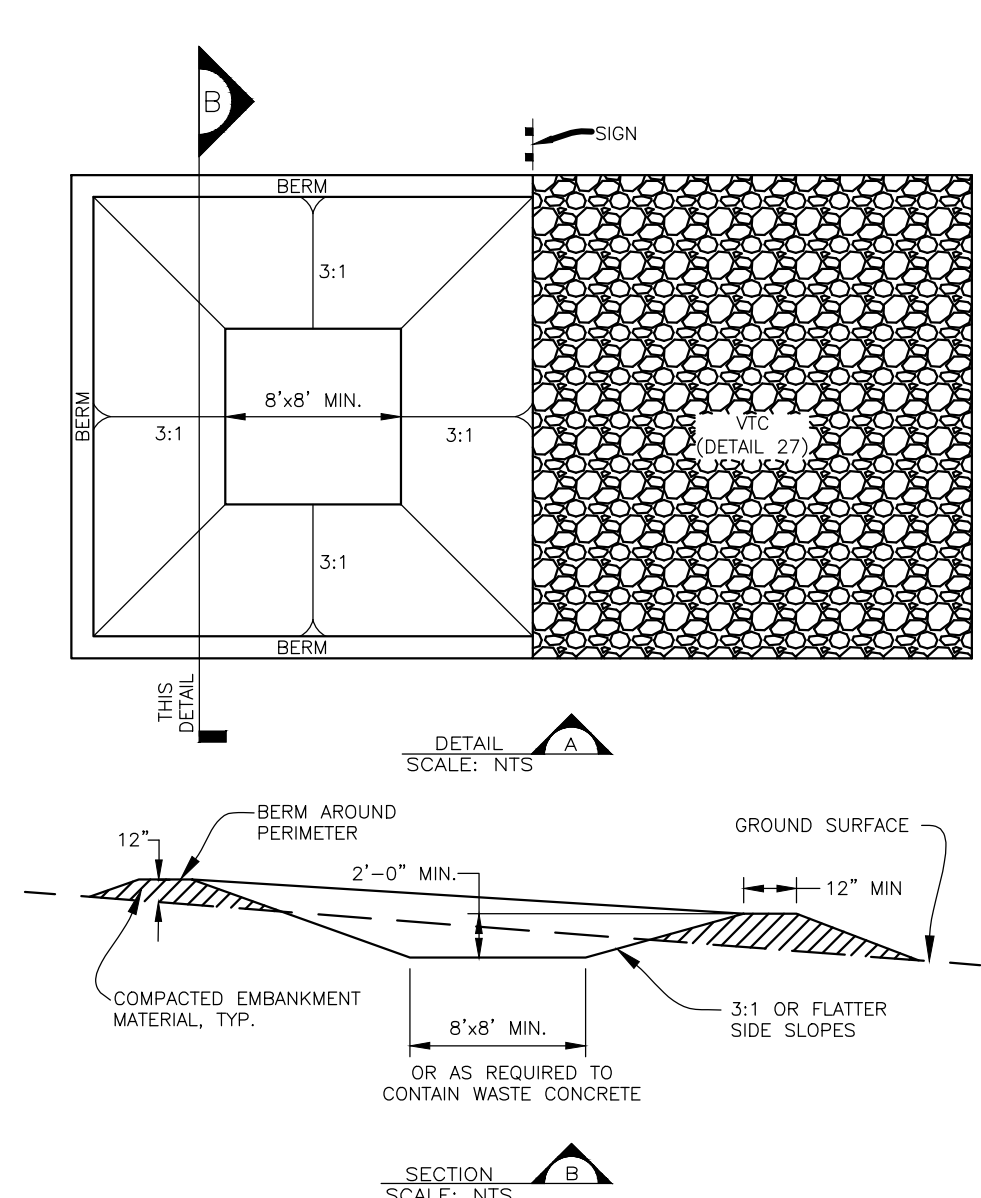


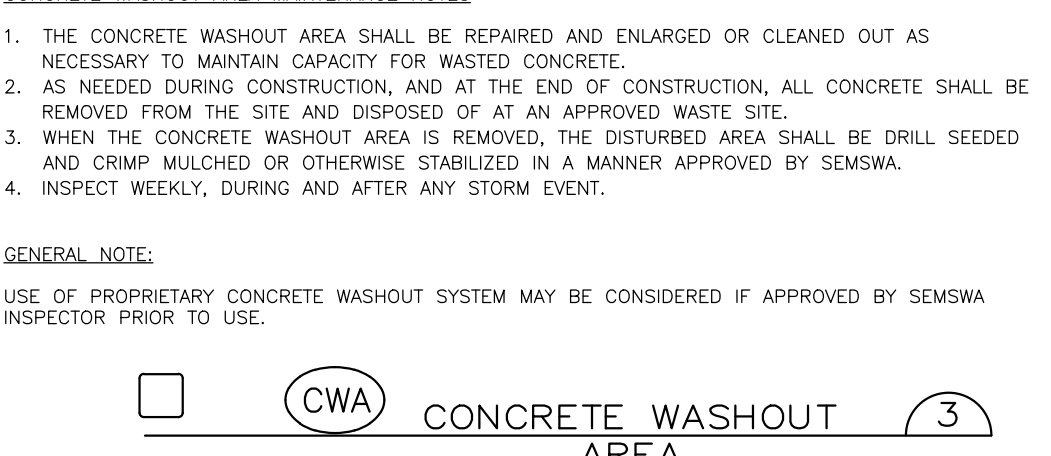
**GRADING, EROSION, AND SEDIMENT CONTROL (GESC) GENERAL NOTES**

1. THE SOUTHEAST METRO STORMWATER AUTHORITY (SEMSWA) LAND DEVELOPMENT REVIEW MANAGER SIGNATURE AFFIXED TO THIS DOCUMENT INDICATES SEMSWA HAS REVIEWED THE DOCUMENT AND FOUND IT IN GENERAL COMPLIANCE WITH THE GRADING, EROSION AND SEDIMENT CONTROL (GESC) MANUAL. THE LAND DEVELOPMENT REVIEW MANAGER THROUGH ACCEPTANCE OF THIS DOCUMENT, ASSUMES NO RESPONSIBILITY (OTHER THAN AS STATED ABOVE) FOR THE COMPLETENESS AND/OR ACCURACY OF THESE DOCUMENTS.
2. THE ADEQUACY OF THIS GESC PLAN LIES WITH THE ORIGINAL DESIGN ENGINEER. CHANGES TO DESIGN INTENT THAT MEET THE DEFINITION OF MAJOR MODIFICATIONS MUST GO THROUGH ORIGINAL DESIGN ENGINEER.
3. THE GESC PLAN SHALL BE CONSIDERED VALID FOR TWO (2) YEARS FROM THE DATE OF ACCEPTANCE BY SEMSWA, AFTER WHICH TIME THE PLAN SHALL BE VOID AND WILL BE SUBJECT TO RE-REVIEW AND RE-ACCEPTANCE BY SEMSWA. PLANS MUST CONFORM TO CURRENT REQUIREMENTS.
4. ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION BY SEMSWA'S INSPECTION DIVISION. SEMSWA RESERVES THE RIGHT TO ACCEPT OR REJECT ANY SUCH MATERIALS AND WORKMANSHIP THAT DOES NOT CONFORM TO THE GESC MANUAL. GESC PLAN OR PERMIT.
5. THE PLACEMENT OF EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE ACCEPTED GESC PLAN AND THE SEMSWA GESC MANUAL.
6. ANY VARIATION IN MATERIAL, TYPE OR LOCATION OF EROSION AND SEDIMENT CONTROL MEASURES FROM THE SEMSWA – ACCEPTED GESC PLAN WILL REQUIRE APPROVAL FROM AN ACCOUNTABLE REPRESENTATIVE OF SEMSWA.
7. UPON RECEIVING THE APPROVED, SIGNED AND STAMPED GESC PLANS AND REPORT, THE CONTRACTOR MAY INSTALL THE NON-EARTH DISTURBING INITIAL-STAGE EROSION AND SEDIMENT CONTROL MEASURES INDICATED ON THE ACCEPTED GESC PLAN.
8. AFTER INSTALLATION OF THE INITIAL-STAGE EROSION AND SEDIMENT CONTROL MEASURES, THE PERMITTEE SHALL CALL THE INSPECTION DIVISION TO SCHEDULE A PRECONSTRUCTION MEETING AT THE PROJECT SITE. THE REQUEST SHALL BE MADE NO LESS THAN 24 HOURS PRIOR TO THE REQUESTED MEETING TIME. NO CONSTRUCTION ACTIVITIES SHALL BE PLANNED WITHIN 24 HOURS AFTER THE PRECONSTRUCTION MEETING.
9. IN ADDITION TO THE SEMSWA INSPECTOR AND GESC MANAGER, THE FOLLOWING REPRESENTATIVES SHOULD ATTEND: GENERAL CONTRACTOR, OWNER, OR OWNER'S REPRESENTATIVE AND GRADING SUBCONTRACTOR. IF ANY OF THE REQUIRED PARTICIPANTS FAIL TO ATTEND THE PRECONSTRUCTION MEETING, OR IF THE INSTALLATION OF THE INITIAL CONTROL MEASURES ARE NOT APPROVED BY THE SEMSWA INSPECTOR, THE APPLICANT WILL HAVE TO PAY A REINSPECTION FEE, ADDRESS ANY PROBLEMS WITH CONTROL MEASURE INSTALLATION, AND CALL TO RESCHEDULE THE MEETING, WITH A CORRESPONDING DELAY IN THE START OF CONSTRUCTION.
10. CONSTRUCTION SHALL NOT BEGIN UNTIL THE SEMSWA INSPECTOR APPROVES THE INSTALLATION OF THE INITIAL CONTROL MEASURES AND THE APPROVED GESC PERMIT HAS BEEN ISSUED BY SEMSWA AND IS IN-HAND ON THE SITE. THE COMPLETED PERMIT WILL GENERALLY BE FIELD ISSUED OR ISSUED VIA EMAIL AFTER THE INSTALLATION OF THE INITIAL CONTROL MEASURES ARE APPROVED.
11. THE GESC MANAGER SHALL STRICTLY ADHERE TO THE SEMSWA APPROVED LIMITS OF CONSTRUCTION AT ALL TIMES. THE SEMSWA INSPECTION DIVISION MUST APPROVE ANY CHANGES TO THE LIMITS OF CONSTRUCTION AND, AT THE DISCRETION OF THE INSPECTION DIVISION, ADDITIONAL EROSION/SEDIMENT CONTROLS MAY BE REQUIRED IN ANY ADDITIONAL AREAS OF CONSTRUCTION/ DISTURBANCE ARE NEEDED.
12. THE MAXIMUM AREA OF CONSTRUCTION SHALL BE LIMITED TO 40 ACRES (70 ACRES IF APPROVED FOR SOIL MITIGATION OPERATIONS) TO REDUCE THE AMOUNT OF LAND DISTURBED AT ANY ONE TIME. LARGER SITES SHALL BE DIVIDED INTO PHASES THAT ARE EACH 40 (OR 70) ACRES OR LESS IN SIZE. THESE PROJECTS SHALL CONDUCT GRADING ACTIVITIES IN ACCORDANCE WITH THE ACCEPTED GESC PLAN, CONTROL MEASURE INSTALLATION AND APPROVAL BY SEMSWA AT THE START AND COMPLETION OF EACH PHASE SHALL BE CONDUCTED IN ACCORDANCE WITH THE PROCEDURES OUTLINED IN THE GESC MANUAL.
13. NATURAL VEGETATION SHALL BE RETAINED AND PROTECTED WHEREVER POSSIBLE. EXPOSURE OF SOIL TO EROSION BY REMOVAL OR DISTURBANCE OF VEGETATION SHALL BE LIMITED TO THE AREA REQUIRED FOR IMMEDIATE CONSTRUCTION OPERATIONS.
14. THE GESC PERMIT SHALL BE VALID FOR A PERIOD OF TWO (2) YEARS.
15. A COPY OF THE GESC PERMIT AND APPROVED GESC PLANS SHALL BE ON SITE OR MADE AVAILABLE UPON REQUEST.
16. THE GESC MANAGER SHALL BE RESPONSIBLE PARTY FOR ENSURING THAT THE SITE REMAINS IN COMPLIANCE WITH THE GESC PERMIT AND SHALL BE THE PERMITTEE'S CONTACT PERSON WITH SEMSWA FOR ALL MATTERS PERTAINING TO THE GESC PERMIT. THE GESC MANAGER SHALL BE ON THE SITE AS NECESSARY TO ENSURE THE GESC REQUIREMENTS ARE BEING IMPLEMENTED, AND (ALONG WITH THE ALTERNATE GESC MANAGER) SHALL PROVIDE SEMSWA WITH A 24-HOUR EMERGENCY CONTACT NUMBER. IN THE EVENT THAT THE CONTRACTOR'S GESC MANAGER IS NOT ON SITE AND CANNOT BE REACHED DURING A VIOLATION, THE ALTERNATE GESC MANAGER SHALL BE CONTACTED. IF NEITHER THE GESC MANAGER NOR ALTERNATE GESC MANAGER CAN BE CONTACTED DURING ANY VIOLATION, WITHIN 24 HOURS, VIOLATION MAY BE ISSUED TO THE PERMITTEE(S).
17. ALL CONSTRUCTION TRAFFIC MUST EXIT THE SITE THROUGH THE SEMSWA-APPROVED ACCESS POINT. A VEHICLE TRACKING CONTROL PAD IS REQUIRED AT ALL EXIT POINTS ON THE SITE. ADDITIONAL STABILIZED CONSTRUCTION ENTRANCES MAY BE APPROVED WITH AUTHORIZATION FROM THE SEMSWA INSPECTION DIVISION.
18. THE GESC MANAGER IS RESPONSIBLE FOR CLEANUP OF SEDIMENT OR CONSTRUCTION DEBRIS TRAPPED ON ADJACENT PAVED AREAS. PAVED AREAS INCLUDING STREETS ARE TO BE KEPT CLEAN THROUGHOUT BUILD-OUT AND SHALL BE CLEANED, WITH A STREET SWEEPER OR SIMILAR DEVICE, AT FIRST NOTICE OF ACCIDENTAL TRACKING OR AT THE DISCRETION OF THE SEMSWA GESC INSPECTOR. STREET WASHING IS NOT ALLOWED. SEMSWA RESERVES THE RIGHT TO REQUIRE ADDITIONAL MEASURES TO ENSURE AREA STREETS ARE KEPT FREE OF SEDIMENT AND/OR CONSTRUCTION DEBRIS.
19. APPROVED EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED AND KEPT IN GOOD REPAIR FOR THE DURATION OF THIS PROJECT. AT A MINIMUM, THE GESC MANAGER SHALL INSPECT ALL CONTROL MEASURES IN ACCORDANCE WITH THE ACCEPTED GESC PLAN AND GESC MANUAL. ALL NECESSARY MAINTENANCE AND REPAIR ACTIVITIES SHALL BE COMPLETED WITHIN 48 HOURS. ACCUMULATED SEDIMENT AND CONSTRUCTION DEBRIS SHALL BE REMOVED AND PROPERLY DISPOSED.
20. STRAW BALES ARE NOT A SEMSWA GESC-ACCEPTED SEDIMENT CONTROL MEASURE.
21. TOPSOIL SHALL BE STRIPPEd AND STOCKPILED IN THE LOCATION SHOWN ON THE ACCEPTED GESC PLAN. THE TOPSOIL STOCKPILE(S) SHALL FOLLOW ALL STOCKPILING CRITERIA DESCRIBED IN THE GESC MANUAL. TOPSOIL SHALL BE REPLACED AT A MINIMUM DEPTH OF 6 INCHES. IF A MINIMUM DEPTH OF 6 INCHES CAN NOT BE OBTAINED, ADDITIONAL TOPSOIL AND/OR APPROVED SOIL AMENDMENTS WILL BE REQUIRED TO SEEDING AND MULCHING.
22. THE ACCEPTED GESC PLAN MAY REQUIRE CHANGES OR ALTERATIONS AFTER APPROVAL TO MEET CHANGING SITE OR PROJECT CONDITIONS OR TO ADDRESS INEFFICIENCIES IN DESIGN OR INSTALLATION. THE GESC MANAGER SHALL OBTAIN PRIOR APPROVAL FOR MAJOR MODIFICATIONS FROM THE DESIGN ENGINEER AND SEMSWA FOR ANY PROPOSED CHANGES.
23. LINING OF TEMPORARY SWALES AND DITCHES SHALL BE IN ACCORDANCE WITH THE GESC MANUAL.
24. ANY SETTLEMENT OR SOIL ACCUMULATIONS BEYOND THE LIMITS OF CONSTRUCTION DUE TO GRADING OR EROSION SHALL BE REPAIRED IMMEDIATELY BY THE GESC MANAGER. THE GESC MANAGER SHALL BE HELD RESPONSIBLE FOR OBTAINING ACCESS RIGHTS TO ADJACENT PROPERTY, IF NEEDED, AND REMEDIATING ANY ADVERSE IMPACTS TO ADJACENT WATERWAYS, WETLANDS, PROPERTIES, ETC. RESULTING FROM WORK DONE AS PART OF THIS PROJECT.
25. A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
26. SOILS THAT WILL BE STOCKPILED FOR MORE THAN THIRTY (30) DAYS SHALL BE SEEDED AND MULCHED WITHIN FOURTEEN (14) DAYS OF STOCKPILE CONSTRUCTION. NO STOCKPILES SHALL BE PLACED WITHIN ONE HUNDRED (100) FEET OF A DRAINAGE WAY UNLESS APPROVED BY SEMSWA.
27. ALL CHEMICAL OR HAZARDOUS MATERIAL SPILLS WHICH MAY ENTER WATERS OF THE STATE OF COLORADO, WHICH INCLUDE BUT ARE NOT LIMITED TO, SURFACE WATER, GROUND WATER AND DRY GULLIES OR STORM SEWER LEADING TO SURFACE WATER, SHALL BE IMMEDIATELY REPORTED TO THE CDPHE PER CRS 25-8-601, AND SEMSWA. RELEASES OF PETROLEUM PRODUCTS AND CERTAIN HAZARDOUS SUBSTANCES LISTED UNDER THE FEDERAL CLEAN WATER ACT (40 CFR PART 116) MUST BE REPORTED TO THE NATIONAL RESPONSE CENTER AS WELL AS THE CDPHE. CONTACT INFORMATION FOR CDPHE, SEMSWA AND THE NATIONAL RESPONSE CENTER CAN BE FOUND IN APPENDIX A. SPILLS THAT POSE AN IMMEDIATE RISK TO HUMAN LIFE SHALL BE REPORTED TO 911. FAILURE TO REPORT AND CLEAN UP ANY SPILL SHALL RESULT IN ISSUANCE OF A STOP WORK ORDER. TO REPORT SPILLS TO SEMSWA CALL 303-858-8844.
28. ALL WORK ON SITE SHALL STAY A MINIMUM OF ONE HUNDRED (100) FEET AWAY FROM ANY DRAINAGE WAY, WETLAND, ETC. UNLESS OTHERWISE NOTED ON AN ACCEPTED SEMSWA GESC PLAN.
29. THE USE OF REBAR, STEEL STAKES, STAPLES, OR STEEL FENCE POSTS FOR STAKING OR SUPPORT OF ANY EROSION OR SEDIMENT CONTROL MEASURE IS PROHIBITED (EXCEPT STEEL TEE-POSTS FOR USE IN SUPPORTING CONSTRUCTION FENCE).
30. THE CLEANING OF CONCRETE DELIVERY TRUCK CHUTES IS RESTRICTED TO APPROVED CONCRETE WASH OUT LOCATIONS ON THE JOB SITE. THE DISCHARGE OF WATER CONTAINING WASTE CONCRETE TO THE STORM SEWER SYSTEM IS PROHIBITED. ALL CONCRETE WASTE SHALL BE PROPERLY CLEANED UP AND DISPOSED AT AN APPROPRIATE LOCATION.
31. ALL DEWATERING ON SITE SHALL BE COORDINATED WITH A SEMSWA GESC INSPECTOR AND BE FREE OF SEDIMENT IN ACCORDANCE WITH THE GESC MANUAL, AND STATE OF COLORADO DEWATERING PERMIT.
32. ALL PERMANENT INSTALLATIONS OF PIPES FOR STORM SEWERS, SLOPE DRAINS, AND CULVERTS, TOGETHER WITH RIPRAP APRONS OR OTHER INLET AND OUTLET PROTECTION, REQUIRE INSPECTION BY SEMSWA (SEPARATE FROM GESC INSPECTIONS).
33. ALL DISTURBED AREAS SHALL BE STABILIZED IN ACCORDANCE WITH THE GESC MANUAL WITHIN 14 DAYS OF SUBSTANTIAL COMPLETION OF GRADING, INCLUDING AREAS TO REMAIN DORMANT FOR LONGER THAN 30 DAYS, WHICHEVER IS LESS. THIS MAY REQUIRE MULTIPLE MOBILIZATIONS FOR SEEDING AND MULCHING.
34. HYDRAULIC SEEDING IS NOT AN ACCEPTABLE METHOD OF SEEDING WITHIN THE SEMSWA SERVICE AREA.
35. HYDRO-MULCH MAY BE USED FOR LIMITED APPLICATIONS AS APPROVED BY SEMSWA.
36. UTILITY LINE INSTALLATION SHALL COMPLY WITH THE FOLLOWING CRITERIA:
  - ALL UTILITY WORK WITHIN A RIGHT-OF-WAY SHALL BE REQUIRED TO OBTAIN A RIGHT-OF-WAY USE AND CONSTRUCTION PERMIT IN ACCORDANCE WITH THE APPROPRIATE STANDARDS.
  - PROVIDE ADEQUATE EROSION AND SEDIMENT CONTROLS.
  - AT THE END OF A WORK DAY, NO TRENCH SHALL BE LEFT OPEN AND BACKFILL MUST BE COMPLETED TO GRADE.
  - WHERE CONSISTENT WITH SAFETY AND SPACE CONSIDERATIONS, EXCAVATED MATERIAL IS TO BE PLACED ON THE UPHILL SIDE OF TRENCHES.
  - AT NO TIME SHALL EXCAVATED MATERIAL BE PLACED ON THE STREET.
  - TRENCH DEWATERING DEVICES MUST DISCHARGE IN A MANNER THAT WILL NOT EFFECT STREAMS, WETLANDS, DRAINAGE SYSTEMS, OR OFF-SITE PROPERTY. DISCHARGE FROM TRENCH SHALL BE FREE OF ANY SEDIMENT. A RIPRAP PAD SHALL BE PLACED AT THE DISCHARGE END OF THE HOSE TO PREVENT ANY ADDITIONAL EROSION.
  - STORM SEWER INLET PROTECTION SHALL BE PROVIDED WHENEVER SOIL EROSION FROM THE EXCAVATED AREA HAS POTENTIAL OF ENTERING THE STORM DRAINAGE SYSTEM.
  - ALL DISTURBED AREAS SHALL BE DRILL SEEDED AND CRIMP MULCHED WITHIN FIVE DAYS AFTER UTILITY INSTALLATION IS COMPLETED.
  - ALL OTHER APPLICABLE CRITERIA AS OUTLINED IN THE GESC MANUAL.
37. ALL SINGLE-FAMILY RESIDENTIAL DEVELOPMENT PROJECTS SHALL COMPLY WITH THE GESC CRITERIA AS PRESENTED IN THE GESC MANUAL.
38. NO RECYCLED ASPHALT SHALL BE USED AS A CONTROL MEASURE. RECYCLED CONCRETE MUST BE APPROVED BY SEMSWA.
39. SEMSWA MAY ALLOW THE INSTALLATION OF ALTERNATIVE CONTROL MEASURES OTHER THAN THE GESC PLAN STANDARD NOTES AND DETAILS. IF ALTERNATIVE EROSION AND SEDIMENT CONTROL MEASURES WILL BE USED, CUT SHEETS MUST BE SUBMITTED TO THE SEMSWA INSPECTOR.
40. IF YOU ARE EXPORTING EXCESS DIRT WITHIN THE SEMSWA SERVICE AREA, YOU WILL BE REQUIRED TO OBTAIN A GESC PERMIT FOR THE SECONDARY SITE.

