THE CITY OF LAKE ELMO

STAFF REPORT

DATE: 3/13/2023
REGULAR
ITEM #4C – PUBLIC HEARING
MOTION

TO: Planning Commission
FROM: Sophia Jensen, City Planner
AGENDA ITEM: **Landscaping Standards Text Amendments – Topsoil Requirements**
REVIWED BY: Sarah Evenson - HKGi Landscape Architect
Jack Griffin – City Engineer
Jenni Faulkner – Planning Consultant
John Taylor – Building Official

BACKGROUND:

For many years the City of Lake Elmo has been struggling with water supply issues and discussing topsoil requirements. On April 8th 2022 the City Council enacted a 1-year development moratorium on the South East quadrant of the City due to water supply concerns. The City has initiated creative solutions to reduce the water demand such as enforcing lawn irrigation/watering restrictions and amending City Code to allow possible Planned Unit Development bonus density for developments that utilize stormwater reuse. Due to the water demand struggles Lake Elmo is on the cutting edge of water conservation efforts.

Ensuring developments have high quality topsoil on their sites is key in reducing irrigation demands and increasing the vitality of lawn and plantings. The City of Lake Elmo has initiated a text amendment to the landscaping requirements ordinance to ensure a consistent amount of high quality topsoil is to be placed under seed or sod after construction.

The City currently has some topsoil language in the engineer standards manual for developers. Staff has reviewed how other Cities enact and enforce topsoil requirements. The City of St Louis Park uses in depth engineer standards, the City of Woodbury uses language in their development agreement, and the City of Victoria uses Carver County requirements which requires a topsoil management plan. Many of these regulations only place responsibility on the developer of the project. Staff has noted the importance of putting this requirement in City Code to place responsibility on both the developer and the builder to ensure topsoil requirements are followed from start to finish of a project.

The developer would be responsible for a topsoil preservation plan when they submit their landscape plan. They are required to make the topsoil compliant with the modified MN DOT Spec 3877 and have enough to cover the site with 4 inches. The builder's responsibility comes into play when they submit the building permit. They must show stockpile location, erosion controls on their plan submittals and have final confirmation/testing with their grading as builds that the quality and depth of soil is still up to the standards before a full CO is issued.

If approved by City Council, this new requirement would start with all new plats/projects and associated building permits after the ordinance is adopted since the builder and developer essentially need to work together to manage the topsoil. This would not apply to building permits or plats/projects that already received preliminary or final plat approval.

ISSUE BEFORE THE PLANNING COMMISSION:
The Planning Commission is asked to make a recommendation to the City Council on the proposed text amendment to the landscape provisions.

PROPOSAL DETAILS/ANALYSIS
Proposed definition changes are attached.

PUBLIC COMMENT
A hearing notice was published in the Stillwater Gazette on March 3rd, 2023. Staff has not received any public comment on the text amendment.

FISCAL IMPACT
None.

OPTIONS
- Recommend approval of the proposed amendments.
- Recommend changes to the proposed amendments.
- Recommend denial of the proposed amendments.

RECCOMENDATION
Staff recommends that the Planning Commission recommend approval of the proposed text amendments as presented.

"Move to recommend adoption of the proposed text amendment, for topsoil requirements, in Section 105.12.480 Landscape Requirements as presented."

ATTACHMENTS
1. Proposed Text Amendment
2. Existing Code Language
3. City of Lake Elmo Engineer Standards
4. City of St. Louis Park Engineer Standards
5. City of Woodbury Comments
6. City of Victoria Comments
7. Carver County Engineer Standards

Blue underlined text is new topsoil language.

105.12.480 Landscaping Requirements

All development sites shall be landscaped, as provided in this section, in order to control erosion and runoff, promote conservation of water, moderate extremes of temperature and provide shade, aid in energy conservation, preserve habitat, provide visual softening of, especially, urban development, and generally enhance the quality of the physical environment within the city.

