

Hamilton County Stormwater Regulations Workshop

Session 5 – Construction Site Stormwater Pollution Prevention

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STRUCTURE OF PRESENTATION

- Applicability and Exemptions
- Construction Site SWPPP Policy
- SWPPP and Its Components
- Construction Sequencing
- Individual Lots
- Inspection and Maintenance of BMPs
- Best Management Practices



APPLICABILITY AND EXEMPTIONS

(Section 602.01)

- Applies to development and re-development projects disturbing 1 acre or more of ground
- Procedures for calculation of land disturbance can be found in Section 602.03
- Individual lots < 1 acre and located within a larger project are considered part of the larger permitted project site. However, an Individual Lot Plot Plan permit application must be submitted prior to receiving a building permit
- Individual lots disturbing 1 acre or more must submit an application even if part of a larger project



APPLICABILITY AND EXEMPTIONS

(Section 602.01)

- Following activities are exempt:
 - agricultural land disturbing activities
 - forest harvesting activities
- Activities such as certain landfill and coal mining activities are exempt if other State permits require soil erosion control measures



POLICY (Section 602.02)

1. Minimize the potential for soil erosion by designing a development that fits the topography and soils of the site
2. Existing natural vegetation should be retained and protected wherever possible. Areas immediately adjacent (within 35 feet of top of bank) to watercourses and lakes also should be left undisturbed wherever possible
3. All activities on a site should be conducted in a logical sequence so that the smallest practical area of land will be exposed for the shortest practical period of time during development



POLICY (Section 602.02)

4. The length and steepness of designed slopes should be minimized to reduce erosion potential. Drainage channels and swales must be designed and adequately protected so that their final gradients and resultant velocities will not cause erosion in the receiving channel or at the outlet
5. Sediment-laden water which otherwise would flow from the project site shall be treated by sediment control measures appropriate to minimize sedimentation
6. A stable construction site access shall be provided at all points of construction traffic ingress and egress to the project site



POLICY (Section 602.02)

7. Appropriate measures shall be implemented to prevent garbage, debris, fuels and petroleum products, hazardous materials, concrete truck washout, and other substances from being carried from a project site by runoff or wind
8. Public or private roadways shall be kept cleared of accumulated sediment that is a result of runoff or tracking



POLICY (Section 602.02)

9. Collected runoff leaving a project site must be either discharged directly into a well-defined, stable receiving channel, or diffused and released to adjacent property without causing an erosion or pollutant problem to the adjacent property owner
10. Natural features, including wetlands, shall be protected from pollutants associated with stormwater runoff
11. All disturbed ground left inactive for fifteen (15) or more days shall be stabilized by seeding, sodding, mulching, covering, or by other equivalent erosion control measures



Goal of the SWPPP

The ultimate goal of the Storm Water Pollution Prevention Plan (SWPPP) is to keep sediment and other pollutants from leaving the construction site



Goal of the SWPPP

Achieve this goal by:

- Preventing the movement of soil from its original position (erosion control)
- Intercepting displaced soil prior to entering a water body (sediment control)
- Proper on-site materials handling (on-site materials may include fuels, petroleum products, hazardous materials or wastes, cleaning wastes, concrete truck washout, packaging materials, garbage, and other substances)



Development of the SWPPP

- The designer develops an SWPPP for use during construction that details erosion and sediment control measures, as well as on-site materials handling procedures
- The SWPPP is submitted to the MS4 entity for approval
- During construction, the project site owner must ensure that the approved SWPPP is followed, until the site is stabilized and the Notice of Termination (NOT) is issued.