- LEGEND**
- |    |     |  |     |  |
|----|-----|--|-----|--|
| 1  | (1) |  | CBC | CUT BACK CURB                            |
| 2  | (1) |  | CD  | CHECK DAM                                |
| 3  | (1) |  | CWA | CONCRETE WASHOUT AREA                    |
| 4  | (1) |  | CF  | CONSTRUCTION FENCE                       |
| 5  | (1) |  | CM  | CONSTRUCTION MARKERS                     |
| 6  | (1) |  | CS  | CURB SOCK                                |
| 7  | (1) |  | DW  | DEWATERING                               |
| 8  | (2) |  | DD  | DIVERSION DITCH                          |
| 9  | (2) |  | ECB | EROSION CONTROL BLANKET                  |
| 10 | (2) |  | FGM | FLEXIBLE GROWTH MEDIUM                   |
| 11 | (2) |  | GMS | GROUT MIXING STATION                     |
| 12 | (2) |  | IP  | INLET PROTECTION                         |
| 13 | (2) |  | RCD | REINFORCED CHECK DAM                     |
| 14 | (2) |  | RRB | REINFORCED ROCK BERM                     |
| 15 | (2) |  | RRC | RRB FOR CULVERT PROTECTION               |
| 16 | (3) |  | SB  | SEDIMENT BASIN                           |
| 17 | (3) |  | SCL | SEDIMENT CONTROL LOG                     |
| 18 | (3) |  | ST  | SEDIMENT TRAP                            |
| 19 | (3) |  | SM  | SEEDING AND MULCHING                     |
| 20 | (3) |  | SF  | SILT FENCE                               |
| 21 | (3) |  | SFR | SILT FENCE REINFORCED                    |
| 22 | (4) |  | SID | SLOPE INTERCEPT DITCH                    |
| 23 | (4) |  | SSA | STABILIZED STAGING AREA                  |
| 24 | (4) |  | SR  | SURFACE ROUGHENING                       |
| 25 | (4) |  | TSD | TEMPORARY SLOPE DRAIN                    |
| 26 | (4) |  | TSC | TEMPORARY STREAM CROSSING                |
| 27 | (4) |  | VTC | VEHICLE TRACKING CONTROL                 |
| 28 | (4) |  | WW  | VTC WITH WHEEL WASH                      |
|    |     |  | LOC | LIMITS OF CONSTRUCTION                   |
|    |     |  | MEG | MAY MEET MAJOR MODIFICATION REQUIREMENTS |



- CONCRETE WASHOUT AREA INSTALLATION NOTES**
1. SEE PLAN VIEW FOR LOCATIONS OF CONCRETE WASHOUT AREA.
  2. THE CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
  3. VEHICLE TRACKING CONTROL (VTC) (DETAIL 27) IS REQUIRED AT THE ACCESS POINT. THE VTC CAN BE REMOVED AT THE DISCRETION OF THE SEMSWA INSPECTOR.
  4. SIGNAGE SHALL BE PLACED AT THE WASHOUT AREA, AND MAY BE ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT AREA TO OPERATORS OF CONCRETE TRUCKS AND PUMP TRIGS.
  5. EXCAVATED MATERIAL MAY BE UTILIZED IN PERIMETER BERM CONSTRUCTION.
  6. CONCRETE WASHOUT MUST BE LINED IN AREAS WITH HIGH GROUNDWATER. LINERS MUST BE 30 MIL OR GREATER.
- CONCRETE WASHOUT AREA MAINTENANCE NOTES**
1. THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE.
  2. AS NEEDED DURING CONSTRUCTION AND AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AN APPROVED WASTE SITE.
  3. WHEN THE CONCRETE WASHOUT AREA IS REMOVED, THE DISTURBED AREA SHALL BE DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY SEMSWA.
  4. INSPECT WEEKLY, DURING AND AFTER ANY STORM EVENT.
- GENERAL NOTE:**  
USE OF PROPRIETARY CONCRETE WASHOUT SYSTEM MAY BE CONSIDERED IF APPROVED BY SEMSWA INSPECTOR PRIOR TO USE.



**ROCK AND RIPRAP GRADATIONS**

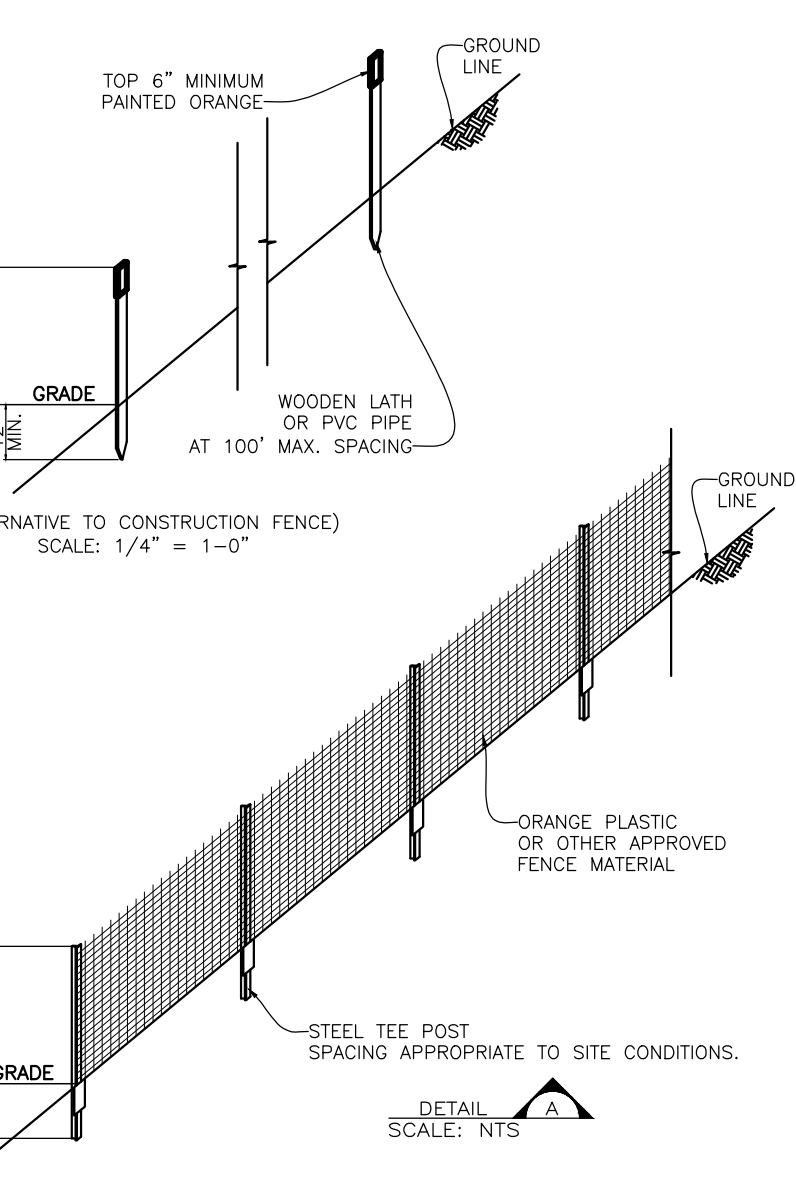
**TABLE 1. RIPRAP GRADATIONS**

D50 MEDIAN STONE SIZE (INCHES)	% OF MATERIAL SMALLER THAN TYPICAL STONE	TYPICAL STONE EQUIVALENT DIAMETER (INCHES)	TYPICAL STONE WEIGHT (POUNDS)
6	70 - 100 50 - 70 35 - 50 2 - 10	12 9 8 2	85 35 10 0.4
9	70 - 100 50 - 70 35 - 50 2 - 10	15 12 9 3	160 85 35 1.3
12	70 - 100 50 - 70 35 - 50 2 - 10	21 18 12 4	440 275 85 3
18	100 50 - 70 35 - 50 2 - 10	30 24 18 6	1280 850 275 10
24	100 50 - 70 35 - 50 2 - 10	42 33 24 9	3500 1700 650 35

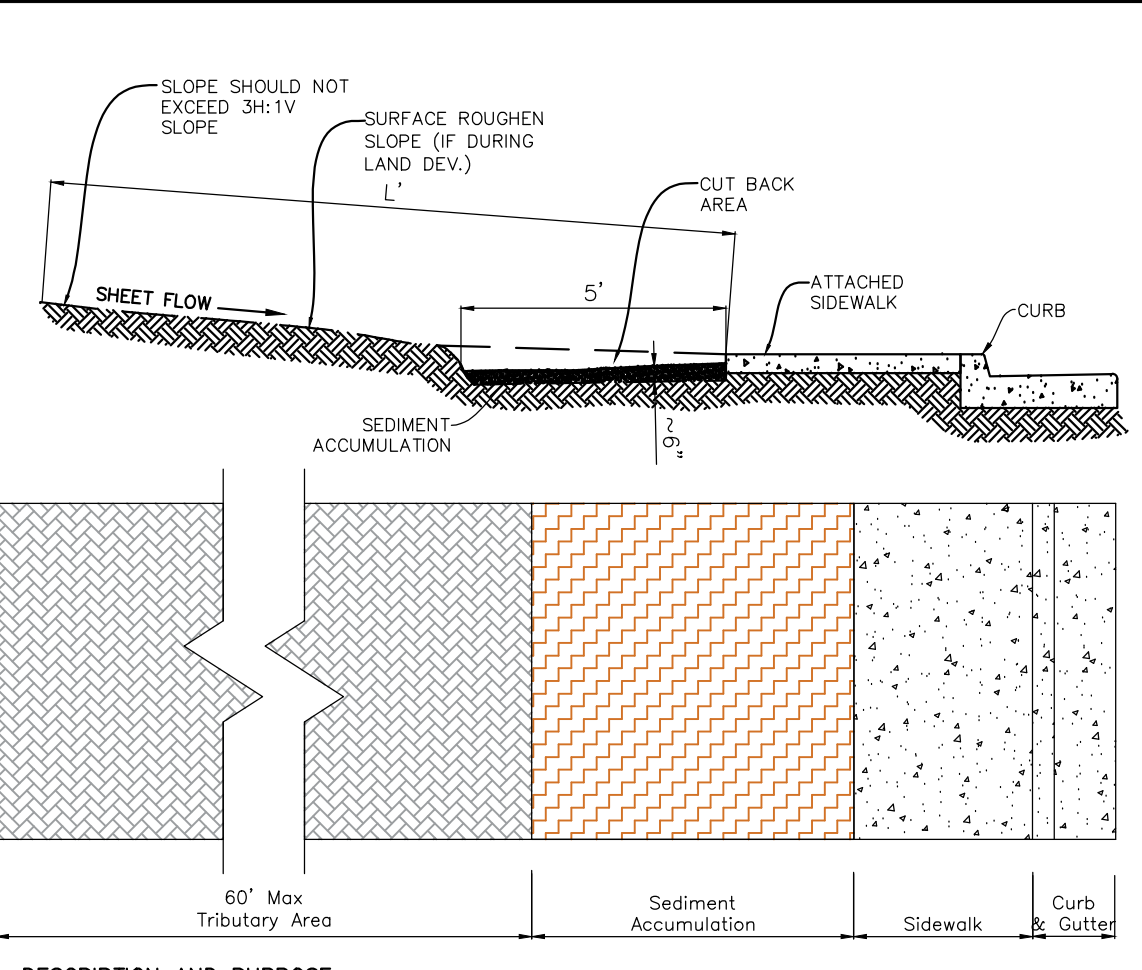
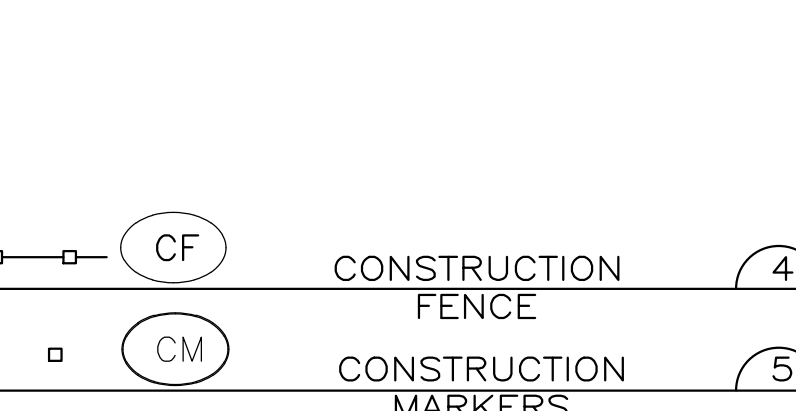
**TABLE 2. RIPRAP BEDDING**

SIEVE SIZE	MASS PERCENT PASSING SQUARE MESH SIEVES
	CLASS A
3"	100
1 1/2"	20 - 90
NO. 4	0 - 20
NO. 200	0 - 3

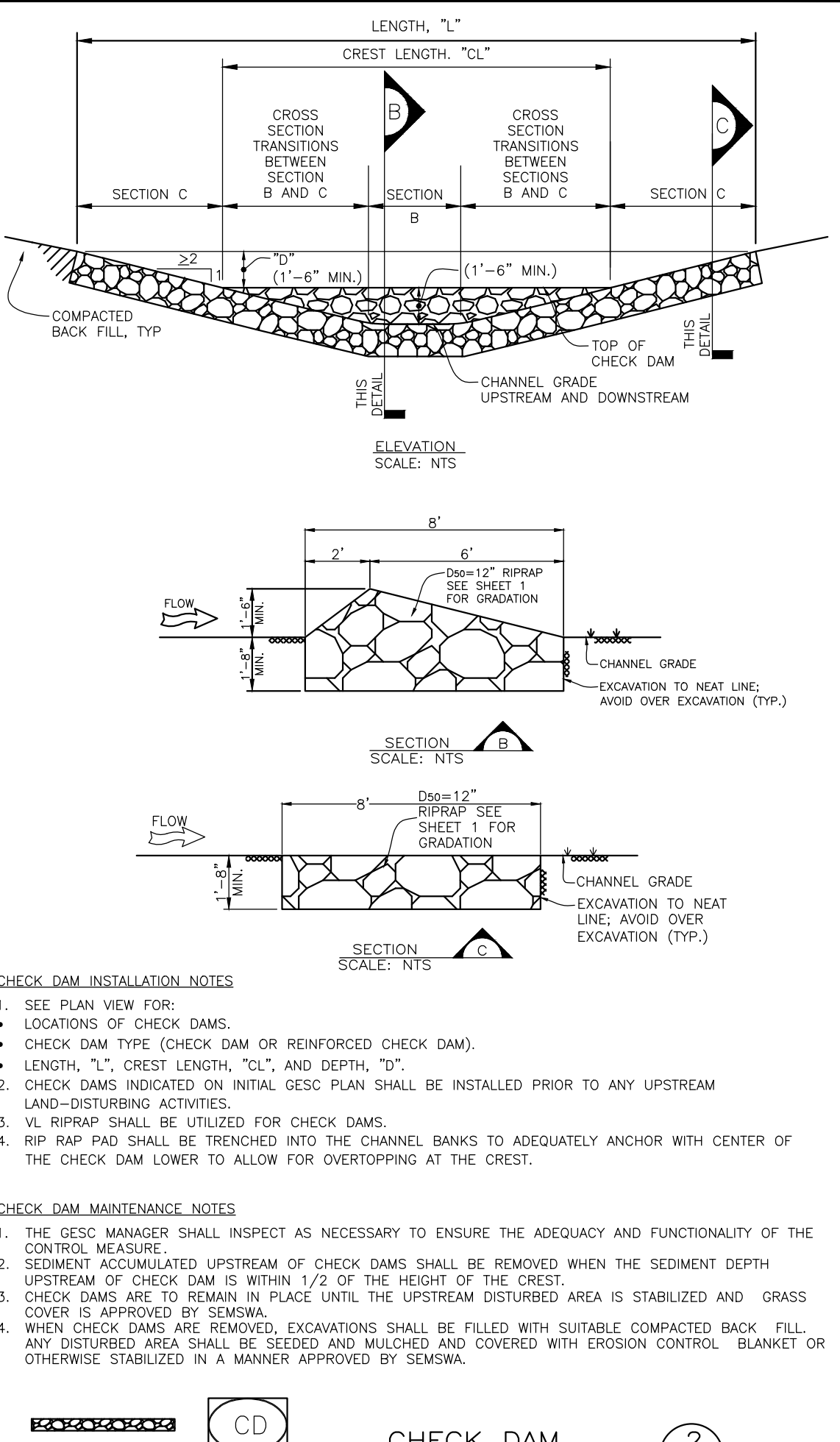
MATCHES SPECIFICATIONS FOR CDOT CLASS A FILTER MATERIAL AND UDFCD TYPE 1 BEDDING. ALL ROCK SHALL BE FRACTURED FACE, ALL SIDES.



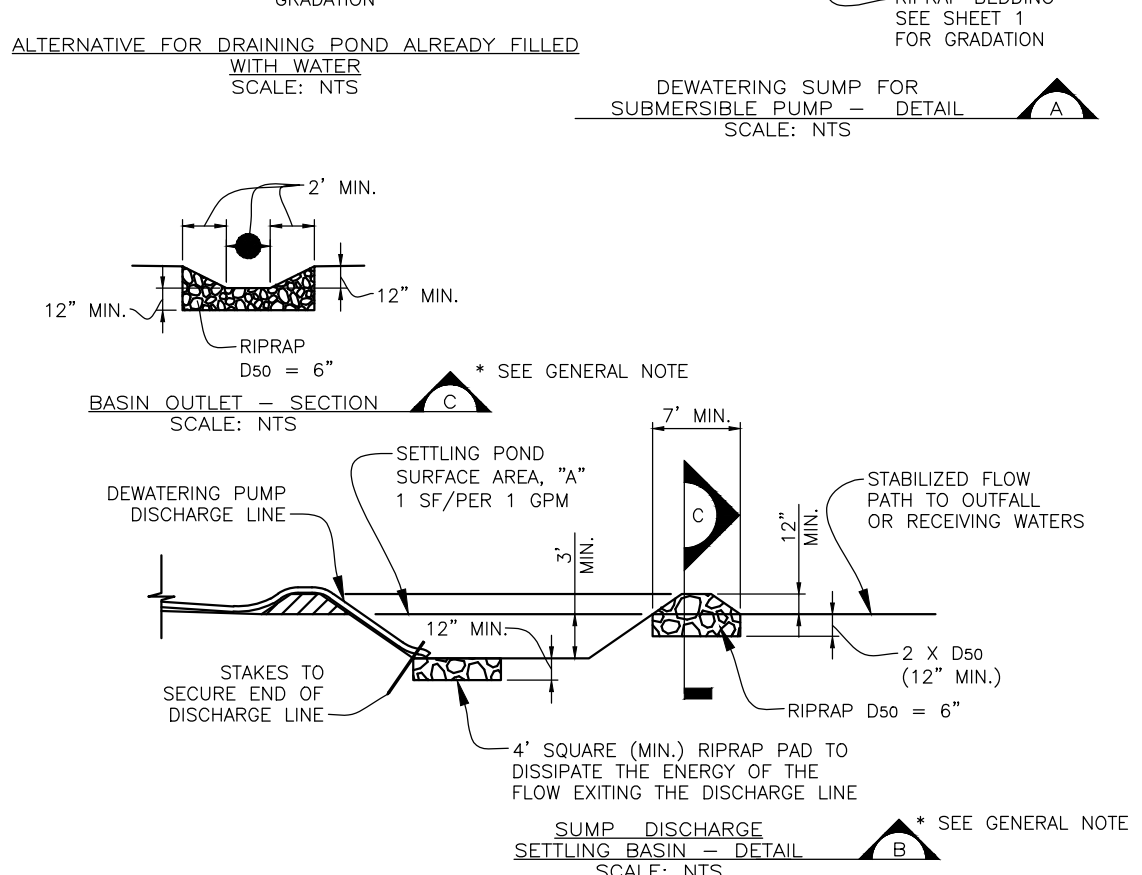
- CONSTRUCTION FENCE INSTALLATION NOTES**
1. SEE PLAN VIEW FOR:
  - TYPE OF CONSTRUCTION LIMIT INDICATOR (FENCE OR MARKERS).
  - LOCATION AND LENGTH OF FENCE OR LINE OF MARKERS.
  - CONSTRUCTION FENCE OR MARKERS INDICATED ON INITIAL GESC PLAN SHALL BE INSTALLED PRIOR TO OTHER CONTROL MEASURES AND ANY LAND-DISTURBING ACTIVITIES.
  - STEEL TEE POSTS SHALL BE UTILIZED FOR SUPPORT OF CONSTRUCTION FENCE. SPACING OF TEE POSTS SHALL BE APPROPRIATE TO SITE CONDITIONS.
- CONSTRUCTION FENCE MAINTENANCE NOTES**
1. ANY DAMAGED FENCE OR MARKERS SHALL BE REPAIRED ON A DAILY BASIS.
  - FENCE OR MARKERS SHALL BE REMOVED AT THE END OF CONSTRUCTION, IF ANY DISTURBED AREA EXISTS AFTER FENCE REMOVAL, IT SHALL BE DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY SEMSWA.



