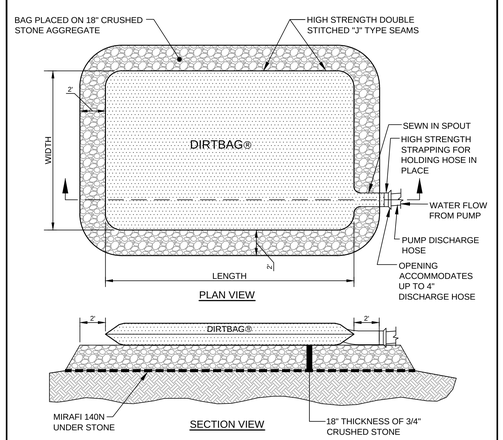



NOTE:
LOCATION OF DIRTBAGS TO BE SELECTED BY THE CONTRACTOR BUT SHALL NOT BE SITED IN THE CRITICAL AREAS.

**SPECIFICATIONS AND REQUIREMENTS FOR DEWATERING**

THIS PROJECT WILL REQUIRE THE DISCHARGE OF CONSTRUCTION DEWATERING AND TURBID LADEN RUNOFF FROM THE SITE TO BE DIRECTED AND DISCHARGED THROUGH A DIRTBAG. THIS DESCRIPTION ALSO CONTAINS APPENDED MATERIALS DESCRIBING THE **DIRTBAGS** REFERRED TO IN THIS NARRATIVE.

**OVERVIEW:**

THE PROJECT WILL USE SHALLOW SWALES AS SEDIMENTATION BASINS DURING CONSTRUCTION. HOWEVER, IT IS RECOGNIZED THAT WEATHER CONDITIONS ARE NOT ALWAYS PREDICTABLE; THERE MAY BE EXCEPTIONAL PERIODS WHEN CONSTRUCTION ACTIVITY RESULTS IN HIGHLY TURBID WATER WHICH IS NOT CONSIDERED DESIRABLE TO DISCHARGE TO THE SWALES, OR LIMITED ACTIVITY IS REQUIRED THAT MAY NOT BE EASILY ACCOMMODATED BY THE SWALES. TRADITIONALLY, MEDEP PERMITS HAVE HAD A STANDARD CONDITION WHICH STATES:

*"THE APPLICANT SHALL TAKE ALL NECESSARY ACTIONS TO ENSURE THAT ITS ACTIVITIES OR THOSE OF ITS AGENTS DO NOT RESULT IN NOTICEABLE EROSION OF SOILS OR FUGITIVE DUST EMISSIONS ON THE SITE DURING THE CONSTRUCTION AND OPERATION OF THE PROJECT COVERED BY THIS APPROVAL."*

THESE SPECIFICATIONS HAVE BEEN DEVELOPED FOR THE PURPOSE OF ADDRESSING CONSTRUCTION-DEWATERING ACTIVITIES WITH THE CONTINGENCY THAT UNPREDICTABLE WEATHER CAN CREATE. THE SPECIFICATION IS INTENDED TO "SHARE THE RISK" BETWEEN THE CONTRACTOR AND OWNER. IT IS ANTICIPATED THAT THIS METHOD WILL ALLOW THE BASE BID FOR THE PROJECT TO HAVE A REDUCED BUILT-IN CONTINGENCY COST FOR CERTAIN WEATHER-RELATED FACTORS.

THIS SPECIFICATION IS NOT INTENDED TO DIMINISH THE RECOGNIZED AND POTENTIAL AID OF THE PROPOSED SEDIMENT SWALES TO ACT AS THE PRIMARY DEVICE TO CAPTURE AND RETAIN SUSPENDED SEDIMENT. THIS BENEFIT IS A PRINCIPAL REASON WHY THE CONSTRUCTION OF THE SWALES EARLY IN THE PROJECT IS SO IMPORTANT.

**ACCEPTABLE METHODS OF DISCHARGING CONSTRUCTION SITE RUNOFF:**

DEWATERING OF THE CONSTRUCTION SITE SHALL BE ACCOMPLISHED USING ONE OF THE FOLLOWING MEASURES:

- THE DIRECTION OF THE RUNOFF TO SEDIMENTATION SWALES BY SHEET FLOW.
- THE PUMPING OF DIRTBAGS WITH A DISCHARGE TO THE SWALES OR MUNICIPAL DRAINAGE SYSTEM.
- THE PUMPING OF CONSTRUCTION SITE WATER AND COLLECTED RUNOFF TO A **DIRTBAG** (PATENTED PRODUCT BY ACF ENVIRONMENTAL PRODUCTS) WITH RELEASE THROUGH A VEGETATED BUFFER AT LEAST 50 FEET UPGRADIENT OF SHOREFRONT.

