

# CHEROKEE METROPOLITAN DISTRICT

## LIFT STATION NO. 1 ADDITIONS

### 6657 E PLATTE AVE, PARCEL NO. 5418000080

### COLORADO SPRINGS, COLORADO

### STORMWATER MANAGEMENT PLAN: PPR-2254

FILE NO.: PPR-2254

EPC STORMWATER REVIEW COMMENTS  
IN ORANGE BOXES WITH BLACK TEXT

Item Numbers refer to SWMP Checklist

#### CONTACTS

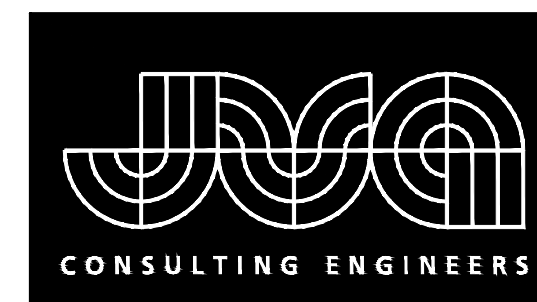
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DECEMBER 2022

PREPARED UNDER THE SUPERVISION OF

JVA, Inc.

#### DRAWING INDEX

SHEET NO.	TITLE
CO.0	COVER SHEET
CO.1	LEGEND, NOTES, AND ABBREVIATIONS
CE1.0	EROSION CONTROL PLAN
CE1.1	SWMP AND GEC NOTES
CE1.2	EROSION CONTROL DETAILS
CE1.3	EROSION CONTROL DETAILS

#### LEGAL DESCRIPTION:

THAT PT W2NE2 SEC 18-14-65 DESC AS FOLS: COM AT N4 COR SD SEC 18, TH S 00<46'48" W 1315.50 FT TO NW COR OF TR DESC BY BK (5309-530) & POB, TH S 89<45'21" E 331.20 FT TO SWLY COR OF TR DESC BY REC 212137112, TH N 00<46'59" E 129.52 FT, N 26<10'54" E 873.59 FT, TH ALG ARC OF CUR TO THE R HAVING A RAD OF 3452.20 FT A C/A OF 6<33'34" AN ARC DIST OF 395.22 FT, TH N 32<44'28" E 9.33 FT TO A PT ON THE SLY R/W LN O US HWY 24, TH S 89<55'03" E 296.95 FT TO NW COR OF TR DESC BY BK (3156-91), TH CONT S 89<55'03" E 127.67 FT TO A PT ON E LN W2NE4 SD SEC 18 & NE COR OF TR DESC BY BK (3156-91), TH S 00<47'32" W 2317.14 FT TO A PT ON N LN OF TR C DESC BY REC 206167022, TH 88<51'08" W 1259.94 FT, S 39<23'57" W 103.54 FT, TH N 00<46'48" E 1108.57 TO POB

#### ZONING:

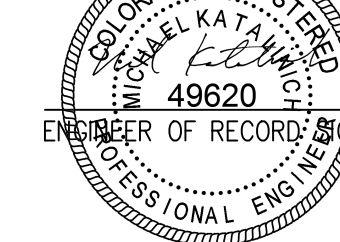
THE PROPERTY IS ZONED AS RR-5 (RESIDENTIAL RURAL DISTRICT) AND CAD-0 (COMMERCIAL AIRPORT OVERLAY DISTRICT). THE PROPOSED PROJECT WILL NOT CHANGE THE ZONING DESIGNATION.

#### SITE DATA:

LOT/PARCEL SIZE:	53.38 ACRES
EXISTING/PROPOSED LAND USE:	POLITICAL SUBDIVISION
BUILDING FOOTPRINT:	782 SF
WET WELL FOOTPRINT:	5,387 SF
EXISTING BUILDINGS TOTAL AREA:	20,000 SF
LAGOON COVERAGE:	272,000 SF
OPEN/LANDSCAPED AREA COVERAGE:	46.44 ACRES
IMPERMEABLE SURFACE COVERAGE:	4,000 SF

#### ENGINEER'S STATEMENT:

THIS STORMWATER MANAGEMENT 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 AND STATE FOR STORMWATER MANAGEMENT PLANS.



12/13/2022

ENGINEER OF RECORD SIGNATURE

DATE

#### EL PASO COUNTY:

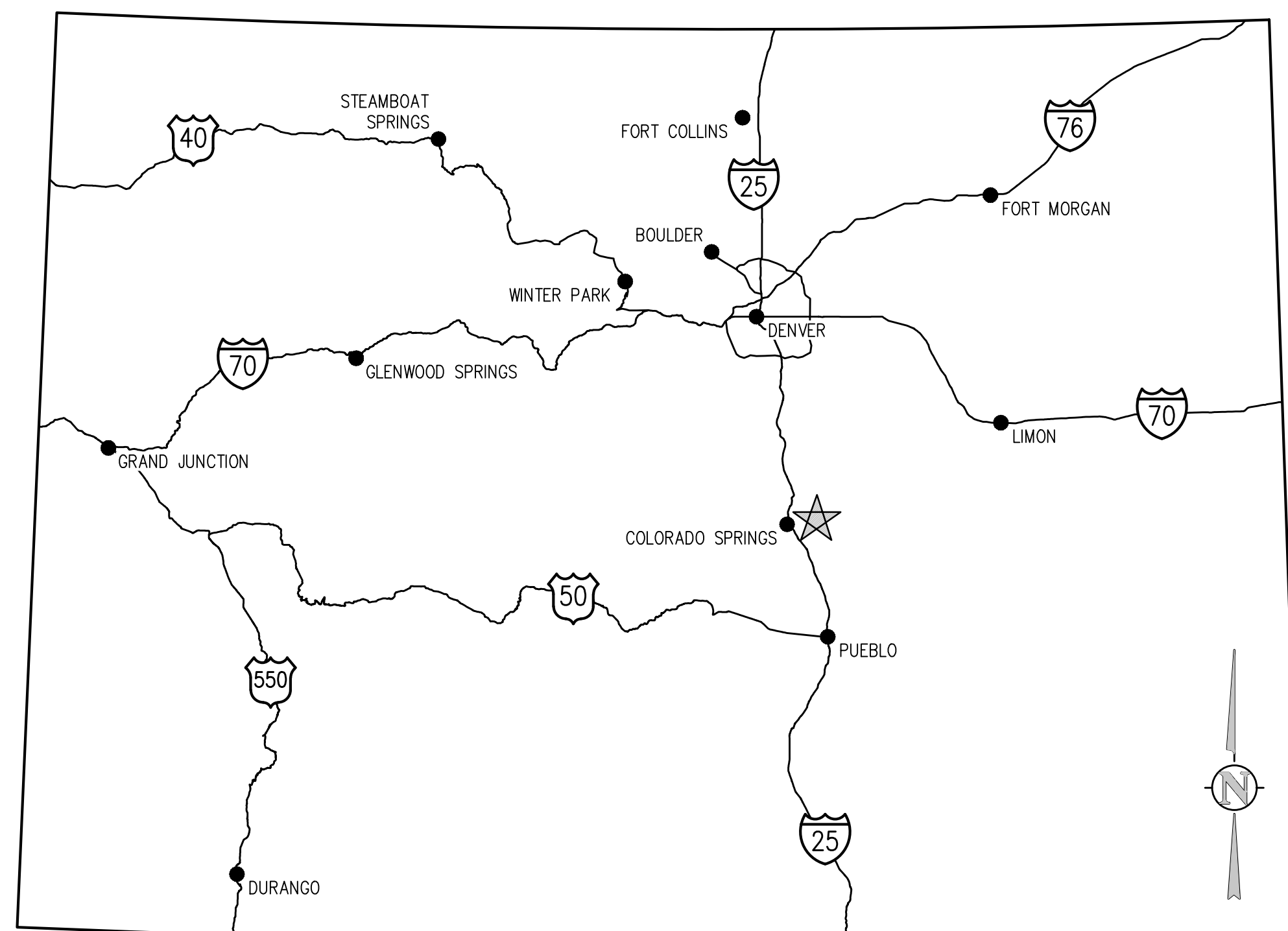
THE STORMWATER MANAGEMENT PLAN WAS REVIEWED AND FOUND TO MEET THE CHECKLIST REQUIREMENTS EXCEPT WHERE OTHERWISE NOTED OR ALLOWED BY AN APPROVED DEVIATION REQUEST.

