Planning Approval
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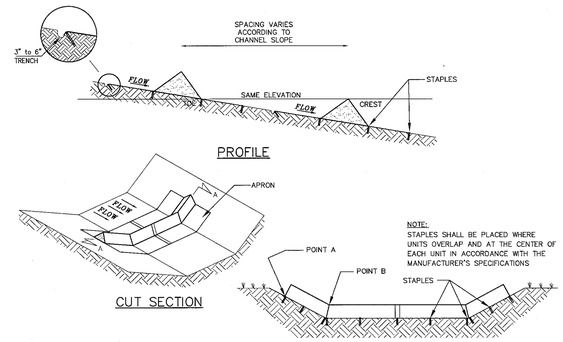
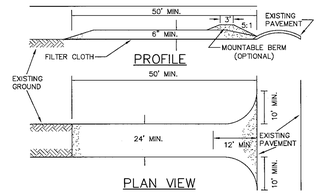


NOTES:

1. INSTALL CHECK DAMS IN ACCORDANCE WITH THE "NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL", SECTION 7A IN ALL TEMPORARY OF PERMANENT DRAINAGE SWALES ON SITE.
2. CHECK DAMS SHALL REMAIN IN PLACE UNTIL THE DRAINAGE SWALE IS STABILIZED.
3. PREFABRICATED UNIT TO BE TRIANGULAR SILT DIKE™OR APPROVED EQUAL.
4. SET SPACING OF CHECK DAMS SO THAT THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION AS THE TOE OF THE UPSTREAM DAM.
5. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
6. INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SUPERSEDED BY THESE PLANS OR THE "NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL."

PREFABRICATED CHECK DAM DETAIL

NOT TO SCALE

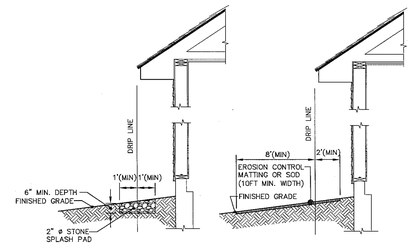


CONSTRUCTION SPECIFICATIONS

1. STONE SIZE – USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH – NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FEET MINIMUM LENGTH WOULD APPLY).
3. THICKNESS – NOT LESS THAN SIX (6) INCHES.
4. WIDTH – TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY – FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. FILTER CLOTH – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5 : 1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS – OF – WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS – OF – WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

STABILIZED CONSTRUCTION ENTRANCE DETAILS

NOT TO SCALE



NOTES:

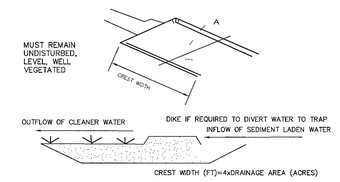
1. EROSION CONTROL MATTING, SOD OR STONE SPLASH PAD SHALL BE INSTALLED EVERYWHERE ROOF RUNOFF FLOWS FREELY ONTO A GRASS SURFACE.
2. EROSION CONTROL MATTING SHALL BE INSTALLED WITH SEAMS PARALLEL TO THE DIRECTION OF FLOW OF RUNOFF.
3. WHERE ROOF RUNOFF DRAINS TO A GREEN AREA UPSLOPE FROM A PAVEMENT EDGE OR SIDEWALK LESS THAN 8 FT FROM THE DRIP LINE, STABILIZE THE SLOPE AS SHOWN TO THE PAVEMENT EDGE. IF RUNOFF CROSSES A SIDEWALK ONTO ANOTHER GREEN AREA, IT MAY BE NECESSARY TO INSTALL ADDITIONAL MATTING OR SOD ON THE DOWNSLOPE GREEN AREA TO PREVENT EROSION.