**REQUIREMENTS FOR DIRTBAGS:**

THE SITE CONTRACTOR SHALL INCLUDE THE PRICE OF INSTALLING, OPERATING, AND REMOVAL AND DISPOSAL OF FOUR **DIRTBAG 55'S** AS PART OF THE BASE BID. A UNIT PRICE SHALL BE PROVIDED FOR ADDITIONAL **DIRTBAGS.**

**AT ALL TIMES THERE MUST BE AN UNUSED DIRTBAG AVAILABLE FOR EMERGENCY USE.**

AT ALL TIMES (AFTER INITIAL SITE PREPARATION), THE CONTRACTOR SHALL HAVE ONE **DIRTBAG** ACTIVE OR READY FOR USE. THE **DIRTBAGS** SHALL BE FIELD LOCATED BY THE CONTRACTOR BUT ARE NOT TO BE INSTALLED IN ANY "**CRITICAL**" AREA. (THE SITE CRITICAL AREAS ARE SHOWN ON THE EROSION-SEDIMENT CONTROL PLAN.) THE **DIRTBAG** SHALL BE INSTALLED ON A PREPARED SUBGRADE. THIS SUBGRADE SHALL CONSIST OF THE INSTALLATION OF A LAYER OF MIRAFI 600X, AND 18 INCHES OF ¾ INCH CRUSHED STONE. THE PLAN DIMENSION OF THE CRUSHED STONE PAD SHALL EXCEED THE PLAN AREA OF THE **DIRTBAG** BY AT LEAST TWO FEET IN ALL DIRECTIONS. THE **DIRTBAG** SHALL NOT BE INSTALLED ON AN UNDERLYING SLOPE OF GREATER THAN 15 PERCENT.

**CONSTRUCTION DEWATERING OPERATIONS:**

ALL CONSTRUCTION-DEWATERING OPERATIONS ARE THE RESPONSIBILITY OF THE SITE CONTRACTOR. IT SHALL BE THE SITE CONTRACTOR WHO IS RESPONSIBLE FOR SELECTING THE SITE FOR THE **DIRTBAG.** THE SELECTION OF THE USE OF THE **DIRTBAG** OR THE SEDIMENTATION BASIN FOR DIRECTING DEWATERING, EXCEPT THAT THE OWNER MAY DIRECT THE SITE CONTRACTOR TO ALTER THE SELECTED OPERATION IF TURBID DISCHARGE TO THE WATER FRONT IS OBSERVED.

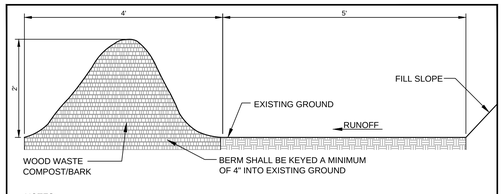
**WINTER OPERATIONS:**

IN THE EVENT THAT WINTER OPERATIONS ARE REQUIRED, THE CONTRACTOR SHALL "POLY"; ENCLOSE, AND PROVIDE TEMPORARY HEAT TO PREVENT THE **DIRTBAG** FROM SUBSTANTIAL FREEZING.

**RECORD KEEPING**

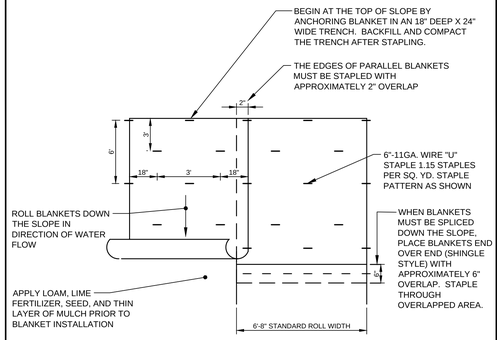
THE WEEKLY EROSION-SEDIMENT CONTROL REPORTS PREPARED IN ACCORDANCE WITH THE MAINE CONSTRUCTION GENERAL PERMIT SHALL MAINTAIN A LOG OF THE LOCATION, USE, AND REMOVAL OF **DIRTBAGS.** IN THE EVENT THAT THE STONE UNDER THE **DIRTBAG** BECOMES HIGHLY CONTAMINATED WITH FINES, THE NEXT **DIRTBAG** SHALL BE INSTALLED IN A DIFFERENT LOCATION.