SWPPP Components

There are three main components to a Storm Water Pollution Prevention Plan:

- Narrative
- Plan view of project site with SWPPP elements shown
- Details and Specifications



SWPPP Narrative

The SWPPP narrative should include:

- 14-Digit Watershed Hydrologic Unit Code
- Soil map of the predominant soil types
- Name of all receiving waters
- The location and name of all ponds, lakes, wetlands, and other water bodies on, or adjacent to, the project site
- The location of any 100-year frequency floodplains



SWPPP Narrative

The SWPPP narrative should include:

- Identification and delineation of sensitive areas (such as wetlands, highly erodible land, threatened or endangered species habitat, outstanding waters, impaired waters, and recreation waters)
- Description of potential pollutant sources associated with the proposed construction activities
- Other related information (Sections 102.03 and 102.05)



A1 THE INDEX IS AS FOLLOWS.	A13 NO FLOODPLAIN BOUNDARIES HAVE BEEN IDENTIFIED
A2 11x17 EXHIBIT PROVIDED SEPERATELY.	ONSITE. A FLOODPLAIN BOUNDARY HAS BEEN IDENTIFIED
A3 THE NATURE AND PURPOSE OF THE PROJECT IS THE DEVELOPMENT OF LAUREN LAKES - SECTION 1, A 28.1 ACRE SINGLE-FAMILY RESIDENTIAL DEVELOPMENT. A TOTAL OF 70 LOTS TO BE DEVELOPED. ESTIMATED START OF CONSTRUCTION-JUNE 2005 AND COMPLETION-JUNE 2010.	ON ADJACENT PROPERTY, ON THE NORTH SIDE OF C.R. 500 NORTH.
A4 VICINITY MAP IS FOUND ON THIS SHEET.	A14 PRECONSTRUCTION PEAK DISCHARGE FOR OVERALL SITE SW - 8.11 cfs (10-YR) N - 55.56 cfs (10-YR) SE - 0.72 cfs (10-YR) E - 73.71 cfs (10-YR) POSTCONSTRUCTION PEAK DISCHARGE FOR OVERALL SITE N - 3.17 cfs (10-YR) E - 22.29 cfs (10-YR)
A5 LEGAL DESCRIPTION FOR THE SITE CAN BE FOUND ON SHEET B102, ALTA/ACSM LAND TITLE SURVEY, PROVIDED SEPERATELY. LAT-40°29'18"N LONG-86°54'37"W	A15 ADJACENT LAND USES ARE AS FOLLOWS: NORTH-RESIDENTIAL EAST-AGRICULTURE SOUTH-AGRICULTURE WEST-AGRICULTURE
A6 REFER TO SHEETS C101 THROUGH C106.	A16 REFER TO CONSTRUCTION LIMITS AS DEFINED ON THIS SHEET.
A7 HYDROLOGIC UNIT CODE (14digit) 05120108010010	A17 THE SITE HAS EXISTING ROW CROP STUBBLE.
A8 THE NOTIFICATION PROCESS WITH IDEM AND THE CORPS OF ENGINEERS FOR CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE HAVE COMMENCED.	A18 THE EXISTING SOILS ARE SUPERIMPOSED IN THE PLAN VIEW ON THIS SHEET. PLEASE REFER TO THIS SHEET FOR SOIL DESCRIPTIONS AND LIMITATIONS. THERE ARE NO SEPTICS ON THE SITE. PAVEMENT UNDERDRAINS HAVE BEEN INCLUDED TO ADEQUATELY DRAIN THE PAVEMENT SUBBASE. DIVERSIONARY SWALES ARE TO BE CONSTRUCTED AS NEEDED TO PREVENT PONDING.
A9 STORMWATER GENERATED FOR SEC-1 WILL BE ROUTED VIA STORM SEWER INFRASTRUCTURE TO ONSITE DETENTION PONDS, WHICH THEN DISCHARGE TO AN	

