

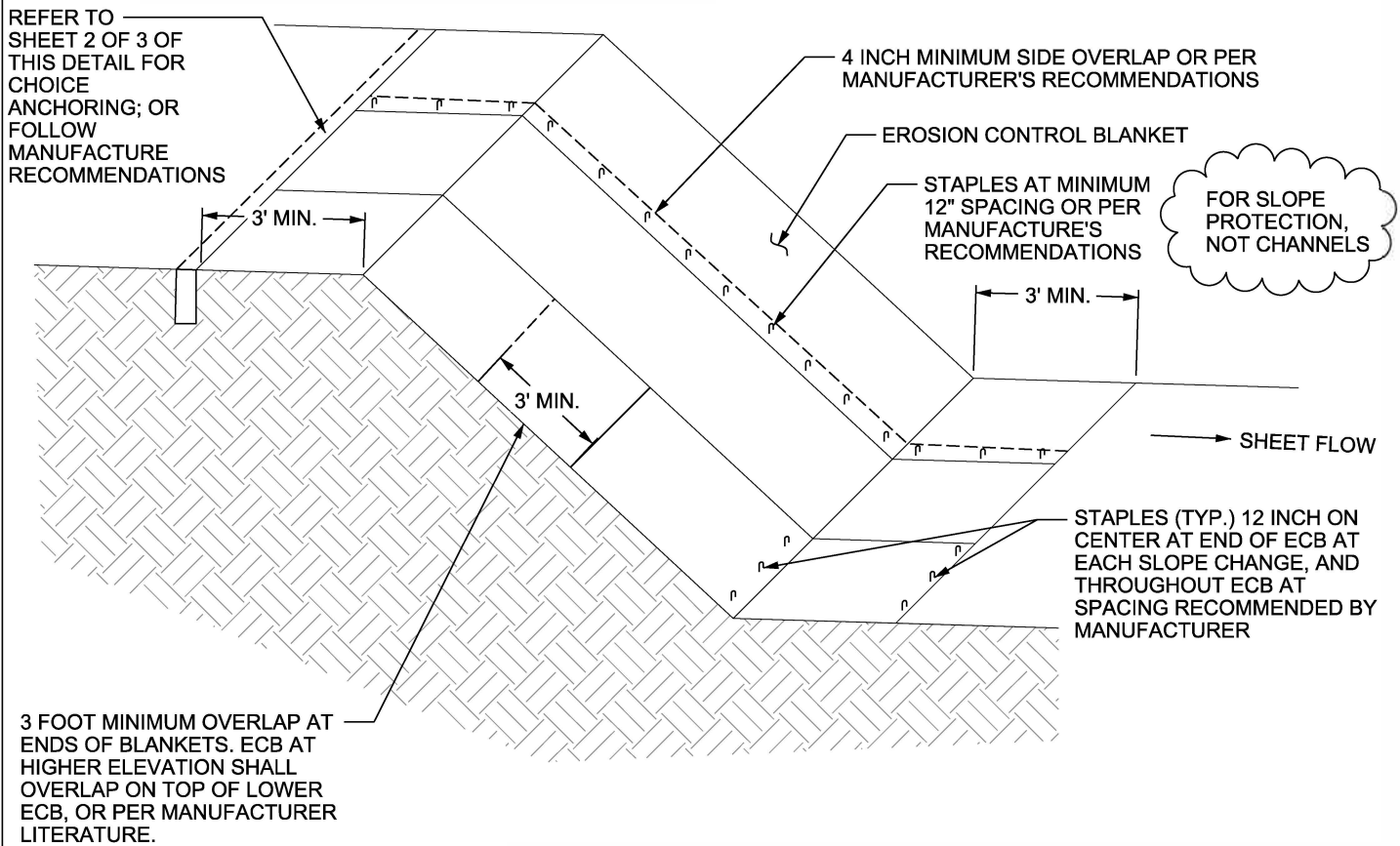


iSWM Construction Controls Standard Details

Addendum to: **iSWM Technical Manual – Construction Controls**

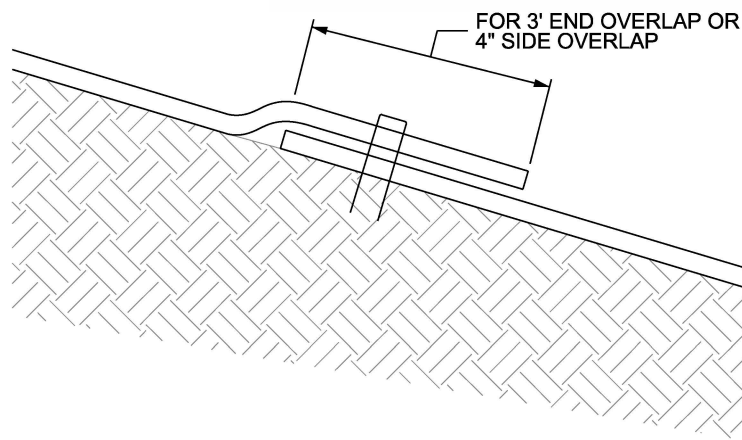
The following are a selection of iSWM construction control BMP schematics chosen to be provided in standard details.

1. TEMPORARY EROSION CONTROL BLANKET
2. ANCHOR EXAMPLE FOR TEMPORARY EROSION CONTROL BLANKET
3. PERMANENT TURF REINFORCEMENT MATS 1 of 3
4. PERMANENT TURF REINFORCEMENTS MATS 2 of 3
5. PERMANENT TURF REINFORCEMENTS MATS 3 of 3
6. SCHEMATIC OF ROCK RIPRAP 1 of 2
7. SCHEMATIC OF ROCK RIPRAP 2 of 2
8. VELOCITY DISSIPATION DEVICE
9. FILTER FABRIC AREA INLET PROTECTION
10. EXCAVATED INLET PROTECTION
11. EXCAVATED STONE OUTLET SEDIMENT TRAP 1 of 2
12. EXCAVATED STONE OUTLET SEDIMENT TRAP 2 of 2
13. CONCRETE WASHOUT CONTAINMENT
14. TRASH RACK ISOMETRIC
15. TRASH RACK PLAN
16. TRASH SCREEN/CATCH DETAIL
17. OUTLET TRASH SCREEN BAG



ECB ISOMETRIC PLAN VIEW

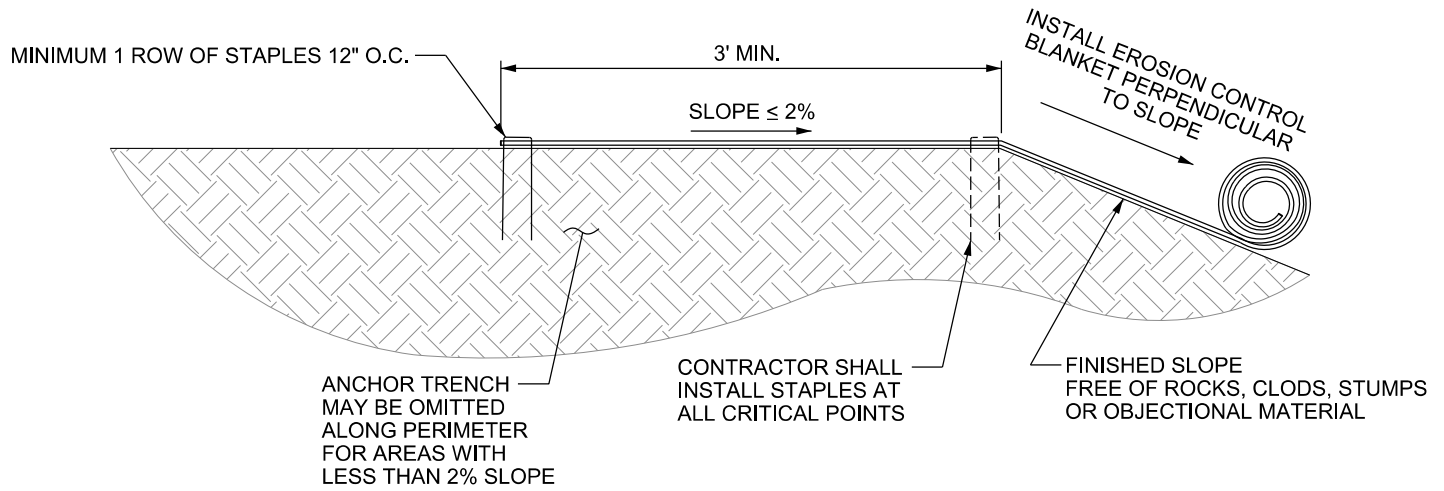
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ECB OVERLAP EXAMPLE

