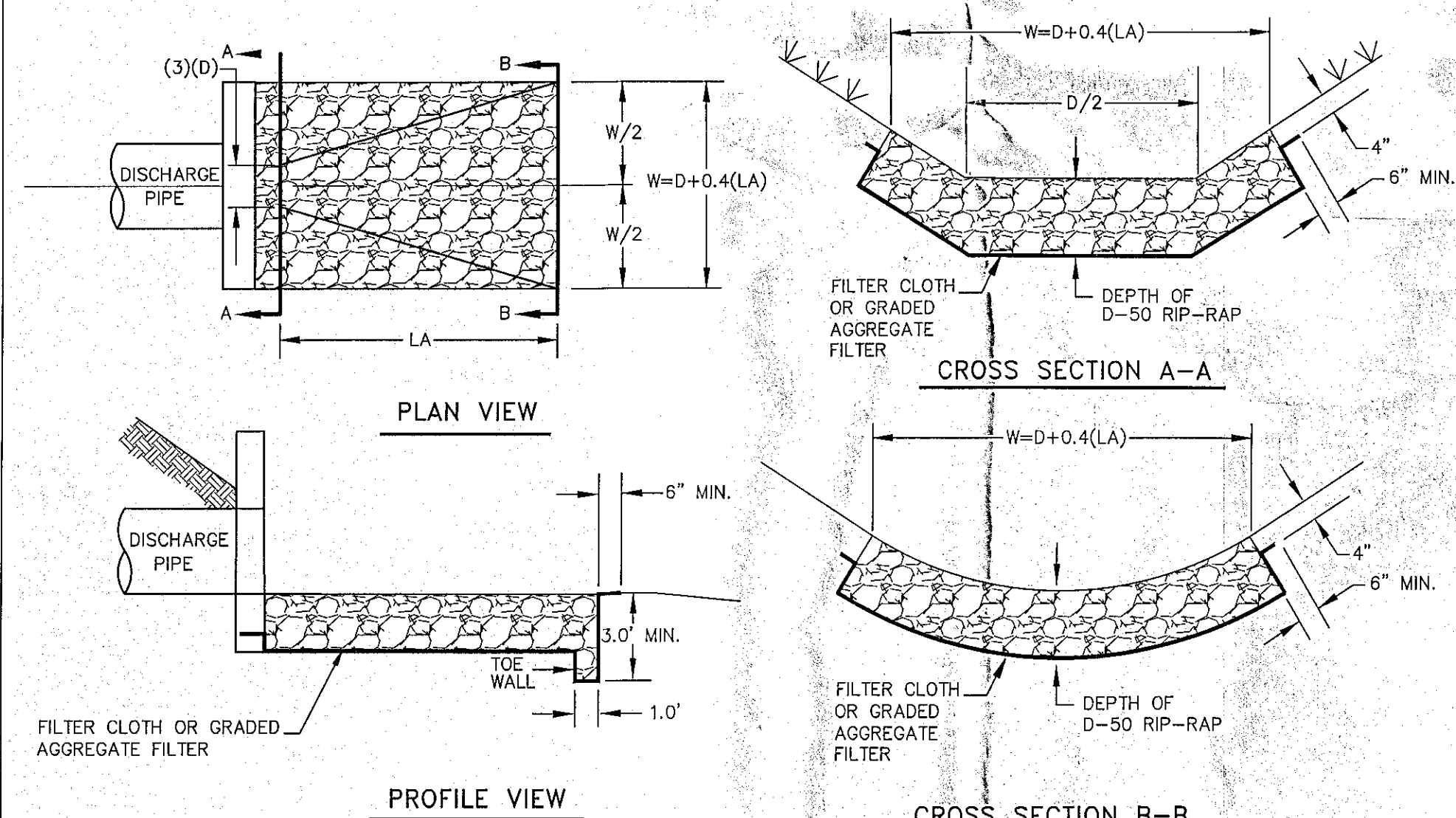


- NOTES:**
- ALL DRAINAGE AREAS TO A BIOTRETENTION FACILITY ARE TO BE STABILIZED PRIOR TO INSTALLATION OF AMENDED SOILS, MULCH OR PLANTINGS.
 - AMENDED SOIL WILL ONLY BE PERMITTED WITH A VALID SOIL ANALYSIS REPORT. NO AMENDED SOIL SHALL BE ALLOWED ON THE SIDE SLOPES.
AMENDED SOIL COMPOSITION: 85% SAND, 13% COMPOST MATERIAL, 2% MIN ORGANIC SOIL (I.E. PEAT)
 - INSTALL WIRE SCREENING AROUND ALL OUTLET OPENINGS TO PREVENT LOSS OF MULCH.
 - ONLY SMALL MATURING TREES ARE ALLOWED TO BE PLANTED IN THE AMENDED SOILS.
 - FILTER SYSTEM SHALL REMAIN 'OFF-LINE' UNTIL THE SITE IS STABILIZED AND APPROVED BY THE DESIGN ENGINEER.
 - DURING CONSTRUCTION, ALL SLOPES IN THE FILTER AREA SHALL BE PROTECTED BY EROSION CONTROL MATTING AND SEEDING IMMEDIATELY AFTER THE COMPLETION OF GRADING.
 - VEGETATION SHALL BE PLANTED IN A RANDOM NATURAL ORDER WITH TREES 10-20' O.C. AND SHRUBS 5-10' O.C. SEE PLAN VIEW AND PLANTING SCHEDULE FOR SPECIES AND ORIENTATION.