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A8 THE NOTIFICATION PROCESS WITH IDEM AND THE CORPS OF ENGINEERS FOR CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE HAVE COMMENCED.	A19 REFER TO SHEETS C101-C102 FOR LOCATION OF ONSITE SWALES REFER TO C800 FOR LOCATION, SIZE AND DIMENSIONS FOR STORM INFRASTRUCTURE. REFER TO C801 FOR TYPICAL SWALE DETAIL.
A9 STORMWATER GENERATED FOR SEC-1 WILL BE ROUTED VIA STORM SEWER INFRASTRUCTURE TO ONSITE DETENTION PONDS, WHICH THEN DISCHARGE TO AN UNNAMED TRIBUTARY. THE UNNAMED TRIBUTARY CONTINUES NORTH THROUGH AN EXISTING CULVERT UNDER C.R. 500 NORTH AND DISCHARGES INTO BURNETTS CREEK.	A20 NO OFFSITE CONSTRUCTION ACTIVITIES ARE PLANNED.
A10 A WETLAND AND AN UNNAMED TRIBUTARY TO BURNETTS CREEK HAVE BEEN IDENTIFIED ONSITE BY THE U.S. ARMY CORP OF ENGINEERS AND ARE CONSIDERED TO BE "WATERS OF THE UNITED STATES." THESE AREAS ARE CLEARLY IDENTIFIED ON THIS SHEET AND WILL BE "ZERO IMPACT" EXCEPT FOR STREET CROSSINGS.	A21 A SOIL STOCKPILE WILL BE LOCATED IN THE NORTHEAST CORNER OF THE SITE, REFER TO THIS SHEET FOR THE LOCATION AND PRACTICE 3.02 ON SHEET C108 FOR MORE INFORMATION.
A11 RECEIVING WATERS ARE BURNETTS CREEK TO THE WABASH RIVER.	A22 EXISTING SITE TOPOGRAPHY IS INDICATED ON SHEETS B103-B106, C101-C102 AND C107.
A12 NO POTENTIAL DISCHARGES TO GROUND WATER HAVE BEEN IDENTIFIED.	A23 PROPOSED SITE TOPOGRAPHY IS INDICATED ON SHEETS C101-C102 AND C107.

SWPPP Narrative

The SWPPP narrative should also include:

- Construction Sequence Plan
- Materials Handling Plan



SWPPP Narrative (Construction Sequence Plan)

STORMWATER POLLUTION PREVENTION PLAN SCHEDULE

1. CONTRACTOR SHALL INSTALL A TEMPORARY STONE CONSTRUCTION ENTRANCE PRIOR TO THE START OF EARTHWORK TO PREVENT SOIL FROM BEING TRACKED OR WASHED ONTO THE EXISTING ROADWAY. PLACE SILT FENCE AS NOTED AROUND PERIMETER OF SITE. (WITHIN FIRST WEEK OF CONSTRUCTION)
2. DIVERSIONARY SWALES AND PERMANENT SWALES SHALL BE CONSTRUCTED, TEMPORARILY SEEDED AND MAINTAINED. CONTRACTOR SHALL GRADE SITE TO ALLOW WATER TO DRAIN TO DIVERSIONARY SWALES AND PERMANENT SWALES TO MINIMIZE ANY EROSION. PROPOSED CULVERT UNDER STREET "A" SHALL BE CONSTRUCTED TO ALLOW THE EXISTING STREAM TO FLOW UNINTERRUPTED. (WITHIN FIRST WEEK OF CONSTRUCTION)

SWPPP Narrative (Construction Sequence Plan)

3. OVERALL EARTHWORK SHALL BEGIN THE SECOND WEEK OF CONSTRUCTION, INCLUDING STRIPPING TOPSOIL, PREPARING ROADWAY SUBGRADE, AND PREPARING BUILDING PADS. TEMPORARY SEED ALL DISTURBED AREAS IF CONSTRUCTION ACTIVITIES ARE NOT ANTICIPATED WITHIN TEN DAYS AFTER INITIAL DISTURBANCE. (THROUGHOUT THE DURATION OF THE PROJECT)
4. CONSTRUCTION OF STORM SEWER, SANITARY SEWER, WATERLINE, AND UTILITIES MAY BEGIN. INSTALL CURB INLET SEDIMENT BARRIERS UPON CONSTRUCTION OF INLETS. AN EXCAVATED DROP INLET SHALL BE PLACED UNTIL INLETS HAVE PAVEMENT AROUND THEM AND SEDIMENT BARRIERS CAN BE PLACED. (WITHIN ONE MONTH OF CONSTRUCTION)
6. THE TEMPORARY STONE CONSTRUCTION ENTRANCE SHALL BE REMOVED AND CONSTRUCTION OF ROADWAYS SHALL BEGIN. (WITHIN ONE MONTH OF CONSTRUCTION)