- DESCRIPTION AND PURPOSE**
- A TEMPORARY SEDIMENT BARRIER AND TRAP FORMED BY EXCAVATION BEHIND CURB OR SIDEWALK TO RETAIN SEDIMENT ON SITE DURING CONSTRUCTION.
- SUITABLE APPLICATIONS**
- DURING LAND DEVELOPMENT AFTER PAVING OR DURING VERTICAL CONSTRUCTION.
  - USE IN TREE LAWNS OR IN LANDSCAPE ISLAND.
  - USE SURFACE ROUGHENING ON UPSTREAM SLOPES IF DURING LAND DEVELOPMENT.
- SIZING**
- SEDIMENT ACCUMULATION VOLUME IS SIZED PER 1800CF/AC OF TRIBUTARY AREA. 5' WIDTH AND 6" DEPTH IS ACCEPTABLE FOR TRIBUTARY SHEET FLOW UP TO 60 LF. TRIBUTARY SHEET FLOW OVER 60 LF MUST COMPUTE CUSTOM SEDIMENT ACCUMULATION BASIN.
- LIMITATIONS**
- NOT FOR USE EXCEEDING 3H:1V SLOPES.
  - NOT FOR USE FOR CONCENTRATED FLOW AREAS.
  - PROLONGED STANDING WATER MAY AFFECT SUB-BASE OF PAVING AND COULD CAUSE SOIL TO SETTLE AND POTENTIALLY DAMAGE CONCRETE.
- INSPECTION AND MAINTENANCE**
- THE GESC MANAGER SHALL INSPECT AS NECESSARY TO ENSURE THE ADEQUACY AND FUNCTIONALITY OF THE CONTROL MEASURE.
  - REMOVE ACCUMULATED SEDIMENT WHEN 1/2 CAPACITY.
  - DO NOT ALLOW SEDIMENT TO OVERFLOW ONTO CURB OR SIDEWALK.
  - IMPLEMENT ADDITIONAL CONTROL MEASURES SUCH AS DOWNGRADIENT SEDIMENT CONTROL LOGS, CURB CHECKS, OR OTHER BARRIERS AS ON-SITE CONDITIONS REQUIRE.



- CHECK DAM INSTALLATION NOTES**
1. SEE PLAN VIEW FOR:
  - LOCATIONS OF CHECK DAMS.
  - CHECK DAM TYPE (CHECK DAM OR REINFORCED CHECK DAM).
  - LENGTH, "L", CREST LENGTH, "CL", AND DEPTH, "D".
  - CHECK DAMS INDICATED ON INITIAL GESC PLAN SHALL BE INSTALLED PRIOR TO ANY UPSTREAM LAND-DISTURBING ACTIVITIES.
  - VLS RIPRAP SHALL BE UTILIZED FOR CHECK DAMS.
  - RIP RAP PAD SHALL BE TRENCHED INTO THE CHANNEL BANKS TO ADEQUATELY ANCHOR WITH CENTER OF THE CHECK DAM LOWER TO ALLOW FOR OVERTOPPING AT THE CREST.
- CHECK DAM MAINTENANCE NOTES**
1. THE GESC MANAGER SHALL INSPECT AS NECESSARY TO ENSURE THE ADEQUACY AND FUNCTIONALITY OF THE CONTROL MEASURE.
  - SEDIMENT ACCUMULATED UPSTREAM OF CHECK DAMS SHALL BE REMOVED WHEN THE SEDIMENT DEPTH UPSTREAM OF CHECK DAM IS WITHIN 1/2 OF THE HEIGHT OF THE CREST.
  - CHECK DAMS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS APPROVED BY SEMSWA.
  - WHEN CHECK DAMS ARE REMOVED, EXCAVATIONS SHALL BE FILLED WITH SUITABLE COMPACTED BACK FILL. ANY DISTURBED AREA SHALL BE SEEDED AND MULCHED AND COVERED WITH EROSION CONTROL BLANKET OR OTHERWISE STABILIZED IN A MANNER APPROVED BY SEMSWA.



- DEWATERING INSTALLATION NOTES**
1. A CONSTRUCTION DISCHARGE (DEWATERING) PERMIT, IF REQUIRED, SHALL BE OBTAINED FROM THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT PRIOR TO ANY DEWATERING OPERATIONS. ALL DEWATERING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE DISCHARGE PERMIT AND SHALL BE COORDINATED WITH THE SEMSWA GESC INSPECTOR.
  - THE GESC MANAGER SHALL PROVIDE, OPERATE, AND MAINTAIN DEWATERING SYSTEMS OF SUFFICIENT SIZE AND CAPACITY.
  - DEWATERING OPERATIONS SHALL USE ONE OR MORE OF THE DEWATERING SUMP SHOWN ABOVE OR OTHER MEANS APPROVED BY SEMSWA TO REDUCE THE PUMPING OF SEDIMENT, AND SHALL PROVIDE A TEMPORARY BASIN FOR SETTLING OF SEDIMENT PRIOR TO RELEASE OFF SITE OR TO A RECEIVING WATER.
  - SEDIMENT BASIN PER DETAIL 14 MAY BE USED IN LIEU OF SUMP DISCHARGE SETTLING BASIN SHOWN ABOVE.
  - DISCHARGE POINT SHALL BE STABILIZED AREA.
  - THE DISCHARGE END OF THE LINE SHALL BE STAKED IN PLACES TO PREVENT MOVEMENT OF THE LINE OFF THE STABILIZED DISCHARGE POINT.
- DEWATERING MAINTENANCE NOTES**
1. THE GESC MANAGER SHALL INSPECT AS NECESSARY TO ENSURE THE ADEQUACY AND FUNCTIONALITY OF THE CONTROL MEASURE.
  - SEDIMENT ACCUMULATED UPSTREAM OF CURB SOCK SHALL BE REMOVED WHEN THERE IS EVIDENCE OF SIGNIFICANT SEDIMENT BUILDUP.
  - CURB PROTECTION IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS APPROVED, UNLESS SEMSWA APPROVES EARLIER REMOVAL OF CURB PROTECTION IN STREETS.
- GENERAL NOTE:**  
USE OF A SEDIMENT FILTER BAG MAY BE SUBSTITUTED FOR USE OF THE RIPRAP PAD AND SUMP DISCHARGE SETTLING BASIN. FILTER BAG TO SET ON RELATIVELY FLAT STABLE GROUND.



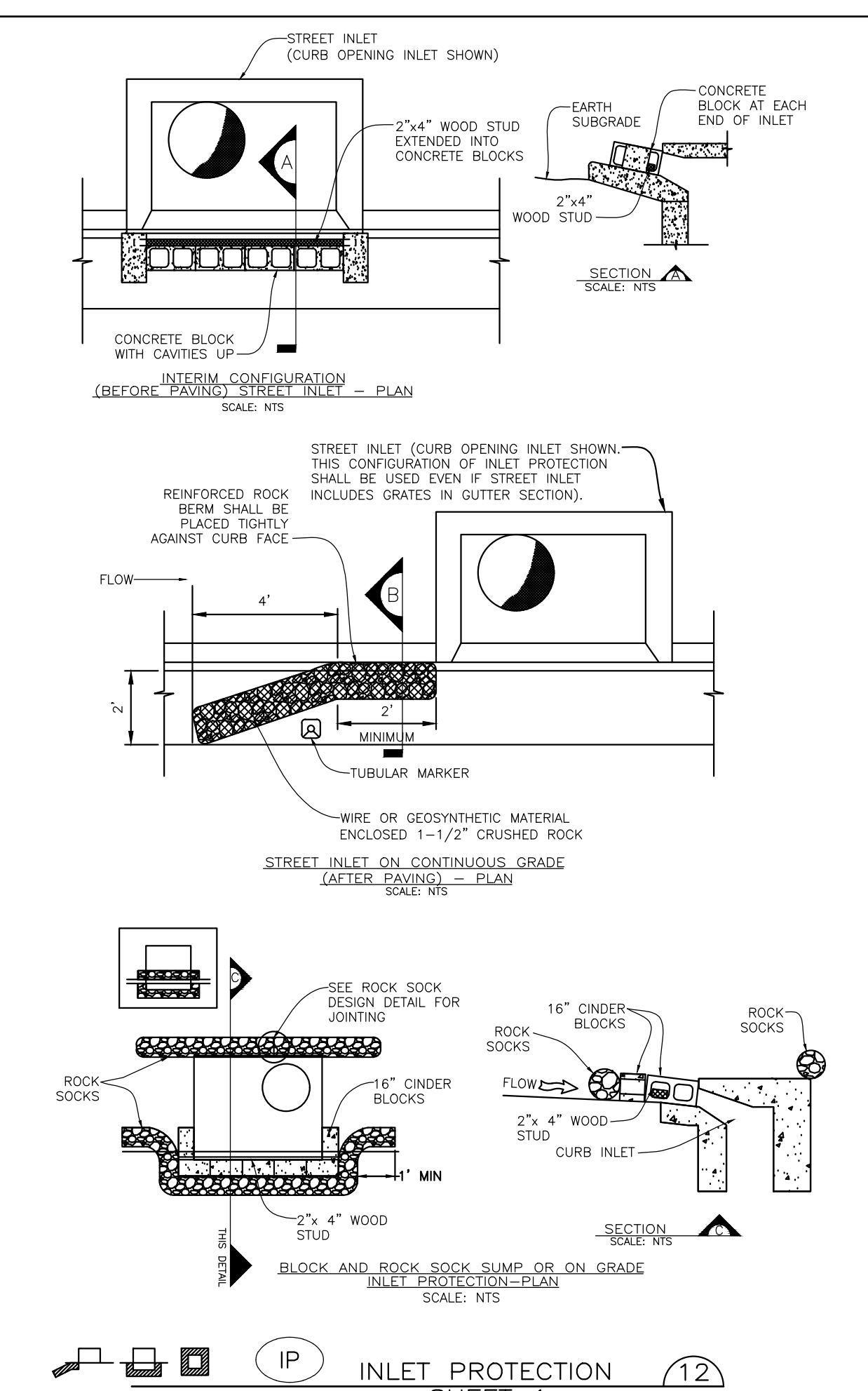
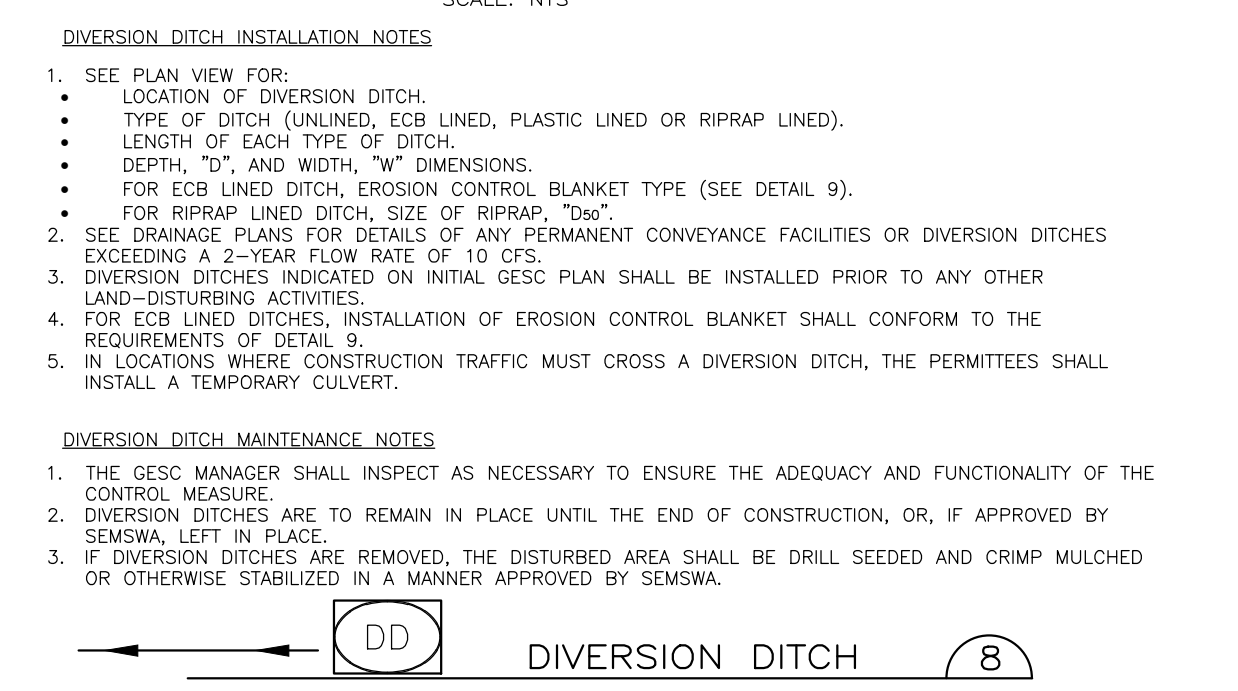
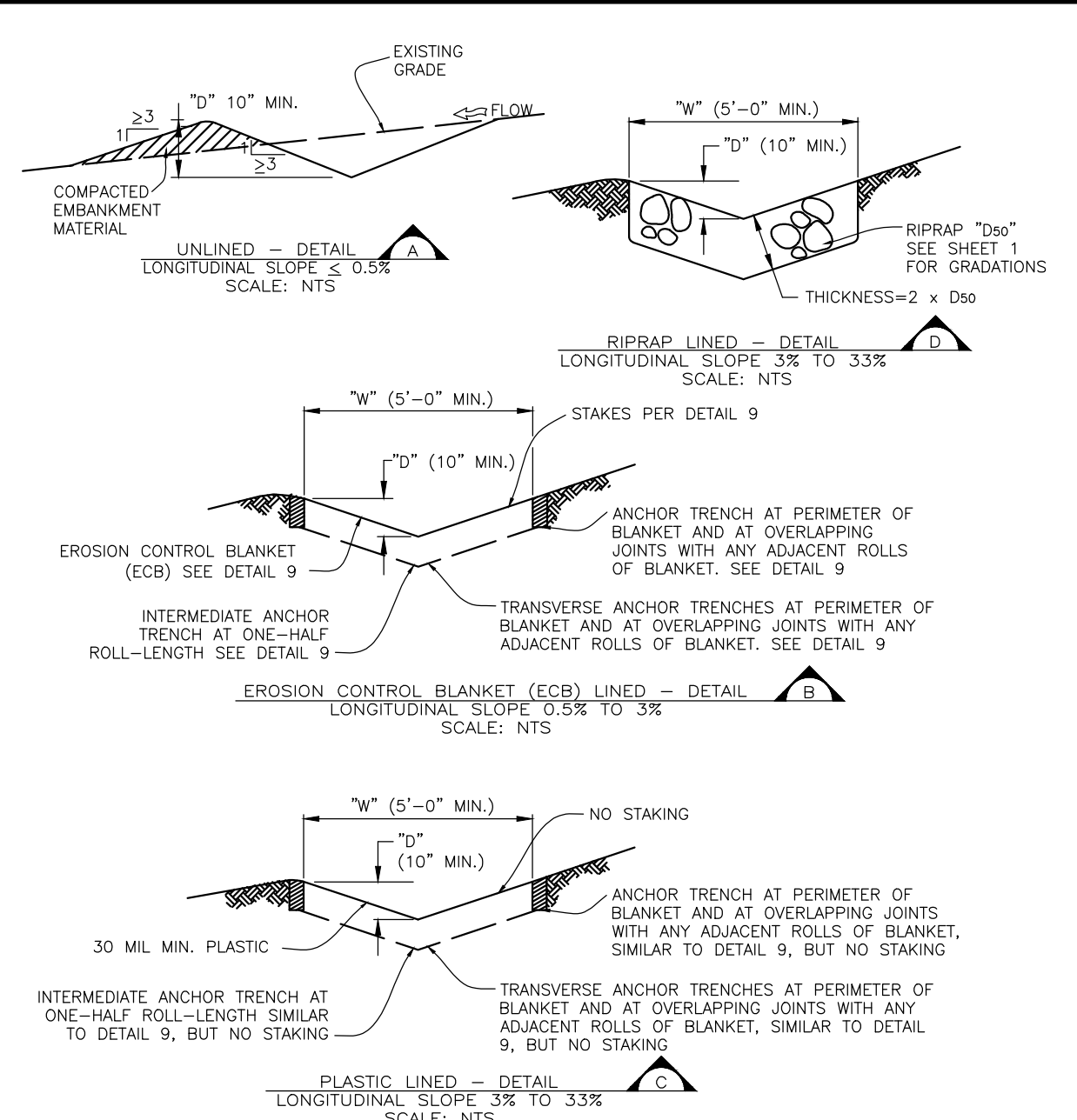
**UTILITY NOTIFICATION CENTER OF COLORADO**  
CALL BEFORE YOU DIG  
**811**  
Call 2 days prior to any digging, grading or excavating for the marking of underground member utilities

**SOUTHEAST METRO STORMWATER AUTHORITY**  
7437 SOUTH FAIRPLAY STREET  
CENTENNIAL COLORADO  
80112-4486  
(303) 858-8844 - INSPECTION DIVISION



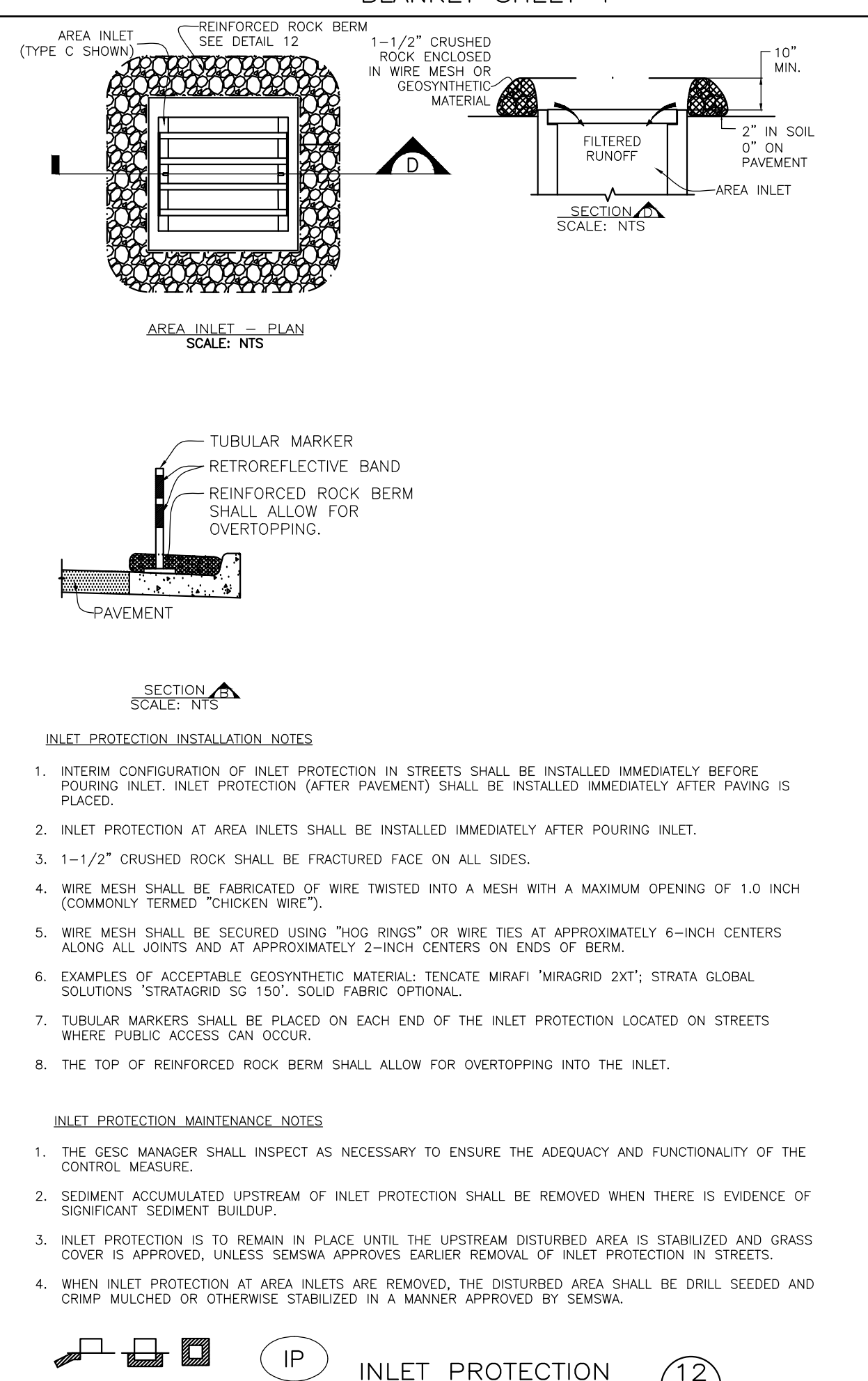
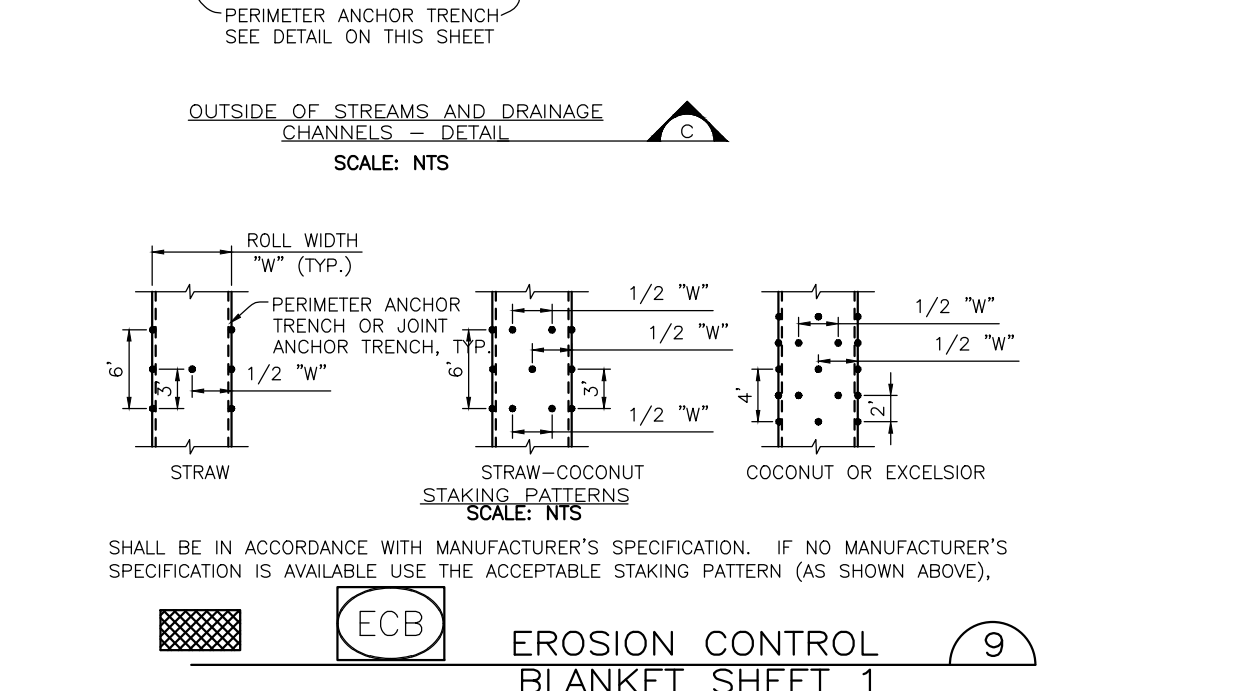
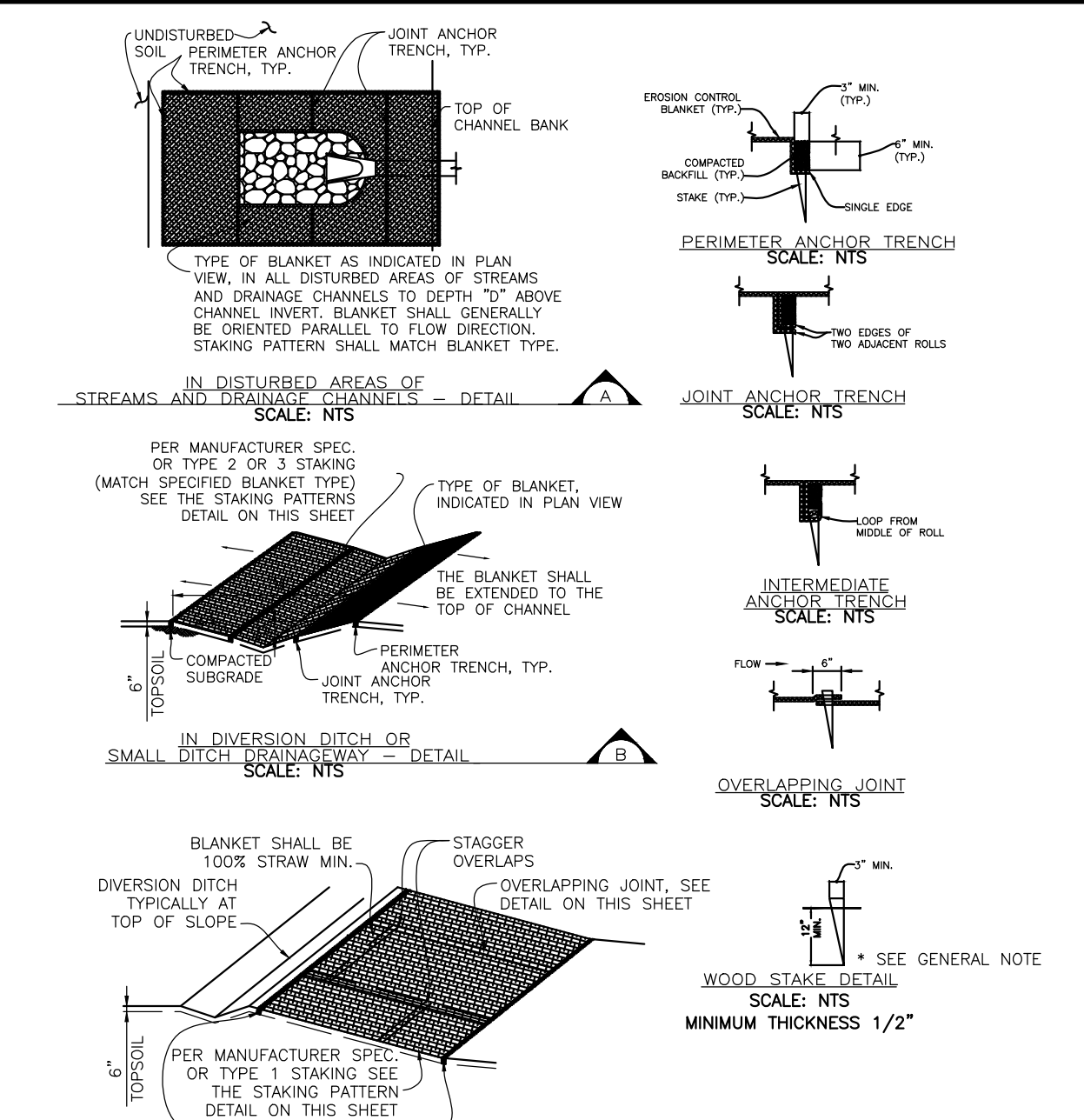
**GRADING EROSION AND SEDIMENT CONTROL STANDARD NOTES AND DETAILS**  
REVISED FEBRUARY 2023