PLANTING SCHEDULE BIOTRETENTION AREA				
ABBREV.	COMMON NAME	SCIENTIFIC NAME	SIZE	QUANTITY
Op	PIN OAK	QUERCUS PALUSTRIS	3-3.5' col.	3
Sn	BLACK WILLOW	SALIX NIGRA	3-3.5' col.	3
So	ELDERBERRY	SAMBUCUS CANADENSIS	1-2 GAL.	10
Aa	CHOKEBERRY	ARONIA ARBUTIFOLIA	1-2 GAL.	10

BIOTRETENTION FILTER DETAIL

SCHEMATIC (NOT TO SCALE)



PROFILE VIEW

CROSS SECTION B-B

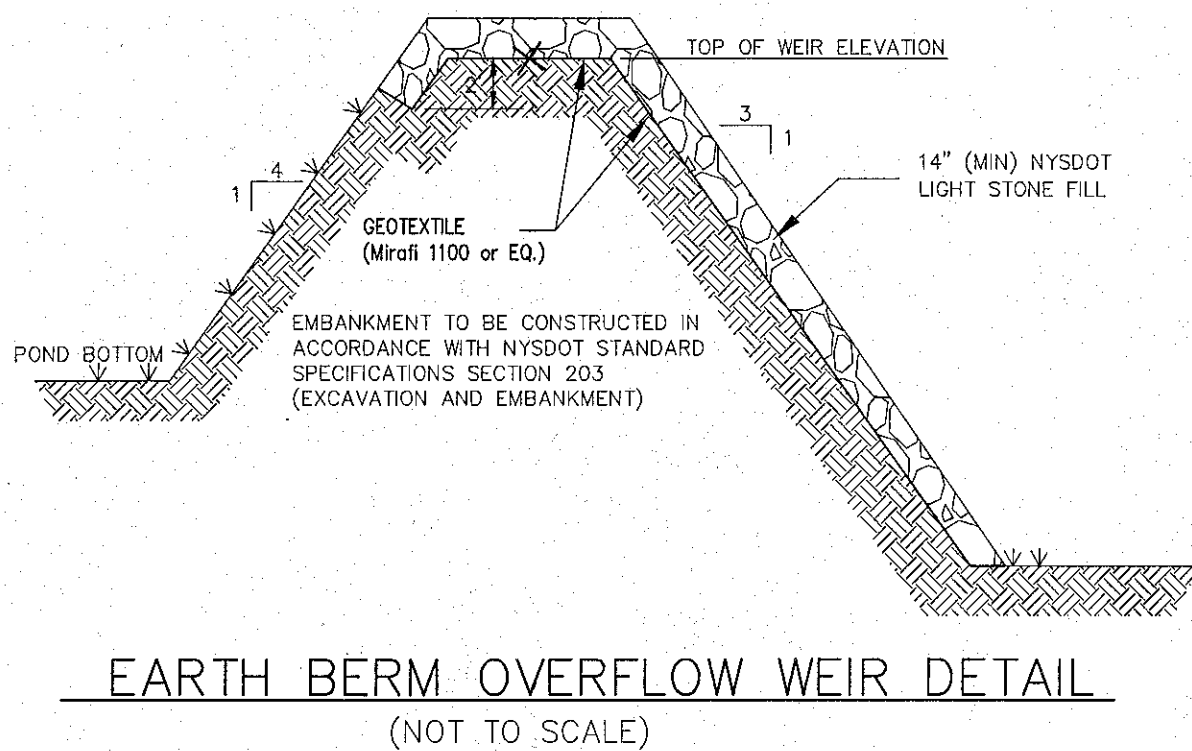
	POND # 1 INLET FROM (CB-6)	POND # 1 INLET FROM (DS-OC5)	POND # 1 INLET FROM (DMH-4B)	POND # 1 OUTLET	EX. CULVERT (DMH-3)	EX. CULVERT (DMH-8)	POND # 2 INLET FROM (DMH-5)	POND # 2 OUTLET	WET SWALE INLET FROM (CB-17)
D= DIA. OF DISCH. PIPE	24"	15"	36"	24"	18"	36"	24"	12"	12"
LA= LENGTH OF APRON	TO POND BOTTOM	TO PERM POOL	TO PERM POOL	10'	9'	12'	TO PERM POOL	6'	6'
W= LA+D	12'	9.25'	15'	12'	10.5'	15'	12'	7'	7'
D 50 RIP-RAP SIZE	6"	6"	6"	6"	6"	6"	6"	6"	6"
Dmax RIP-RAP SIZE	9"	9"	9"	9"	9"	9"	9"	9"	9"
D 50 RIP-RAP DEPTH	14"	14"	14"	14"	14"	14"	14"	14"	14"

