

Addendum 1

Storm Water Pollution Prevention Plan
For
Residential Subdivision Development
Tessa Terrace 3rd Addition

Including Projects
05-A6-8 Tessa Terrace 3rd Addition
Underground Utilities
And
05-A2-14 Tessa Terrace 3rd Addition
Street Paving

Project Location
West of 2nd Street and 49th Avenue South

SE 1/4 of Section 30, Township 139N, Range 48W

Prepared August 2005

City of Moorhead
Wastewater Division

The following text will replace the Table of Contents of the existing Storm Water Pollution Prevention Plan (SWPPP) for this project.

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SINGLE FAMILY RESIDENTIAL CONSTRUCTION EROSION/SEDIMENT CONTROL STANDARDS

MINNESOTA GENERAL STORM WATER PERMIT FOR CONSTRUCTION ACTIVITY (MN R100001)

The following will replace the text in Section 5 of the existing Storm Water Pollution Prevention Plan (SWPPP) for this project.

5. Storm Water Pollution Prevention Controls

The purpose of this section is to identify the types of temporary and permanent erosion and sediment controls that will be used for this project. The following controls will provide soil stabilization for disturbed areas and structural controls to prevent erosion, divert runoff and remove sediment.

a. Temporary Erosion and Sediment Control During Underground Utility Installation Phase

A tabulated list of stabilization procedures has been developed and locations where they are needed are shown on the project Plan Sheet C5. This is part of the bid package and is attached.

This project will use silt fence and grass filter strips for perimeter control around soil stockpiles, rock construction entrance and inlet protection. Erosion control mats will be used in ditch bottoms for sediment control. Erosion control fabric will be placed around inlets that are not located in paved areas. Erosion control fabric will also be used on pond slopes above the rock riprap. Seeding will be used for rapid stabilization and permanent stabilization on the project.

- Prior to work commencing on the project, a rock construction entrance will be installed at 50th Avenue South (as shown on the Plan Sheets). The construction entrance will be maintained throughout the underground phase of construction.
- At the construction entrance just north of 50th Avenue, the north ditch of 50th Avenue shall be protected by silt fences or sediment logs east and west of the construction entrance.
- Haul routes during construction are restricted to 50th Avenue South.
- Daily removal of tracked sediments is required on paved streets leading from the construction entrance or haul route.
- Prior to installing the box culvert on 49th Avenue a temporary rock ditch check shall be installed downstream (north) of 49th Avenue.
- Rock riprap shall be placed on the inlet and outlet ends of the box culvert.
- Within 24 hours of installation of the box culvert, any disturbed areas (ditch bottom or slopes) must receive temporary rapid stabilization.
- Prior to construction commencing, any silt fence, wattles or bio-rolls shall be placed as shown on the Plan Sheets.
- Prior to creating the stockpiles for clay and topsoil, silt fence must be installed as shown on the Plan Sheets.
- After the clay and topsoil stockpiles are completed, a grass filter strip will be seeded adjacent to the silt fence.

- Wood fiber blanket or mulch shall be installed at the time of seeding where designated on the Plan Sheets.
- Pond slopes will receive riprap, seeding and erosion fabric as shown on the Plan Sheets.
- A concrete truck washout area shall be constructed, designated and maintained.
- All storm sewer inlets will receive Type A inlet protection.
- Any storm water inlets not in the street right-of-way will require permanent seeding as well as Type A inlet protection.

b. Temporary Erosion and Sediment Control During Curb, Gutter, Paving and Grading Phase

A tabulated list of stabilization procedures has been developed and locations where they are needed are shown on the project plan sheets. In addition the measures listed in Temporary Erosion and Sediment Control During Underground Utility Installation Phase must also be maintained during this phase of the project. During this phase of the project additional erosion and sediment control measures will be required as follows:

- Prior to work commencing on the project, a rock construction entrance will be installed at 50th Avenue South (as shown on the Underground Utilities Plan Sheets). The construction entrance will be maintained throughout the paving and grading phase of construction.
- At the construction entrance just north of 50th Avenue, the north ditch of 50th Avenue shall be protected by silt fences or sediment logs east and west of the construction entrance.
- Haul routes during construction are restricted to 50th Avenue South.
- Daily removal of tracked sediments is required on paved streets leading from the construction entrance or haul route.
- The rock ditch check north of 49th Avenue shall remain in place until the ditch bottom and slopes are stabilized with seed, erosion control fabric and sediment logs. Then contractor shall remove the ditch check and restore area using seed and erosion control fabric.
- A concrete truck washout area shall be constructed, designated and maintained (as shown on the Plan Sheets).
- After curbs are installed catch basin inlets within the curb lines will receive Type C inlet protection. Until that time Type A or B inlet protection must be maintained.
- Maintain rear-yard inlet protection during grading and seeding operations.
- Silt fence and grass filter strips around the clay and topsoil stockpiles shall be protected throughout construction.
- After paving is completed, designated rear-yards and all boulevards (street right-of-ways) shall be seeded, mulched or receive fiber blankets per specifications and Plan Sheets.

c. Temporary Erosion and Sediment Control During Home Building Phase
 During the home building phase the Developer and Lot Owner/Contractor have responsibility to maintain any erosion and sediment control measures put in place during previous phases. In addition they must comply with the Single Family Residential Construction Erosion/Sediment Control Standards by doing the following:

- Install construction fencing to protect the boulevard right-of-way area that has been seeded.
- If the above area has been disturbed or is absent of grass, a silt fence or wattle (sediment logs) and the above construction fencing must be installed along the curb line.
- A construction entrance must be installed and maintained throughout the home building phase, or until the driveway is installed (if the construction entrance is located where the driveway will be installed).
- Soil stockpiles must receive either silt fence or wattles (sediment logs) to capture erosion and sediment runoff.
- If storm water drains from the lot under construction onto adjacent property and the adjacent lot has been graded, sodded or seeded, then the lot perimeter must receive silt fence or wattles (sediment logs) to capture any sediments eroding from the construction site.
- During home building good house keeping measures must be implemented to keep garbage, building materials and any hazardous substances from leaving the construction site.
- At the time of final grading for lawn installation the boulevard right-of-way must received approved erosion and sediment controls within 5 days of completing grading work.

