CITY OF WOODBURY

LAND DISTURBANCE PERMIT
APPLICATION PACKET

This Land Disturbance Permit application packet contains the following items:

1. Land Disturbance Permit Procedure  
2. Land Disturbance Permit Application  
3. Land Disturbance Plan and Implementation Requirements  
4. Land Disturbance and Erosion and Sediment Control Ordinance  
5. Specifications for Restoration of Park Areas  
6. Erosion and Sediment Control Inspection Report  
7. Fees and Security Requirements  
   - Fees and Security Requirements (fee and security calculated by the City)  
   - Letter of Credit Requirements  
   - Sample Letter of Credit  
   - Surety Release or Reduction Request  
8. Standard Details – Erosion Control  
9. Standard Details – Grading  
10. NURP Pond Typical Design Detail  
11. Watershed District Grading Permit Reminder  
12. Minnesota Pollution Control Agency NPDES Storm Water Permit Reminder  
13. Minnesota Pollution Control Agency SWPPP Checklist  

Note: As an applicant for a City of Woodbury Land Disturbance Permit, you are responsible for all information contained in the documents listed above. If this packet is missing any of the above items, please contact the City’s Engineering Division for a copy prior to applying for a Land Disturbance Permit.
CITY OF WOODBURY

LAND DISTURBANCE PERMIT PROCEDURE

STEP 1) Applicant is provided with a Land Disturbance permit application packet. The documents provided in this packet are listed on the packet cover sheet. Applicant is responsible for all information contained in the documents listed. Applicant is responsible for verifying that all documents are included before applying for a Land Disturbance Permit.

STEP 2) Applicant submits completed Land Disturbance Permit Application and six (6) copies of the Land Disturbance Plan (see Land Disturbance Plan and Implementation requirements contained the application packet) to:

   Engineering Division
   City of Woodbury
   8301 Valley Creek Road
   Woodbury, MN 55125-3330

STEP 3) Applicant concurrently acquires other approvals as necessary from all agencies having jurisdiction. These agencies may include but are not limited to the following:

   (a) Minnesota Department of Natural Resources
   (b) Minnesota Pollution Control Agency (NPDES Construction Storm Water Permit and/or others)
   (c) U.S. Army Corp of Engineers
   (d) Watershed District(s)
   (e) Washington County
   (f) Other Governing Agencies if necessary

STEP 4) Land Disturbance Permit Application and Land Disturbance Plan are reviewed as follows:

   (a) Staff reviews the submitted Land Disturbance Permit Application and Land Disturbance Plan.
   (b) Staff provides Applicant with review comments and required revisions for the Land Disturbance Plan, required security amounts and type, plan review fee amount and grading permit fee amount.
   (c) Applicant makes City directed revisions to the Land Disturbance Plan components.
   (d) Applicant provides two (2) copies of the revised Land Disturbance Plan to the City Engineering Department for final review.
   (e) If no further revisions are required and the revised Land Disturbance Plan meets all City requirements, applicant provides six (6) copies of the Final Land Disturbance Plan to the City Engineering Division for distribution.

STEP 5) Applicant contacts the City Engineering Division to schedule a pre-construction meeting.

STEP 6) Applicant provides specified fees and securities to City.

STEP 7) Pre-construction meeting is held.

STEP 8) City issues Land Disturbance Permit along with any special conditions.

STEP 9) Land disturbing activities are permitted to start. The City will perform periodic inspections of the grading progress above those required by the Applicant. See Land Disturbance Plan and Implementation Requirements.

Note: After City approval of the final land disturbance plans, any proposed revision(s) to said plan will require City review and approval. Any modifications to the plan not approved by the City will not be accepted and land disturbing permit may be suspended or revoked until such time revised plans are received, reviewed and approved by the City.
STEP 10) Upon completion of mass site grading and temporary or permanent site restoration, the Applicant shall complete an "as-built" or "record plan" for review and approval. This "as-built" or "record plan" shall be completed as detailed in the City's Land Disturbance and Implementation Requirements.

STEP 11) Applicant provides six (6) copies of the “as-built” or “record plan” and an electronic copy in AutoCAD format to City Engineering Division for review and approval.

STEP 12) City staff will inspect the site as it relates to the submitted “as-built” or “record plan”. If approved, plans are stamped “as-built” or “record plan” and distributed.

STEP 13) Prior to the issuance of building permits, steps 10, 11 and 12 must be completed and all necessary erosion control devices must be in place and functioning. The City will inspect the site to determine its suitability for building activities. If the public utilities have not been installed at this point, it may be necessary to withhold building permits for various lots to allow the contractor adequate space to perform this work.

STEP 14) Final restoration is achieved by the applicant as defined in the City's Land Disturbance and Erosion and Sediment Control Ordinance.

STEP 15) To release financial security, the Applicant shall submit the completed security release form to the City’s Engineering Division.

STEP 16) City staff performs an inspection of the final site and issue a punch list if necessary.

STEP 17) Upon completion of any required punch list items, the City releases securities.

Note: As allowed by the City's Land Disturbance and Erosion and Sediment Control Ordinance, partial reduction of security is allowed based on final restoration of smaller areas within the project. The request for security reduction by the Applicant shall indicate areas in which final restoration has been achieved and security reduction is desired.

REMINDER: It is the Applicant's responsibility to contact Gopher State One-Call for all utilities location prior to starting any land disturbing activity.

QUESTIONS: Please feel free to contact the City of Woodbury Engineering Division at 651-714-3593 with any questions.
## CITY OF WOODBURY

### APPLICATION FOR LAND DISTURBANCE PERMIT

1. **Site Address AND Township, Range, Section**
2. **Name of Development or Subdivision (if applicable)**
3. **Name of Applicant (applicant must be the owner of the property - may be an individual, corporation, company, partnership, etc)**
   - **Name of Applicant’s Representative (if applicant is not an individual)**
   - **Phone #**
   - **Fax #**
   - **Email**
   - **Street Address**
   - **City**
   - **State**
   - **Zip Code**
4. **Name of engineering company preparing LAND DISTURBANCE PLAN.**
   - **Name of Company**
   - **Phone #**
   - **Fax #**
   - **Email**
   - **Street Address**
   - **City**
   - **State**
   - **Zip Code**
   - **CONTACT PERSON:**
5. **Name of CONTRACTOR TO PERFORM MASS SITE GRADING:**
   - **Name of Contractor**
   - **Phone #**
   - **Fax #**
   - **Email**
   - **Street Address**
   - **City**
   - **State**
   - **Zip Code**
   - **PROJECT SUPERINTENDENT:**
6. **Name of CONTRACTOR TO INSTALL AND MAINTAIN EROSION AND SEDIMENT CONTROL:**
   - **Name of Contractor**
   - **Phone #**
   - **Fax #**
   - **Email**
   - **Street Address**
   - **City**
   - **State**
   - **Zip Code**
   - **PROJECT SUPERINTENDENT:**
7. Describe WORK APPLIED FOR UNDER THIS PERMIT:

_____________________________________________________________________

_____________________________________________________________________

8. Estimated volume of material to be moved and remain onsite: ___________ CUBIC YARDS

9. Estimated volume of material to be imported/exported to/from the site: ___________ CUBIC YARDS

10. Estimated total area disturbed by land disturbing activities: ___________ ACRES

11. Estimated total value of erosion and sediment control measures on site $ ________________

12. Enclose six (6) copies of the final approved Land Disturbance Plan showing existing and proposed final contours of the site. The plan shall also indicate all temporary and permanent erosion control facilities to be installed and maintained during and following the land disturbing activities. For additional requirements, see the CITY OF WOODBURY LAND DISTURBANCE PLAN AND IMPLEMENTATION REQUIREMENTS.

13. All necessary permits form other governing agencies having jurisdiction shall be obtained prior to the commencement of land disturbing activities.

THE UNDERSIGNED HEREBY APPLIES FOR A LAND DISTURBANCE PERMIT AND ACKNOWLEDGES THAT THE INFORMATION PROVIDED ABOVE IS COMPLETE AND ACCURATE AND THAT LAND DISTURBING ACTIVITIES ARE NOT TO BEGIN WITHOUT A VALID LAND DISTURBANCE PERMIT.

THE UNDERSIGNED HEREBY AGREES ALL WORK WILL BE DONE IN ACCORDANCE WITH THE APPROVED LAND DISTURBANCE PLAN AND SPECIFICATIONS, LAND DISTURBANCE PLAN AND IMPLEMENTATION REQUIREMENTS, CONDITIONS OF APPROVAL, ALL ORDINANCES OF THE CITY OF WOODBURY, AND ALL APPLICABLE LAWS, RULES AND REGULATIONS.

THE UNDERSIGNED UNDERSTANDS THAT THE PERMIT WILL EXPIRE, AND BECOME NULL AND VOID IF WORK DOES NOT BEGIN WITHIN NINETY (90) DAYS OF THE DATE OF ISSUANCE OF THE PERMIT, OR IF WORK IS SUSPENDED OR ABANDONED FOR A PERIOD OF ONE HUNDRED EIGHTY (180) DAYS ANYTIME AFTER WORK HAS COMMENCED; AND, THAT THE UNDERSIGNED IS RESPONSIBLE FOR ENSURING THAT ALL WORK IS COMPLETED AS APPROVED BY THE ISSUANCE OF THIS PERMIT.

_____________________________________________________________________

Applicant’s Signature                                      Date  

Please Print Applicant’s Name

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LAND DISTURBANCE PLAN AND IMPLEMENTATION REQUIREMENTS

For any site that disturbs land through excavation, embankment or grading activities, as defined by the city’s Land Disturbance Ordinance, the owner shall, at minimum, conform to the provisions of these requirements, applicable permits, relevant laws, ordinances, rules and regulations. In the case of conflicting requirements, the most restrictive shall apply.

Section I. Land Disturbance Plan Submittal

A land disturbance plan submittal shall consist of the following components:

A. Grading Plan  
B. Phasing Plan  
C. Pond Detail Sheet  
D. Storm Water Pollution Prevention Plan (SWPPP)  
E. Standard Detail Sheet

Section II. Land Disturbance Plan Implementation

A. Implementation of SWPPP  
B. Site Inspection and Maintenance  
C. As-Built or Record Grading Plan

Section I. Land Disturbance Plan Submittal

All pages of the land disturbance plan shall be drawn to a minimum scale of one-inch equals fifty-feet (1-inch = 50-feet), unless otherwise specified, and shall be of sufficient clarity to indicate the nature and extent of the proposed work and show in detail that the proposed work shall conform to the provisions of these requirements, all relevant laws, ordinances, rules and regulations. A north arrow shall be provided on each sheet with north toward the top or left of the sheet.

The first sheet of the land disturbance plan shall show the following information: location map indicating the general vicinity of the proposed site within the City of Woodbury along with the name, address, telephone and fax numbers of the design engineer, developer and owner if different than the developer. This sheet may be a separate cover sheet from the required land disturbance plan sheets.

A. Grading Plan

1. Indicate the total area of the site and the area of proposed disturbance in either acres or square feet. Clearly indicate any areas that will not be disturbed as part of the project.

2. Topographical mapping shall be field surveyed for horizontal and vertical control and include contours and spot elevations with enough detail to depict the following:
   a. All features such as buildings, walls, trees, fences, roads, driveways, septic systems, wells and other structures.
   b. All existing utilities, both public and private (if reasonable available).
   c. Topography and drainage patterns for the entire parcel including two hundred (200) feet beyond the property limits.
   d. All existing wetlands, ponds, lakes, streams or other existing water features either wholly or partially encompassed by the project perimeter.

3. Topographical contours must be shown on the plan as follows:
   a. Maximum contour interval of two (2) feet.
   b. Existing contours shown as dashed lines.
CITY OF WOODBURY

LAND DISTURBANCE PLAN AND IMPLEMENTATION REQUIREMENTS

c. Proposed contours shown as solid lines.
d. All major contours, ten (10) foot contours, shall be shown as a bolder line than minor contours.
e. All contours, existing and proposed, shall be labeled with elevations at an appropriate interval to allow easy determination of the contour elevation.
f. Drainage patterns shall be clearly indicated with arrows to depict direction of flow.

4. Indicate the percent grade and elevations for all streets and parking areas. Streets shall have a minimum slope of one-half percent (0.5%) and drainage swales shall have a minimum slope of two percent (2%).

5. Show street centerline profiles. Refer to City of Woodbury Subdivision Requirements.

6. The following details shall be required for existing wetlands, ponds, lakes, streams and other water bodies:
   a. Normal water level (NWL) and 100-year high water level (HWL).
   b. Ponding easements for existing and proposed water features shall be established one (1) foot above the HWL as set forth in the POND DETAIL SHEET section.
   c. Where ponds, streams, other water bodies or drainage features extend beyond the property line, show entire drainage feature and topography extending two hundred (200) feet on all sides of the feature.
   d. Wetland delineation boundary if applicable.

7. Details of topsoil removal, stockpiling and re-spreading must be noted on the plan, along with appropriate erosion control devices encompassing any stockpile areas.

8. Details of all the proposed surface and subsurface drainage devices, ponds, ditches, storm sewers, swales, retaining walls, cribbing, dams, and other protective devices to be constructed with, or as a part of, the proposed project.

9. Orange construction fence, see standard detail GRD-6, shall be required along the perimeter of all projects adjacent to existing buildings, roads, ponds or as directed by the City of Woodbury. Orange silt fence shall not be accepted as a substitute for orange construction fence.

10. Emergency overflow (EOF) high point elevations and directions of flow must be shown for all street and rear yard catch basins, parking areas, ponds, lakes, wetlands, ditches, and streams. Refer to standard detail GRD-5.  
   Note: An Emergency Overflow (EOF) is defined as a feature designated to handle storm water drainage if rainfall, snow melt or emergencies cause storm water runoff to exceed the design capacity of adjacent storm sewer, drainage way or storm water pond.

11. The lowest ground elevation adjacent to surrounding homes or structures must be a minimum of one and one half (1.5) foot above any adjacent EOF.

12. A maximum of one and one half (1.5) foot separation must be maintained between a street low point elevation (taken at the centerline) and the corresponding EOF elevation.

13. For altered or created water features, see POND DETAIL SHEET information section. This information shall also be shown on the overall grading plan sheet.

14. Identify all wetland mitigation areas. The seeding specifications for these areas shall be shown on the grading plan.

15. Identify all park areas. The seeding specifications for these areas shall be shown on the grading plan.

16. Park pathways need to be graded so as to be in compliance with Americans with Disabilities Act (ADA) requirements.

17. For each lot indicate the following (refer to standard details GRD-1 through GRD-4):
   a. The type of structure, i.e., walk out (WO), look out (LO), full basement (FB,) rambler (R), etc. Provide a legend as to the structure type naming convention.
   b. The proposed elevation of the finished garage floor needs to meet all other applicable standards and code.
c. The garage slab to curb elevation difference is governed by City of Woodbury Building and Engineering Department policies. The garage slab must be between one (1) foot and four (4) feet above the top of curb. The top of the foundation block should range from one and one half (1.5) feet to four and one half (4.5) feet above the top of curb. The maximum slope shall be ten percent (10%) at any point along the driveway.

d. The lowest ground elevation adjacent to the building.

e. Proposed spot elevations at each lot corner.

f. Proposed spot elevations at mid point along the side lot line.

g. Proposed spot elevations at any high point or drainage break.

h. Proposed spot elevations where any drainage swales intersect with lot lines.

i. Proposed spot elevation where any drainage and utility easements intersect with the lot lines.

j. Proposed drainage with flow direction arrows.