**GESC SHEET 1 OF 4**



**UTILITY NOTIFICATION CENTER OF COLORADO**  
**CALL BEFORE YOU DIG**  
**811**  
 Call 2 days prior to any digging, grading or excavating for the marking of underground member utilities

**SOUTHEAST METRO STORMWATER AUTHORITY**  
 7437 SOUTH FAIRPLAY STREET  
 CENTENNIAL COLORADO  
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**INLET PROTECTION SHEET 1**

**INLET PROTECTION SHEET 2**

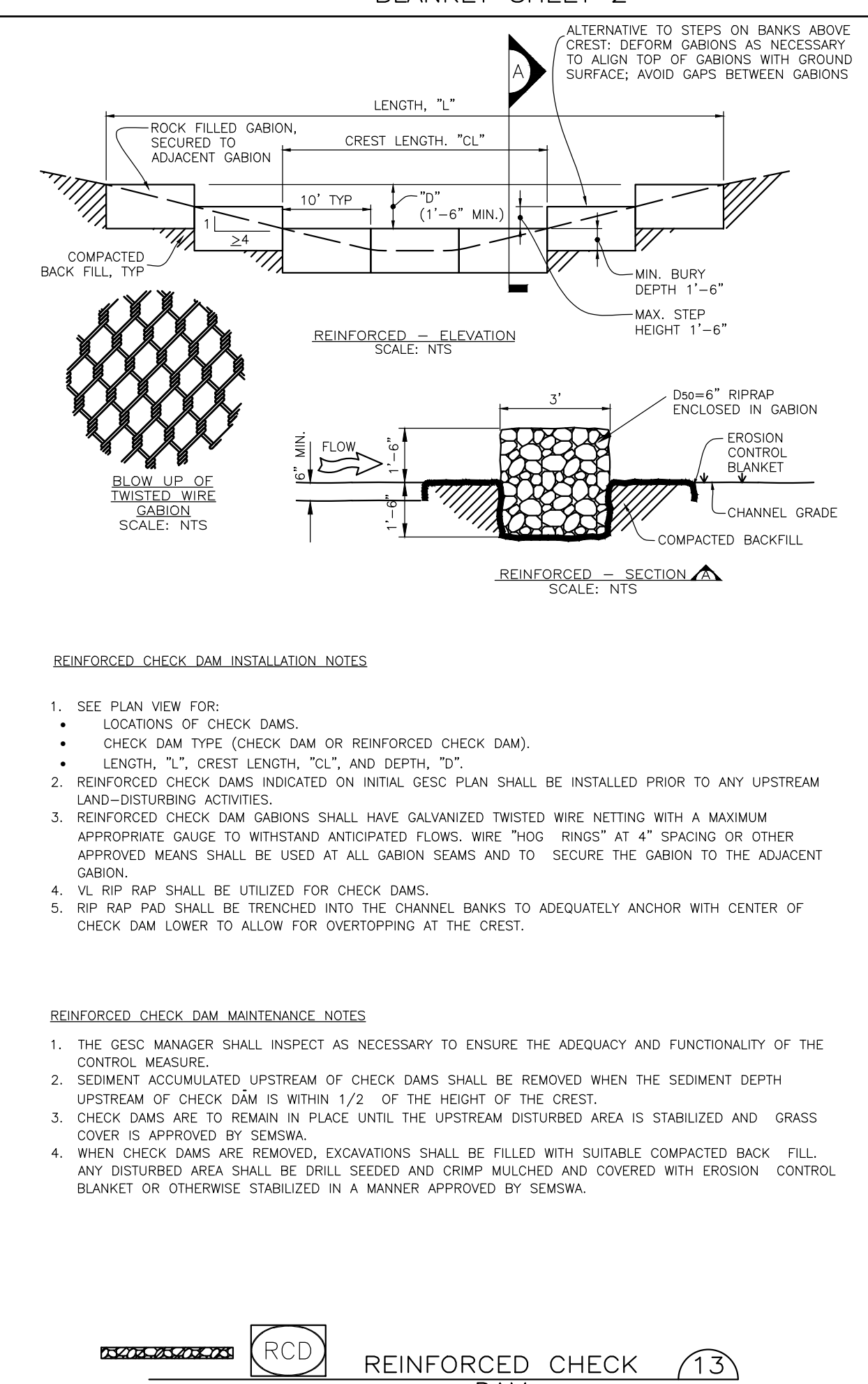
- EROSION CONTROL BLANKET INSTALLATION NOTES**
- SEE PLAN VIEW FOR:
    - LOCATION OF PERMETER OF EROSION CONTROL BLANKET.
    - TYPE OF BLANKET (STRAW, STRAW-COCOONUT, COCONUT, OR EXCELSIOR).
    - AREA "A" IN SQUARE YARDS OF EACH TYPE OF BLANKET.
  - ALL EROSION CONTROL BLANKETS, STAKES, AND NETTING SHALL BE MADE OF 100% NATURAL AND BIODEGRADABLE MATERIAL; NO PLASTIC OR OTHER SYNTHETIC MATERIAL, INCLUDING PHOTO-DEGRADABLE, SHALL BE ALLOWED.
  - IN AREAS WHERE EROSION CONTROL BLANKET IS SHOWN ON THE PLANS, THE PERMITTEE SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING BELOW THE BLANKET IN ACCORDANCE WITH THE REQUIREMENTS OF DETAIL 19. SEEDING AND MULCHING, SUBGRADE SHALL BE SMOOTH AND MOST PRIORITY TO BLANKET INSTALLATION AND THE BLANKET SHALL BE IN FULL CONTACT WITH SUBGRADE. NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.
  - PERMETER ANCHOR TRENCH SHALL BE USED AT OUTSIDE PERMETER OF ALL BLANKET AREAS. FOLLOW ALL MANUFACTURERS INSTALLATION SPECIFICATIONS.
  - INTERMEDIATE ANCHOR TRENCH SHALL BE USED AT SPACING OF ONE-HALF THE ROLL LENGTH FOR COCONUT AND EXCELSIOR BLANKETS.
  - MATERIAL SPECIFICATIONS OF EROSION CONTROL BLANKET SHALL CONFORM TO TABLE 7.1.
  - ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING EROSION CONTROL BLANKET SHALL BE RESEDED AND MULCHED IN ACCORDANCE WITH DETAIL 19.
  - SEE DRAINAGE DESIGN PLANS FOR MAJOR DRAINAGEWAY STABILIZATION MEASURES THAT MAY EXCEED THE DESIGN CONDITIONS ASSOCIATED WITH THE DETAILS ABOVE.

**TABLE 7.1 - EROSION CONTROL BLANKET TYPE**

TYPE	COCONUT CONTENT	STRAW CONTENT	EXCELSIOR CONTENT	NETTING MIN.
STRAW*	—	100%	—	DOUBLE/NATURAL
STRAW-COCOONUT	30% MIN.	70% MAX.	—	DOUBLE/NATURAL
COCONUT	100%	—	—	DOUBLE/NATURAL
EXCELSIOR	—	—	100%	DOUBLE/NATURAL

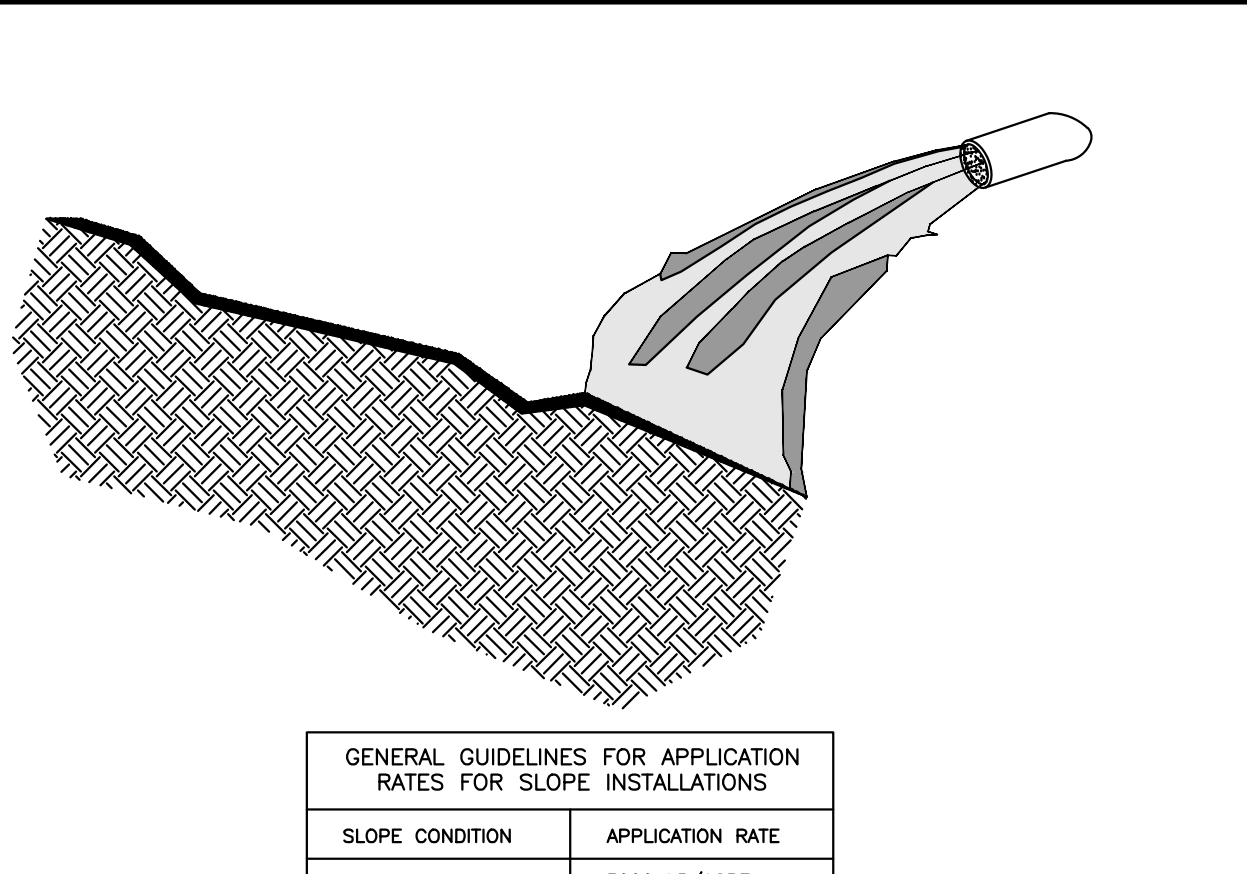
\* FOR OUTSIDE OF STREAMS AND DRAINAGE CHANNELS

- EROSION CONTROL BLANKET MAINTENANCE NOTES**
- THE GESC MANAGER SHALL INSPECT AS NECESSARY TO ENSURE THE ADEQUACY AND FUNCTIONALITY OF THE CONTROL MEASURE.
  - EROSION CONTROL BLANKET IS TO BE LEFT IN PLACE UNLESS REQUESTED TO BE REMOVED BY SEMSWA.
  - ANY EROSION CONTROL BLANKET PULLED OUT, TORN, OR OTHERWISE DAMAGED SHALL BE RE-INSTALLED. ANY SUBGRADE AREAS BELOW THE BLANKET THAT HAVE ERODED TO CREATE A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, RESEDED AND MULCHED AND THE EROSION CONTROL BLANKET REINSTALLED.
  - REMOVAL OF 2X4 WEDGE STAKES MAY BE REQUIRED PRIOR TO FINAL CLOSE OUT OF THE GESC PERMIT.
- GENERAL NOTE:**  
 ECO-STAKES MAY BE USED IN AREAS ABOVE ORDINARY HIGH WATER MARK.

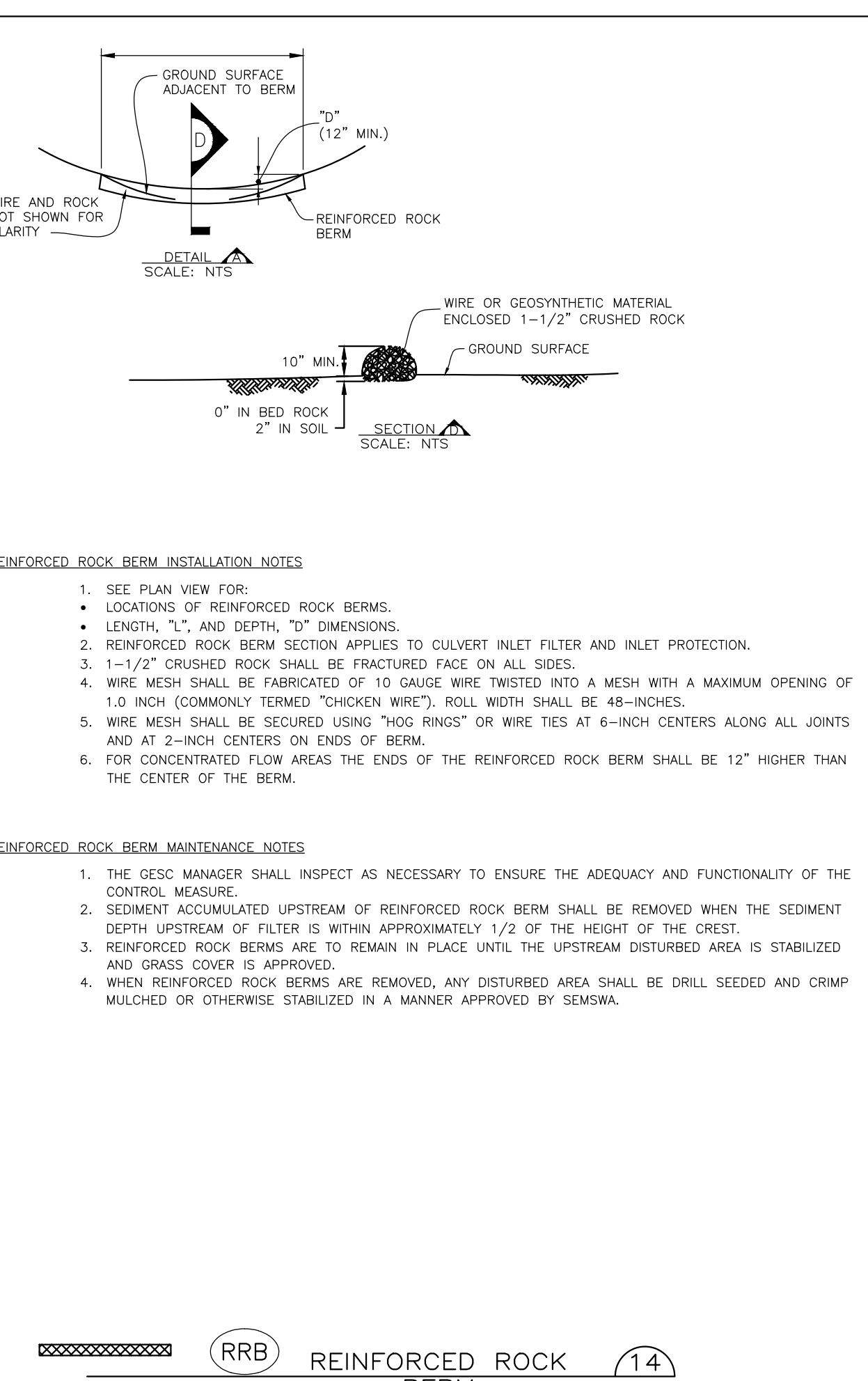


**REINFORCED CHECK DAM SHEET 1**

**REINFORCED CHECK DAM SHEET 2**

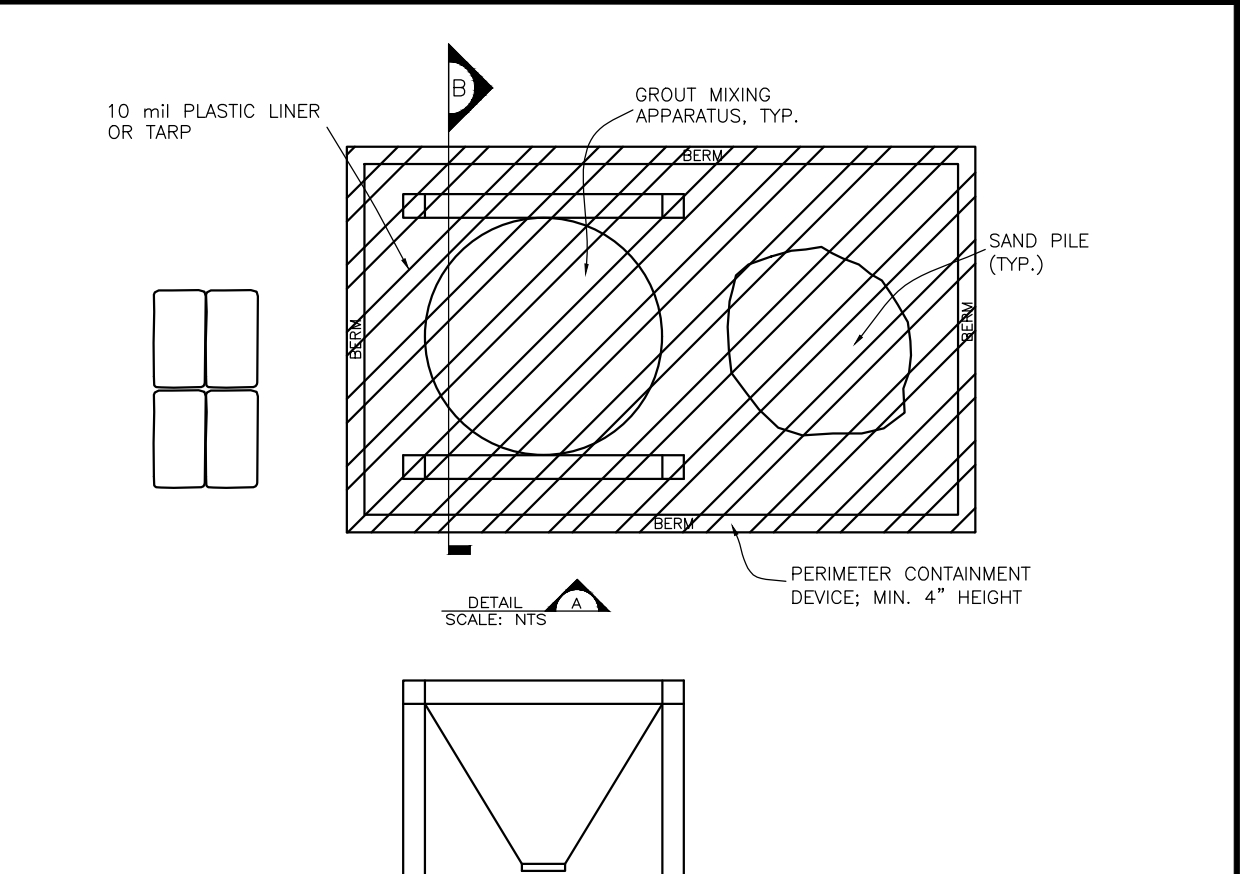


- FLEXIBLE GROWTH MEDIUM INSTALLATION NOTES:**
- IN AREAS WHERE THE FLEXIBLE GROWTH MEDIUM IS SHOWN ON THE PLANS, THE PERMITTEE(S) SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING BELOW THE BLANKET IN ACCORDANCE WITH THE GESC PLAN STANDARD NOTES AND DETAILS, SEEDING AND MULCHING. APPLY THE FLEXIBLE GROWTH MEDIUM TO GEOTECHNICALLY STABLE SLOPES THAT HAVE BEEN DESIGNED AND CONSTRUCTED TO DIVERT RUNOFF AWAY FROM THE FACE OF THE SLOPE. DO NOT PROCEED WITH INSTALLATION UNTIL SATISFACTORY CONDITIONS ARE ESTABLISHED.
  - HYDROSEEDING IS NOT ALLOWED. PLEASE FOLLOW SEED AND MULCH DETAIL (DETAIL 19).
  - MIX AND APPLY PER MANUFACTURERS DETAILS. FRESHLY SEEDED SURFACES AND DO NOT LEAVE SEEDED SURFACES UNPROTECTED; CONFIRM LOADING RATES WITH EQUIPMENT MANUFACTURER.
  - APPLY FGM FROM OPPOSING DIRECTIONS TO ASSURE 100% SOIL SURFACE COVERAGE. SLOPE DEVICES OR WATER DIVERSION TECHNIQUES ARE RECOMMENDED WHEN SLOPE LENGTHS EXCEED 75 FT.
  - ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING FGM SHALL BE RESEDED AND MULCHED IN ACCORDANCE WITH DETAIL 19.
- NOTE:**  
 THE FLEXIBLE GROWTH MEDIUM SHOULD NOT BE APPLIED IN CHANNELS, SWALES OR OTHER AREAS WHERE CONCENTRATED FLOWS ARE ANTICIPATED, UNLESS INSTALLED IN CONJUNCTION WITH A TEMPORARY EROSION CONTROL BLANKET.

