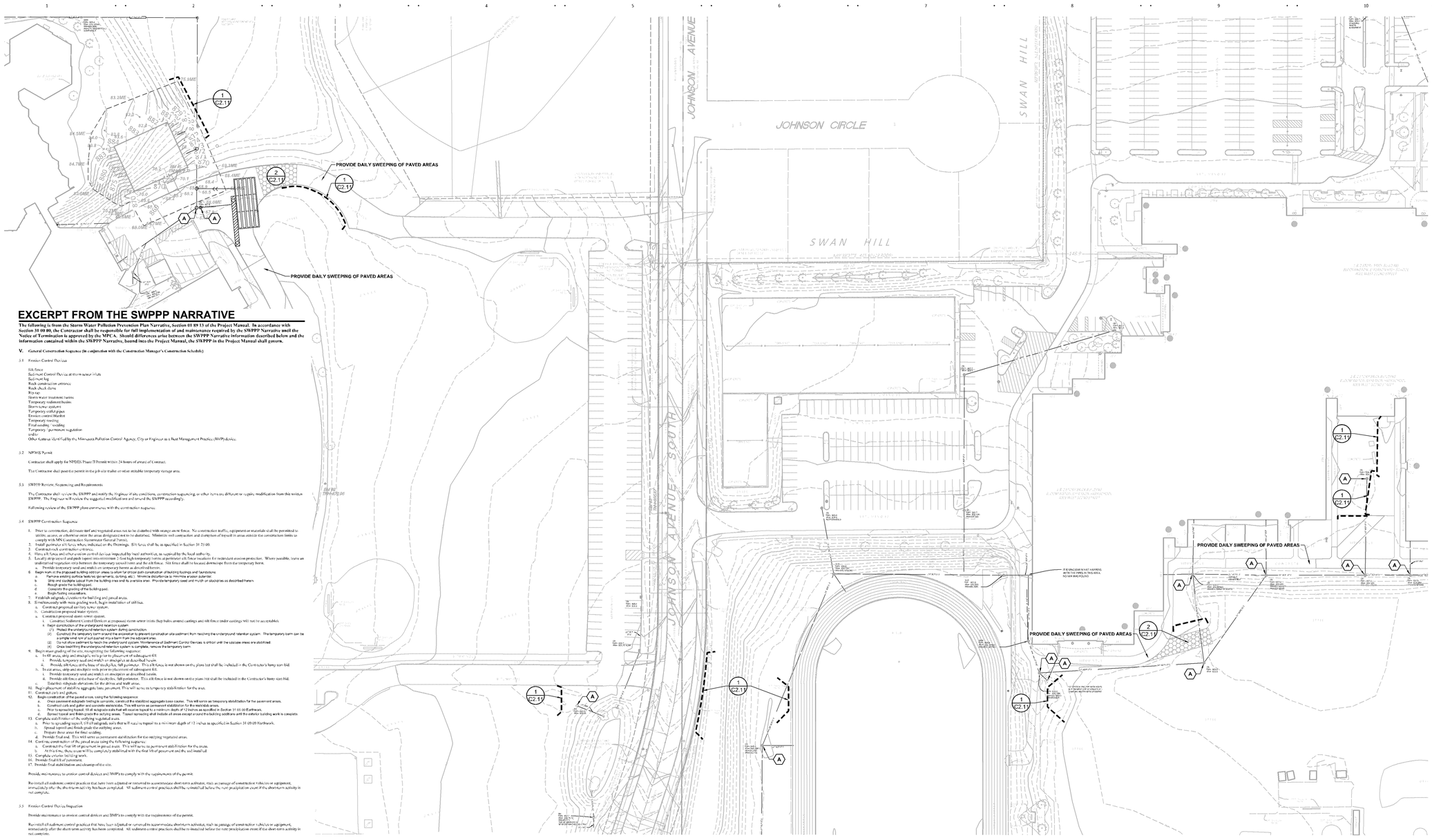
MN



EXCERPT FROM THE SWPPP NARRATIVE

The following is from the Storm Water Pollution Prevention Plan Narrative, Section 01 89 13 of the Project Manual. In accordance with Section 31 00 00, the Contractor shall be responsible for full implementation of and maintenance required by the SWPPP Narrative until the Notice of Termination is approved by the MPCA. Should differences arise between the SWPPP Narrative information described below and the information contained within the SWPPP Narrative, bound into the Project Manual, the SWPPP in the Project Manual shall govern.

