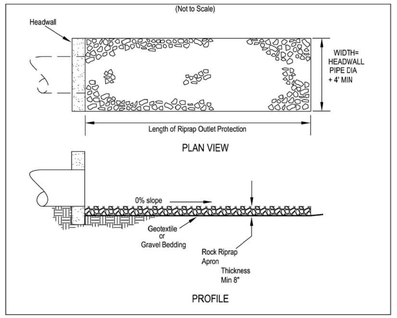
Specifications
for

Rock Outlet Protection



1. Subgrade for the filter or bedding and riprap shall be prepared to the required lines and grades as shown on the plan. The subgrade shall be cleared of all trees, stumps, roots, sod, loose rock, or other material.
2. Riprap shall conform to the grading limits as shown on the plan.
3. Geotextile shall be securely anchored according to manufacturers' recommendations.
4. Geotextile shall be laid with the long dimension parallel to the direction of flow and shall be laid loosely but without wrinkles and creases. Where joints are necessary, strips shall be placed to provide a 12-in. minimum overlap, with the upstream strip overlapping the downstream strip.
5. Gravel bedding shall be ODOT No. 67's or 57's unless shown differently on the drawings.
6. Riprap may be placed by equipment but shall be placed in a manner to prevent slippage or damage to the geotextile.
7. Riprap shall be placed by a method that does not cause segregation of sizes. Extensive pushing with a dozer causes segregation and shall be avoided by delivering riprap near its final location within the channel.
8. Construction shall be sequenced so that outlet protection is placed and functional when the storm drain, culvert, or open channel above it becomes operational.
9. All disturbed areas will be vegetated as soon as practical.

PERMANANT SEEDING SPECIFICATIONS

Site Preparation

1. Subsoiler, plow, or other implement shall be used to reduce soil compaction and allow maximum infiltration. (Maximizing infiltration will help control both runoff rate and water quality.) Subsoiling should be done when the soil moisture is low enough to allow the soil to crack or fracture. Subsoiling shall not be done on slip–prone areas where soil preparation should be limited to what is necessary for establishing vegetation.
2. The site shall be graded as needed to permit the use of conventional equipment for seedbed preparation and seeding.
3. Topsoil shall be applied where needed to establish vegetation.

Seedbed Preparation

1. Lime–Agricultural ground limestone shall be applied to acid soil as recommended by a soil test. In lieu of a soil test, lime shall be applied at the rate of 100 pounds per 1,000–sq. ft. or 2 tons per acre.
2. Fertilizer–Fertilizer shall be applied as recommended by a soil test. In place of a soil test, fertilizer shall be applied at a rate of 25 pounds per 1,000–sq. ft. or 1000 pounds per acre of a 10–10–10 or 12–12–12 analyses.
3. The lime and fertilizer shall be worked into the soil with a disk harrow, spring–tooth harrow, or other suitable field implement to a depth of 3 inches. On sloping land, the soil shall be worked on the contour.

Seeding Dates and Soil Conditions

Seeding should be done March 1 to May 31 or August 1 to September 30. If seeding occurs outside of the above–specified dates, additional mulch and irrigation may be required to ensure a minimum of 80% germination. Tillage for seedbed preparation should be done when the soil is dry enough to crumble and not form ribbons when compressed by hand. For winter seeding, see the following section on dormant seeding.

Dormant Seedings

1. Seedings should not be made from October 1 through November 20. During this period, the seeds are likely to germinate but probably will not be able to survive the winter.
2. The following methods may be used for "Dormant Seeding":

–From October 1 through November 20, prepare the seedbed, add the required amounts of lime and fertilizer, then mulch and anchor. After November 20, and before March 15, broadcast the selected seed mixture. Increase the seeding rates by 50% for this type of seeding.

–From November 20 through March 15, when soil conditions permit, prepare the seedbed, lime and fertilize, apply the selected seed mixture, mulch and anchor. Increase the seeding rates by 50% for this type of seeding.

–Apply seed uniformly with a cyclone seeder, drill, cultipacker seeder, or hydro–seeder (slurry may include seed and fertilizer) on a firm, moist seedbed.