REVIEW ENGINEER

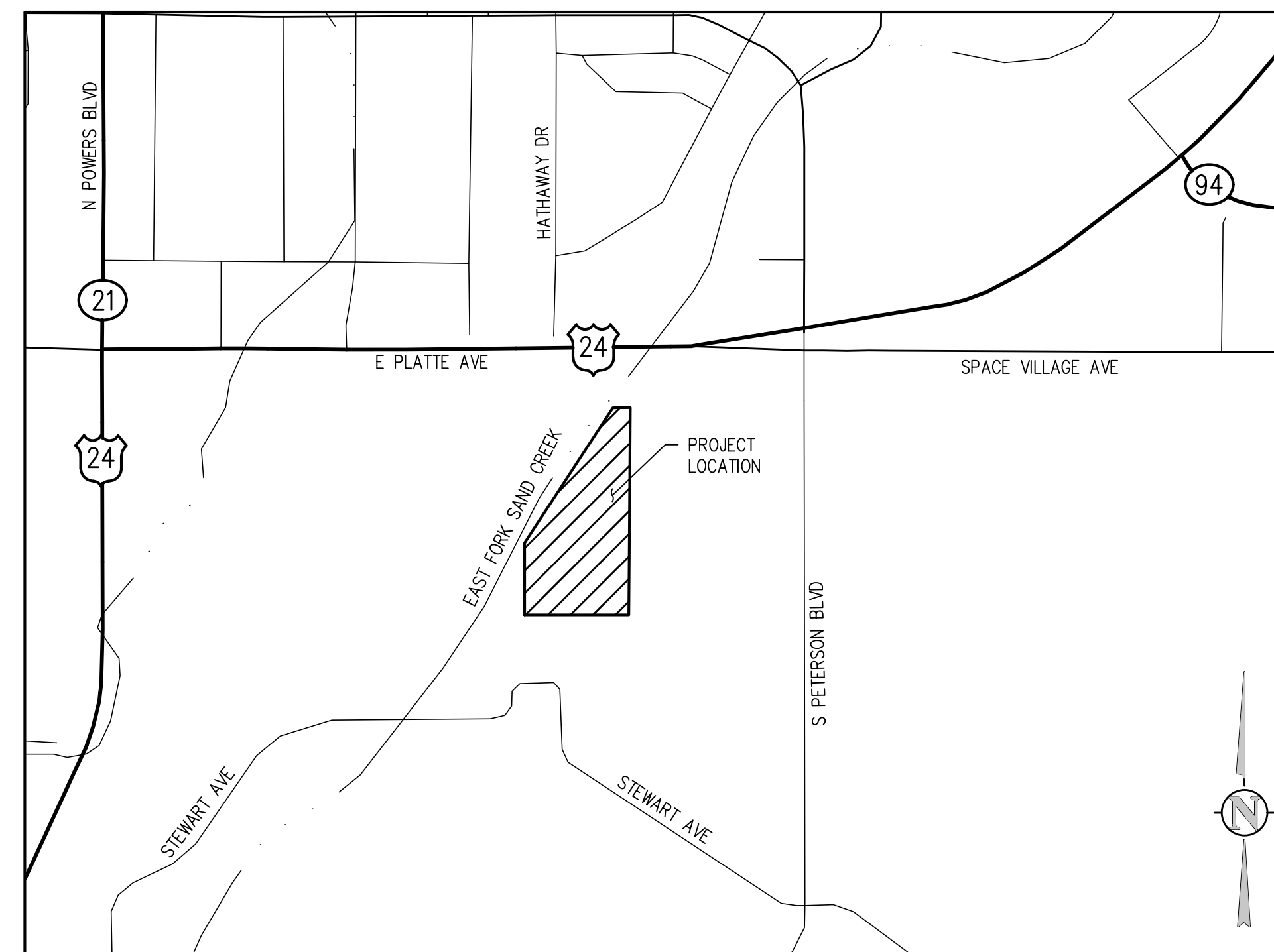
DATE

Contractor information updated to include Qualified Stormwater Manager Information

Item 1. Add Qualified Stormwater Manager Information to cover/title sheet. If unknown, add a placeholder to be updated prior to the pre-construction meeting.



VICINITY MAP  
NTS



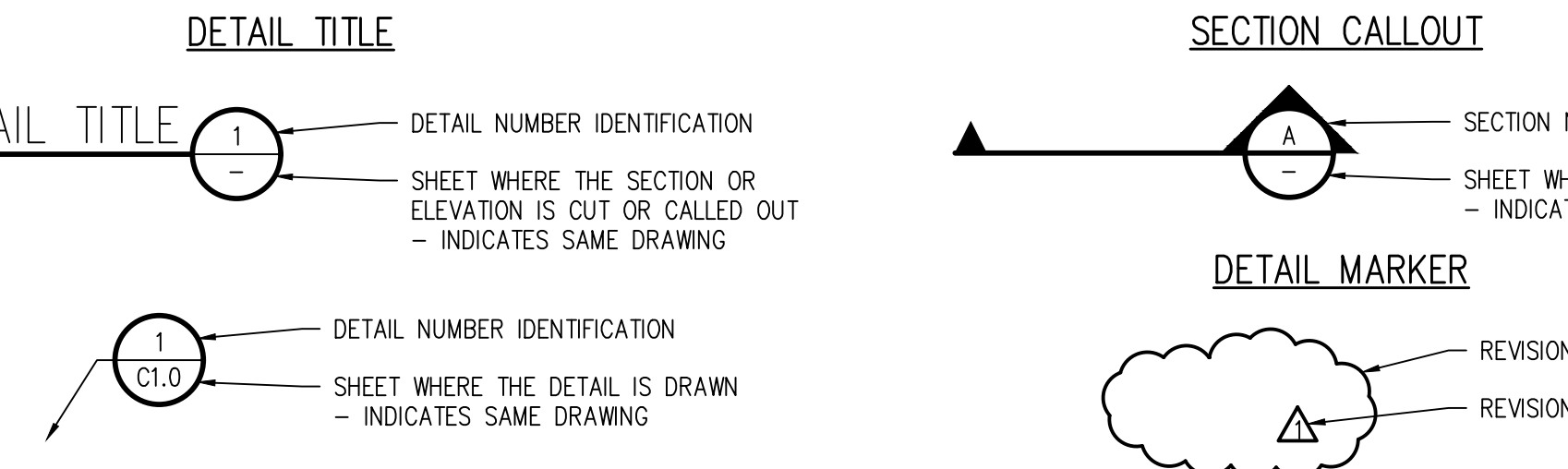
PROJECT LOCATION MAP  
NTS

ABBREVIATIONS

Table of abbreviations for various engineering and construction terms, including AASHTO, ABAN, AC, ADDL, etc., and their corresponding full names.