V. General Construction Sequence (in conjunction with the Construction Manager's Construction Schedule)

3.1 Erosion Control Devices

Silt fence
Sediment Control Devices at storm sewer inlets
Sediment log
Rock construction entrance
Rock check dams
Rock riprap
Storm water treatment basins
Temporary sediment basins
Storm sewer systems
Temporary outlet pipes
Erosion control blanket
Temporary seeding
Final seeding / sodding
Temporary / permanent vegetation
and/or
Other features identified by the Minnesota Pollution Control Agency, City or Engineer as a Best Management Practice (BMP) device.

3.2 NPDES Permit

Contractor shall apply for NPDES Phase II Permit within 24 hours of award of Contract.

The Contractor shall post the permit in the job site trailer or other suitable temporary storage area.

3.3 SWPPP Revisions, Sequencing and Requirements

The Contractor shall review the SWPPP and notify the Engineer of site conditions, construction sequencing, or other items are different or require modification from this written SWPPP. The Engineer will review the suggested modifications and amend the SWPPP accordingly.

Following review of the SWPPP plan continuous with the construction sequence.

3.4 SWPPP Construction Sequence

1. Prior to construction, delineate turf and vegetated areas not to be disturbed with orange snow fence. No construction traffic, equipment or materials shall be permitted to utilize, access, or otherwise enter the areas designated not to be disturbed. Minimize soil compaction and disruption of topsoil in areas outside the construction limits to comply with MN Construction Stormwater General Permit.
2. Install perimeter silt fence where indicated on the Drawings. Silt fence shall be as specified in Section 31 25 00.
3. Construct rock construction entrance.
4. Install other erosion control devices as required or directed by local authorities, as required by the local authority.
5. Locally stockpile topsoil and pack topsoil into minimum 2-foot high temporary berms as perimeter silt fence locations for additional erosion protection. Where possible, leave an undisturbed vegetation strip between the temporary topsoil berm and the silt fence. Silt fence shall be located downslope from the temporary berm.
   a. Provide temporary seed and mulch on temporary berms as described herein.
6. Begin work at the proposed building addition areas to allow for proper path construction of building footings and foundations.
   a. Remove existing surface features (pavement, curbing, etc.). Minimize disturbance to minimize erosion potential.
   b. Strip and stockpile topsoil from the building area and its oversize area. Provide temporary seed and mulch on stockpiles as described herein.
   c. Rough grade the building pad.
   d. Complete the grading of the building pad.
   e. Begin footing excavations.
7. Establish subgrade elevations for building and paved areas.
8. Simultaneously with mass grading work, begin installation of utilities.
   a. Construct proposed sanitary sewer system.
   b. Construct proposed storm sewer system.
      a. Construct proposed storm sewer system.
         i. Construct Sediment Control Devices at proposed storm sewer inlets (hay bales around castings and silt fence under castings will not be acceptable).
         ii. Begin construction of the underground retention system.
            (1) Protect the underground retention system during construction.
            (2) Construct the temporary berm around the excavation to prevent construction site sediment from reaching the underground retention system. The temporary berm can be a single wind row of soil pushed into a berm from the adjacent area.
            (3) Do not allow sediment to reach the underground system. Maintenance of Sediment Control Devices is critical until the upslope areas are stabilized.
            (4) Once backfilling the underground retention system is complete, remove the temporary berm.
9. Begin mass grading of the site, completing the following sequence:
   a. In fill areas, strip and stockpile topsoil prior to placement of subsoil fill.
      i. Provide temporary seed and mulch on stockpiles as described herein.
      ii. Provide silt fence at the base of stockpiles, full perimeter. This silt fence is not shown on the plans but shall be included in the Contractor's lump sum bid.
   b. In cut areas, remove topsoil and place into temporary stockpiles for subsequent fill.
      i. Provide temporary seed and mulch on stockpiles as described herein.
      ii. Provide silt fence at the base of stockpiles, full perimeter. This silt fence is not shown on the plans but shall be included in the Contractor's lump sum bid.
   c. Establish subgrade elevations for the drives and traffic areas.
10. Begin placement of stabilize aggregate base pavement. This will serve as temporary stabilization for the area.
11. Construct curb and gutters.
12. Begin construction of the paved areas, using the following sequence:
   a. Once pavement subgrade testing is complete, construct the stabilized aggregate base course. This will serve as temporary stabilization for the pavement areas.
   b. Construct curb and gutter and concrete walkwalks. This will serve as permanent stabilization for the walkwalks areas.
   c. Prior to spreading topsoil, fill all subgrade ruts that will receive topsoil to a minimum depth of 12 inches as specified in Section 31 00 00 Earthwork.
   d. Spread topsoil and finish grade the activity areas. Topsoil spreading shall include all areas except around the building additions until the exterior building work is complete.
13. Complete stabilization of the outlying vegetated areas.
   a. Prior to spreading topsoil, fill all subgrade ruts that will receive topsoil to a minimum depth of 12 inches as specified in Section 31 00 00 Earthwork.
   b. Spread topsoil and finish grade the outlying areas.
      i. Prepare these areas for final stabilization.
      ii. Provide final seed. This will serve as permanent stabilization for the outlying vegetated areas.
14. Continue construction of the paved areas using the following sequence:
   a. Construct the final lift of pavement in paved areas. This will serve as permanent stabilization for the areas.
   b. At this time, there exists a completely stabilized site with the final lift of pavement and the sod installed.
15. Complete exterior building work.
16. Provide final lift of pavement.
17. Provide final stabilization and cleanup of the site.

