# STANDARD AND SPECIFICATIONS FOR TEMPORARY CONSTRUCTION AREA SEEDING

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#### **Definition & Scope**

November 2016

Providing temporary erosion control protection to disturbed areas and/or localized critical areas for an interim period by covering all bare ground that exists as a result of construction activities or a natural event. Critical areas may include but are not limited to steep excavated cut or fill slopes and any disturbed, denuded natural slopes subject to erosion.

#### **Conditions Where Practice Applies**

Temporary seedings may be necessary on construction sites to protect an area, or section, where final grading is complete, when preparing for winter work shutdown, or to provide cover when permanent seedings are likely to fail due to mid-summer heat and drought. The intent is to provide temporary protective cover during temporary shutdown of construction and/or while waiting for optimal planting time.

#### **Criteria**

Water management practices must be installed as appropriate for site conditions. The area must be rough graded and slopes physically stable. Large debris and rocks are usually removed. Seedbed must be seeded within 24 hours of disturbance or scarification of the soil surface will be necessary prior to seeding.

Fertilizer or lime are not typically used for temporary seedings

IF: Spring or summer or early fall, then seed the area with ryegrass (annual or perennial) at 30 lbs. per acre (Approximately 0.7 lb./1000 sq. ft. or use 1 lb./1000 sq. ft.).

IF: Late fall or early winter, then seed Certified 'Aroostook' winter rye (cereal rye) at 100 lbs. per acre (2.5 lbs./1000 sq. ft.).

Any seeding method may be used that will provide uniform application of seed to the area and result in relatively good soil to seed contact.

Mulch the area with hay or straw at 2 tons/acre (approx. 90 lbs./1000 sq. ft. or 2 bales). Quality of hay or straw mulch allowable will be determined based on long term use and visual concerns. Mulch anchoring will be required where wind or areas of concentrated water are of concern. Wood fiber hydromulch or other sprayable products approved for erosion control (nylon web or mesh) may be used if applied according to manufacturers' specification. Caution is advised when using nylon or other synthetic products. They may be difficult to remove prior to final seeding and can be a hazard to young wildlife species.

# STANDARD AND SPECIFICATIONS FOR TOPSOILING



## Definition & Scope

Spreading a specified quality and quantity of topsoil materials on graded or constructed subsoil areas to provide acceptable plant cover growing conditions, thereby reducing erosion; to reduce irrigation water needs; and to reduce the need for nitrogen fertilizer application.

#### **Conditions Where Practice Applies**

Topsoil is applied to subsoils that are droughty (low available moisture for plants), stony, slowly permeable, salty or extremely acid. It is also used to backfill around shrub and tree transplants. This standard does not apply to wetland soils.

#### Design Criteria

- 1. Preserve existing topsoil in place where possible, thereby reducing the need for added topsoil.
- 2. Conserve by stockpiling topsoil and friable fine textured subsoils that must be stripped from the excavated site and applied after final grading where vegetation will be established. Topsoil stockpiles must be stabilized. Stockpile surfaces can be stabilized by vegetation, geotextile or plastic covers. This can be aided by orientating the stockpile lengthwise into prevailing winds.
- Refer to USDA Natural Resource Conservation Service soil surveys or soil interpretation record sheets for further soil texture information for selecting appropriate design topsoil depths.

New York State Standards and Specifications

For Erosion and Sediment Control

#### Site Preparation

- As needed, install erosion and sediment control practices such as diversions, channels, sediment traps, and stabilizing measures, or maintain if already installed.
- 2. Complete rough grading and final grade, allowing for depth of topsoil to be added.
- Scarify all compact, slowly permeable, medium and fine textured subsoil areas. Scarify at approximately right angles to the slope direction in soil areas that are steeper than 5 percent. Areas that have been overly compacted shall be decompacted in accordance with the Soil Restoration Standard.
- Remove refuse, woody plant parts, stones over 3 inches in diameter, and other litter.

#### Topsoil Materials

- Topsoil shall have at least 6 percent by weight of fine textured stable organic material, and no greater than 20 percent. Muck soil shall not be considered topsoil.
- 2. Topsoil shall have not less than 20 percent fine textured material (passing the NO. 200 sieve) and not more than 15 percent clay.
- 3. Topsoil treated with soil sterilants or herbicides shall be so identified to the purchaser.
- 4. Topsoil shall be relatively free of stones over 1 1/2 inches in diameter, trash, noxious weeds such as nut sedge and quackgrass, and will have less than 10 percent gravel.
- 5. Topsoil containing soluble salts greater than 500 parts per million shall not be used.
- 6. Topsoil may be manufactured as a mixture of a mineral component and organic material such as compost.

#### **Application and Grading**

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- 1. Topsoil shall be distributed to a uniform depth over the area. It shall not be placed when it is partly frozen, muddy, or on frozen slopes or over ice, snow, or standing water puddles.
- 2. Topsoil placed and graded on slopes steeper than 5 percent shall be promptly fertilized, seeded, mulched, and stabilized by "tracking" with suitable equipment.
- 3. Apply topsoil in the amounts shown in Table 4.7 below:

November 2016

#### **Table 4.7 - Topsoil Application Depth Intended Use Site Conditions** Topsoil Depth Mowed lawn 1. Deep sand or 6 in. loamy sand Tall legumes, unmowed 2 in. Tall grass, unmowed 1 in. 2. Deep sandy Mowed lawn 5 in. Tall legumes, unmowed 2 in. Tall grass, unmowed none Mowed lawn 3. Six inches or 4 in.

Fall legumes, unmowed

Tall grass, unmowed

1 in.

1 in.

more: silt loam,

clay loam, loam,

November 2016

or silt

#### Decompaction

At the end of the project an inspector should be able to push a 3/8" metal bar 12 inches into the soil just with body weight. This should not be performed within the drip line of any existing trees or over utility installations that are within 24 inches of the surface.