18. Elevation separations of buildings with respect to ponds, lakes, streams and storm water features shall be designed as follows:

a. The lowest ground elevation adjacent to homes and buildings must be a minimum of three (3) feet above an adjacent water body’s 100-year HWL.

b. The lowest ground elevation adjacent to homes and buildings must be a minimum of one and one half (1.5) foot above any adjacent EOF.

c. Landlocked ponds, lakes or other water bodies shall require a minimum of five (5) feet of separation from the corresponding 100-year HWL and the lowest ground elevation adjacent to home or structure. Landlocked ponds, lakes, streams, ditches and drainage structures must be avoided wherever possible.

d. Outlots and drainage easements for ponds, lakes, streams, and other water bodies must be established to encompass all area below an elevation that is one (1) foot above the established 100-year HWL.

19. A tree inventory shall be provided in accordance with City code.

20. All conditions of preliminary plat or other similar approval related to grading, if applicable, shall be addressed on the Final Grading Plan.

21. No deviations shall be made from the elevations shown on the approved grading plan, without prior approval from the City.

22. Provide specifications containing information necessary to construct the project in accordance with the plans including construction methods and material requirements.

23. Any project specific information as requested by the City.

B. Phasing Plan

1. Projects with a land disturbance in excess of 20 acres shall be subject to phasing. The total area of disturbance shall generally be limited to 20 acres, meaning additional area may be opened after either permanent or temporary restoration and erosion and sediment control items are in place on completed areas. The owner shall be required to implement site specific phasing requirements set by the City. The City shall review and approved the phasing plan based on, but not limited to, the following criteria:

a. Owner proposed phasing of activities. Stockpile and borrow areas that are adequately protected or do not have direct runoff to other areas of the site or off site may not be considered as disturbed area.

b. Schedule for completion of permanent and/or temporary erosion and sediment control measures.

c. Site topography, existing and proposed land slopes and off site storm water discharge.

d. Land disturbing activities that extend beyond October 15th.
2. All projects, regardless of acreage, which continue beyond or begin after October 15th shall be subject to further phasing restrictions. Restrictions can include, but are not limited to the following:
   a. Severely limited area of allowable land disturbance.
   b. Additional erosion and sediment control best management practices.
   c. Dormant seeding at higher application rates.
   d. Additional mulching at higher application rates.
   e. Additional temporary sedimentation basins.
   f. Use of approved erosion control blanket.
   g. Any other erosion control strategy necessary to protect the site.

3. All phases of land disturbance shall be clearly delineated with a contrasting line type and boldness and be numbered.

4. The area of each phase shall be indicated on the phasing plan.

5. If phasing needs to be change during the course of land disturbing activities based on a change of anticipated site conditions, the owner must submit to the City a revised staging plan for review and approval.

6. Completed areas must be reviewed and approved by the City prior to opening additional area within a future phase as shown on the most current approved phasing plan.

C. Pond Detail Sheet

1. A separate one (1) inch equals twenty (20) feet (1-inch = 20-feet) scale drawing with a one (1) foot contour interval shall be provided for each ponding area. For this requirement, a ponding area is defined as any constructed or altered stormwater pond, rain garden, wetland or wetland mitigation area or any other applicable drainage feature.

2. All applicable “GRADING PLAN” requirements shall also apply.

3. See attached detail titled “TYPICAL NURP POND DESIGN” for additional information.

4. Indicate the normal water level (NWL) and 100-year high water level (HWL) for each ponding area.

5. An aquatic bench must be provided that extends ten (10) feet horizontally below the NWL at a slope of ten (10) to one (1).

6. A maintenance bench must extend fifteen (15) feet horizontally above the NWL at a slope of fifteen (15) to one (1) if directed by the City.

7. Four (4) foot high orange construction fence shall be installed at the top edge of the maintenance bench prior to the grading contractor leaving the site. The construction fence shall be installed with six (6) foot long metal “T” posts or equivalent spaced at a twelve (12) to fifteen (15) foot interval. See standard detail GRD-6.

8. Pond maintenance accesses shall have a maximum slope of ten (10) to one (1). The access outlot or easement shall be a minimum of thirty (30) feet wide. If more than one access is provided, easements or outlots may be reduced to twenty (20) feet wide.

9. Pond maintenance accesses shall be clearly indicated on the plan with shading or hatching.

10. Pond maintenance accesses shall be sufficiently compacted and either paved or vegetated as necessary to allow for vehicle access.

11. Ponding outlots shall encompass the ponding area up to one (1) foot above the 100-year HWL.

12. The depth of a constructed or altered ponding area shall be no greater than six (6) feet, without prior approval by the City.
CITY OF WOODBURY

LAND DISTURBANCE PLAN AND IMPLEMENTATION REQUIREMENTS

13. Any hold down of pond bottoms, to allow for sediment storage, shall be kept to a maximum of one-half (0.5) foot, without prior approval by the City. Any pond hold down shall be indicated on the plans.

14. All conservation easements shall be shown.

D. Storm Water Pollution Prevention Plan (SWPPP)

1. The SWPPP shall consist of the following components:
   a. Temporary erosion and sediment control plan including location of perimeter controls, construction fence, temporary sedimentation basins, inlet protection, areas to be seeded (indicate type and application rate), areas to be mulched or blanket ed and all other required temporary erosion and sediment control measures. Indicate staging of temporary erosion control measures if applicable.
   b. Permanent erosion and sediment control plan including areas to be seeded (indicate type and application rate), sodded, sediment ponds, storm sewer system and all other required permanent erosion and sediment control measures. Permanent storm water pollution controls including, but not limited to ponds, vegetated buffers and structural measures shall be designed and constructed in accordance City code.
   c. Narrative describing, at minimum, the nature of construction activity, person(s) responsible for inspection and maintenance of site erosion and sediment control including contact information, project phasing, estimated schedules, timing, installation and maintenance of erosion and sediment control measures and specifications necessary to carry out the plan.
   d. Owner shall be responsible for applying for and obtaining all other applicable agency permits

Note: For projects with land disturbances equal to or greater than one (1) acre, a National Pollution Discharge Elimination System (NPDES) Construction Activity storm water permit shall be required. This permit program is administered by the Minnesota Pollution control Agency (MPCA).

2. The following requirements shall be considered for the preparation of the SWPPP components listed above. The requirements below are meant to be a general guideline and do not account for all possible site conditions or situations. Additional measures may be necessary to meet the intent of the City code. It is the obligation of the owner and designer to consider all factors affecting erosion and sediment control on the project site and include appropriate Best Management Practices. Strict adherence to these requirements does not guarantee compliance with the City code.
   a. Refer to standard details, as applicable, for approved installation practices for typical erosion and sediment control measures mentioned herein.
   b. All debris created in the process of clearing and grading the site shall be removed from the site. This includes trees, shrubs, miscellaneous debris and existing buildings, including footings. Under no circumstances shall this type of material be buried or burned on the site.
   c. All private wells on-site shall be abandoned and sealed in accordance with Minnesota Department of Health requirements. A copy of the sealing records and a location map shall be forward to the City Engineering Division for their records.
   d. Rock construction entrances, standard detail ERO-7, shall be constructed at all City approved entrances. Construction accesses not approved by the City should be adequately blocked to prevent unwanted traffic. Site access roads shall be graded or otherwise protected with silt fences, diversion channels, or dikes and pipes to prevent sediment from exiting the site via the access roads. Individual lots shall each be required to install and maintain a rock construction entrance throughout building construction until a paved driveway has been installed.
   e. Soil tracked from site onto paved surfaces shall be cleaned daily from paved roads as per City code.
   f. All topsoil shall be stripped and salvaged for re-spreading on the site. A minimum of four (4) inches of topsoil, after compaction, shall be re-spread prior to seeding and mulching. Excess topsoil may be removed from the site providing there is adequate topsoil remaining to properly finish the site as noted
above. The topsoil stripping, stockpiling and re-spreading shall be done in accordance to, and noted on, the approved grading plan.

g. All grading operations shall be conducted in a manner as to minimize the potential for site erosion. Erosion control measures shall be installed to prevent sediment from running off onto adjacent properties, wetlands, ponds, lakes or other sensitive areas. Any damage to adjacent properties or natural resources must be corrected and restored as soon as permission is granted from the property owners(s).

h. Stockpiles must be located at least twenty-five (25) feet from any road, wetland, protected water, drainage channel, or storm sewer inlet. Stockpiles left for more than fourteen (14) days must be stabilized with mulch, vegetation, tarps or other approved means. Stockpiles left for less than fourteen (14) days must be controlled with silt fence or other approved means.

i. Two rows of flotation silt curtain, standard detail ERO-3, spaced ten (10) feet apart shall be installed and maintained in lakes and major ponding areas within or adjacent to the area to be graded, or at storm sewer outlets, until the area tributary to the lakes and major ponding areas is restored.

j. All areas disturbed during construction shall be restored as detailed in these requirements. Each type of permanent restoration shall be clearly shown on the plan including, but not limited to sod, seed, impervious cover, and structures. Areas which topsoil has been placed and finish graded or areas that have been disturbed and for which other grading or site building construction operations are not actively underway shall be temporarily or permanently restored as set forth in the following requirements:

1. Areas with slopes of less then three (3) to one (1) shall be seeded and mulched within fourteen (14) days of completing land disturbing activities.
2. Areas with slopes greater than or equal to three (3) to one (1) shall be seeded and erosion control blanket placed within seven (7) days of completing land disturbing activities.
3. All seeded areas shall be either mulched and disc-anchored or covered by erosion control blanket to protect seed and limit erosion. Temporary or permanent mulch shall be disc-anchored and applied at a uniform rate of not less than two (2) tons per acre with not less than eighty (80) percent coverage.
4. If any disturbed area is anticipated to be re-disturbed within six months, a temporary vegetative cover shall be required consisting of an approved seed mixture and application rate.
5. If the graded area shall not be developed for a period greater than six months, a permanent vegetative cover shall be provided consisting of an approved seed mixture and application rate.
6. Wetland mitigation areas shall be restored in accordance with the approved wetland replacement plan.
7. Park areas shall be restored to City of Woodbury Park Specifications.
8. All areas that will not be mowed or maintained as part of the ultimate design shall be permanently restored using an approved seed mixture and application rate.
9. Restoration of disturbed wetland areas shall be accomplished with approved seed mixture and application rate.

k. Specific measures to control erosion based on the grade and length of the slopes on the site shall be provided as follows:

1. Install heavy duty silt fence, standard detail ERO-1B, along the toe of slopes that have a grade of less than three (3) percent and are less than four hundred (400) feet long from top to toe.
2. Flow lengths up-slope from each silt fence shall not exceed four hundred (400) feet for slopes that have a grade of less than three (3) percent and are more than four hundred (400) feet long from top to toe.
3. Install heavy duty silt fence, standard detail ERO-1B, along the toe of slopes that have a grade of three (3) to six (6) percent and are less than two hundred (200) feet from top to toe.
4. Flow lengths up-slope from each silt fence shall not exceed two hundred (200) feet for slopes that have a grade of three (3) to six (6) percent and are more than two hundred (200) feet long from top to toe.

5. Heavy duty silt fence, standard detail ERO-1B, shall be required around all wetlands. There shall be a fifteen (15) foot minimum buffer area between the silt fence and delineated wetland boundary.

6. The locations of silt fences shall be reviewed as grading occurs and adjustments made as the need is identified.

7. All slopes shall be graded in such a fashion so that tracking marks from heavy equipment are perpendicular to the slope in accordance with standard detail ERO-11.

l. Temporary sedimentation basins shall be constructed as follows:

1. As part of this development process, or any activity, in which the vegetation is removed, the City may require the construction of a temporary sedimentation basin with outlet if necessary. The purpose of the basin shall be to reduce the quantity of sediment that would otherwise be deposited in the City’s storm water system including pipes, ponds, wetlands and lakes.

2. The City shall work with the owner of the project as to the location, size, and configuration of the ponds through the grading permit approval process.

3. The sedimentation basins shall be maintained by the owner of the property and shall remain functional until which time sufficient vegetative cover is restored to the site, resulting in the rate of erosion returning to pre-development levels. The City shall not issue building permits for lots containing said sedimentation basins until they can be removed or relocated based on project restoration progress.

4. Temporary sediment basins can be removed, at the discretion of the City, only after and upstream vegetation has been sufficiently established.

m. Silt fence, standard detail ERO-1C and ERO-1B, or biologs, standard detail ERO-5E, shall be provided in all areas where minor runoff (less than one (1) cfs) may occur. Alternative methods in lieu of silt fence shall be reviewed and approved by the City on a case by case basis. In areas where concentrated volumes of storm water runoff (greater than one (1) cfs) shall occur (such as swales, in front of storm sewer catch basins and intakes, etc.), the erosion control facilities shall be backed by a snow fence or other approved stabilization structure to prevent any damage to the erosion control facilities by concentrated flows.

n. Silt fence or other approved erosion and sediment control measure shall be required along the entire curb line of all platted lots except for one approved opening where the rock construction entrance shall be installed, maximum thirty (30) feet in width. This device shall be maintained until final restoration has been achieved. This requirement is intended to minimize vehicle tracking onto the paved streets through the building process.

o. Flows from diversion channels or pipes (temporary or permanent) shall be routed to sedimentation basins or appropriate energy dissipaters to prevent transport of sediment to outflow or lateral conveyors and to prevent erosion and sedimentation when runoff flows into the conveyors.

p. Water removed from the site through pumping for dewatering or other activities such as removal of groundwater must be treated by sedimentation basins or other approved means. Such water shall not be discharged in such a manner to cause flooding or erosion to off site receiving waters or property.

q. Dust control measures, such as application of water, shall be performed periodically when weather or construction activity require and/or as directed by the City. City water from hydrants or other sources shall not be used for dust control. Dust control water shall be from approved ponds, wetland, lakes other approved water bodies.

r. Runoff shall be prevented from entering all storm sewer catch basins and inlets provided they are not needed during construction. Where storm sewer catch basins are necessary for site drainage during construction, a silt fence or double ring of staked biologs, standard detail ERO-5E, or other City approved
alternative, shall be installed and maintained around all catch basins until the area tributary to the catch basins is restored. Inlet protection shall be provided for all inlets within a paved area until final stabilization has been achieved for the tributary area.

s. Filter blanket and riprap shall be installed on the downstream sides of all storm sewer outlets down to the NWL. All riprap shall be designed and installed with a filter material meeting the Mn/DOT specifications for riprap and filter material.

E. Standard Detail Sheet

1. This sheet shall contain all City standard details applicable to the plan.
2. For items not provided for by the City’s standard details, a detail shall be provided by the designer and approved by the City.
3. An electronic copy, on compact disc (CD), of the City’s standard details is available for purchase through the City’s Engineering Division. These standard details are available in AutoCAD format.

