAL "B" LOT  
NOT TO SCALE



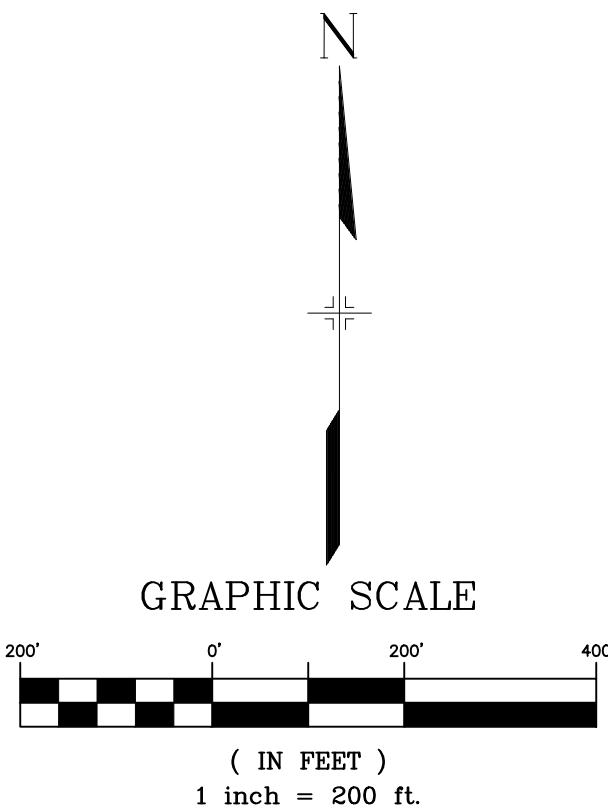
TYPICAL "GARDEN" LOT (G)  
NOT TO SCALE



TYPICAL "WALKOUT" LOT (W)  
NOT TO SCALE

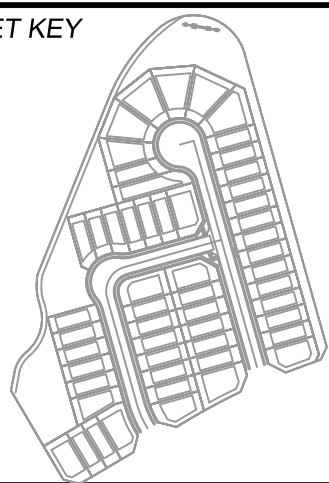
LOT TYPES

- A "A" LOT
- B "B" LOT
- G "GARDEN LEVEL" LOT
- W "WALKOUT" LOT
- T "TRANSITION" LOT



REFERENCE DRAWINGS				
X-Title-GEC X-886-PR-SITE X-886-PR-SITE - F6 X-886-PR-SITE - F5 X-886-PR-SITE - F4 X-886-PR-SITE - F3 X-886-PR-SITE - F7 X-886-EX-BASE X-886-EX-SURVEY X-886-PR-SITE - F1 X-886-PR-SITE - F2 886-PR Legacy Drive-Roundabout 886-PR legacy drive				
No.	DATE	DESCRIPTION	BY	
COMPUTER FILE MANAGEMENT				
FILE NAME: S:\21.886.048 (Trails at Aspen Ridge - F5)\100 Dwg\104 Plan Sets\Construction Plans\GEC Plan\TS01.dwg				
CTB FILE: ----				
PLOT DATE: March 17, 2022 1:04:03 PM				
THIS DRAWING IS CURRENT AS OF PLOT DATE AND MAY BE SUBJECT TO CHANGE.				

SHEET KEY



BENCHMARK

COLORADO SPRINGS UTILITIES (FIMS) MONUMENT F206  
A BERNTSEN TOP SECURITY MONUMENT SYSTEM WITH A 3.5-INCH DIAMETER ALUMINUM CAP IN A ROAD BOX, LOCATED ON THE NORTHWEST CORNER OF FONTAINE BOULEVARD AND POWERS BOULEVARD.  
ELEVATION - 5897.89' U.S. SURVEY FT

BASIS OF BEARING

BEARINGS ARE BASED ON THE NORTH LINE OF THE NORTHWEST QUARTER OF SECTION 9, TOWNSHIP 15 SOUTH, RANGE 65 WEST OF THE 6TH P.M. SAID LINE BEARS S89°51'23"E FROM THE NORTHWEST CORNER OF SAID SECTION 9 (2 1/2' AULM. CAP PLS 17664) TO THE N 1/2 CORNER OF SAID SECTION 9 (3 1/2' AULM. CAP PLS 10377)

PREPARED BY:

SEAL

**PRELIMINARY**  
THIS DRAWING HAS NOT  
BEEN APPROVED BY  
GOVERNING AGENCIES AND  
IS SUBJECT TO CHANGE

FOR AND ON BEHALF OF  
MATRIX DESIGN GROUP, INC.  
PROJECT No. 21.886.048

DESIGNED BY:	CRD	SCALE	DATE ISSUED:	OCTOBER 2021	DRAWING No.
CHECKED BY:	NMS	HORIZ. N.A. VERT. N.A.	SHEET	3 OF 7	GEN01

TRAILS AT ASPEN RIDGE- F5

GRADING AND EROSION CONTROL PLAN

LEGEND & ABBREVIATION NOTES



Know what's below.  
Call before you dig.BECAUSE THE SITE WAS PREVIOUSLY OVERLOT  
GRADED, THIS PLAN IS JUST SHOWING REFINEMENTS  
TO THAT OVERLOT GRADING PLAN. THEREFORE, THE  
CUT/FILL LINES WOULD NOT REALLY APPLY OR BE  
BENEFICIAL.My previous comment with Review #1  
on the Legend was to show the  
Cut/Fill line on the plans. No the  
Cut/Fill line is no longer on the Legend  
and still not on the plans. Per  
Checklist Item "P" cut/fill areas need  
to be identified.

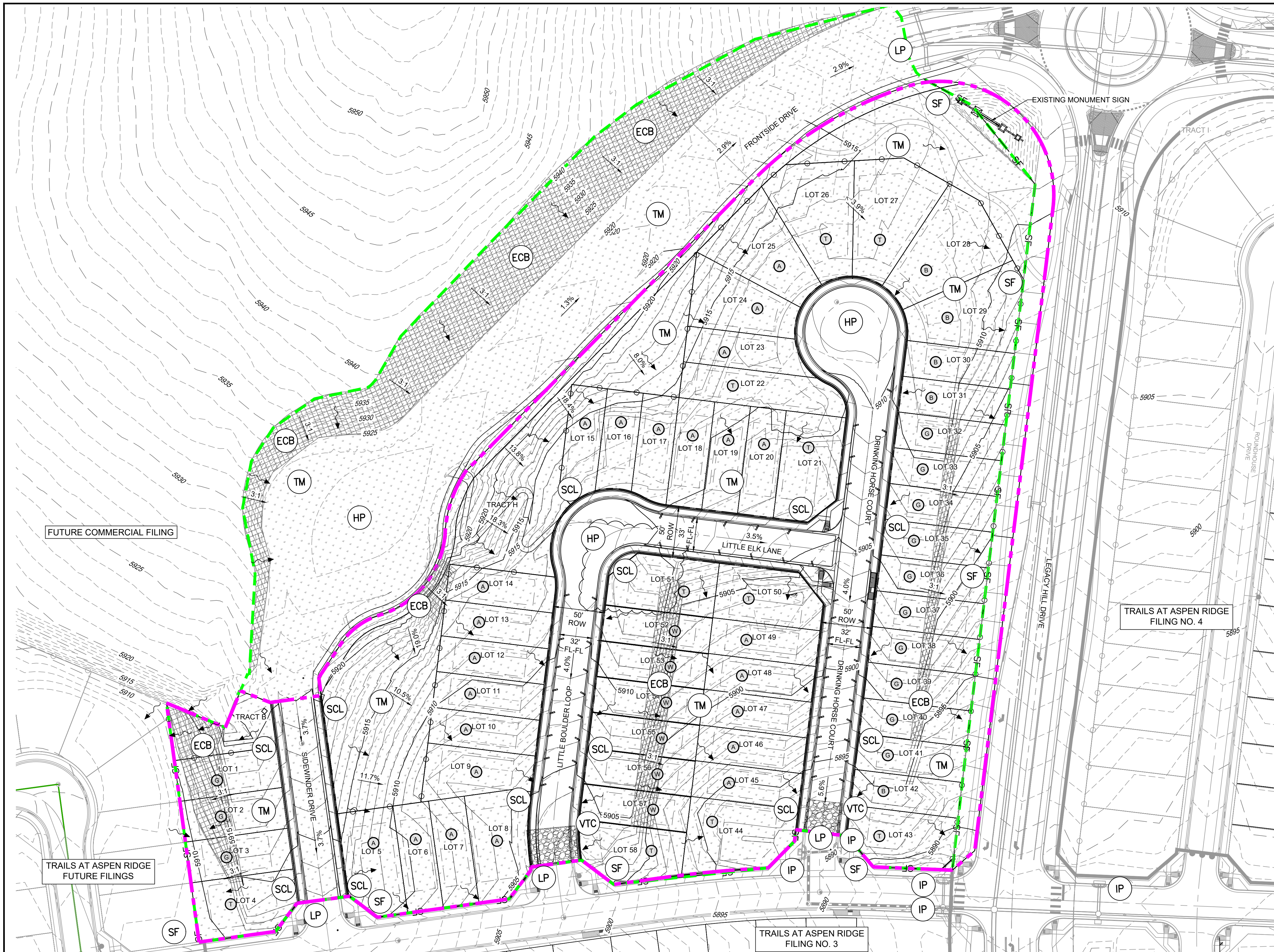
GRAPHIC SCALE

( IN FEET )  
1 inch = 50 ft.