#### **Maintenance**

Keep the site free of vehicular and foot traffic or other weight loads. Consider pedestrian footpaths.

For Erosion and Sediment Control

# Table 4.6 AG & Markets Soil Restoration Requirements

required  HSG C&D  Aerate* and apply 6 inches of topsoid  HSG C&D  Apply full Soil Restoration**  Restoration  and compost enhance-		
HSG C&D  Aerate* and apply 6 inches of topsoid  HSG C&D  Apply full Soil Restoration**	Protect area from any ongoing construction activities.	
Aerate* and apple 6 inches of topsoid HSG C&D  Apply full Soil Restoration**	tion activities.	
6 inches of topsoid HSG C&D  Apply full Soil Restoration**  Restoration	tion activities.	
Apply full Soil Restoration**		
Restoration**		
ce the reduction spec	Keep construction equipment from crossing these areas. To protect newly installed practice from any ongoing construction activities construct a single phase operation fence area	
in areas where existing		
n s a	required, but may be note the reduction spectrate practices.  In is required on redevers in areas where existing will be converted to awn implements with a prongs which function	

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INSTALL CABLE ACROSS STREAM STABILIZE BANKS WITH MAINTAIN EXISTING STREAM CROSSING TO BE COMPLETED IN ONE OPERATION BANK PROFILE COCONUT FIBER ROLLS OR NATIVE STONE, AS AND MEET NECESSARY UPSTREAM & - REVEGETATE DISTURBED DOWNSTREAM WATER LEVEL AREAS WITH SEED & MULCH — REPLACE TOPSOIL NATIVE STONE & RIP RAP SIZED TO MATCH UPSTREAM AND DOWNSTREAM CONDITIONS NATIVE MATERIAL - RESTORE CHANNEL TO PRECONSTRUCTION GRADIENT AND WIDTH - CABLE

New York State Standards and Specifications

For Erosion and Sediment Control

NOTES:

THE RESTORED STREAM CHANNEL SHALL BE EQUAL IN WIDTH, DEPTH, GRADIENT, LENGTH AND CHARACTER AS THE PRE-EXISTING STREAM CHANNEL AND TIE IN SMOOTHLY TO PROFILE OF THE STREAM CHANNEL UPSTREAM AND DOWNSTREAM OF THE PROJECT AREA. THE PLANTFORM OF AND STREAM NOT BE CHANGED.

- 2. ANY IN-STREAM WORK OR RESTORATION SHALL NOT RESULT IN AN IMPEDIMENT TO PASSAGE OF AQUATIC ORGANISM.
- 3. ANY IN-STREAM WORK (EXCLUDING DEWATERING PRACTICES ASSOCIATED WITH DRY TRENCH CROSSINGS) AND RESTORATION SHALL BE CONSTRUCTED IN A MANNER WHICH MAINTAINS LOW FLOW CONDITIONS AND PRESERVES WATER DEPTHS AND VELOCITIES SIMILAR TO UNDISTURBED UPSTREAM AND DOWNSTREAM REACHES NECESSARY TO SUSTAIN THE MOVEMENT OF NATIVE AQUATIC ORGANISMS. ANY IN-STREAM HABITAT STRUCTURES SHALL NOT CREATE A DROP HEIGHT GREATER THAN SIX INCHES.
- 4. ALL DISTURBED STREAM BANKS BELOW THE NORMAL HIGH—WATER ELEVATION MUST BE GRADED NO STEEPER THAN ONE VERTICAL TO TWO HORIZONTAL SLOPE (1:2), OR TO THE ORIGINAL GRADE AS APPROPRIATE . AND ADEQUATELY STABILIZED.
- 5. ALL OTHER AREAS OF SOIL DISTURBANCE ABOVE THE ORDINARY HIGH—WATER ELEVATION, OR ELSEWHERE, SHALL BE STABILIZED WITH NATURAL FIBER MATTING, SEEDED WITH AND APPROPRIATE PERENNIAL NATIVE CONSERVATION SEED MIX, AND MULCHED WITH STRAW WITHIN TWO (2) DAYS OF FINAL GRADING. MULCH SHALL BE MAINTAINED UNTIL SUITABLE VEGETATION COVER IS ESTABLISHED.
- 6. DESTROYED BANK VEGETATION SHALL BE REPLACED WITH APPROPRIATE NATIVE SHRUBS, LIVE STAKES, AND/OR TREE PLANTINGS AS SITE CONDITIONS, AS APPROPRIATE.

STREAM RESTORATION DETAIL
N.T.S.