NOTE: D50 6" RIP-RAP SIZE EQUIVALENT TO NYSDOT LIGHT STONE FILL

RIPRAP OUTLET PROTECTION DETAIL

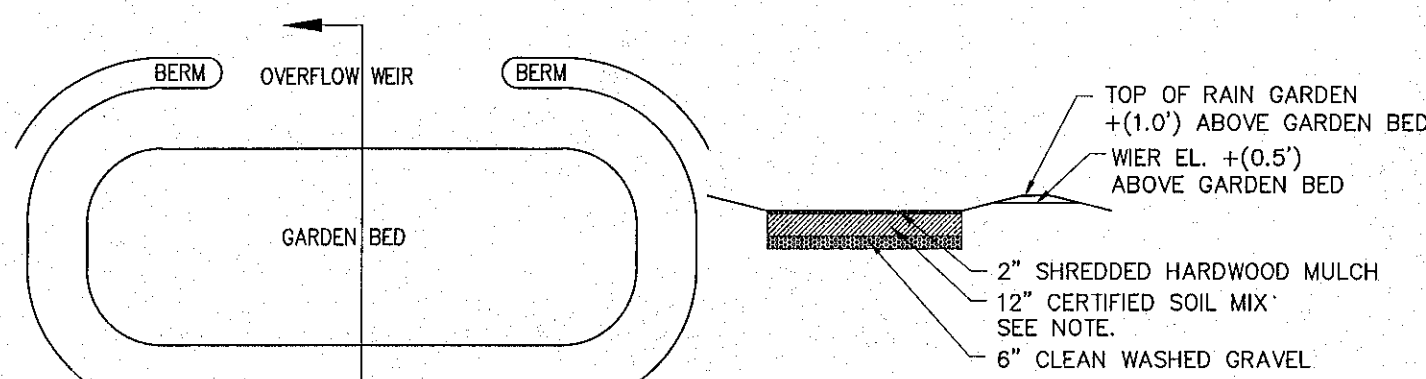
NOT TO SCALE

NOTE: 48 HOURS PRIOR TO ANY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL CONTACT DIG SAFELY NEW YORK TO LOCATE ALL UNDERGROUND UTILITIES. 1-800-962-7962



EARTH BERM OVERFLOW WEIR DETAIL

(NOT TO SCALE)



RAIN GARDEN SIZING:
AREA=100 SF
DEPTH OF PONDING=0.5'
DEPTH OF SOIL=1.0'
DEPTH OF DRAINAGE LAYER=0.5'

LOTS 1-15, 23-36 WILL EACH CONTAIN (1) 100 SF RAIN GARDEN. EACH RAIN GARDEN HAS BEEN SIZED TO TREAT 1,000 SF OF IMPERVIOUS AREA.