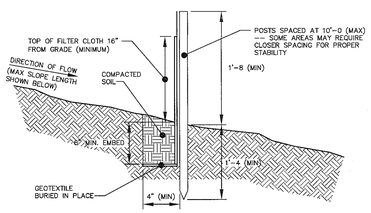
TYPICAL SLOPE PROTECTION FROM ROOF RUNOFF

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. VOLUME OF SEDIMENT STORAGE SHALL BE 3600 CUBIC FEET PER ACRE OF CONTRIBUTORY DRAINAGE AREA.
2. MINIMUM CREST WIDTH SHALL BE 4 x DRAINAGE AREA
3. 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 IN SUCH A MANNER THAT IT WILL NOT ERODE.
4. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
5. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION SHALL BE MINIMIZED.
6. THE SEDIMENT TRAP SHALL BE REMOVED AND AREA STABILIZED WHEN THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
7. ALL CUT SLOPES SHALL BE 1:1 OR FLATTER. MAXIMUM DRAINAGE AREA: 5 ACRES





MAXIMUM ALLOWABLE SLOPE LENGTH

MAXIMUM ALLOWABLE SLOPE LENGTHS CONTRIBUTING RUNOFF TO A SECTION OF SILT FENCE SHALL BE AS FOLLOWS:

SLOPE STEEPNESS:	MAX. SLOPE LENGTH:
1:2	25 FT
1:3	50 FT
1:4	75 FT
1:5 OR FLATTER	100 FT

NOTE:
MAXIMUM DRAINAGE AREA FOR OVERLAND FLOW TO SILT FENCE SECTION SHALL NOT EXCEED 1/4 ACRE PER 100 FT OF FENCE. CONCENTRATED DISCHARGE OF SEDIMENT LADEN WATER SHALL NOT BE ALLOWED TO FLOW DIRECTLY TO THE FENCING.

SILT FENCE DETAIL

NOT TO SCALE

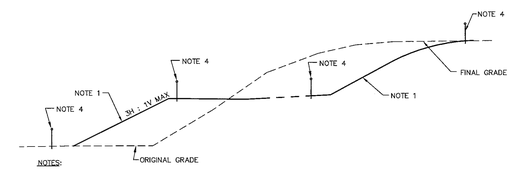
CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

1. INSTALL SILT FENCE IN ACCORDANCE WITH THE "NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL", SECTION 7A.
2. FILTER CLOTH TO BE TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE WRAPPED TOGETHER PER DETAIL 4 ON THIS PAGE.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SEDIMENT REMOVED WHEN ACCUMULATION REACHES 1/2 OF DESIGN CAPACITY OF FENCE (1/2 HEIGHT OF FILTER FABRIC) OR WHEN "BULGES" DEVELOP IN FENCING.

POSTS: STEEL EITHER "T" OR "U" TYPE OR 2" HARDWOOD

FILTER CLOTH: FILTER X, MIRAFI 100X, STABLINKA T140N OR APPROVED EQUAL.

PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL.

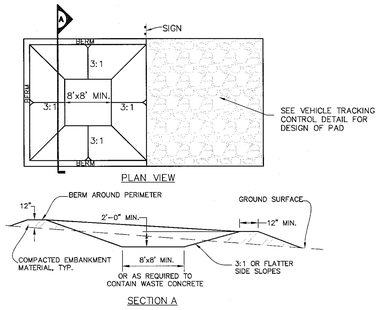


NOTES:

1. 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.
2. 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.
3. WHEN THE CUT/FILL CANNOT BE BROUGHT TO FINAL GRADE IN A REASONABLE LENGTH OF TIME IT SHOULD BE MULCHED PER GP–10–01.
4. 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.
5. ALL FILL SLOPES AND CONSTRUCTED EMBANKMENTS SHALL BE INSTALLED IN ACCORDANCE WITH NYSDOT STANDARD SPECIFICATIONS SECTION 203 (EXCAVATION AND EMBANKMENT).
6. TEMPORARY AND PERMANENT SEEDING AND MULCHING SELECTION AND APPLICATION RATES SHALL BE IN ACCORDANCE WITH THE NYS STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL, CHAPTER 3.

SEEDING AND MULCHING GUIDES – CUT/FILL SLOPES

NOT TO SCALE



CONCRETE WASHOUT AREA INSTALLATION NOTES

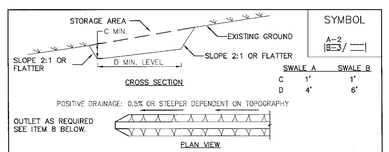
1. SEE PLAN VIEW FOR LOCATIONS OF CONCRETE WASHOUT AREA
2. THE CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
3. VEHICLE TRACKING CONTROL IS REQUIRED AT THE ACCESS POINT.
4. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE WASHOUT AREA, AND ELSEWHERE, AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT AREA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
5. EXCAVATED MATERIAL SHALL BE UTILIZED IN PERIMETER BERM CONSTRUCTION

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. 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, COVER THE DISTURBED AREA WITH TOP SOIL, DRILL SEED AND CRIMP MULCH OR OTHERWISE STABILIZE IN A MANNER APPROVED BY THE LOCAL JURISDICTION.
4. INSPECT WEEKLY, DURING AND AFTER ANY STORM EVENT.