DESIGN LEGEND

Table of design legend symbols and their corresponding descriptions, such as BENCHMARK, MANHOLE, AREA DRAIN, etc.



SURVEY LEGEND

Table of survey legend symbols and their corresponding descriptions, including WATER LINE, FIRE HYDRANT, VALVE, etc.

GENERAL NOTES



- List of general notes providing detailed instructions and requirements for the contractor, covering topics like materials, safety, utility locations, and construction standards.

FILE NO.: PPR-2254

Logo for JVA, Inc. Consulting Engineers, including contact information like address, phone, and website.

Table with columns for NO., DATE, DESD, and DWN, used for tracking revisions and drawing status.

Table with columns for DESIGNED BY, DRAWN BY, CHECKED BY, JOB #, and DATE, listing project personnel.

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CHEROKEE METROPOLITAN DISTRICT LIFT STATION NO. 1B EL PASO COUNTY, COLORADO








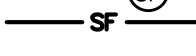





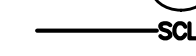



LEGEND, NOTES, AND ABBREVIATIONS SHEET NO. C0.1

Vertical text on the left margin: N:\1164e - Cherokee Metro District - LSI Additions\Drawings\1164e - G0.0 - G0.1.dwg, 12/13/2022 - 1:11 PM, rml

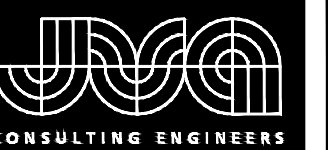
**EROSION AND SEDIMENTATION NOTES:**

1. CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING ALL CONTROLS DURING INITIAL, INTERIM, AND FINAL CONDITIONS.
2. ALL CONTROLS SHALL BE INSTALLED WITHIN THE PROPERTY LINES UNLESS OTHERWISE SPECIFIED. WHEN CONSTRUCTION ACTIVITIES DISTURB ADJACENT AND/OR RIGHT-OF-WAY PROPERTIES, COORDINATION WITH PROPERTY OWNERS IS REQUIRED PRIOR TO CONSTRUCTION.
3. THE VEGETATIVE COVER OF THE AREA OF DISTURBANCE (EXCLUDING THE GRAVEL ACCESS PATH IN WHICH VEGETATIVE COVER IS NEGLIGIBLE) IS APPROXIMATELY 90% BASED ON VISUAL OBSERVATIONS AND MOSTLY CONSISTS OF NATIVE GRASSES AND WEEDS.
4. GROUNDWATER IS NOT ANTICIPATED TO BE ENCOUNTERED PER THE GEOTECH REPORT. THEREFORE, DEWATERING OPERATIONS ARE NOT ANTICIPATED ON SITE.

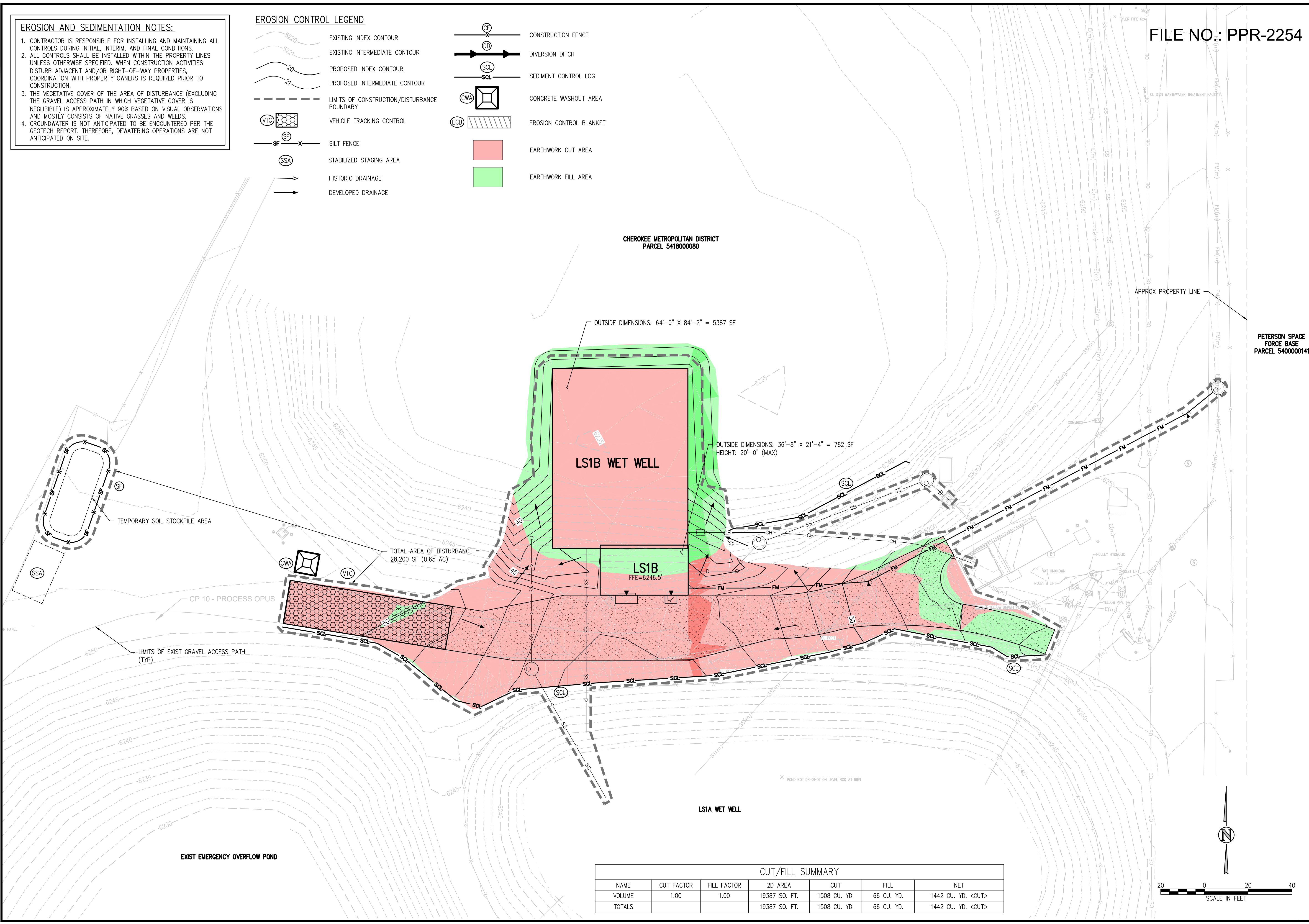
**EROSION CONTROL LEGEND**

-  EXISTING INDEX CONTOUR
-  EXISTING INTERMEDIATE CONTOUR
-  PROPOSED INDEX CONTOUR
-  PROPOSED INTERMEDIATE CONTOUR
-  LIMITS OF CONSTRUCTION/DISTURBANCE BOUNDARY
-  VEHICLE TRACKING CONTROL
-  SILT FENCE
-  STABILIZED STAGING AREA
-  HISTORIC DRAINAGE
-  DEVELOPED DRAINAGE
-  CONSTRUCTION FENCE
-  DIVERSION DITCH
-  SEDIMENT CONTROL LOG
-  CONCRETE WASHOUT AREA
-  EROSION CONTROL BLANKET
-  EARTHWORK CUT AREA
-  EARTHWORK FILL AREA