SWPPP Narrative (Construction Sequence Plan)

5. CONTRACTOR SHALL TEMPORARY SEED ANY DISTURBED AREAS DURING CONSTRUCTION OF STORM SEWER, SANITARY SEWER, WATERLINE, UTILITIES OR ROADWAYS. (THROUGHOUT THE DURATION OF THE PROJECT)
6. REMOVE TEMPORARY DIVERSION SWALE AS NEEDED FOLLOWING THE COMPLETION OF THE STORM SEWER SYSTEM. CONTRACTOR SHALL STABILIZE ALL AREAS DISTURBED BY PERMANENT SEEDING AS REQUIRED.
7. TEMPORARY SEED ALL PAD AREAS. ALL OTHER DISTURBED AREAS SHALL BE PERMANENT SEEDED.
8. UPON COMPLETION OF THE PROJECT AND STABILIZATION OF ALL EARTHWORK, SILT FENCE AND SEDIMENT BARRIERS SHALL BE REMOVED. (WITHIN ONE YEAR OF CONSTRUCTION)

*CONSTRUCTION SCHEDULE AND SEQUENCE IS AN ESTIMATE PROVIDED BY THE ENGINEER

SWPPP Narrative (Materials Handling Plan)

POLLUTION PREVENTION DURING CONSTRUCTION

1. THE PROPER MANAGEMENT AND DISPOSAL OF WASTES SHOULD BE PRACTICED ON SITE AT ALL TIMES TO REDUCE POLLUTION STORM WATER RUNOFF. HAZARDOUS WASTE SHOULD ALWAYS BE DISPOSED OF THROUGH A DESIGNATED HAZARDOUS WASTE MANAGEMENT OR RECYCLING FACILITY. HAZARDOUS WASTE SHOULD NOT BE DISPOSED OF WITH ORDINARY GARBAGE OR POURED INTO THE SANITARY SEWER SYSTEM OR ONTO THE GROUND.
2. DESIGNATE A WASTE COLLECTION AREA ON-SITE THAT DOES NOT RECEIVE A SUBSTANTIAL AMOUNT OF RUNOFF FROM UPLAND AREAS AND DOES NOT DRAIN DIRECTLY INTO A WATER BODY.

SWPPP Narrative (Materials Handling Plan)

3. KEEP PRODUCTS IN ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE, THEN ORIGINAL LABEL AND MATERIAL SAFETY DATA WILL BE RETAINED. IF A PRODUCT DOES NOT HAVE ITS ORIGINAL LABEL, LABEL IT YOURSELF IF YOU ARE SURE OF THE CONTENTS. MAKE SURE PRODUCTS ARE PROPERLY SEALED TO PREVENT LEAKS AND SPILLS AND STORED IN A WEATHER PROOF SELF CONTAINED AREA AWAY FROM HEAT, SPARKS, AND FLAMES.
4. A PROGRAM FOR RECYCLING OR DISPOSAL OF MATERIALS ASSOCIATED WITH OR FROM THE PROJECT SITE SHALL BE ESTABLISHED. ALL RECYCLING CONTAINERS WILL BE CLEARLY LABELED.

SWPPP Narrative (Materials Handling Plan)

5. ALL CONSTRUCTION ACTIVITIES ARE TO BE MONITORED AND MAINTAINED BY THE CONTRACTOR. AS EACH NEW SUBCONTRACTOR COMES ON-SITE, THE CONTRACTOR WILL CONDUCT AND DOCUMENT A MEETING TO ENSURE AWARENESS OF THE POLLUTANT PREVENTION PROGRAM. GUIDELINES FOR PROPER HANDLING, STORAGE AND DISPOSAL OF CONSTRUCTION SITE WASTES SHOULD BE POSTED IN STORAGE AND USE AREAS AND WORKERS SHOULD BE TRAINED IN THESE PRACTICES TO ENSURE EVERYONE IS KNOWLEDGEABLE ENOUGH TO PARTICIPATE.
6. CLEAN UP SPILLS IMMEDIATELY. FOR HAZARDOUS MATERIALS FOLLOW CLEANUP INSTRUCTIONS ON THE PACKAGE. USE ABSORBENT MATERIAL SUCH AS SAWDUST OR KITTY LITTER TO CONTAIN THE SPILL. PROPER SAFETY MATERIALS SHOULD BE STORED ON SITE IN CASE OF ACCIDENT OR SPILL WHICH SHOULD INCLUDE BUT NOT BE LIMITED TO BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THAT PURPOSE. SPILL AREAS SHOULD BE WELL VENTILATED.