SEE SWPPP FOR CALCULATIONS

PLANTINGS & SOIL:

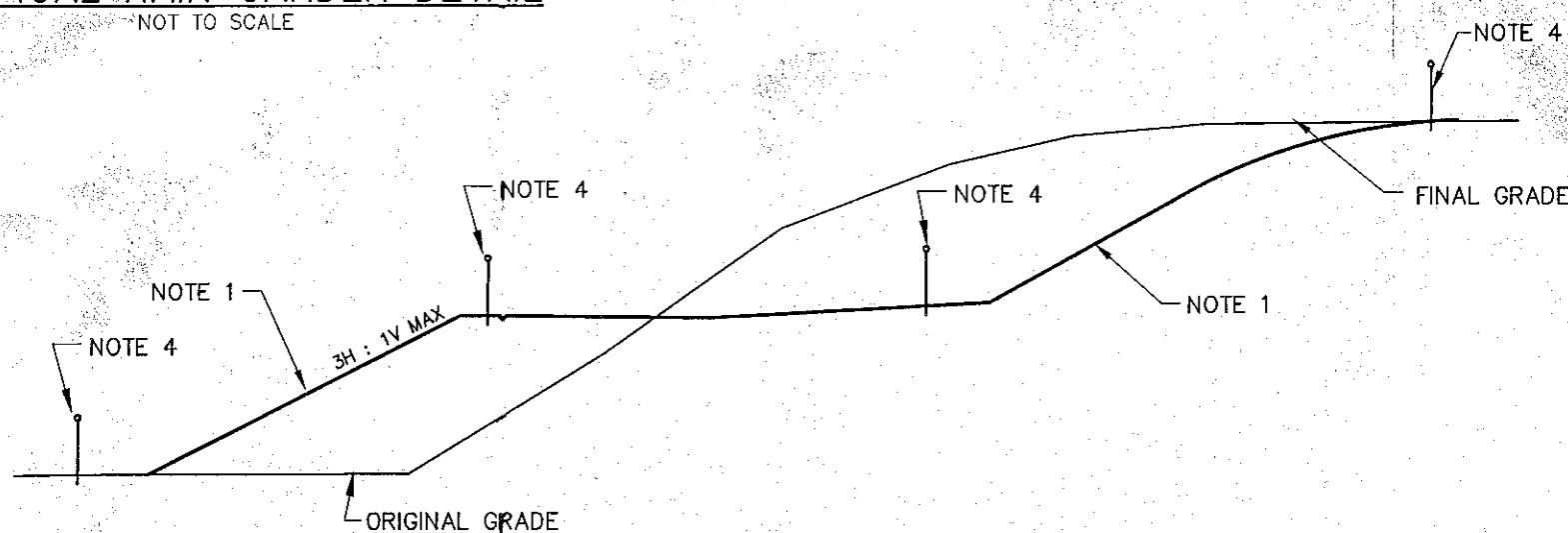
- PLANTS SHOULD BE PLACED AT 1'-0" O.C.
- SUGGESTED PLANT LIST:
SHRUBS: WITCH HAZEL, WINTERBERRY, ARROWWOOD, BROOK-SIDE ALDER, RED-OSIER DOGWOOD, SWEET PEPPERBUSH
HERBACEOUS PLANT MIX: CUTLEAF CONEFLOWER, WOODGRASS, NEW ENGLAND ASTER, FOX SEDGE, SPOTTED JOE-PYE WEED, SWITCH GRASS, GREAT BLUE LOBELIA, WILD BERGAMOT, RED MILKWOOD
- CERTIFIED SOIL MIX:
85% SAND
13% COMPOST MATERIAL
2% MIN ORGANIC SOIL (I.E. PEAT)

MAINTENANCE:

- WEEDING AND WATERING ARE ESSENTIAL THE FIRST YEAR
- RAIN GARDENS SHOULD BE TREATED AS A COMPONENT OF THE LANDSCAPING, WITH ROUTINE MAINTENANCE PROVIDED BY THE HOMEOWNER'S ASSOCIATION, INCLUDING THE OCCASIONAL REPLACEMENT OF PLANTS, MULCHING, WEEDING, AND THINNING TO MAINTAIN THE DESIRED APPEARANCE. A REFERENCE TO THE HOMEOWNER'S ASSOCIATION COVENANTS, RESTRICTIONS AND MAINTENANCE AGREEMENT SHALL BE INCLUDED IN EACH DEED, AS WELL AS DISCLOSED IN EACH PURCHASE CONTRACT