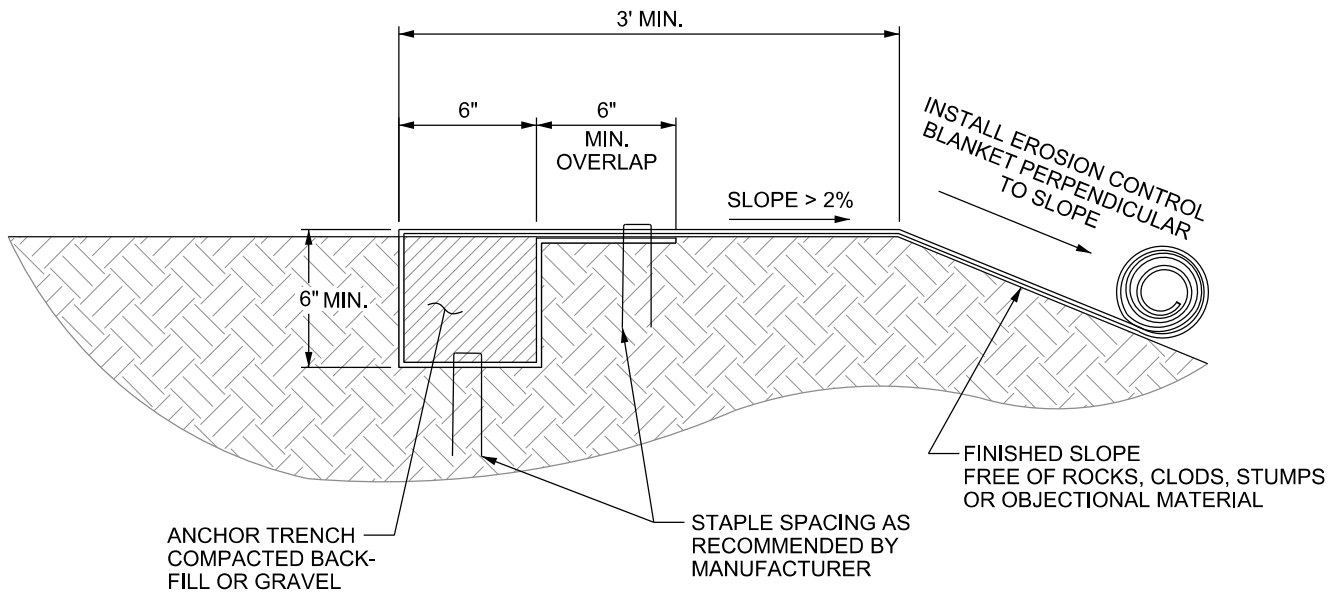
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FIGURE 2.8 STANDARD CONSTRUCTION DETAIL -
TEMPORARY EROSION CONTROL BLANKETS (1 OF 3)



TOP OF SLOPE ANCHOR EXAMPLE 1

N.T.S.



TOP OF SLOPE ANCHOR TRENCH EXAMPLE 2

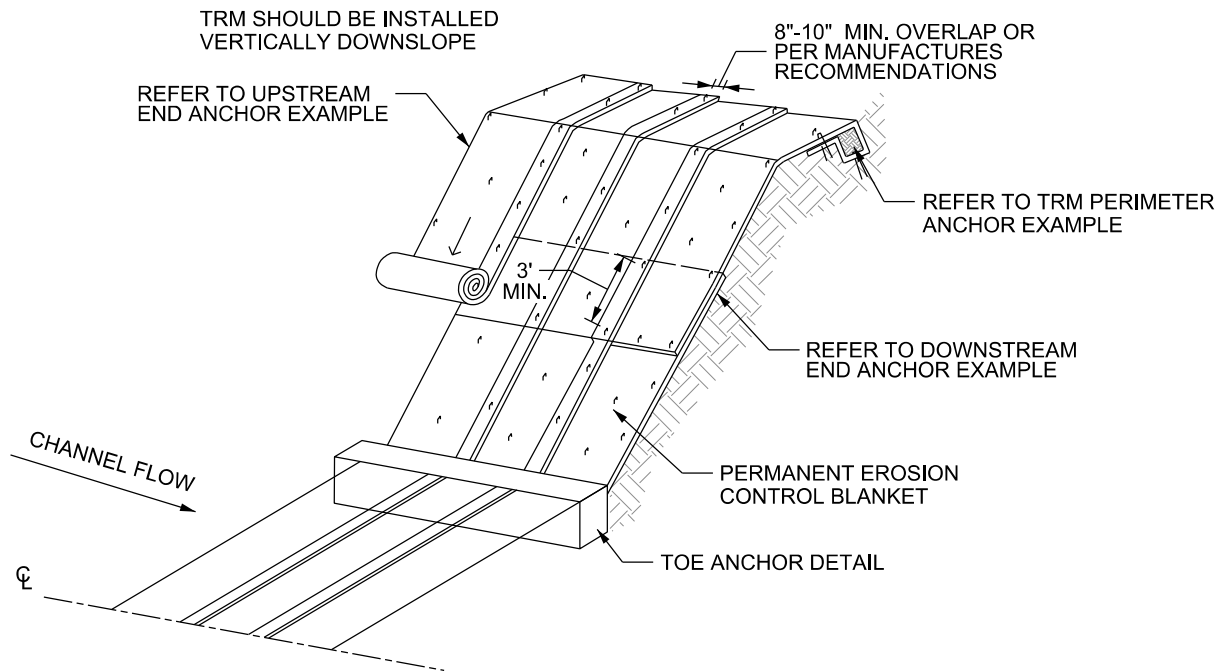
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FIGURE 2.8 STANDARD CONSTRUCTION DETAIL -
ANCHOR EXAMPLES FOR TEMPORARY EROSION CONTROL BLANKETS (2 OF 3)

EROSION CONTROL BLANKETS GENERAL NOTES:

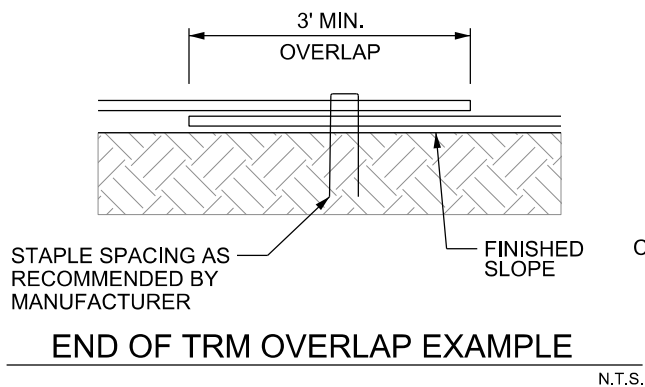
1. SEE NCTCOG STANDARD SPECIFICATIONS (2017) SECTION 202.15.
2. EROSION CONTROL BLANKET SHALL BE INSTALLED VERTICALLY DOWN SLOPE AS SHOWN.
3. PRIOR TO THE INSTALLATION: ALL ROCKS, DIRT CLOUDS, STUMPS, ROOTS, TRASH AND ANY OTHER OBSTRUCTIONS THAT WOULD PREVENT THE BLANKET FROM DIRECT CONTACT WITH THE FINISHED SLOPE, SHALL BE REMOVED.
4. ANCHORING METHODS PROVIDED ARE EXAMPLES OF THE TYPE OF ANCHORING THE ECB MANUFACTURER MAY RECOMMEND. ALWAYS FOLLOW THE MANUFACTURER'S RECOMMENDATIONS FOR ANCHORING BASED ON THE SITE-SPECIFIC APPLICATION.
5. INSTALLATION AND ANCHORING SHALL CONFORM TO THE RECOMMENDATIONS SHOWN WITHIN THE MANUFACTURER'S PUBLISHED LITERATURE FOR THE APPROVED EROSION CONTROL BLANKET. PARTICULAR ATTENTION MUST BE PAID TO JOINTS AND OVERLAPPING MATERIAL. AT A MINIMUM, THE END OF EACH ROLL OF ECB SHALL OVERLAP THE NEXT ROLL BY 3 FEET AND THE SIDES OF ROLLS SHALL OVERLAP 4 INCHES.
6. IN ABSENCE OF MANUFACTURER'S LITERATURE, A MINIMUM 11-GUAGE WIRE STAPLES, 6-INCHES IN LENGTH AND 1-INCH WIDTH WILL BE USED.
7. AFTER APPROPRIATE INSTALLATION, THE BLANKETS SHOULD BE CHECKED FOR UNIFORM CONTACT WITH THE SOIL, SECURITY OF THE LAP JOINTS, AND FLUSHNESS OF THE STAPLES WITH THE GROUND.
8. INSPECTION SHALL BE AS SPECIFIED IN THE SWPPP.

FIGURE 2.8 NOTES ON TEMPORARY EROSION CONTROL BLANKETS (3 OF 3)

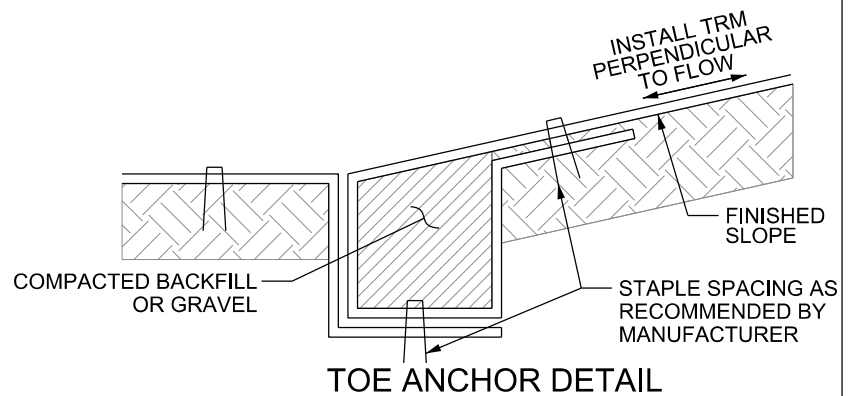


TRM HALF ISOMETRIC PLAN VIEW

N.T.S.