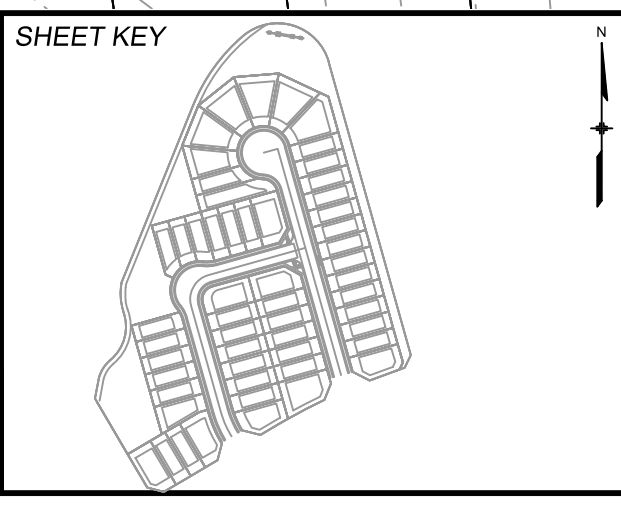
- HP LP HIGH POINT/LOW POINT
- ECB EROSION CONTROL BLANKET
- TM TEMPORARY MULCHING AND SEEDING
- SCL SEDIMENT CONTROL LOG
- VTC VEHICLE TRACKING CONTROL
- SB SEDIMENT BASIN
- SP CWA CONTRACTOR TO COORDINATE LOCATIONS OF CONCRETE WASHOUTS, STOCKPILES, AND STAGING AREAS WITH ADJACENT FILINGS
- IP INLET PROTECTION
- OP OUTLET PROTECTION
- SF SF SILT FENCE
- PROPOSED CONTOURS
- EXISTING CONTOURS
- SLOPE DIRECTION
- DRAINAGE FLOW ARROW
- DRAINAGE SWALE
- PROPERTY BOUNDARY
- LIMITS TO CONSTRUCTION/DISTURBANCE
- A LOT DRAINS TO STREET
- B LOT DRAINS TO STREET/REAR OF LOT
- T LOT DRAINAGE VARIES
- G GARDEN LEVEL BASEMENT
- W WALK OUT BASEMENT

BMP SEQUENCING	
INITIAL	SILT FENCE, CONSTRUCTION FENCE, VEHICLE TRACKING, TEMP SEDIMENT BASINS, ROUGH CUT STREET CONTROL
INTERIM	FLOW LINE SEDIMENT CONTROL LOGS, SEDIMENT CONTROL LOGS, CHECK DAMS, INLET PROTECTION, STOCKPILES, STAGING
FINAL	EROSION CONTROL BLANKETS, SEEDING & MULCHING

PCD FILING NO.: SF-21-038



REFERENCE DRAWINGS	No.	DATE	DESCRIPTION	BY
X-886-PR-WTR-F5 X-886-EX-BASE X-886-EX-SURVEY X-886-PR-SITE-F1 X-886-PR-SITE-F2 X-886-PR-SITE-F3 X-886-PR-SITE-F4 X-886-PR-SITE-F5 X-886-PR-SITE-F6 X-886-PR-SITE-F7 X-886-PR-SITE-F8 X-886-PR-SITE-F9 X-886-PR-SITE-F10 X-886-PR-SITE-F11 X-886-PR-SITE-F12 X-886-PR-SITE-F13 X-886-PR-SITE-F14 X-886-PR-SITE-F15 X-886-PR-SITE-F16 X-886-PR-SITE-F17 X-886-PR-SITE-F18 X-886-PR-SITE-F19 X-886-PR-SITE-F20 X-886-PR-SITE-F21 X-886-PR-SITE-F22 X-886-PR-SITE-F23 X-886-PR-SITE-F24 X-886-PR-SITE-F25 X-886-PR-SITE-F26 X-886-PR-SITE-F27 X-886-PR-SITE-F28 X-886-PR-SITE-F29 X-886-PR-SITE-F30 X-886-PR-SITE-F31 X-886-PR-SITE-F32 X-886-PR-SITE-F33 X-886-PR-SITE-F34 X-886-PR-SITE-F35 X-886-PR-SITE-F36 X-886-PR-SITE-F37 X-886-PR-SITE-F38 X-886-PR-SITE-F39 X-886-PR-SITE-F40 X-886-PR-SITE-F41 X-886-PR-SITE-F42 X-886-PR-SITE-F43 X-886-PR-SITE-F44 X-886-PR-SITE-F45 X-886-PR-SITE-F46 X-886-PR-SITE-F47 X-886-PR-SITE-F48 X-886-PR-SITE-F49 X-886-PR-SITE-F50 X-886-PR-SITE-F51 X-886-PR-SITE-F52 X-886-PR-SITE-F53 X-886-PR-SITE-F54 X-886-PR-SITE-F55 X-886-PR-SITE-F56 X-886-PR-SITE-F57 X-886-PR-SITE-F58 X-886-PR-SITE-F59 X-886-PR-SITE-F60 X-886-PR-SITE-F61 X-886-PR-SITE-F62 X-886-PR-SITE-F63 X-886-PR-SITE-F64 X-886-PR-SITE-F65 X-886-PR-SITE-F66 X-886-PR-SITE-F67 X-886-PR-SITE-F68 X-886-PR-SITE-F69 X-886-PR-SITE-F70 X-886-PR-SITE-F71 X-886-PR-SITE-F72 X-886-PR-SITE-F73 X-886-PR-SITE-F74 X-886-PR-SITE-F75 X-886-PR-SITE-F76 X-886-PR-SITE-F77 X-886-PR-SITE-F78 X-886-PR-SITE-F79 X-886-PR-SITE-F80 X-886-PR-SITE-F81 X-886-PR-SITE-F82 X-886-PR-SITE-F83 X-886-PR-SITE-F84 X-886-PR-SITE-F85 X-886-PR-SITE-F86 X-886-PR-SITE-F87 X-886-PR-SITE-F88 X-886-PR-SITE-F89 X-886-PR-SITE-F90 X-886-PR-SITE-F91 X-886-PR-SITE-F92 X-886-PR-SITE-F93 X-886-PR-SITE-F94 X-886-PR-SITE-F95 X-886-PR-SITE-F96 X-886-PR-SITE-F97 X-886-PR-SITE-F98 X-886-PR-SITE-F99 X-886-PR-SITE-F100				
COMPUTER FILE MANAGEMENT				
FILE NAME: S:\21.886.048 (Trails at Aspen Ridge - F5)\100 Dwg\104 Plan Sets\Construction Plans\GEC Plan\GEC01.dwg				
CTB FILE: ---				
PLOT DATE: March 17, 2022 1:09:46 PM				
THIS DRAWING IS CURRENT AS OF PLOT DATE AND MAY BE SUBJECT TO CHANGE.				



BENCHMARK  
COLORADO SPRINGS UTILITIES (FIMS) MONUMENT F206  
A BERNTSEN TOP SECURITY MONUMENT SYSTEM WITH A 3.5-INCH DIAMETER ALUMINUM CAP IN  
A ROAD BOX, LOCATED ON THE NORTHWEST CORNER OF FONTAINE BOULEVARD AND POWERS  
BOULEVARD.  
ELEVATION - 5897.89' U.S. SURVEY FT

BASIS OF BEARING  
BEARINGS ARE BASED ON THE NORTH LINE OF THE NORTHWEST QUARTER OF SECTION 9,  
TOWNSHIP 15 SOUTH, RANGE 65 WEST OF THE 6TH P.M. SAID LINE BEARS S89°51'23"E FROM  
THE NORTHWEST CORNER OF SAID SECTION 9 (2 1/2" AULM. CAP PLS 17664) TO THE N 1/2  
CORNER OF SAID SECTION 9 (3 1/2" AULM. CAP PLS 10377)

PREPARED BY:

SEAL  
**PRELIMINARY**  
THIS DRAWING HAS NOT  
BEEN APPROVED BY  
GOVERNING AGENCIES AND  
IS SUBJECT TO CHANGE

TRAILS AT ASPEN RIDGE- F5				
GRADING AND EROSION CONTROL PLAN				
GRADING & EROSION CONTROL PLAN				
DESIGNED BY:	CRD	SCALE	DATE ISSUED:	DRAWING No.
CHECKED BY:	NMS	HORIZ. N.A. VERT. N.A.	OCTOBER 2021 4 OF 7	GEC01