REMOVED FOLLOWING FILL TO BE REMOVED STABILIZATION AND WETLAND RESTORED TO EXISTING GRADE GRADE - USE STOCKPILE WETLAND - GEOTEXTILE FABRIC  $ldsymbol{ld}}}}}} \lgotion leap \lambol{eta} \lambol{eta}} \logified \end{weith}}}}$ SOILS TO RESTORE PROFILE AND GRADE AS NEEDED 1. ALL FILL TO BE REMOVED FROM WETLAND ALL FILL MATERIAL TO BE DISCHARGED TO A LEGAL UPLAND LOCATION. STABILIZE AREA IN ACCORDANCE WITH SWPPP. 4. LIMIT WORK TO TEMPORARY DISTURBED AREAS AS SHOWN ON PERMIT DRAWING. 5. CONTOURS SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITIONS WITHIN 48 HOURS OF FINAL BACKFILLING OF THE TRENCH WITHIN WETLANDS AND STATE-REGULATED ADJACENT AREAS. 6. IMMEDIATELY UPON COMPLETION OF GRADING, WETLAND AND ADJACENT AREAS SHALL BE SEEDED AND/OR REPLANTED WITH NATIVE SHRUBS AND HERBACEOUS PLANTS AT PRE-CONSTRUCTION DENSITIES. SEEDING WITH AND APPROPRIATE NATIVE WETLAND SPECIES MIX (E.G. ERNST WETLAND MIX, OBL-FACW PERENNIAL WETLAND MIX, (OBL WETLAND MIX, SPECIALIZED WETLAND MIX FOR SHADED OBL-FACW), OR EQUIVALENT) SHALL BE COMPLETED TO HELP STABILIZE THE SOILS. 7. WETLAND RESTORATION AREAS SHALL BE MONITORED FOR A MINIMUM OF 5 YEARS OR UNTIL AN 80% COVER OF PLANTS WITH THE APPROPRIATE WETLAND INDICATOR STATUS HAS BEEN REESTABLISHED OVER ALL PORTIONS OF THE RESTORED AREA. AT THE END OF THE FIRST YEAR OF MONITORING, THE CERTIFICATE HOLDER SHALL REPLACE LOST WETLAND AND/OR WETLAND ADJACENT AREA PLANTINGS IF THE SURVIVAL RATE OF THE INITIAL PLANTINGS IS LESS THAN 80%; AND 8. IF AT THE END OF THE SECOND YEAR OF MONITORING, THE CRITERIA FOR RESTORATION PLANTINGS (80% COVER, 80% SURVIVAL OF PLANTINGS) ARE NOT MET, THEN THE CERTIFICATE HOLDER MUST ESCALATE THE REASONS FOR THESE RESULTS AND SUBMIT AN APPROVABLE WETLAND PLANTING REMEDIAL PLAN (WPRP) FOR DEC AND DPS APPROVAL. THE WPRP MUST INCLUDE THE FOLLOWING: A)ANALYSIS OF POOR SURVIVAL; B)CORRECTIVE ACTIONS TO ENSURE A SUCCESSFUL RESTORATION; AND C)SCHEDULE FOR CONDUCTING THE REMEDIAL WORK. ONCE APPROVED, THE WPRP WILL BE IMPLEMENTED ACCORDING TO THE APPROVED SCHEDULE. WETLAND RESTORATION DETAIL N.T.S.

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TYPICAL SEDIMENT

CONTROL PRACTICE TO BE

New York State Standards and Specifications

For Erosion and Sediment Control

CONCEPTUAL - NOT FOR CONSTRUCTION

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Client



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TYPICAL CIVIL DETAILS
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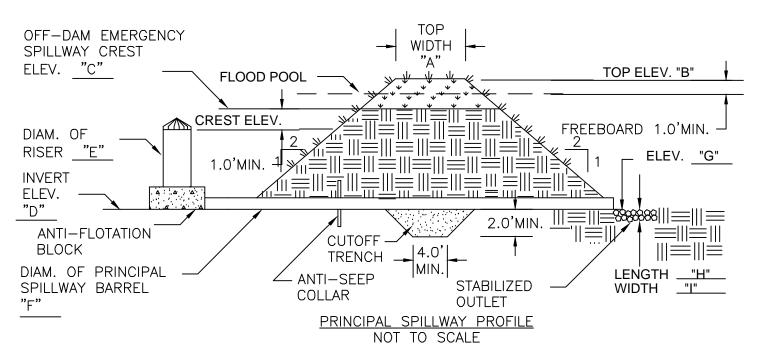
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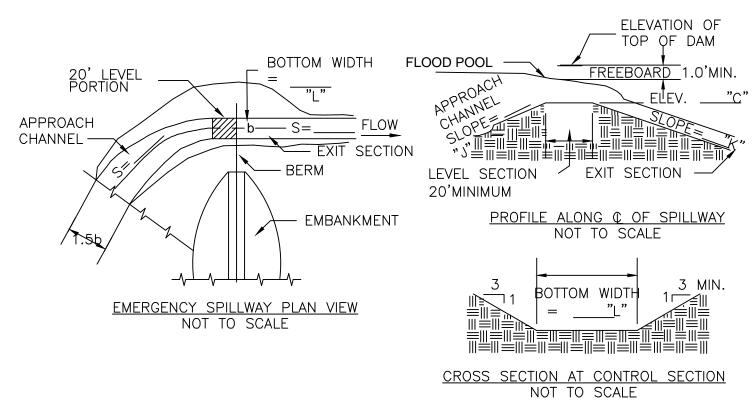
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#### MAXIMUM DRAINAGE AREA = 50 ACRES



# SEDIMENT BASIN DETAILS

## CONSTRUCTION SPECIFICATIONS

AREAS UNDER THE EMBANKMENT SHALL BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS, OR OTHER OBJECTIONABLE MATERIAL. IN ORDER TO FACILITATE CLEANOUT AND RESTORATION, THE POOL AREA (MEASURED AT THE TOP OF THE PIPE SPILLWAY) WILL BE CLEARED OF ALL BRUSH. TREES, AND OTHER

A CUTOFF TRENCH SHALL BE EXCAVATED ALONG THE CENTERLINE OF EARTH FILL EMBANKMENTS. THE MINIMUM DEPTH SHALL BE TWO FEET. THE CUTOFF TRENCH SHALL EXTEND UP BOTH ABUTMENTS TO THE RISER CREST ELEVATION. THE MINIMUM BOTTOM WIDTH SHALL BE FOUR FEET, BUT WIDE ENOUGH TO PERMIT OPERATION OF EXCAVATION AND COMPACTION EQUIPMENT. THE SIDE SLOPES SHALL BE NO STEEPER THAN 1:1. COMPACTION REQUIREMENTS SHALL BE THE SAME AS THOSE FOR EMBANKMENT. THE TRENCH SHALL BE DE-WATERED DURING THE BACK-FILLING/COMPACTION

THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED AREAS SHOWN ON THE PLANS. IT SHALL BE CLEAN MINERAL SOIL FREE OF ROOTS, WOODED VEGETATION, OVERSIZED STONES, ROCKS, OR OTHER OBJECTIONABLE MATERIAL. RELATIVELY PERVIOUS MATERIAL SUCH AS SNAG OR GRAVEL (UNIFIED SOIL CLASSES GW. GP. SW & SP) SHALL NOT BE PLACED IN THE EMBANKMENT. AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT OF FILL. THE FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SO THAT IT CAN BE FORMED BY HAND INTO A BALL WITHOUT CRUMBLING. IF WATER CAN BE SQUEEZED OUT OF A BALL, IT IS TOO WET FOR PROPER COMPACTION. FILL MATERIAL SHALL BE PLACED IN SIX TO EIGHT INCH THICK CONTINUOUS LAYERS OVER THE ENTIRE LENGTH OF THE FILL COMPACTION SHALL BE OBTAINED BY ROUTING AND HAULING THE CONSTRUCTION EQUIPMENT OVER THE FILL SO THAT THE ENTIRE SURFACE OF EACH LAYER OF THE FILL IS TRAVERSED BY AT LEAST ONE WHEEL OR TREAD TRACK OF THE EQUIPMENT OR BY THE USE OF A COMPACTOR. THE EMBANKMENT SHALL BE CONSTRUCTED TO AN ELEVATION 10

PERCENT HIGHER THAN THE DESIGN HEIGHT TO ALLOW FOR SETTLEMENT. THE RISER SHALL BE SECURELY ATTACHED TO THE BARREL OR BARREL STUB BY WELDING THE FULL CIRCUMFERENCE MAKING A WATERTIGHT STRUCTURAL CONNECTION. THE BARREL STUB MUST BE ATTACHED TO THE RISER AT THE SAME PERCENT (ANGLE) OF GRADE AS THE OUTLET CONDUIT. THE CONNECTION BETWEEN THE RISER AND THE RISER BASE SHALL BE WATERTIGHT. ALL CONNECTIONS BETWEEN BARREL SECTIONS MUST BE ACHIEVED BY APPROVED WATERTIGHT BANK ASSEMBLIES. THE BARREL AND RISER SHALL BE PLACED ON A FIRM, SMOOTH FOUNDATION OF IMPERVIOUS SOIL PERVIOUS MATERIALS SUCH AS SAND, GRAVEL, OR CRUSHED STONE SHALL NOT BE USED AS BACKFILL AROUND THE PIPE OR ANTI-SEEP COLLARS. THE FILL MATERIAL AROUND THE PIPE SPILLWAY SHALL BE PLACED IN FOUR-INCH LAYERS AND COMPACTED UNDER AND AROUND THE PIPE TO AT LEAST THE SAME DENSITY AS THE ADJACENT EMBANKMENT.

A MINIMUM DEPTH OF TWO FEET OF HAND COMPACTED BACKFILL SHALL BE PLACED OVER THE PIPE SPILLWAY BEFORE CROSSING IT WITH CONSTRUCTION EQUIPMENT. STEEL BASE PLATES ON RISERS SHALL HAVE AT LEAST 2 1/2 FEET OF COMPACTED EARTH, STONE, OR GRAVEL PLACED OVER IT TO PREVENT FLOTATION.

THE EMERGENCY SPILLWAY SHALL BE INSTALLED IN UNDISTURBED GROUND. THE ACHIEVEMENT OF PLANNED ELEVATIONS, GRADES, DESIGN WIDTH, ENTRANCE AND EXIT CHANNEL SLOPES ARE CRITICAL TO THE SUCCESSFUL OPERATION OF THE EMERGENCY SPILLWAY AND MUST BE CONSTRUCTED WITHIN A TOLERANCE OF +/- 0.2 FEET.

STABILIZE THE EMBANKMENT AND EMERGENCY SPILLWAY IN ACCORDANCE WITH THE APPROPRIATE VEGETATIVE STANDARD AND SPECIFICATION IMMEDIATELY FOLLOWING CONSTRUCTION. IN NO CASE SHALL THE EMBANKMENT REMAIN UNSTABILIZED FOR MORE THAN THREE (3) DAYS.

CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION WILL BE MINIMIZED. STATE AND LOCAL LAWS SHALL BE COMPLIED WITH CONCERNING POLLUTION ABATEMENT.

STATE AND LOCAL REQUIREMENTS SHALL BE MET CONCERNING FENCING AND SIGNS, WARNING THE PUBLIC OF HAZARDS OF SOFT SEDIMENT AND FLOODWATER.

O. REPAIR ALL DAMAGES CAUSED BY SOIL EROSION AND CONSTRUCTION EQUIPMENT AT OR BEFORE THE END OF EACH WORKING DAY.

SEDIMENT SHALL BE REMOVED FROM THE BASIN WHEN IT REACHES THE SPECIFIED DEPTH FOR CLEANOUT NOTED ON THE PLANS WHICH WILL NOT EXCEED 50% OF THE CAPACITY OF THE SEDIMENT STORAGE ZONE. THIS SEDIMENT SHALL BE PLACED IN SUCH A MANNER THAT IT WILL NOT ERODE FROM THE SITE. THE SEDIMENT SHALL NOT BE DEPOSITED DOWNSTREAM FROM THE EMBANKMENT, ADJACENT TO A STREAM OR FLOODPLAIN.

WHEN TEMPORARY STRUCTURES HAVE SERVED THEIR INTENDED PURPOSE AND THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED, THE EMBANKMENT AND RESULTING SEDIMENT DEPOSITS ARE TO BE LEVELED OR OTHERWISE DISPOSED OF IN ACCORDANCE WITH THE APPROVED SEDIMENT CONTROL PLAN. THE PROPOSED USE OF A SEDIMENT BASIN SITE WILL OFTEN DICTATE FINAL DISPOSITION OF THE BASIN AND ANY SEDIMENT CONTAINED THEREIN. IF THE SITE IS SCHEDULED FOR FUTURE CONSTRUCTION, THEN THE BASIN MATERIAL AND TRAPPED SEDIMENTS MUST BE REMOVED, SAFELY DISPOSED OF, AND BACKFILLED WITH A STRUCTURAL FILL. WHEN THE BASIN AREA IS TO REMAIN OPEN SPACE, THE POND MAY BE PUMPED DRY, GRADED, AND BACKFILLED.

