**GENERAL NOTES:**

1. Cutting conditions have been provided by the contractor of existing trees from the site. Conditions where a tree is at risk to death and shall be removed. Trees shall be removed at the contractor's expense. The contractor shall be responsible for securing the site and repairing any damage caused by tree removal.
2. All conditions are approximate and may vary in the final conditions of work. The contractor shall be responsible for securing the site and repairing any damage caused by tree removal.
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**WARNING:**

The contractor shall be responsible for securing the site and repairing any damage caused by tree removal.

**REMOVAL NOTES:**

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**PREVIOUS ERADICATIONS:**

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**PROPOSED REMOVAL NOTES:**

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**PROPOSED REMOVAL SYMBOLS/LINES LEGEND:**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>Storm sewer pipe out of ground</td>
</tr>
<tr>
<td>X</td>
<td>Storm sewer pipe in ground</td>
</tr>
<tr>
<td>[</td>
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</tr>
<tr>
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<td>Storm sewer pipe end cut-off</td>
</tr>
<tr>
<td>[</td>
<td>Storm sewer pipe end removal</td>
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</tbody>
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**EXISTING SYMBOLS/LINES LEGEND:**

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**GOVERNING SPECIFICATIONS:**

1. The Minnesota Department of Transportation (MnDOT) Standards, Specifications, and Guidelines for the Highway Construction Site Development and Design shall be followed. The contractor shall be responsible for securing the site and repairing any damage caused by tree removal.
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**TRAFFIC CONTROL NOTES:**

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**EROSION CONTROL NOTES:**

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**EROSION CONTROL SYMBOLS/LINES LEGEND:**

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</tr>
</tbody>
</table>

**HORIZONTAL AND VERTICAL CONTROL:**

1. The horizontal control for this plan is maintained.
2. The vertical control for this plan is maintained.
HOLE 1: STREAM CROSSING

HOLE ONE CURRENTLY HAS BANK EROSION WHERE THE FARMWAY MEETS PLYMOUTH CREEK. THE METHODS PROPOSED TO FIX THE PROBLEM ARE BY INTRODUCING A NEW LOW-FLOW CROSSING POINT WITH BANK STEPS LEADING TO STEPPERS WITHIN THE CREEK BED. INCREASING THE AMOUNT OF VEGETATION THROUGH SHRUB PLANTINGS AND NATIVE GRASSES.

THE PUTTING GREEN FOR HOLE FIVE IS LOCATED CLOSE TO THE CREEK. TO MITIGATE THE SOIL EROSION, THE PROPOSED SOLUTION INCLUDES INCREASING THE HEIGHT OF THE EXISTING BOULDER WALL AND FLATTENING OUT THE "TURF" AREA. IN ADDITION, ADDING WOOD CHIPS IN THE HIGH TRAFFIC ZONES OF THE PUTTING GREEN WILL REDUCE THE AMOUNT OF MUD AND IMPROVE PLAY CONDITIONS.

GRANITE STEPPERS
60" LONG x 18" WIDE x 7" THICK

Additional Boulder Course

Soft mulch ring to eliminate mud and erosion
HOLE 8 LOOKING ACROSS TO TEE BOX OF HOLE 12: STREAM ACCESS + STABILIZATION

ON HOLE 8 THERE IS A HIGH POTENTIAL FOR DISC'S TO ENTER THE CREEK. THE EXISTING BANKS ARE IN NEED OF EROSION MITIGATION VEGETATION AND ARMORING. IN ORDER TO ACCOMPLISH BOTH DESIRED OUTCOMES A COMBINATION OF SHRUB PLANTINGS TO STABILIZE THE BANK AND ACCESS STEPS LEADING TO THE CREEK EDGE FOR PUSHING DISC'S OUT. THE OUTSIDE REND WILL BE ARMORED WITH VESSELED RIPRAP TO CONTROL FLOW VELOCITY AND PREVENT THE VISUAL AESTHETIC WITH TALL GRASSES GROWING OVER THE ARMORING.

MULTIPLE EXISTING DRAINAGE SWALES OCCUR WITHIN THE DISC GOLF COURSE. THE ADDITION OF RIPRAP TO STABILIZE THE SLOPES WILL MITIGATE SOIL MIGRATION INTO THE CREEK. FLANILARITY OF THE COURSE WILL NOT BE AFFECTED AND A REDUCTION OF OVERALL MUD WILL BE ACHIEVED.
HOLE 8: MUDDY PATH OPTIONS

EXISTING TREES WITHIN THE FLIGHT PATH ARE SCARRED BY DISCS REPEATEDLY HITTING THE SOFT TISSUE OF YOUNG TREES. TO PROTECT THE TREES DISC STOP POLES WOULD BE PLACED BETWEEN THE TREE AND THE DIRECTION OF FLYING DISCS. WITH STAGGERED ROWS OF POLES, DEFLECTION WILL SERVE TO PROTECT TREES.

