

Sample Plan

EROSION CONTROL PLAN ----- NARRATIVE

References:

Design Scene: Chapter 13 - Turf Establishment and Erosion Control

Road Design Manual: Chapter 8-5

Standard Plans: 5-297.404 Permanent Erosion Control Along Roadways, Ditches and Flumes
5-297.405 Temporary Sediment Control (7 Sheets)
5-297.406 Permanent Sediment Control Along Roadways and at Gore Areas & Bridge Approach Fills
5-297.407 Permanent Sediment Control Bioengineering Soil Stabilization
5-297.408 Temporary Sediment Control Silt Fence (2 Sheets)

Spec. Book: 1717, 2573, 2575

Miscellaneous: Stormwater Program for Construction Activity (www.pca.state.mn.us/water/water-permits-and-rules). NPDES permit requirements (including SWPPP requirements).
Erosion and Sediment Control Certification and ETeam Training Program Manual (www.dot.state.mn.us/environment/)
MPCA Best Management Practices Manual (www.pca.state.mn.us/water/water-publications/)
Office of Environmental Stewardship Website (www.dot.state.mn.us/environment/)
SWPPP Certification Form (S:\Design\Tricks and Tips\SWPPP CERTIFICATION FORM.doc)

General Information:

MnDOT requires that persons designing Erosion Control Plans for projects with NPDES Phase II requirements must pass a certification course in the "Design of Stormwater Pollution Prevention Plans". (See: http://erosion.umn.edu/courses/default.htm for course details and schedules.)

If the project disturbs 1 or more acres of land, the Temporary and Permanent Erosion Control Plans must meet the requirements of the MPCA General Permit Authorization to Discharge Storm Water Associated with a Construction Activity under the NPDES permit.

A certified designer must fill out the "SWPPP Certification Form" and place it in the project file.

If the project requires a NPDES permit, then the Storm Water Pollution Prevention Plan must denote: All waters of the State, including existing wetlands identified on the National Wetlands Inventory Map, Impaired Waters identified as per MPCA Maps of Impaired waters (www.pca.state.mn.us/water/tmdl/index.html) and Special Waters Lists (www.pca.state.mn.us/index.php/view-document.html?gid=7375. and contain:

Land feature changes (in acres) for both before and after construction:

- a. Total disturbed area
b. Total existing impervious surface area
c. Total proposed impervious surface area
d. Net change in impervious surface area

If the project disturbs 10 or more acres, a sediment pond or approved alternate must be included in the plan. Refer to the NPDES permit for requirements. Provide for basin maintenance and dewatering.

Erosion prevention and sediment control may be combined with the drainage and super-elevation plan sheets. Separate plan sheets are recommended only to:

- 1. Avoid cluttering the plan sheets.
2. Make it easier for the contractor or subcontractor to understand and implement the plan. The use of separate plan sheets is especially important for complex projects or when grading is to be done near sensitive areas.

Temporary erosion control may be combined with Staging or Removal Plans.

Include a note on the erosion control sheet "silt fence shall follow, as close as possible, to a single contour line".

For sediment basins, provide a Sediment Trap Excavation pay item. A note should be provided in the plan that it must be cleaned at least twice per construction season or as recommended by WRE.

Include a note stating "The Contractor shall provide appropriate erosion control devices for stockpile areas." Consider designating stockpile areas on staged construction, possibly providing Superduty Silt Fence and Rapid Stabilization to prevent erosion.

Provide berms or ditch blocks where appropriate (include elevations, details, locations, etc.).

Place erosion control devices in such areas as ditches, drop inlets, etc. for temporary and permanent erosion control. Additional erosion control and sediment control recommendations are provided in the BMP Manuals.

New construction should be distinguished from in-place by use of heavier line weights.

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General Information:

The designer should coordinate the development of the erosion control plan with Construction and the appropriate Water Resources Engineering personnel and the erosion control specialist.