Section II. Land Disturbance Plan Implementation

A land disturbance permit must be applied for and issued by the City, and a pre-construction meeting held, prior to the start of any land disturbing activity within the City of Woodbury.

A. Implementation of SWPPP

1. All required permanent and temporary erosion and sediment control measures shall be installed prior to the start of any land disturbing activities. The City Engineer must be notified upon completion of the installation of the required erosion control facilities and prior to any land disturbing activity being commenced. The contractor is responsible to schedule an on-site pre-construction meeting with the City Engineer.

2. Permanent and temporary sedimentation basins shall be constructed and made operational currently with the start of land disturbance that is upgradient of the area. If the owner proves to the City that it is not practical to construct the basins at the beginning of construction, other acceptable means of sediment control must be provided.

3. Any additional erosion and sediment control measures deemed necessary by the City before, during or after the land disturbance activities begin shall be installed by the owner at their expense.

4. Prior to the issuance of building permits, all necessary erosion control devices must be in place and functioning. The City shall inspect the site to determine its suitability for building activities. If the public utilities have not been installed at this point, it may be necessary to withhold building permits for various lots to allow the contractor adequate space to perform this work. Building sites shall have, at a minimum, perimeter erosion and sediment controls and a rock construction entrance installed.

B. Inspection and Maintenance

1. Construction sites shall be inspected at minimum once every seven (7) days and within 24-hours after a rainfall event greater than one-half (0.5) inch in 24-hours. The owner or his representative shall make inspections.

   Note: Inspections may be completed concurrently with the requirements of the NPDES Construction Activity storm water permit requirements. Additional inspections may also be performed by the City on an as needed basis.

2. A written record shall be completed for each inspection including date, amount of rainfall if greater than one-half (0.5) inch, name of inspector, findings, and corrective actions required. Inspections shall be recorded on
the supplied inspection report sheet or equivalent. A copy shall be provided to the City Engineering Division within 48-hours following an inspection during active construction.

Note: Inspection records may be completed concurrently with the requirements of the NPDES Construction Activity storm water permit requirements.

3. Any deficiencies found as a result of an inspection shall be repaired or corrected within 24-hours or as soon as field conditions allow access. If certain repairs cannot be made within 24-hours, a detailed plan and schedule for repairs shall be prepared and presented to the City for approval.

4. The storm water pollution prevention plan shall be modified as deemed necessary based on actual site conditions. Additional erosion and sediment control measures may be necessary based on any modifications to the plan.

5. All erosion control measures shall be used and maintained for the duration of project until final stabilization has been achieved. If construction operations or natural events damage or interfere with any erosion control measures, they shall be restored to serve their intended function at the end of each day or as soon as field conditions allow access.

6. Additional erosion and sediment control measures shall be added as necessary to adequately protect the natural resources of the City. The temporary and permanent erosion control plans shall be revised as needed based on current site conditions and to comply with all applicable requirements.

7. All sedimentation occurring in storm sewers, ditches, lakes, ponds and wetlands shall be removed prior to, during or after the completion of land disturbing activities as directed by the City.

8. Erosion control facilities shall be installed and maintained around the perimeter of all lakes, ponds and wetlands within or adjacent to the area to be disturbed until the area tributary to the lake, pond or wetland is restored and accepted by the City.

9. Rock construction entrances shall be constructed at all entrances into the site. These entrances shall be constructed and maintained as necessary to prevent tracking from the site.

10. Temporary erosion control measures and devices shall be removed only as approved by the City. Removal of all temporary measures shall be completed by the owner at his cost.

11. Soils washed onto or tracked from the site by motor vehicles and equipment shall be cleaned daily from paved roadway surfaces throughout the duration of construction.

12. All temporary erosion and sediment control devices shall be removed prior to acceptance of the project. It shall be the owners responsibility to remove all temporary measures.

13. The City shall perform a final inspection to verify compliance with all requirements and “as-built” or “record plan”. Securities shall not be released until final stabilization has been achieved, all punch list items are complete and the site has been accepted by the City.

C. As-Built or Record Grading Plan

1. Upon completion of the grading activities, the owner shall certify that all grading was performed in accordance with the approved grading plan and land disturbance permit. An as-built grading plan, signed by a licensed professional engineer or licensed land surveyor, shall be submitted to the City, for review and distribution, that shows all approved changes and certifies all grading was completed within the allowable +/- 0.2 foot tolerance.

2. The plan shall be clearly identified with a stamp or large bold print indicating “As-Built” or “Record Plan”.

3. All information shown on the Final Grading Plan shall be shown on the As-Built Grading Plan, excluding erosion and sediment control measures or any other temporary measures.

4. Building pad hold-downs, if applicable, must be shown.

5. All revisions to the plan must be described and dated in the As-Built Grading Plan revision block.

6. Field verification must be made of the following:
Note: If elevations are not within +/- two tenths (0.2) feet of those shown on the FINAL GRADING PLAN, revised grades, elevations and contours need to be shown on the AS BUILT GRADING PLAN.

a. Elevations of all Emergency Over Flows (EOF’s).
b. All spot elevations listed below:
   - The lowest ground elevation adjacent to the building.
   - Elevations at each lot corner.
   - Elevations at mid point along the side lot line.
   - Elevations at any high point or drainage break.
   - Elevations where any drainage swales intersect with lot lines.
   - Elevation where any drainage and utility easements intersect with the lot lines.

c. Spot elevations and contours of all constructed ponds, wetlands and mitigation areas.
d. Final grades on all roads and maintenance accesses.

7. Storm sewer locations with rim and invert elevations shown for each structure as per approved utility plans.

8. Verify location of remaining trees and update tree inventory to reflect final grading and other approved tree removals.

9. The owner shall provide the City four (4) paper copies of the approved As-Built or Record Plan along with an electronic copy in AutoCAD format or City approved equivalent. Record plans shall be provided to the City Engineering Division within sixty (60) days of City acceptance.
ORDINANCE NO. 1749

AN ORDINANCE OF THE CITY OF WOODBURY, WASHINGTON COUNTY, MINNESOTA PROVIDING THAT THE WOODBURY CITY CODE BE AMENDED BY AMENDING CHAPTER 7, GRADING AND EXCAVATION.

THE CITY COUNCIL OF THE CITY OF WOODBURY, WASHINGTON COUNTY, MINNESOTA DOES HEREBY ORDAIN:

That Chapter 7 of the City Code of the City of Woodbury is hereby amended to read as follows:

CHAPTER 7: LAND DISTURBANCE AND EROSION AND SEDIMENT CONTROL ORDINANCE

Sec. 7-1. Purpose.

The purpose of this chapter is to safeguard life, limb, property, public welfare and the environment by regulating land disturbing activities and controlling erosion and sedimentation within the city.

Sec. 7-2. Scope.

This chapter sets forth rules and regulations to control land disturbing activities, erosion and sedimentation; establishes the requirements and administrative procedure for issuance of permits; provides for review of plans and inspection of land disturbing activities; and provides procedures for enforcement of noncompliance.

Sec. 7-3. Definitions.

For the purposes of this chapter the definitions listed hereunder shall be construed as specified in this section.

Applicant is any person or group that applies for a permit to allow land disturbing activities. Applicant also means that person's agents, employees, and others acting under this person's or group’s direction. The term “applicant” also refers to the permit holder or holders and the permit holder’s agents, employees, and others acting under this person's or group’s direction.

Approval shall mean the proposed work or completed work conforms to this chapter in the opinion of the city.

As-graded is the extent of surface conditions on completion of grading.

Bedrock is in-place solid rock.

Bench is a relatively level step excavated into earth material on which fill is to be placed.

Borrow is earth material acquired from an off-site location for use in grading on a site.

City is the administrative staff, or its agent, of the City of Woodbury.

City council is the elected governing board of the City of Woodbury.

Civil engineer is a professional engineer licensed by the Minnesota Board of Architecture, Engineering, Land Surveying, Landscape Architecture, Geoscience, and Interior Design to practice in the field of civil engineering.

Civil engineering is the application of the knowledge of the forces of nature, principles of mechanics and the properties of materials to the evaluation, design and construction of civil works for the beneficial uses of mankind.
Common plan of development or sale is a contiguous area where multiple separate and distinct land disturbing activities may be taking place at different times, or on different schedules, but under one proposed plan including but not limited to mass site grading, utility installation, street construction and home or building construction. This item is broadly defined to include design, permit application, advertisement or physical demarcation indicating that land disturbing activities may occur.

Compaction is the densification of a soil by removal of air, which requires mechanical energy.

Discharge is the release, conveyance, channeling, runoff, or drainage, of storm water, including snowmelt and dewatering water, from a site.

Earth material is any rock, natural soil or fill and/or any combination thereof.

Engineering geologist is a geologist experienced and knowledgeable in engineering geology.

Engineering geology is the application of geologic knowledge and principles in the investigation and evaluation of naturally occurring rock and soil for use in the design of civil works.

Erosion is the wearing away of the ground surface as a result of the movement of wind, water and/or ice.

Erosion control refers to methods employed to prevent erosion. Examples include soil stabilization practices, horizontal slope grading, temporary or permanent cover, and construction phasing.

Excavation is the mechanical removal of earth material.

Fill is a deposit of earth material placed by artificial means.

Final stabilization means that all soil disturbing activities on the site or common plan of development or sale have been completed, and that a uniform (evenly distributed, e.g., without large bare areas) perennial vegetative cover with a density of at least eighty (80) percent of the cover for unpaved areas and areas not covered by permanent structures has been established, or equivalent permanent stabilization measures have been employed, and that all temporary erosion control devises are removed, including silt fence, temporary sedimentation basins, and temporary standpipes. Simply sowing grass seed and/or mulch is not considered final stabilization. Final stabilization of a “common plan of development or sale” includes completion of building or home construction along with final restoration of all yards and adjacent drainage ways.

Geotechnical engineer is a professional engineer licensed by the Minnesota Board of Architecture, Engineering, Land Surveying, Landscape Architecture, Geoscience, and Interior Design to practice in the field of geotechnical engineering.

Geotechnical engineering is the application of the principles of soils mechanics in the investigation, evaluation and design of civil works involving the use of earth materials and the inspection and/or testing of the construction thereof.

Grade is the vertical location of the ground surface.

Existing grade is the grade prior to grading or land disturbing activities.

Rough grade is the stage at which the grade approximately conforms to the approved plan.

Finish grade is the final grade of the site, within 0.2 feet, that conforms to the approved plan.

Grading is any excavating or filling or combination thereof.

Hydric soils are soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper layers.
*Hydrophytic vegetation* is macrophytic (large enough to be observed by the naked eye) plant life growing in water, soil or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content.

*Land disturbance activity* is any land change that may result in soil erosion from water or wind and the movement of sediments into or upon waters or lands within this government’s jurisdiction, including construction, clearing and grubbing, grading, excavating, transporting and filling of land.

*Permanent controls* are long-term methods employed to prevent erosion and sedimentation. Examples of such protection are swales, ponds, sediment basins, turf reinforcement mats, storm sewer systems, and riprap.

*Permanent cover* means “final stabilization.” Examples include grass, gravel, asphalt, and concrete. See also the definition of “final stabilization.”

*Permit* is a written warrant or license granted for land disturbing activities.

*Sediment* is the product of an erosion process; solid material both mineral and organic, that is in suspension, is being transported, or has been moved by water, wind, or ice, and has come to rest on the earth's surface either above or below water level.

*Sedimentation* is the process or action of depositing sediment.

*Sediment control* is the methods employed to prevent sediment from leaving a site. Examples of sediment control practices are silt fences, sediment traps, earth dikes, drainage swales, check dams, subsurface drains, pipe slope drains, storm drain inlet protection, and temporary or permanent sedimentation basins.

*Site* is any lot or parcel of land or contiguous combination thereof, under the same ownership, where a land disturbing activity is performed or permitted.

*Slope* is an inclined ground surface the inclination of which is expressed as a ratio of horizontal distance to vertical distance.

*Soil* is naturally occurring superficial deposits overlying bedrock.

*Stabilized* shall mean the exposed ground surface after it has been covered by perennial vegetation, sod, erosion control blanket, riprap, pavement or other material that prevents erosion. Simply sowing grass seed is not considered stabilization.

*Storm water* as defined under Minnesota Rule 7077.0105, subpart 41b storm water, “means precipitation runoff, storm water runoff, snow melt runoff, and any other surface runoff and drainage.”

*Storm water pollution prevention plan* is a joint storm water and erosion and sediment control plan that is a document containing the requirements of this chapter and the City of Woodbury Land Disturbance Plan and Implementation Requirements, that when implemented will decrease soil erosion on a parcel of land and off-site nonpoint pollution. It involves both temporary and permanent controls.

*Temporary controls* are short-term methods employed to prevent erosion and sedimentation. Examples of such protection are silt fence, temporary sediment basins, check dams, straw, mulch, erosion control blankets, wood chips, and erosion netting.

*Terrace* is a relatively level step constructed in the face of a graded slope surface for drainage and maintenance purposes.

*Wetlands* as defined in Minnesota Rules 7050.0130, subpart F, are those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally
include swamps, marshes, bogs, and similar areas. Constructed wetlands designed for wastewater treatment are not waters of the state. Wetlands must have the following attributes:

1. A predominance of hydric soils;

2. Inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of hydrophytic vegetation typically adapted for life in a saturated soil condition; and

3. Under normal circumstances support a prevalence of such vegetation.

Sec. 7-4. General conformance.

The owner of a site or common plan of development or sale shall be responsible for maintaining any land disturbing activity in such a way as not to create a hazard to life and limb; or endanger the environment; or endanger property; or adversely affects the safety, use or stability of a property, public way or drainage channel; or deposit sediment on or into adjacent properties, right-of-ways, drainage systems or wetlands until final stabilization, as defined in section 7-3, has been achieved.

Whenever the city determines that any land disturbing activity has become a hazard to life and limb; or endangers the environment; or endangers property; or adversely affects the safety, use or stability of a property, public way or drainage channel; or deposits sediment on or into adjacent properties, right-of-ways, drainage systems or wetlands, the owner of the property upon which the land disturbance activity is located, or other person or agent in control of said property, upon receipt of notice in writing from the city, shall within the period specified therein repair or eliminate such land disturbing activity so as to eliminate the hazard and be in conformance with the requirements of this code. The city may inspect any property for conformance with this chapter.

Sec. 7-5. Land disturbance permit required.

No person shall do any land disturbing activity without first having obtained a land disturbance permit from the city, except for the following:

1. A land disturbing activity which meets all of the following requirements:
   a. Is located in an isolated, self-contained area.
   b. There is no danger apparent to private or public property.
   c. Does not infringe upon any wetland or ponding area or impede any drainage course.
   d. The total area of disturbance is less than one (1) acre and is not part of a common plan of development or sale that is equal to or greater than one (1) acre.
   e. The total volume of earth material disturbed, stockpiled, disposed of, or used as fill does not exceed fifty (50) cubic yards.
   f. Is an excavation that is less than two (2) feet in depth and does not create a cut slope greater than five (5) feet in height, or is steeper than two (2) horizontal to one (1) vertical or is a fill that is less than two (2) feet in depth and place on natural terrain with a slope flatter than three (3) horizontal to one (1) vertical, or is less than three feet in depth, not intended to support structures.