–Where feasible, except when a cultipacker type seeder is used, the seedbed should be firmed following seeding operations with a cultipacker, roller, or light drag. On sloping land, seeding operations should be on the contour where feasible.

Mulching

1. Mulch material shall be applied immediately after seeding. Dormant seeding shall be mulched. 100% of the ground surface shall be covered with an approved material.
2. Materials

–Straw–If straw is used it shall be unrotted small–grain straw applied at the rate of 2 tons per acre or 90 pounds (two to three bales) per 1,000–sq. ft. The mulch shall be spread uniformly by hand or mechanically applied so the soil surface is covered. For uniform distribution of hand–spread mulch, divide area into approximately 1,000–sq.–ft. sections and spread two 45–lb. bales of straw in each section.

–Hydroseeders–If wood cellulose fiber is used, it shall be applied at 2,000 lb./ac. or 46 lb./1,000 sq. ft.

–Other–Other acceptable mulches include rolled erosion control mattings or blankets applied according to manufacturer's recommendations or wood chips applied at 6 tons per acre.

Table 7.10.2 Permanent Seeding

Seed Mix	Seeding Rate Lbs./acre	Seeding Rate Lbs./1,000 Sq. Feet	Notes:
General Use			
Creeping Red Fescue Domestic Ryegrass Kentucky Bluegrass	20-40 10-20 20-40	1/2-1 1/4-1/2 1/2-1	For close mowing & for waterways with <2.0 ft/sec velocity
Tall Fescue	40-50	1-1 1/4	
Turf-type (dwarf) Fescue	90	2 1/4	
Steep Banks or Cut Slopes			
Tall Fescue	40-50	1-1 1/4	
Crown Vetch Tall Fescue	10-20 20-30	1/4-1/2 1/2-3/4	Do not seed later than August
Flat Pea Tall Fescue	20-25 20-30	1/2-3/4 1/2-3/4	Do not seed later than August
Road Ditches and Swales			
Tall Fescue	40-50	1-1/4	
Turf-type (Dwarf) Fescue Kentucky Bluegrass	90 5	2 1/4 0.1	
Lawns			
Kentucky Bluegrass Perennial Ryegrass	100-120	2 2	
Kentucky Bluegrass Creeping Red Fescue	100-120	2 1-1/2	For shaded areas

Note: Other approved seed species may be substituted.

MULCHING SPECIFICATIONS

1. Mulch and other appropriate vegetative practices shall be applied to disturbed areas within 7 days of grading if the area is to remain dormant (undisturbed) for more than 21 days or on areas and portions of the site which can be brought to final grade.
2. Mulch shall consist of one of the following:

Straw – Straw shall be unrotted small grain straw applied at the rate of 2 tons/ac. or 90 lb./1,000 sq. ft. (two to three bales). The straw mulch shall be spread uniformly by hand or mechanically so the soil surface is covered. For uniform distribution of hand–spread mulch, divide area into approximately 1,000 sq.ft. sections and place two 45–lb. bales of straw in each section.

Hydroseeders – Wood cellulose fiber should be used at 2,000 lb./ac. or 46 lb./1,000 sq. ft.

Other – Acceptable mulches include mulch mattings and rolled erosion control products applied according to manufacturer's recommendations or wood mulch/chips applied at 10–20 tons/ac.

3. Mulch Anchoring – Mulch shall be anchored immediately to minimize loss by wind or runoff. The following are acceptable methods for anchoring mulch.

Mechanical – Use a disk, crimper, or similar type tool set straight to punch or anchor the mulch material into the soil. Straw mechanically anchored shall not be finely chopped but be left generally longer than 6 inches.

Mulch Nettings – Use according to the manufacturer's recommendations, following all placement and anchoring requirements. Use in areas of water concentration and steep slopes to hold mulch in place.

Synthetic Binders – For straw mulch, synthetic binders such as Acrylic DLR (Agri–Tac), DCA–70, Petroset, Terra Tack or equal may be used at rates recommended by the manufacturer. All applications of Sythetic Binders must be conducted in such a manner where there is no contact with waters of the state.