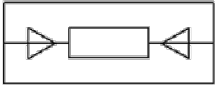




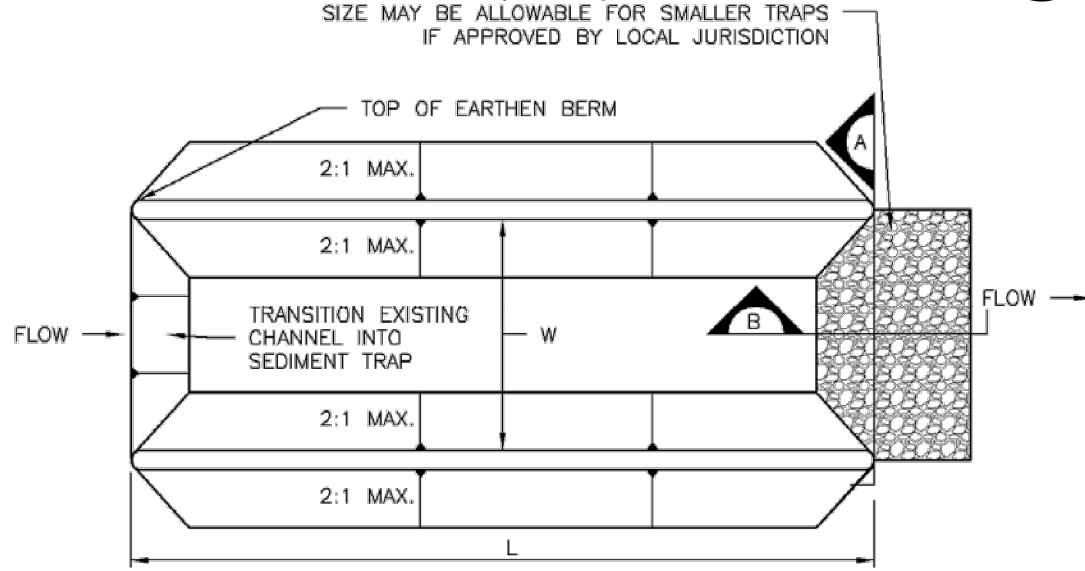
Know what's below.  
Call before you dig.

SC-8

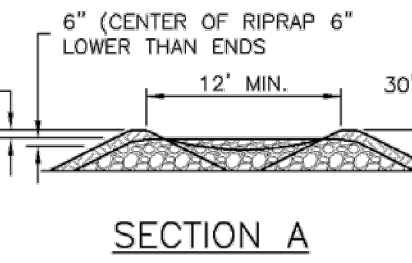
Sediment Trap (ST)



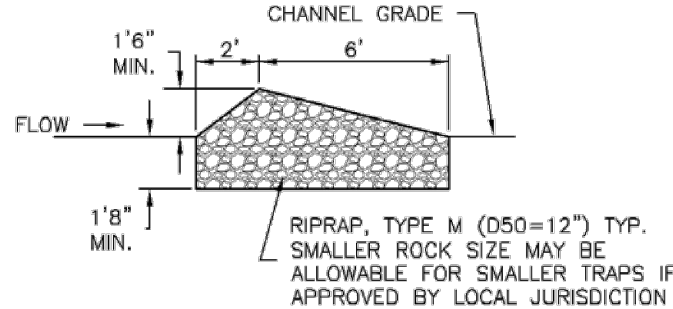
ST



SEDIMENT TRAP PLAN



SECTION A



SECTION B  
ST-1. SEDIMENT TRAP

SEDIMENT TRAP INSTALLATION NOTES:

- SEE PLAN VIEW FOR:
  - LOCATION, LENGTH AND WIDTH OF SEDIMENT TRAP.
- ONLY USE FOR DRAINAGE AREAS LESS THAN 1 ACRE.
- SEDIMENT TRAPS SHALL BE INSTALLED PRIOR TO ANY UPGRADIENT LAND-DISTURBING ACTIVITIES.
- SEDIMENT TRAP BERM SHALL BE CONSTRUCTED FROM MATERIAL FROM EXCAVATION. THE BERM SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D698.
- SEDIMENT TRAP OUTLET TO BE CONSTRUCTED OF RIPRAP, TYPE M (D50=12") TYP. SMALLER ROCK SIZE MAY BE ALLOWABLE FOR SMALLER TRAPS IF APPROVED BY LOCAL JURISDICTION.
- THE TOP OF THE EARTHEN BERM SHALL BE A MINIMUM OF 6" HIGHER THAN THE TOP OF THE RIPRAP OUTLET STRUCTURE.
- THE ENDS OF THE RIPRAP OUTLET STRUCTURE SHALL BE A MINIMUM OF 6" HIGHER THAN THE CENTER OF THE OUTLET STRUCTURE.

SEDIMENT TRAP MAINTENANCE NOTES:

- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- REMOVE SEDIMENT ACCUMULATED IN TRAP AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP, TYPICALLY WHEN THE SEDIMENT DEPTH REACHES 1/2 THE HEIGHT OF THE RIPRAP OUTLET.
- SEDIMENT TRAPS SHALL REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.
- WHEN SEDIMENT TRAPS ARE REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

November 2010

Urban Drainage and Flood Control District  
Urban Storm Drainage Criteria Manual Volume 3

ST-3

PCD FILING NO.: SF-21-038

SEAL

**PRELIMINARY**  
THIS DRAWING HAS NOT  
BEEN APPROVED BY  
GOVERNING AGENCIES AND  
IS SUBJECT TO CHANGE

FOR AND ON BEHALF OF  
MATRIX DESIGN GROUP, INC.  
PROJECT No. 21.886.048

DESIGNED BY: CRD  
DRAWN BY: CRD  
CHECKED BY: NMS  
SCALE: HORIZ. N.A.  
VERT. N.A.  
DATE ISSUED: OCTOBER 2021  
SHEET 6 OF 7  
DRAWING No. ECN02

TRAILS AT ASPEN RIDGE- F5

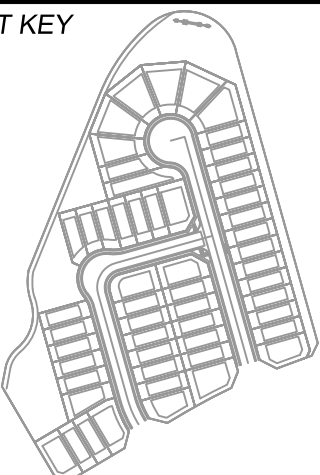
GRADING AND EROSION CONTROL PLAN

EROSION CONTROL NOTES

PREPARED BY:

**BENCHMARK**  
COLORADO SPRINGS UTILITIES (FIMS) MONUMENT F206  
A BERNTSEN TOP SECURITY MONUMENT SYSTEM WITH A 3.5-INCH DIAMETER ALUMINUM CAP IN A ROAD BOX, LOCATED ON THE NORTHWEST CORNER OF FONTAINE BOULEVARD AND POWERS BOULEVARD.  
ELEVATION - 5897.89' U.S. SURVEY FT

**BASIS OF BEARING**  
BEARINGS ARE BASED ON THE NORTH LINE OF THE NORTHWEST QUARTER OF SECTION 9, TOWNSHIP 15 SOUTH, RANGE 65 WEST OF THE 6TH P.M. SAID LINE BEARS S89°51'23"E FROM THE NORTHWEST CORNER OF SAID SECTION 9 (2 1/2" AULM. CAP PLS 17664) TO THE N 1/2 CORNER OF SAID SECTION 9 (3 1/2" AULM. CAP PLS 10377)



SHEET KEY

TEMPORARY OUTLET PROTECTION

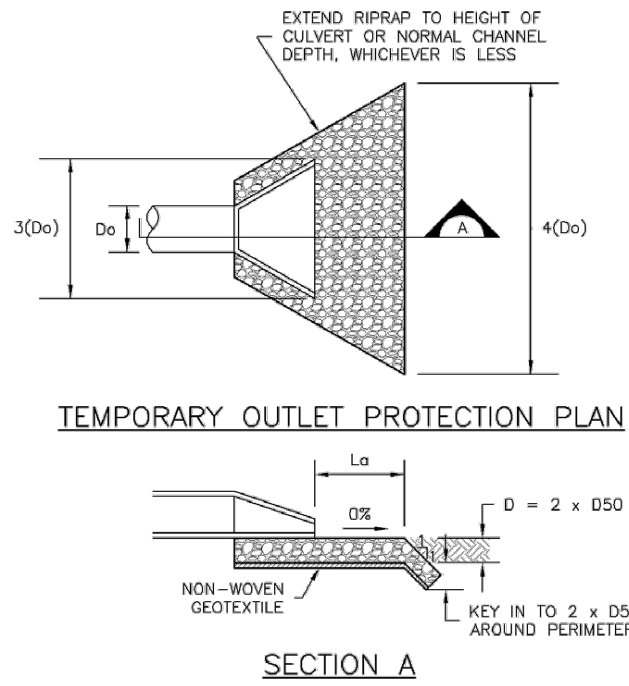
INSTALLATION NOTES:

- SEE PLAN VIEW FOR:
  - LOCATION OF OUTLET PROTECTION.
  - DIMENSIONS OF OUTLET PROTECTION
- DETAIL IS INTENDED FOR PIPES WITH SLOPE < 10%. ADDITIONAL EVALUATION OF RIPRAP SIZING AND OUTLET PROTECTION DIMENSIONS REQUIRED FOR STEEPER SLOPES.
- TEMPORARY OUTLET PROTECTION INFORMATION IS FOR OUTLETS INTENDED TO BE UTILIZED LESS THAN 2 YEARS.