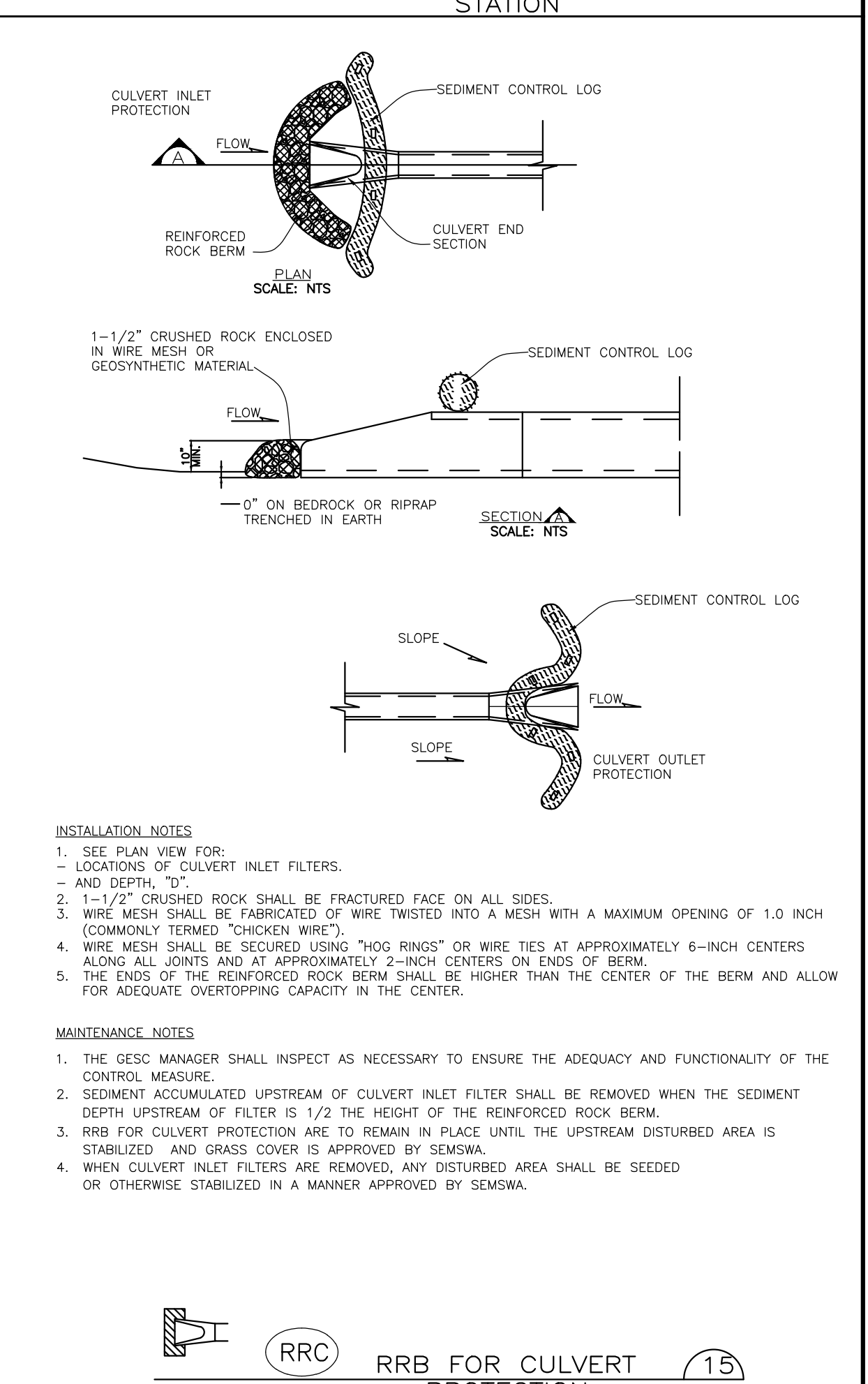


**REINFORCED ROCK BERM SHEET 1**

**REINFORCED ROCK BERM SHEET 2**



- GROUT MIXING STATION INSTALLATION NOTES:**
- LOCATION TO BE DETERMINED IN THE FIELD AND SHALL BE SITUATED A MINIMUM OF 50' FROM STORM DRAIN INLETS, OPEN DRAINAGE FACILITIES AND WATER COURSES.
  - AREA TO BE LARGE ENOUGH TO PROVIDE ADEQUATE CONTAINMENT OFF ALL MIXING OPERATIONS.
  - MIXING AREA TO HAVE PERMETER CONTAINMENT, A MINIMUM OF 4" IN HEIGHT. CONTAINMENT DEVICE CAN BE CONSTRUCTED OF AN EARTHEN BERM, CONCRETE BLOCKS, WOOD FRAME SECURELY FASTENED AROUND PERMETER AREA OR OTHER APPROVED METHOD. MUST BE SIZED TO ADEQUATELY CONTAIN MIXING OPERATION.
  - EXCAVATED MATERIAL MAY BE USED IN PERMETER BERM CONSTRUCTION.
  - MINIMUM 10 MIL PLASTIC LINER OR TARP SHALL COVER THE ENTIRE MIXING AREA SECURELY FASTENED TO THE RAISED CONTAINMENT DEVICE.
- GROUT MIXING STATION MAINTENANCE NOTES:**
- THE GESC MANAGER SHALL INSPECT AS NECESSARY TO ENSURE THE ADEQUACY AND FUNCTIONALITY OF THE CONTROL MEASURE.
  - ALL GROUT / MORTAR WASHOUT SHALL BE IN AN APPROVED CONCRETE WASHOUT AREA (CWA).
  - ALL MATERIALS SHALL BE STORED AND COVERED ON PALLETS ADJACENT TO THE MIXING AREA.
  - LINER AND ALL GROUT / MORTAR WASTE RESIDUE SHALL BE PROPERLY DISPOSED OF AT THE END OF THE MIXING OPERATION.



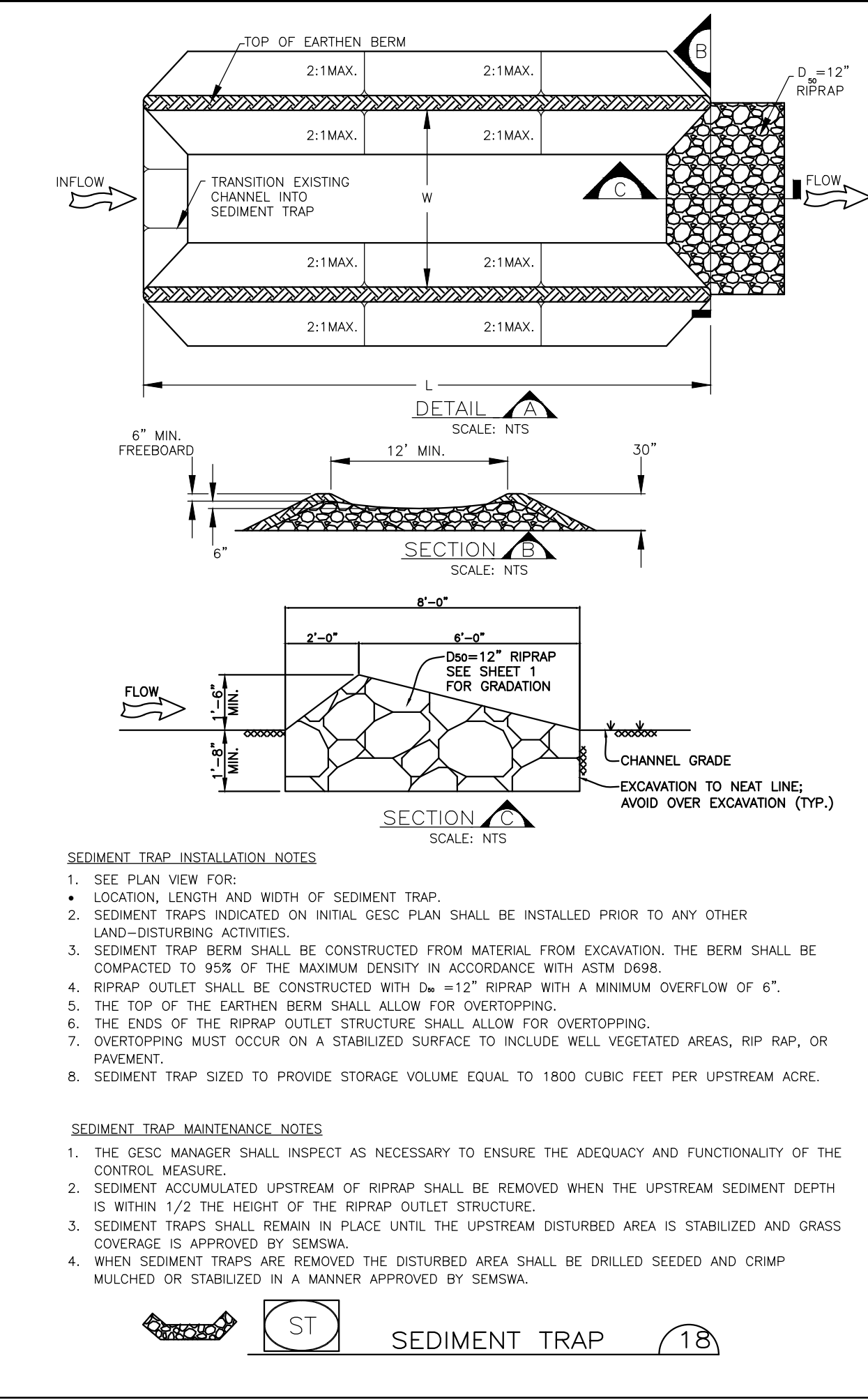
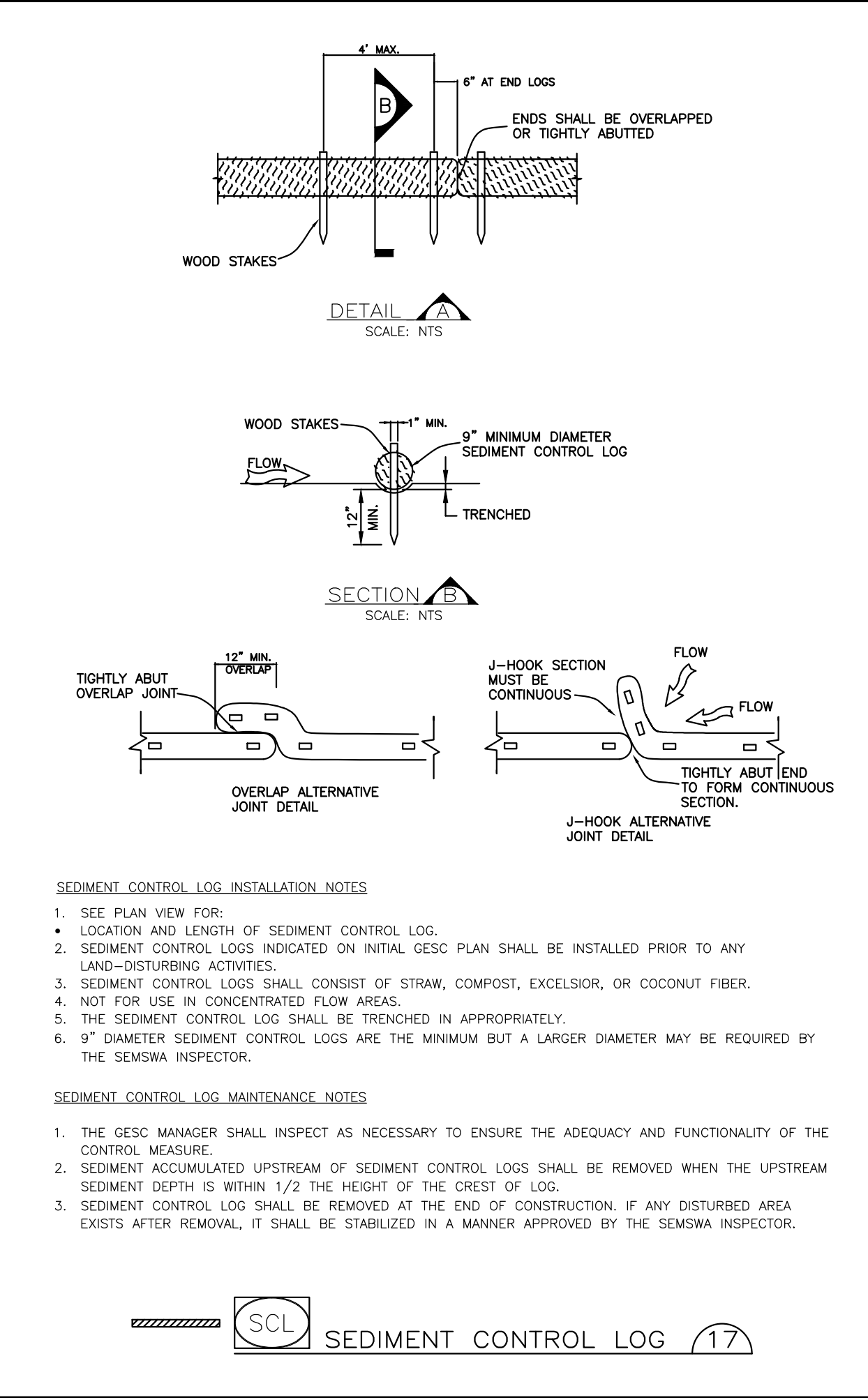
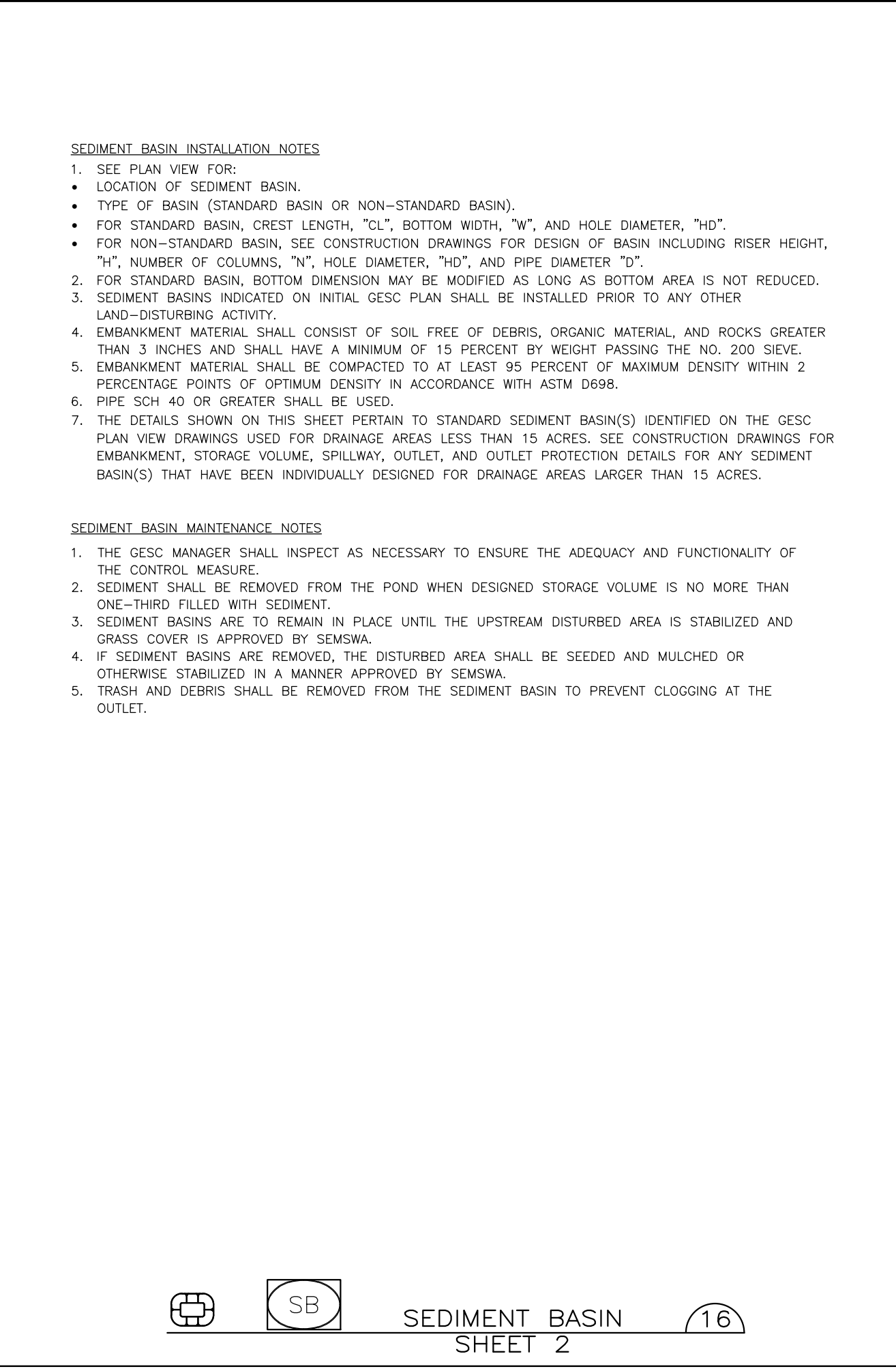
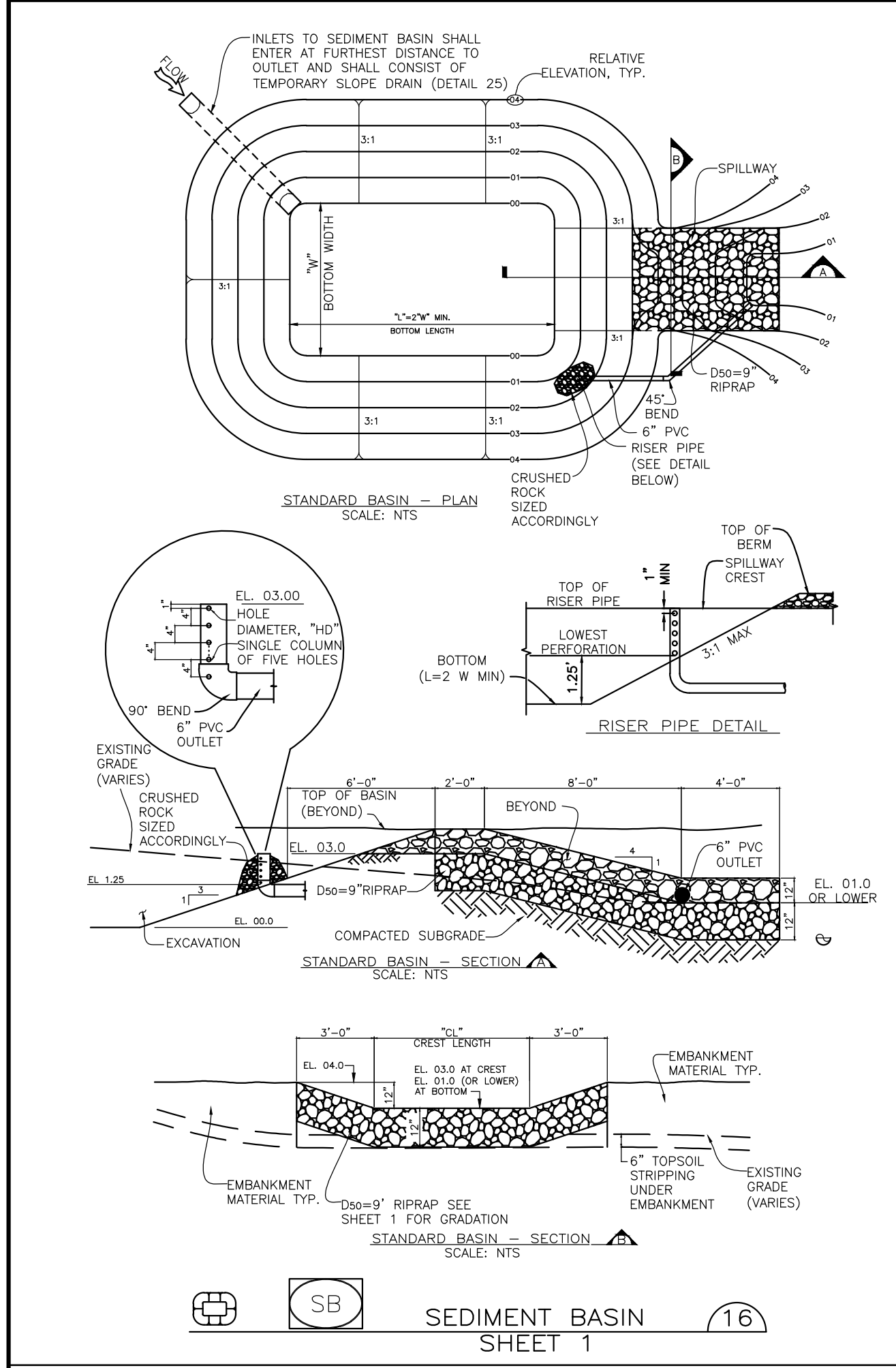
**GROUT MIXING STATION SHEET 1**