## CONSTRUCTION SPECIFICATIONS

1. AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED.

2. THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS OR OTHER WOODY VEGETATION AS WELL AS OVER—SIZED STONES, ROCKS, ORGANIC MATERIAL, OR OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.

3. VOLUME OF SEDIMENT STORAGE SHALL BE 3600 CUBIC FEET PER ACRE OF CONTRIBUTORY **DRAINAGE** 

1/4" METAL PLATE WELDED ALL 4. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND STABILIZED

5. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED 6. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION

AND SEDIMENT ARE CONTROLLED 7. THE STRUCTURE SHALL BE REMOVED AND AREA STABILIZED WHEN THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

8. ALL FILL SLOPES SHALL BE 2:1 OR FLATTER; CUT SLOPES 1:1 OR FLATTER. 9. ALL PIPE CONNECTIONS SHALL BE WATERTIGHT

10. THE TOP 2/3 OF THE RISER SHALL BE PERFORATED WITH ONE (1) INCH DIAMETER HOLES OR SLITS SPACED SIX (6) INCHES VERTICALLY AND HORIZONTALLY AND PLACED IN THE CONCAVE PORTION OF PIPE. NO HOLES WILL BE ALLOWED WITHIN SIX (6) INCHES OF THE HORIZONTAL BARREL. FABRIC SECURELY FASTENED

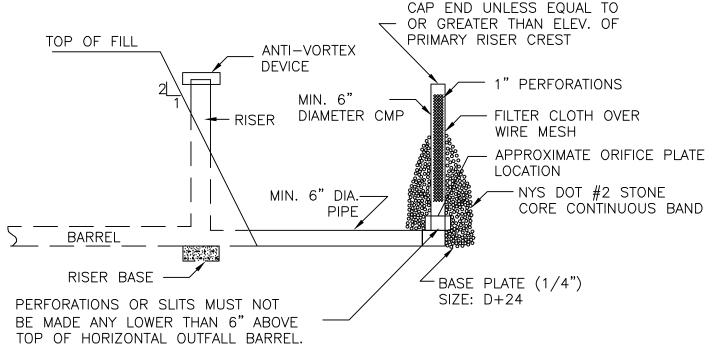
THE RISER SHALL BE WRAPPED WITH 1/4 TO 1/2 INCH HARDWARE CLOTH WIRE THEN WRAPPED WITH FILTER CLOTH (HAVING AN EQUIVALENT SIEVE SIZE OF 40-80). THE FILTER CLOTH SHALL EXTEND SIX (6) INCHES ABOVE THE HIGHEST HOLE AND SIX (6) INCHES BELOW THE LOWEST HOLE. WHERE ENDS OF THE FILTER CLOTH COME TOGETHER, THEY SHALL BE OVER-LAPPED, FOLDED AND STAPLED TO PREVENT BYPASS

12. STRAPS OR CONNECTING BANDS SHALL BE USED TO HOLD THE FILTER CLOTH AND WIRE FABRIC IN PLACE. THEY SHALL BE PLACED AT THE TOP AND BOTTOM OF THE CLOTH.

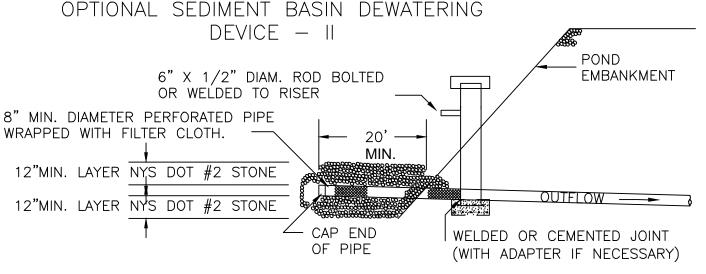
13. FILL MATERIAL AROUND THE PIPE SPILLWAY SHALL BE HAND COMPACTED IN FOUR (4) INCH LAYERS. A MINIMUM OF TWO (2) FEET OF HAND COMPACTED BACKFILL SHALL BE PLACED OVER THE PIPE SPILLWAY BEFORE CROSSING IT WITH CONSTRUCTION EQUIPMENT

14. THE RISER SHALL BE ANCHORED WITH EITHER A CONCRETE BASE OR STEEL PLATE BASE TO PREVENT FLOTATION. FOR CONCRETE BASE THE DEPTH SHALL BE TWELVE (12) INCHES WITH THE RISER EMBEDDED NINE (9) INCHES. A 1/4 INCH MINIMUM THICKNESS STEEL PLATE SHALL BE ATTACHED TO THE RISER BY A CONTINUOUS WELD. AROUND THE BOTTOM TO FORM A WATERTIGHT CONNECTION AND THEN PLACE TWO (2) FEET OF STONE, GRAVEL, OR TAMPED EARTH ON THE PLATE.

#### OPTIONAL SEDIMENT BASIN DEWATERING DEVICE — I WITH 6" MIN. PERFORATED RISER



PERFORATIONS - 6" SPACING HORIZONTAL & VERTICAL LOCATED IN CONCAVE.