   These types of activities may include the installation and maintenance of home gardens, minor landscaping, fences, signs and mailboxes.

2. An excavation below finished grade for basements and footings of a building, retaining wall or other structure authorized by a valid building permit. This shall not exempt the requirement for a permit for a land disturbing activity resulting from the material from such excavation nor exempt any excavation having an unsupported height greater than 5 feet after the completion of such structure.

3. Cemetery graves.

4. Refuse disposal sites controlled by other regulations, laws or City Code.
(5) Excavations for wells or tunnels or utilities controlled by other regulations, laws or City Code.

(6) Mining, quarrying, excavating, processing, stockpiling of rock, sand, gravel, aggregate or clay where established and provided for by law or ordinance. This shall not exempt these types of activities from the special use permit requirements set forth by City Code.

(7) Tilling, planting, or harvesting of agricultural, horticultural or silvicultural (forestry) crops. This shall not exempt these types of activities from the special use permit requirements set forth by City Code.

(8) Exploratory excavations and borings under the direction of geotechnical engineers or engineering geologists.

(9) Emergency work necessary to protect life, limb, or property.

(10) City, county, state or federal agency projects whose plans and specifications meet the requirements of this ordinance and are reviewed and approved by the city under a separate process.

Exemption from the permit requirements of this chapter shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this chapter.

Sec. 7-6. Land disturbance permit requirements.

(a) Permits required. Except as exempted in section 7-5, no person shall do any land disturbing activity without first obtaining a land disturbance permit from the city. A separate permit shall be required for each site or common plan of development or sale, and may cover both excavations and fills. Changes or deviation from previously reviewed plans require an amended permit be applied for and approved before the work is performed.

(b) When permit may be applied for and issued. A land disturbance permit may be applied for at any time. A land disturbance permit may not be issued until after the city council has granted the applicant a preliminary plat, site plan or equivalent approval of the site and all permit conditions have been completed to the satisfaction of the city. For individual isolated land disturbing activities, the city may grant a land disturbance permit without city council approval of a preliminary plat, site plan, or equivalent approval.

(c) Application. To obtain a permit, the applicant shall first file an application in writing on a form furnished by the city for that purpose. Every such application shall:

(1) Identify and describe the work to be covered by the permit for which application is made.

(2) Describe the land on which the proposed work is to be done by legal description, street address or similar description that will readily identify and definitely locate the proposed building or work.

(3) Indicate the purpose of the proposed work.

(4) Be accompanied by plans, diagrams, computations and specifications and other data as required in subsection (e) of this section.

(5) State the valuation of the work.

(6) Be signed by the permittee or his authorized agent.

(7) Give such other data and information as may be required by the city.

(d) Plans and specifications. Each application for a grading permit shall be accompanied by copies of the Land Disturbance Plan consisting of a grading plan, phasing plan, pond detail sheets, storm water pollution prevention plan, standard detail sheets, specifications and supporting data. The plans, specifications and reports shall be prepared and
signed by a person registered by the Minnesota Board of Architecture, Engineering, Land Surveying, Landscape Architecture, and Interior Design unless specifically exempted by the city.

(c) Information on plans and in specifications. Plans shall be drawn to scale and shall be of sufficient clarity to indicate the nature and extent of the work proposed and show in detail that they will conform to the provisions of this chapter and all relevant laws, ordinances, rules and regulations. The first sheet of each set of plans shall give the location of the work and the name and address of the owner and the person by whom they were prepared. As a minimum, the plans shall include the information set forth in this chapter and the City of Woodbury Land Disturbance Plan and Implementation Requirements developed by the city. The Land Disturbance Plan shall consist of the following components.

(1) Grading plan. A grading plan shall be provided that clearly indicates the proposed land disturbing activities. Both existing and proposed topography shall be shown and have a maximum contour interval of two (2) feet. Drainage patterns shall be clearly shown using arrows depicting direction of flow. Other information shall be shown as required by the city based on specific project characteristics.

(2) Phasing plan. A phasing plan shall be provided that clearly indicates the areas in the order they are to be disturbed and restored. The phasing plan shall consider minimization of area and duration of exposed soil and unstable conditions, minimization of the disturbance of natural soil cover and vegetation, erosion and sediment control measure installation, weather conditions and the schedule for temporary and permanent restoration. The area and duration of each phase shall be indicated on the plan.

(3) Pond detail sheet. A pond detail sheet shall be provided for each constructed storm water pond that shows detailed pond design including normal water level, high water level, aquatic bench, maintenance bench, outlet structures, emergency overflow locations and other project specific data required by the city.

(4) Storm water pollution prevention plan. The storm water pollution prevention plan shall consist of three components: a temporary erosion and sediment control plan, a permanent erosion and sediment control plan, and a narrative.
   a. A temporary erosion and sediment control plan shall be provided that indicates the location of perimeter controls, construction fence, temporary sedimentation basins, inlet protection, areas to be seeded, areas to be mulched or blanketed and all other required temporary erosion and sediment control measures. This plan shall also indicate staging of temporary erosion control measures.
   b. A permanent erosion and sediment control plan shall be provided that indicates areas to be seeded and sodded, sediment ponds, storm sewer systems and all other required permanent erosion and sediment control measures. Permanent storm water pollution controls including, but not limited to ponds, vegetated buffers and structural measures shall be designed and constructed in accordance with other chapters of the city code and requirements of other agencies having jurisdiction.
   c. A narrative shall be provided that describes at a minimum, the nature of construction activity, person(s) responsible for inspection and maintenance of site erosion and sediment control including contact information, project phasing, schedules, along with the timing, installation and maintenance of erosion and sediment control measures and specifications necessary to carry out the project.

(5) Standard detail sheet. A standard detail sheet shall be provided that consists of applicable construction details for approved erosion and sediment control measures as developed by the city. Other techniques may be used upon prior approval by the city with details provided by the designer.

(6) Specifications. Specifications for land disturbing activities shall be provided as necessary to carry out the project in accordance with this chapter and all other applicable ordinances, laws or agency requirements.

(f) Alternate materials and methods of construction. The provisions of this chapter are not intended to prevent the use of any material or method of construction not specifically prescribed by this chapter, provided any alternate has been approved and its use authorized by the city. The city may approve any such alternate, provided the city finds the proposed design is satisfactory and complies with the provisions of this chapter and that the material, method or worked offered is, for the purpose intended, at least the equivalent of that prescribed in this code in suitability, strength, effectiveness, fire resistance, durability, safety and sanitation. The city shall require that sufficient evidence or proof be
submitted to substantiate any claims that may be made regarding its use. The details of any action granting approval of an alternate shall be recorded and entered in the files of the city.

(g) **Modifications.** Whenever there are practical difficulties involved in carrying out the provisions of this chapter, the city may grant modifications for individual cases, provided the city shall first find that a special individual reason makes the strict letter of this code impractical and that the modification is in conformity with the intent and purpose of this code. The details of any action granting modifications shall be recorded and entered in the files of the city.

(h) **Tests.** Whenever there is insufficient evidence of compliance with any of the provisions of this chapter or evidence that any material or construction does not conform to the requirements of this chapter the city may require tests as proof of compliance to be made at no expense to the city. Test methods shall be as specified by this chapter or by other recognized test standards. If there are no recognized and accepted test methods for the proposed alternate, the city shall determine test procedures.

(i) **Geotechnical engineering report.** The geotechnical engineering report, when required, shall include data regarding the nature, distribution and strength of existing soils, conclusions and recommendations for grading procedures and design criteria for corrective measures, and opinions and recommendations covering adequacy of sites to be developed by the proposed grading, including the stability of slopes. Recommendations included in the report and reviewed by the city shall be incorporated in the grading plans or specifications.

(j) **Engineering geology report.** The engineering geology report, when required, shall include an adequate description of the geology of the site, conclusions and recommendations regarding the effect of geologic conditions on proposed development, and opinions and recommendations covering the adequacy of sites to be developed by the proposed grading. Recommendations included in the report and reviewed by the city shall be incorporated in the grading plans or specifications.

(k) **Review and issuance of permit.** The application, plans, specifications, computations and other data filed by an applicant for permit shall be reviewed by the city. Such plans may be reviewed by other agencies to verify compliance with any applicable laws under their jurisdiction. If the city finds that the work described in an application for a permit and the plans, specifications and other data filed therewith conform to the requirements of this chapter and other pertinent laws and ordinances, and that the fees and security requirements for said permit have been provided, the city may issue a permit to the applicant. When the city issues the permit where plans are required, the city shall endorse in writing or stamp the plans and specifications "Reviewed". Such reviewed plans and specifications shall not be changed, modified or altered without authorization from the city, and all work shall be done in accordance with the reviewed plans. The city may issue a provisional permit for a land disturbing activity before the entire plans and specifications have been submitted or reviewed, provided adequate information and detailed statements have been filed complying with all pertinent requirements of this chapter. The holder of such provisional permit shall proceed at his own risk without assurance that the permit for the entire project will be granted. The issuance of a land disturbance permit by the city does not exempt the applicant from the requirements and permitting authority of other agencies having jurisdiction over the work performed.

(l) **Retention of plans.** One (1) set of reviewed plans, specifications and computations shall be retained by the city for a period of not less than one (1) year from date of completion of the work covered therein; and one (1) set of reviewed plans and specifications shall be returned to the applicant, and said set shall be kept on the site of the building or work at all times during which the work authorized thereby is in progress.

(m) **Validity of permit.** The issuance or granting of a permit or approval of plans, specifications and computations shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of this chapter or of any other ordinance of the city. No permit presuming to give authority to violate or cancel the provisions of this chapter shall be valid. The issuance of a permit based upon plans, specifications and other data shall not prevent the city from thereafter requiring the correction of errors in said plans, specifications and other data, or from preventing land disturbing activities being carried on thereunder when in violation of this chapter or of any other ordinance of the city.

(n) **Expiration.** Every permit issued by the city under the provisions of this chapter shall expire by limitation and become null and void if the work authorized by such permit is not commenced within ninety (90) days from the date of issuance of such permit, or if the work authorized by such permit is suspended or abandoned at any time after the work
is commenced for a period of one hundred eighty (180) days. Before such work can be recommenced, a new permit shall be first obtained to do so, and the fee therefore shall be one-half the amount required for a new permit for such work, provided no changes have been made or will be made in the original plans and specifications for such work; and provided further that such suspension or abandonment has not exceeded one (1) year. In order to renew action on a permit after expiration, the permittee shall pay a new full permit fee. Any permittee holding an unexpired permit may apply for an extension of the time within which the permittee may commence work under that permit when the permittee is unable to commence work within the time required by this section for good and satisfactory reasons. The city may extend the time for action by the permittee for a period not exceeding one hundred eighty (180) days upon written request by the permittee showing that circumstances beyond the control of the permittee have prevented action from being taken. No permit shall be extended more than once.

(o) Suspension or revocation. The city may, in writing, suspend or revoke a permit issued under the provisions of this chapter whenever the permit is issued in error or on the basis of incorrect information supplied, or is found to be in violation of any ordinance or regulation or any of the provisions of this chapter.

Sec. 7-7. Land disturbance permit fees.

(a) Generally. Fees shall be charged in accordance with the provisions of this section or shall be as set forth in the fee schedule adopted by the city council by ordinance.

(b) Plan Review Fees. When a plan or other data is required to be submitted, a plan review fee shall be paid at the time of submitting plans and specifications for review. Said plan review fee shall be as established by the city council by ordinance.

(c) Land Disturbance Permit Fees. A fee for each land disturbance permit shall be paid to the city as established by city council by ordinance.

Sec. 7-8. Land disturbance permit financial security.

(a) Generally. The city will require financial security in such form and amounts as deemed necessary to assure that the work, if not completed in accordance with the reviewed plans and specifications, will be corrected to eliminate conditions posing a danger to public health, safety and welfare, adjacent property and the environment. The security shall be in the form of a surety bond, cash bond, or an irrevocable letter of credit. The financial security must be in place prior to any work. The amount of financial security required will be calculated based on the work detailed in the plans and specifications. The city may require a portion of the security to be provided as a cash escrow based on the proposed work.

(b) Action against financial security. The city may act against the financial security, if any of the following conditions exist. The city shall use funds from this security to finance any corrective or remedial work undertaken by the city or a contractor under contract with the city and to reimburse the city for all direct cost incurred in the process of remedial work including, but not limited to, staff time and legal fees.

(1) The applicant ceases land disturbing activities and abandons the work site prior to the completion of the city approved plans and specifications.

(2) The applicant fails to conform to any city approved plans and specifications, or related supplementary instructions including permit conditions of approval and corrective action notices.

(3) Emergency action for circumstances that exists such that noncompliance with this ordinance poses an immediate danger to public health, safety and welfare, or the environment as determined by the city. The city will take every reasonable action possible to contact and direct the applicant to take any necessary action, prior to the city taking action.

(c) Reduction of financial security. If requested by the applicant, the amount of the financial security may be reduced by the city. Said reduction will be based upon the extent to which the grading and restoration have been
completed and shall consider the continued need for erosion control. At no time prior to final completion, as defined in section 7-16, shall the security be reduced to less than ten (10) percent of the total original security amount.

(d) **Final release of financial security.** Any unspent amount of the financial security deposited with the city for faithful performance of the plans and specifications and any related remedial work will be released after the completion and inspection of all such measures and the establishment of final stabilization, as defined in section 7-3, for the permitted site or common plan of development or sale.

**Sec. 7-9. Amended land disturbance permits.**

Any changes desired to be made to the land disturbance plan by the applicant following the issuance of a land disturbance permit shall be submitted to the city for review. No changes may be implemented by the applicant unless approved by the city. Any desired change to the land disturbance plan shall be supported by information showing the change desired, the reasons for the change, the effect the change would have upon buildings, structures, adjacent property, drainage facilities and patterns. The request shall be accompanied by geotechnical engineering and geology report as necessary. If the changes requested by the applicant are acceptable, the city will issue an amendment to the land disturbance permit.

**Sec. 7-10. Cuts.**

(a) **Generally.** Unless otherwise recommended in the approved geotechnical engineering and/or engineering geology report, cuts shall conform to the provisions of this section and the City of Woodbury Land Disturbance Plan and Implementation Requirements. In the absence of an approved geotechnical engineering report, these provisions may be waived by the city for minor cuts not intended to support structures.

(b) **Slope.** The slope of cut surfaces shall be no steeper than is safe for the intended use and shall be no steeper than two (2) horizontal to one (1) vertical, for a short term interim period, unless the owner furnishes a soils engineering or an engineering geology report, or both, stating that the site has been investigated and giving an opinion that a cut at a steeper slope will be stable and not create a hazard to public or private property. Unless specifically approved, permanent slopes shall be no steeper than three (3) horizontal to one (1) vertical.