The following soil exposure condition table* will be used during all phases of construction, including stockpiles of clay and topsoil:

Type or Condition of Slope	Areas of Inactivity --Working Days Until Area Must be Stabilized
Steeper than 3:1	7 days
10:1 to 3:1	14 days
Flatter than 10:1	21 days
Ditch within 200 feet of “Water of the State”	Begin within 24 hours of ditch connection to “Water of the State” – stabilization must be completed within 5 working days

* This is the maximum time that an area within 200 feet of a “Water of the State” can remain exposed without a vegetative cover. The term “Waters of

the State” also includes curbs, gutters, storm system inlets and temporary or permanent ditches that are directly connected to a “Water of the State”. The above as defined by MN NPDES/SDS General Storm Water Permit for Construction Activity MN R100001.

d. Site Control Measures and Best Management Practices for All Phases of Construction:

1. Keep excavation and soil disturbing activities such as grading to a minimum.
2. Install silt fence or wattles (sediment logs) around all clay and topsoil stockpiles.
3. Retain existing vegetation when possible.
4. Silt fences and wattles (sediment logs) need to be cleaned, replaced or supplemented when they reach 1/3 capacity (1/3 of height). These actions must occur within 24 hours of discovery or as soon as field conditions allow access to the site.
5. Maintain construction entrances so that sediments are not tracked onto streets. Sweep any sediment tracked onto streets within 24 hours of discovery. This includes construction entrances to individual lots where home building is underway. Sweepers that “fling” material into the air rather picking up material will not be allowed.
6. Clean sediments from storm inlets, storm sewer pipes, ditches and the pond as a result of uncontrolled runoff.
7. Have materials on-site to contain and cleanup any contaminants leaked onto the ground during construction.
8. Cover or store materials (particularly fuels) so that they are not at risk to contaminate the project area during rainfall or storm water flow.
9. Water will be used for dust control on this project.
10. Good housekeeping measures are to be implemented to eliminate materials, materials packaging and other litter from leaving the project area. This is especially important during home construction.
11. Inlet protection will remain in place until 70 percent of the adjacent lots are stabilized. Care will be taken to avoid disturbing protected inlets.
12. Grass filter strips will be maintained adjacent to the curb line on all undeveloped lots.
13. Care will be taken to avoid disturbing BMPs in place such as silt fence, wattles or grass filter strips along curb lines during home construction. A single rocked or gravel construction entrance will be designated and maintained into each lot under construction.
14. De-watering of trenches or basins must be done in a manner that does not cause erosion, scour or deposit sediment in curbs, gutters, storm system inlets and temporary or permanent ditches that are directly connected to a “Water of the State”. The discharge must be dispersed over rock riprap, sand bags, plastic sheeting or other accepted energy dissipating measures. Use of a temporary sediment basin or sediment (filter) bags is preferred.
- 15. Specify and allow concrete truck washout only in designated area.**

e. Permanent Erosion Control

A newly constructed permanent sediment control pond, built to comply with NPDES standards, will be used to meet water quantity and quality standards. All residential lots will be vegetated with permanent cover as homes are built and sold to residents. All commercial lots will have exposed soil areas permanently stabilized with vegetation.

f. Coordination of Best Management Practices (BMPs) During Construction

Structural BMPs will be coordinated with construction activities so that BMPs are in place prior to soil disruption. The following BMPs will be coordinated with construction activity.

- i. Silt fence or wattles (sediment logs) around the soil stockpiles will be installed prior to stockpiling material with seeding of the grass filter strip completed immediately following completion of stockpiling.
- ii. Access roads will be stabilized prior to construction to prevent tracking sediment from the project area.
- iii. Inlets will be protected per specifications as they are constructed. Existing inlets will be protected prior to disruption of any soil in the project area.
- iv. All BMPs will be maintained in place until the project area is stabilized.
- v. Once grading in an area has ceased, temporary or permanent stabilization/seeding will occur per the timetable outlined above.
- vi. The pond slopes shall be covered with erosion control mats immediately following seeding.
- vii. Immediately following seeding operations alongside the pond areas and any proposed ditch where water can flow downstream into the pond, silt fence shall be installed along the top of the ditch side slope on the project side of the ditch. Locations for this silt fence are shown in the Underground Utilities Plan Sheet C5.
- viii. Any ditch bottoms created or disturbed are to be seeded followed by sediment logs and erosion control fabric within 24 hours of grading completion.

g. Certification of Compliance with Federal and State Regulations

This SWPPP reflects the requirements of NPDES for storm water management and erosion and sediment control for construction. To ensure compliance, this plan was prepared in accordance with the University of Minnesota Design Training Certification Program, MnDOT specifications used in the project plans and specifications and the Memorandum of Understanding between MnDOT and MPCA.