Wood Cellulose Fiber – Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 lb./acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 lb./100 gal. of wood cellulose fiber.

Specifications
for

Temporary Seeding

Table 7.8.1 Temporary Seeding Species Selection

Seeding Dates	Species	Lb./1000 ft2	Lb/Acre
March 1 to August 15	Oats Tall Fescue Annual Ryegrass	3 1 1	128 (4 Bushel) 40 40
	Perennial Ryegrass Tall Fescue Annual Ryegrass	1 1 1	40 40 40
	Annual Ryegrass Perennial Ryegrass Creeping Red Fescue Kentucky Bluegrass	1.25 3.25 0.4 0.4	55 142 17 17
	Oats Tall Fescue Annual Ryegrass	3 1 1	128 (3 bushel) 40 40
August 16th to November	Rye Tall Fescue Annual Ryegrass	3 1 1	112 (2 bushel) 40 40
	Wheat Tall Fescue Annual Ryegrass	3 1 1	120 (2 bushel) 40 40
	Perennial Rye Tall Fescue Annual Ryegrass	1 1 1	40 40 40
	Annual Ryegrass Perennial Ryegrass Creeping Red Fescue Kentucky Bluegrass	1.25 3.25 0.4 0.4	40 40 40
November 1 to Feb. 29	Use mulch only or dormant seeding		

Note: Other approved species may be substituted.

1. Structural erosion and sediment control practices such as diversions and sediment traps shall be installed and stabilized with temporary seeding prior to grading the rest of the construction site.
2. Temporary seed shall be applied between construction operations on soil that will not be graded or reworked for 21 days or greater. These idle areas shall be seeded within 7 days after grading.
3. The seedbed should be pulverized and loose to ensure the success of establishing vegetation. Temporary seeding should not be postponed if ideal seedbed preparation is not possible.
4. Soil Amendments—Temporary vegetation seeding rates shall establish adequate stands of vegetation, which may require the use of soil amendments. Base rates for lime and fertilizer shall be used.
5. Seeding Method—Seed shall be applied uniformly with a cyclone spreader, drill, cultipacker seeder, or hydroseeder. When feasible, seed that has been broadcast shall be covered by raking or dragging and then lightly tamped into place using a roller or cultipacker. If hydroseeding is used, the seed and fertilizer will be mixed on-site and the seeding shall be done immediately and without interruption.

TEMPORARY SEEDING SPECIFICATIONS (CONTINUED)

Mulching Temporary Seeding

1. Applications of temporary seeding shall include mulch, which shall be applied during or immediately after seeding. Seedings made during optimum seeding dates on favorable, very flat soil conditions may not need mulch to achieve adequate stabilization.
2. Materials:

Straw–If straw is used, it shall be unrotted small–grain straw applied at a rate of 2 tons per acre or 90 lbs./ 1,000 sq. ft. (2–3 bales)

Hydroseeders–If wood cellulose fiber is used, it shall be used at 2000 lbs./ ac. or 46 lb./ 1,000–sq.–ft.

Other–Other acceptable mulches include mulch mattings applied according to manufacturer's recommendations or wood chips applied at 6 ton/ ac.

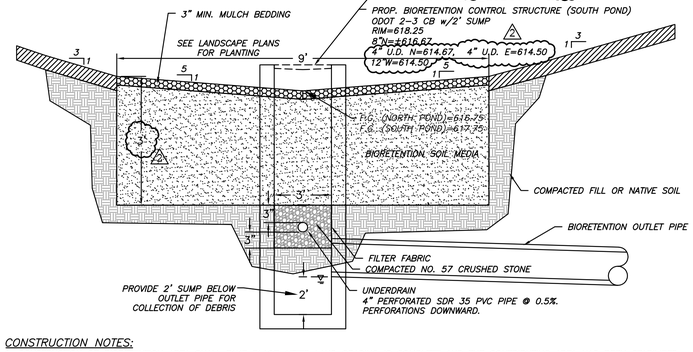
3. Straw Mulch shall be anchored immediately to minimize loss by wind or water. Anchoring methods:

Mechanical–A disk, crimper, or similar type tool shall be set straight to punch or anchor the mulch material into the soil. Straw mechanically anchored shall not be finely chopped but left to a length of approximately 6 inches.