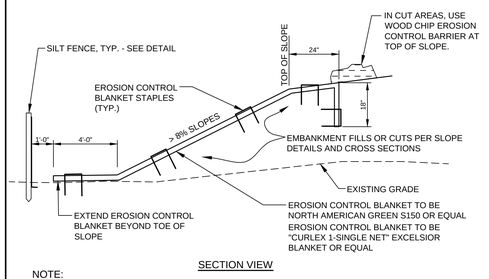
## (A) DIRTBAG® DETAIL AND SPECIFICATIONS
N.T.S.




NOTES:
1. THE WOOD WASTE COMPOST/BARK MIX SHALL CONFORM TO THE FOLLOWING STANDARDS:
   A. MOISTURE CONTENT - 30-60%
   B. pH - 5.0-8.0
   C. SCREEN SIZE - 100% LESS THAN 3", MAX. 70% LESS THAN 1"
   D. NO LESS THAN 40% ORGANIC MATERIAL (DRY WEIGHT) BY LOSS OF IGNITION
   F. NO STONES LARGER THAN 2" IN DIAMETER
2. THE COMPOST BERM SHALL BE PLACED, UNCOMPACTED, ALONG A RELATIVELY LEVEL CONTOUR.
3. THE WOOD WASTE COMPOST/BARK FILTER BERM MAY BE USED IN LIEU OF SILTATION FENCE, AT THE TOE OF SHALLOW SLOPES, ON FROZEN GROUND, LEDGE OUT CROPS, VERY ROOTED FORESTED AREA OR AT THE EDGE OF GRAVEL PARKING AREAS.
4. BERMS SHALL REMAIN IN PLACE UNTIL UPSTREAM AREA IS COMPLETED OR 70% CATCH OF VEGETATION IS ATTAINED. BERMS SHALL BE REMOVED BY SPREADING SUCH THAT THE NATIVE EARTH CAN BE SEEN BELOW.

## (B) WOOD WASTE COMPOST / BARK FILTER BERM
N.T.S.

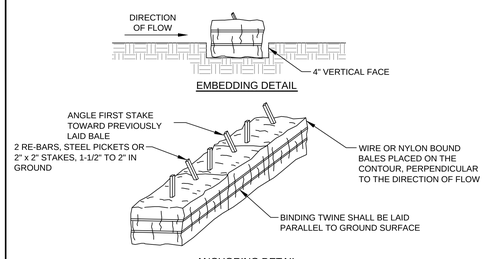


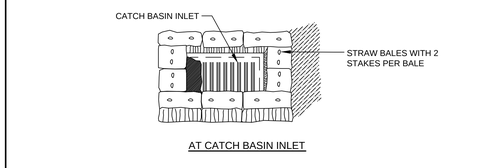




NOTE:
EROSION CONTROL BLANKET STAPLE SIZE AND DISTRIBUTION PER MANUFACTURER'S SPECIFICATIONS.

NOTES:
1. IF GRASS CATCH IS NOT 75% BY SEPTEMBER 1, ADD #4 REBARS @ 3'-0" ROWS @ 3' CENTERS. REMOVE OR DRIVE REBARS 3" BELOW GRADE IN SPRING FOLLOWING TURF ESTABLISHMENT.
2. MULCH RATE TO BE 1/2 THE RATE OTHERWISE SPECIFIED.

## (D) EROSION CONTROL BLANKET SLOPE STABILIZATION DETAIL
N.T.S.



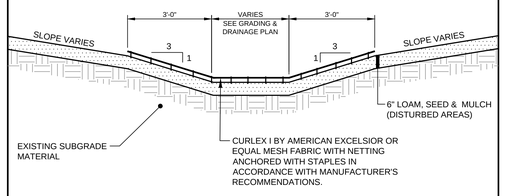




CONSTRUCTION SPECIFICATIONS

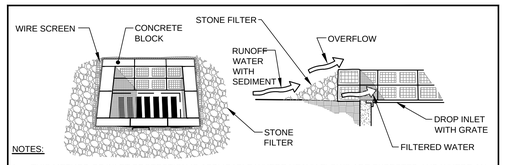
1. BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4".
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR RE-BARS DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE WAS ANGLED TOWARD PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.
4. INSPECTION WILL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MAKE PROMPTLY AS NEEDED.
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

## (D) STRAW OR HAY BALE BARRIER
N.T.S.

NOTES:
1. ALL MATERIALS SHALL CONFORM TO THE CURRENT EDITION OF THE MDOT STANDARD SPECIFICATIONS.
2. SEE PLANS FOR LOCATION(S).




