

CITY OF LAKE CITY, MINNESOTA

**GRADING AND
STORM WATER MANAGEMENT
HANDBOOK**

January 2007

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1. PURPOSE

The purpose of this handbook is to establish uniform requirements and guidelines to all parties involved in grading and land disturbing activities within the City of Lake City, Minnesota. The handbook addresses the protection of public and private lands and waters through the use of grading plans, storm water management, and erosion and sediment control. This handbook outlines the permitting process and the required plan submittals and reviews.

Various sections of the city ordinance are referenced throughout this handbook. The ordinances should always be consulted prior to beginning the design and construction of a site/grading project.

2. BUILDING PERMITS

The rules and regulations for obtaining building permits are listed in the City of Lake City Zoning Code Article 3, §155.034. In addition to the zoning code requirements, a building site plan must accompany every building permit. If required by the city, the site plan will include a grading plan that addresses storm water, erosion and sedimentation control. The city engineer will review the grading plan based on the appropriate grading plan checklist, which addresses the following criteria:

1. Erosion and sediment control practices.
2. Impact on existing drainage patterns and existing storm water facilities.
3. Compliance with the International Building Code, adopted city policies, and other state and federal policies.
4. Any additional Environmental Performance Standards that apply. (See Article 6 of the City of Lake City Zoning Code)

2.1 *Street Rough Grading/Utilities*

No permit shall be issued for any new building until the public streets have been rough graded and the sewer and water construction for connection with the building site has been completed. Streets shall be built to an all-weather surface capable of providing access for emergency vehicles.

3. GRADING PERMITS

A grading permit, along with a building permit, shall be required for any non-agricultural project or series of projects that involve the movement of more than 50 cubic yards of earth or the disturbance of more than one-half acre of land. Applicants must submit a grading plan along with the grading permit application. The city engineer will conduct a review of the grading plan based on the requirements listed in Section 4 of this handbook. Grading permits will not be required for basement excavation on single-family residential lots. This type of excavation still requires that a building permit be applied for and a building site plan be submitted (See Section 2 of this handbook).

4. GRADING PLAN

A grading plan or building site plan shall be submitted for any land disturbing activity within the City of Lake City based on the requirements listed in the prior sections of this handbook. The grading plan or building site plan shall meet all requirements of the appropriate Grading Plan Checklist included in Appendix A of this handbook. The city engineer will conduct a review of the plan based on the checklist requirements and the guidelines listed below. A grading permit/building permit will not be issued prior to approval of the grading plan by the city engineer. Items to be integrated into the grading plan or included as attachments to the grading plan submittal are as follows:

4.1 *Site Erosion and Sediment Control*

The erosion and sediment control practices for the proposed project shall meet the requirements listed in the grading plan checklist included in Appendix A of this handbook, and shall also conform with the accepted design criteria, standards, and specifications within the most current version of the Minnesota Pollution Control Agency's publication "Protecting Water Quality in Urban Areas." Article 6, §155.87 of the zoning code also contains information regarding soil erosion and sediment control.

4.2 *Storm Water Management Plan*

A storm water management plan should consist of a drainage map, drainage report, design computations, and storm water retention features, as applicable, to the size and scope of the proposed project. Storm water discharges from the developed site shall be limited to be less than or equal to pre-developed discharges for the 2-Year, 10-Year, and 100-Year frequency storm event. The plan shall be submitted, along with the grading plan, and will be reviewed by the city engineer. A licensed professional engineer shall be required to sign the storm water management plan.

4.2A *Drainage Report*

The drainage report shall address the impact on existing facilities and provide the basis of design for the storm water management systems. Specific items to be addressed include:

- Off-site flows which will contribute to the drainage systems
- Design of temporary sediment basins
- Design of permanent storm water treatment ponds
- Sizing of storm sewer systems
- Location and inlet capacity of catch basins
- Time of concentration calculations
- Run-off coefficients/curve number determination
- Pre-development vs. post-development storm water discharges
- Any other information, as required

A written summary of any computer printouts should be submitted with the report.

4.2B *Drainage Map*

A drainage map shall be provided at a scale of 1" = 100' or larger, with existing and finished contours at 2' intervals. The drainage map shall depict existing and proposed drainage areas to the storm sewer. The storm sewer shall be labeled with pipe sizes and structure numbers corresponding to the computations provided in the drainage report. The drainage map shall also depict areas that will drain to existing or proposed ponds.