**Sec. 7-11. Fills.**

(a) **Generally.** Unless otherwise recommended in the approved geotechnical engineering report, fills shall conform to the provisions of this section and the City of Woodbury Land Disturbance Plan and Implementation Requirements. In absence of an approved geotechnical engineering report, these provisions may be waived for minor fills not intended to support structures.

(b) **Clearing area to be filled.** All timbers, logs, trees, brush and rubbish shall be removed from the site prior to placing the fill. No burning of the debris will be allowed unless a burning permit is issued by the city.

(c) **Preparation of ground.** The ground surface shall be prepared to receive fill by removing vegetation, non-complying fill, topsoil and other unsuitable materials, scarifying to provide a bond with the new fill and, where slopes are steeper than five (5) to one (1) and the height is greater than five (5) feet, by benching into sound bedrock or other competent material as determined by the geotechnical engineer. The bench under the toe of a fill on a slope steeper than five (5) to one (1) shall be at least ten (10) feet wide. The area beyond the toe of fill shall be sloped for sheet overflow or an approved drainage facility installed. When fill is to be placed over a cut, the bench under the toe of fill shall be at least ten (10) feet wide but the cut shall be made before placing the fill and accepted by the geotechnical engineer or engineering geologist or both as a suitable foundation for fill.

(d) **Fill material.** Organic material shall not be permitted in building pad or roadway areas. Except as permitted by the city, no rock or similar irreducible material with a maximum dimension greater than twelve (12) inches shall be buried or placed in fills.
Exception: The city may permit placement of larger rock when the geotechnical engineer properly devises a method of placement, continuously inspects its placement and approves the fill stability. The following conditions shall also apply:

(1) Prior to issuance of the grading permit, potential rock disposal areas shall be delineated on the grading plan.

(2) Rock sizes greater than twelve (12) inches in maximum dimension shall be 10 feet or more below grade, measured vertically.

(3) Rocks shall be placed so as to assure filling of all voids with fines.

(e) Compaction. All fills shall be compacted to a minimum ninety-five (95) percent of maximum density as determined by the specified density method. In-place density shall be determined in accordance with ASTM D698-70.

(f) Slope. The slope of fill surfaces shall be no steeper than is safe for the intended use or three (3) horizontal to one (1) vertical, whichever is less.

Sec. 7-12. Setbacks.

(a) Generally. Cut and fill slopes shall be set back from site boundaries in accordance with this section and the City of Woodbury Land Disturbance Plan and Implementation Requirements. Setback dimensions shall be horizontal distances measured perpendicular to the site boundary. Setback dimensions shall be shown on the land disturbance plan.

(b) Top of cut slope. The top of cut slopes shall be made not nearer to a site boundary line than one-fifth of the vertical height of cut with a minimum of two (2) feet and a maximum required setback of ten (10) feet. The setback may need to be increased for any required drainage facility.

(c) Toe of fill slope. The toe of fill slopes shall be made not nearer to the site boundary line than one-half the height of the slope with a minimum of two (2) feet and a maximum required setback of twenty (20) feet. Where a fill slope is to be located near the site boundary and the adjacent off-site property is developed, special precautions shall be incorporated in the work as the city deems necessary to protect the adjoining property from damage as a result of such land disturbance. These precautions may include but are not limited to:

(1) Additional setbacks.

(2) Provision for retaining walls.

(3) Mechanical or chemical treatment of the fill slope surface to minimize erosion.

(4) Provisions for the control of surface waters through additional temporary and permanent erosion and sediment controls.

(d) Modification of slope location. The city may approve alternate setbacks. The city may require an investigation and recommendation by a qualified engineer or engineering geologist to demonstrate that the intent of this section has been satisfied.

Sec. 7-13. Drainage.

(a) Generally. Drainage facilities shall be provided to control surface and subsurface waters to the satisfaction of the city. All drainage facilities shall conform to the provisions of this chapter, the City of Woodbury standard details, construction plans and specifications, and the City of Woodbury Land Disturbance Plan and Implementation Requirements.

(b) Discharge. Prior to discharging any surface water to any receiving water, discharge shall be treated for sediment and nutrients as required by ordinance, law, or other agency requirements and as approved by the city.
Erosion of soil in the area of discharge shall be prevented by installing temporary and permanent erosion control measures as necessary. Building pads and swales shall have a minimum gradient of two percent toward approved drainage facilities. Surface water treatment shall be provided in accordance with this chapter, other ordinances and the requirements of other agencies having jurisdiction.

Sec. 7-14. Erosion and sediment control.

(a) Generally. All sites with land disturbing activities shall be prepared and maintained to control against erosion as set forth in this chapter and the City of Woodbury Land Disturbance Plan and Implementation Requirements.

(b) Erosion and sediment control. Temporary and permanent erosion and sediment control measures shall be installed on all sites as necessary to prevent erosion and sedimentation from impacting any adjacent property, rights-of-way, drainage system, lake, pond, wetland, watercourse, natural resource or other protected area.

(c) Implementation of storm water pollution prevention plan. All erosion and sediment control measures will be operational prior to the start of any land disturbing activity as specified in the storm water pollution prevention plan, construction plans and specifications, the City of Woodbury Land Disturbance Plan and Implementation Requirements, or as deemed necessary by the city based on actual site conditions.

(d) Inspection. Inspection of the storm water pollution prevention plan measures will be carried out as required by Section 7-15 or as required by the city approved land disturbance permit conditions of approval and the City of Woodbury Land Disturbance Plan and Implementation Requirements.

(e) Maintenance. All erosion and sediment control measures will be maintained throughout the duration of the project. Deficiencies found through inspection of a site shall be repaired as necessary to bring the site into conformance with this chapter, the plans and specifications, the City of Woodbury Land Disturbance Plan and Implementation Requirements and as set forth in the land disturbance permit conditions of approval. At minimum, storm water pollution prevention plan items shall be maintained as follows:

1. If a perimeter erosion control device is found to have sediment accumulation in excess of one third of the total device height, the sediment shall be removed within twenty four (24) hours of discovery.

2. If an erosion control device is found to be nonfunctional, it shall be repaired or replaced within twenty four (24) hours of discovery.

3. Temporary sediment basins shall be maintained when sediment reaches one half the outlet height or one half the storage volume within seventy two (72) hours after discovery.

4. Additional erosion and sediment control measures shall be installed as directed by the city as found necessary to protect life and limb, the environment, properties or the stability of a property until final stabilization, as defined in section 7-3, has been achieved.

Sec. 7-15. Inspection and testing.

(a) Generally. All land disturbing activities shall be subject to inspection by the city. Inspection of land disturbance operations and special testing shall be performed by the applicant as set forth in this chapter, City of Woodbury Land Disturbance Plan and Implementation Requirements and as set forth in the land disturbance permit conditions of approval.

(b) Inspector. The inspector acting on behalf of the applicant shall be a qualified person who shall demonstrate his competence, to the satisfaction of the city, for inspection of the particular type of land disturbing activity, testing procedure or operation requiring inspection.
(c) **Duties and responsibilities of the inspector.**

1. The inspector shall observe the work assigned for conformance with the reviewed design drawings and specifications.

2. All discrepancies shall be brought to the immediate attention of the contractor for correction, then, if uncorrected, to the proper design authority and to the city.

3. The inspector shall submit inspection reports stating whether the work or test requiring inspection was in conformance with the reviewed plans and specifications. The inspection reports shall be furnished to the city and other designated persons as required in the approved land disturbance plan.

4. Periodic inspection. Some inspections may be made on a periodic basis and satisfy the requirements of continuous inspection, provided this periodic scheduled inspection is performed as outlined in the land disturbance plans and specifications and approved by the city.

5. Storm water pollution prevention plan items shall be inspected as required by this section, section 7-14, and as required by the land disturbance permit conditions of approval. At a minimum, these inspections shall be done weekly by the applicant and within twenty-four (24) hours after every rainfall event 0.5 inches or greater in twenty-four (24) hours. Inspection reports shall include, at a minimum, date and time of inspection, name of person conducting inspection, findings of inspection including any recommended corrective actions, corrective actions taken since previous inspection, and the date and amount of rainfall events of 0.5 inches or greater.

(d) **Grading requirements.** It shall be the responsibility of the designer who prepares the reviewed grading plan to incorporate all recommendations from the geotechnical engineering and engineering geology reports into the grading plan. The designer shall be responsible for the professional inspection and approval of the grading. This responsibility shall include, but need not be limited to, inspection and approval as to the establishment of line, grade and drainage of the site. The designer shall act as the coordinating agent in the event the need arises for liaison between the other professionals, the contractor and the city. The designer also shall be responsible for the preparation of revised plans and the submission of as-graded grading plans upon completion of the work. The grading contractor shall submit in a form prescribed by the city a statement of compliance to said as-graded plan.

Soils engineering and engineering geology reports shall be required as specified in section 7-6. During grading all necessary reports, compaction data and geotechnical engineering and engineering geology recommendations shall be submitted to the designer and the city by the geotechnical engineer and the engineering geologist. The geotechnical engineer's area of responsibility shall include, but need not be limited to, the professional inspection and approval concerning the preparation of ground to receive fills, testing for required compaction, stability of all finish slopes and the design of buttress fills, where required, incorporating data supplied by the engineering geologist. The engineering geologist's area of responsibility shall include, but need not be limited to, professional inspection and approval of the adequacy of natural ground for receiving fills and the stability of cut slopes with respect to geological matters and the need for subdrains or other groundwater drainage devices.

The city shall inspect the project at the various stages of the work requiring approval to determine that adequate control is being exercised by the professional consultants acting on behalf of the applicant.

(e) **Notification of noncompliance.** If, in the course of fulfilling his responsibility under this chapter, the inspector, the designer, the geotechnical engineer, the engineering geologist or the testing agency finds that the work is not being done in conformance with this chapter or the reviewed plans and specifications, the discrepancies shall be reported immediately in writing to the person in charge of the work and to the city. Recommendations for corrective measures, if necessary, shall be submitted to the city for review and approval.

(f) **Transfer of responsibility for approval.** If the inspector, designer, the soils engineer, the engineering geologist or the testing agency of record is changed during the course of the work, the work shall be stopped until the replacement has agreed to accept the responsibility within the area of his technical competence for approval upon completion of the work.
Sec. 7-16. Completion of work.

(a) Generally. Work will be considered complete when the site or common plan of sale or development has undergone final stabilization, as defined in section 7-3; is constructed to finish grade, as defined in section 7-3; is in conformance with the approved plans and specifications; and is in conformance with all permit conditions of approval to the satisfaction of the city.

(b) Final Reports. Upon completion of the rough grading work and at the final completion of the work the city will require the following reports and drawings and supplements thereto:

(1) An as-graded grading plan prepared by the designer including original ground surface elevations, as-graded ground surface elevations, lot drainage patterns and locations and elevations of all surface and subsurface drainage facilities. The designer shall state that to the best of his knowledge the work was done in accordance with the final reviewed grading plan.

(2) A geotechnical-grading report, if required, prepared by the geotechnical engineer, including locations and elevations of field density tests, summaries of field and laboratory tests and other substantiating data and comments on any changes made during grading and their effect on the recommendations made in the soils engineering investigation report. The soil engineer shall render a finding as to the adequacy of the site for the intended use.

(3) A geologic grading report, if required, prepared by the engineering geologist, including a final description of the geology of the site and any new information disclosed during the grading and the effect of same on recommendations incorporated in the approved grading plan. The geologic engineer shall render a finding as to the adequacy of the site for the intended use as affected by geologic factors.

(4) Any other reports or drawings as required by a permit’s conditions of approval.

(c) Notification of Completion. The permittee or his agent shall notify the city when the land disturbing operations are ready for final inspection. Final approval shall not be given until all work, including installation of all drainage facilities and their protective devices, and all erosion-control measures, have been completed and final stabilization has occurred in accordance with this chapter and the final reviewed land disturbance plan and the required reports have been submitted.

Sec. 7-17. Penalty.

Any person convicted of violating this chapter shall be guilty of a misdemeanor and shall be subject to a fine or imprisonment in the county jail, or both, as specified by State Statute. Such penalty may be imposed in addition to suspension or revocation of the land disturbance permit.

Sec. 7-18. Effective date.

This ordinance shall become effective upon its passage and publication according to law.

Passed and adopted by the City Council of Woodbury, Washington County, Minnesota, this 28th day of April, 2004.
1. Coordination of Work. All work for this project shall be coordinated with the City Park and Recreation Coordinator at (651) 714-3580. Regular office hours are 8:00 a.m. to 4:30 p.m.

2. Grading Plan. The grading plan shall be subject to review by the City.

3. Grading. Grading shall be done in accordance with the plans or as modified by the City. All areas disturbed by the grading shall be seeded and mulched including placement of four (4) inches of topsoil.

4. Topsoil. Topsoil used on this project shall be in general accordance with the material described as Topsoil Borrow in Mn/DOT Specification 3897 and may contain a maximum of 20% percent organic material. The gradation requirements will be waived on topsoils natural to the site. The topsoil shall be four (4) inches thick.

5. Placement of Topsoil. Placement of topsoil shall be done as soon as possible after rough grading the park area.

6. Finish Grading. Immediately advance, the areas to be seeded shall be raked clean of all stones, clods, roots, and other objectionable matter and shall be reasonably smooth and blend in with the contour of the adjoining areas. The finished surface shall be flush with or slightly below the surface of adjoining turf, walks, curbs, etc.

Prior to sowing the seed, the soil shall be loosened to a depth of approximately three inches (3") using discs, harrows, field diggers, or other suitable cultivating equipment.

7. Seed. All seed required shall be furnished by the developer to conform to the requirements of the latest seed laws of the State of Minnesota, including those governing weed seed tolerances.

8. Seed Mixture for General Park Areas and Non-irrigated Athletic Fields

- 30% by weight of mixture should consist of two of the following bluegrasses: Huntsville, Keely, Nublue, Park, Rugby
- 30% by weight of mixture should consist of one of the following fine fescues: Arruba, Pennlawn, Revere, Ruby
- 40% by weight of mixture should consist of two of the following ryegrasses: APM, Dandy, Target
- Crop Seed Max. 2.5%
- Inert Matter Max. 2.0%
- Weeds Max. 0.04%
- Suggest Medalist Turf products by Northrup King – Swift 4 Sure Mixture

9. Seed Mixture for Irrigated and Athletic Field Areas

- 50% by weight of mixture should consist of two of the following bluegrasses: Aquila, Rugby, Kelly Trenton
- 50% by weight of mixture should consist of two of the following perennial ryegrasses: Caddie, Delray
- Suggest Medalist Turf products by Northrup King – Athletic Pro II Mixture

10. Sowing Seed. Seeding shall be done as soon as possible after finish grading has been completed.

The rate of application and season of planting shall be as follows:

<table>
<thead>
<tr>
<th>Mixture</th>
<th>Pounds/Acre</th>
<th>Season of Planting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Athletic field</td>
<td>175</td>
<td>4/15-5/10 or 8/15-9/10</td>
</tr>
<tr>
<td>General park</td>
<td>250</td>
<td>4/15-5/10 or 8/15-9/10</td>
</tr>
</tbody>
</table>

The seeding date restrictions may be modified subject to the approval of the Park and Recreation Coordinator.