## (E) VEGETATED DRAINAGE SWALE DETAIL
N.T.S.



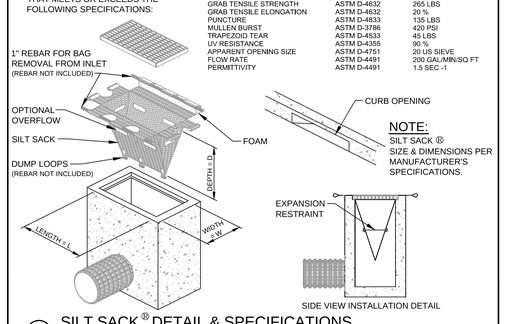

NOTES:
1. THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY FLOWS ARE EXPECTED AND WHERE AN OVERFLOW CAPACITY IS NECESSARY TO PREVENT EXCESSIVE PONDING AROUND THE STRUCTURE.
2. PLACE CONCRETE BLOCKS LENGTHWISE ON THEIR SIDES IN A SINGLE ROW AROUND THE PERIMETER OF THE INLET, WITH THE ENDS OF ADJACENT BLOCKS ABUTTING. THE HEIGHT OF THE BARRIER CAN BE VARIED, DEPENDING ON DESIGN NEEDS, BY STACKING COMBINATIONS OF 4", 8" AND 12" WIDE BLOCKS. THE BARRIER OF BLOCKS SHALL BE AT LEAST 12 INCHES HIGH, AND NO GREATER THAN 24" HIGH.
3. WIRE MESH SHALL BE PLACED OVER THE OUTSIDE VERTICAL FACE (WEBBING) OF THE CONCRETE BLOCKS TO PREVENT STONE FROM BEING WASHED THROUGH THE HOLES IN THE BLOCKS. HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH ½" OPENINGS SHALL BE USED.
4. STONE SHALL BE PILED AGAINST THE WIRE TO THE TOP OF THE BLOCK BARRIER, AS SHOWN IN DETAIL. THE STONE FILTER SHALL BE 3/4" CRUSHED STONE.
5. IF THE STONE FILTER BECOMES CLOGGED WITH SEDIMENT SO THAT IT NO LONGER ADEQUATELY PERFORMS ITS FUNCTION, THE STONE MUST BE PULLED AWAY FROM THE BLOCKS, CLEANED AND REPLACED.
6. ALL INLETS ALSO REQUIRE SILT SACKS AS SHOWN ON THE DETAIL SHEET.

## (F) CATCH BASIN STONE SEDIMENT BARRIER DETAIL
N.T.S.

NOTE: THE SILT SACK ® WILL BE MANUFACTURED FROM A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS:

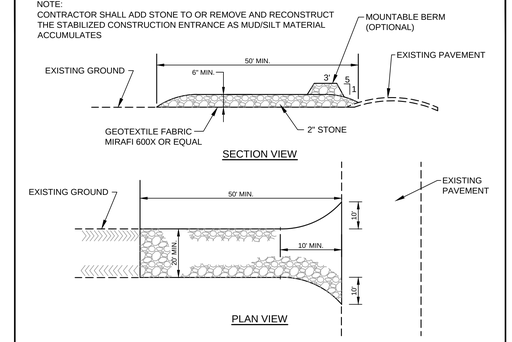
HIGH-FLOW SILT SACK ® (FOR USE IN LOW POINTS/SAGS)
(FOR AREAS OF MODERATE TO HEAVY PRECIPITATION AND RUN-OFF)

| PROPERTIES | TEST METHOD | UNITS |
|---|---|---|
| GRAB TENSILE STRENGTH | ASTM D-4632 | 265 LBS |
| GRAB TENSILE ELONGATION | ASTM D-4632 | 20 % |
| PUNCTURE | ASTM D-4833 | 135 LBS |
| MULLEN BURST | ASTM D-3786 | 420 PSI |
| TRAPEZOID TEAR | ASTM D-4533 | 45 LBS |
| UV RESISTANCE | ASTM D-4355 | 90 % |
| APPARENT OPENING SIZE | ASTM D-4751 | 20 US SIEVE |
| FLOW RATE | ASTM D-4491 | 200 GAL/MIN/SQ FT |
| PERMITTIVITY | ASTM D-4491 | 1.5 SEC -1 |

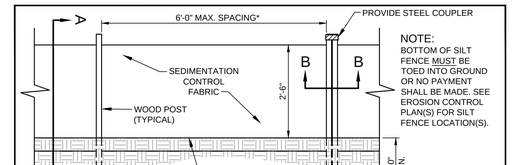



NOTE:
SILT SACK ® SIZE & DIMENSIONS PER MANUFACTURER'S SPECIFICATIONS.