4.2C *Storm Sewer Design*

Storm sewers shall be designed for the 10-Year frequency storm, and a safe overflow elevation shall be provided for the 100-Year frequency storm. The minimum storm sewer pipe size is 12".

4.2D *Storm Water Detention Facilities Design/Details*

Storm water detention facilities shall be designed to conform to the most current version of the Minnesota Pollution Control Agency's publication "Protecting Water Quality in Urban Areas" and the current requirements found in the same agency's NPDES permits for storm water associated with construction activities. Ponds shall include multi-stage outlets as necessary to limit the 2-Year, 10-Year and 100-Year peak discharges to less than or equal to the pre-developed discharge. Outlets shall provide skimming of at least the 2-Year event. Emergency spillways shall be designed to handle the 100-Year peak discharge.

The storm water management plan shall include pond plans and details. The following data should be provided on pond plans:

- Pond Normal Water Level NWL (feet)
- NWL Pond Surface Area (acre)
- NWL Pond Volume (acre-feet)
- 2-Year Peak Discharge (c.f.s.)
- 10-Year Peak Discharge (c.f.s.)
- 100-Year Peak Discharge (c.f.s.)

The following details shall be provided on the pond plans:

- Pond cross-section including outlet structure and piping
- Dam cross-section including emergency spillway details
- Pond outlet structure details

4.2E Drainage Channels/Easements

Drainage channels shall be designed to maintain the 25-Year frequency storm within the graded portion of the channel and the 100-Year frequency storm within the channel easement.

In some instances, a storm water management plan may involve directing some or all of a site's run-off onto, across, or under adjacent property. In these cases, the applicant shall obtain any necessary easements from the adjacent property owners or other property interests concerning the flow of such water.

4.3 Bluff Protection/Steep Slope Protection

The grading plan must address the protection of any bluffs or steep slopes located within the proposed project limits. Article 6, §155.83 and §155.84 of the Lake City zoning code contains information regarding bluff protection and steep slope protection. The plan shall depict the following as defined in the zoning code:

- Bluff areas
- Toe of bluff
- Top of bluff
- Bluff impact zone
- Steep slopes between 13% and 18%
- Steep slopes between 18% and 25%
- Steep slopes in excess of 25%.

4.4 Wetlands Preservation

Wetlands must not be drained or filled, wholly or partially, unless replaced by restoring or creating wetland areas of at least equal public value in accordance with the Minnesota Wetland Conservation Act and Minnesota Rules 8420.

Wetlands existing within the proposed project limits shall be delineated and shown on the grading plan. Article 6, §155.86 of the Lake City zoning code contains information regarding wetlands preservation.

4.5 Shoreland Impacts

All projects located within Lake City's designated shoreland zones shall be subject to the applicable standards and requirements in the Lake City Shoreland Management Ordinance.

4.6 Flood Plain Impacts

All projects located within the designated flood plains shall be subject to the applicable standards and requirements in the Lake City Flood Plain Management Ordinance.

5. LOT GRADING STANDARDS

The purpose for establishing lot grading standards is to prevent and control adverse effects on adjacent properties, identify the need for storm water facilities, and meet current and future standards. The following lot grading standards shall be considered when developing grading plans for land disturbing activity on new and existing lots within the City of Lake City. Lots shall be graded to provide positive drainage flow away from all buildings towards approved drainage facilities. Plans for all drainage facilities shall be approved by the city engineer, and shall conform to the most current version of the Minnesota Pollution Control Agency's publication "Protecting Water Quality in Urban Areas," and the current requirements found in the same agency's NPDES permits for storm water associated with construction activities.

All lowest entry elevations for buildings adjacent to detention basins, overflow swales, or other conveyance channels shall be at least 2' above the 100-Year elevation of the adjacent detention basin or point where the conveyance channel is closest to the building.