**GROUT MIXING STATION SHEET 2**

**GRADING EROSION AND SEDIMENT CONTROL**  
**STANDARD NOTES AND DETAILS**  
**REVISED FEBRUARY 2023**

**GESC SHEET 2 OF 4**





**SEEDING AND MULCHING INSTALLATION NOTES**

- SEE PLAN VIEW FOR:
  - AREA OF SEEDING AND MULCHING.
  - TYPE OF SEED MIX.
- ALL BRANDS FURNISHED SHALL BE FREE FROM SUCH NOXIOUS SEEDS AS RUSSIAN OR CANADIAN THISTLE, COARSE FESCUE, EUROPEAN BROMEGRASS, KNAW WEED AND LEAFY SPURGE.
- THE SEEDER SHALL FURNISH TO THE CONTRACTOR A SIGNED STATEMENT CERTIFYING THAT THE SEED FURNISHED IS FROM A LOT THAT HAS BEEN TESTED BY A RECOGNIZED LABORATORY. SEED WHICH HAS BECOME WET, MOLDY, OR OTHERWISE DAMAGED IN TRANSIT OR IN STORAGE WILL NOT BE ACCEPTABLE. SEED TICKETS SHALL BE PROVIDED TO SEEMSA UPON REQUEST.
- DRILL SEEDING SHALL CONFORM TO THE TABLE BELOW. UNLESS OTHERWISE APPROVED BY SEMSWA. IF THE SEED AVAILABLE ON THE MARKET DOES NOT MEET THE MINIMUM PURITY AND GERMINATION PERCENTAGES SPECIFIED, THE CONTRACTOR MUST COMPENSATE FOR A LESSER PERCENTAGE OF PURITY OR GERMINATION BY FURNISHING SUFFICIENT ADDITIONAL SEED TO EQUAL THE SPECIFIED PRODUCT. THE TAGS FROM THE SEED MIXES MUST BE SUPPLIED TO CONTRACTOR AND FORWARDED TO THE SEMSWA GESC INSPECTOR.
- THE FORMULA USED FOR DETERMINING THE QUANTITY OF PURE LIVE SEED (PLS) SHALL BE (POUNDS OF SEED) X (PURITY) X (GERMINATION) = POUNDS OF PURE LIVE SEED (PLS).
- PERMANENT SEED MIX SHALL BE USED UNLESS OTHERWISE APPROVED BY SEMSWA.
- ALL AREAS TO BE SEEDED AND MULCHED SHALL HAVE NATIVE TOPSOIL OR APPROVED SOIL AMENDMENTS SPREAD TO A DEPTH OF AT LEAST 6 INCHES (LOOSE DEPTH). ALL DISTURBED AREAS SHALL BE LOOSENEED TO A DEPTH OF 6 INCHES PRIOR TO SPREADING TOPSOIL.
- SOIL IS TO BE THOROUGHLY LOOSENEED (TILED) TO A DEPTH OF AT LEAST 6 INCHES PRIOR TO SEEDING. THE TOP 6 INCHES OF THE SEED BED SHALL BE GENERALLY FREE OF ROCKS GREATER THAN 4 INCHES AND SOIL CLODS GREATER THAN 2 INCHES. SEEDING OVER ANY COMPACTED AREAS THAT HAVEN'T BEEN THOROUGHLY LOOSENEED SHALL BE REJECTED.
- SEED IS TO BE APPLIED USING A MECHANICAL DRILL TO A DEPTH OF 1/4 INCH. ROW SPACING SHALL BE NO MORE THAN 6 INCHES. MATERIAL USED FOR MULCH SHALL CONSIST OF LONG-STEMMED STRAW, AT LEAST 50 PERCENT OF THE MULCH, BY WEIGHT, SHALL BE AS LONG AS POSSIBLE IN LENGTH. MULCH SHALL BE APPLIED AND MECHANICALLY ANCHORED TO A DEPTH OF AT LEAST 3 INCHES. MULCH SHALL BE APPLIED AT A RATE OF 2000 LB. OF STRAW PER ACRE.
- IF THE PERMITTEE DEMONSTRATES TO SEMSWA THAT IT IS NOT POSSIBLE TO DRILL SEED, SEED IS TO BE UNIFORMLY BROADCAST AT TWO TIMES THE DRILLED RATE, THEN LIGHTLY HARROWED TO PROVIDE A SEED DEPTH OF APPROXIMATELY 1/4 INCH, THEN ROLLED TO COMPACT, THEN MULCHED AS SPECIFIED ABOVE.
- WHEN SEEDING AND MULCHING IS USED TO STABILIZED DISTURBED AREAS, ALL DISTURBED AREAS WHICH ARE EITHER FINAL GRADE OR WILL REMAIN INACTIVE FOR A PERIOD OF MORE THAN 30 DAYS SHALL BE REQUIRED TO BE STABILIZED WITHIN 14 DAYS OF THE COMPLETION OF THE GRADING ACTIVITIES. THIS MAY REQUIRE MULTIPLE MOBILIZATIONS FOR SEEDING AND MULCHING.
- MULCH SHALL BE APPLIED WITHIN 24-HOURS OF SEEDING.
- TACKIFIER SHALL BE UTILIZED TO HELP WITH STRAW DISPLACEMENT.

**SEEDING AND MULCHING MAINTENANCE NOTES**

- SEEDED AND MULCHED AREAS SHALL BE INSPECTED FOR REQUIRED COVERAGE UNTIL FINAL ACCEPTANCE IS ISSUED. REPAIRS AND RE-SEEDING AND MULCHING SHALL BE UNDERTAKEN AFTER THE FIRST GROWING SEASON FOR ANY AREAS FAILING TO MEET THE REQUIRED COVERAGE.
- REQUIRED COVERAGE FOR STANDARD, OPEN SPACE AND LOW GROWTH SEED MIXES SHALL BE DEFINED AS FOLLOWS:
  - 70% OF THE EXISTING/ PRE-CONSTRUCTION CONDITION.
  - FREE OF ERODED AREAS.
  - FREE FROM INFESTATION OF NOXIOUS WEEDS IN ACCORDANCE WITH THE GESC CRITERIA MANUAL.
- RILL AND GULLY EROSION SHALL BE FILLED WITH TOPSOIL PRIOR TO RESEEDING. THE RESEEDING METHOD SHALL BE APPROVED BY SEMSWA.

**TEMPORARY DRILL SEEDING MIX**

SPECIES	VARIETY	NOTES	% IN MIX	POUNDS OF PLS PER ACRE	
SMOOTH BROMEGRASS	LINCOLN	PICS	30	3.9	
INTERMEDIATE WHEATGRASS	GAHE	PICS	30	4.5	
PUBESCENT WHEATGRASS	LUNA	PICS	30	4.2	
ANNUAL RYEGRASS	N/A	AICB	10	0.8	
TOTAL				100	13.4

NOTES: P=PERENNIAL, A=ANNUAL, I=INTRODUCED, C=COOL SEASON, S=SOFT FLOWER, B=BUNCHGRASS

**PERMANENT DRILL SEEDING - WETLAND SEED MIX<sup>1</sup>**

SPECIES	SCIENTIFIC NAME	SEASON	% IN MIX	SEEDS/LB.	LBS PLS <sup>2</sup> /AC
SLOUGH GRASS	BECKMANNIA SYZYGACHNE	COOL	20	1,150,000	0.5
CANADIAN REED CANADENSIS	CALAMAGROSTIS CANADENSIS	COOL	20	2,270,000	0.2
TUFTED HAIR GRASS	DESCHAMPSIA CESPITOSA	COOL	10	2,500,000	0.1
COMMON SPIKE RUSH	ELEOCHARIS PALUSTRIS	COOL	15	820,000	0.6
BALTIC RUSH	JUNCUS BALTICUS	COOL	15	10,900,000	0.4
KNOTTED RUSH	JUNCUS NODOSUS	COOL	10	12,300,000	0.1
TORREY'S RUSH	JUNCUS TORREYI	COOL	10	12,300,000	0.1
TOTAL					2 LBS PLS <sup>2</sup> /AC

<sup>1</sup> TO BE INSTALLED AT APPROXIMATELY 0" TO 6" ABOVE WATER LINE.  
<sup>2</sup> PLS = PURE LIVE SEED PER POUND BASED 60 SEEDS PER SQUARE FOOT. IF BROADCAST SEEDING, DOUBLE THE RATE APPLIED.

**PERMANENT DRILL SEEDING<sup>1</sup> - TRANSITION SEED MIX - WITH FORBS**

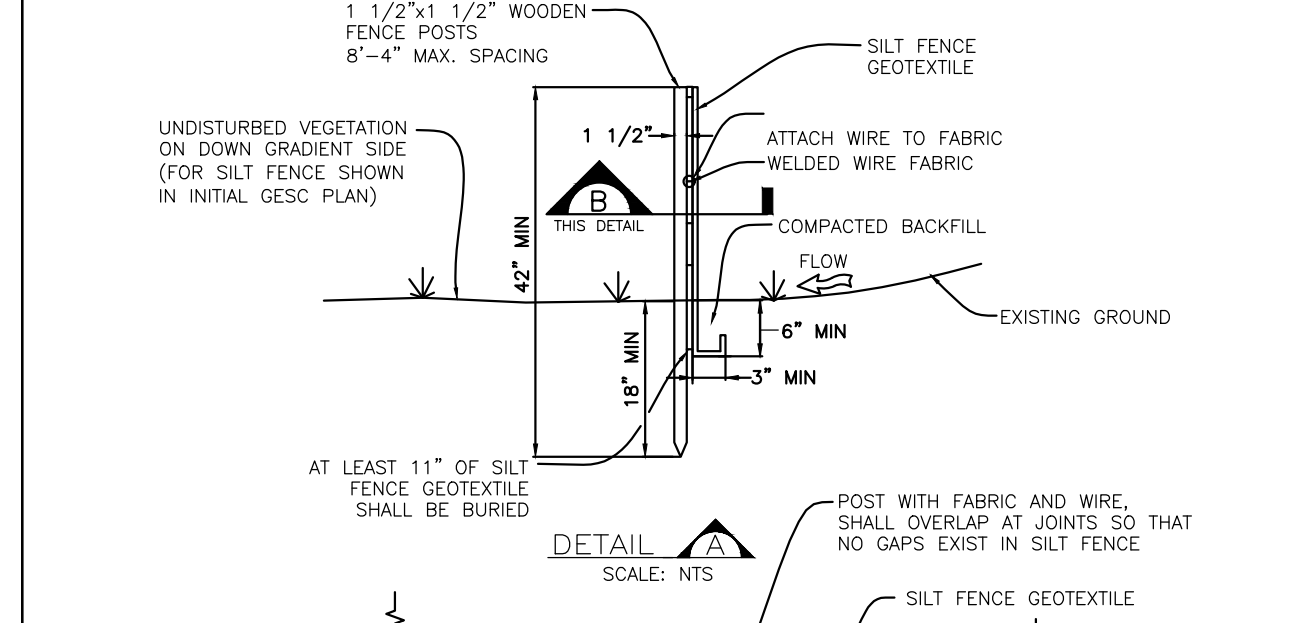
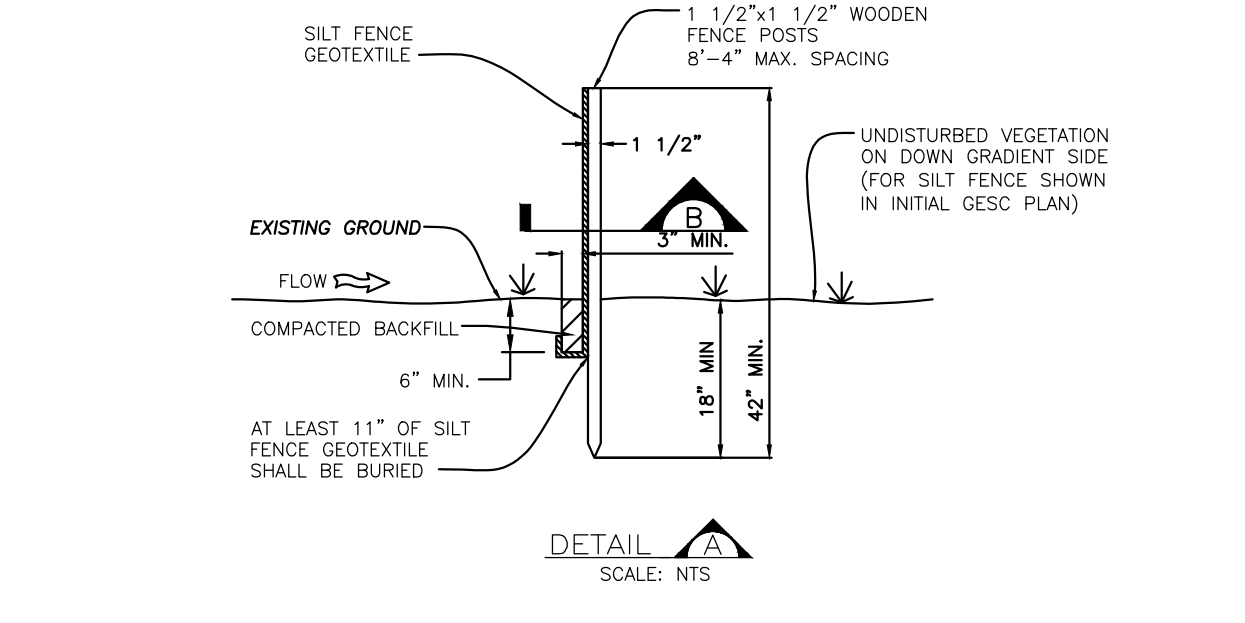
SPECIES	SCIENTIFIC NAME	SEASON	% IN MIX	SEEDS/LB.	LBS PLS <sup>2</sup> /AC
<b>NATIVE WILDFLOWERS</b>					
INDIAN BLANKET FLOWER	GALLARDA ARISTATA	SUMMER-FALL	1	132,000	0.2
ROCKY MOUNTAIN IRIS	IRIS MISSOURIENSIS	SPRING-SUMMER	2	368,000	0.1
EVENING PRIMROSE	DEINITERA ELATA	SUMMER	2	1,300,000	0.1
GOLDEN BANNER	THERMOPSIS MONTANA	SPRING	2	15,000	3.5
MEXICAN HAT	RATIBIDA COLUMBIFERA	SUMMER-FALL	1	1,230,000	0.1
SAND DROPSOED	SPOROBOLUS AIROIDES	WARM	15	1,758,000	0.2
TOTAL					14.4 LBS PLS <sup>2</sup> /AC

<sup>1</sup> TO BE INSTALLED AT APPROXIMATELY 6" TO 24" ABOVE WATER LINE.  
<sup>2</sup> PLS = PURE LIVE SEED PER POUND BASED 60 SEEDS PER SQUARE FOOT. IF BROADCAST SEEDING, DOUBLE THE RATE APPLIED.

**UPLAND SEED MIX - WITH FORBS<sup>1</sup>**

SPECIES	SCIENTIFIC NAME	SEASON	% IN MIX	SEEDS/LB.	LBS PLS <sup>2</sup> /AC
<b>NATIVE GRASSES</b>					
BIG BLUESTEM	ANDROPOGON GERARDI	WARM	8	130,000	1.6
SIDEOTS GRAMA	BOUTELOUA CURTIPENDULA	WARM	8	191,000	1.1
BLUE GRAMA	BOUTELOUA GRACILIS	WARM	8	825,000	0.3
CANADA WILDRYE	ELYMUS CANADENSIS	COOL	8	115,000	1.8
THICKSPIKE WHEATGRASS	ELYMUS LANCEOLATUS SPP. LANCEOLATUS	COOL	5	154,000	0.8
STREAMBANK WHEATGRASS	ELYMUS LANCEOLATUS SPP. PSAMMOPHILLUS	COOL	5	156,000	0.8
SLENDER WHEAT GRASS	ELYMUS TRACHYCAULUS	WARM	10	159,000	1.6
NEEDLE AND THREAD	HESPEROSTIPA COMATA	COOL	8	115,000	1.8
WESTERN WHEATGRASS	PASCOPYRUM SMITHII	COOL	10	110,000	2.4
INDIAN GRASS	SORGHASTRUM NUTANS	WARM	10	170,000	1.5
SAND DROPSOED	SPOROBOLUS CRYPTANDRUS	WARM	10	5,298,000	0.1
TOTAL					15 LBS PLS <sup>2</sup> /AC
<b>NATIVE WILDFLOWERS</b>					
BLACK-EYED SUSAN	RUDBECKIA HIRTA	SUMMER-FALL	1	1,710,000	0.1
SULFUR FLOWER	ERIODONUM UNBELLIUM	FALL	2	209,000	0.3
PRAIRIE ASTER	MACHERAANTHERA TANAETIFLOEA	SUMMER	1	408,000	0.1
PURPLE PRAIRIE CLOVER	DALEA PURPUREUM	SUMMER	1	210,000	0.1
WESTERN YARROW	ACHILLEA MILLEFOLIUM VAR. OCCIDENTALIS	SUMMER-FALL	2	2,770,000	0.1
PLAINS COREOPSIS	COREOPSIS TINCTORIA	SUMMER-FALL	1	1,400,000	0.1
INDIAN BLANKET FLOWER	GALLARDA ARISTATA	SUMMER-FALL	1	132,000	0.2
PURPLE CONEFLOWER	ECHINACEA PURPUREA	SUMMER	1	117,000	0.2
TOTAL					15 LBS PLS <sup>2</sup> /AC

<sup>1</sup> TO BE INSTALLED AT APPROXIMATELY 24" ABOVE WATER LINE.  
<sup>2</sup> PLS = PURE LIVE SEED PER POUND BASED 60 SEEDS PER SQUARE FOOT. IF BROADCAST SEEDING, DOUBLE THE RATE APPLIED.



**PERMANENT DRILL SEEDING<sup>1</sup> - TRANSITION SEED MIX - WITHOUT FORBS**

SPECIES	SCIENTIFIC NAME	SEASON	% IN MIX	SEEDS/LB.	LBS PLS <sup>2</sup> /AC
CANADA WILDRYE	ELYMUS CANADENSIS	COOL	15	115,000	3.4
STREAMBANK WHEATGRASS	ELYMUS LANCEOLATUS SPP. PSAMMOPHILLUS	COOL	15	156,000	2.5
SLENDER WHEAT GRASS	ELYMUS TRACHYCAULUS	WARM	10	159,000	1.6
BALTIC RUSH	JUNCUS BALTICUS	COOL	15	10,900,000	0.1
SWITCHGRASS	PANICUM VIRGATUM	WARM	15	389,000	1.0
WESTERN WHEATGRASS	PASCOPYRUM SMITHII	COOL	15	110,000	3.6
SAND DROPSOED	SPOROBOLUS AIROIDES	WARM	15	1,758,000	0.2
TOTAL					12.4 LBS PLS <sup>2</sup> /AC

<sup>1</sup> TO BE INSTALLED AT APPROXIMATELY 6" TO 24" ABOVE WATER LINE.  
<sup>2</sup> PLS = PURE LIVE SEED PER POUND BASED 60 SEEDS PER SQUARE FOOT. IF BROADCAST SEEDING, DOUBLE THE RATE APPLIED.