SHRUB PLANTINGS

STEEP SLOPES CAN BE REDUCED THROUGH THE USE OF BOARDWALKS WHICH ALSO MINIMIZES THE FOOT TRAFFIC TAMPING ANY VEGETATION. THE ADITION OF DISC STOP POLES WILL PROTECT EXISTING/NEWLY PLANTED TREES AND ADD A NEW ELEMENT OF DIFFICULTY FOR PLAYERS TO SHOOT AROUND.

BOARDWALK TO MATCH EXISTING

FOR AREAS OF HEAVY FOOT TRAFFIC IN SUNNY LOCATIONS THE USE OF GRASSY PAWS WOULD ALLOW FOR REDUCED COMPACTION AND TAMPLING OF TURF GRASS COVER. THE SOILS IN THESE LOCATIONS WOULD TEND TO STABILIZED WHILE ALLOWING FOR CONSISTENT SOLIER TRAFFIC. IN AREAS OF HEAVILY SHADY DUE TO TREE CANOPY THE USE OF ADDITIONAL BOARDWALKS WILL SERVE TO FOCUS TRAFFIC MovEMENTS AROUND TREE ROOTS AND BARE SOILS.
HOLE 11: MUDDY TEE BOX OPTIONS

For areas of heavy foot traffic in and around muddy tee boxes the pathways can be boxed in using pressure treated timbers and the boxes filled with either woodchips or gravel. This will serve to reduce the amount of mud and keep the soil migration down.
OXE-BOW: POLINATOR HABITAT + FOOD

The rusty-patched bumblebee became the first bee species ever listed under the Endangered Species Act in March of this year. However, pollinators of all kinds (bees, moths, and butterflies) are currently in a declining state across the U.S. For the island off the edge of the course, behind the Oxe-Bow, a dedicated pollinator habitat and nectar source is planned. A combination of seeding native grasses and forbs is proposed, as well as potted forbs to increase the density. In order to achieve the necessary sunlight for these species, the current trees will be removed.

In addition to the pollinator specific island, native seed mixes and flowering shrub species will be used to stabilize the banks of the creek. The density of flowers will not be as intense but they will serve as a connective pathway along the creek to the greater landscape within Plymouth. Like the pollinator island, trees along the corridor will need to be removed to allow needed sunlight for the new cover types. Removals will be limited to only what is necessary as to not change the character of the park and the Oxe Golf Course.
EROSION AND SEDIMENT CONTROL PRACTICES

All exposed soil areas must have temporary erosion protection (erosion control blanket, seed) as soon as possible or within 7 days after the construction activity in that portion of the site has temporarily or permanently ceased. CONTRACTOR shall implement appropriate construction phasing, vegetative buffer strips, horizontal slope grading, and other construction practices that minimize erosion when practical. The normal walled perimeter of any temporary or permanent drainage ditch that drains water from a construction site, or diverts water around a site, must be stabilized within 200 lineal feet from the property edge, or from the point of discharge to any surface water. Stabilization must be completed within 24 hours of connecting to a surface water. Pipe outlets must be provided with temporary or permanent energy dissipation within 24 hours of connection to a surface water.

The following measures will be taken as sediment control practices in order to minimize sediment entering surface waters:

The following measures will be taken as sediment control practices in order to minimize sediments entering surface waters:

1. Installation of floating silt curtain within the creek channel at the downstream extent of construction activity prior to site disturbance. Floating silt curtain shall be installed in two locations upgradient of the culverts under Fernbrook Lane and Amnoka Lane as shown on Sheets EC-102 and EC-103. Install silt curtain as shown on Sheet D-104.
2. Installation of perimeter silt fence in the locations shown on Sheets EC-102 through EC-104 prior to site disturbance. Perimeter silt fence shall be installed as shown on Sheet D-104.
3. Installation of inlet protection in the locations shown on Sheets EC-102 through EC-104 prior to site disturbance. Inlet protection shall be installed as shown on Sheet D-104.
4. Installation of rock construction entrances in the locations shown on Sheet C101. Rock construction entrances shall be constructed as shown on Sheet C803 to prevent tracking of sediment offsite. Street sweeping of tracked sediment shall be performed as required.

Dewatering

Turbid or sediment-laden water must be treated with the appropriate BMPs, such that discharge does not adversely affect the receiving water. Ensure that discharge points are adequately protected from erosion and scour. CONTRACTOR is responsible to develop and submit dewatering plan to engineer, secure any required permits, and comply with permits.