Soil erosion and sedimentation shall be minimized during construction by scheduling the site's activities to minimize the amount and duration of exposed soil. General guidelines for controlling erosion and sedimentation are as follows:

- Installation of temporary perimeter controls (silt fence) prior to any clearing and grading.
- Construction of stabilized vehicle exit.
- Install temporary controls (silt fence) to delineate other areas not to be disturbed prior to beginning clearing and grading.
- Construct any necessary temporary sediment basins and permanent storm water detention facilities.
- Stockpile topsoil and provide downslope temporary protection.
- Clear and grub remaining areas as necessary for any utility or street construction to proceed.
- Construct site improvements.
- Stabilize disturbed areas and stockpiles with temporary erosion protection or permanent cover for exposed soil areas year-round per the following table (maximum time an area can remain open when area is not being actively worked):

| <u>Type of Slope</u> | <u>Time</u> |
|----------------------|-------------|
| Steeper than 3:1 | 7 days |
| 10:1 to 3:1 | 19 days |
| Flatter than 10:1 | 21 days |

- Install temporary erosion control protection at each intake and catch basin as completed.
- Complete grading and on-site drainage swales. Install erosion control blanket and permanent cover.
- Complete paving.
- Remove accumulated sediment from any detention basins after the site is stabilized and restore the basin side slopes as is needed.

- After completion of all construction activity and when site is stabilized, remove temporary perimeter controls. Reseed disturbed areas due to removal.

6. REVIEW

The city engineer shall have sole authority for the review and approval of all grading plans. The review must be completed no later than 30 days of receiving the plan from the applicant. The city engineer may return plans for re-submittal when it is determined that a plan is inaccurate, incomplete, or insufficient.

6.1 *Permit Required*

Upon approval of the grading/site plan, the city shall issue a grading/building permit valid for a specified period of time. The permit will authorize the land disturbance activity applied for.

6.2 *Permit Denial*

If the city determines that the grading plan does not meet all requirements, the city shall not issue a grading permit for the land disturbance activity. All land use and building permits for the site in question shall be suspended until the applicant has an approved grading plan.

6.3 *Permit Suspension and Revocation*

If the grading plan and storm water management plans are not being properly implemented, the city can suspend or revoke the grading permit authorizing the land disturbance activity.

7. MAINTENANCE AGREEMENT

A maintenance agreement may be required for storm water management, sediment control, and erosion control practices between the City of Lake City and the responsible party to provide for maintenance of approved privately owned storm water, sediment control, and erosion control practices beyond the duration period of any permits for land disturbing activities issued by the City. The maintenance agreement shall be filed with the County Register of Deeds as a property deed restriction so that it is binding upon all subsequent owners of the land served by the storm water management, sediment control and erosion control practices.

7.1 *Maintenance Agreement Content*

The maintenance agreement shall contain the following information and provisions and be consistent with the approved grading plan:

1. Identification of the storm water, sediment control, and erosion control facilities and designation of the drainage area served by the facilities. Impact on existing drainage patterns and existing storm water facilities.
2. The dedication of any property or easements necessary to access the storm water facilities shall be addressed.
3. A schedule for regular maintenance of each aspect of the storm water management, sediment control, and erosion control systems consistent with the approved site control plan.
4. Identification of the responsible party(s), organization or city, county, or town responsible for long term maintenance of the storm water management, sediment control, and erosion control practices identified in the approved site control plan.
5. Requirement that the responsible party(s), organization, or city, county, or town shall maintain storm water management, sediment control, and erosion control practices in accordance with the schedule included in Section 7.1.3.
6. Authorization for the City of Lake City to access the property to conduct inspections of storm water management, sediment control, and erosion control practices as necessary to ascertain that the practices are being maintained and operated in accordance with the agreement.

7. The City of Lake City shall maintain public records of the site inspections, inform the party responsible for maintenance of the inspection results, and order any corrective actions required to bring the storm water management, sediment control, and erosion control practices into proper working condition.
8. Agreement that the party designated under Section 7.1.4 as responsible for long term maintenance of the storm water management, sediment control, and erosion practices, shall be notified by the City of Lake City of maintenance problems which require correction. The specified corrective actions shall be undertaken within a reasonable time frame as set by the City of Lake City.
9. Authorization of the City of Lake City to perform the corrected actions identified in the inspection report if the responsible party designated under Section 7.1.4 does not make the required corrections in the specified time period. The City of Lake City shall enter the amount due on the tax rolls and collect the money as a special assessment against the property pursuant to Minnesota State Statutes.