SWPPP Narrative (Materials Handling Plan)

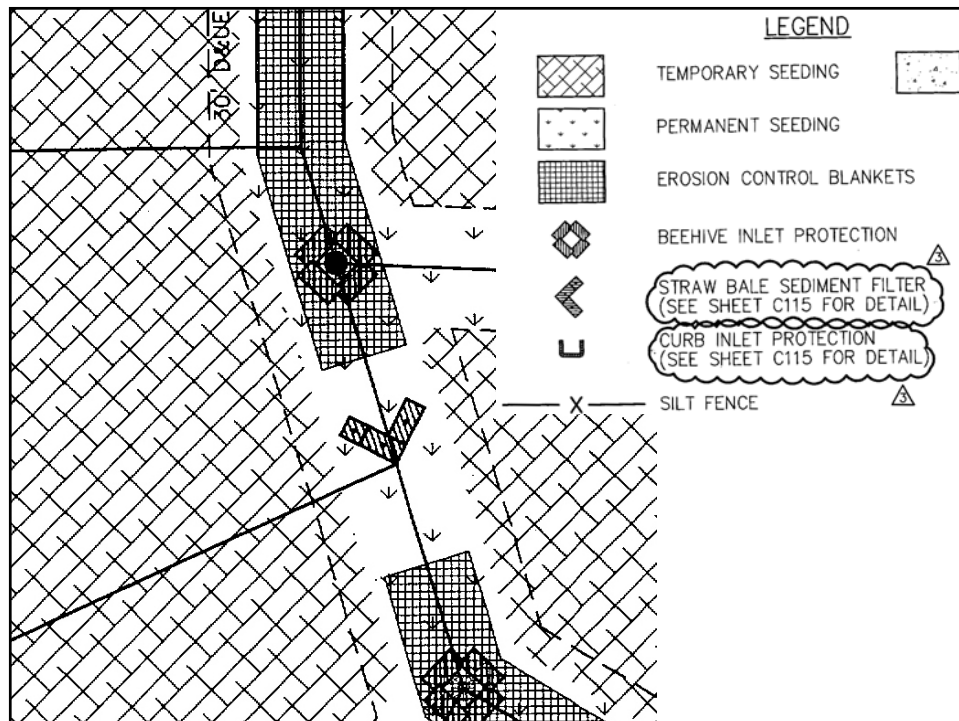
7. DURING THE DEMOLITION PHASE OF CONSTRUCTION, PROVIDE EXTRA CONTAINERS AND SCHEDULE MORE FREQUENT PICKUPS FOR RECYCABLES AND GARBAGE. COLLECT, REMOVE, AND DISPOSE OF ALL CONSTRUCTION SITE WASTES AT AUTHORIZED DISPOSAL AREAS. CONTACT LOCAL ENVIRONMENTAL AGENCY TO IDENTIFY DISPOSAL SITES OR AUTHORIZED CONTRACTORS.
8. CONSTRUCTION VEHICLES SHOULD BE INSPECTED FOR LEAKS DAILY AND REPAIRED IMMEDIATELY IN A SELF CONTAINED AREA DESIGNATED FOR VEHICLE MAINTENANCE AND REPAIR. THE VEHICLE MAINTENANCE AREA SHOULD BE CONDUCTED ON AN AREA THAT IS TO BECOME FUTURE PAVEMENT. THIS AREA WILL BE DESIGNED TO MINIMIZE CONTACT BETWEEN EQUIPMENT ACTIVITIES AND RAINFALL OR RUNOFF. SPILLS MUST BE CLEANED UP AND MATERIALS DISPOSED OF IMMEDIATELY.
9. CONTAINERS OR EQUIPMENT THAT MAY MALFUNCTION AND CAUSE LEAKS OR SPILLS SHOULD BE IDENTIFIED THROUGH REGULAR INSPECTION AND STORAGE OF USE AREAS. EQUIPMENT AND CONTAINERS SHOULD BE INSPECTED REGULARLY FOR LEAKS, CORROSION, SUPPORT OR FOUNDATION FAILURE, OR ANY OTHER SIGNS OF DETERIORATION AND SHOULD BE TESTED FOR SOUNDNESS. ANY FOUND TO BE DEFECTIVE SHOULD BE REPAIRED OR REPLACED IMMEDIATELY.