FILE NO.: PPR-2254



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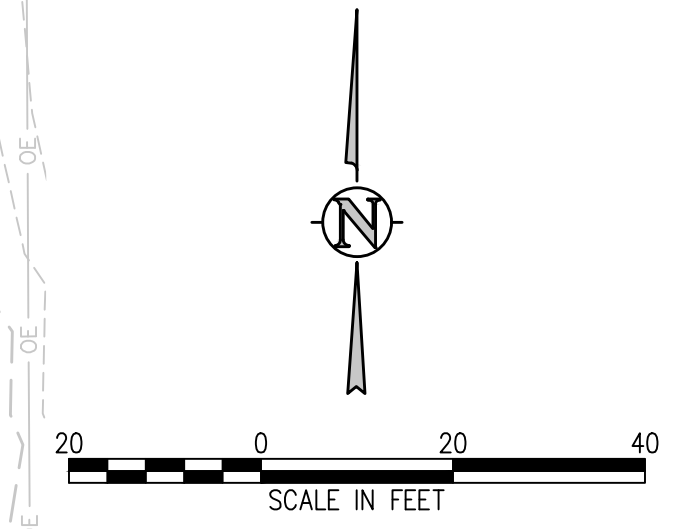
NO.	DATE	DES'D	DWN	REVISION DESCRIPTION

DESIGNED BY: NAS  
DRAWN BY: MHT  
CHECKED BY: JJM  
JOB #: 1164e  
DATE: OCT 2022  
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CHEROKEE METROPOLITAN DISTRICT  
LIFT STATION NO. 1B  
EL PASO COUNTY, COLORADO

EROSION CONTROL PLAN

NAME	CUT FACTOR	FILL FACTOR	2D AREA	CUT	FILL	NET
VOLUME	1.00	1.00	19387 SQ. FT.	1508 CU. YD.	66 CU. YD.	1442 CU. YD. <CUT>
TOTALS			19387 SQ. FT.	1508 CU. YD.	66 CU. YD.	1442 CU. YD. <CUT>



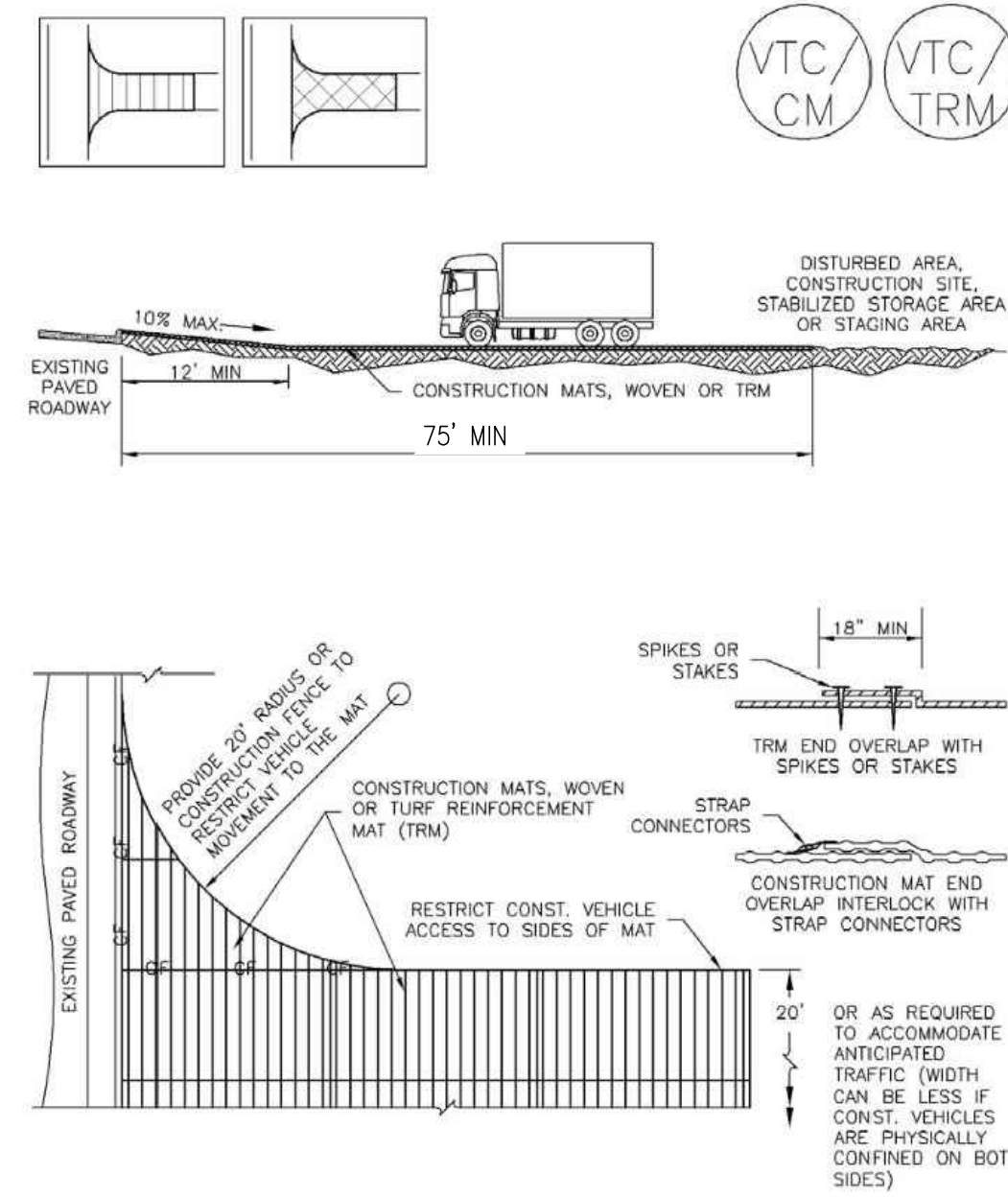
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SHEET NO.  
**CE1.0**



Vehicle Tracking Control (VTC)

SM-4



VTC-3. VEHICLE TRACKING CONTROL W/ CONSTRUCTION MAT OR TURF REINFORCEMENT MAT (TRM)

November 2010 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 VTC-5

SM-4 Vehicle Tracking Control (VTC)

STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES

- SEE PLAN VIEW FOR -LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S). -TYPE OF CONSTRUCTION ENTRANCE(S)/EXIT(S) (WITH/WITHOUT WHEEL WASH, CONSTRUCTION MAT OR TRM).
- CONSTRUCTION MAT OR TRM STABILIZED CONSTRUCTION ENTRANCES ARE ONLY TO BE USED ON SHORT DURATION PROJECTS (TYPICALLY RANGING FROM A WEEK TO A MONTH) WHERE THERE WILL BE LIMITED VEHICULAR ACCESS.
- A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHT-OF-WAYS.
- STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
- A NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK.
- UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, ASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

STABILIZED CONSTRUCTION ENTRANCE/EXIT 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.
- ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.
- 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.