TYPICAL RAIN GARDEN DETAIL

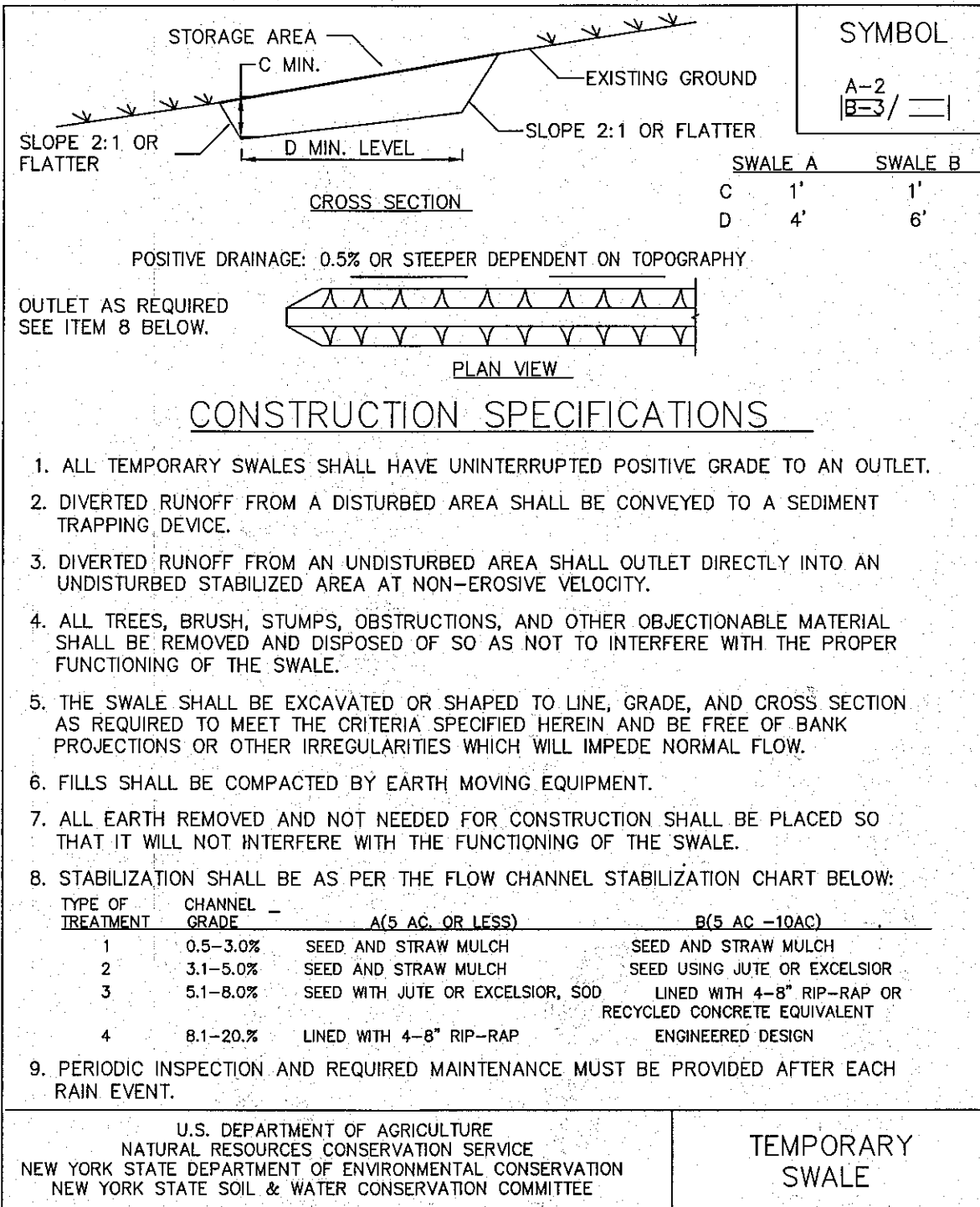
NOT TO SCALE



- NOTES:**
- WHEN CUT/FILL SLOPE HAS BEEN COMPLETED, THE SLOPE SHOULD BE TRIMMED AND THE PERMANENT EROSION CONTROL MEASURES OF SEEDING AND MULCHING SHOULD BE CARRIED OUT. IF THE CUT/FILL IS TRIMMED OUT OF SEASON* (FROM NOV. 1 THROUGH APRIL 1), MULCH THE SLOPE AND SEED ON TOP OF THE MULCH IN THE NEXT SEEDING SEASON.
 - IF THE SLOPE CANNOT BE COMPLETED BECAUSE PAVING IS REQUIRED OR FOR OTHER REASONS, THE SEEDING AND MULCHING SHOULD BE COMPLETED TO THE MAXIMUM EXTENT POSSIBLE.
 - WHEN THE CUT/FILL CANNOT BE BROUGHT TO FINAL GRADE IN A REASONABLE LENGTH OF TIME IT SHOULD BE MULCHED PER OP 0-15-002.
 - PROVIDE A CONTINUOUS LINE OF SILT FENCE AT THE PERIMETER OF SLOPES UNTIL THE FINAL STABILIZATION HAS BEEN APPROVED BY THE DESIGN ENGINEER OR THE INSPECTING PROFESSIONAL.
 - ALL FILL SLOPES AND CONSTRUCTED EMBANKMENTS SHALL BE INSTALLED IN ACCORDANCE WITH NYSDOT STANDARD SPECIFICATIONS SECTION 203 (EXCAVATION AND EMBANKMENT).