**PERMANENT DRILL SEEDING<sup>1</sup> - TRANSITION SEED MIX - WITH FORBS**

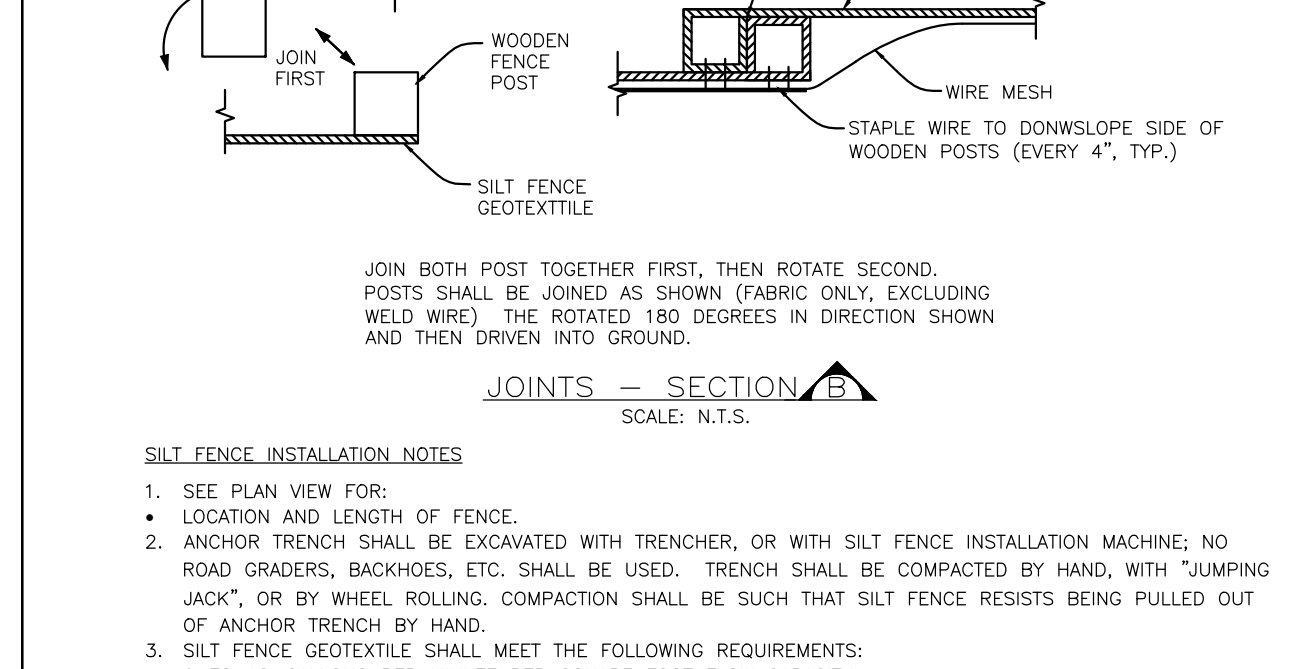
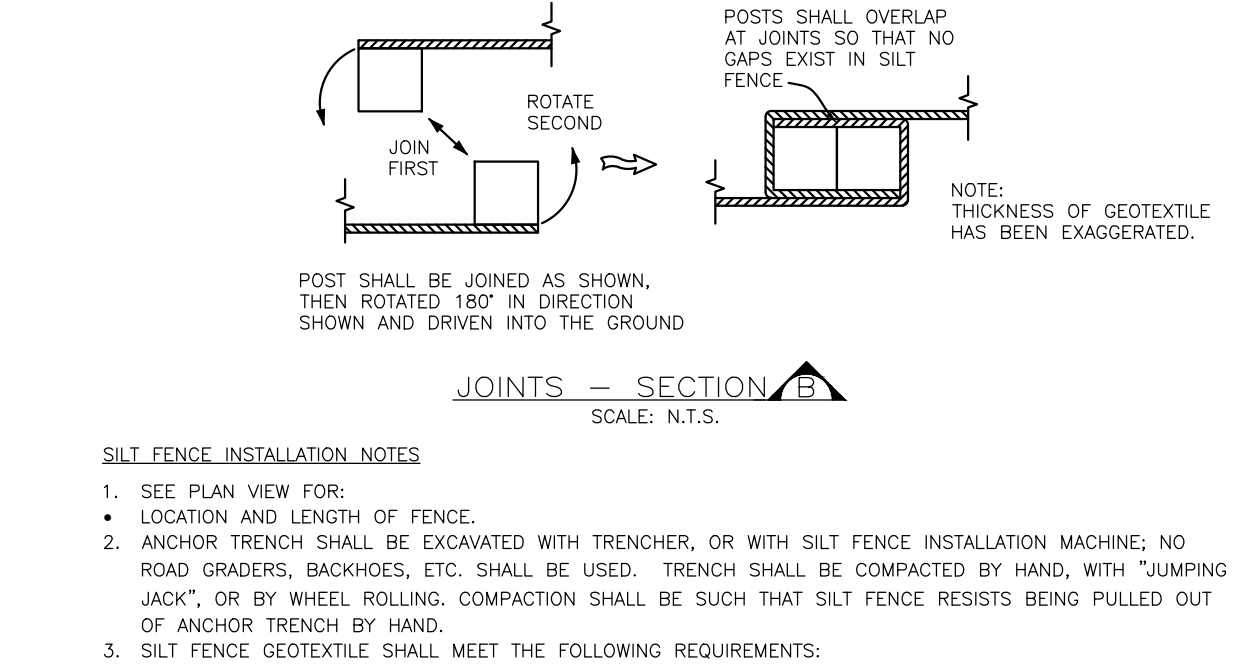
SPECIES	SCIENTIFIC NAME	SEASON	% IN MIX	SEEDS/LB.	LBS PLS <sup>2</sup> /AC
<b>NATIVE GRASSES</b>					
BIG BLUESTEM	ANDROPOGON GERARDI	WARM	10	130,000	2.0
SIDEOTS GRAMA	BOUTELOUA CURTIPENDULA	WARM	10	191,000	1.4
BLUE GRAMA	BOUTELOUA GRACILIS	WARM	10	825,000	0.3
CANADA WILDRYE	ELYMUS CANADENSIS	COOL	10	115,000	2.3
THICKSPIKE WHEATGRASS	ELYMUS LANCEOLATUS SPP. LANCEOLATUS	COOL	5	154,000	0.8
STREAMBANK WHEATGRASS	ELYMUS LANCEOLATUS SPP. PSAMMOPHILLUS	COOL	5	156,000	0.8
SLENDER WHEAT GRASS	ELYMUS TRACHYCAULUS	WARM	10	159,000	1.6
NEEDLE AND THREAD	HESPEROSTIPA COMATA	COOL	10	115,000	2.3
WESTERN WHEATGRASS	PASCOPYRUM SMITHII	COOL	10	110,000	2.4
INDIAN GRASS	SORGHASTRUM NUTANS	WARM	10	170,000	1.5
SAND DROPSOED	SPOROBOLUS CRYPTANDRUS	WARM	10	5,298,000	0.1
TOTAL					15.5 LBS PLS <sup>2</sup> /AC

<sup>1</sup> TO BE INSTALLED AT APPROXIMATELY 24" ABOVE WATER LINE.  
<sup>2</sup> PLS = PURE LIVE SEED PER POUND BASED 60 SEEDS PER SQUARE FOOT. IF BROADCAST SEEDING, DOUBLE THE RATE APPLIED.

**PERMANENT DRILL SEEDING<sup>1</sup> - TRANSITION SEED MIX - WITH FORBS**

SPECIES	SCIENTIFIC NAME	SEASON	% IN MIX	SEEDS/LB.	LBS PLS <sup>2</sup> /AC
<b>NATIVE GRASSES</b>					
BLACK-EYED SUSAN	RUDBECKIA HIRTA	SUMMER-FALL	1	1,710,000	0.1
SULFUR FLOWER	ERIODONUM UNBELLIUM	FALL	2	209,000	0.3
PRAIRIE ASTER	MACHERAANTHERA TANAETIFLOEA	SUMMER	1	408,000	0.1
PURPLE PRAIRIE CLOVER	DALEA PURPUREUM	SUMMER	1	210,000	0.1
WESTERN YARROW	ACHILLEA MILLEFOLIUM VAR. OCCIDENTALIS	SUMMER-FALL	2	2,770,000	0.1
PLAINS COREOPSIS	COREOPSIS TINCTORIA	SUMMER-FALL	1	1,400,000	0.1
INDIAN BLANKET FLOWER	GALLARDA ARISTATA	SUMMER-FALL	1	132,000	0.2
PURPLE CONEFLOWER	ECHINACEA PURPUREA	SUMMER	1	117,000	0.2
TOTAL					15 LBS PLS <sup>2</sup> /AC
<b>NATIVE WILDFLOWERS</b>					
BLACK-EYED SUSAN	RUDBECKIA HIRTA	SUMMER-FALL	1	1,710,000	0.1
SULFUR FLOWER	ERIODONUM UNBELLIUM	FALL	2	209,000	0.3
PRAIRIE ASTER	MACHERAANTHERA TANAETIFLOEA	SUMMER	1	408,000	0.1
PURPLE PRAIRIE CLOVER	DALEA PURPUREUM	SUMMER	1	210,000	0.1
WESTERN YARROW	ACHILLEA MILLEFOLIUM VAR. OCCIDENTALIS	SUMMER-FALL	2	2,770,000	0.1
PLAINS COREOPSIS	COREOPSIS TINCTORIA	SUMMER-FALL	1	1,400,000	0.1
INDIAN BLANKET FLOWER	GALLARDA ARISTATA	SUMMER-FALL	1	132,000	0.2
PURPLE CONEFLOWER	ECHINACEA PURPUREA	SUMMER	1	117,000	0.2
TOTAL					15 LBS PLS <sup>2</sup> /AC

<sup>1</sup> TO BE INSTALLED AT APPROXIMATELY 24" ABOVE WATER LINE.  
<sup>2</sup> PLS = PURE LIVE SEED PER POUND BASED 60 SEEDS PER SQUARE FOOT. IF BROADCAST SEEDING, DOUBLE THE RATE APPLIED.



**PERMANENT DRILL SEEDING<sup>1</sup> - TRANSITION SEED MIX - WITH FORBS**

SPECIES	SCIENTIFIC NAME	SEASON	% IN MIX	SEEDS/LB.	LBS PLS <sup>2</sup> /AC
<b>NATIVE GRASSES</b>					
CANADA WILDRYE	ELYMUS CANADENSIS	COOL	15	115,000	3.4
STREAMBANK WHEATGRASS	ELYMUS LANCEOLATUS SPP. PSAMMOPHILLUS	COOL	15	156,000	2.5
SLENDER WHEAT GRASS	ELYMUS TRACHYCAULUS	WARM	10	159,000	1.6
BALTIC RUSH	JUNCUS BALTICUS	COOL	15	10,900,000	0.1
SWITCHGRASS	PANICUM VIRGATUM	WARM	15	389,000	1.0
WESTERN WHEATGRASS	PASCOPYRUM SMITHII	COOL	15	110,000	3.6
SAND DROPSOED	SPOROBOLUS AIROIDES	WARM	15	1,758,000	0.2

<sup>1</sup> TO BE INSTALLED AT APPROXIMATELY 6" TO 24" ABOVE WATER LINE.  
<sup>2</sup> PLS = PURE LIVE SEED PER POUND BASED 60 SEEDS PER SQUARE FOOT. IF BROADCAST SEEDING, DOUBLE THE RATE APPLIED.

**PERMANENT DRILL SEEDING<sup>1</sup> - TRANSITION SEED MIX - WITH FORBS**

SPECIES	SCIENTIFIC NAME	SEASON	% IN MIX	SEEDS/LB.	LBS PLS <sup>2</sup> /AC
<b>NATIVE GRASSES</b>					
BIG BLUESTEM	ANDROPOGON GERARDI	WARM	10	130,000	2.0
SIDEOTS GRAMA	BOUTELOUA CURTIPENDULA	WARM	10	191,000	1.4
BLUE GRAMA	BOUTELOUA GRACILIS	WARM	10	825,000	0.3
CANADA WILDRYE	ELYMUS CANADENSIS	COOL	10	115,000	2.3
THICKSPIKE WHEATGRASS	ELYMUS LANCEOLATUS SPP. LANCEOLATUS	COOL	5	154,000	0.8
STREAMBANK WHEATGRASS	ELYMUS LANCEOLATUS SPP. PSAMMOPHILLUS	COOL	5	156,000	0.8
SLENDER WHEAT GRASS	ELYMUS TRACHYCAULUS	WARM	10	159,000	1.6
NEEDLE AND THREAD	HESPEROSTIPA COMATA	COOL	10	115,000	2.3
WESTERN WHEATGRASS	PASCOPYRUM SMITHII	COOL	10	110,000	2.4
INDIAN GRASS	SORGHASTRUM NUTANS	WARM	10	170,000	1.5
SAND DROPSOED	SPOROBOLUS CRYPTANDRUS	WARM	10	5,298,000	0.1
TOTAL					15.5 LBS PLS <sup>2</sup> /AC

<sup>1</sup> TO BE INSTALLED AT APPROXIMATELY 24" ABOVE WATER LINE.  
<sup>2</sup> PLS = PURE LIVE SEED PER POUND BASED 60 SEEDS PER SQUARE FOOT. IF BROADCAST SEEDING, DOUBLE THE RATE APPLIED.

**COMMON OR TRADE NAME**

COMMON OR TRADE NAME	SCIENTIFIC NAME	LBS PLS/AC
OPTION 1: GATS	AVENA SATIVA	60 TO 90
OPTION 2: QUICKGARD	TRITICUM AESTIVUM X SECALIS CEREALE	10 TO 40
OPTION 3: REGREEN	TRITICUM AESTIVUM X ELYTRIGIA ELONGATA	10 TO 40

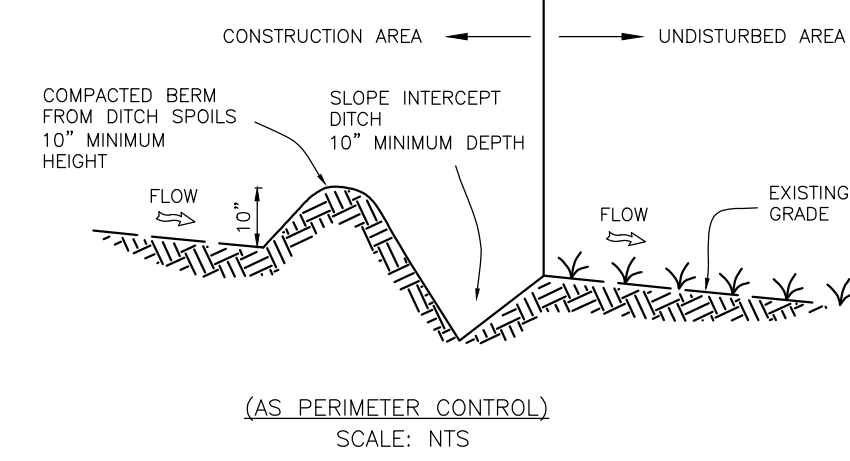
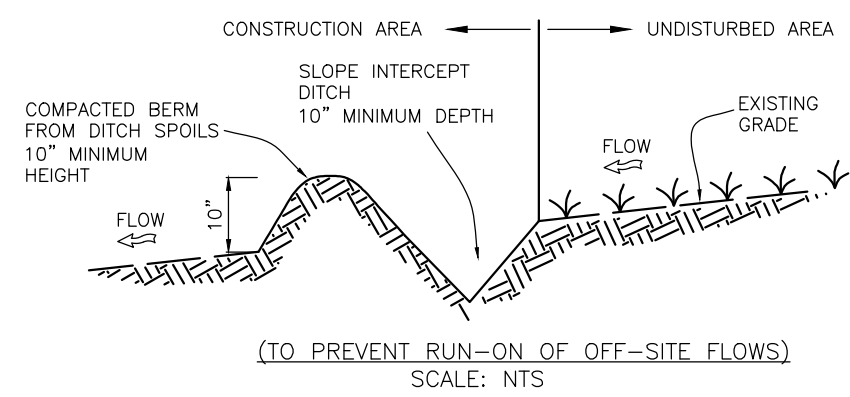
UTILITY NOTIFICATION CENTER OF COLORADO  
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**SOUTHEAST METRO STORMWATER AUTHORITY**  
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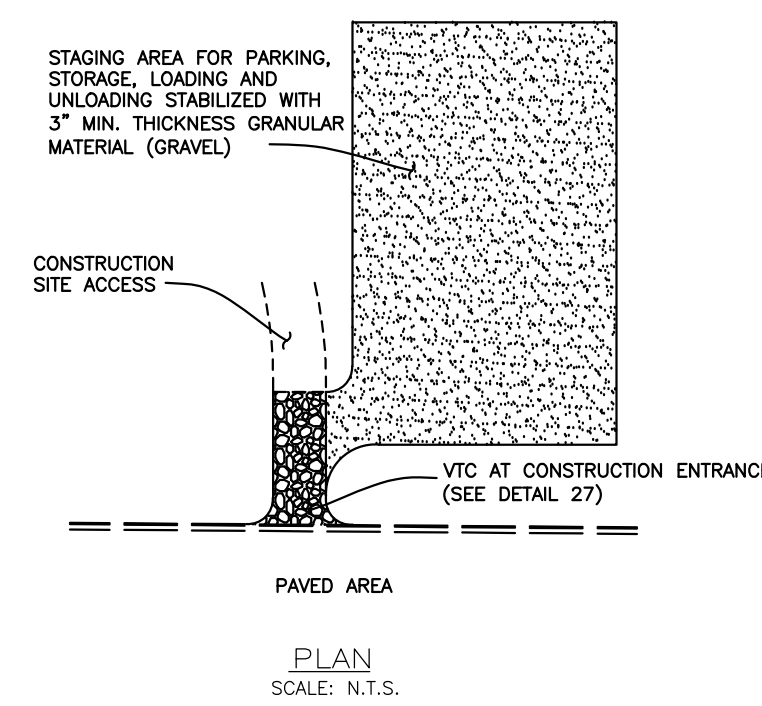
**GRADING EROSION AND SEDIMENT CONTROL**  
 STANDARD NOTES AND DETAILS  
 REVISED FEBRUARY 2023

**GESC SHEET**  
 3 OF 4



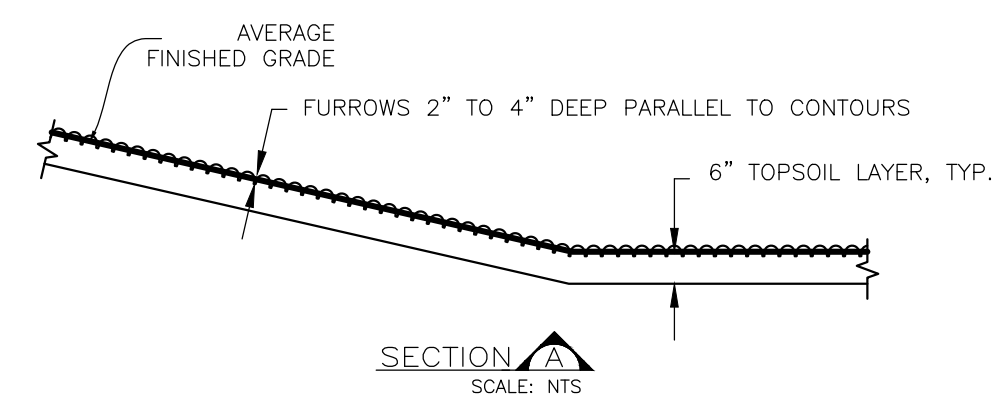
- SLOPE INTERCEPT DITCH INSTALLATION NOTES**
1. MATERIALS CUT OUT OF DITCH TO FORM A COMPACTED BERM ADJACENT TO AND ON THE CONSTRUCTION AREA SIDE OF DITCH.
  2. SLOPE INTERCEPT DITCH SHALL HAVE A MINIMUM DEPTH OF 10".
  3. COMPACTED BERM SHALL HAVE A MINIMUM HEIGHT OF 10".
  4. SLOPE INTERCEPT DITCH SHALL BE CUT IN ON THE CONTOUR.
  5. SLOPE INTERCEPT DITCH CAN BE USED IN PLACE OF SILT FENCE (SF) AND SEDIMENT CONTROL LOGS (SCL).
  6. SEE PLAN VIEW FOR LOCATION.

- SLOPE INTERCEPT DITCH MAINTENANCE NOTES**
1. THE GESC MANAGER SHALL INSPECT AS NECESSARY TO ENSURE THE ADEQUACY AND FUNCTIONALITY OF THE CONTROL MEASURE.
  2. SEDIMENT ACCUMULATED IN DITCH SHALL BE REMOVED WHEN DITCH BECOMES 1/2 FULL. REMOVED SEDIMENT SHALL BE PLACED ON AND COMPACTED WITH THE ADJACENT BERM.
  3. BERM MATERIAL TO FILL DITCH UPON COMPLETION OF CONSTRUCTION. ALL DISTURBED AREAS TO BE SEEDED AND MULCHED PER DETAIL 19.



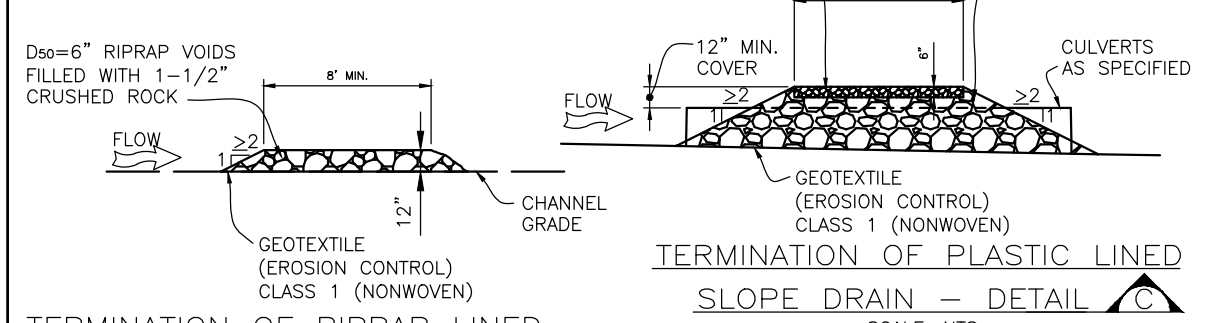
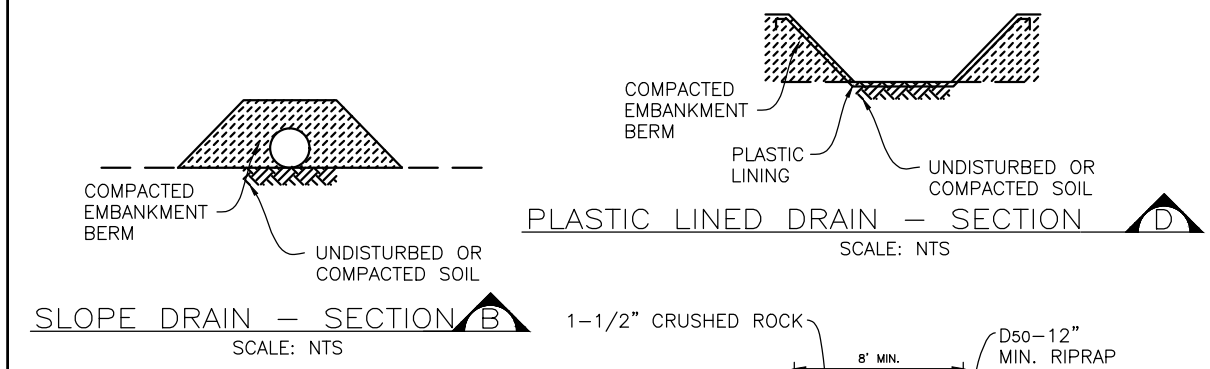
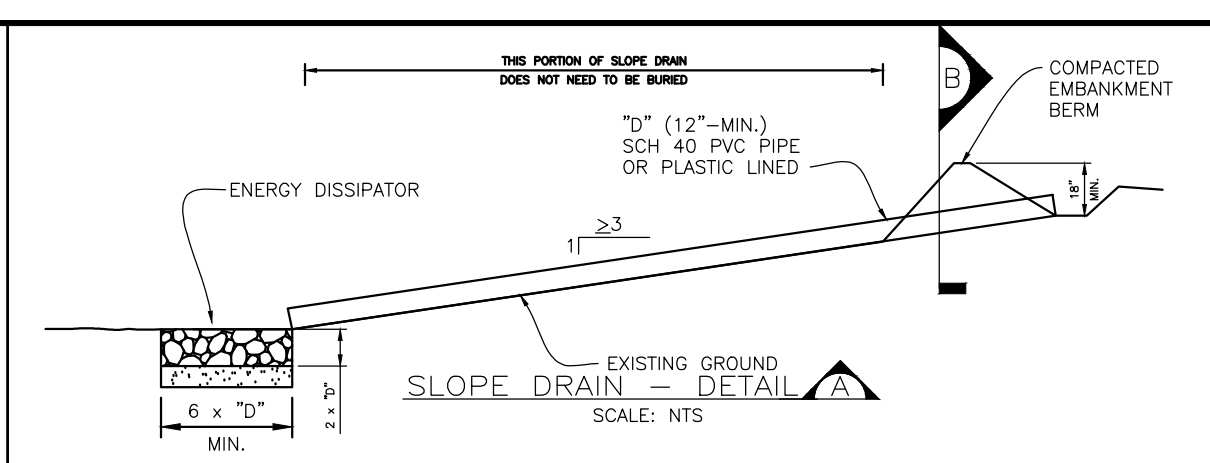
- STABILIZED STAGING AREA INSTALLATION NOTES**
1. SEE PLAN VIEW FOR GENERAL LOCATION OF STAGING AREA. CONTRACTOR MAY MODIFY LOCATION AND SIZE OF STABILIZED STAGING AREA WITH SEMSWA APPROVAL.
  2. STABILIZED STAGING AREA SHALL BE LARGE ENOUGH TO FULLY CONTAIN PARKING, STORAGE, AND UNLOADING AND LOADING OPERATIONS.
  3. IF REQUIRED BY SEMSWA, SITE ACCESS ROADS SHALL BE STABILIZED IN THE SAME MANNER AS THE STAGING AREA.
  4. STAGING AREA SHALL BE STABILIZED PRIOR TO ANY OTHER OPERATIONS ON THE SITE.
  5. THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM OF 3" OF GRANULAR MATERIAL (GRAVEL).