CONCRETE WASHOUT AREA DETAIL

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

1. ALL TEMPORARY SWALES SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.
2. DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
3. DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED STABILIZED AREA AT NON–EROSIVE VELOCITY.
4. 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.
5. 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.
6. FILLS SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.
7. ALL EARTH REMOVED AND NOT NEEDED FOR CONSTRUCTION SHALL BE PLACED SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE SWALE.
8. STABILIZATION SHALL BE AS PER THE FLOW CHANNEL STABILIZATION CHART BELOW:

TYPE OF TREATMENT	CHANNEL GRADE	A(5 AC. OR LESS)	B(5 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" RIP–RAP OR RECYCLED CONCRETE EQUIVALENT
4	8.1–20.%	LINED WITH 4–8" RIP–RAP	ENGINEERED DESIGN

9. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

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

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

STANDARD AND SPECIFICATIONS FOR TEMPORARY CRITICAL AREA PLANTINGS

Definition

Providing erosion control protection in a critical area for a interim period. A critical area is any disturbed, denuded slope subject to erosion.

Purpose

To provide temporary erosion and sediment control. Temporary control is achieved by covering all bare ground areas that arise as a result of construction, or a natural event.

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 stoppages, or to provide cover when permanent seedings are likely to fail due to mid-summer heat and drought. The intent is to provide temporary protection cover during temporary shutdown of construction and to while waiting for optimal planting time.

Criteria

Water management practices must be installed to 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 stabilization of the soil surface will be necessary prior to seeding.

Fertilizer or Lime are not typically used for temporary seedings.

EX: Spring or summer or early fall, than seed the area with ryegrass (annual or perennial) at 30 lbs. per acre. (Approximately 0.7 lbs./1000 sq. ft. or (ex.) lb. /1000 sq. ft.). Fall or late winter, then use Cereal Grain. Annual Ryegrass (Lolium multiflorum) at 30 lbs. per acre (0.7 lbs. /1000 sq. ft.)

Any seeding method may be used that will provide uniform application. If need to disc area and would re-establish 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 hay/straw use and visual concern. Mulch anchoring will be required where wind or straw, or disc contact were are of concern. Wood fiber hydromulch or other synthetic products approved for temporary stabilization may be used in place of mulch or according to manufacturer's specifications. Caution is advised when using nylon or other synthetic products. They may be difficult to remove prior to final seeding.

Table 3.1
Permanent Critical Area Planting Mixture Recommendations

Seed mixture	Variety	Rate in lbs. per acre	Rate in lbs. Per 1000 sq. ft.
Mix #1			
Creeping red fescue	Shadow, Pennlawn, Dawson	50	2.5
Perennial ryegrass	Pennfine, Linn	50	2.5
*This mix is used extensively for shaded areas.			
Mix #2			
Switchgrass	Shelter, Dettlebacher, Trailblazer, or Blackwell	20	.5
*This mix is, in part, live seed, this would be an excellent choice along the upland edge of a wetland to filter runoff and provide wildlife benefits. In areas where erosion may be a problem, a companion seeding of cold ryegrass should be added to provide quick cover at a rate of 2 lbs. per acre (0.05 lbs. per 1000 sq. ft.).			
Mix #3			
Switchgrass	Shelter, Dettlebacher, Trailblazer, or Blackwell	4	.1
Big bluestem	Niagara	4	.1
Little bluestem	Aldous or Camper	2	.05
Indiangrass	Tomney	4	.1
Canada ryegrass	Athletic	2	.05
Perennial rye	SS Rosa or Tetoraey	10	.25
Wildflower mix		3	.01
*This mix has been successful on sand and gravel plantings. It is very difficult to seed wetland a warm season grass seeder such as a Truax seed drill. Broadcasting this seed is very difficult due to the fluffy nature of some of the seed, such as Bluestem and Indiangrass.			
Mix #4			
Switchgrass	Shelter, Dettlebacher, Trailblazer, or Blackwell	10	.25
Coastal panicgrass	Atlantic	10	.25
*This mix is salt tolerant, a good choice along the upland edge of tidal areas and riverlets.			
Mix #5			
Saltmeadow cordgrass (Spartina patens)—This grass is used for tidal shoreline protection and tidal marsh restoration. It is planted by vegetative root divisions.			
Caps Atlantic cordgrass has been planted for sand dune revitalization above the saltmeadow cordgrass zone.			
Mix #6			
Creeping red fescue	Shadow, Pennlawn, Dawson	20	.45
Tall fescue	KY 31, Rebel	20	.45
Perennial ryegrass	Pennfine, Linn	2	.05
Redclover (mix)	Kenland	10	.25
*General purpose erosion control mix. Not to be used for a crop planting or play grounds.			