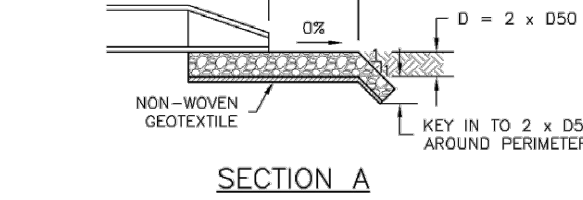
MAINTENANCE NOTES:

- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

Figure EC-8  
Temporary Outlet Protection  
Urban Drainage and Flood Control District  
Urban Storm Drainage Criteria Manual Volume 3



TEMPORARY OUTLET PROTECTION PLAN



SECTION A

PIPE DIAMETER, Dp (INCHES)	DISCHARGE, Q (CFS)	APRON LENGTH, La (FT)	RIPRAP D50 DIAMETER MIN (INCHES)
8	2.5	5	6
	5	10	6
12	5	10	4
	10	13	6
18	10	10	6
	20	16	9
	30	23	12
	40	26	16
24	30	16	9
	40	26	9
	50	26	12
	60	30	16

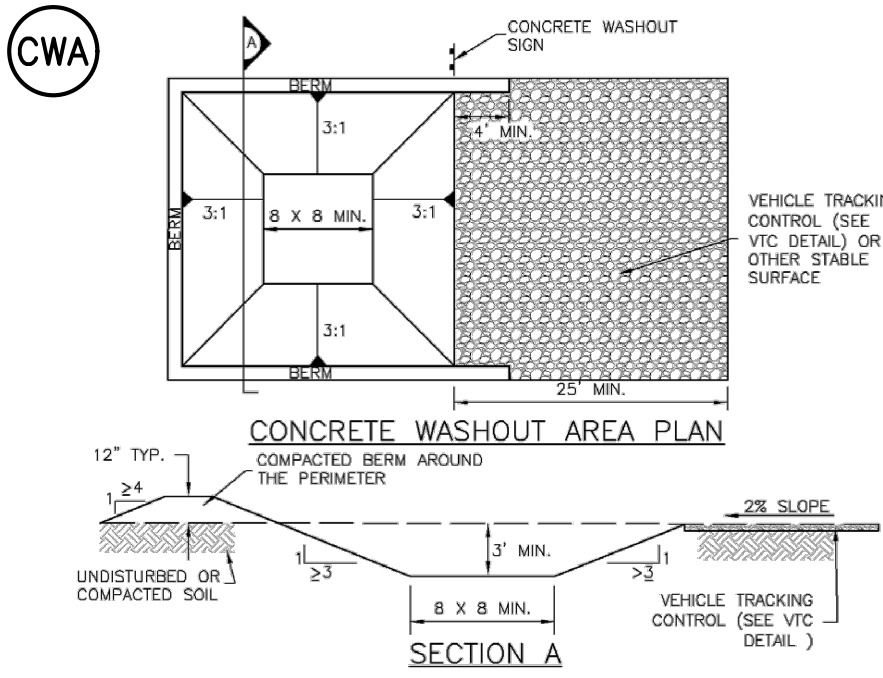
OP-1. TEMPORARY OUTLET PROTECTION

OP

CWA INSTALLATION NOTES:

- SEE PLAN VIEW FOR:
  - CWA INSTALLATION LOCATION
- DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATER BODY. DO NOT LOCATE WITHIN 1000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFESIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE AREA SHOULD BE USED.
- THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
- THE CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8'. SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
- BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE A MINIMUM HEIGHT OF 1'.
- VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.
- SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
- USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

Figure CWA-3  
Concrete Washout Area  
Urban Drainage and Flood Control District  
Urban Storm Drainage Criteria Manual Volume 3

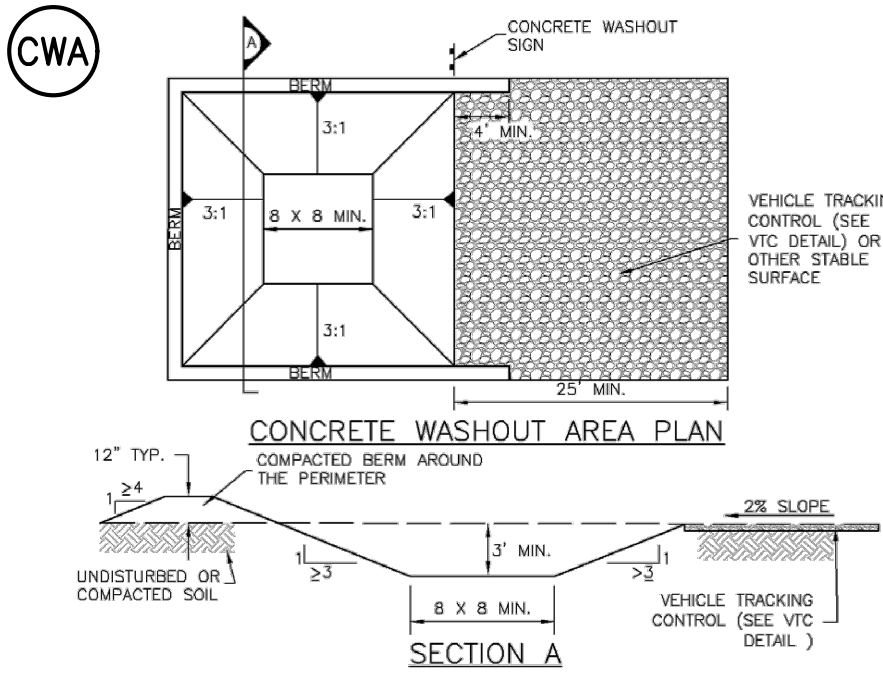


CONCRETE WASHOUT AREA

CWA INSTALLATION NOTES:

- SEE PLAN VIEW FOR:
  - CWA INSTALLATION LOCATION
- DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATER BODY. DO NOT LOCATE WITHIN 1000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFESIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE AREA SHOULD BE USED.
- THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
- THE CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8'. SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
- BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE A MINIMUM HEIGHT OF 1'.
- VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.
- SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
- USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

Figure CWA-3  
Concrete Washout Area  
Urban Drainage and Flood Control District  
Urban Storm Drainage Criteria Manual Volume 3

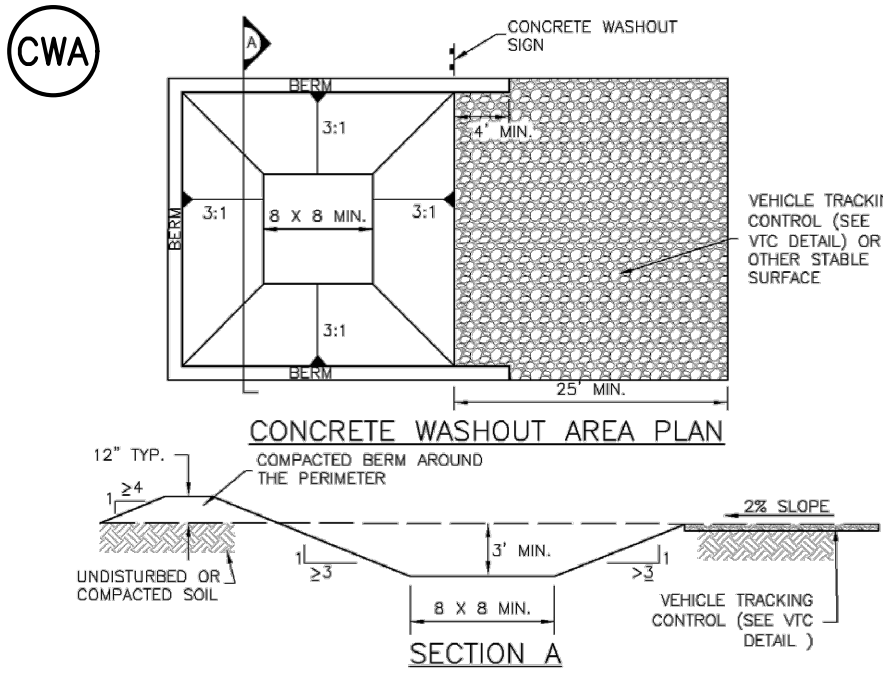


CONCRETE WASHOUT AREA

CWA INSTALLATION NOTES:

- SEE PLAN VIEW FOR:
  - CWA INSTALLATION LOCATION
- DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATER BODY. DO NOT LOCATE WITHIN 1000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFESIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE AREA SHOULD BE USED.
- THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
- THE CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8'. SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
- BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE A MINIMUM HEIGHT OF 1'.
- VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.
- SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
- USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

Figure CWA-3  
Concrete Washout Area  
Urban Drainage and Flood Control District  
Urban Storm Drainage Criteria Manual Volume 3