8. FINANCIAL SECURITY

The applicant shall provide a financial security for the performance of the work as presented on the approved grading, storm water management and erosion control plans. This security shall be at the rate of three thousand dollars (\$3,000) per acre, for the maximum acres of soil that will be simultaneously exposed to erosion during the project's construction. This security must be provided to the City of Lake City prior to commencing the project.

The city may request a greater financial security, if the development site is especially prone to erosion, or the resource to be protected is especially valuable. If more soil is simultaneously exposed to erosion than originally planned, the amount of the security shall increase in relation to this additional exposure.

8.1 Form of Financial Security

The form of the security must be money, certified bank check, irrevocable letter of credit, or negotiable bonds of the kind approved for securing deposits of public money. This security shall hold the city free and harmless from all suits or claims for damages resulting from the negligent grading, removal, placement or storage of rock, sand, gravel, soil or other like material within the city. The financial security must be of a type acceptable to the city.

8.2 Maintaining the Financial Security

If at anytime during the course of the work, this amount falls below 50% of the required deposit, the applicant shall make another deposit in the amount necessary to restore the deposit to the required amount within ten (10) days. Otherwise the city may:

- Withhold the scheduling of inspections and/or the issuance of a Certificate of Occupancy.
- Revoke any permit issued by the city to the applicant for the site in question.

8.3 Proportional Reduction of the Financial Security

On projects where the initial required financial security exceeds \$10,000, the city can reduce the total required amount of the financial security by one-third, when more than one-third of the applicant's maximum exposed soil area achieves final stabilization, if recommended in writing by the city engineer. When more than two-thirds of the applicant's maximum exposed soil area achieves final stabilization, the city can reduce the total required amount of the financial security by two thirds of the initial amount, if recommended in writing by the city engineer.

8.4 Action Against the Financial Security

The city may act against the financial security if any of the conditions listed below 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 to 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 attorney's fees.

1. The applicant ceases land disturbing activities and/or filling and abandons the work site prior to completion of the city approved grading plan.
2. The applicant fails to conform to any city approved grading plan and/or the storm water management plan as approved by the city.
3. The techniques utilized under the storm water management plan fail within one (1) year of installation.
4. The applicant fails to reimburse the city for corrective action taken on the work covered by the security.

8.5 Emergency Action

If circumstances exist such that noncompliance with this ordinance poses an immediate danger to the public health, safety and welfare, as determined by the city engineer, the city may take emergency preventative action. The city shall also take every reasonable action possible to contact and direct the applicant to take any necessary action. Any cost to the city may be recovered from the applicant's financial security.

8.6 Returning the Financial Security

Any unspent amount of the financial security deposited with the city must be released within one (1) year of completion of the work, final stabilization of the site, or issuance of a certificate of occupancy, whichever is later.

APPENDIX A

MAJOR GRADING PLAN CHECKLIST:

*This checklist will be required when requesting approval for any land disturbance activity that disturbs greater than 50 cubic yards of earth or disturbs greater than one-half acre of land.

General:

- Completed grading permit application submitted to the Planning Department with the grading plan.
- Name and address of owner are shown.
- Project location map is shown.
- Final plan is signed by a licensed professional engineer.
- Plan is drawn at 1" = 50' or larger scale and north arrow shown.
- Property limits are shown and all streets are labeled.
- Existing and proposed contours shown at 2' intervals. All contours are labeled.
- Existing contours are dashed and proposed contours are solid.
- Lot and Block information shown if platted; street address shown if not platted.
- Areas and dimensions of lots are labeled.
- Existing public and private utilities are shown.
- Drainage arrows indicating direction of surface drainage are shown.
- Wetland areas are shown and protected.
- All proposed lot corner elevations are shown.
- Proposed elevations of the top of foundation of principal structures on all lots, ground at front and rear of building, along with the structure type are indicated on the plan.
- Floor elevation or grade next to building is at least 1' above any overflow elevation and 2' above any pond overflow elevation.
- Drainage flows away from structures.
- Percent of slope is shown for streets and drainage swales.
- Proposed walk is shown for commercial/industrial sites.
- Minimum lot slopes for vegetated areas is 2%.
- Storm water management is addressed.
- Toe of bluff, top of bluff, bluff impact zone are indicated on plan.
- Areas located within designated flood plain zones are indicated.
- Areas located within designated shoreland impact zones are indicated.
- Following areas are tabulated on the plan:
 - Total project area.
 - Total existing impervious and pervious areas.
 - Total proposed impervious and pervious areas.