Mulch Netting–Netting shall be used according to the manufacturers recommendations. Netting may be necessary to hold mulch in place in areas of concentrated runoff and on critical slopes.

Synthetic Binders–Synthetic binders such as Acrylic DLR (Agri–Tac), DCA–70, Petroset, Terra Track or equivalent may be used at rates recommended by the manufacturer.

Wood–Cellulose Fiber–Wood–cellulose fiber binder shall be applied at a net dry wt. of 750 lb./ac. The wood–cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 lb. / 100 gal.



CONSTRUCTION NOTES:

1. CONSTRUCTION OF BIORETENTION AREA SHALL TAKE PLACE AFTER LAND GRADING IS COMPLETE AND THE CONTRIBUTING AREA HAS BEEN STABILIZED.
2. PLANTING SOILS MUST BE TESTED BY A CERTIFIED LABORATORY TO INSURE THEY MEET REQUIRED SPECIFICATIONS. DOCUMENTATION OF CERTIFICATION/TESTING SHALL BE AVAILABLE ONSITE TO SITE INSPECTORS. SOILS SHALL BE PLACED IN 12–18 INCH LIFTS AND ONLY LIGHTLY COMPACTED. GENTLE SOAKING WITH WATER MAY BE USED TO ENCOURAGE SETTLEMENT.
3. PLACE MULCH AFTER SUFFICIENT SETTLING OF THE PLANTING MATERIAL HAS OCCURRED IN ORDER TO AVOID EXCESS COMPACTION.

BIORETENTION AREA SECTION

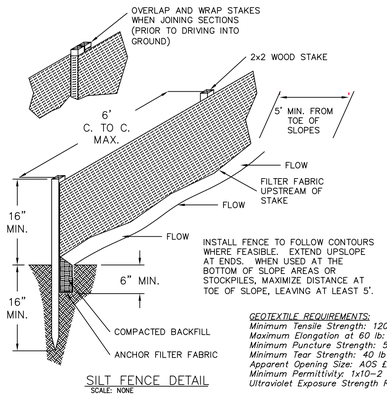
1. THE EXISTING SOIL MUST BE REMOVED AND REPLACED WHEN CONSTRUCTING A BIORETENTION CELL. THE BIORETENTION PLANTING SOIL SHOULD CONSIST OF A MIXTURE OF SAND, COMPOST AND TOPSOIL.
2. THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO (2) INCHES. THE BIORETENTION PLANTING SOIL SHALL BE TESTED AND MEET THE FOLLOWING CRITERIA:
pH RANGE: 5.5 – 6.5
ORGANIC MATTER: 5–20%
MAGNESIUM: 0.1 LBS / CY
PHOSPHORUS (P205): 0.25 LBS / CY
POTASSSIUM (K20): 0.20 LBS / CY

3. THE SOIL MIXTURE SHALL BE WITHIN THE FOLLOWING ACCEPTABLE RANGE:
SAND: 50 – 60%
LEAF COMPOST: 20 – 30%
TOPSOIL: 20 – 30%

TOPSOIL IS SANDY LOAM, LOAMY SAND, OR LOAM TEXTURE (USDA TEXTURE TRIANGLE). MAXIMUM CLAY CONTENT LESS THAN 5%%%. A GRANULAR MATERIAL SUCH AS SAND OR GRAVEL SHOULD BE USED AS A BACKFILL MATERIAL FOR THE UNDERLYING DRAINS TO A DEPTH AS SHOWN ON THE PLANS.