Seed shall be sown by means of mechanical or hydro spreading of the seeds at the specified rate of application. An agricultural type seed drill will be required only where mulching is not specified.
11. Mulch Material. All mulch required shall be furnished by the developer to conform to the requirements of Type I. This type shall consist of grain straw, hay and cuttings of agricultural greases and legumes. The material shall be relatively free of seed bearing stalks of noxious grasses or weeds.

12. Applying Mulch. The rate of application of Type I mulch shall be approximately two (2) ton per acre. The mulch shall be anchored with a disc, clodbuster, or other approved equipment. This equipment shall anchor the material by punching it into the soil to a depth of approximately two to three inches. The anchoring equipment shall be operated in a general direction at right angles to the direction of surface drainage wherever practical. All mulch shall be anchored the same day as it is placed.

13. Erosion Mats. In areas with extreme slopes, jute fabric mesh shall be placed after seeding and mulching.

14. Reseeding. When so directed by the City, the developer shall reseed any areas on which the original seed has failed to grow. If mulching is required on the project, the reseeded area shall also be re-mulched.
CITY OF WOODBURY
EROSION AND SEDIMENT CONTROL INSPECTION REPORT

Note: Inspections shall be made at minimum once per week or after any rainfall event 0.5-inches or greater in 24 hours. Provide a copy of inspection report to the City Engineer’s office within 48 hours after completion of inspection.

<table>
<thead>
<tr>
<th>No.</th>
<th>Item Inspected</th>
<th>Deficiencies Found</th>
<th>Proposed Corrective Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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Comments: ____________________________________________________________
___________________________________________________________

To the best of my knowledge, all information provided on this form is accurate and complete.

Inspected by: (print) ____________________________ (signature) ________________________
CITY OF WOODBURY

LAND DISTURBANCE PERMIT FEES AND SECURITY REQUIREMENTS

2016 Rates approved by Woodbury City Council on December 9, 2015

(1) LAND DISTURBANCE PLAN REVIEW FEES

<table>
<thead>
<tr>
<th>Acres</th>
<th>Fee</th>
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</thead>
<tbody>
<tr>
<td>0 to 1 acre</td>
<td>$250.00</td>
</tr>
<tr>
<td>&gt;1 to 5 acres</td>
<td>$500.00</td>
</tr>
<tr>
<td>&gt;5 to 10 acres</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>&gt;10 to 20 acres</td>
<td>$1,500.00</td>
</tr>
<tr>
<td>&gt;20 to 40 acres</td>
<td>$2,000.00</td>
</tr>
<tr>
<td>&gt; 40 acres</td>
<td>$2,500.00 plus $500.00 every 10 acres thereafter.</td>
</tr>
</tbody>
</table>

(2) PLAN REVIEW FEE

Plan Review Fee.............................................. $85.00 per hour – As required by changes, additions or revisions to approved plans (Minimum Charge – ½ hour)

(3) LAND DISTURBANCE PERMIT INSPECTIONS

Permit Inspections Fee (Residential)................. $50.00 per acre (Minimum Charge - $50.00)

Permit Inspections Fee (Commercial) ............... $100.00 per acre (Minimum Charge - $200.00)

SECURITY*

Site Grading, Turf Establishment, and Erosion and Sediment Control $4,500 per Acre

*Securities shall be provided to the City in the form of cash and an irrevocable letter of credit as per the City’s Land Disturbance and Erosion and Sediment Control Ordinance. This Ordinance also allows the City to require all or a portion of the securities to be in the form of a cash escrow based on the proposed work. The cash portion of the security must be a minimum of $2,500 or 25% of the total security. A review of the site conditions including sensitive environmental areas, proximity to water resources, site topography or proposed grading features will be completed to determine the amount of any cash escrow above the minimum $2,500 or 25%.
CITY OF WOODBURY
LAND DISTURBANCE PERMIT
FEES AND SECURITY WORKSHEET 2016

NOTE: Fees and security amounts will be calculated by the City. This sheet is for information only.

<table>
<thead>
<tr>
<th>PROJECT NAME OR ADDRESS:</th>
<th>______________________________________________________________________</th>
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</thead>
<tbody>
<tr>
<td>ESTIMATED MATERIAL TO BE MOVED AND REMAIN ONSITE</td>
<td>__________ CUBIC YARDS</td>
</tr>
<tr>
<td>ESTIMATED MATERIAL TO BE IMPORTED/EXPORTED (CIRCLE ONE)</td>
<td>__________ CUBIC YARDS</td>
</tr>
<tr>
<td>TOTAL MATERIAL MOVED</td>
<td>__________ CUBIC YARDS</td>
</tr>
<tr>
<td>ESTIMATED AREA TO BE DISTURBED</td>
<td>__________ ACRES</td>
</tr>
<tr>
<td>ESTIMATED VALUE OF EROSION AND SEDIMENT CONTROL</td>
<td>$___________</td>
</tr>
</tbody>
</table>

| PLAN REVIEW FEE | __________ Acres | $___________ |
| PERMIT INSPECTION FEE | __________ Acres (Residential = $50/acre - Min. Charge $50.00) | $___________ |
| | (Commercial = $100/acre - Min Charge $200.00) |
| TOTAL FEES: | $___________ |

| SECURITY | SITE GRADING, TURF ESTABLISHMENT, & EROSION CONTROL $4,500.00/ACRE X __________ ACRES | $___________ |
| TOTAL SECURITY: | $___________ |

| PORTION OF TOTAL SECURITY AS LOC: | $___________ |
| PORTION OF TOTAL SECURITY AS CASH: | $___________ |

(Minimum of $2,500.00 or 25%)

CALCULATED BY: ___________________________ DATE: ________20___
Letter of Credit Requirements

Letters of Credit being provided must meet the following criteria:

1. The City prefers the attached sample form. Variations from this sample may cause a delay in the acceptance of the Letter of Credit by the City. Delay in acceptance may cause a delay in the approval process for your project.

2. The Letter of Credit must be drawn on a bank. The Letter of Credit is preferred from a bank in the seven (7) county metro area. If a Letter of Credit is forwarded on a bank outside the metro area the Letter of Credit must include a provision allowing for a draw on the Letter of Credit without presenting or sending the original Letter of Credit. Letters of Credit for less than $25,000 must also include a provision allowing for drawing on the Letter of Credit without presenting or sending the original Letter of Credit. If a Letter of Credit is drawn on, it will be returned to the originating banks after funds are received.

3. The Letter of Credit shall be deemed automatically renewed without modification for one (1) year from (one year after date of letter of credit) or any extended expiration date unless, sixty (60) days or more prior to such date, we notify you by registered or certified mail that we elect not to extend this Letter of Credit for any such additional period.

4. The City must receive the Letter of Credit and any other financial information as required by the City not less than seven (7) days prior to the City Council taking action on the request.

5. The City reserves the right to request additional financial information that it deems appropriate from the bank providing the Letter of Credit. The City reserves the right to not accept a particular Letter of Credit.

6. Letters of credit will not be accepted from a related company, i.e. parent company, subsidiary, or if the builder/developer is a subsidiary company, the Letter of Credit cannot come from another wholly owned subsidiary of that parent company. The letter of credit must be drawn upon a bank or a non-bank institution approved by the City.

7. Questions concerning the requirements outlined or the format required should be directed to Deb Score, Accounting Technician, City of Woodbury, 8301 Valley Creek Road, Woodbury, Minnesota 55125. Telephone number is 651-714-3537.
CITY OF WOODBURY

LAND DISTURBANCE PERMIT SECURITY RELEASE OR REDUCTION REQUEST

PROJECT NAME OR ADDRESS: ______________________________________________________________

CITY PERMIT NO.: _______________________________________________________________________

OTHER PERMITS (list agency and permit number) ______________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________

DATE __________ Approved Land Disturbance Permit
__________ MCPA NPDES Storm Water Permit for Construction Activity Permit
__________ Land Disturbing Activities Completed
__________ Final Restoration Achieved
__________ Final Site Inspection Completed by ____________________ on _____________ 20___

FINAL SITE INSPECTION CHECKLIST (owner to complete prior to requesting security reduction or release):

☐ Final restoration has been achieved for area as per approved plan and City Ordinance
☐ Permanent erosion and sediment controls are installed and in good working order
☐ Temporary erosion and sediment controls have been removed
☐ On-site storm sewer, sumps, sediment basis and ponds are cleaned of sediment and functioning
☐ Stable dense permanent vegetative growth with 60 day growing period is achieved
☐ On-site grading conforms to reviewed grading plan or as-built/record plan
☐ No on-site or off-site erosion is present
☐ Any affected adjacent properties restored
☐ All debris created by land disturbing activities is removed
☐ All unused wells sealed by a licensed well contractor and records provided to the City
☐ Other site specific items (list) ________________________________________________________

Note: If any item above is not checked, please correct prior to applying for security reduction or release.

SECURITY REDUCTION/RELEASE INSPECTION (do not schedule until owner inspection is complete):

Please check one:
☐ Site is ready for City security release or reduction inspection
☐ Site will be ready on __________ for City security release or reduction inspection

LOCATION(S) TO BE INSPECTED FOR SECURITY RELEASE/REDUCTION: (attach map if necessary): _____
________________________________________________________________________________________
________________________________________________________________________________________

The undersigned hereby requests a reduction or release of security for the specified area(s) of the project; and
acknowledges that all information provided above is complete and accurate; and understands that the release or
reduction of securities is not guaranteed and will be based on a City staff review of the requested area(s).

________________________________________________________________________________________
Applicant’s Signature Date

Please Print Applicant’s Name
Date
Irrevocable Letter of Credit No. ______________

To:  City of Woodbury
     8301 Valley Creek Road
     Woodbury, MN  55125

Gentlemen:

We hereby establish in favor of the City of Woodbury this Irrevocable Letter of Credit Number ________ for the account of (name and address of developer) for (name of development/project) in an aggregate amount of (amount of the letter of credit).

This LETTER OF CREDIT shall be deemed automatically renewed without modification for one (1) year from (one year after date of letter of credit) or any extended expiration date unless, sixty (60) days or more prior to such date, we notify you by registered or certified mail that we elect not to extend this LETTER OF CREDIT for any such additional period.

Partial drawings permitted.

Each draft drawn under this Letter of Credit must:

1. Be signed on behalf of the City;
2. Bear on its face the clause “drawn under (name of the bank) Letter of Credit Number ______ dated ______”; and
3. Be accompanied by a certification signed on behalf of the City of Woodbury that either (a) (name of developer) has failed to comply with the terms of the grading permit, or (b) this Letter of Credit will expire within sixty (60) days and this Letter of Credit has not been renewed or replaced as required.

The original of this Letter of Credit is NOT required to be presented to draw upon this Letter of Credit.

We hereby engage with drawers and/or bona fide holders that drafts drawn and negotiated in conformity with the terms of this credit will be duly honored upon presentation. Presentation may be made by the City in writing as delivered by certified mail, return receipt requested, or by Federal Express, UPS or any other courier company.

Except as otherwise stated herein, this Letter of Credit shall be governed by the most recent version of the Uniform Customs and Practice for Documentary Credits (2007 Revision *), International Chamber of Commerce Publication No. 600.

Bank Name

By:__________________________________
   _________________________________
   Name and title of appropriate bank officer

* Must be most recent version.
## INDEX

### SECTION 7 - EROSION CONTROL

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STEEL FENCE POST (T-POST), MINIMUM 9' LONG, 6' MAXIMUM SPACING.

ATTACH FABRIC TO POSTS WITH MINIMUM 3 ZIP TIES (50 LB. TENSILE) PER POST IN TOP 8" OF FABRIC.

MONOFILAMENT GEOTEXTILE FABRIC PER MNDOT TABLE 3886-1 (MACHINE SLICED).

POST NOTCHES TO FACE AWAY FROM FABRIC.

MACHINE SLICE 8"-12" DEPTH (PLUS 6" FLAP)

DIRECTION OF SURFACE FLOW

24" MINIMUM POST EMBEDMENT

NOTE:
The machine sliced method (this detail) is the standard silt fence installation method. Heavy-duty (ERO-1B) or standard (ERO-1C) silt fence installation methods should only be used when approved or directed by the city.

COMPACATION:
After "slicing" in the fabric and before installation of steel posts, drive installation equipment over the "slice" while fabric is laying on the ground. Then install steel posts and pull up fabric to attach at a uniform height.
STEEL FENCE POST (T-POST), MINIMUM 5' LONG, 6' MAXIMUM SPACING.

POST NOTCHES TO FACE AWAY FROM FABRIC.

ATTACH FABRIC TO POST WITH MINIMUM 3 ZIP TIES (50 LB. TENSILE) PER POST IN TOP 8" OF FABRIC.

WIRE MESH REINFORCEMENT, STD. FIELD FENCE, MIN 30" HIGH, MAX MESH SPACING 6" AND MIN 14 1/2 GAUGE WIRE.

GEOTEXTILE FABRIC PER MNDOT TABLE 3886-1 (HEAVY DUTY) - OVERLAP TOP 6" OF FABRIC AND FASTEN TO WIRE MESH AT 2' INTERVALS WITH RINGS OR WIRE TIES.

ATTACH WIRE MESH TO POSTS WITH MINIMUM 3 U-SHAPED WIRE FASTENERS PER POST.

LAY FABRIC/WIRE MESH IN THE TRENCH, BACKFILL WITH NATURAL SOIL, AND COMPACT WITH LIGHT EQUIPMENT PRIOR TO PLACEMENT OF THE POSTS.

DIRECTION OF SURFACE FLOW

EXTEND WIRE MESH INTO TRENCH

24" MINIMUM POST EMBEDMENT

6'

6'

6'

6'

SILT FENCE HEAVY DUTY

Woodbury

LAST REVISION: Jan. 2005

PLATE NO. ERO-1B
STEEL FENCE POST (T-POST), MINIMUM 5' LONG, 6' MAXIMUM SPACING.

MONOFILAMENT GEOTEXTILE FABRIC PER MNDOT TABLE 3886-1.

ATTACH FABRIC TO POST WITH MINIMUM 3 ZIP TIES (50 LB. TENSILE) PER POST IN TOP 8" OF FABRIC.

POST NOTCHES TO FACE AWAY FROM FABRIC.

LAY FABRIC IN THE TRENCH, BACKFILL WITH NATURAL SOIL, AND COMPACT WITH LIGHT EQUIPMENT PRIOR TO PLACEMENT OF THE POSTS.

DIRECTION OF SURFACE FLOW

24" MINIMUM POST EMBEDMENT

6"

6"
I. SPACING REQUIREMENTS

DIRECTION OF SURFACE FLOW

NOTE: SPACING DISTANCES WILL VARY, BUT ARE NOT TO EXCEED 100 FEET.