N.T.S.

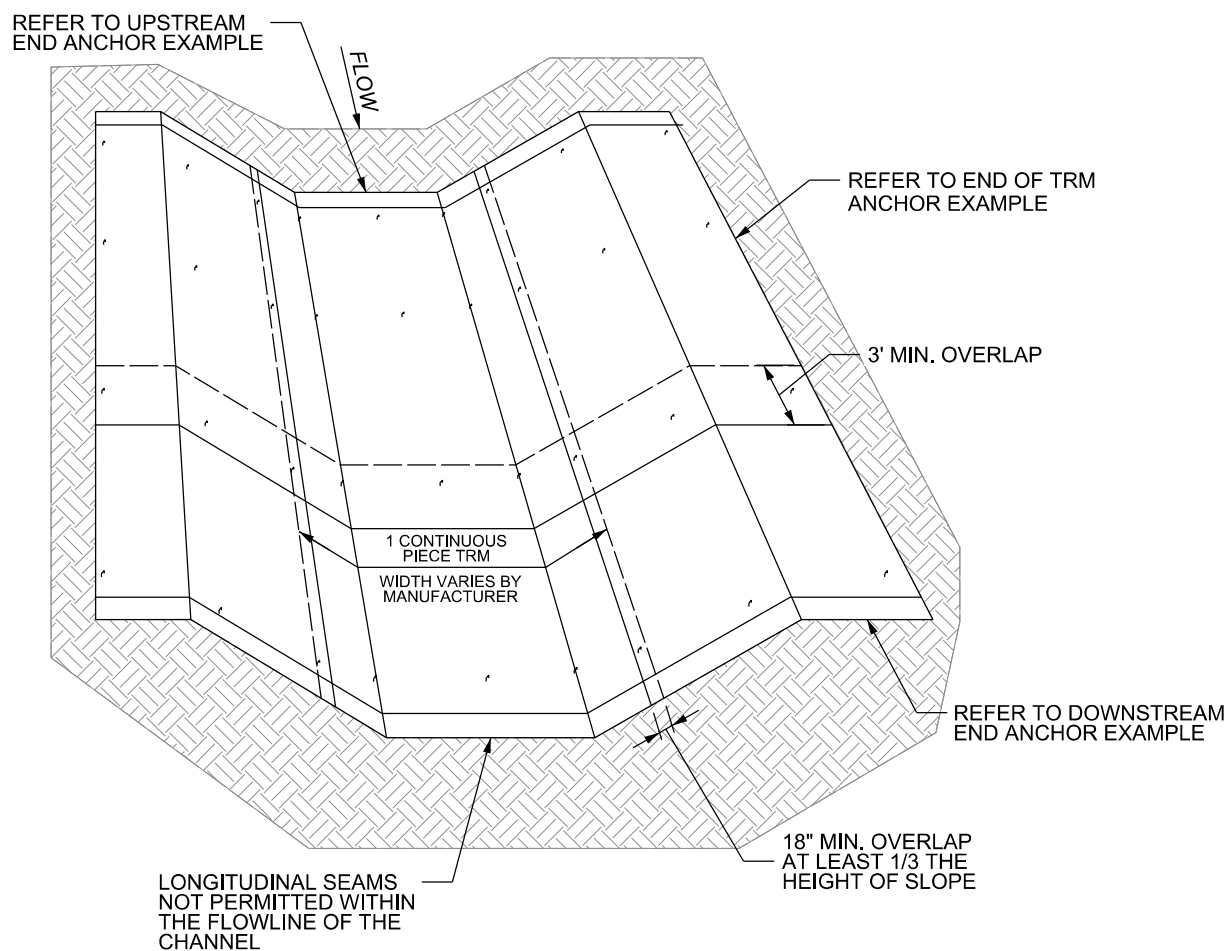


N.T.S.

TURF REINFORCEMENT MATS NOTES:

1. TURF REINFORCEMENT MATS SHALL BE INSTALLED VERTICALLY DOWN SLOPE AS SHOWN.
2. PRIOR TO THE INSTALLATION: ALL ROCKS, DIRT CLOUDS, STUMPS, ROOTS, TRASH AND ANY OTHER OBSTRUCTIONS THAT WOULD PREVENT THE MAT FROM DIRECT CONTACT WITH THE FINISHED SLOPE, SHALL BE REMOVED.

FIGURE 2.11 SCHEMATICS OF PERMANENT TURF REINFORCEMENT MATS (1 OF 3)

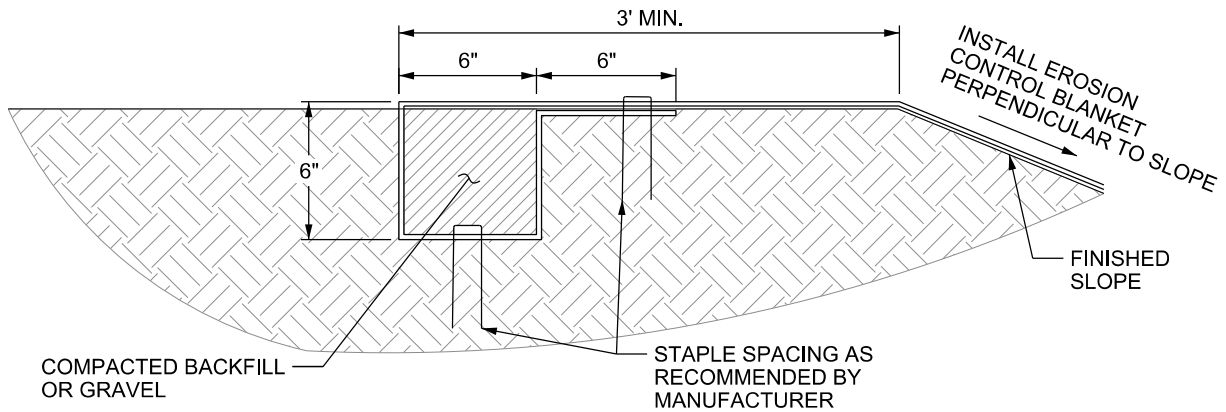


TRM ISOMETRIC PLAN VIEW FOR SMALL CHANNELS/DITCHES

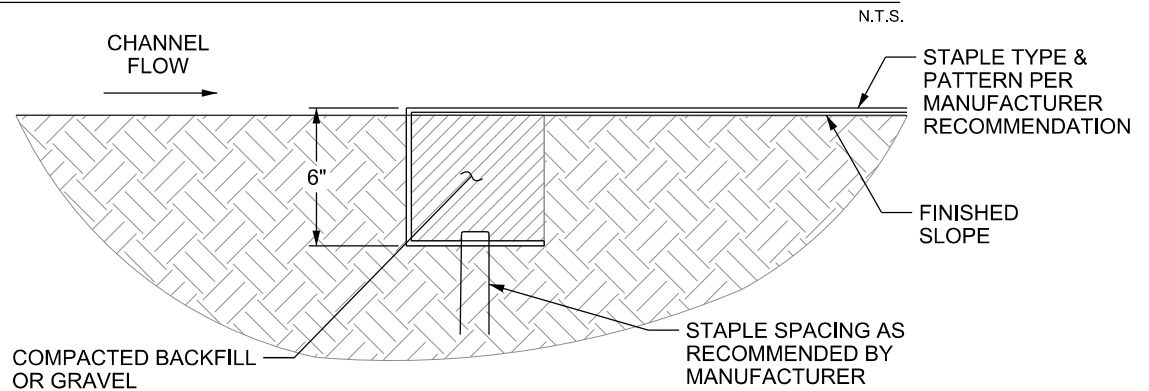
N.T.S.

NOTE: LONGITUDINAL INSTALLATION OF TURF REINFORCEMENT MAT PERMITTED ONLY FOR CHANNEL WIDTHS 0' TO 8'. CONTRACTOR SHALL VERIFY MAT MEETS OVERLAP AND SLOPE REQUIREMENTS STATED ABOVE.