4. MULCH SHOULD BE A MINIMUM OF 3 INCHES THICK, WELL AGED (12 MONTHS MIN.) COARSE SHREDDED HARDWOOD TO MINIMIZE FLOATING OF MATERIAL DURING SURFACE WATER PONDING.
5. RECOMMENDED POROSITY FOR SOIL MIX IS APPROXIMATELY 25%. PLACE SOIL IN LIFTS OF 12 TO 18 INCHES. DO NOT USE HEAVY EQUIPMENT IN BIORETENTION BASIN. IF COMPACTION OCCURS AT BOTTOM OF FACILITY DURING EXCAVATION, RIP TO A MINIMUM OF 12 INCHES AND TILL 2 TO 3 INCHES OF SAND INTO BASE BEFORE BACKFILLING.
SURFACE POOL DEWATER: 3 – 12 HOURS
TOTAL SYSTEM DEWATER: 40 HOURS MAX.
PONDING DEPTH: 12 INCHES MIN.
INFILTRATION RATE OF 1 INCH/HOUR

BIORETENTION SOIL SPECIFICATIONS



GEOTEXTILE REQUIREMENTS:
Minimum Tensile Strength: 120 lb
Maximum Elongation at 60 lb: 50%
Minimum Puncture Strength: 50 lb
Minimum Tear Strength: 40 lb
Apparent Opening Size: AOS ≤ 0.84 mm
Minimum Permitivity: 1x10–2 sec–1
Ultraviolet Exposure Strength Retention: 70%

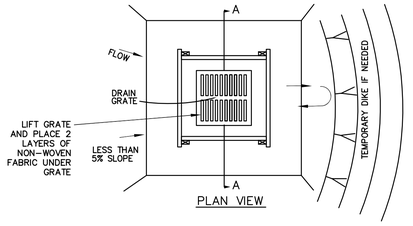
SILT FENCE DETAIL

SCALE: NONE

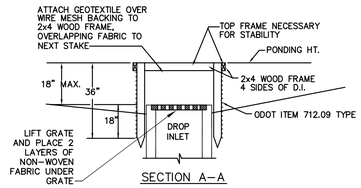
1. SILT FENCE SHALL BE CONSTRUCTED BEFORE UPSLOPE LAND DISTURBANCE BEGINS.
2. ALL SILT FENCE SHALL BE PLACED AS CLOSE TO THE CONTOUR AS POSSIBLE SO THAT WATER WILL NOT CONCENTRATE AT LOW POINTS IN THE FENCE AND SO THAT SMALL SWALES OR DEPRESSIONS THAT MAY CARRY SMALL CONCENTRATED FLOWS TO THE SILT FENCE ARE DISSIPATED ALONG ITS LENGTH.
3. ENDS OF THE SILT FENCES SHALL BE BROUGHT UPSLOPE SLIGHTLY SO THAT WATER PONDED BY THE SILT FENCE WILL BE PREVENTED FROM FLOWING AROUND THE ENDS.
4. SILT FENCE SHALL BE PLACED ON THE FLATTEST AREA AVAILABLE.
5. WHERE POSSIBLE, VEGETATION SHALL BE PRESERVED FOR 5 FEET (OR AS MUCH AS POSSIBLE) UPSLOPE FROM THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE REESTABLISHED WITHIN 7 DAYS FROM THE INSTALLATION OF THE SILT FENCE.
6. THE HEIGHT OF THE SILT FENCE SHALL BE A MINIMUM OF 16 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
7. THE SILT FENCE SHALL BE PLACED IN AN EXCAVATED OR SLICED TRENCH CUT A MINIMUM OF 6 INCHES DEEP. THE TRENCH SHALL BE MADE WITH A TRENCHER, CABLE LAYING MACHINE, SLICING MACHINE, OR OTHER SUITABLE DEVICE THAT WILL ENSURE AN ADEQUATELY UNIFORM TRENCH DEPTH.
8. THE SILT FENCE SHALL BE PLACED WITH THE STAKES ON THE DOWNSLOPE SIDE OF THE GEOTEXTILE. A MINIMUM OF 8 INCHES OF GEOTEXTILE MUST BE BELOW THE GROUND SURFACE. EXCESS MATERIAL SHALL LAY ON THE BOTTOM OF THE 6–INCH DEEP TRENCH. THE TRENCH SHALL BE BACKFILLED AND COMPACTED ON BOTH SIDES OF THE FABRIC.
9. SEAMS BETWEEN SECTIONS OF SILT FENCE SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST WITH A MINIMUM 6–IN. OVERLAP PRIOR TO DRIVING INTO THE GROUND, (SEE DETAILS).
10. MAINTENANCE–SILT FENCE SHALL ALLOW RUNOFF TO PASS ONLY AS DIFFUSE FLOW THROUGH THE GEOTEXTILE. IF RUNOFF OVERTOPS THE SILT FENCE, FLOWS UNDER THE FABRIC OR AROUND THE FENCE ENDS, OR IN ANY OTHER WAY ALLOWS A CONCENTRATED FLOW DISCHARGE, ONE OF THE FOLLOWING SHALL BE PERFORMED, AS APPROPRIATE: 1) THE LAYOUT OF THE SILT FENCE SHALL BE CHANGED, 2) ACCUMULATED SEDIMENT SHALL BE REMOVED, OR 3) OTHER PRACTICES SHALL BE INSTALLED.
SEDIMENT DEPOSITS SHALL BE ROUTINELY REMOVED WHEN THE DEPOSIT REACHES APPROXIMATELY ONE–HALF OF THE HEIGHT OF THE SILT FENCE.
SILT FENCES SHALL BE INSPECTED AFTER EACH RAINFALL AND AT LEAST DAILY DURING A PROLONGED RAINFALL. THE LOCATION OF EXISTING SILT FENCE SHALL BE REVIEWED DAILY TO ENSURE ITS PROPER LOCATION AND EFFECTIVENESS. IF DAMAGED, THE SILT FENCE SHALL BE REPAIRED IMMEDIATELY.