SEEDING AND MULCHING GUIDES - CUT/FILL SLOPES

NOT TO SCALE



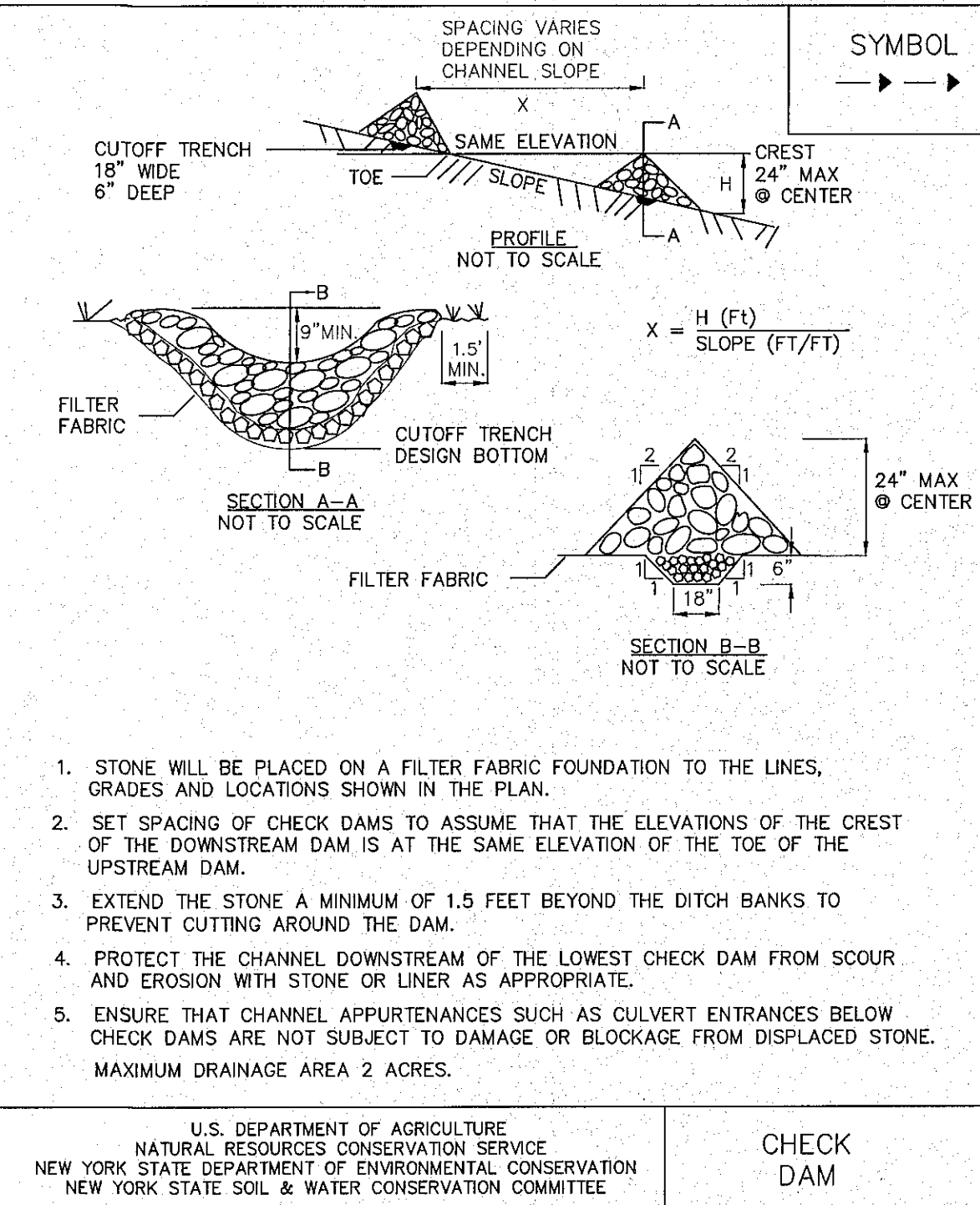
CONSTRUCTION SPECIFICATIONS

- ALL TEMPORARY SWALES SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.
- DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
- DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED STABILIZED AREA AT NON-EROSIVE VELOCITY.
- ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE SWALE.
- THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN AND BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH WILL IMPEDE NORMAL FLOW.
- FILLS SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.
- ALL EARTH REMOVED AND NOT NEEDED FOR CONSTRUCTION SHALL BE PLACED SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE SWALE.
- STABILIZATION SHALL BE AS PER THE FLOW CHANNEL STABILIZATION CHART BELOW:

TYPE OF TREATMENT	CHANNEL GRADE	A/S AC. OR LESS	B/S AC. -10AC
1	0.5-3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0%	SEED AND STRAW MULCH	SEED USING JUTE OR EXCELSIOR
3	5.1-8.0%	SEED WITH JUTE OR EXCELSIOR, SOD	LINED WITH 4-8\"/>