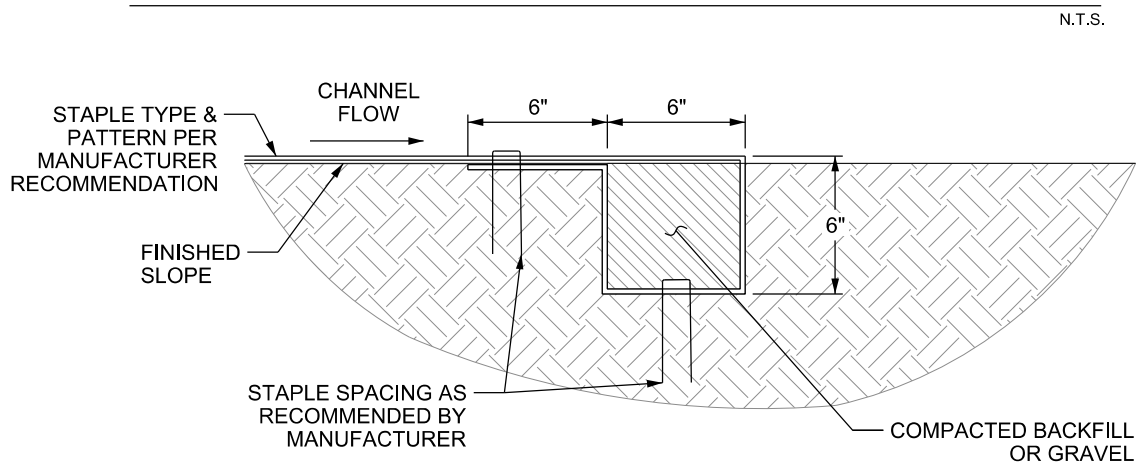
FIGURE 2.11 SCHEMATICS OF PERMANENT TURF REINFORCEMENT MATS (2 OF 3)



TRM PERIMETER ANCHOR EXAMPLE



TRM UPSTREAM END ANCHOR EXAMPLE

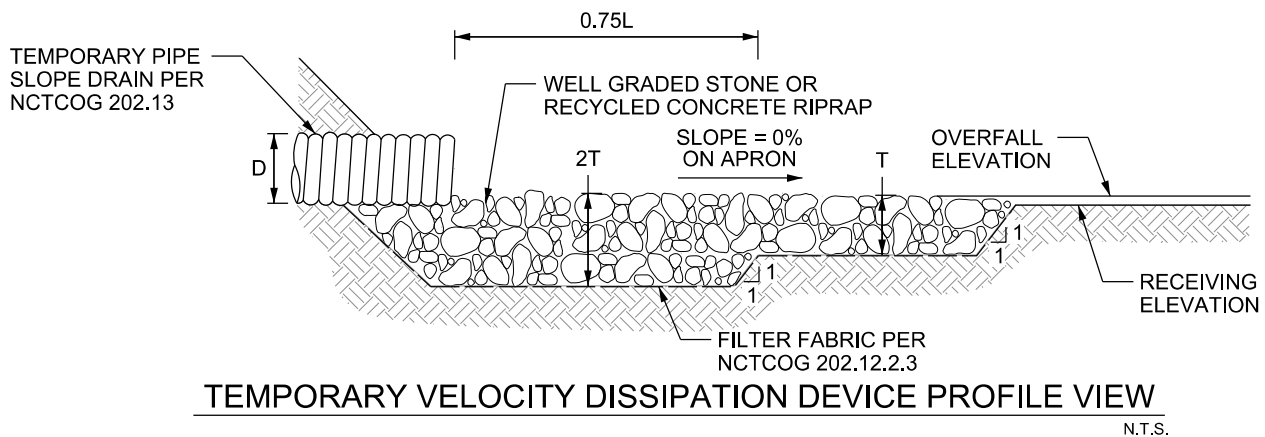
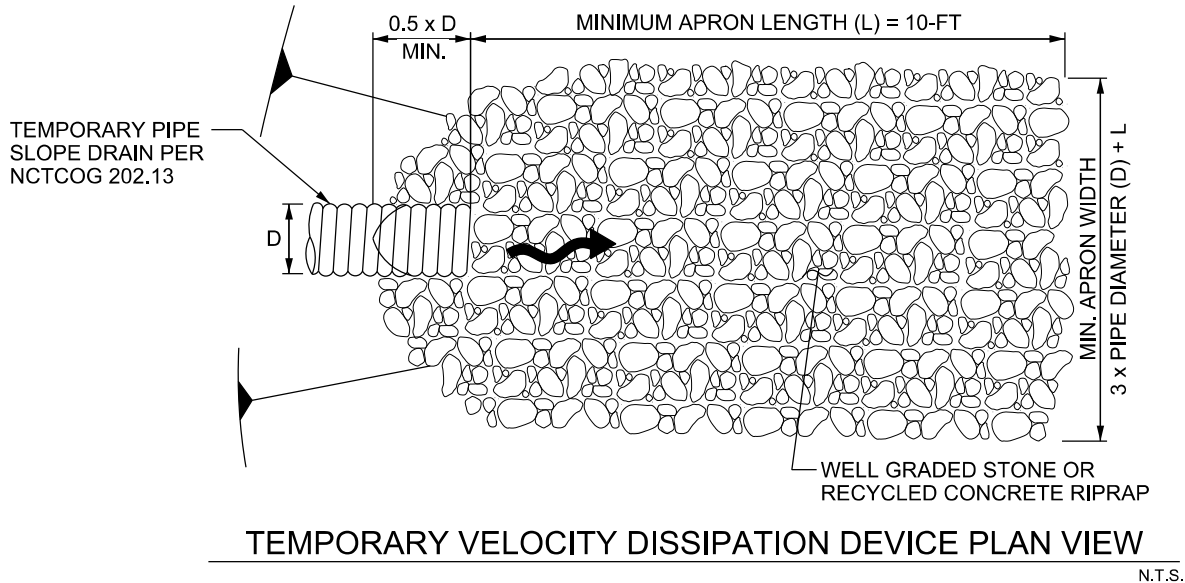


TRM DOWNSTREAM END ANCHOR EXAMPLE

N.T.S.

FIGURE 2.11 SCHEMATICS OF PERMANENT TURF REINFORCEMENT MATS (3 OF 3)

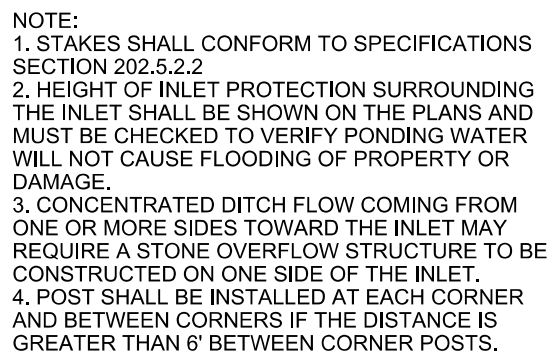
* SPECIFIC DESIGN INFORMATION ON THE EROSION CONTROL PLANS IS REQUIRED FOR EACH INSTALLATION



NOTE: DIMENSIONS OF THE RIPRAP APRON SHALL BE DESIGNED BASED ON FLOW CONDITIONS. TEMPORARY CONTROL DESIGN STORM (2-YEARS, 24-HOUR). PROVIDE CALCULATIONS THAT DOCUMENT THE FOLLOWING PARAMETERS USED TO DESIGN THE APRON.

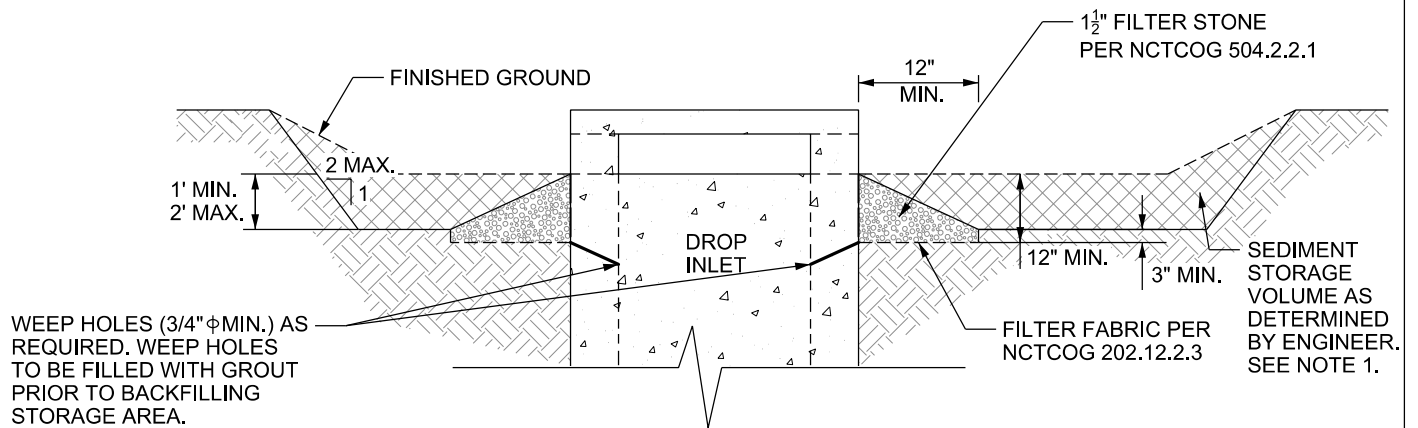
- PIPE DIAMETER (OR EQUIVALENT FOR FLUME, SWALE, ETC.), D, FEET
- DISCHARGE VELOCITY FROM DRAINAGE STRUCTURE, V_{pipe} , FT/S
- DETERMINE GRADATION FOR d_{50} WELL GRADED STONE OR RECYCLED CONCRETE RIPRAP
- MEDIAN STONE DIAMETER d_{50} AND MAXIMUM STONE DIAMETER (d_{100}), FEET