It is desirable to request a review of these sheets from the Water Resources Engineering Erosion Control Specialist. (60% & 95%)

Erosion Control protection of areas of environmental sensitivity (i.e. wetlands, streams, lakes, etc.) should be given special emphasis. Note each wetland type in the plan. Consider Site Plan requirements in these critical areas. Wetlands should be delineated by WRE and shown in the Plan.

The designer should address staged projects and the need for temporary seeding and other erosion control measures.

Schedule construction of ponds and storm water treatment systems early in the staging plans if possible.

It is recommended that the construction limits be shown on the Erosion Control Plans, unless the plan sheets would become too cluttered.

Consider Erosion Control by the Lump Sum for larger projects. Discuss with Construction and WRE.

Early and continuous coordination with the Army Corp of Engineers regarding wetland impacts is required.

Sample Plan

EROSION CONTROL PLAN ----- CHECKLIST

- 1. North arrow
- 2. Bar Scale
- 3. Right-of-way, easements, and construction limits
- 4. Erosion prevention and sediment control devices (Examples: sediment basins, inlet protection, silt fence, topsoil perimeter berms, biorolls, riprap, temporary/permanent seeding, etc.)
- 5. Identify locations of Rapid Stabilization Methods 1,2,3,4 or 5 if needed
- 6. Identify Site Plan Requirement Areas, if appropriate.
- 7. Legend - descriptions should match the pay items
- 8. Topographic features (Examples: ravines, steep slopes, tree lines, drainage ways, etc.)
- 9. Areas of Environmental sensitivity labeled (Examples: lakes, streams, and wetlands type 1-8)
- 10. Existing and proposed drainage flow with arrows, indicate where flows enter or exit the R/W
- 11. Drainage devices (Examples: storm sewers, catch basins, manholes, culverts, detention ponds, etc.)
- 12. Erosion control staging, if appropriate
- 13. Temporary and/or permanent sedimentation basins, if required
- 14. Appropriate standard plan sheets
- 15. See Drainage Plan Checklist, if applicable
- 16. See Superelevation Plan Checklist, if applicable
- 17. Cross references to other sheets (as applicable)
- 18. Signed "SWPPP Certification Form" in project file
- 19. Drawn by: and Checked by: Initials and Engineer's signature