Erosion and Sedimentation Control:

- Location of all proposed silt fence is shown. Heavy-duty silt fence is provided for concentrated flow areas.
- Adjacent property protected from drainage and sediment.
- Stabilized vehicle exits are provided.
- Temporary or permanent cover is indicated for all disturbed areas. Temporary cover specifies seed mix and includes disc anchored mulch on all slopes longer than 200' or > 5%. Permanent cover specifies topsoil, seed mix and disc anchored mulch, or topsoil and sod.
- Disturbed slopes in excess of 4:1 are staked and sodded or seeded and protected with erosion control blankets per Mn/DOT category 3885.1. Plan depicts blanket locations.
- Temporary sediment basins are provided where ≥ 10 disturbed acres discharge to a common location. Otherwise highly recommended.
- Temporary sediment basins sized per the MPCA's NPDES permit requirements.
- Plan requires that permanent or temporary sediment basins be constructed at the beginning of construction.

Permanent Ponds:

- ❑ Pond plan is drawn at 1" = 50' or larger scale with pond cross-section.
- ❑ Multi-cell design where practical.
- ❑ When possible, provide a forebay at the inlet; locate inlet and outlet at opposite ends of pond; and provide length to width ratio > 3.
- ❑ 10:1 bench is provided for first foot of depth below the normal water level.
- ❑ 3:1 maximum slope below normal water level.
- ❑ 4:1 max slope from normal water level to 100-Year water level.
- ❑ Pond depth is 4' to 10'.
- ❑ Normal water elevation is labeled.
- ❑ 100-Year high water elevation is labeled.
- ❑ Inlets are at or below the normal water level.
- ❑ Outlet is designed to prevent short-circuiting and meets NPDES particle removal requirements.
- ❑ Piped outlet sized to handle flows from 10-Year frequency storm.
- ❑ Emergency overflow spillway is designed to carry flows from 100-Year frequency storm. Emergency overflow elevation and direction of overflow are labeled on plans.
- ❑ When possible, emergency overflow is constructed within existing ground to protect large fill sections.
- ❑ Minimum 10' width at top of the dam (if dam is <15' high)
- ❑ 12' wide access road and turnaround area is provided around perimeter of pond for maintenance vehicles.
- ❑ DNR dam safety permit obtained if dam height is > 6' and storage to top of dam is > 15 acre-feet.

Drainage Swales/Easements:

- ❑ Drainage easements are a minimum of 15' wide for flows from 1 acre or less or four lots or less. Ditch is 1.9' deep V-shaped with 4:1 side slopes.
- ❑ Drainage easements are a minimum of 20' wide; ditch is minimum of 2' deep with a 4' ditch bottom and 4:1 side slopes up to the easement line.
- ❑ Minimum slope of small drainage swales is 2%.
- ❑ Drainage easements are staked and sodded or seeded and protected with erosion control blankets per Mn/DOT category 3885.1. Plan depicts blanket locations.
- ❑ Velocity computations are provided for drainage easements where concentrated flow from more than eight lots or more than 2 acres is directed. Where 10-Year velocities exceed 5 feet/second, permanent turf reinforcement mat is provided per Mn/DOT 3888.2A2 or manufacturer and product are specified.
- ❑ Flows from 100-Year frequency storm are maintained within the limits of drainage easements. Computations are provided.