II. SIZING REQUIREMENTS: J15, J25

UP-GRADE NT SILT FENCE AND J-HOOK ARE ONE CONTINUOUS LINE

START DOWN-GRADE NT SILT FENCE LINE AS CLOSE AS POSSIBLE TO THE UP-GRADE NT J-HOOK

J15 - FOR CATCHMENT AREA <0.25 ACRES

J25 - FOR CATCHMENT AREA ≥0.25 ACRES

≥30 DEGREES

NOTE: J-HOOKS SHALL BE USED WHEN THE SILT FENCE IS INSTALLED AT AN ANGLE OF 30 DEGREES OR GREATER FROM PARALLEL TO THE CONTOURS.
ANCHOR TRENCH
(SEE DETAIL AND NOTES BELOW)

OVERLAP END JOINTS
MINIMUM OF 6" AND STAPLE
OVERLAP AT 1.5' INTERVALS.

DIRECTION OF
SURFACE FLOW

STAPLE DENSITY SHALL BE A
MINIMUM OF 3 U-SHAPED 8",
11 GAUGE METAL STAPLES PER
SQUARE YARD (THIS MAY VARY AS
DIRECTED BY THE CITY).

OVERLAP
LONGITUDINAL JOINTS
MINIMUM OF 6"

ANCHOR TRENCH
1. DIG 6" X 6" TRENCH
2. LAY BLANKET IN TRENCH
3. STAPLE AT 1.5' INTERVALS
4. BACKFILL WITH NATURAL SOIL AND COMPACT
5. BLANKET LENGTH SHALL NOT EXCEED 100'
   WITHOUT AN ANCHOR TRENCH

1' TO 3'
5"
6"

EROSION CONTROL BLANKET
INSTALLATION

LAST REVISION:
Mar, 2004
PLATE NO.
ER0-2
STEEL CABLE

FLOATATION CARRIER

WATER SURFACE

ANCHOR CABLE OR CHAIN

CURTAIN FABRIC

CURTAIN WEIGHT- 1.1 LBS PER FOOT OF CURTAIN HEIGHT

ANCHOR- 1-24LB ANCHOR PER 100' OF CURTAIN

VARIABLE HEIGHT IN 2' INCREMENTS PER 50' LENGTH OF Silt CURTAIN

BOTTOM

12'

MAXIMUM INTERVAL FOR SPACING OF WEIGHT IS 15'

NOTES:
- DOUBLE Silt CURTAINS SHOULD BE SPACED 10' APART.
- CURTAIN LENGTH TO MATCH BOTTOM PROFILE AS CLOSELY AS POSSIBLE.

LAST REVISION: Jan. 2005

PTATE NO. ERO-3

FLOATING Silt CURTAIN
WOODEN LATH SHALL BE NAILED SECURELY TO THE POST MEMBER TO SECURE FILTER FABRIC.

2" X 4" HORIZONTAL MEMBERS CONTINUOUS AROUND TOP AND BOTTOM, FASTENED TO EACH POST USING 2-20D COMMON NAILS

2" X 4" X 2.5' LONG WOOD POSTS, 8 REQ'D.

MONOFILAMENT GEOTEXTILE FABRIC AS PER MNDOT TABLE 3886-1 (MACHINE SLICED). ADDITIONAL 8-10" OF FABRIC FLAP AT BOTTOM OF BOX

8-10" FABRIC FLAP EXTENDING BEYOND BOTTOM 2"x4" - BURY UNDER ROCK TO PREVENT UNDERWASHING

1 1/2" WASHED ROCK 1' DEEP X 1' WIDE

NOTES:
CONTRACTOR SHALL CONSTRUCT SILT BOX TO FIT AROUND THE INLET STRUCTURE WITH 6" MINIMUM CLEARANCE TO EDGES OF STRUCTURE. SILT BOX TO BE PLACED ON AN EVEN SURFACE 6" BELOW STRUCTURE OPENING. TOP OF SILT BOX TO EXTEND 18" MINIMUM ABOVE EXISTING GRADE.

INLET PROTECTION
SILT BOX FOR CATCH BASIN BEFORE ROAD CONSTRUCTION

LAST REVISION: Jan. 2005
PLATE NO. ERO-4A
PLAN

PROPOSED CURB

longleftrightarrow = DIRECTION OF SURFACE FLOW

8-12" MINIMUM DEPTH

1 1/2" WASHED GRAVEL FILTER

AGGREGATE BASE

STEEL PLATE

IN PLACE CATCHBASIN

AGGREGATE BACKFILL

INLET PROTECTION
ROCK FILTER FOR CATCH BASIN
DURING ROAD CONSTRUCTION

LAST REVISION:
Mar. 2004

PLATE NO.
ERO-4B
PLAN

WIMCO ROAD DRAIN CG-23* HIGH FLOW INLET PROTECTION CURB AND GUTTER MODEL OR CITY APPROVED EQUAL.

DEFLECTOR PLATE

OVERFLOW IS ½ OF THE CURB BOX HEIGHT

OVERFLOW AT TOP OF FILTER ASSEMBLY

CURB

FILTER ASSEMBLY DIAMETER, 6" ON-GRADE 10" AT LOW POINT

HIGH-FLOW FABRIC

* FOR THE NEW R-3290-VB STANDARD CASTING, INSTALL WIMCO ROAD DRAIN CG-3290 OR CITY APPROVED EQUAL.
WOODEN LATH SHALL BE NAILED SECURELY TO THE POST MEMBER TO SECURE FILTER FABRIC.

2" X 4" HORIZONTAL MEMBERS CONTINUOUS AROUND TOP AND BOTTOM, FASTENED TO EACH POST USING 2-20D COMMON NAILS

2" X 4" X 2.5' LONG WOOD POSTS, 8 REQ'D.

MONOFILAMENT GEOTEXTILE FABRIC AS PER MNDOT TABLE 3886-1 (MACHINE SLICED). ADDITIONAL 8-10" OF FABRIC FLAP AT BOTTOM OF BOX

8-10" FABRIC FLAP EXTENDING BEYOND BOTTOM 2"X4" - BURY UNDER ROCK TO PREVENT UNDERWASHING

1 1/2" WASHED ROCK 1' DEEP X 1' WIDE

NOTES:
CONTRACTOR SHALL CONSTRUCT SILT BOX TO FIT AROUND THE INLET STRUCTURE WITH 6" MINIMUM CLEARANCE TO EDGES OF STRUCTURE. SILT BOX TO BE PLACED ON AN EVEN SURFACE 6" BELOW STRUCTURE OPENING. TOP OF SILT BOX TO EXTEND 18" MINIMUM ABOVE EXISTING GRADE.

INLET PROTECTION SILT BOX FOR BEEHIVE CASTING
6" X 6" TRENCH WITH LEADING EDGE OF TYPE IV GEOTEXTILE FABRIC STAPLED AT 1' INTERVALS AND BACKFILLED WITH NATURAL SOIL.

NOTE:
POINT 1 MUST BE A MINIMUM OF 6" HIGHER THAN POINT 2 TO ENSURE THAT WATER FLOWS OVER THE DITCH CHECK AND NOT AROUND THE ENDS.

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<th>WIDTH (INCHES)</th>
<th>MATERIAL</th>
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<td>6 - 12</td>
<td>MnDOT 3882 TYPE 9 MULCH</td>
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<td></td>
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<td>(1 1/2&quot; WASHED ROCK)</td>
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</tbody>
</table>

ANCHOR TRENCH
1. DIG 6" X 6" TRENCH
2. LAY BLANKET IN TRENCH
3. STAPLE AT 1.5' INTERVALS
4. BACKFILL WITH NATURAL SOIL AND COMPACT

TYPE IV GEOTEXTILE FABRIC ANCHORED IN 6" X 6" TRENCH WITH 6", 11 GAUGE METAL STAPLES AT 1' INTERVALS

ROCK DITCH CHECK / WEEPER SIZING & MATERIALS

LAST REVISION: March 2008
PLATE NO. ERO-5A
ANCHOR TRENCH
1. DIG 6" X 6" TRENCH
2. LAY BLANKET IN TRENCH
3. STAPLE AT 1.5' INTERVALS
4. BACKFILL WITH NATURAL SOIL AND COMPACT

NOTE:
STAPLE DENSITY SHALL CONFORM TO MANUFACTURERS SPECIFICATIONS.

NOTE:
POINT 1 MUST BE A MINIMUM OF 6" HIGHER THAN POINT 2 TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

6" X 6" TRENCH WITH LEADING EDGE OF GEOTEXTILE FABRIC STAPLED AT 1' INTERVALS BACKFILLED OVER EROSION CONTROL BLANKET

10" TRIANGULAR SILT DIKE PER MNDOT 3889, TYPE 6

6" 11 GAUGE METAL STAPLES SPACED 1' O.C. AND WHERE UNITS OVERLAP

GEOTEXTILE FABRIC

FLOW

DITCH CHECK
TRIANGULAR SILT DIKE

LAST REVISION:
March 2008

PLATE NO.
ERO-5D
2" x 2" x 16" LONG WOODEN STAKES AT 1'-0" SPACING MINIMUM. STAKES SHALL BE DRIVEN THROUGH THE BACK HALF OF THE COMPOST LOG AT AN ANGLE OF 45° WITH THE TOP OF THE STAKE POINTING UPSTREAM.

NOTE:
POINT 1 MUST BE A MINIMUM OF 6" HIGHER THAN POINT 2 TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

COMPOST, STRAW OR WOOD FIBER 12" DIA. ROLL ENCLOSED IN POLYPROPYLENE NETTING OR A GEOTEXTILE BAG.
CONSTRUCTION ENTRANCE
ROCK
WOOD / MULCH

NOTES:
1. FILTER FABRIC SHALL BE PLACED UNDER ROCK OR MULCH TO STOP MUD MIGRATION THROUGH MATERIAL.
2. ENTRANCE MUST BE MAINTAINED REGULARLY TO PREVENT SEDIMENTATION ON PUBLIC ROADWAYS. FUGITIVE ROCK OR MULCH WILL BE REMOVED FROM ADJACENT ROADWAYS DAILY OR MORE FREQUENTLY AS NECESSARY.
I. PLAN VIEW

BERM STABILIZED WITH EROSION CONTROL BLANKET

ANTI-SEEPAGE COLLAR

PIPE, MIN. 8" DIA.

PIPE OUTLET

OVERFLOW

L = VARIABLE 6' MIN.

II. SECTION A-A

EMERGENCY OVERFLOW CLASS II RIP RAP OVER GEOTEXTILE FABRIC

INLET D=10-YR STORM

ANTISEEPAGE COLLAR (TYP.)

OUTLET- CLASS II RIP RAP OVER GEOTEXTILE FABRIC

III. BASIN EMERGENCY OVERFLOW

NOTES:
BASIN USED FOR 10 ACRES DRAINAGE AREA OR MORE.
DESIGN RUNOFF VOLUME IS FROM A 2-YR, 24-HR STORM PER ACRE DRAINED TO THE BASIN. BASIN VOLUME MUST BE A MIN. OF 1800 CUBIC FEET/ACRE.
SEE PLANS/SPECIFICATIONS FOR BASIN DIMENSIONS AND PIPE SIZE AND SLOPE.

TEMPORARY SEDIMENTATION BASIN
PIPE OUTLET

LAST REVISION: Jan. 2005
PLATE NO. ERO-8A
I. PLAN VIEW

NOTES:
- Basin used for 10 acres drainage area or more.
- Design runoff volume is from a 2-yr, 24-hr storm per acre drained to the basin. Basin volume must be a min. of 1800 cubic feet/acre.
- See plans/specifications for basin dimensions and pipe size and slope.

II. SECTION A-A

III. BASIN STANDPIPE AND EMERGENCY OVERFLOW

- Monofilament geotextile fabric per MnDOT Table 3886-1 (machine sliced)
- 1"-2" diam. rock, cone equal to 1/2 Z

NOTE:
- Pipe material should be rigid
- Perforated standpipe
- 3/8" holes spaced 8" to 10" on center
- D = Diameter of standpipe equal to diameter of pipe

Temporary Sedimentation Basin Standpipe Outlet

Woodbury

Last Revision: Jan. 2005
Plate No. ERO-8B
PROFILE VIEW

ANTISEEPAGE COLLAR (TYP.)

DIVERSION MOUND

2' MIN.

1.5' MIN.

22 1/2° BEND

FLARED END SECTION

SLOPE 3% OR STEEPER

WATERTIGHT CONNECTING BAND

RIPRAP APRON

10" MIN. DIAM. PIPE
PER ENGINEER'S APPROVAL

4' MIN.
@ LESS THAN 1% SLOPE

NOTE:
PIPE SHALL BE ANCHORED SECURITY WITH HOLD-DOWN
GROMMETS SPACED 8' ON CENTER

RIPRAP APRON PLAN

D = PIPE DIAMETER

PLAN VIEW

DIVERSION MOUND

PIPE

ENSURE FLOW INTO PIPE

6D

(3D)

DIVERSION MOUND AND TEMPORARY PIPE DOWNDRAIN

LAST REVISION: Jan. 2005

PLATE NO. ERO-10
NOTE:
ALL SLOPES WITH A GRADE EQUAL TO OR STEEPER THAN 3:1
REQUIRE SLOPE TRACKING. SLOPES WITH A GRADE MORE GRADUAL
THAN 3:1 REQUIRE SLOPE TRACKING IF THE STABILIZATION METHOD
IS EROSION CONTROL BLANKET OR HYDROMULCH.
BARRIER WITHOUT CABLE RINGS

BARRIER WITH CABLE RINGS
SILT FENCE, SUPER DUTY

SUPER DUTY PERIMETER CONTROL
SILT FENCE / CONCRETE BARRIER
SYSTEM

LAST REVISION:
March 2008

PLATE NO.
ERO-12A
PROFILE VIEW-UPLAND PERIMETER CONTROL

SECURE WITH TWO METAL STAKES PER BALE

HAY BALES SUBCUT 3"

DIRECTION OF SURFACE FLOW

3"

PROFILE VIEW-PERIMETER CONTROL
IN SHALLOW STANDING WATER

ADD SECOND TIER IF NWL EXCEEDS 2/3 HEIGHT OF FIRST TIER. SECOND TIER TO HAVE 1-1" WOODEN STAKE PER BALE.

PROPOSED FILL AREA

NWL NOT TO EXCEED 2/3 HEIGHT OF BALE

MAX. 12" FROM TOE OF PROPOSED FILL AREA

HAY BALES MUST BE OFFSET TO PREVENT GAPS BETWEEN BALES.

PLAN VIEW

HAY BALES

PROPOSED FILL AREA

PERIMETER / SEDIMENT CONTROL
HAY BALES

LAST REVISION:
Jan. 2005

PLATE NO.
ERO-12C
1.) VERIFY THAT ALL PORTIONS OF THE PROPERTY NOT ENCORPORATED WITHIN A DRAINAGE AND UTILITY EASEMENT MUST BE ONE FOOT (1') ABOVE THE 100 YR. HWL OF ADJACENT PONDS, LAKES, STREAMS, ETC.

2.) SEPARATION OF GARAGE SLAB ELEVATION MUST RANGE FROM 1 FOOT (12") TO 4 FEET (48") ABOVE THE TOP OF CURB.

3.) SEPARATION OF TOP OF BLOCK ELEVATION MUST RANGE FROM 1.5 FEET (18") TO 4.5 FEET (54") ABOVE THE TOP OF CURB.