IN CASE OF SPILLS, CONTACT THE TIPPECANOE EMERGENCY RESPONSE AT

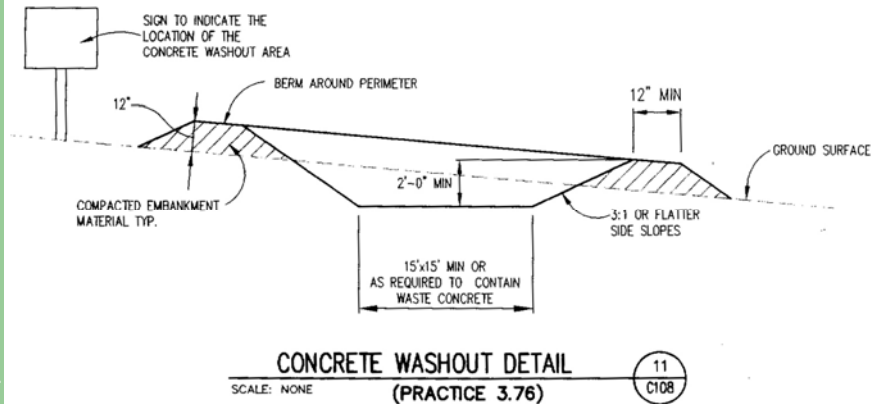
SWPPP Plan

The SWPPP should include:

- A plan view of the project site (including any off-site work for road extensions, utilities, etc.), with the location and dimensions of all stormwater quality measures shown
- A legend to identify the various measures proposed



SWPPP Plan (Typical Detail)



SWPPP Plan (Typical Spec.)

Practice 3.76 Concrete Washout

Notes:

1. Concrete washout area shall be installed prior to any concrete placement on site.
2. 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.
3. The concrete washout area shall be repaired and enlarged or cleaned out as necessary to maintain capacity for wasted concrete.
4. At the end of construction, all concrete shall be removed from the site and disposed of at an approved waste site.
5. When the concrete washout area is removed, the disturbed area shall be seeded and mulched or otherwise stabilized in a manner approved by the inspector.

Recommendations:

The following steps will help reduce stormwater pollution from concrete wastes.

- Discuss the concrete management techniques described in this BMP (such as handling of concrete waste and washout) with the ready-mix concrete supplier before any deliveries are made.
- Incorporate requirements for concrete waste management into material supplier and subcontractor agreements.
- Store dry and wet materials under cover, away from drainage areas.
- Avoid mixing excess amount of fresh concrete.
- Perform washout of concrete trucks offsite or in designated areas only.
- Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
- Do not allow excess concrete to be dumped onsite, except in designated areas.

FOR ONSITE WASHOUT:

- Locate washout area so that it is most practical for the construction sequence and does not adversely affect the stormwater runoff.
- Do not allow runoff from this area by constructing a temporary pit or bermed area large enough for liquid and solid waste.
- Wash out wastes into the temporary pit where the concrete can set, be broken up, and then disposed properly.
- Avoid creating runoff by draining water to a bermed or level area when washing concrete to remove fine particles and expose the aggregate.
- Do not wash sweepings from exposed aggregate concrete into the street or storm drain. Collect and return sweepings to aggregate base stockpile or dispose in the trash.