Provide maintenance to erosion control devices and BMP's to comply with the requirements of the permit.

Re-install all sediment control practices that have been adjusted or removed to accommodate short-term activities, such as passage of construction vehicles or equipment, immediately after the short-term activity has been completed. All sediment control practices shall be re-installed before the next precipitation event if the short-term activity is not complete.

3.5 Erosion Control Device Inspection

Provide maintenance to erosion control devices and BMP's to comply with the requirements of the permit.

Re-install all sediment control practices that have been adjusted or removed to accommodate short-term activities, such as passage of construction vehicles or equipment, immediately after the short-term activity has been completed. All sediment control practices shall be re-installed before the next precipitation event if the short-term activity is not complete.

Inspect erosion control devices and provide routine maintenance as follows:

1. Inspect erosion control a minimum of once per week and after each rain event exceeding 0.5" or more. Provide a rain gauge at the site and use the rain gauge to document rainfall events. Record inspection on logsheet in Contractor's construction trailer or other suitable temporary storage area.
   a. Records of each inspection and maintenance activity shall include:
      i. Date and time of inspections.
      ii. Name of person conducting inspection.
      iii. Findings of inspections, including recommendations for corrective actions.
         (1) Findings shall include photographs, accurate description of the observations (i.e., color, odor, settled or suspended solids, oil sheen, or other pollutants), and a map depicting the locations of the observations.
      iv. Corrective actions taken (including dates, times, and party completing maintenance activities.
      v. Date and amount of all rainfall events greater than one quarter inch (0.25 inch) in 24 hours.
      vi. Documentation of changes made to the SWPPP as required by the NPDES General Stormwater Permit for Construction Activity (MNR 100001).
   b. Inspections are not required when the ground is frozen. The required inspections and maintenance schedule must begin within 24 hours after runoff occurs at the site or 24 hours prior to commencing construction, whichever comes first.
   c. Inspections of areas with permanent cover may be reduced to once per month, even if construction activity continues on other portions of the site. Once all construction activity is complete, monthly inspections may be terminated after one year following completion of all construction activities.
2. Provide maintenance for silt devices as follows:
   a. Silt fences, sediment logs, and erosion control devices at storm sewer inlets shall be inspected for depth of sediment, tears, to see if fabric is securely attached to support posts or structure, and to see that posts and devices are securely in place.
   b. Silt fences, sediment logs, and erosion control devices at storm sewer inlets, and other erosion control devices shall be cleaned when sediment reaches 1/3 the height of the erosion control device, and/or 24 hours.
   c. Rock construction entrances shall be inspected for clogging of river rock. River rock that has become clogged with sediment shall be removed and replaced with fresh river rock.
   d. Repairs or replacements to all erosion control devices shall occur within 24 hours of discovery.
   e. Temporary diversion berms shall be inspected and any breaches promptly repaired.
   f. Tracked sediment from construction vehicles on to public streets and paved areas (including paved areas on the construction site) shall be removed within 24 hours of discovery.
   g. Removal of sediment and establishment of the face. Waters shall be accomplished within 7 days of discovery (note: surface waters include curb and gutter, pavements, storm sewer, swales, or other similar storm water conveyance devices).
   h. Inlet protection may be removed if a local unit of government directs the permittee to do so because of a specific safety concern.
3. Street sweeping (with a pickup broom only) will be provided as needed or at the direction of the Owner / Engineer.