## SEDIMENT BASIN RISER PIPE DEWATERING

# **ISSUED FOR 94C** 07/14/2021 JSD ISSUED FOR REVIEW

**MOTT** 

MACDONALD

01/29/2021 RCB ISSUED FOR REVIEW

Drawn Description

Mott Macdonald NY Inc. 111 Wood Avenue South Iselin, NJ 08830-4112 **United States** T +1 (973) 379-3400 F +1 (973) 376-1072

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SOUTH RIPLEY SOLAR TYPICAL CIVIL DETAILS SHEET 9 OF 10

Designed

**PRELIMINARY** NOT FOR CONSTRUCTION REPLACE WITH **ENGINEERS STAMP** AT CONSTRUCTION AND/OR FABRICATION

RCB Approved Drawn Scale at ANSI D Date Rev 07/14/2021 **Drawing Number** SRS-C-101-09

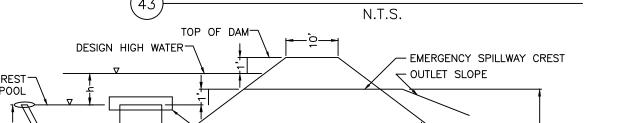
DRAIN SKIMMER 2 #8 (MIN.) BARS PLACED AT RIGHT ANGLES AND PROJECTING INTO SIDES OF RISER TO HELP ANCHOR RISER INTO CONCRETE BASE WIDTH EQUALS 2x

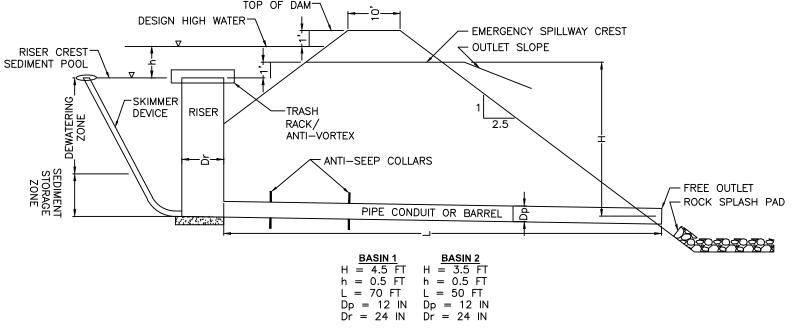
## CONSTRUCTION SPECIFICATIONS

DIAMETER OF RISER

- 1. THE CONCRETE BASE SHALL BE POURED IN SUCH A MANNER TO INSURE THAT THE CONCRETE FILLS THE BOTTOM OF THE RISER TO THE INVERT OF THE OUTLET PIPE TO PREVENT THE RISER FROM BREAKING AWAY FROM THE BASE.
- 2. WITH ALUMINUM OR ALUMINIZED PIPE, THE EMBEDDED SECTION MUST BE PAINTED WITH CHROMATE OR EQUIVALENT.
- 3. RISER BASE MAY BE SIZED AS COMPUTED USING FLOATATION WITH A FACTOR OF SAFETY OF 1.2.

RISER BASE DETAIL SEDIMENT BASIN





SEDIMENT BASIN PIPE SPILLWAY DESIGN N.T.S.

CONCEPTUAL - NOT FOR CONSTRUCTION

#### 2:1 SLOPE OR FLATTER — – 2:1 SLOPE OR FLATTER → STABILIZATION AS REQUIRED. ON STEEP SLOPES EXCAVATE TO PROVIDE REQUIRED FLOW GRADE LINE WIDTH AT FLOW DEPTH. CUT OR FILL SLOPE DIKE B DIKE A CROSS SECTION (5 AC. OR LESS) (5-10AC. NOT TO SCALE A — DIKE HEIGHT B — DIKE WIDTH 48" C - FLOW WIDTH 15" D — FLOW DEPTH POSITIVE DRAINAGE-GRADE SUFFICIENT TO DRAIN

EXCAVATE IF NECESSARY FOR

\* RISER EMBEDDED 9" INTO

CONCRETE

AROUND.

1/4" TO 1/2" HARWARE

CLOTH WITH FILTER

W=DIAMETER OF

PIPE OUTLET SEDIMENT TRAP ST-I

RISER +24"

DESIGN VOLUME IS

7200 CU.FT.

- PERFORATED RISER

STORAGE

# CUT OR FILL SLOPE

# CONSTRUCTION SPECIFICATIONS

1. ALL DIKES SHALL BE COMPACTED BY EARTH-MOVING EQUIPMENT. 2. ALL DIKES SHALL HAVE POSITIVE DRAINAGE TO AN OUTLET.

EARTH EMBANKMEÑI

ALL SLOPES 2:1

┵10.0'┗- TIGHT JOINTS

OR FLATTER

TRAP 1):

BARREL DIAMETER:

SAFE OUTLET.

RISER DIAMETER:

RIPRAP

**PROTECTION** 

1.0'

MIN.

5.0'MAX.

EMBANKMENT SECTION THRU RISER

ACCEPTABLE WATER

SIZES OF PIPE NEEDED (PIPE OUTLET SEDIMENT

21"

–1'6"MIN.