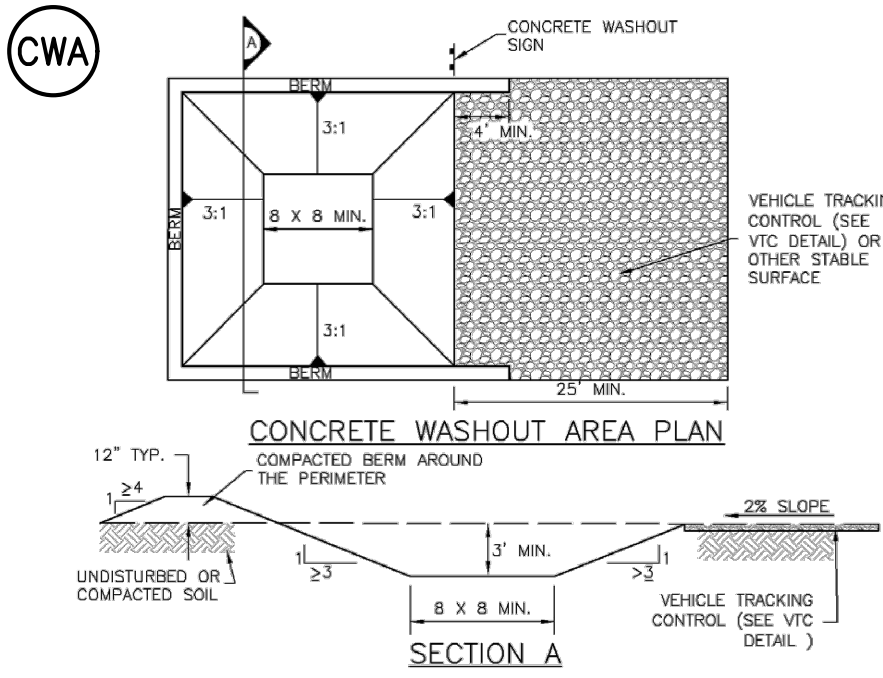


CONCRETE WASHOUT AREA

CWA INSTALLATION NOTES:

- SEE PLAN VIEW FOR:
  - CWA INSTALLATION LOCATION
- DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATER BODY. DO NOT LOCATE WITHIN 1000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFESIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE AREA SHOULD BE USED.
- THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
- THE CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8'. SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
- BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE A MINIMUM HEIGHT OF 1'.
- VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.
- SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
- USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

Figure CWA-3  
Concrete Washout Area  
Urban Drainage and Flood Control District  
Urban Storm Drainage Criteria Manual Volume 3

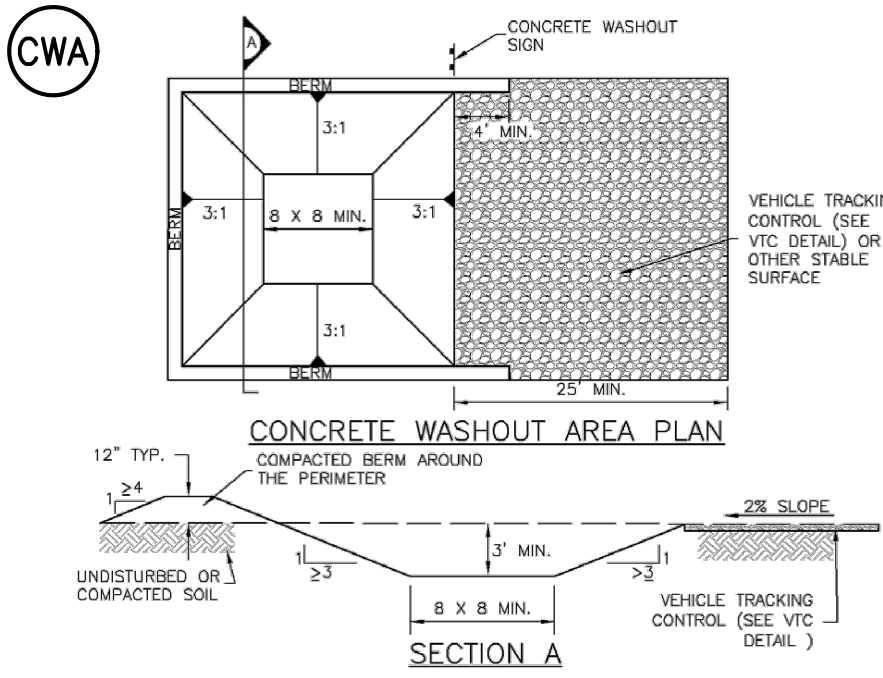


CONCRETE WASHOUT AREA

CWA INSTALLATION NOTES:

- SEE PLAN VIEW FOR:
  - CWA INSTALLATION LOCATION
- DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATER BODY. DO NOT LOCATE WITHIN 1000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFESIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE AREA SHOULD BE USED.
- THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
- THE CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8'. SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
- BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE A MINIMUM HEIGHT OF 1'.
- VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.
- SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
- USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

Figure CWA-3  
Concrete Washout Area  
Urban Drainage and Flood Control District  
Urban Storm Drainage Criteria Manual Volume 3

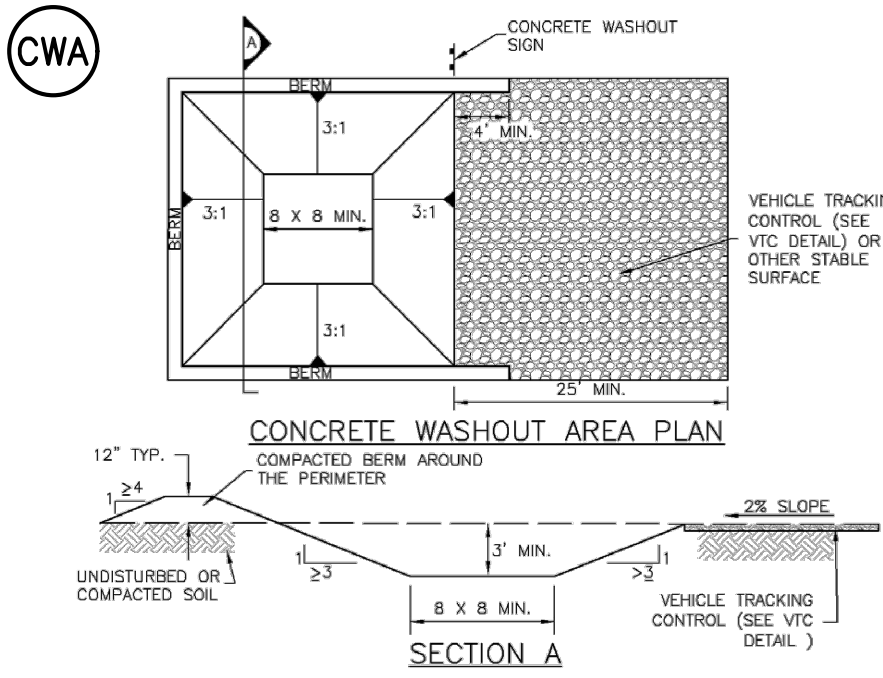


CONCRETE WASHOUT AREA

CWA INSTALLATION NOTES:

- SEE PLAN VIEW FOR:
  - CWA INSTALLATION LOCATION
- DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATER BODY. DO NOT LOCATE WITHIN 1000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFESIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE AREA SHOULD BE USED.
- THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
- THE CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8'. SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
- BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE A MINIMUM HEIGHT OF 1'.
- VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.
- SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
- USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

Figure CWA-3  
Concrete Washout Area  
Urban Drainage and Flood Control District  
Urban Storm Drainage Criteria Manual Volume 3

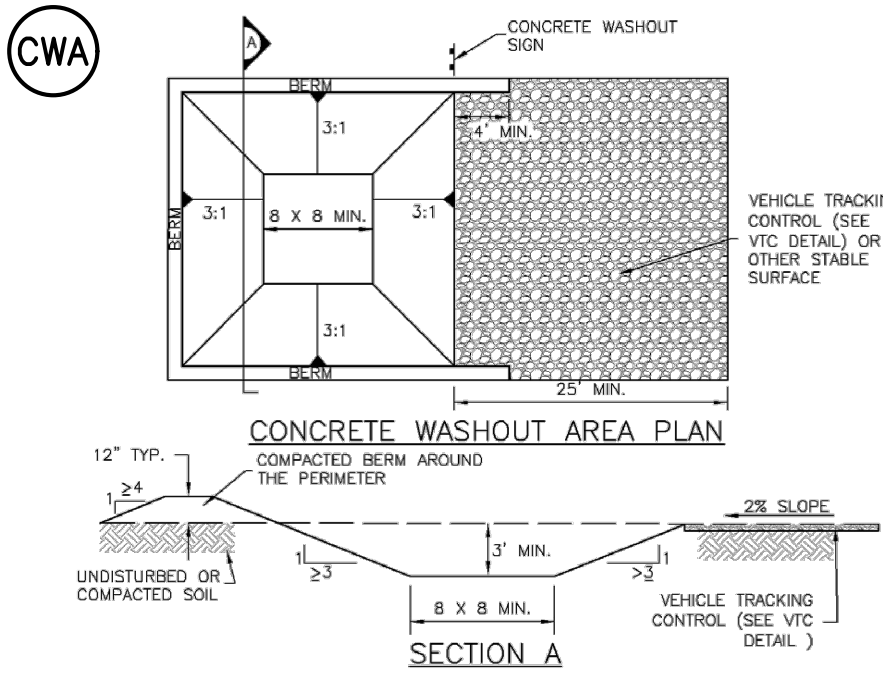


CONCRETE WASHOUT AREA

CWA INSTALLATION NOTES:

- SEE PLAN VIEW FOR:
  - CWA INSTALLATION LOCATION
- DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATER BODY. DO NOT LOCATE WITHIN 1000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFESIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE AREA SHOULD BE USED.
- THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
- THE CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8'. SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
- BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE A MINIMUM HEIGHT OF 1'.
- VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.
- SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
- USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