FIGURE 2.13 SCHEMATICS OF VELOCITY DISSIPATION DEVICE



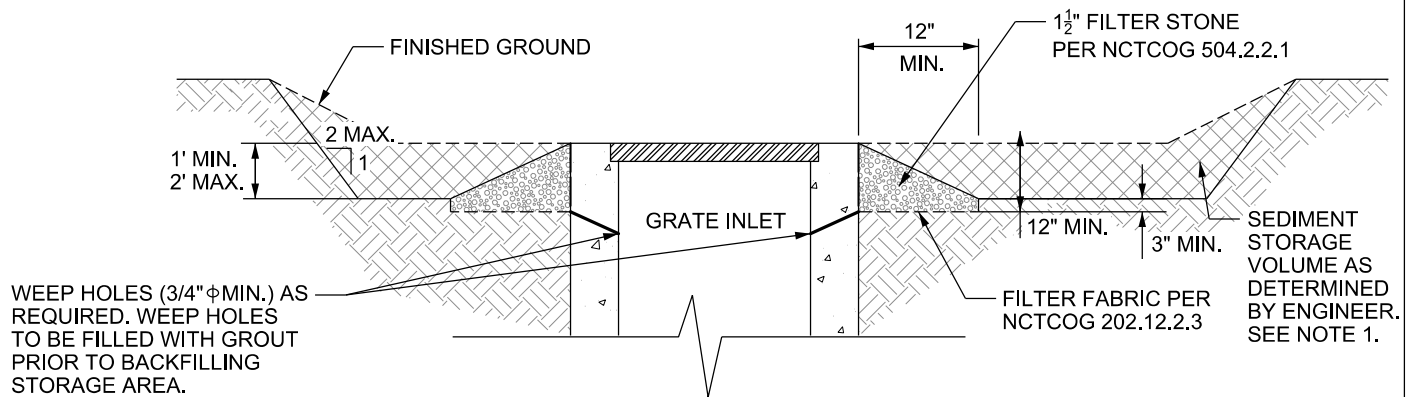
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FIGURE 3.10 SCHEMATICS OF FILTER FABRIC AREA INLET PROTECTION



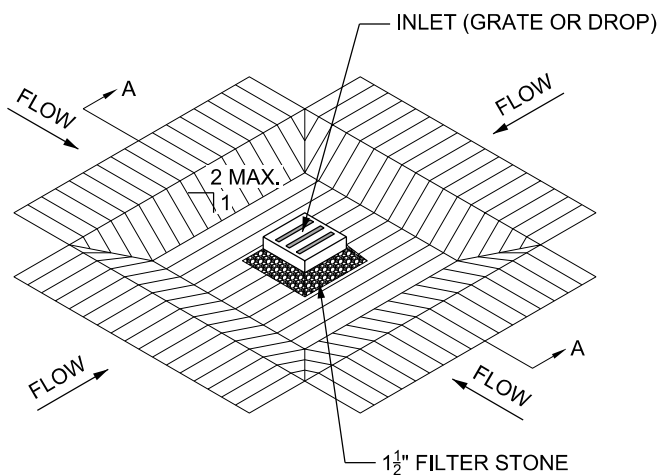
EXCAVATED INLET PROTECTION "Y" INLET SECTION A-A

N.T.S.



EXCAVATED INLET PROTECTION GRATE INLET SECTION A-A

N.T.S.



NOTE:

1. STORAGE VOLUME SHALL BE DESIGN STORM VOLUME OR 3,600 CUBIC FEET PER ACRE DISTURBED.
2. CONCENTRATED DITCH FLOW COMING FROM ONE OR MORE SIDES TOWARD THE INLET MAY REQUIRE A STONE OVERFLOW STRUCTURE TO BE CONSTRUCTED ON ONE SIDE OF THE INLET.

EXCAVATED INLET PROTECTION PLAN VIEW

N.T.S.

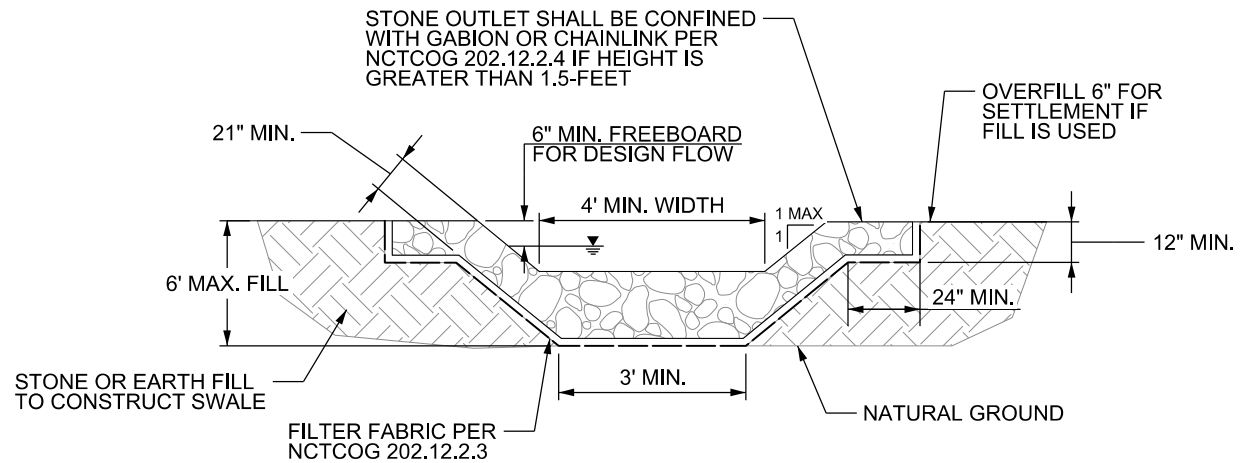
FIGURE 3.11 SCHEMATICS OF EXCAVATED INLET PROTECTION



N.T.S.

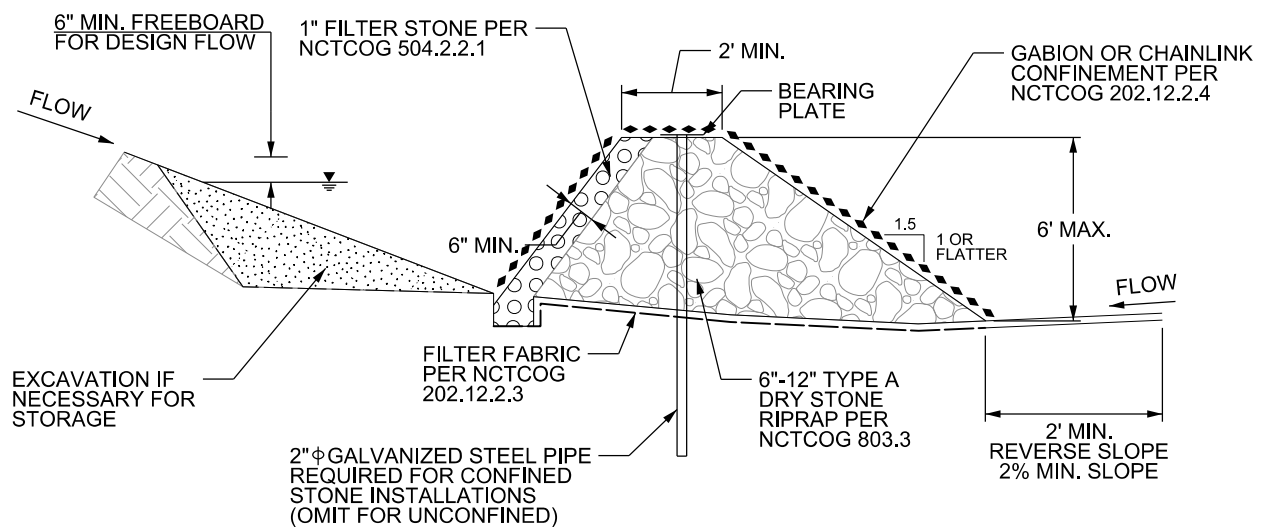
- SIZE OF CONTRIBUTING DRAINAGE AREA
- DESIGN STORM VOLUME AND FLOW RATE AT THE TRAP
- HEIGHT, SLOPE, AND LENGTH OF STONE OUTLET
- STORAGE VOLUME
- EXTENT OF GRADING TO PROVIDE THE CONTROLLED OUTLET

FIGURE 3.30 SCHEMATICS OF EXCAVATED STONE OUTLET SEDIMENT TRAP (1 OF 2)



EXCAVATED STONE OUTLET SEDIMENT TRAP VIEW LOOKING UPSTREAM (A-A)