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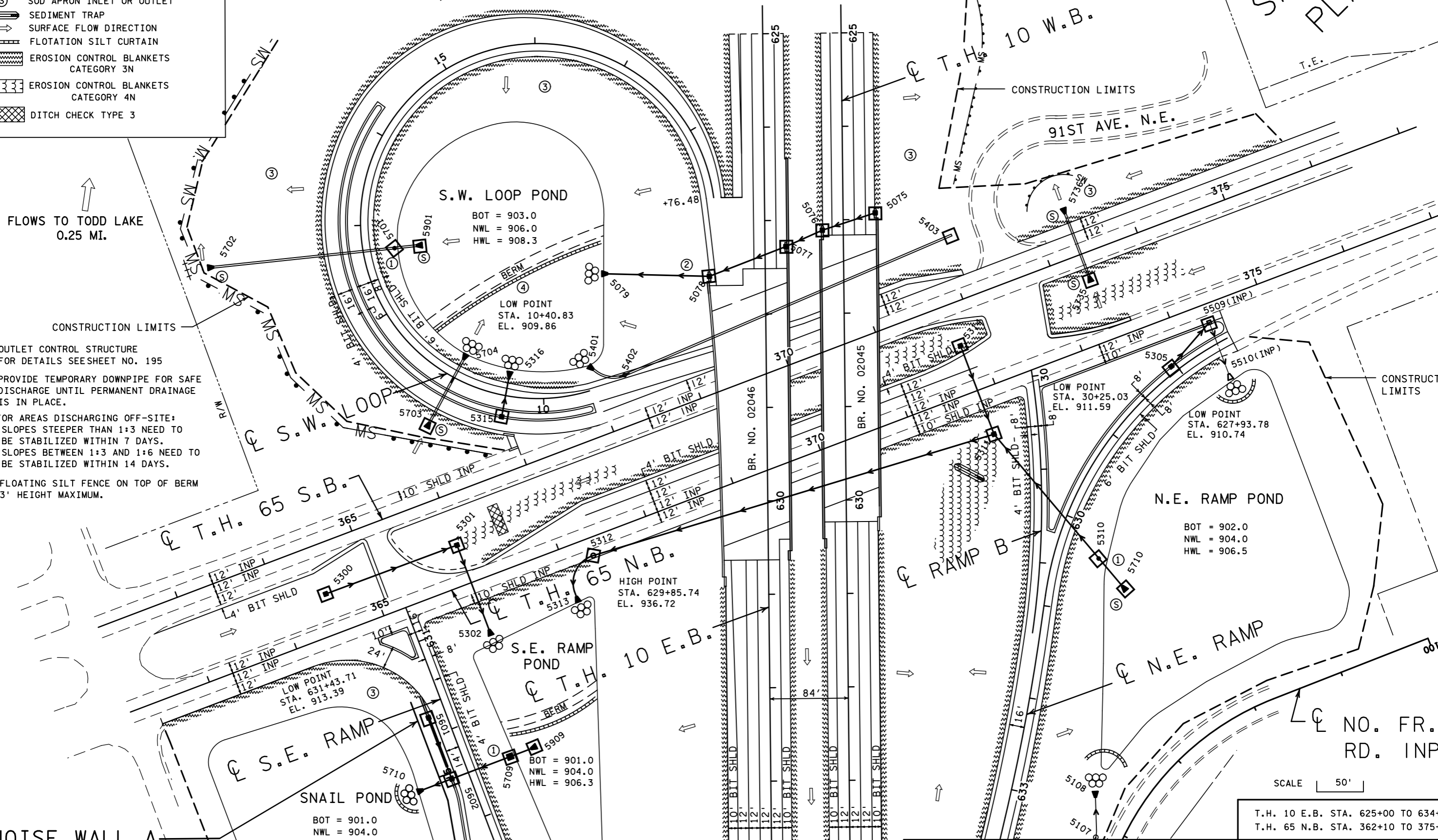
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LEGEND

- CONSTRUCTION - THIS CONTRACT
- SILT FENCE
- STORM DRAIN INLET PROTECTION
- RIPRAP CLASS II
- SOD APRON INLET OR OUTLET
- SEDIMENT TRAP
- SURFACE FLOW DIRECTION
- FLOTATION SILT CURTAIN
- EROSION CONTROL BLANKETS CATEGORY 3N
- EROSION CONTROL BLANKETS CATEGORY 4N
- DITCH CHECK TYPE 3

NOTE:
 SILT FENCE SHALL FOLLOW, AS CLOSE AS POSSIBLE, TO A SINGLE CONTOUR.
 IF SEDIMENT DEPOSITS IN WATERS OF THE STATE, THE MATERIAL MUST BE REMOVED WITHIN SEVEN DAYS.
 USE TEMPORARY SEED & MULCH TO STABILIZE PONDS UNTIL PERMANENT SEED & MULCH ARE PLACED.
 ANY DEWATERING FOR BRIDGE FOOTING MUST BE DONE UNDER A SITE PLAN.
 FOR POND STAGING PLAN, SEE DETAILS ON SHEET NO. 142.

SAMPLE PLAN



- ① OUTLET CONTROL STRUCTURE FOR DETAILS SEE SHEET NO. 195
- ② PROVIDE TEMPORARY DOWNPIPE FOR SAFE DISCHARGE UNTIL PERMANENT DRAINAGE IS IN PLACE.
- ③ FOR AREAS DISCHARGING OFF-SITE: SLOPES STEEPER THAN 1:3 NEED TO BE STABILIZED WITHIN 7 DAYS. SLOPES BETWEEN 1:3 AND 1:6 NEED TO BE STABILIZED WITHIN 14 DAYS.
- ④ FLOATING SILT FENCE ON TOP OF BERM 3' HEIGHT MAXIMUM.

SCALE 50'

T.H. 10 E.B. STA. 625+00 TO 634+80
 T.H. 65 N.B. STA. 362+10 TO 375+45

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