AROUND

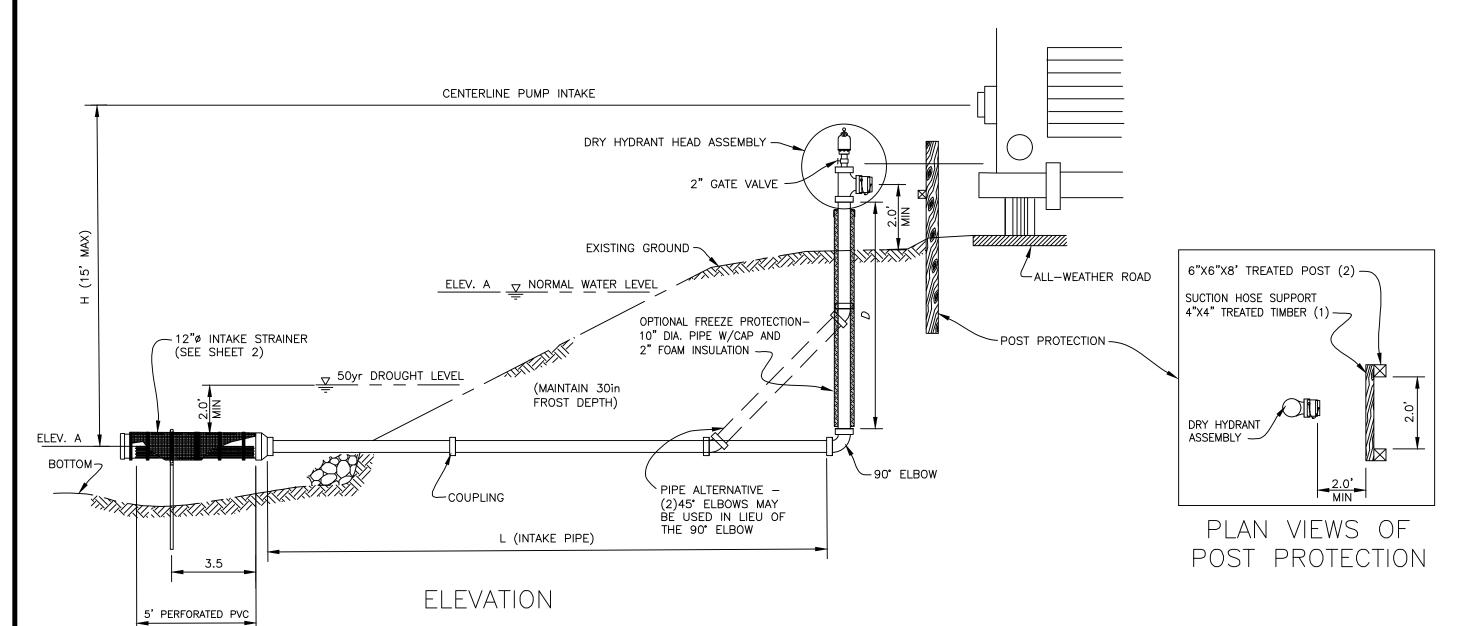
OUTLET PROTECTION

- 3. TOP WIDTH MAY BE WIDER AND SIDE SLOPES BE FLATTER IF DESIRED TO
- FACILITATE CROSSING BY CONSTRUCTION TRAFFIC. 4. FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED
- 5. EARTH DIKES SHALL HAVE AN OUTLET THAT FUNCTIONS WITH A MINIMUM OF EROSION. RUNOFF SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE SUCH AS A SEDIMENT TRAP OR SEDIMENT BASIN WHERE EITHER THE DIKE CHANNEL OR THE DRAINAGE AREA ABOVE THE DIKE ARE NOT ADEQUATELY STABILIZED.
- 6. FILL STABILIZATION SHALL BE: (A) IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR SEED AND STRAW MULCH IF NOT IN SEEDING SEASON, (B) FLOW CHANNEL STABILIZATION PER THE STANDARD CHART BASED ON CHANNEL GRADE.

TYPICAL TEMPORARY EARTH DIKE

N.T.S.

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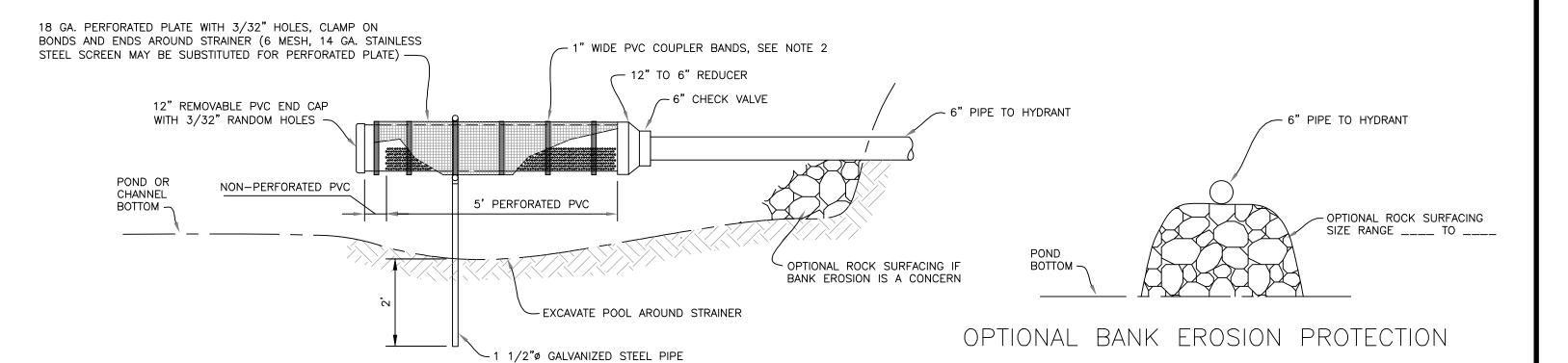