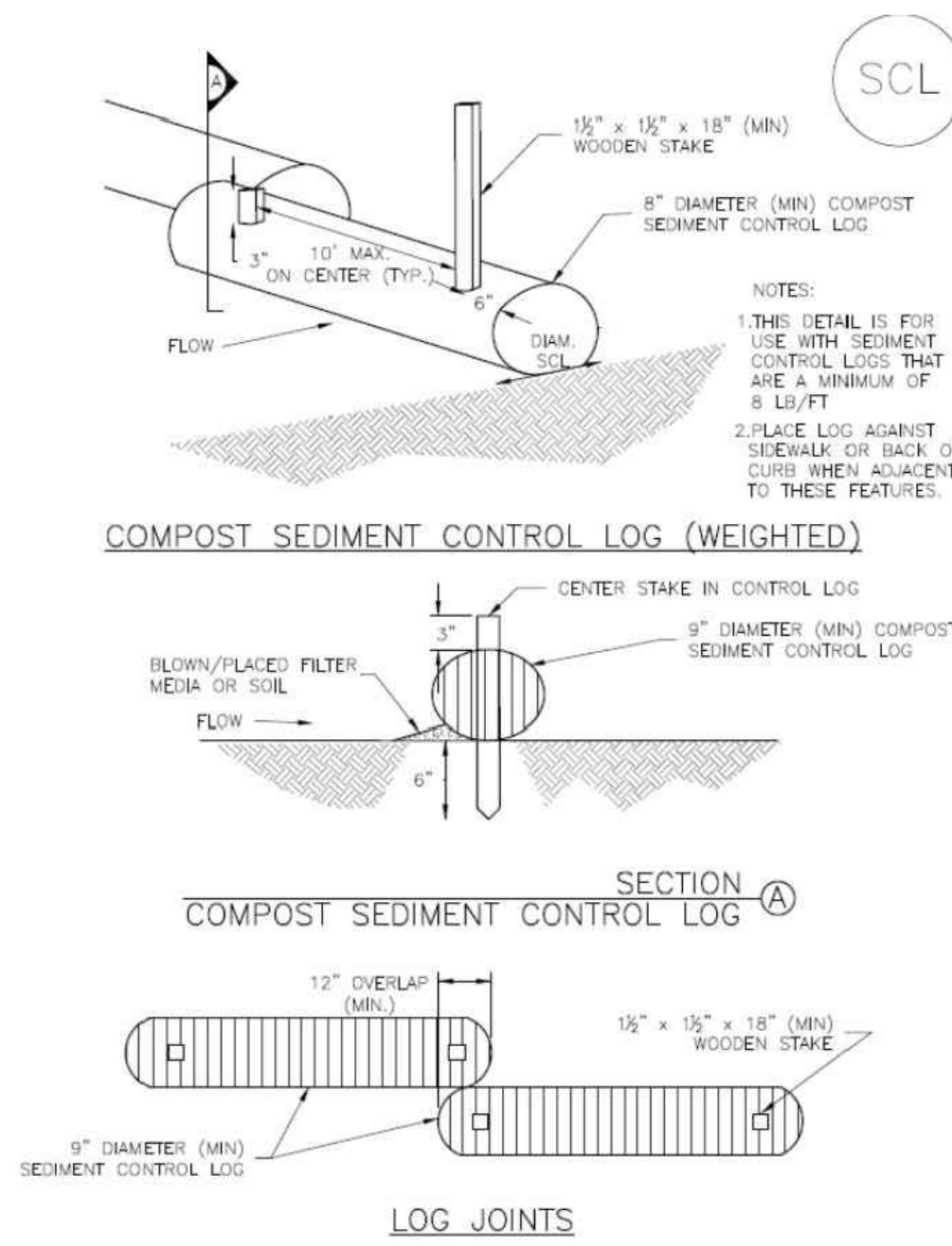
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM CITY OF BROOMFIELD, COLORADO, NOT AVAILABLE IN AUTOCAD)

VTC-6 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010

SC-2

Sediment Control Log (SCL)



SCL-2. COMPOST SEDIMENT CONTROL LOG (WEIGHTED)

SCL-4 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2015

SC-2 Sediment Control Log (SCL)

SEDIMENT CONTROL LOG INSTALLATION NOTES

- SEE PLAN VIEW FOR LOCATION AND LENGTH OF SEDIMENT CONTROL LOGS.
- SEDIMENT CONTROL LOGS THAT ACT AS A PERIMETER CONTROL SHALL BE INSTALLED PRIOR TO ANY UPGRADE/REPAIR DISTURBING ACTIVITIES.
- SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELISIOR OR COCONUT FIBER, AND SHALL BE FREE OF ANY NOXIOUS WEED SEEDS OR DEFECTS INCLUDING RIPS, HOLES AND OBVIOUS WEAR.
- SEDIMENT CONTROL LOGS MAY BE USED AS SMALL CHECK DAMS IN DITCHES AND SWALES. HOWEVER, THEY SHOULD NOT BE USED IN PERENNIAL STREAMS.
- IT IS RECOMMENDED THAT SEDIMENT CONTROL LOGS BE TRENCHED INTO THE GROUND TO A DEPTH OF APPROXIMATELY 1/3 OF THE DIAMETER OF THE LOG. IF TRENCHING TO THIS DEPTH IS NOT FEASIBLE AND/OR DESIRABLE (SHORT TERM INSTALLATION WITH DESIRE NOT TO DAMAGE LANDSCAPE) A LESSER TRENCHING DEPTH MAY BE ACCEPTABLE WITH MORE ROBUST STAKING. COMPOST LOGS THAT ARE 8 LB/FT DO NOT NEED TO BE TRENCHED.
- THE UPHILL SIDE OF THE SEDIMENT CONTROL LOG SHALL BE BACKFILLED WITH SOIL OR FILTER MATERIAL THAT IS FREE OF ROCKS AND DEBRIS. THE SOIL SHALL BE TIGHTLY COMPACTED INTO THE SHAPE OF A RIGHT TRIANGLE USING A SHOVEL OR WEIGHTED LAWN ROLLER OR BLOWN IN PLACE.
- FOLLOW MANUFACTURERS' GUIDANCE FOR STAKING. IF MANUFACTURERS' INSTRUCTIONS DO NOT SPECIFY SPACING, STAKES SHALL BE PLACED ON 4' CENTERS AND EMBEDDED A MINIMUM OF 6" INTO THE GROUND. 3" OF THE STAKE SHALL PROTRUDE FROM THE TOP OF THE LOG. STAKES THAT ARE BROKEN PRIOR TO INSTALLATION SHALL BE REPLACED. COMPOST LOGS SHOULD BE STAKED 10' ON CENTER.