## (G) SILT SACK® DETAIL & SPECIFICATIONS
N.T.S.



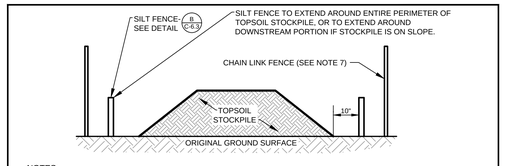

## (I) STABILIZED CONSTRUCTION ENTRANCE DETAIL
N.T.S.




NOTE:
BOTTOM OF SILT FENCE MUST BE TOED INTO GROUND OR NO PAYMENT SHALL BE MADE. SEE EROSION CONTROL PLAN(S) FOR SILT FENCE LOCATION(S).

*NOTE:
THE SILT FENCE SHOULD HAVE A MAXIMUM STAKING DISTANCE OF 6', UNLESS THE FENCE IS SUPPORTED BY WIRE FENCE REINFORCEMENT, A MAXIMUM 14 GAUGE AND WITH A MINIMUM MESH SPACING OF 6".


## (J) SILTATION FENCE DETAIL
N.T.S.




NOTES:
1. AN ON-SITE DRAINAGE SWALE SHALL BE LOCATED BETWEEN THE TOPSOIL STOCKPILE AND OFF-SITE PROPERTY.
2. REFERENCE IS MADE TO THE SILT FENCE DETAIL (SEE DETAIL 'B') FOR MATERIALS AND INSTALLATION METHODS.
3. IF THE STOCKPILE IS TO REMAIN FOR MORE THAN 14 DAYS, IT SHALL BE STABILIZED WITH STRAW BLANKET OR SEEDED TO MINIMIZE EROSION.
4. INSPECTION OF SILT FENCES SHALL BE AT LEAST ONCE PER WEEK AND AFTER RAIN EVENTS IN EXCESS OF HALF INCH (½") PER DAY OR EQUAL SNOW MELT. REPAIR OR REPLACEMENT OF SILT FENCE SHALL BE MADE PROMPTLY AS REQUIRED.
5. SEDIMENT TRAPPED BY THE SILT FENCES SHALL BE REMOVED AND PROPERLY DISPOSED OF WHENEVER SEDIMENT ACCUMULATION DEPTH AT THE SILT FENCE IS APPROXIMATELY EQUAL TO 12 (12) INCHES (ONE HALF OF SILT FENCE HEIGHT).
6. SILT FENCES SHALL BE MAINTAINED IN PLACE UNTIL TOPSOIL STOCKPILE HAS BEEN ELIMINATED AND SHALL BE REMOVED ONLY WHEN DIRECTED BY VILLAGE ENGINEERING.
7. TO COMPLY WITH THE VILLAGE'S SAFETY REQUIREMENTS ERECTION OF STABLE AND SECURE SIX (6) FEET HIGH CHAIN LINK FENCE AROUND THE PERIMETER OF THE STOCKPILED MATERIAL IS REQUIRED. COORDINATE WITH THE ENGINEER.

## (H) TEMPORARY TOPSOIL STOCKPILE DETAIL
N.T.S.

| REV | DATE | DESCRIPTION |
|---|---|---|
| 4 | 12.14.17 | PERMIT RENEWAL SUBMISSION - LEVEL III |
| 3 | 11.10.15 | REVISED FINAL PLAN SUBMISSION |
| 2 | 09.04.15 | FINAL PLAN SUBMISSION TO CITY OF PORTLAND |
| 1 | 06.15.15 | PRELIMINARY PHASE III AMENDED SITE PLAN TO CITY OF PORTLAND |

REVISIONS

STATE OF MAINE — STEPHEN R. BUSHEY — 12/14/17 — LICENSED PROFESSIONAL ENGINEER

P.E. STEPHEN BUSHEY
LIC. # 7429

PROJECT
CANAL LANDING
AMENDED SITE PLAN

SHEET TITLE
EROSION AND SEDIMENT CONTROL DETAILS

CLIENT
CANAL LANDING LLC
400 WEST COMMERCIAL STREET
PORTLAND, ME 04101


STANTEC CONSULTING SERVICES INC.
482 PAYNE ROAD
SCARBOROUGH, ME 04074
WWW.STANTEC.COM
Stantec


| | | | |
|---|---|---|---|
| DRAWN: | PBF | DATE: | DECEMBER 2017 |
| DESIGNED: | SRB | SCALE: | AS SHOWN |
| CHECKED: | SRB | JOB NO. | 195350129 |
| FILE NAME: | 3091-DET-EROS | | |
| SHEET | C-6.2 | | |