Storm Sewer Inlets/Outlets & Energy Dissipation:

- ❑ All apron elevations (inlet and outlet) are labeled. All storm structures are identified and pipe sizes labeled.
- ❑ 400' maximum manhole spacing for lines 15" or less.
- ❑ 500' maximum manhole spacing for lines 18" or greater.
- ❑ Not more than three catch basins in a series (at intersections) before a connection are made to the storm sewer main.
- ❑ Flow direction change is $\leq 90^\circ$ at junctions.
- ❑ Apron inlets to the storm sewer system include trash racks.
- ❑ Safety grates are provided for all aprons > 15" in diameter.
- ❑ Off-street drainage is collected before sheet draining across sidewalks or onto adjacent property.
- ❑ Emergency overflow elevations are labeled and direction of overflow is labeled on the plan.
- ❑ Emergency overflow swale meets minimum drainage easement requirements noted above.
- ❑ Discharge direction of outlets is 45° or less to the flow direction of the receiving ditch or stream.
- ❑ Discharges to be piped shall generally be piped to the rear property line.
- ❑ Where discharge velocities are 10 feet/second or less, riprap and filter volumes are labeled in accordance with Mn/DOT Standard Plate No. 3133 or 3134.
- ❑ When discharge velocities are greater than 10 feet/second, energy dissipater is provided along with riprap and filter.

MINOR GRADING PLAN CHECKLIST (Single Lot/Individual Site):

This checklist may be submitted for projects consisting of a single residential lot or small individual site requiring minor grading. See the Major Grading Plan Checklist for larger projects. The Director of Planning shall have final determination as to whether a Minor Grading Plan Checklist or Major Grading Plan Checklist is required for any given project.

- If the project involves 50 cubic yards of earthwork or greater, completed grading permit application submitted to the Planning Department with the grading plan.
- Name and address of the owner is shown.
- Project location map is shown.
- Plan is drawn at 1" = 50' scale; north arrow is shown.
- Property limits are shown and all streets are labeled.
- All property corner elevations are labeled.
- If street does not have curb and gutter and sidewalk, then the edge of street elevations and ditch elevations at the front property corners are shown.
- Proposed elevations of the top of foundation of principal structures on all lots, ground at front and rear of building, along with the structure type are indicated on the plan.
- Floor elevation or grade next to building is at least 1' above any overflow elevation and 2' above any pond overflow elevation.
- Proposed drainage patterns and adequate existing and finished grades are shown to depict the work that will be completed.
- Drainage arrows indicating direction of surface are shown.
- Drainage flows away from structures.
- Minimum lot slopes for vegetated areas is 2%.
- Proposed parking lots, etc. are shown. Off-street drainage is collected before sheet draining across sidewalks or onto adjacent property.
- Drainage patterns are consistent with existing conditions.
- Storm water management (if necessary) is addressed.
- Adjacent property protected from drainage and sediment. Silt fence locations are indicated.
- Proposed walk is shown for commercial/industrial sites.
- Stabilized vehicle exits are provided.

***DETERMINATION OF GRADING PERMIT APPLICATION FEE**

- A. \$25.00/acre to be graded

- B. Grading Permit Fees Calculation
In addition to the \$25.00/acre, the following also apply:
 - 50 cubic yards or less, \$25.00
 - 51 to 1,000 cubic yards, \$100.00
 - 1,001 to 10,000 cubic yards, \$250.00
 - 10,001 to 100,000 cubic yards, \$750.00
 - 100,001 or more cubic yards, \$1,200.00

- C. Grading Plan Review Fees Calculation
In addition to the \$25.00/acre, the following also apply:
 - 50 cubic yards or less, \$25.00
 - 51 to 1,000 cubic yards, \$50.00
 - 1,001 to 10,000 cubic yards, \$100.00
 - 10,001 to 100,000 cubic yards, \$250.00
 - 100,001 or more cubic yards, \$500.00

FORMULA: $A+B+C = \text{TOTAL GRADING PERMIT APPLICATION FEE}$

APPENDIX B

GRADING PERMIT APPLICATION
City of Lake City, P.O. Box 465, 205 W Center St.
Phone: 651.345.5383 Fax: 651.345.3208

Date: _____

Application No. _____

Site Address: _____
Number Street Suite/Unit No.