4.) ALL SPOT ELEVATIONS REPRESENT FINAL GRADES.

5.) ALL SIDE AND REAR LOT SWALES MUST HAVE A MINIMUM SLOPE OF 2%.
12' TO 15' POST SPACING

6 FT. STEEL "T" OR "U" POST
DRIVEN IN GROUND 2 FT.

WIRE OR PLASTIC TIES
(4 PER POST)

15:1 MAINTENANCE BENCH

FENCING ON "UP" SIDE OF POST,
AND TIGHT TO THE GROUND

4' FENCE HEIGHT

24" MINIMUM POST EMBEDMENT

ORANGE CONSTRUCTION SAFETY FENCE
1.) Verify that all portions of the property not incorporated within a drainage and utility easement must be one foot (1') above the 100 yr. HWL of adjacent ponds, lakes, streams, etc.

2.) Separation of garage slab elevation must range from 1 foot (12") to 4 feet (48") above the top of curb.

3.) Separation of top of block elevation must range from 1.5 feet (18") to 4.5 feet (54") above the top of curb.

4.) All spot elevations represent final grades.

5.) All side and rear lot swales must have a minimum slope of 2%.
1.) VERIFY THAT ALL PORTIONS OF THE PROPERTY NOT ENCORPORATED WITHIN A DRAINAGE AND UTILITY EASEMENT MUST BE ONE FOOT (1') ABOVE THE 100 YR. HWL OF ADJACENT PONDS, LAKES, STREAMS, ETC.

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4.) ALL SPOT ELEVATIONS REPRESENT FINAL GRADES.

5.) ALL SIDE AND REAR LOT SWALES MUST HAVE A MINIMUM SLOPE OF 2%. 

---

REQUIRED LOT GRADING INFORMATION

PLATE NO. GRD-3

LAST REVISION: Feb. 1999
1.) Verify that all portions of the property not incorporated within a drainage and utility easement must be one foot (1') above the 100 yr. HWL of adjacent ponds, lakes, streams, etc.

2.) Separation of garage slab elevation must range from 1 foot (12") to 4 feet (48") above the top of curb.

3.) Separation of top of block elevation must range from 1.5 feet (18") to 4.5 feet (54") above the top of curb.

4.) All spot elevations represent final grades.

5.) All side and rear lot swales must have a minimum slope of 2%.

---

**SITE PLAN**

- **Legend:**
  -Finished Lot Elev.
  -Where Drainage Swales Intersect with Lot Lines
  -Lot Corner Elev. (Typ.)
  -Lowest Ground Elevation Adjacent to Home
  -Finished Lot Elev.
  -Where Drainage Swales Intersect with Lot Lines
  -Lot Number
  -XX.X High Point Elevation
  -Suggested Garage Side
  -Garage Slab Elevation
  -Storm Sewer Catch Basin at Low Point
  -Storm Sewer Piping
  -Typical Street Curb and Gutter
  -Typical Street Centerline
  -0.5% (Min.)

**Grading Information**

- **GRD-2**
- Last Revision: Feb. 1999
- Plate No. GRD-2

---

**Woodbury**
REMEMBER:

APPLY FOR THE APPROPRIATE WATERSHED DISTRICT GRADING PERMIT. BELOW IS THE CONTACT INFORMATION FOR EACH WATERSHED WITHIN THE CITY. SEE THE ATTACHED MAP FOR WATERSHED BOUNDARIES.

VALLEY BRANCH WATERSHED DISTRICT

John Hanson
Barr Engineering Company
Engineers for the Valley Branch Watershed District
4700 West 77TH Street
MINNEAPOLIS, MN  55435-4803

Phone:  (952) 832-2622 M-W-F
Phone:  (651) 748-4730 T-Th
FAX:  (612) 832-2601
jhanson@barr.com
http://www.vbwd.org

SOUTH WASHINGTON WATERSHED DISTRICT

South Washington Watershed District
Attn:  Matt Moore
2302 Tower Drive
Woodbury, MN 55125-3330

Phone:  (651) 714-3729
Fax:  (651) 714-3721
mmoore@ci.woodbury.mn.us
http://www.swwdmn.org

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

Ramsey-Washington Metro Watershed District
Attn:  Paige Ahlborg
2665 Noel Drive
Little Canada, MN  55117

Phone:  (651) 792-7950
Fax:  (651) 704-2092
http://www.rwmwd.org
tina@rwmwd.org
REMINDER:

APPLY FOR THE GENERAL STORM WATER PERMIT FOR CONSTRUCTION ACTIVITY FROM THE MINNESOTA POLLUTION CONTROL AGENCY.

REM Division, Construction Storm-water Permit Program
520 Lafayette Road North
St. Paul, MN 55155-4194

Customer Assistance Center at 651-757-2091
http://www.pca.state.mn.us/stormwater
**Background:** This checklist is used by Minnesota Pollution Control Agency (MPCA) staff for Stormwater Pollution Prevention Plan (SWPPP) reviews. It is provided as an additional resource intended for SWPPP designers for construction projects to assure all required elements of a SWPPP are included. Use of this checklist will help you to determine if your SWPPP is complete, though not all checklist items are applicable to all projects. This checklist can be used for all size projects; however, the guidance document “Stormwater Compliance Assistance Toolkit for Small Construction Operators,” contains a SWPPP template designed specifically for small site projects. This guidance is available on the MPCA Construction Stormwater webpage at: [http://www.pca.state.mn.us/wfhya5b](http://www.pca.state.mn.us/wfhya5b).

**Note:** This checklist is for your information and use is voluntary. The checklist does not need to be returned to the MPCA.

### Review Information

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<th>Applicant:</th>
<th>Project name:</th>
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<td>Reviewer name:</td>
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### Reason for review:

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**Case lead:**

### SWPPP contains a combination of:

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### SWPPP Information (does the Narrative contain the following)

<table>
<thead>
<tr>
<th>Yes</th>
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**Comments:**

### Do plan sheets identify:

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Do plan sheets identify (continued):

Yes □ N/A □ Impervious areas.
Yes □ N/A □ Soil types.
Yes □ N/A □ Locations of areas not to be disturbed.
Yes □ N/A □ Tabulated quantities of all erosion prevention and sediment control BMPs.
Yes □ N/A □ Limits of construction phases.
Yes □ N/A □ Locations of all wetlands and surface waters that will receive pre- or post-construction site runoff. (If they do not fit on the plan sheets, use an arrow to note the direction and distance.

Comments: ________________________________

Standard plates or specifications:

Yes □ N/A □ Are standard plates or specifications included where appropriate?

Part III - Stormwater Discharge Design Requirements

Yes □ N/A □ Are Temporary Sediment Basins required on site? (10 acres draining to common location)

If Yes, are they:

Yes □ N/A □ Adequately sized – 2-year, 24-hour storm, minimum 1,800 feet³/acre; or no calculative minimum 3,600ft³/acre?

Yes □ N/A □ Designed to prevent short circuiting?

Yes □ N/A □ Are outlets designed to remove floating debris?

Yes □ N/A □ Are outlets designed to allow complete drawdown?

Yes □ N/A □ Do outlets have energy dissipation?

Yes □ N/A □ Have a stabilized emergency spillway?

Comments: ________________________________

Yes □ N/A □ Permanent Stormwater Management System

Yes □ N/A □ Is calculation of new impervious surface included in SWPPP?

Yes □ N/A □ Are calculations for permanent stormwater management system included (water quality volume of one-half inch of runoff)?

Yes □ N/A □ Are there areas of the project where typical treatment methods are not feasible? (Up to one percent of project size or three cumulative acres or proximity to bedrock or road projects lacking of right of way.)

If yes, has effort been made to provide some treatment using alternatives?

Yes □ N/A □ Grassed swales

Yes □ N/A □ Smaller ponds

Yes □ N/A □ Grit chambers

Comments: ________________________________

Which method of permanent stormwater treatment has been selected?

Yes □ N/A □ Wet sedimentation basin:

Yes □ N/A □ Permanent volume of 1,800 feet³ below outlet pipe for each acre draining

Yes □ N/A □ Minimum depth of 3 feet; maximum depth of 10 feet

Yes □ N/A □ Configured so scour or resuspension is minimized

Yes □ N/A □ Water quality volume is one-half inch of runoff from new impervious surfaces

Yes □ N/A □ Basin outlets designed to discharge at less than 5.66 cubic feet per second (cfs) per acre of pond

Yes □ N/A □ Basin outlets designed to prevent short circuiting

Yes □ N/A □ Basin outlets designed to prevent discharge of floatables

Yes □ N/A □ Stabilized emergency overflow

Yes □ N/A □ Is adequate maintenance access provided
Comments:  

Yes  N/A  Infiltration/filtration:

- Is infiltration/filtration appropriate to the site and land uses?
- Is infiltration system not excavated to final grade until drainage area constructed and stabilized?
- Are rigorous sediment and erosion controls used to keep sediment and runoff away?
- Is a pretreatment device used?
- Is the system sufficient to infiltrate or filter the appropriate water quality volume?
- Can water quality volume be discharged in 48 hours or less?
- If not, are they routed through stabilized discharge point?
- Is there a way to visually verify the system is operating as designed?
- Has appropriate testing been conducted to ensure a minimum of 3 feet of separation?
- Are calculations and computer model results included to demonstrate the design adequacy of the infiltration system?
- Is adequate maintenance access provided?
- Does the maintenance plan identify who will perform future maintenance?

Comments: 

Yes  N/A  Regional ponds:

- Is written authorization from owner of regional pond included in SWPPP?
- Is there no significant degradation of waterways between project and regional pond?
- Does regional pond design conform to the permit requirements for wet sedimentation basin?

Comments: 

Yes  N/A  Combination of practices:

- Is the entire water quality volume be accounted for?
- Are computer models and/or calculations included in the SWPPP?

Comments: 

Yes  N/A  Alternative method:

- SWPPP, including the Alternative Method documentation, to MPCA for review and approval at least 90 days prior to the proposed starting date of construction activity.

Comments: 

Part IV - Construction Activity Requirements

Yes  N/A  Addresses erosion prevention measures:

- Are areas not to be disturbed delineated on plans?
- Has appropriate construction phasing been implemented?
- Do exposed soils have erosion protection/cover within 14 days?
- Are wetted perimeters of ditches stabilized within 200 feet of surface water within 24 hrs?
- Do pipe outlets have energy dissipation within 24 hours of connecting?

Comments: 

Part IV - Construction Activity Requirements
### Addresses sediment control measures:
- Are slopes with a 3:1 grade broken up into lengths less than 75 feet? [ ]
- Are sediment control practices established on down gradient perimeters? [ ]
- Are all inlets protected? [ ]
- Do stockpiles have sediment control and placed in areas away from surface waters? [ ]
- Do construction site entrances minimize street tracking? [ ]

Comments: ________________________________

### Addresses dewatering and basin draining:
- Is there a plan in place for dewatering so as to not cause nuisance conditions, erosion, or inundation? [ ]

Comments: ________________________________

### Addresses inspections and maintenance:
- Identifies the person who will oversee the BMP inspection and maintenance? [ ]
- Inspections performed once every 7 days [ ]
- Inspections performed within 24 hours of a rain event greater than 0.5 in/24 hours [ ]

Inspection and Maintenance records include:
- Date and time of inspection [ ]
- Name of person(s) conducting inspections [ ]
- Finding of inspections and recommendations for corrective actions [ ]
- Date and amount of rainfall events greater than 0.5 in/24 hours [ ]

Maintenance performed:
- Silt fence repaired/replaced/supplemented when nonfunctional, or one-third full; within 24 hours [ ]
- Sediment basins drained and sediment removed when reaches one-half storage volume; within 72 hours [ ]
- Sediment removed from surface waters within 7 days [ ]
- Construction site exits inspected, tracked sediment removed within 24 hours [ ]

Comments: ________________________________

### Addresses pollution prevention management measures:
- Solid waste disposed properly; comply with MPCA requirements [ ]
- Hazardous waste stored (secondary containment, restricted access) and disposed in compliance with MPCA requirements [ ]
- External washing of vehicles limited. Runoff contained and waste properly disposed [ ]
- No engine degreasing allowed on site [ ]
- Concrete washout provided (container or lined) [ ]

Comments: ________________________________

### Addresses final stabilization:
- Stabilization by uniform perennial vegetative cover (70 percent density) [ ]
- Drainage ditches stabilized [ ]
- All temporary synthetic and structural BMPs removed [ ]
- Clean out sediment from conveyances and sedimentation basins (return to design capacity) [ ]
- If residential – distribute homeowner factsheet [ ]
- Submit Notice of Termination (NOT) [ ]

Comments: ________________________________
### Requirements of Appendix A

<table>
<thead>
<tr>
<th>Yes</th>
<th>N/A</th>
<th>Does this site drain to a discharge point on the project that is within one mile of a Special or Impaired Water?</th>
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<table>
<thead>
<tr>
<th>Yes</th>
<th>N/A</th>
<th>Which type of special water?</th>
<th>BMP category</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Wilderness Areas</td>
<td>C.1, C.2, C.3, C.4</td>
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<tr>
<td></td>
<td></td>
<td>Mississippi River</td>
<td>C.1, C.2, C.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Scenic or Recreational river</td>
<td>C.1, C.2, C.3</td>
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<td></td>
<td>Lake Superior</td>
<td>C.1, C.2, C.3</td>
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<tr>
<td></td>
<td></td>
<td>Lake Trout Lakes</td>
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<td></td>
<td>Trout Lakes</td>
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<tr>
<td></td>
<td></td>
<td>Scientific and Natural areas</td>
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<td></td>
<td></td>
<td>Trout Streams</td>
<td>C.1, C.2, C.3</td>
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</tbody>
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<thead>
<tr>
<th>Yes</th>
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<th>Impaired water</th>
<th>BMP category</th>
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<tr>
<td></td>
<td></td>
<td>TMDL and/or WLA not yet approved</td>
<td>C.1, C.2</td>
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<td></td>
<td></td>
<td>Approved TMDL and WLA</td>
<td>BMPs in TMDL</td>
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**TMDL** = Total Maximum Daily Loads  
**WLA** = Waste Load Allocations

<table>
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<tr>
<th>BMP category</th>
<th>Requirement</th>
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<tbody>
<tr>
<td>C.1</td>
<td>All soils protected in seven days/provide temp basin for five acres draining to common location.</td>
</tr>
</tbody>
</table>
| C.2 | Treat water quality volume of one inch of runoff with one-half inch infiltrated,  
or  
Infiltration not possible for the following reason(s): |
|     | Lack of depth to groundwater |
|     | D type soils |
|     | Runoff from areas with known contaminants (stormwater hotspot) |
|     | Proximity to bedrock |
|     | Other: |
| C.3 | Maintain buffer zone of 100 linear feet from Special Water. |
| C.4 | Post project volume/rate control. |
| C.5 | Temperature controls. |

**Comments:**

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<table>
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<tr>
<th>Yes</th>
<th>N/A</th>
<th>Does this site discharge to wetlands?</th>
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<td>Has the wetland mitigation sequence been followed?</td>
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**Comments:**