Table 3.7
Guide to Mulch Materials, Rates, and Uses

Mulch Material	Quality Standards	Ib per 1000 sq. ft.	Depth of Application	Remarks
Hand chopped hay	Free of noxious weeds and coarse material	90-100 lbs.	2-3"	Could provide some shade but has been known to smother germinating seedlings. Not recommended for use in hot weather.
Hand blown or machine chopped hay	Hay free from noxious weeds and coarse material. Hay should be cut and cured properly to avoid molding.	90-100 lbs.	—	Apply with hydroseeder for ease of application. Not recommended for use in areas where mulch may be blown by wind or washed by concentrated water flow.
Straw	Straw free of noxious weeds and coarse material	70 lbs.	1"	Apply with hydroseeder for ease of application and uniformity. Use 25% more material than for hand or machine applied straw. Not recommended for use in areas where mulch may be blown by wind or washed by concentrated water flow.
Wood cellulose fiber	Free of germination inhibitors or other phytotoxic elements. Not to contain more than 10% moisture by weight.	25-30 lbs.	—	Usually applied in combination with other mulches. Not recommended on steep slopes or where mulch may be blown by wind.
Wood chips	Free of noxious weeds and coarse material. Not to contain more than 20% moisture by weight.	700 lbs.	6"	Used around ornamental plantings, on trails, and for erosion control around structures. Not recommended for use on steep slopes or where mulch may be washed by concentrated water flow.
Wood chips or shavings	Free of noxious weeds and coarse material. Not to contain more than 20% moisture by weight.	700 lbs.	6"	Used around ornamental plantings and for erosion control around structures. Not recommended for use on steep slopes or where mulch may be washed by concentrated water flow.
Compost	Free of noxious weeds and coarse material. Not to contain more than 20% moisture by weight.	700 lbs.	2"	Used around ornamental plantings and for erosion control around structures. Not recommended for use on steep slopes or where mulch may be washed by concentrated water flow.
Chips or shredded bark	Free of noxious weeds and coarse material. Not to contain more than 20% moisture by weight.	700 lbs.	6"	Used around ornamental plantings and for erosion control around structures. Not recommended for use on steep slopes or where mulch may be washed by concentrated water flow.
Stone	Washed, uniformly graded aggregate	1500 lbs.	2"	Used around ornamental plantings and for erosion control around structures. Not recommended for use on steep slopes or where mulch may be washed by concentrated water flow.
Plastic sheeting	Typically 4 mil. thickness	Anchoring material depends on wind velocity and duration	—	Used around ornamental plantings and for erosion control around structures. Not recommended for use on steep slopes or where mulch may be washed by concentrated water flow.

INCHES
Town of Bethlehem, NY

PLANNING BOARD
TOWN OF BETHLEHEM
ALBANY COUNTY, NEW YORK
This Site Plan Approved.
Title Chairman SPP-180
Date May 1, 2012

NO.	DATE:	REVISIONS	BY:

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EROSION AND SEDIMENT CONTROL DETAILS
NEW SCOTLAND HAMLET
LANDS OF WINDSOR DEVELOPMENT
TOWN OF BETHLEHEM
COUNTY OF ALBANY STATE OF NEW YORK

DATE: 03/01/2011 | CHECKED BY: DFI | JOB NO. 10–047 | SCALE: 1"=30'
DRAWN BY: MWB | CADD FILE: EROSION | SHEET 6 OF 7