Legal Description:

Subdivision/Addition _____ Lot _____ Block _____ Plat _____ Parcel _____

Applicant is: ___ Owner ___ Contractor ___ Other (describe) _____

Property Owner:

Name _____ Phone (____) _____
Last First MI
Address _____
Number Street Suite/Unit No.
City _____ State _____ Zip Code _____

Contractor:

Company: _____ License No. _____
Name _____ Phone (____) _____
Last First MI
Address _____
Number Street Suite/Unit No.
City _____ State _____ Zip Code _____

Engineer/Designer:

Company: _____ MN Registration No. _____
Name _____ Phone (____) _____
Last First MI
Address _____
Number Street Suite/Unit No.
City _____ State _____ Zip Code _____

Description of Work:

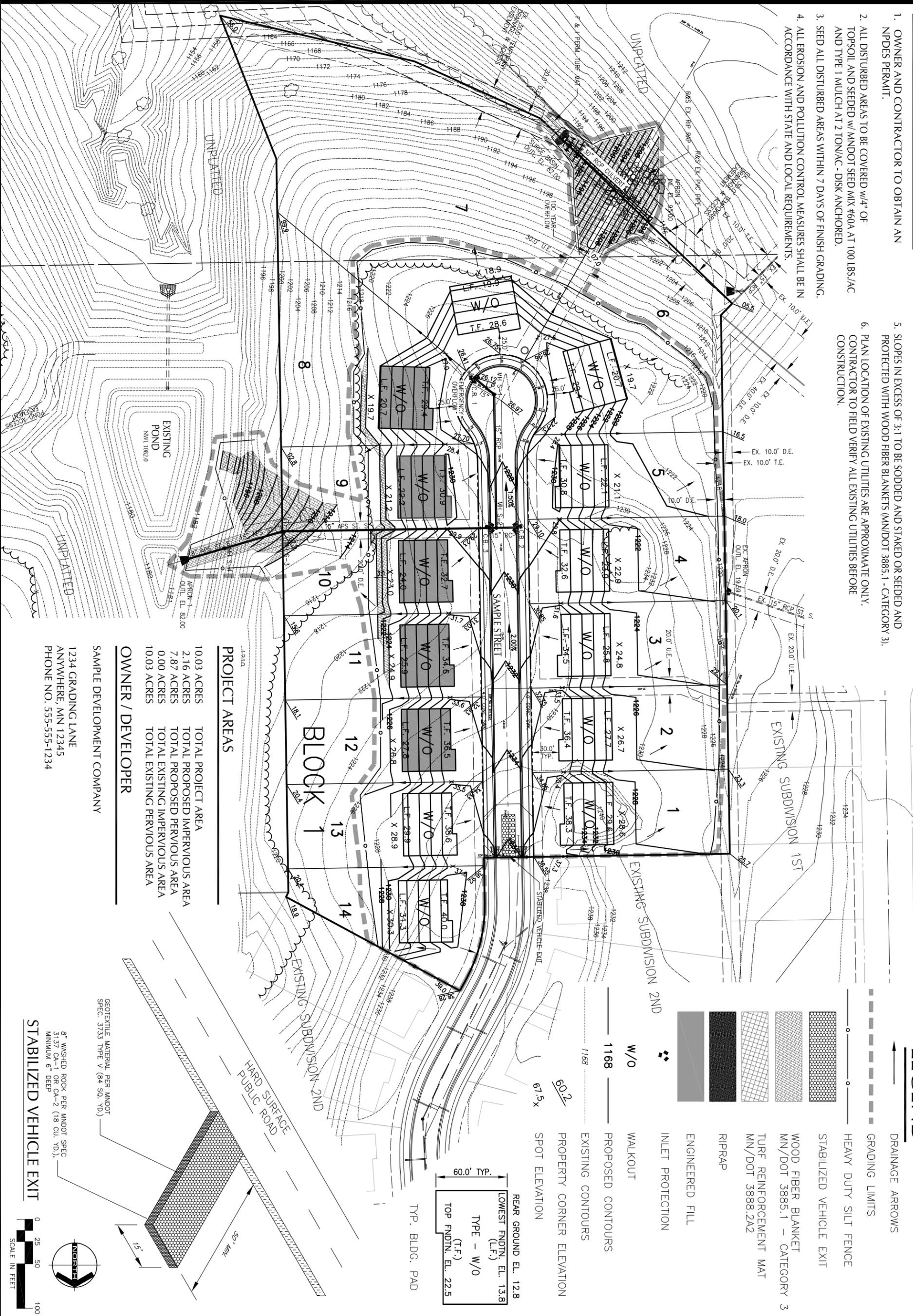
Check all that apply: ___ Construction ___ Clearing and Grubbing ___ Grading ___ Excavating
___ Transporting and Filling of Land ___ Other (describe) _____