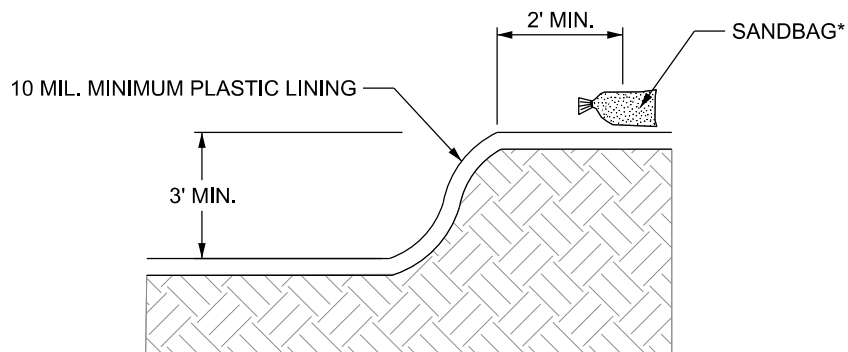
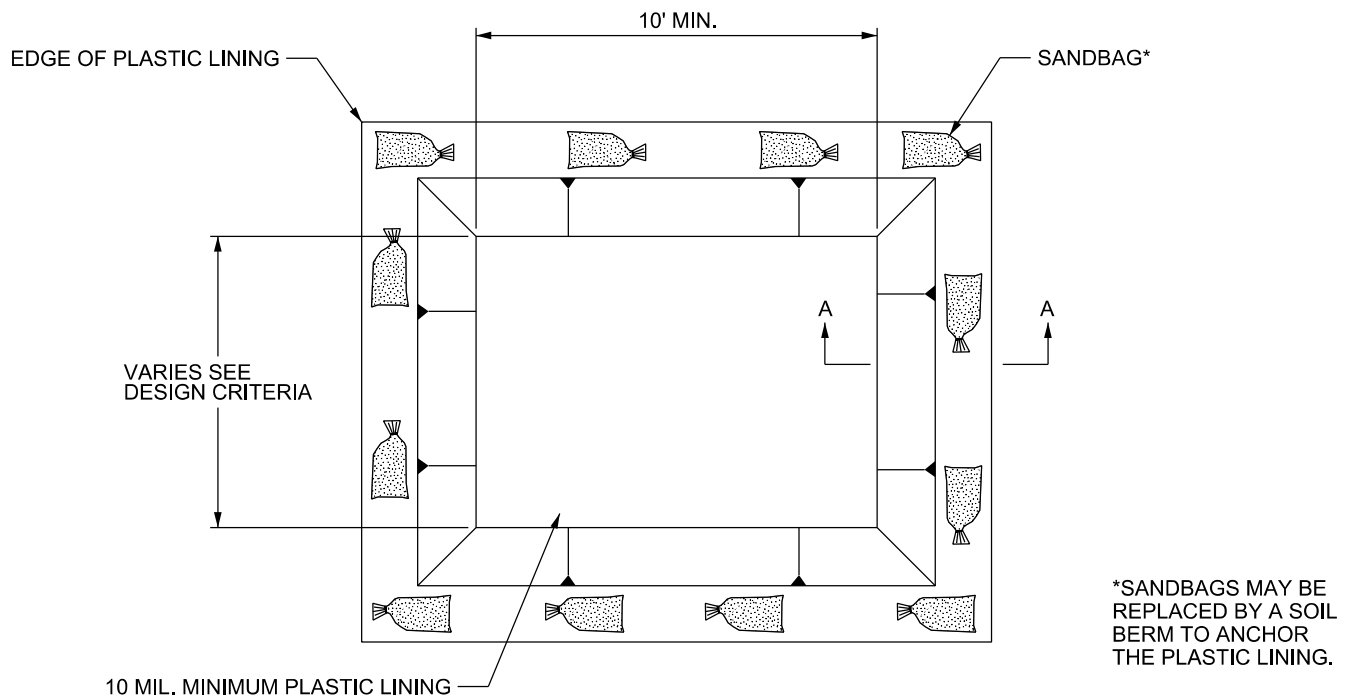
N.T.S.



EXCAVATED STONE OUTLET SEDIMENT TRAP SECTION VIEW (B-B)

N.T.S.

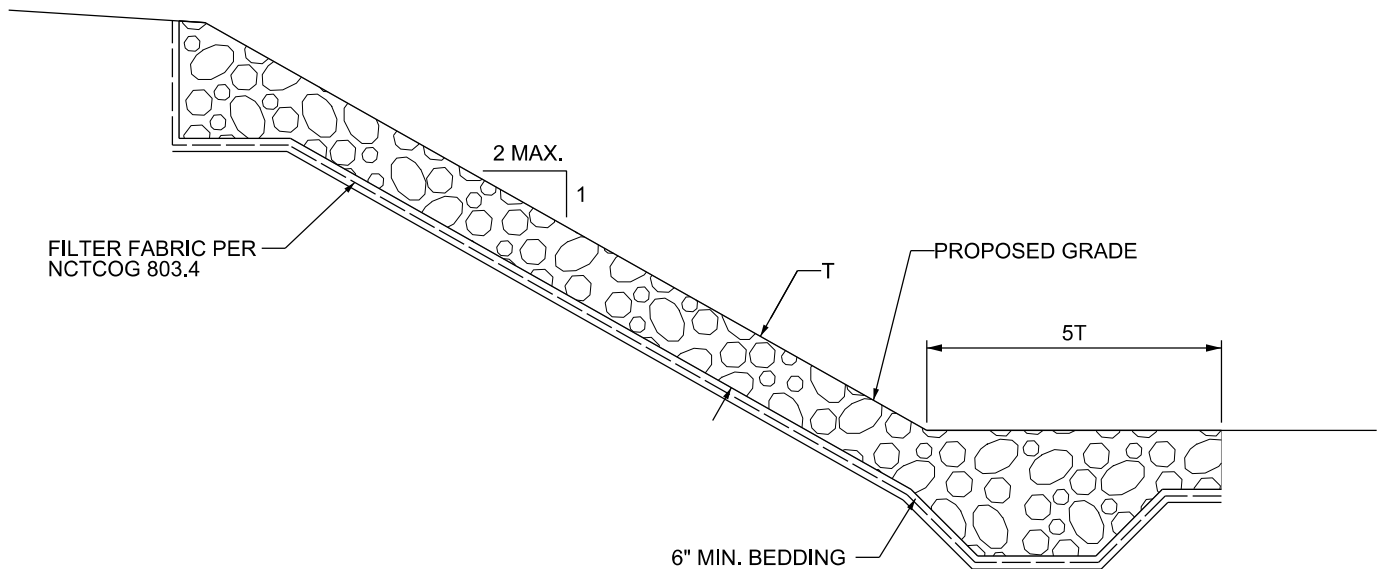
FIGURE 3.30 SCHEMATICS OF EXCAVATED STONE OUTLET SEDIMENT TRAP (2 OF 2)



CONCRETE WASHOUT NOTES:

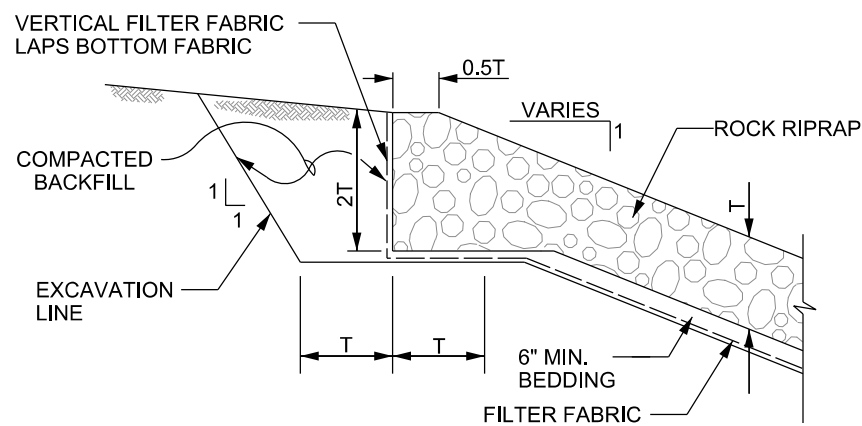
1. WASHOUT AREA MUST BE CLEARLY MARKED WITH SIGNAGE NOTING THE WASHOUT AREA.
2. WASHOUT STRUCTURES SHALL BE CLEANED OUT WHEN THE STRUCTURE IS 75% FULL. TEMPORARY CONCRETE WASHOUT FACILITY SHOULD BE MAINTAINED TO PROVIDE ADEQUATE HOLDING CAPACITY.

FIGURE 4.1 SCHEMATICS OF CONCRETE WASHOUT CONTAINMENT



TYPICAL ROCK RIPRAP SLOPE PROTECTION SECTION

N.T.S.



ROCK RIPRAP TOP OF BANK DETAIL

N.T.S.