### GENERAL NOTES

- 1. THIS DRAWING REQUIRES SUPPORTING TECHNICAL DOCUMENTATION PRIOR TO USE AND MUST BE ADAPTED TO THE SPECIFIC SITE.
- 2. CONTRACTOR IS RESPONSIBLE FOR LOCATING, DISCONNECTION, RECONNECTING SERVICES TO ANY UTILITIES ENCOUNTERED AND WILL OBTAIN ALL REQUIRED PERMITS PRIOR TO INSTALLATION. SERVICES WILL BE RESTORED ASAP.
- 3. PUMP SITE SHALL BE AT AN ELEVATION THAT WILL ENSURE THE SUCTION INLET OF PUMP ON TRUCK IS ABOVE THE DRY HYDRANT HEAD ASSEMBLY.
- 4. ALL DISTURBED AREA SHALL BE VEGETATED IN ACCORDANCE WITH NRCS STANDARDS AND SPECIFICATIONS FOR CRITICAL AREA
- 5. ALL PVC PIPING OR FITTINGS EXPOSED TO SUNLIGHT SHALL BE PRIMED AND PAINTED WITH REFLECTIVE MATERIAL.
- 6. A 6 INCH NHT (AMERICAN NATIONAL FIRE HOSE THREAD) DRY HYDRANT HEAD WILL BE UTILIZED TO MAKE CONNECTION TO THE FIRE TRUCK HOSE. THE SLEEVE WILL BE MADE OF BRASS OR ALUMINUM AND IT WILL BE PERMANENTLY ATTACHED TO THE PVC PIPE WITH STAINLESS STEEL BOLTS AND EPOXY ADHESIVE.
- 7. ALL HYDRANTS SHALL CONTAIN A REMOVABLE HEAD STRAINER AND STAINLESS STEEL SNAP RING THAT CAN BE REMOVED WITHOUT SPECIAL TOOLS. THE STRAINER SHALL BE CONICAL IN SHAPE TO MAXIMIZE STRAINER AREA. ALL HYDRANTS USE A RUBBER "O" RING BETWEEN THE THREADED SLEEVE AND THE PVC PIPE.
- 8. DRY HYDRANT CAPS SHALL BE SNAP ON/SNAP OFF DESIGN AND REMOVABLE WITHOUT SPECIAL TOOLS. IT SHALL BE PERMANENTLY ATTACHED TO HEAD WITH A CHAIN OR CABLE. THE CAP SHALL BE EITHER PLASTIC OR BRASS.

TYPICAL DRY HYDRANT DETAIL

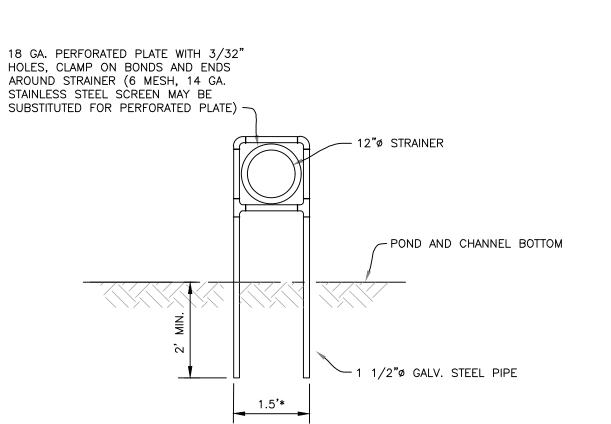
N.T.S.



### INTAKE STRAINER DETAIL

#### GENERAL NOTES

- 1. INTAKE STRAINER SHALL BE 12" DIAMETER AND 60" LONG. STRAINER WILL HAVE 1920 -3/8" HOLES ON BOTTOM OF PIPE TO MEET 0.4 FT/SEC VELOCITY ON FISH-BEARING STREAMS
- PLACE END CAP WITH 3/32"Ø HOLES ON STRAINER. USE 1" WIDE COUPLING SECTION BANDS SPACED AT 1 FT. INTERVALS TO HOLD SCREEN OFF STRAINER ASSEMBLY.
- 3. WRAP STRAINER WITH 18 GA. PERFORATED PLATE WITH 3/32"Ø HOLES AND CLAMP TO OUTSIDE OF STRAINER, CLAMP ON EACH BAND AND ENDS. A 6 MESH, 14 GA. STAINLESS STEEL SCREEN MAY BE SUBSTITUTED FOR THE PERFORATED PLATE.
- 4. USE 12" TO 6" REDUCER AND 6" CHECK VALVE IN SUPPLY LINE TO
- 5. ALL PVC PIPING OR FITTINGS EXPOSED TO SUNLIGHT SHALL BE PRIMED AND PAINTED WITH REFLECTIVE MATERIAL.



INTAKE STRAINER SUPPORT

\* PUSH INTO BOTTOM WITH HOE. ADJUST WIDTH AND HEIGHT TO FIT STRAINER AND SCREEN ASSEMBLY

СВ	07/14/2021	JSD	ISSUED FOR 94C	KW	NJM		
В	05/21/2021	RCB	ISSUED FOR REVIEW	KW	NJM		
Α	01/29/2021	RCB	ISSUED FOR REVIEW	KW	NJM		
Rev	Date	Drawn	Description	Ch'k'd	App'd		

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Clie



SOUTH RIPLEY SOLAR TYPICAL CIVIL DETAILS SHEET 10 OF 10

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AND/OR FABRICATION

Designed MU Eng check KW

Drawn RCB Approved NJM

Scale at ANSI D

NTS Date

07/14/2021 C

Drawing Number

Drawing Number SRS-C-101-10

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CONCEPTUAL - NOT FOR CONSTRUCTION

**DIMENSIONS:** 

ELEV. A =\_\_\_\_\_

ELEV. B =\_\_\_\_\_

DRY HYDRANT HEAD ASSEMBLY INCLUDES TEE WITH AIR VENT. 2 INCH

GATE VALVE, 6 INCH DRY HYDRANT HEAD, STRAINER, SNAP RING, SNAP-ON

SHALL CONFORM TO ASTM 2466

SCHEDULE 40

THIS INSTALLATION DESIGNED FOR \_\_\_\_

CAP WITH STAINLESS STEEL WIRE ROPE AND SUCTION HOSE ADAPTER, AND

Not to Scale; Preliminary, not for construction

Typical Sound Barrier Profile; post size, spacing, and embedment depth to be determined with final engineering calculations.

Grace

Galv. Steel Post

Concrete Footing

spacing, and embedment depth to be determined with final engineering calculations.

Not to Scale; Preliminary, not for

Typical Sound Barrier Profile; post size,

SOUNDWALL CONSTRUCTION DETAIL N.T.S.

A 01/10/2022 RCB ISSUED FOR 94-C-SUPPLEMENT A KW NJM
Rev Date Drawn Description Ch'k'd App'd

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NTS Date Rev

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Drawing Number SRS-C-101-11\_SUP\_A

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