No. of Cubic Yards of Cut/Fill (whichever is greater) _____ Acreage of Area to be Disturbed _____

APPENDIX C

CONSTRUCTION NOTES

1. OWNER AND CONTRACTOR TO OBTAIN AN NPDES PERMIT.
2. ALL DISTURBED AREAS TO BE COVERED W/4" OF TOPSOIL AND SEEDED W/ MNDOT SEED MIX #60A AT 100 LBS./AC AND TYPE 1 MULCH AT 2 TON/AC - DISK ANCHORED.
3. SEED ALL DISTURBED AREAS WITHIN 7 DAYS OF FINISH GRADING.
4. ALL EROSION AND POLLUTION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH STATE AND LOCAL REQUIREMENTS.
5. SLOPES IN EXCESS OF 3:1 TO BE SODDED AND STACKED OR SEEDED AND PROTECTED WITH WOOD FIBER BLANKETS (MNDOT 3885.1 - CATEGORY 3).
6. PLAN LOCATION OF EXISTING UTILITIES ARE APPROXIMATE ONLY. CONTRACTOR TO FIELD VERIFY ALL EXISTING UTILITIES BEFORE CONSTRUCTION.



LEGEND

- DRAINAGE ARROWS
- GRADING LIMITS
- HEAVY DUTY SILT FENCE
- STABILIZED VEHICLE EXIT
- WOOD FIBER BLANKET MNDOT 3885.1 - CATEGORY 3
- TURF REINFORCEMENT MAT MNDOT 3888.2A2
- RIPRAP
- ENGINEERED FILL
- INLET PROTECTION
- WALKOUT
- PROPOSED CONTOURS
- EXISTING CONTOURS
- PROPERTY CORNER ELEVATION
- SPOT ELEVATION

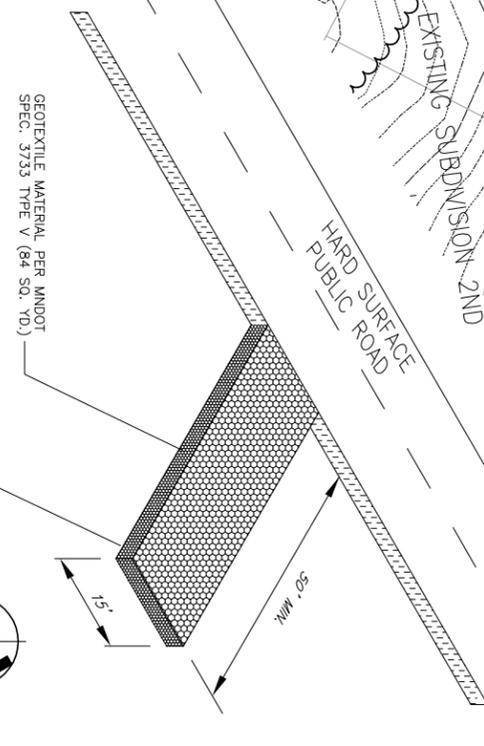
PROJECT AREAS

10.03 ACRES TOTAL PROJECT AREA
 2.16 ACRES TOTAL PROPOSED IMPERVIOUS AREA
 7.87 ACRES TOTAL PROPOSED PERVIOUS AREA
 0.00 ACRES TOTAL EXISTING IMPERVIOUS AREA
 10.03 ACRES TOTAL EXISTING PERVIOUS AREA

OWNER / DEVELOPER

SAMPLE DEVELOPMENT COMPANY

1234 GRADING LANE
 ANYWHERE, MN 12345
 PHONE NO. 555-555-1234



REAR GROUND EL. 12.8
 LOWEST FNDTN. EL. 13.8 (L.F.)
 TYPE - W/O
 (T.F.)
 TOP FNDTN. EL. 22.5

SAMPLE MULTI-LOT SUBDIVISION

LAKE CITY, MINNESOTA

SAMPLE GRADING PLAN

XYZ ENGINEERING
 FIRST STREET
 ANYWHERE, MINNESOTA 55512-34567

1. HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM AN ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

NAME _____
 NUMBER _____
 DATE _____