CRITERIA FOR SILT FENCE MATERIALS:

1. FENCE POST – THE LENGTH SHALL BE A MINIMUM OF 32 INCHES. WOOD POSTS WILL BE 2–BY–2–IN. NOMINAL DIMENSIONED HARDWOOD OF SOUND QUALITY. THEY SHALL BE FREE OF KNOTS, SPLITS AND OTHER VISIBLE IMPERFECTIONS, THAT WILL WEAKEN THE POSTS. THE MAXIMUM SPACING BETWEEN POSTS SHALL BE 10 FT. POSTS SHALL BE DRIVEN A MINIMUM 16 INCHES INTO THE GROUND, WHERE POSSIBLE. IF NOT POSSIBLE, THE POSTS SHALL BE ADEQUATELY SECURED TO PREVENT OVERTURNING OF THE FENCE DUE TO SEDIMENT/WATER LOADING.
2. SILT FENCE FABRIC SHALL MEET THE REQUIREMENTS OF ODOT 712.09 GEOTEXTILE FABRICS TYPE C: FOR SEDIMENT FENCES AS LISTED ABOVE IN GEOTEXTILE REQUIREMENTS.



PLAN VIEW

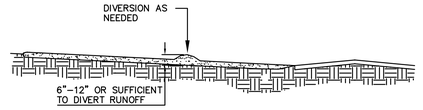


SECTION A–A

NOTES:
1. DROP INLET SEDIMENT BARRIERS ARE TO BE USED FOR SMALL, NEARLY LEVEL DRAINAGE AREAS. (LESS THAN 5%)
2. USE 2X4 WOOD OR EQUIVALENT METAL STAKES, (3 FT. MIN. LENGTH)
3. INSTALL 2X4 WOOD TOP FRAME TO INSURE STABILITY.
4. THE TOP OF THE FRAME (PONDING HEIGHT) MUST BE WELL BELOW THE GROUND ELEVATION DOWNSLOPE TO PREVENT RUNOFF FROM BY–PASSING THE INLET. A TEMPORARY DIKE MAY BE NECESSARY ON THE DOWNSLOPE SIDE OF THE STRUCTURE.
5. WIRE MESH SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT FABRIC WITH WATER FULLY IMPOUNDED AGAINST IT. IT SHALL BE STRETCHED TIGHTLY AROUND THE FRAME AND FASTENED SECURELY TO THE FRAME.
6. GEOTEXTILE SHALL HAVE AN EQUIVALENT OPENING SIZE OF 20–40 SIEVE AND BE RESISTANT TO SUNLIGHT. IT SHALL BE STRETCHED TIGHTLY AROUND THE FRAME AND FASTENED SECURELY. IT SHALL EXTEND FROM THE TOP OF THE FRAME TO 18 IN. BELOW THE INLET NOTCH ELEVATION. THE GEOTEXTILE SHALL OVERLAP ACROSS ONE SIDE OF THE INLET SO THE ENDS OF THE CLOTH ARE NOT FASTENED TO THE SAME POST.