Figure CWA-3  
Concrete Washout Area  
Urban Drainage and Flood Control District  
Urban Storm Drainage Criteria Manual Volume 3

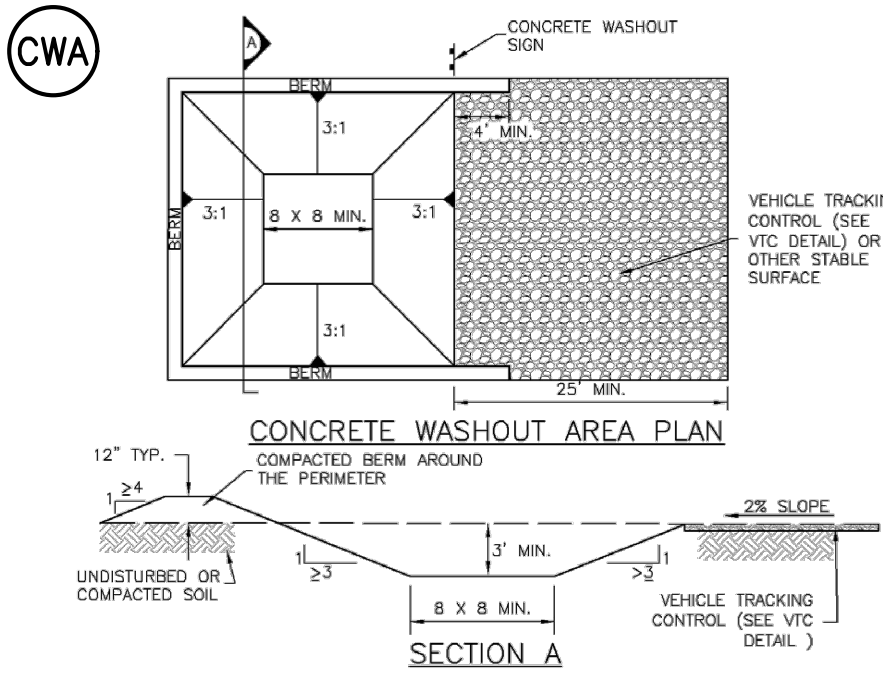


CONCRETE WASHOUT AREA

CWA INSTALLATION NOTES:

- SEE PLAN VIEW FOR:
  - CWA INSTALLATION LOCATION
- DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATER BODY. DO NOT LOCATE WITHIN 1000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFESIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE AREA SHOULD BE USED.
- THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
- THE CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8'. SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
- BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE A MINIMUM HEIGHT OF 1'.
- VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.
- SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
- USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

Figure CWA-3  
Concrete Washout Area  
Urban Drainage and Flood Control District  
Urban Storm Drainage Criteria Manual Volume 3

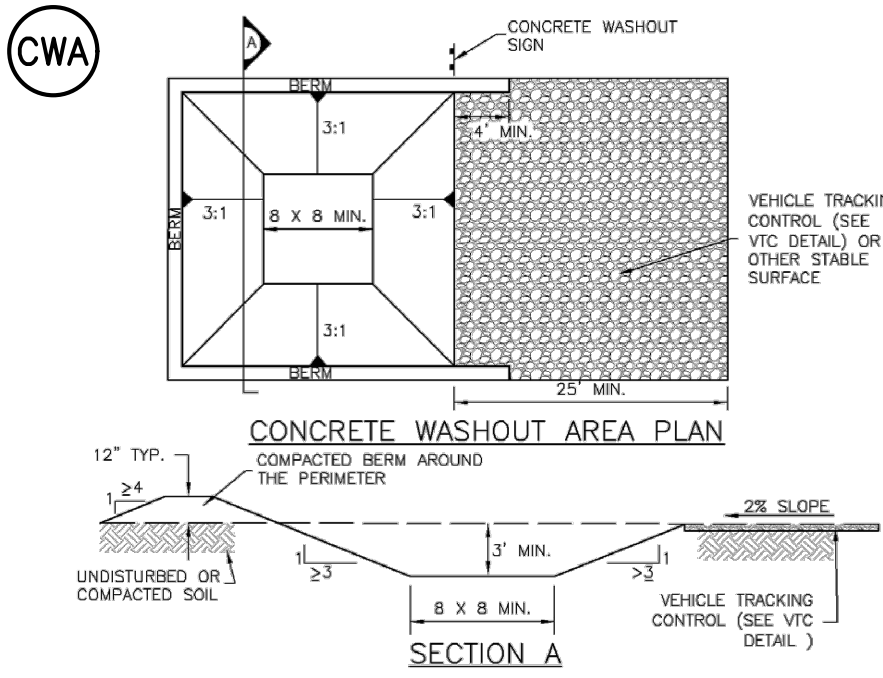


CONCRETE WASHOUT AREA

CWA INSTALLATION NOTES:

- SEE PLAN VIEW FOR:
  - CWA INSTALLATION LOCATION
- DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATER BODY. DO NOT LOCATE WITHIN 1000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFESIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE AREA SHOULD BE USED.
- THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
- THE CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8'. SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
- BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE A MINIMUM HEIGHT OF 1'.
- VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.
- SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
- USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

Figure CWA-3  
Concrete Washout Area  
Urban Drainage and Flood Control District  
Urban Storm Drainage Criteria Manual Volume 3

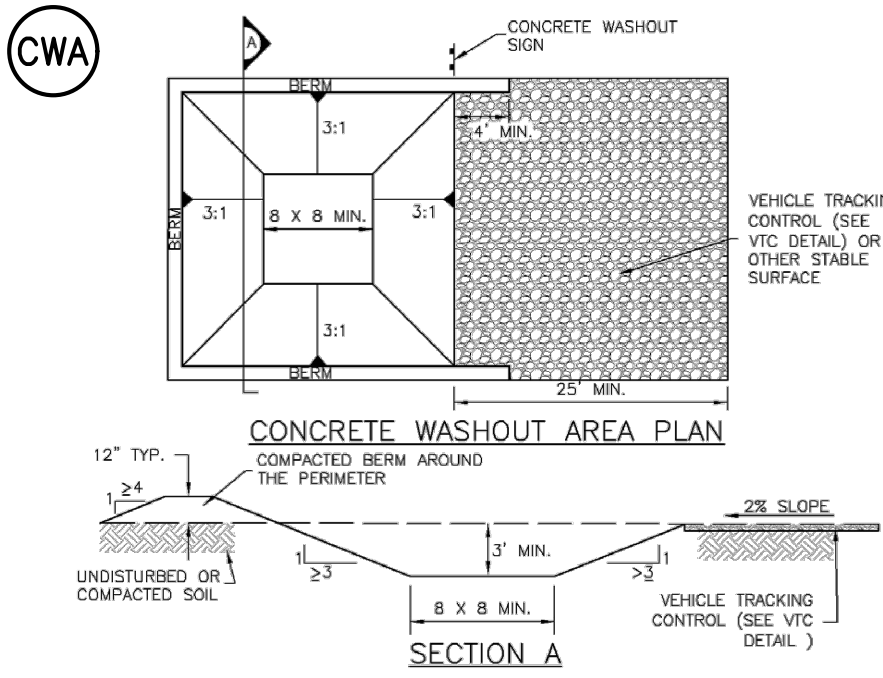


CONCRETE WASHOUT AREA

CWA INSTALLATION NOTES:

- SEE PLAN VIEW FOR:
  - CWA INSTALLATION LOCATION
- DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATER BODY. DO NOT LOCATE WITHIN 1000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFESIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE AREA SHOULD BE USED.
- THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
- THE CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8'. SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
- BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE A MINIMUM HEIGHT OF 1'.
- VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.
- SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
- USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

Figure CWA-3  
Concrete Washout Area  
Urban Drainage and Flood Control District  
Urban Storm Drainage Criteria Manual Volume 3

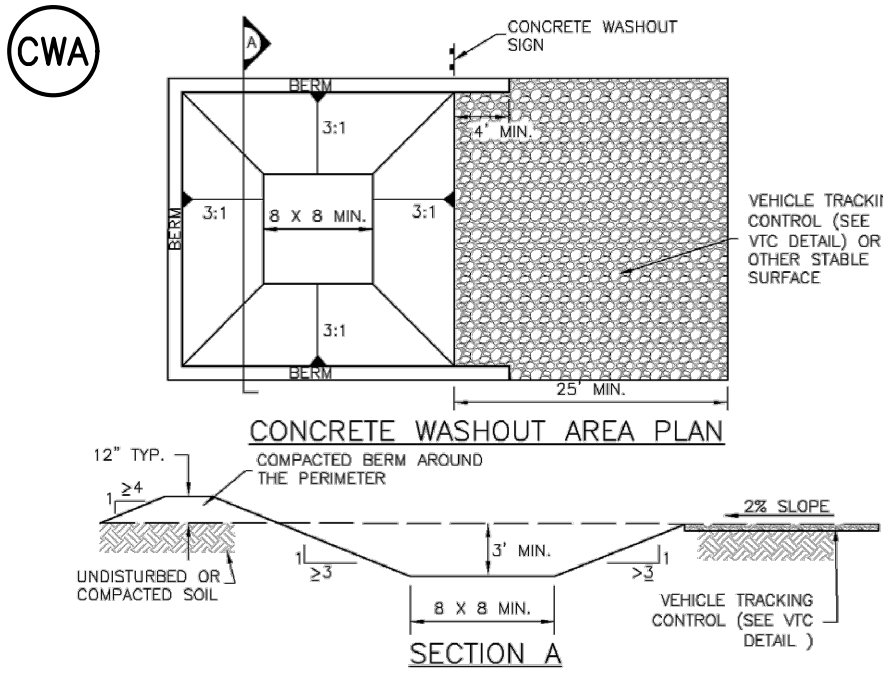


CONCRETE WASHOUT AREA

CWA INSTALLATION NOTES:

- SEE PLAN VIEW FOR:
  - CWA INSTALLATION LOCATION
- DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATER BODY. DO NOT LOCATE WITHIN 1000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFESIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE AREA SHOULD BE USED.
- THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
- THE CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8'. SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
- BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE A MINIMUM HEIGHT OF 1'.
- VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.
- SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
- USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

Figure CWA-3  
Concrete Washout Area  
Urban Drainage and Flood Control District  
Urban Storm Drainage Criteria Manual Volume 3

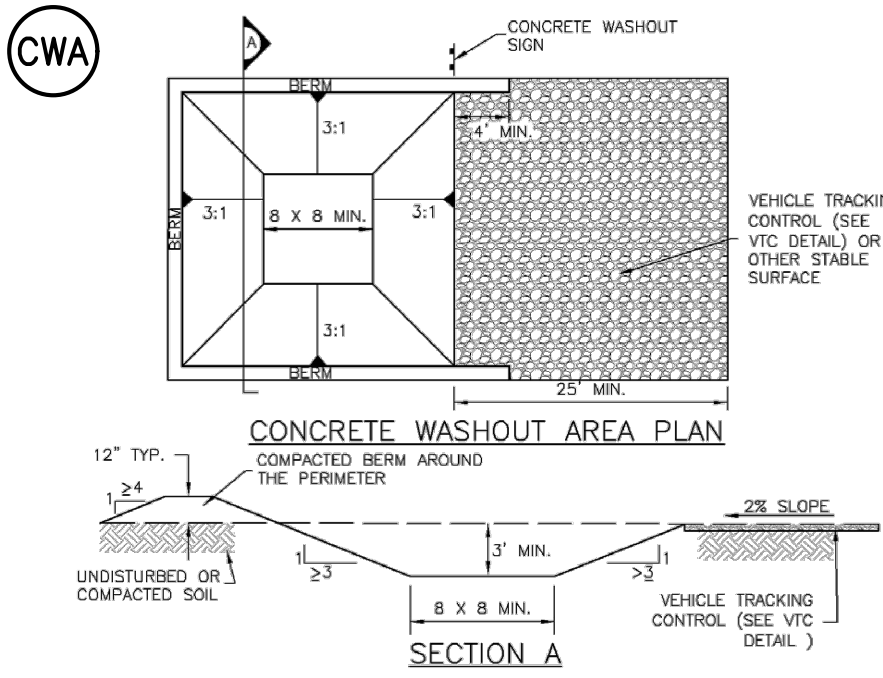


CONCRETE WASHOUT AREA

CWA INSTALLATION NOTES:

- SEE PLAN VIEW FOR:
  - CWA INSTALLATION LOCATION
- DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATER BODY. DO NOT LOCATE WITHIN 1000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFESIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE AREA SHOULD BE USED.
- THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
- THE CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8'. SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
- BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE A MINIMUM HEIGHT OF 1'.
- VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.
- SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
- USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

Figure CWA-3  
Concrete Washout Area  
Urban Drainage and Flood Control District  
Urban Storm Drainage Criteria Manual Volume 3



CONCRETE WASHOUT AREA

CWA INSTALLATION NOTES:

- SEE PLAN VIEW FOR:
  - CWA INSTALLATION LOCATION
- DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATER BODY. DO NOT LOCATE WITHIN 1000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFESIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE AREA SHOULD BE USED.
- THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
- THE CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8'. SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
- BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE A MINIMUM HEIGHT OF 1'.
- VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.
- SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
- USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

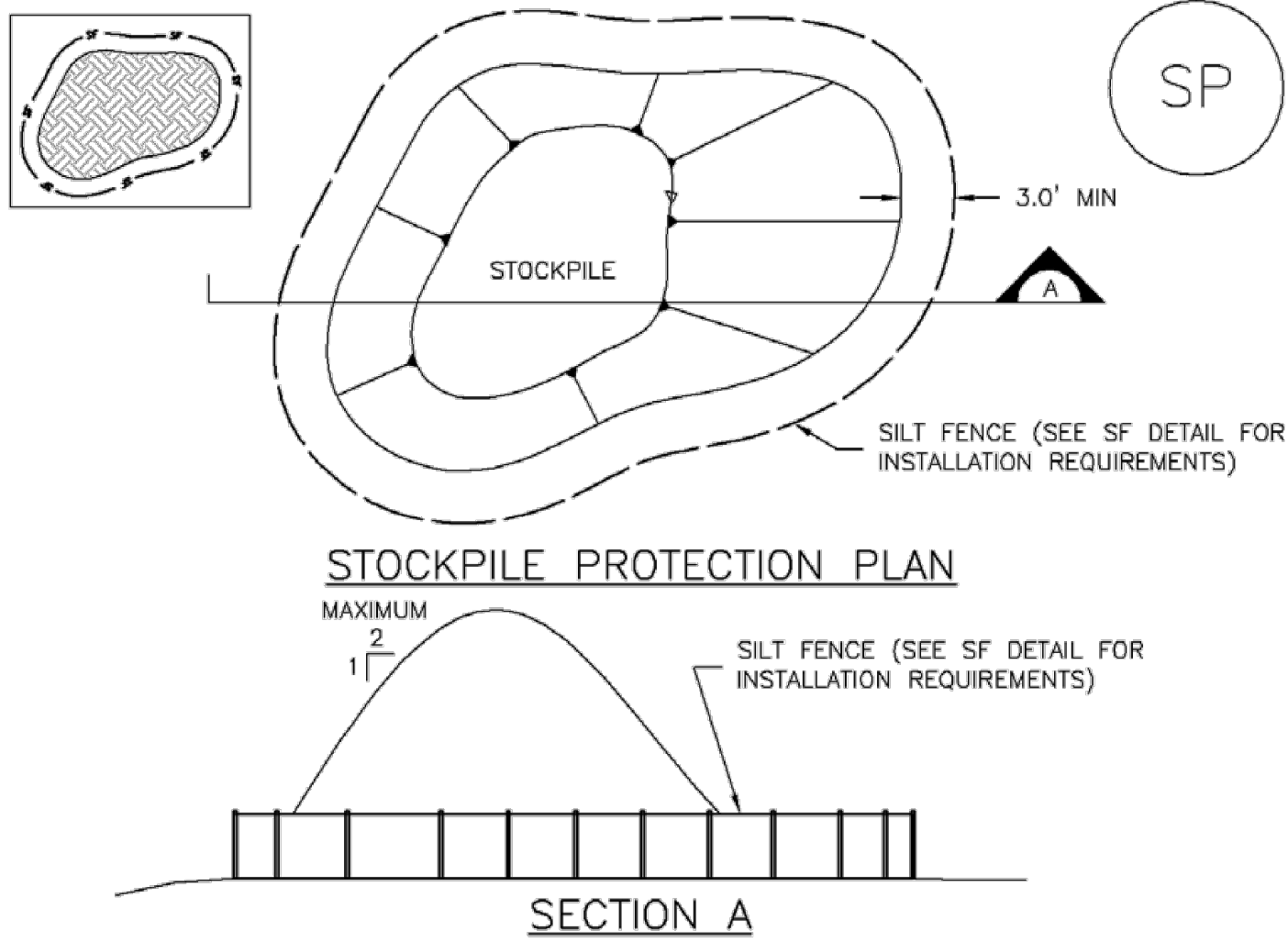
Figure CWA-3  
Concrete Washout Area  
Urban Drainage and Flood Control District  
Urban Storm Drainage Criteria Manual





Stockpile Management (SP)