SEDIMENT CONTROL LOG 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.
- SEDIMENT ACCUMULATED UPSTREAM OF SEDIMENT CONTROL LOG SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP. TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 1/2 OF THE HEIGHT OF THE SEDIMENT CONTROL LOG.
- SEDIMENT CONTROL LOG SHALL BE REMOVED AT THE END OF CONSTRUCTION. COMPOST FROM COMPOST LOGS MAY BE LEFT IN PLACE AS LONG AS BAGS ARE REMOVED AND THE AREA SEEDED. IF DISTURBED AREAS EXIST AFTER REMOVAL, THEY SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAILS ADAPTED FROM TOWN OF PARKER, COLORADO, JEFFERSON COUNTY, COLORADO, DOUGLAS COUNTY, COLORADO, AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

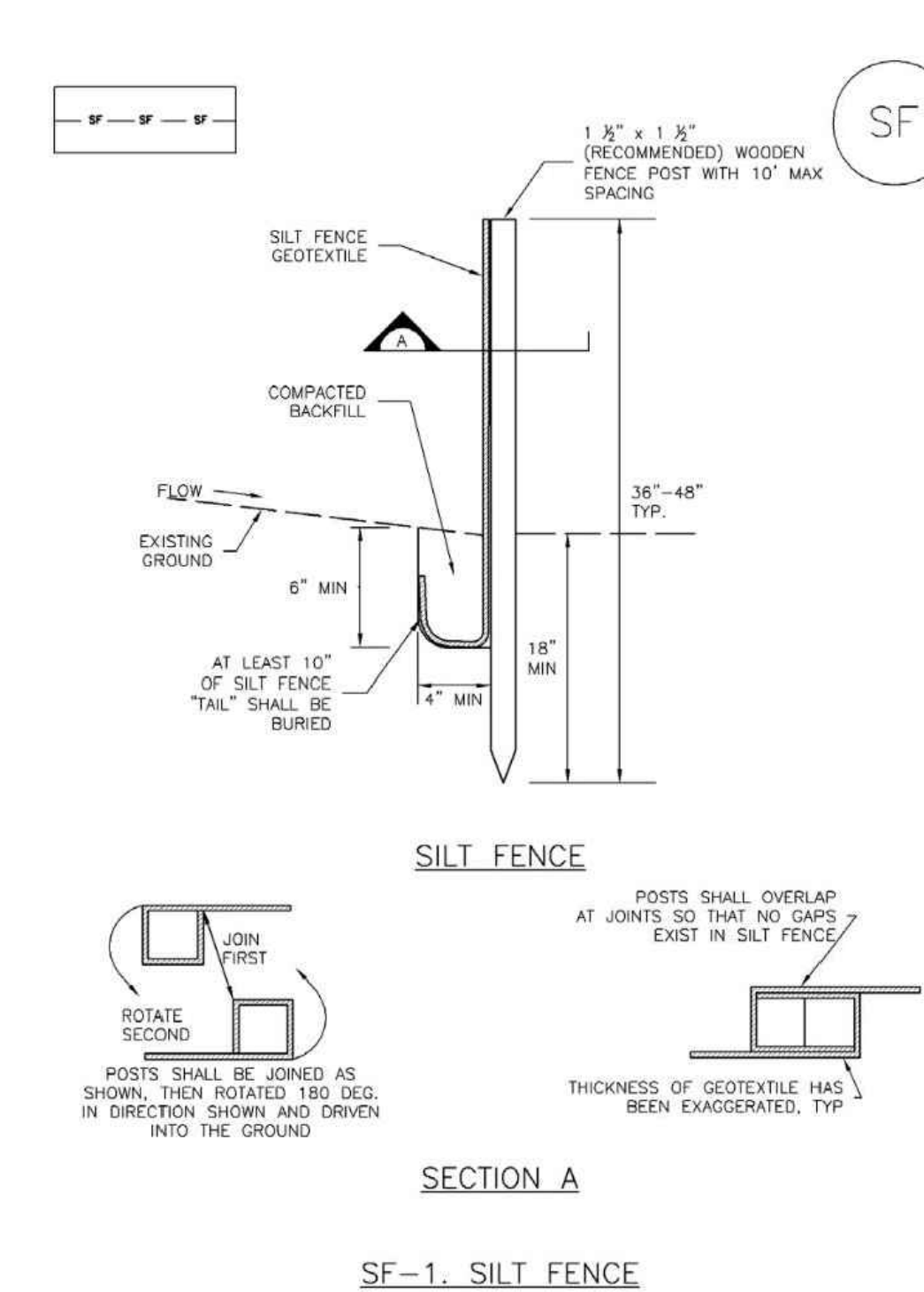
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

SCL-6 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2015

Silt Fence (SF)

SC-1

FILE NO.: PPR-2254



SF-1. SILT FENCE

November 2010 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 SF-3

SC-1 Silt Fence (SF)

SILT FENCE INSTALLATION NOTES

- SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER PONDING. SILT FENCE AT THE TOE OF A SLOPE SHOULD BE INSTALLED IN A FLAT LOCATION AT LEAST SEVERAL FEET (2-3 FT) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR PONDING AND DEPOSITION.
- A UNIFORM 6" x 4" ANCHOR TRENCH SHALL BE EXCAVATED USING TRENCHER OR SILT FENCE INSTALLATION DEVICE. NO ROAD GRADERS, BACKHOES, OR SIMILAR EQUIPMENT SHALL BE USED.
- COMPACT ANCHOR TRENCH BY HAND WITH A "JUMPING JACK" OR BY WHEEL ROLLING. COMPACTATION SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND.
- SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES. THERE SHOULD BE NO NOTICEABLE SAG BETWEEN STAKES AFTER IT HAS BEEN ANCHORED TO THE STAKES.
- SILT FENCE FABRIC SHALL BE ANCHORED TO THE STAKES USING 1" HEAVY DUTY STAPLES OR NAILS WITH 1" HEADS. STAPLES AND NAILS SHOULD BE PLACED 3" ALONG THE FABRIC DOWN THE STAKE.
- AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE TURNED PERPENDICULAR TO THE CONTOUR TO CREATE A "J-HOOK." THE "J-HOOK" EXTENDING PERPENDICULAR TO THE CONTOUR SHOULD BE OF SUFFICIENT LENGTH TO KEEP RUNOFF FROM FLOWING AROUND THE END OF THE SILT FENCE (TYPICALLY 10' - 20').
- SILT FENCE SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

SILT FENCE 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.
- SEDIMENT ACCUMULATED UPSTREAM OF THE SILT FENCE SHALL BE REMOVED AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 6".
- REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, TEARING, OR COLLAPSE.
- SILT FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERIMETER SEDIMENT CONTROL BMP.
- WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

(DETAILS ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, 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.