- STABILIZED STAGING AREA MAINTENANCE NOTES**
1. THE GESC MANAGER SHALL INSPECT AS NECESSARY TO ENSURE THE ADEQUACY AND FUNCTIONALITY OF THE CONTROL MEASURE.
  2. GESC MANAGER SHALL PROVIDE ADDITIONAL THICKNESS OF GRANULAR MATERIAL IF ANY RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.
  3. STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING AND LOADING OPERATIONS.
  4. ANY ACCUMULATED DIRT OR MUD SHALL BE REMOVED FROM THE SURFACE OF THE STABILIZED STAGING AREA.
  5. THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY SEMSWA, USED ON SITE, AND THE AREA TOPSOILED, DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED.



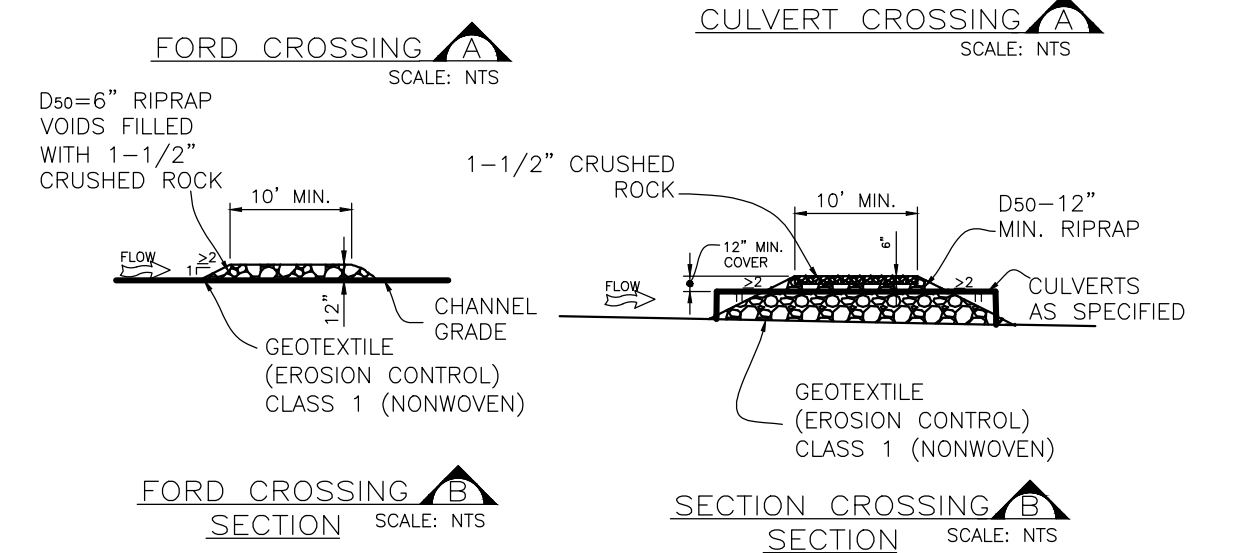
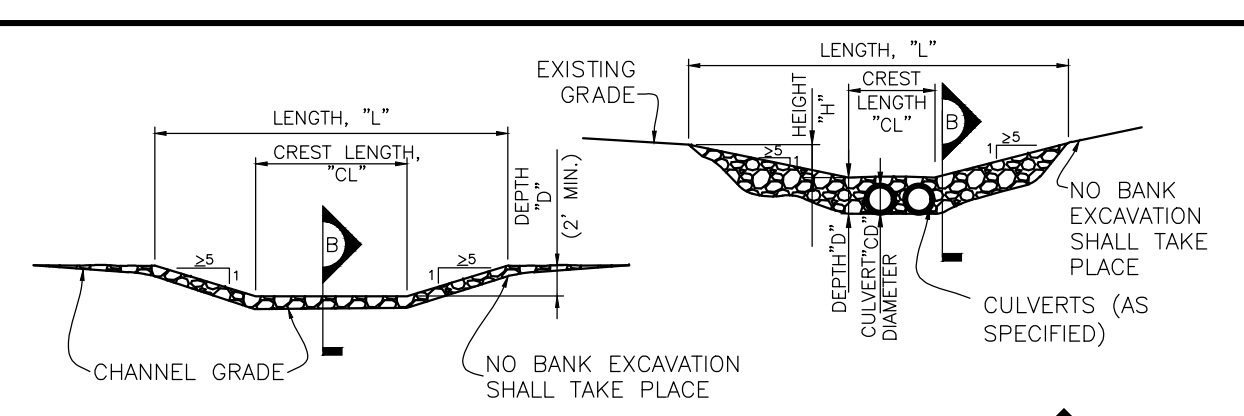
- SURFACE ROUGHENING INSTALLATION NOTES**
1. SURFACE ROUGHENING SHALL BE PROVIDED ON ALL FINISHED GRADES (SLOPES AND "FLAT" AREAS) WITHIN 2 DAYS OF COMPLETION OF FINISHED GRADE (FOR AREAS NOT RECEIVING TOPSOIL) OR WITHIN 2 DAYS OF TOPSOIL PLACEMENT.
  2. AREAS WHERE BUILDING FOUNDATIONS, PAVEMENT, OR SOD IS TO BE PLACED WITHIN 7-DAYS OF FINISHED GRADING DO NOT NEED TO BE SURFACE ROUGHENED.
  3. DISTURBED SURFACES SHALL BE ROUGHENED USING RIPPING OR TILLING EQUIPMENT ON THE CONTOUR OR TRACKING UP AND DOWN A SLOPE USING EQUIPMENT TREADS.

- SURFACE ROUGHENING MAINTENANCE NOTES**
1. THE GESC MANAGER SHALL INSPECT AS NECESSARY TO ENSURE THE ADEQUACY AND FUNCTIONALITY OF THE CONTROL MEASURE.
  2. VEHICLES AND EQUIPMENT SHALL GENERALLY BE CONFINED TO ACCESS DRIVES AND SHALL NOT BE DRIVEN OVER AREAS THAT HAVE BEEN SURFACE ROUGHENED.
  3. IN NON-TURF GRASS FINISHED AREAS, SEEDING AND MULCHING SHALL TAKE PLACE DIRECTLY OVER SURFACE ROUGHENED AREAS WITHOUT FIRST SMOOTHING OUT THE SURFACE.
  4. IN AREAS NOT SEEDED AND MULCHED AFTER SURFACE ROUGHENING, SURFACES SHALL BE RE-ROUGHENED AS NECESSARY TO MAINTAIN GROOVE DEPTH AND SMOOTH OVER ANY RILL EROSION.



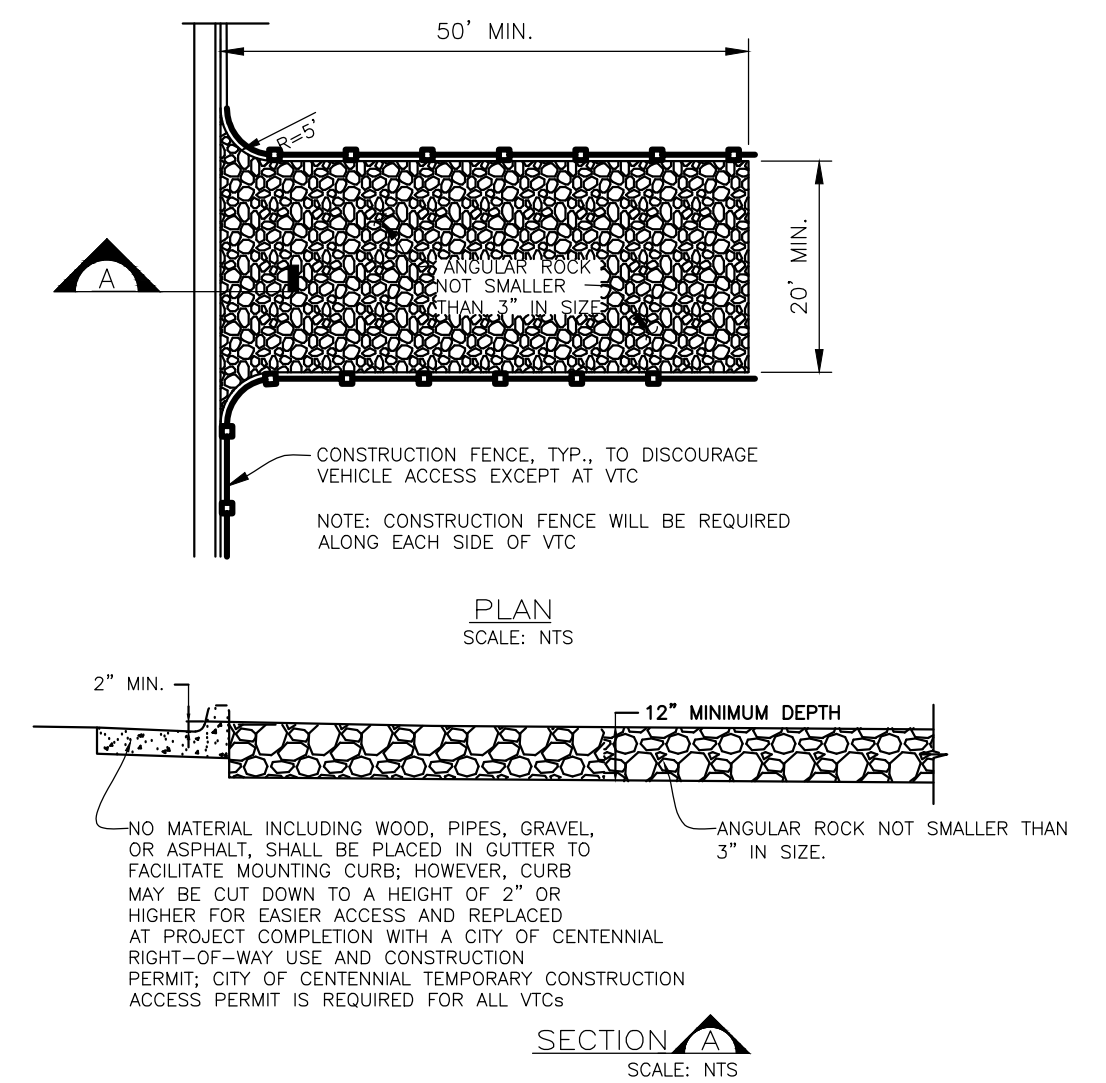
- SLOPE DRAIN INSTALLATION NOTES**
1. SEE PLAN VIEW FOR:
    - LOCATION AND LENGTH OF SLOPE DRAIN.
    - PIPE DIAMETER, "D", AND RIPRAP SIZE, "D<sub>50</sub>".
  2. SLOPE DRAIN DIMENSIONS SHALL BE CONSIDERED MINIMUM DIMENSIONS; CONTRACTOR MAY ELECT TO INSTALL LARGER FACILITIES. ANY DAMAGE TO SLOPE OR SLOPE DRAIN DURING RUNOFF EVENTS SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
  3. SLOPE DRAINS INDICATED ON INITIAL GESC PLAN SHALL BE INSTALLED PRIOR TO ANY UPSTREAM LAND-DISTURBING ACTIVITIES.
  4. FOR TEMPORARY SLOPE DRAINS, PIPE MAY BE INSTALLED ON TOP OF SLOPE; HOWEVER, 12" MIN. COVER AT TOP OF SLOPE SHALL BE PROVIDED.
  5. AN ENERGY DISSIPATOR SHALL BE PLACED AT THE OUTFALL OF THE SLOPE DRAIN.

- SLOPE DRAIN MAINTENANCE NOTES**
1. THE GESC MANAGER SHALL INSPECT AS NECESSARY TO ENSURE THE ADEQUACY AND FUNCTIONALITY OF THE CONTROL MEASURE.
  2. TEMPORARY SLOPE DRAINS ARE TO REMAIN IN PLACE UNTIL NO LONGER NEEDED, BUT SHALL BE REMOVED PRIOR TO THE END OF CONSTRUCTION. WHEN SLOPE DRAINS ARE REMOVED, THE DISTURBED AREA SHALL BE DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY SEMSWA.



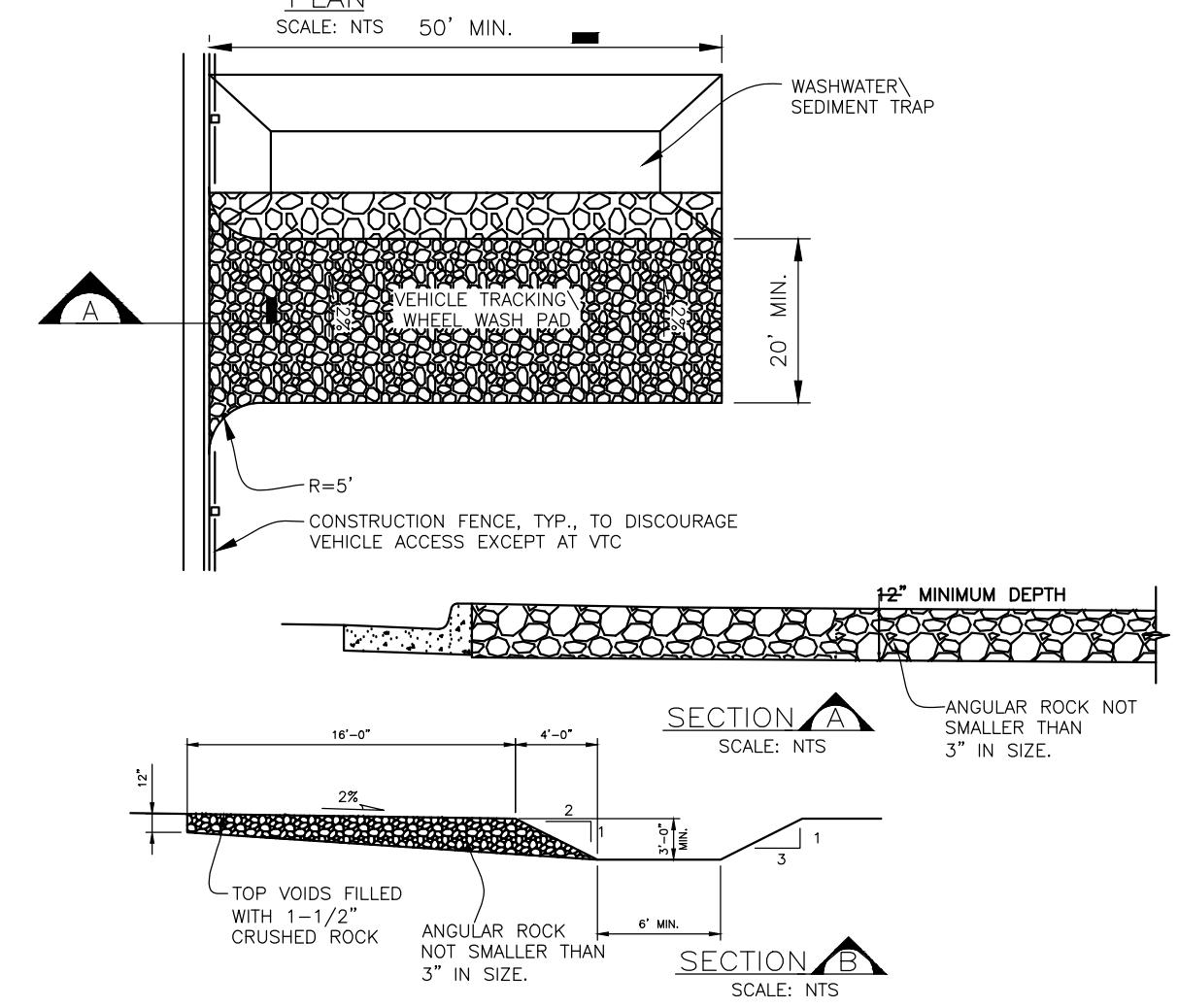
- TEMPORARY STREAM CROSSING INSTALLATION NOTES**
1. SEE PLAN VIEW FOR:
    - LOCATIONS OF TEMPORARY STREAM CROSSING.
    - LENGTH, "L", CREST LENGTH, "CL", CROSSING HEIGHT, "H", DEPTH, "D", CULVERT DIAMETER, "CD", AND NUMBER, TYPE AND CLASS OR GAUGE OF CULVERTS.
  2. TEMPORARY STREAM CROSSING DIMENSIONS, D<sub>50</sub>, AND NUMBER OF CULVERTS INDICATED (FOR CULVERT CROSSINGS) SHALL BE CONSIDERED MINIMUM DIMENSIONS. ENGINEER MAY ELECT TO INSTALL LARGER FACILITIES. ANY DAMAGE TO STREAM CROSSING OR EXISTING STREAM CHANNEL DURING BASEFLOW OR FLOOD EVENTS SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
  3. SEE SHEET 1 FOR RIPRAP AND 1-1/2" CRUSHED ROCK GRADATIONS.
  4. FOR A TEMPORARY STREAM CROSSING THAT WILL CARRY LOADS, THE TEMPORARY STREAM CROSSING MUST BE DESIGNED BY THE DESIGN ENGINEER, AND ONLY USED IF APPROVED BY SEMSWA.

- TEMPORARY STREAM CROSSING MAINTENANCE NOTES**
1. THE GESC MANAGER SHALL INSPECT AS NECESSARY TO ENSURE THE ADEQUACY AND FUNCTIONALITY OF THE CONTROL MEASURE.
  2. SEDIMENT ACCUMULATED UPSTREAM OF STREAM CROSSINGS SHALL BE REMOVED WHEN THE SEDIMENT DEPTH UPSTREAM OF CROSSING IS WITHIN 50% OF THE CREST (FORD CROSSING) OR GREATER THAN AN AVERAGE DEPTH OF 50% (CULVERT CROSSING).
  3. STREAM CROSSINGS ARE TO REMAIN IN PLACE UNTIL NO LONGER NEEDED, BUT SHALL BE REMOVED PRIOR TO THE END OF CONSTRUCTION.
  4. WHEN STREAM CROSSINGS ARE REMOVED, THE DISTURBED AREA SHALL BE DRILL SEEDED AND CRIMP MULCHED AND COVERED WITH EROSION CONTROL BLANKET OR OTHERWISE STABILIZED IN A MANNER APPROVED BY SEMSWA.



- VEHICLE TRACKING CONTROL INSTALLATION NOTES**
1. VEHICLE TRACKING CONTROL PADS SHALL BE INSTALLED AT EVERY EXIT POINT OF THE SITE.
  2. VEHICLE TRACKING CONTROL PADS SHALL CONSIST OF HARD, DENSE, DURABLE STONE, ANGULAR IN SHAPE AND RESISTANT TO WEATHERING. ROUNDED STONE OR BOULDERS WILL NOT BE ACCEPTABLE. THE STONES SHALL NOT BE SMALLER THAN 3" IN SIZE. THE STONE SHALL HAVE A SPECIFIC GRAVITY OF AT LEAST 2.6. CONTROL OF GRADATION WILL BE BY VISUAL INSPECTIONS.
  3. ANY CRACKED OR DAMAGED CURB AND GUTTER AND SIDEWALK SHALL BE REPLACED BY PERMITTEE.

- VEHICLE TRACKING CONTROL MAINTENANCE NOTES**
1. THE GESC MANAGER SHALL INSPECT AS NECESSARY TO ENSURE THE ADEQUACY AND FUNCTIONALITY OF THE CONTROL MEASURE.
  2. VEHICLE TRACKING CONTROL SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE ROCK MATERIAL REMOVED OR, IF APPROVED BY SEMSWA, USED ON SITE, AND THE AREA TOPSOILED, DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED.



- VEHICLE TRACKING CONTROL WITH WHEEL WASH INSTALLATION NOTES**
1. SEMSWA RESERVES THE RIGHT TO REQUIRE VEHICLE TRACKING CONTROL WITH WHEEL WASH FACILITIES AT SITES WHERE TRACKING ONTO PAVED AREAS BECOMES A SIGNIFICANT PROBLEM.
  2. IF VEHICLE TRACKING CONTROL WITH WHEEL WASH FACILITIES ARE REQUIRED, ALL WHEELS ON EVERY VEHICLE LEAVING THE SITE SHALL BE CLEANED OF MUD USING A PRESSURE-WASHER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A WATER SOURCE.
  3. VEHICLE TRACKING CONTROL PADS SHALL CONSIST OF HARD, DENSE, DURABLE STONE, ANGULAR IN SHAPE AND RESISTANT TO WEATHERING. ROUNDED STONE OR BOULDERS WILL NOT BE ACCEPTABLE. THE STONES SHALL NOT BE SMALLER THAN 3" IN SIZE. THE STONE SHALL HAVE A SPECIFIC GRAVITY OF AT LEAST 2.6. CONTROL OF GRADATION WILL BE BY VISUAL INSPECTIONS.
  4. ANY CRACKED OR DAMAGED CURB AND GUTTER AND SIDEWALK SHALL BE REPLACED BY CONTRACTOR.

- VEHICLE TRACKING CONTROL WITH WHEEL WASH MAINTENANCE NOTES**
1. THE GESC MANAGER SHALL INSPECT AS NECESSARY TO ENSURE THE ADEQUACY AND FUNCTIONALITY OF THE CONTROL MEASURE.
  2. ACCUMULATED SEDIMENT IN THE WASHWATER/SEDIMENT TRAP SHALL BE REMOVED WHEN THE SEDIMENT DEPTH REACHES AN AVERAGE OF 12-INCHES.
  3. VEHICLE TRACKING CONTROL WITH WHEEL WASH FACILITY SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE RIPRAP MATERIAL REMOVED OR, IF APPROVED BY THE COUNTY, USED ON SITE, AND THE AREA TOPSOILED, DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED.



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**GRADING EROSION AND SEDIMENT CONTROL  
STANDARD NOTES AND DETAILS  
REVISED FEBRUARY 2023**

**GESC  
SHEET  
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