- ROCK RIPRAP DRY OR GROUTED AS SHOWN ON EROSION CONTROL PLANS
- FILTER FABRIC SPLICES SHALL HAVE A MINIMUM 18 INCHES OVERLAP
- DETERMINE GRADATION FOR d_{50} WELL GRADED STONE
- MEDIAN STONE DIAMETER d_{50} AND MAXIMUM STONE DIAMETER d_{100} , FEET

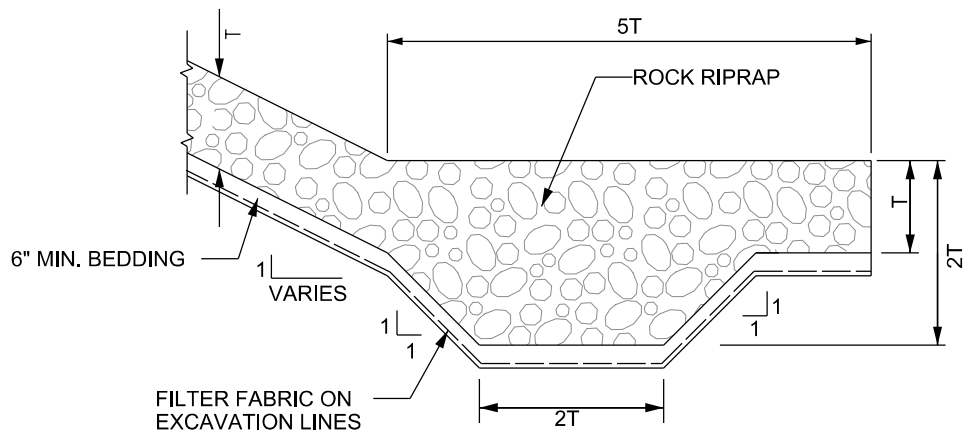
$$T = 1.5 \times d_{50}$$

$$d_{\min.} = \underline{\hspace{2cm}}$$

$$d_{50} = \underline{\hspace{2cm}}$$

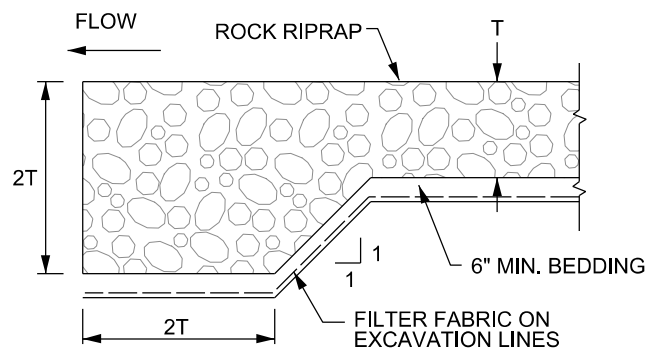
$$d_{100} = \underline{\hspace{2cm}}$$

FIGURE X.XX RIPRAP SCHEMATICS OF ROCK RIPRAP (SHEET 1 OF 2)



ROCK RIPRAP TOE OF SLOPE DETAIL

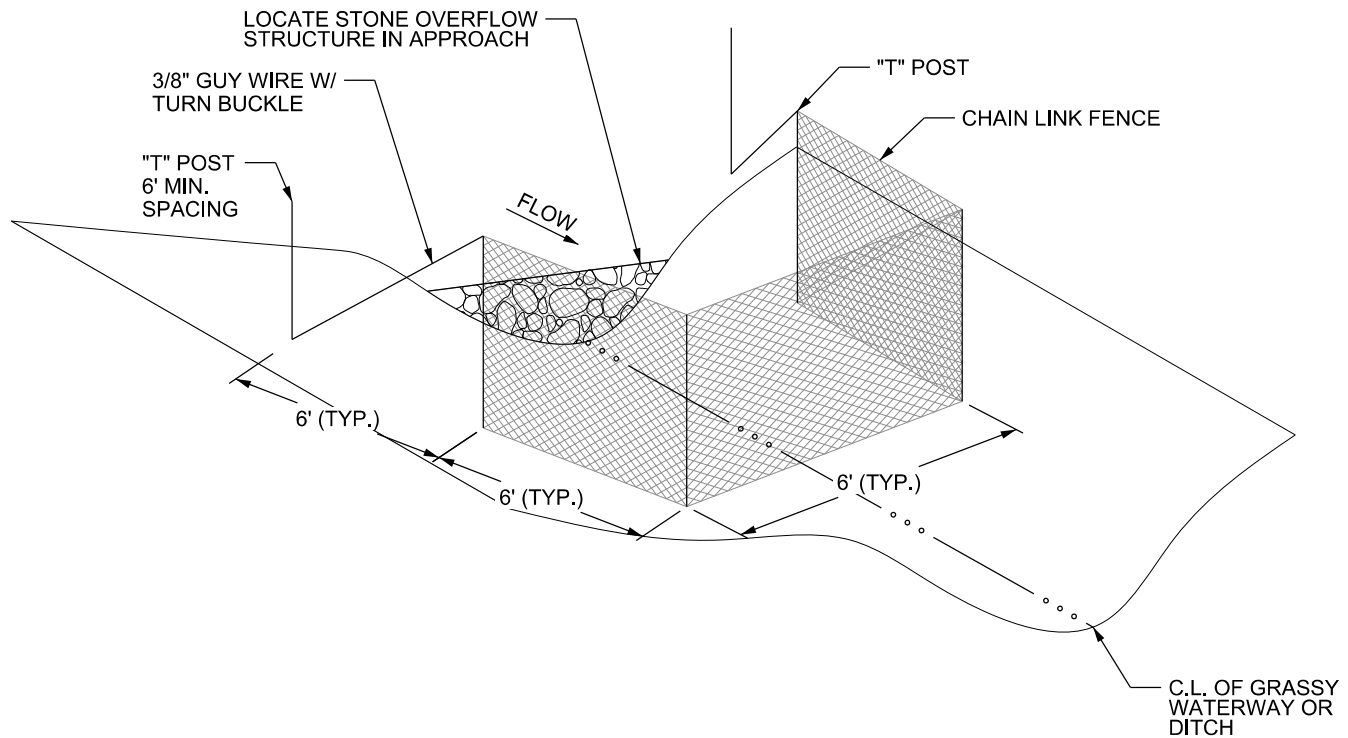
N.T.S.



UPSTREAM ROCK RIPRAP TOE WALL DETAIL

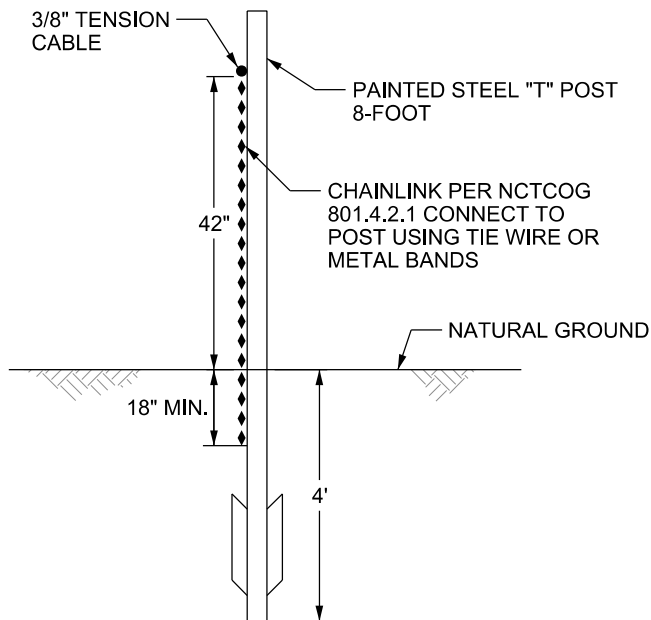
N.T.S.

FIGURE X.XX RIPRAP SCHEMATICS OF ROCK RIPRAP (SHEET 2 OF 2)



TEMPORARY TRASH SCREEN DETAIL

N.T.S.



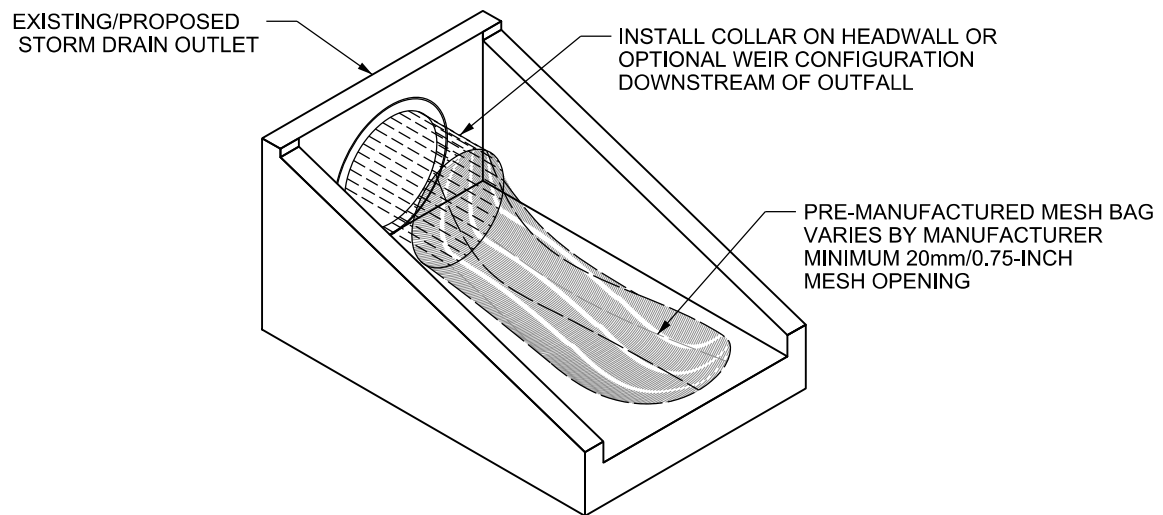
NOTES:

1. CONCENTRATED DITCH FLOW COMING TOWARD THE INSTALLATION WILL REQUIRE A STONE OVERFLOW STRUCTURE TO BE CONSTRUCTED.
2. HEIGHT OF INSTALLATION SHALL BE SHOWN ON PLANS AND MUST BE CHECKED TO VERIFY PONDING WATER WILL NOT CAUSE FLOODING OF PROPERTY OR DAMAGE.
3. ENGINEER TO VERIFY APPLICABILITY OF TEMPORARY TRASH SCREEN.