SF-4 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010



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NO.	DATE	DESIGNED BY	DESCRIPTION
		DVM	

DESIGNED BY: NAS  
 DRAWN BY: MHT  
 CHECKED BY: JJM  
 JOB #: 1164e  
 DATE: OCT 2022

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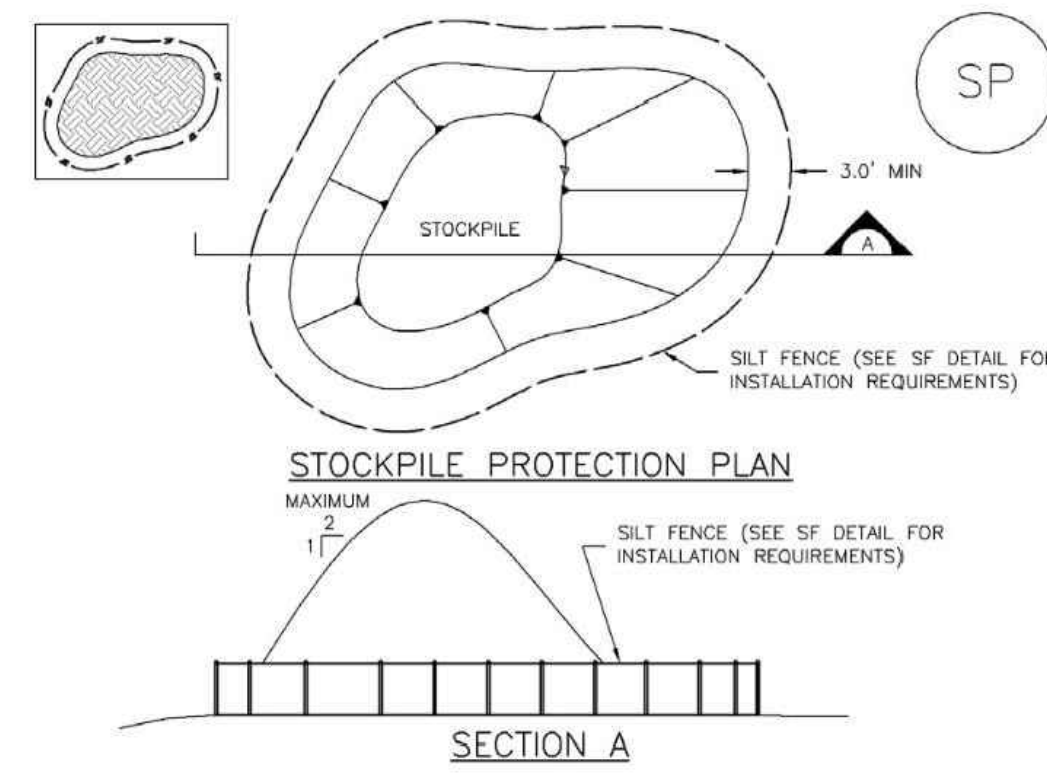
CHEROKEE METROPOLITAN DISTRICT  
 LIFT STATION NO. 1B  
 EL PASO COUNTY, COLORADO  
 EROSION CONTROL DETAILS

SHEET NO.

CE1.2

**Stockpile Management (SP)**

**MM-2**



**SP-1. STOCKPILE PROTECTION**

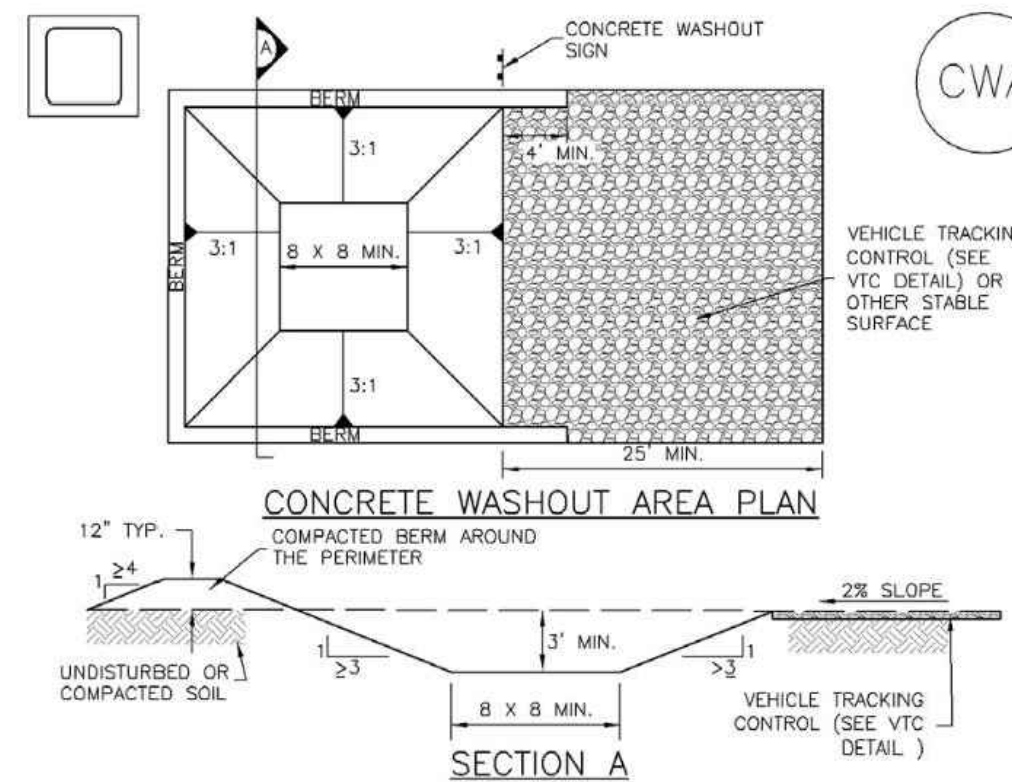
**STOCKPILE PROTECTION INSTALLATION NOTES**

- 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 IMPVIOUS 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 SEEDED 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.

November 2010 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 SP-3

**Concrete Washout Area (CWA)**

**MM-1**



**CWA-1. CONCRETE WASHOUT AREA**

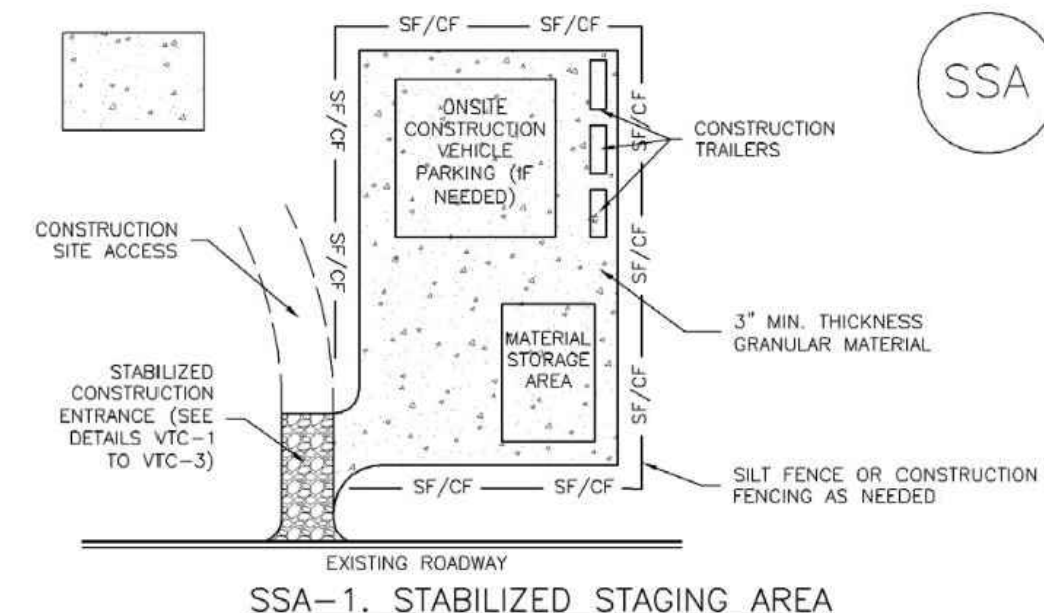
**CWA INSTALLATION NOTES**

- SEE PLAN VIEW FOR:
  - CWA INSTALLATION LOCATION.
- DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODY. DO NOT LOCATE WITHIN 1,000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFEASIBLE, 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 ARE SHOULD BE USED.
- THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
- 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 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.