STORM DRAIN INLET PROTECTION

NOT TO SCALE



1. STONE SIZE – SHALL BE AASHTO M 43 No. 2 STONE.
2. LENGTH – THE CONSTRUCTION ENTRANCE SHALL BE AS LONG AS REQUIRED TO STABILIZE HIGH TRAFFIC AREAS BUT NOT LESS THAN 50 FEET.
3. THICKNESS – STONE LAYER SHALL BE AT LEAST 6" THICK. WIDTH – THE ENTRANCE SHALL BE AT LEAST 24' WIDE, BUT NOT LESS THAN 22' WIDTH AT POINTS WHERE INGRESS/EGRESS OCCURS.
4. BEDDING – GEO FABRIC FOR SEPARATION
5. WATER BARRIER – A WATER BARRIER SHALL BE CONSTRUCTED AS PART OF THE CONSTRUCTION ENTRANCE IF NEEDED TO PREVENT SURFACE RUNOFF FROM FLOWING THE LENGTH OF THE CONSTRUCTION ENTRANCE AND OUT ONTO PAVED SURFACES.
6. MAINTENANCE – TOP DRESSING OF ADDITIONAL STONE SHALL BE APPLIED AS CONDITIONS DEMAND. MUD SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADS, OR ANY SURFACE WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS, SHALL BE REMOVED IMMEDIATELY. REMOVAL SHALL BE ACCOMPLISHED BY SCRAPING OR SWEEPING. CONSTRUCTION ENTRANCES SHALL NOT BE RELIED UPON TO REMOVE MUD FROM VEHICLES AND PREVENT OFF SITE TRACKING. VEHICLES THAT ENTER AND LEAVE THE CONSTRUCTION–SITE SHALL BE RESTRICTED FROM MUDDY AREAS.

TEMPORARY CONSTRUCTION ENTRANCE DRIVE

NO SCALE

CIVCON
Engineering Consultants, Inc.
1270 W Clifton Blvd Suite 300
Lakewood, OH 44107
Phone: (216) 228-8723
Fax (216) 228-8730
Email: info@civcon.net

CLIENT:
Zaremba Group, LLC
14600 Detroit Ave STE 1500
Lakewood, OH 44107
(216) 221-6600
(216) 221-1031 - fax
Contact: Sean McDermott

STATE OF OHIO
FRANK R. VILLANTI
E–68702
REGISTERED PROFESSIONAL ENGINEER

DATE	REVISION	BY
03/14/08	FOR OWNER REVIEW	FRV
03/29/08	FOR PERMIT / BID	FRV
08/15/08	⚠ BULLETIN 2	FRV
	STORM SEWER REVISIONS	

CVS #3353
SWC of OBERLIN AVE & MEISTER ROAD LORAIN, OH 44052
CIVCON Engineering Consultants, Inc.
CONTACT: FRANK R. VILLANTI, P.E. PHONE (216) 228-8723 FAX (216) 228-8730

STORM WATER POLLUTION PREVENTION PLAN DETAILS

DESIGNED BY:	DRAWN BY:	CHECKED BY:
FRV	FRV	FRV
DATE	03/14/08	
SCALE	1"=20'	
JOB NO.	JOB # C07155	

SHEET NO.

C-4.2

SWPPP SHEET 2 of 2