Final Stabilization

All areas disturbed by construction will receive seed according to the plans and specifications and within the specified vegetative time schedule. Final stabilization will occur when the site has a uniform vegetative cover with a density of 70% over the entire disturbed area. All temporary synthetic erosion prevention and sediment control BMPs (such as silt fence) must be removed as part of the site final stabilization. All sediment must be cleaned out of conveyances and temporary sedimentation basins if applicable.

Notice of Termination (NOT) must be submitted within 30 days of final stabilization. Before Termination, revegetation establishment and coverage must meet the permit requirements.

Pollution Prevention Measures

Solid Waste

Solid waste, including but not limited to, collected asphalt and concrete millings, floating debris, paper, plastic, fabric, construction and demolition debris and other waste must be disposed of properly and must comply with MPCA disposal requirements.

Hazardous Materials

Hazardous materials, including but not limited to oil, gasoline, paint and any hazardous substance must be properly stored including secondary containment, to prevent spills, leaks or other discharge. Restricted access to storage areas must be provided to prevent vandalism. Storage and disposal of hazardous waste must be in compliance with MPCA regulations.

Washing of Construction Vehicles

External washing of trucks and other construction vehicles must be limited to a defined area of the site. Runoff must be contained and waste properly disposed of. No engine degreasing is allowed on site.

Concrete Washout Area

The contractor shall provide effective containment for all liquid and solid wastes generated by washout operations to prevent runoff to surface waters. Liquid and solid wastes must be disposed of properly in compliance with MPCA rules.

Amendments

Amend the SWPPP as necessary to address any changes in design, construction, operation, maintenance, weather or seasonal conditions that have a significant effect on discharge of pollutants to surface or underground waters; or to address concerns identified during inspections or investigations by the OWNER or local government entities.

Record Retention

The SWPPP, all changes to it, and inspection and maintenance records must be kept on-site during construction. The OWNER must retain a copy of the SWPPP along with the following reports for three (3) years after submittal of the Notice of Termination:
1. Any other permits required for the project;
2. Records of all inspection and maintenance conducted during construction;
3. All permanent operations and maintenance agreements that have been implemented, including all right of way, contract, covenants and other binding requirements regarding perpetual maintenance; and
4. All required calculations for design of the temporary and permanent stormwater management systems.

Inspections

The inspection log will be completed by the CONTRACTOR for the construction site. Inspections at the site will be completed as follows:
Once every seven (7) days during active construction and, within 24 hours after a rainfall event greater than or equal to 0.5 inches in 24 hours.

The individual performing inspections must be trained as required by part E of the Permit. CONTRACTOR is responsible to provide the OWNER with proof of training. Inspections must include stabilized areas, erosion prevention and sediment control BMPs, and infiltration areas. Corrective actions must be identified and date and correction must be noted as identified in Section E 4 of the Permit.

EROSION CONTROL ESTIMATED QUANTITIES

<table>
<thead>
<tr>
<th>Material</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>MnDOT Seed Mix 3A-213</td>
<td>34.360 lb x 0.4 acres = 13.744 lbs</td>
</tr>
<tr>
<td>Organic Control Blanket</td>
<td>1.895 SF</td>
</tr>
<tr>
<td>Inlet Protection</td>
<td>6 EA</td>
</tr>
<tr>
<td>Floating Silt Curtain</td>
<td>100 LF</td>
</tr>
<tr>
<td>Concrete Entrance</td>
<td>4 EA</td>
</tr>
<tr>
<td>Bioretention</td>
<td>200 LF</td>
</tr>
<tr>
<td>Silt Fence</td>
<td>400 LF</td>
</tr>
</tbody>
</table>

IMPAIRED WATERS, SPECIAL WATERS, AND WETLANDS

This Project is located within 1 mile of an impaired water (see figure above): Plymouth Creek impaired for Chl-a, pH, etc. Because of the proximity of the project to an impaired water during construction, all exposed soil areas must be stabilized as soon as possible to limit soil erosion but in no case later than 7 days after the construction activity in that portion of the site has temporarily or permanently ceased.

This Project will impact wetlands. A wetland delineation has been performed and wetland permits have been obtained.

CERTIFICATION

Louis H Sigtermans
Minnawaka, MN
Design of Construction SWPPP (May 26, 2020)

In accordance with Part H.2 of the General Permit Authorization to Discharge Stormwater Associated with Construction Activity under the NPDES, the preparer of this document was trained under the University of Minnesota Erosion and Sediment Control Certification Program. Mr. Louis Sigtermans certification in Design of SWPPP is valid through May 21, 2020.

CITY OF PLYMOUTH

1756 N. Plymouth Blvd

PHONE: 763-550-6299

NOT FOR CONSTRUCTION

City of Plymouth

Responsible partner. Exceptional outcomes.