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

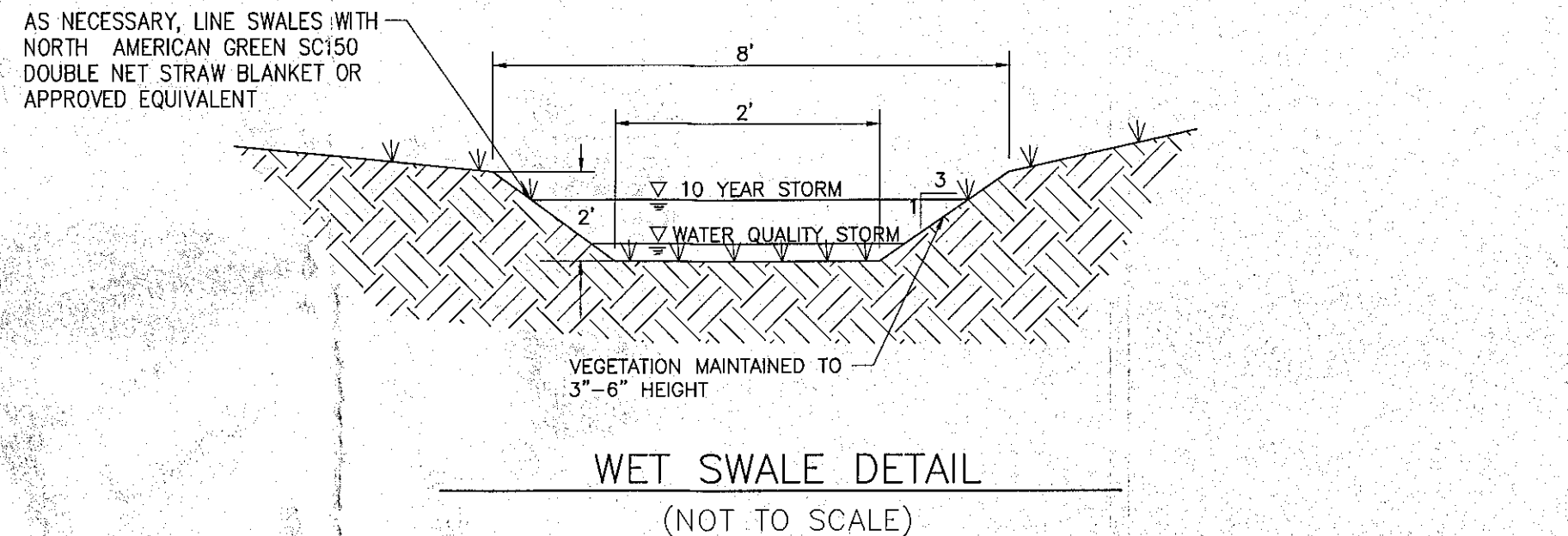
TEMPORARY SWALE



- STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION TO THE LINES, GRADES AND LOCATIONS SHOWN IN THE PLAN.
- SET SPACING OF CHECK DAMS TO ASSUME THAT THE ELEVATIONS OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION OF THE TOE OF THE UPSTREAM DAM.
- EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
- PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
- ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE. MAXIMUM DRAINAGE AREA 2 ACRES.

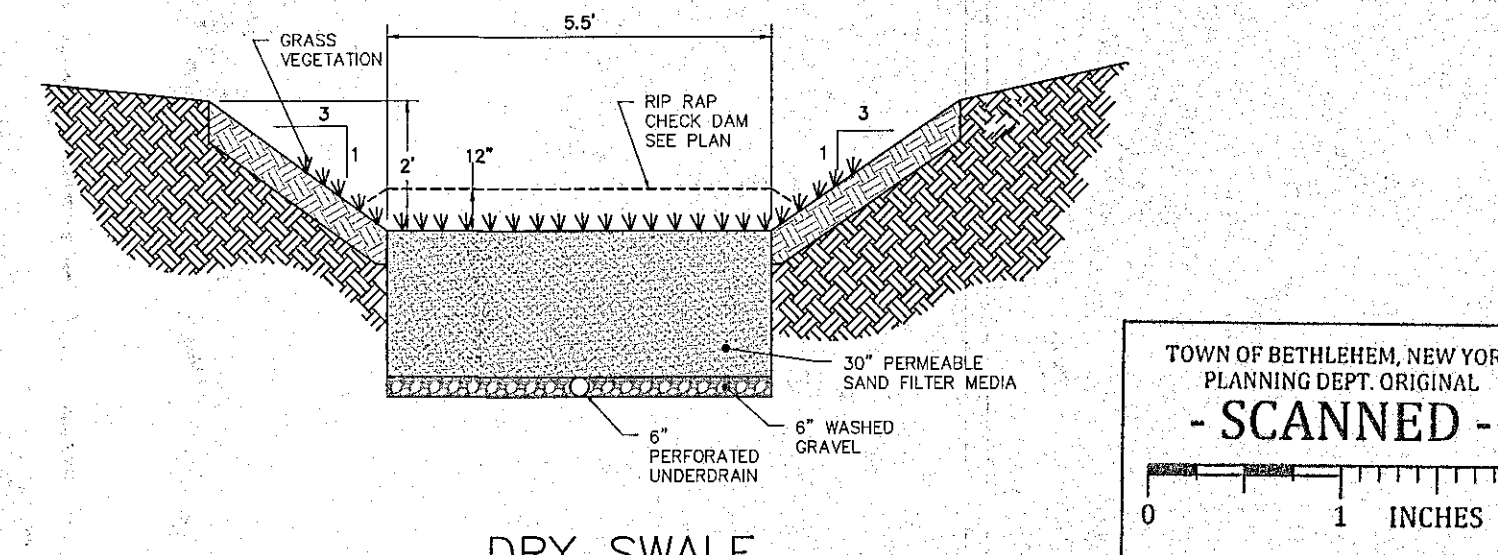
U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

CHECK DAM



WET SWALE DETAIL

(NOT TO SCALE)



DRY SWALE

(NYSDOT STORMWATER DESIGN MANUAL TYPE 0-1)

- NOTES:**
- DISTURBED AREAS SHALL BE PLANTED WITH ENVIRONMENTAL SEED MIX.
 - VEGETATION SHALL BE MAINTAINED AT 6\"/>

TOWN OF BETHLEHEM, NEW YORK
PLANNING DEPT. ORIGINAL
- SCANNED -
0 1 INCHES

PLANNING BOARD
TOWN OF BETHLEHEM
ALBANY COUNTY, NEW YORK
By direction of the Chairman.
These drawings are hereby approved.
See sheet(s) 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 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