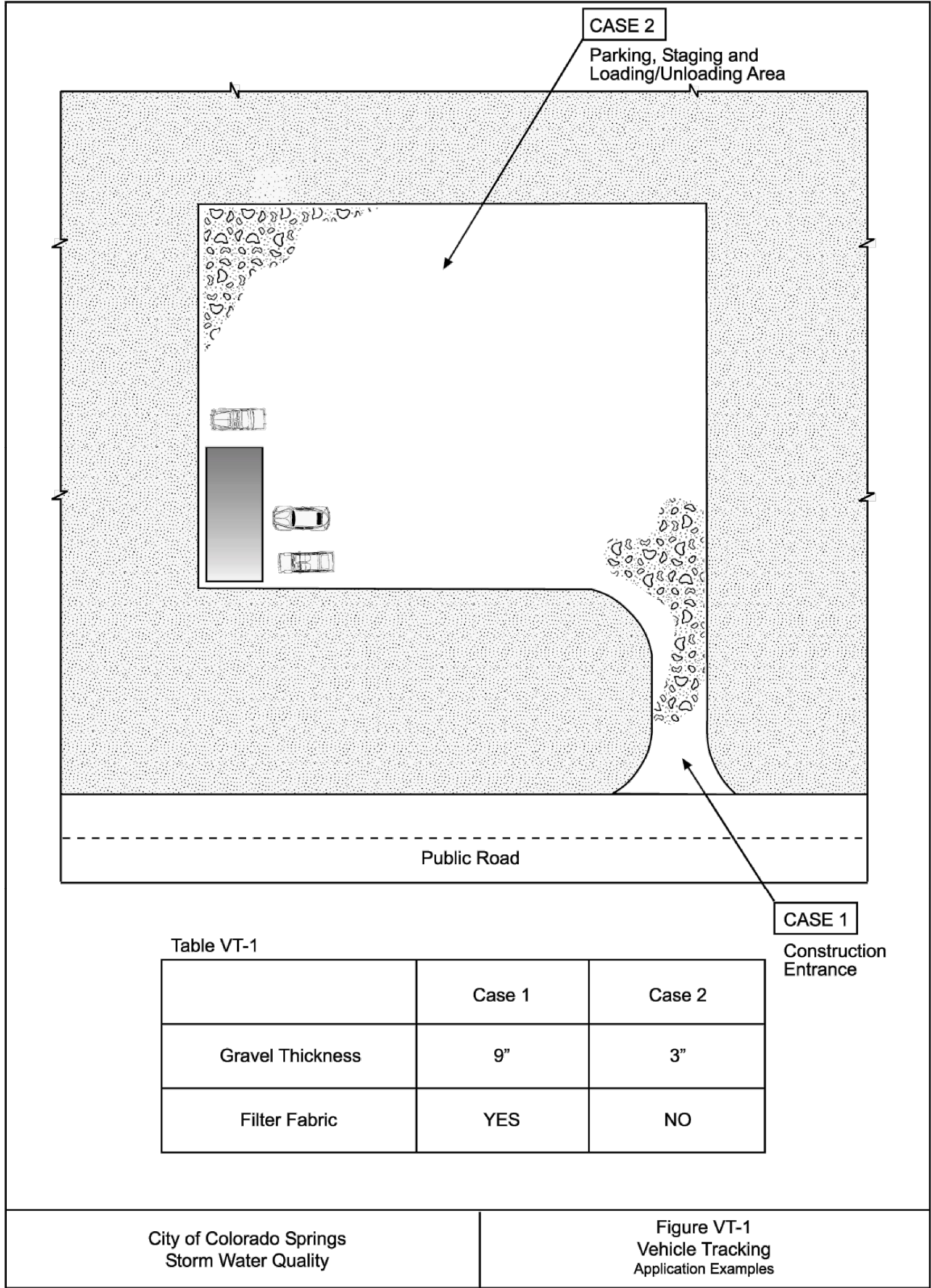
MM-2



SP-1. STOCKPILE PROTECTION

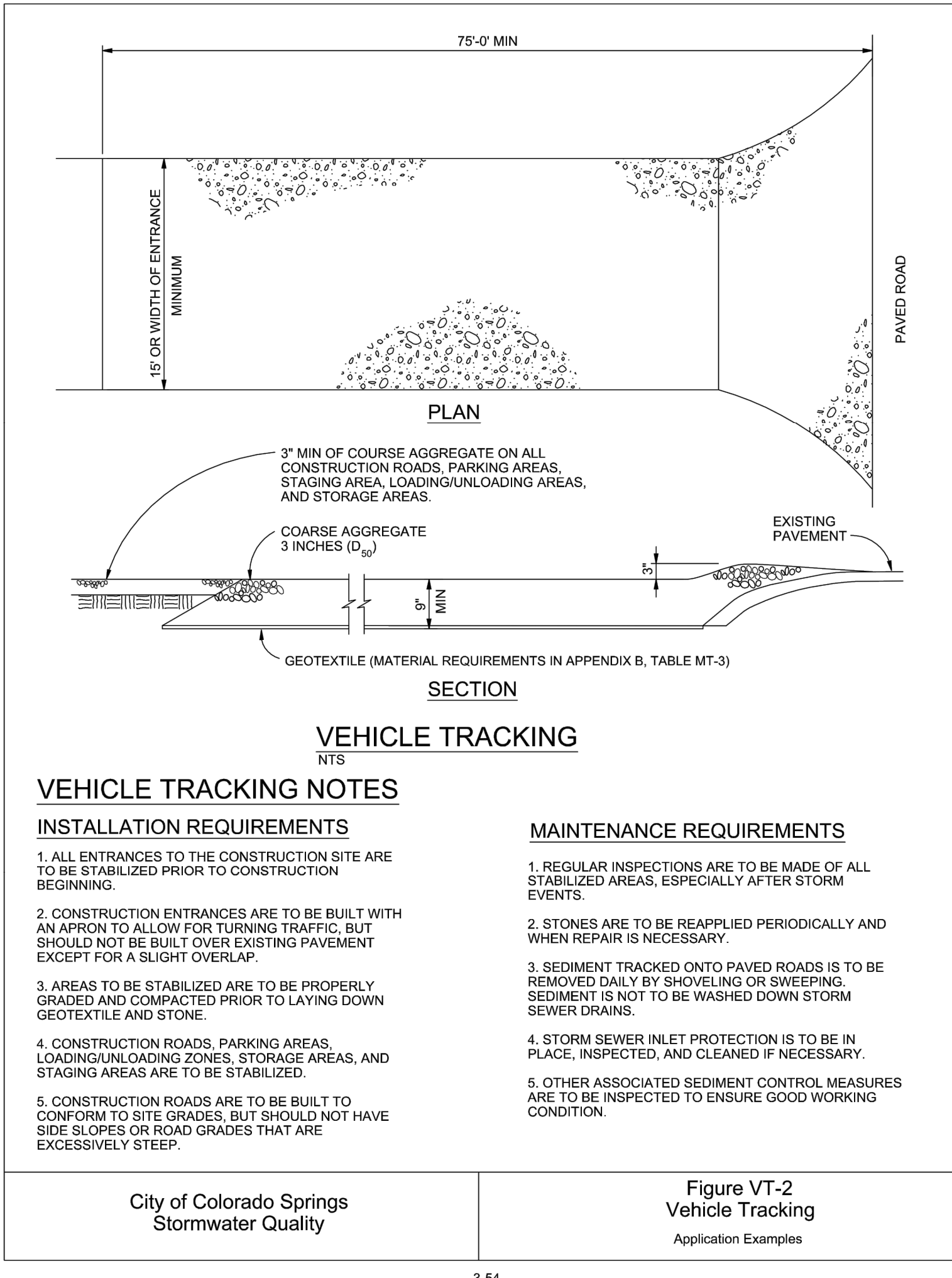
STOCKPILE PROTECTION INSTALLATION NOTES

- SEE PLAN VIEW FOR:  
-LOCATION OF STOCKPILES.  
-TYPE OF STOCKPILE PROTECTION.
- INSTALL PERIMETER CONTROLS IN ACCORDANCE WITH THEIR RESPECTIVE DESIGN DETAILS. SILT FENCE IS SHOWN IN THE STOCKPILE PROTECTION DETAILS; HOWEVER, OTHER TYPES OF PERIMETER CONTROLS INCLUDING SEDIMENT CONTROL LOGS OR ROCK SOCKS MAY BE SUITABLE IN SOME CIRCUMSTANCES. CONSIDERATIONS FOR DETERMINING THE APPROPRIATE TYPE OF PERIMETER CONTROL FOR A STOCKPILE INCLUDE WHETHER THE STOCKPILE IS LOCATED ON A PERVIOUS OR IMPERVIOUS SURFACE, THE RELATIVE HEIGHTS OF THE PERIMETER CONTROL AND STOCKPILE, THE ABILITY OF THE PERIMETER CONTROL TO CONTAIN THE STOCKPILE WITHOUT FAILING IN THE EVENT THAT MATERIAL FROM THE STOCKPILE SHIFTS OR SLUMPS AGAINST THE PERIMETER, AND OTHER FACTORS.
- STABILIZE THE STOCKPILE SURFACE WITH SURFACE ROUGHENING, TEMPORARY SEEDING AND MULCHING, EROSION CONTROL BLANKETS, OR SOIL BINDERS. SOILS STOCKPILED FOR AN EXTENDED PERIOD (TYPICALLY FOR MORE THAN 60 DAYS) SHOULD BE SEEDDED AND MULCHED WITH A TEMPORARY GRASS COVER ONCE THE STOCKPILE IS PLACED (TYPICALLY WITHIN 14 DAYS). USE OF MULCH ONLY OR A SOIL BINDER IS ACCEPTABLE IF THE STOCKPILE WILL BE IN PLACE FOR A MORE LIMITED TIME PERIOD (TYPICALLY 30-60 DAYS).
- FOR TEMPORARY STOCKPILES ON THE INTERIOR PORTION OF A CONSTRUCTION SITE, WHERE OTHER DOWNGRADIENT CONTROLS, INCLUDING PERIMETER CONTROL, ARE IN PLACE, STOCKPILE PERIMETER CONTROLS MAY NOT BE REQUIRED.



DENMM153722.CS.CB/FigVT-1/9-99

3-53



3-54

PCD FILING NO.: SF-21-038

REFERENCE DRAWINGS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											</
--------------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	----