SWPPP Plan (Typical Seeding Spec.)

Practice 3.11-B Temporary Seeding Recommendations

Seed Species*	Rate/acre	Planting depth	Optimum dates**
Wheat or rye	150 lbs	1 to 1-1/2 in.	9/15 to 10/30
Spring oats	100 lbs	1 in.	3/1 to 4/15
Annual ryegrass	40 lbs	1/4 in.	3/1 to 5/1
			8/1 to 9/1
German millet	40 lbs	1 to 2 in.	5/1 to 6/1
Sudangrass	35 lbs	1 to 2 in.	5/1 to 7/30

*Perennial species may be used as a temporary cover, especially if the area to be seeded will remain idle for more than a year(Practice 3.12). **Seeding done outside the optimum dates increases the chances of seeding failure.



Practice 3.12–C Permanent Seeding Recommendations

This table provides several seeding options. Additional seed species and mixtures are available commercially. When selecting a mixture, consider site conditions, including soil properties (e.g., soil pH and drainage), slope aspect and the tolerance of each species to shade and droughtiness.

Seed species and mixtures	Rate per acre	Optimum soil pH
OPEN AND DISTURBED AREAS (REMAINING IDLE FOR MORE THAN 1 YR.)		
1. Perennial ryegrass	35 to 50 lbs	5.6 to 7.0
+white or ladino clover*	1 to 2 lbs	
2. Kentucky bluegrass	20 lbs	5.5 to 7.5
+smooth brome grass	10 lbs	
+switchgrass	3 lbs	
+timothy	4 lbs	
+perennial ryegrass	10 lbs	
+white or ladino clover*	1 to 2 lbs	
3. Perennial ryegrass	15 to 30 lbs	5.6 to 7.0
+tall fescue**	15 to 30 lbs	
4. Tall fescue**	35 to 50 lbs	5.5 to 7.5
+ladino or white clover*	1 to 2 lbs	

CONSTRUCTION SEQUENCING – OVERALL DEVELOPMENT

- The sequence of major construction activities in relation to the construction and maintenance of BMPs should be described in sufficient details in the construction plans submitted to the reviewing entity
- The Designer should keep in mind the following general principles when developing a SWPPP and should relay these principles to the Contractor who is building the project
 1. Install perimeter protection measures prior to disturbing land upstream of such measures
 2. Do not disturb an area until it is necessary for the construction activity to proceed

CONSTRUCTION SEQUENCING – OVERALL DEVELOPMENT (cont.)

3. Cover or stabilize areas as soon as possible
4. Time the construction activities to reduce the impacts from seasonal climatic changes (precipitation and temperature)
5. Stabilize upslope areas first to protect downslope areas from the source of potential erosion
6. Remove temporary silt fence perimeter protection and inlet protection measures after all upstream areas with the limits of disturbance are stabilized
7. Most post-construction BMP measures cannot handle the sediment loads of unstabilized construction!

INDIVIDUAL LOTS (Section 602.05)

- Individual lot builder must take steps to:
 - Protect adjacent properties from sedimentation
 - Prevent mud/sediment from depositing on the street
 - Protect drainageways from erosion and sedimentation
 - Prevent sediment laden water from entering storm sewer inlets



INDIVIDUAL LOTS (Section 602.05)

- Standard erosion control plan for individual lots, provided as Exhibit 602-1, includes:
 - Perimeter silt fence
 - Stabilized construction entrance
 - Curb inlet/drop inlet protection
 - Stockpile containment
 - Stabilized drainage swales
 - Downspout extensions
 - Temporary seeding and mulching
 - Permanent vegetation
- Every relevant measure should be installed at each individual site

“INDIVIDUAL LOT EROSION AND SEDIMENT CONTROL PLAN AND CERTIFICATION”

Legend and Check List

SF	Silt Fence	☐
Gravel Construction Entrance	Gravel Construction Entrance	☐
Drop Inlet Protection	Drop Inlet Protection	☐
Curb Inlet Protection	Curb Inlet Protection	☐
TS	Temporary Seeding	☐
Property Lines / Drainage Swale	Property Lines / Drainage Swale	☐
Constructed Building Pad	Constructed Building Pad	☐
Silt Stockpile Protection	Silt Stockpile Protection	☐

Notes:

- Draw in any "Do Not Disturb" areas.
- Provide pad elevations for subject property and adjacent properties.
- Erosion Control Measures must be functional and maintained throughout construction.