3.6 Temporary Soil Stockpiles

Temporary soil stockpiles shall not be placed in surface waters of the state, including surface conveyances such as curb and gutter, swales, or ditches.

Temporary soil stockpiles shall be seeded with temporary seed mix and hydromulch when stockpiles are left inactive for seven (7) days. Note, this does not apply to aggregate stockpiles or other stockpiles without significant silt, clay or organic components (clean aggregate stockpiles, clean rock, clean sand and similar clean aggregates).

Provide silt fence at the base of all stockpiles, including clean aggregate and similar stockpiles, full perimeter.

Denuded Areas

Stabilize denuded areas, initiated immediately, within 7 days of that construction activity (temporary or permanent) in that area except for temporary soil stockpiles.

Temporary soil stockpiles shall be treated with appropriate erosion control measures, including silt fence and temporary seeding when stockpiles are left inactive for periods longer than 7 days.

3.7 Slope Slope Disturbances

Slope slopes, defined as slopes steeper than three feet horizontal to one foot vertical, are not proposed for this project. Therefore, no special provisions are required.

3.8 Dewatering Practices

Provide dewatering of excavations as identified in Section 31 50 00.

3.9 Substantial Completion / Turf Establishment

1. Provide maintenance of all seeded areas until fully established.
2. Provide cleaning of storm sewer system at the completion of the project.
   a. Cleaning shall include removal of accumulated sediment from all surface waters as defined by the permit (for example, curb and gutter, pavements, swales, and storm sewer piping and structures).
3. Remove silt fence and erosion control devices at storm sewer inlets following full establishment of site vegetation. Dispose materials properly offsite.
4. Apply for Notice of Termination (NOT) with MPCA. NOT must be submitted within 30 days after:
   a. Site has undergone Final Stabilization (at least 70% vegetative cover), and
   b. Removal of all temporary erosion control measures (silt fence, etc.), and
   c. Final cleanout and maintenance of all permanent storm water facilities, and
   d. Completion of all maintenance activities and site cleanup.