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**Stabilized Staging Area (SSA)**

**SM-6**



**STABILIZED STAGING AREA INSTALLATION NOTES**

- SEE PLAN VIEW FOR:
    - LOCATION OF STAGING AREA(S).
    - CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.
  - STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.
  - STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.
  - THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.
  - UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.
  - ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.
- STABILIZED STAGING AREA 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.
  - ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

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**MM-2 Stockpile Management (SM)**

**STOCKPILE PROTECTION 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.
- STOCKPILE PROTECTION MAINTENANCE NOTES**
- IF PERIMETER PROTECTION MUST BE MOVED TO ACCESS SOIL STOCKPILE, REPLACE PERIMETER CONTROLS BY THE END OF THE WORKDAY.
  - STOCKPILE PERIMETER CONTROLS CAN BE REMOVED ONCE ALL THE MATERIAL FROM THE STOCKPILE HAS BEEN USED.
- (DETAILS ADAPTED FROM PARKER, 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.

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**MM-1 Concrete Washout Area (CWA)**

**CWA 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.
  - THE CWA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS, ACCUMULATED IN PIT, SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 2'.
  - CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE AND ALL OTHER DEBRIS IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER-TIGHT CONTAINER AND DISPOSED OF PROPERLY.
  - THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
  - WHEN THE CWA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, SEED AND MULCH OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.
- (DETAIL ADAPTED FROM DOUGLAS COUNTY, COLORADO AND THE CITY OF PARKER, 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.

CWA-4 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010

**RECOMMENDED ANNUAL GRASSES**

SPECIES (COMMON NAME)	GROWTH SEASON	SEEDING DATE	POUNDS OF PURE LIVE SEED (PLS) (PLS/ACRE)	PLANTING DEPTH (INCHES)
1. OATS	COOL	MARCH 16 - APRIL 30	35-50	1-2
2. SPRING WHEAT	COOL	MARCH 16 - APRIL 30	25-35	1-2
3. SPRING BARLEY	COOL	MARCH 16 - APRIL 30	25-35	1-2
4. ANNUAL RYEGRASS	COOL	MARCH 16 - JUNE 30	10-15	1/2
5. MILLET	WARM	MAY 16 - JULY 15	3-15	1/2-3/4
6. SUDANGRASS	WARM	MAY 16 - JULY 15	5-10	1/2-3/4
7. SORGHUM	WARM	MAY 16 - JULY 15	5-10	1/2-3/4
8. WINTER WHEAT	COOL	SEPTEMBER 1 - 30	20-35	1-2
9. WINTER BARLEY	COOL	SEPTEMBER 1 - 30	20-35	1-2
10. WINTER RYE	COOL	SEPTEMBER 1 - 30	20-35	1-2
11. TRITICALE	COOL	SEPTEMBER 1 - 30	25-40	1-2

THIS TABLE WAS TAKEN FROM UDFCD FOR RECOMMENDED ANNUAL GRASSES FOR THE DENVER METROPOLITAN AREA. THIS TABLE MAY BE USED UNLESS A SITE-SPECIFIC SEED MIX IS REQUESTED AND APPROVED.

**TABLE TS-1**

**TEMPORARY SEEDING NOTES**

- |   |   |
|---|---|
| <p><b>INSTALLATION REQUIREMENTS</b></p> <ol style="list-style-type: none"> <li>DISTURBED AREAS ARE TO BE SEEDDED WITHIN 21 DAYS AFTER CONSTRUCTION ACTIVITY OR GRADING ENDS IF SEASON ALLOWS.</li> <li>IF NECESSARY, SOIL IS TO BE CONDITIONED FOR PLANT GROWTH BY APPLYING TOPSOIL, FERTILIZER, OR LIME.</li> <li>SOIL IS TO BE TILLED IMMEDIATELY PRIOR TO APPLYING SEEDS. COMPACT SOILS ESPECIALLY NEED TO BE LOOSENED.</li> <li>SEEDBED DEPTH IS TO BE 4 INCHES FOR SLOPES FLATTER THAN 2:1, AND 1 INCH FOR SLOPES STEEPER THAN 2:1.</li> <li>ANNUAL GRASSES LISTED IN TABLE TS-1 ARE TO BE USED FOR TEMPORARY SEEDING. SEED MIXES ARE NOT TO CONTAIN ANY NOXIOUS WEED SEEDS INCLUDING RUSSIAN OR CANADIAN THISTLE, KNAPWEED, PURPLE LOOSESTRIFE, EUROPEAN BINDWEED, JOHNSON GRASS, AND LEAFY SPURGE.</li> <li>TABLE TS-1 ALSO PROVIDES REQUIREMENTS FOR SEEDING RATES, SEEDING DATES, AND PLANTING DEPTHS FOR THE APPROVED TYPES OF ANNUAL GRASSES.</li> <li>SEEDING IS TO BE APPLIED USING MECHANICAL TYPE DRILLS EXCEPT WHERE SLOPES ARE STEEP OR ACCESS IS LIMITED THEN HYDRAULIC SEEDING MAY BE USED.</li> <li>ALL SEEDDED AREAS ARE TO BE MULCHED (SEE FACTSHEET ON MULCHING).</li> <li>IF HYDRAULIC SEEDING IS USED THEN HYDRAULIC MULCHING SHALL BE DONE SEPARATELY TO AVOID SEEDS BECOMING ENCAPSULATED IN THE MULCH.</li> </ol> | <p><b>MAINTENANCE REQUIREMENTS</b></p> <ol style="list-style-type: none"> <li>REGULAR INSPECTIONS ARE TO BE MADE OF ALL SEEDDED AREAS TO ENSURE GROWTH.</li> <li>AREAS WHERE GROWTH IS NOT OCCURRING QUICKLY OR THE MULCH HAS BEEN REMOVED SHALL BE RE-SEEDDED AS SOON AS POSSIBLE AND RE-MULCHED IF NEEDED.</li> <li>SEEDDED AREAS ARE NOT TO BE DRIVEN OVER WITH CONSTRUCTION EQUIPMENT OR VEHICLES.</li> </ol> |
|---|---|

City of Colorado Springs Stormwater Quality Figure TS-1  
Temporary Seeding  
Construction Detail and Maintenance Requirements



REVISION DESCRIPTION
DWN
DES
DATE
NO.

DESIGNED BY: NAS  
DRAWN BY: MHT  
CHECKED BY: JJM  
JOB #: 1164e  
DATE: OCT 2022

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CHEROKEE METROPOLITAN DISTRICT  
LIFT STATION NO. 1B  
EL PASO COUNTY, COLORADO  
EROSION CONTROL DETAILS

SHEET NO.  
**CE1.3**