I hereby certify that the drainage ways, pad elevations, and erosion and sediment control measures are consistent with the overall development plans.

Signature _____ Date _____

Individual Lot Erosion and Sediment Control Plan and Certification

CONSTRUCTION SEQUENCING – INDIVIDUAL LOTS (Section 602.05)

Construction sequence on individual lots should be as follows:

- Clearly field-locate areas of trees, shrubs, and vegetation that are to be undisturbed. To prevent root damage, the areas delineated for tree protection should be at least the same diameter as the crown
- Install perimeter silt fence at construction limits. Position the fence to intercept runoff prior to entering drainage swales

CONSTRUCTION SEQUENCING – INDIVIDUAL LOTS (Section 602.05)

- Avoid disturbing drainage swales if vegetation is established. If drainage swales are bare, install erosion control blankets or sod to immediately stabilize
- Install drop inlet protection for all inlets on the property
- Install curb inlet protection, on both sides of the road, for all inlets along the property frontage and along the frontage of adjacent lots, or install temporary catch basin inserts in each inlet and frequently clean

CONSTRUCTION SEQUENCING – INDIVIDUAL LOTS (Section 602.05)

- Install gravel construction entrance that extends from the street to the building pad
- Perform primary grading operations
- Contain erosion from any soil stockpiles created on-site with silt fence around the base
- Establish temporary seeding and straw mulch on disturbed areas
- Construct the home and install utilities



CONSTRUCTION SEQUENCING – INDIVIDUAL LOTS (Section 602.05)

- Install downspout extenders once the roof and gutters have been constructed. Extenders should outlet to a stabilized area
- Re-seed any areas disturbed by construction and utilities installation with temporary seed mix within 3 days of completion of disturbance
- Grade the site to final elevations
- Install permanent seeding or sod

MAINTENANCE AND MONITORING

(Section 602.06)

- The developer is responsible for proper installation and maintenance of Construction BMPs
- A trained individual must perform a written evaluation of the project site on behalf of the developer by the end of the next business day following each measurable storm event (≥ 0.5 inch) or, at least, once a week
- The trained individual must complete an evaluation report for each inspection, and the developer must keep those reports in a neat and orderly log



MAINTENANCE AND MONITORING

(Section 602.06)

- Evaluation reports must include:
 - Name of the individual performing the evaluation
 - Date of the evaluation
 - Problems identified at the project site
 - Details of maintenance, additional measures, and corrective actions recommended and completed
- The County may randomly inspect construction sites to insure compliance and may request to review the log at any time



BMP MENU

- Chapter 600 includes several sources to review for common and effective erosion and sediment control measures. These sources include:
 - References to use
 - Table 602-1, which lists some common and effective practices
 - Appendix 602-1, which includes construction BMP “Fact Sheets”



BMP MENU – EROSION CONTROL

- Erosion Control Measures
 - Temporary Vegetation
 - Temporary Mulch or compost
 - Temporary Seeding
 - BFM's (Bonded Fiber Matrix)
 - Rolled Erosion Control Products

BMP Menu – SEDIMENT CONTROL

- Sediment Control Measures
 - Straw bales (Beware!)
 - Sediment basins
 - Silt fence barriers
 - Level spreaders
 - Inlet protection
 - Outlet protection
 - Vehicle tracking pad (construction entrance)
 - Rock check dam
 - Slope drains
 - Temporary stream crossing
 - Turbidity curtains

BMP Menu – OTHER

- Other controls
 - Wind and Dust Control
 - Soil Roughening
 - Perimeter barrier
 - Water trucks / water applications
 - Street sweeping
 - Spill prevention and response procedure (typically provided/developed by the Contractor)

QUESTIONS