C

NOTES

1. REFER TO SHEET C1.31, GRADING AND DRAINAGE PLAN, FOR GENERAL NOTES.
2. REFER TO SWPPP NARRATIVE (SECTION 01 89 13) FOR CONSTRUCTION SEQUENCING AND EROSION CONTROL REQUIREMENTS.
3. MAINTAIN ADJACENT PROPERTY AND PUBLIC STREETS CLEAN FROM CONSTRUCTION CAUSED DIRT AND DEBRIS ON A DAILY BASIS. PROTECT DRAINAGE SYSTEMS FROM SEDIMENTATION AS A RESULT OF CONSTRUCTION RELATED DIRT AND DEBRIS.
4. MAINTAIN DUST CONTROL DURING GRADING OPERATIONS.
5. ALL EROSION CONTROL METHODS SHALL COMPLY WITH MPCA AND OTHER LOCAL REGULATIONS.
6. IF EROSION AND SEDIMENT CONTROL MEASURES TAKEN ARE NOT ADEQUATE AND RESULT IN DOWNSTREAM SEDIMENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING OUT DOWNSTREAM STORM SEWERS AS NECESSARY, INCLUDING ASSOCIATED RESTORATION.
7. INLET PROTECTION DEVICE AT STORM SEWER INLETS. AT THE INLETS TO ALL STORM SEWER STRUCTURES, PROVIDE A PRODUCT FROM THE FOLLOWING LIST. APPROVED PRODUCTS:
   a. ROAD DRAIN "TOP SLAB", MANUFACTURED BY WIMCO
   b. ROAD DRAIN "CURB & GUTTER", MANUFACTURED BY WIMCO
   c. INFRASAFE "SEDIMENT CONTROL BARRIER", MANUFACTURED BY ROYAL ENVIRONMENTAL SYSTEMS, INC.
   d. INFRASAFE "DEBRIS COLLECTION DEVICE", MANUFACTURED BY ROYAL ENVIRONMENTAL SYSTEMS, INC.
   e. INFRASAFE "CULVERT INLET PROTECTOR", MANUFACTURED BY ROYAL ENVIRONMENTAL SYSTEMS, INC.
   f. DANDY SACK, MANUFACTURED BY DANDY PRODUCTS, INC.
   g. DANDY CURB SACK, MANUFACTURED BY DANDY PRODUCTS, INC.
   h. OR APPROVED EQUAL.
8. PRIOR TO CONSTRUCTION, DELINEATE TURF AND VEGETATED AREAS NOT TO BE DISTURBED WITH ORANGE SNOW FENCE. NO CONSTRUCTION TRAFFIC, EQUIPMENT OR MATERIALS SHALL BE PERMITTED TO UTILIZE, ACCESS, OR OTHERWISE ENTER THE AREAS DESIGNATED NOT TO BE DISTURBED. MINIMIZE SOIL COMPACTION AND DISRUPTION OF TOPSOIL IN AREAS OUTSIDE THE CONSTRUCTION LIMITS TO COMPLY WITH MN CONSTRUCTION STORMWATER GENERAL PERMIT.

LEGEND

- 1/C2.11 — REFERENCE KEY TO SITE DETAILS (DETAIL I.D NUMBER (TOP), DETAIL SHEET NUMBER (BOTTOM))
- 900 — EXISTING CONTOUR
- 850 — PROPOSED CONTOUR
- 54.6 — PROPOSED SPOT ELEVATION (ME = MATCH EXISTING, EOF = EMERGENCY OVERFLOW)
- PROPOSED GRADING LIMITS
- PROPOSED STORM SEWER
- PROPOSED MANHOLE (MH) 12/C2.11 14/C2.11
- PROPOSED CATCH BASIN (CB) 15/C2.11
- PROPOSED SILT FENCE 1/C2.11
- PROPOSED ROCK CONSTRUCTION ENTRANCE 2/C2.11
- A — INLET PROTECTION DEVICE AT STORM SEWER INLET
- PROPOSED BUILDING STOOP - REFER TO ARCHITECTURAL PLANS
- PROPERTY LINE

APPROXIMATE EROSION CONTROL DEVICE QUANTITIES

SILT FENCE = 770 L.F.

ROCK CONSTRUCTION ENTRANCE = 50 C.Y.

INLET PROTECTION DEVICE AT STORM SEWER INLET = 12

0 15 30

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AJA
ANDERSON - JOHNSON ASSOCIATES, INC.
A BOLTON & MENK COMPANY

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed PROFESSIONAL ENGINEER under the laws of the State of MINNESOTA

DAVID A. REY
Registration Number 40180 Date 03/31/2021

Revisions		
Description	Date	Num

Comm: 202115
Date: 03/31/2021
Drawn: MET
Check: DAR

North

EROSION PREVENTION AND SEDIMENT CONTROL PLAN

Scale: 1" = 30'

C1.51