PROFILE OF TEMPORARY TRASH SCREEN DETAIL

N.T.S.

FIGURE X.XX TRASH SCREEN/CATCH DETAIL (SHEET 1 OF 2)



OUTLET TRASH SCREEN BAG

N.T.S.

FIGURE X.XX TRASH SCREEN/CATCH DETAIL (SHEET 2 OF 2)

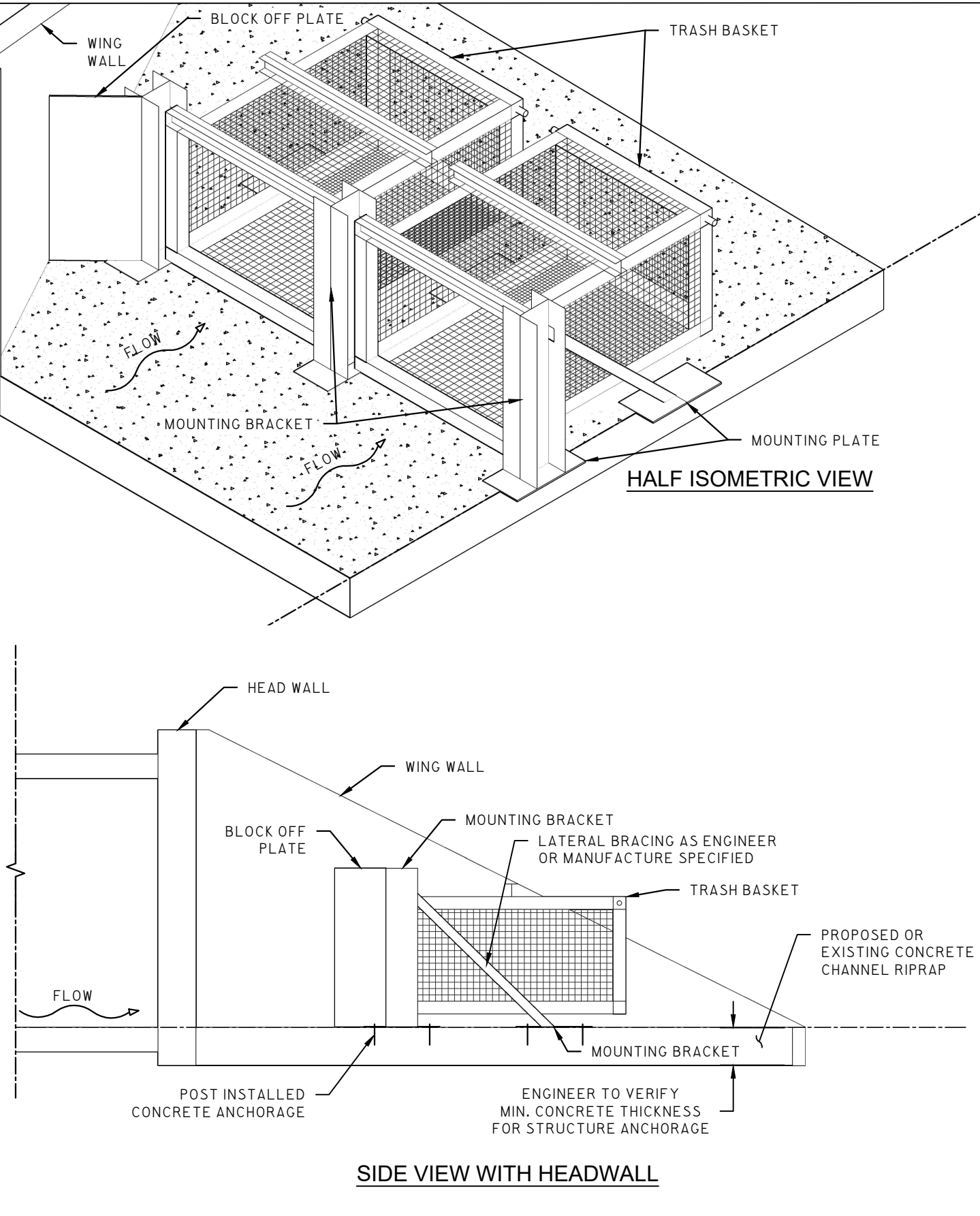


FIGURE X.XX TRASH RACK ISOMETRIC

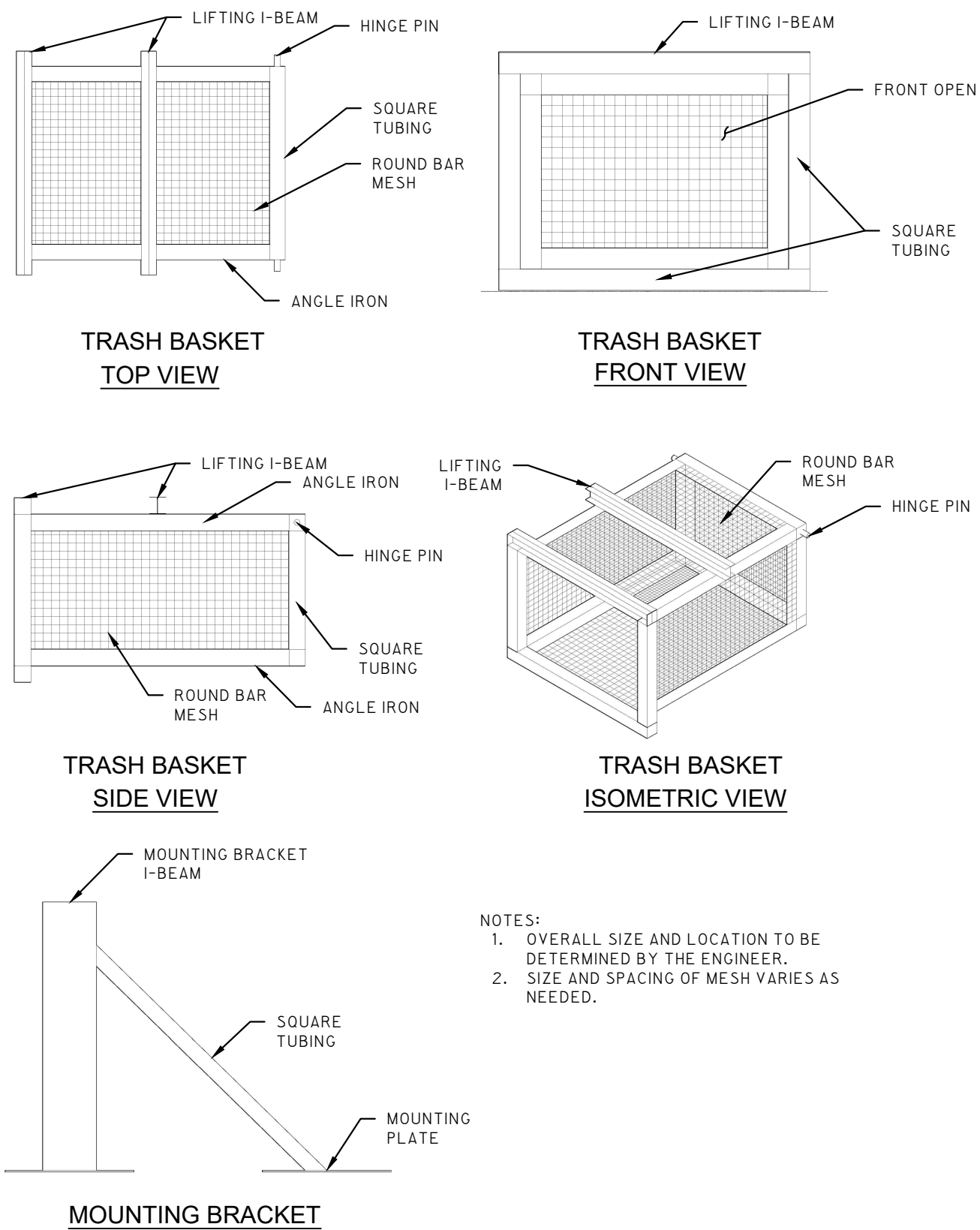


FIGURE X.XX TRASH RACK PLAN