1. *Landscape plan required*. A landscaping plan is required for all new commercial, industrial, institutional, and multifamily development, all planned unit developments, and all subdivisions, with the exception of minor subdivisions, as defined in this chapter. The landscape plan shall be prepared by a certified landscape architect, shall be drawn to a scale identified on the plan, and include the following:
    1. The location, size, quantity, and species of all existing and proposed plant materials.
    2. Methods for protecting existing trees and other landscape material, consistent with LEC 105.12.470.
    3. The plant schedule shall depict the height and spread of each plant type at the time of planting and at the time of maturity.
    4. All existing and proposed features such as buildings, structures, parking areas, pervious and impervious pavement, signs, fences, walls, enclosures, natural features, grading, property lines, easements, utilities, and driveways shall be clearly shown on the plans.
    5. Seeding, sodding, and ground cover materials.
    6. Provisions for irrigation and other water supplies.
    7. Elevation view, details, and cross-sections of all required screening.
    8. City standard plan notes and planting details, as well as any additional planting instructions and notes.
    9. Topsoil preservation plan that includes: stockpile location, calculations that a sufficient amount of topsoil will be set aside to restore the site with a depth of four (4) inches, erosion control requirements, and a soil report prepared by an independent party verifying topsoil borrow meets or has been altered to meet the composition requirements of MN DOT Spec 3877 as modified to contain no less than 6% organic matter.
2. *Design considerations*. The following design concepts and requirements shall be considered when developing a landscape plan.
    1. To the maximum extent possible, the landscape plan shall incorporate, preserve and protect, existing significant trees and other healthy, non-invasive vegetation on the site.
    2. Landscaped areas should be of adequate size to allow for healthy plant growth, to a typical mature size without impeding on roads, walks, trails, buildings or other areas needed for service access or public safety. Planting areas should provide adequate areas for plant maintenance.
    3. A variety of trees and shrubs should be used to provide visual interest year-round. No more than 50 percent of the required number of trees and shrubs may consist of any one species. A minimum of 25 percent of the required number of trees shall be deciduous shade trees, and a minimum of 25 percent shall be coniferous trees. Ornamental trees may be used when applied towards landscaping requirements. However, the number of trees shall not exceed 15 percent of the required amount.
    4. Final slopes greater than 3:1 will not be permitted without special treatment such as terracing, retaining walls, erosion control blankets, or special ground covers.
    5. All plant materials, except trees planted per the tree replacement schedule, shall meet the following minimum size standards in Table 6-1. Trees planted per the tree replacement schedule shall meet the minimum requirements outlined in LEC 105.12.470(c)(8)d.

Table 6-1: Minimum Size Standards for Landscape Materials

Plant Type	*Minimum Size at Planting*
Trees:	
Evergreen	6 feet in height
Deciduous--shade	2.5 inches caliper, measured six inches from base
Deciduous--ornamental	2 inches caliper, measured six inches from base
Shrubs:	
Evergreen	# five container*
Deciduous	# five container*
Shrubs used for screening (evergreen or deciduous)	# five container*
* Approximately five gallons.	
** See American Standards for Nursery Stock, ANSI 260.1-2004 for exact specifications.	
* This table and its requirements do not apply to the tree replacement schedule.	

6. As an alternative to the minimum standards for landscape materials, a landscape plan prepared by a qualified professional certifying that said plan will meet the intent of this section may be submitted.
7. As a general rule, trees should be planted ten feet away from all utilities including water and sewer stubs unless approved by the city's landscape architect.

3. *Landscaping of setback areas*. All required setbacks not occupied by buildings, parking, paths or plazas shall be landscaped with turf grass, native grass, trees, shrubs, vines, perennial flowering plants, and surrounding pervious ground cover.
    1. A minimum of one tree per lot or one tree for every 50 feet of street footage, lake shore or stream frontage, or fraction thereof shall be planted at the time of development. The total tree requirement will be whichever quantity is greater.
        1. Trees adjacent to streets shall be planted within the front yard and may be arranged in a cluster or placed at regular intervals to best complement existing landscape design patterns in the area.
        2. Salt tolerance, species soil compatibility, and root structure should be considered when selecting tree species adjacent to streets, sidewalks and parking areas.

3. Where property abuts a lake or stream, trees shall be planted at intervals of no more than 50 feet along the shoreline, except where natural vegetation is sufficient to meet this requirement.

2. In addition to the requirements of subsection (c)(1) of this section, a minimum of five trees shall be planted for every one acre of land that is disturbed by development activity. Such trees may be used for parking lot landscaping or screening as specified in subsections (d) and (e) of this section.

4. *Interior parking lot landscaping*. The purpose of interior parking lot landscaping is to minimize the expansive appearance of parking lots and provide shaded parking areas. Landscaping shall consist of planting islands, medians and borders, comprising the required planting area specified under subsection (d)(1) of this section.
    1. At least five percent of the interior area of parking lots with more than 30 spaces shall be devoted to landscape planting areas. Areas may consist of islands or corner planting beds.
    2. Shade trees shall be provided within the interior of parking lots (in islands or corner planting beds) in accordance with the following table:
    Table 6-2: Minimum Required Tree Planting for Parking Lots

Number of Parking Spaces	*Minimum Required Tree Planting*
0--30	None required
31--100	1 tree per ten spaces or fraction thereof
101+	1 tree per 15 spaces or fraction thereof

5. *Perimeter parking lot landscaping*. Parking areas, and especially vehicle headlights, shall be screened from public streets and sidewalks, public open space, and adjacent residential properties. Where applicable an applicant may demonstrate that distance and/or finished grades would achieve this objective, whereupon this requirement may be waived by the Planning Director. The perimeter of parking areas shall be screened as follows:
    1. With the exception of VMX area, a landscaped frontage strip at least eight feet wide shall be provided between parking areas and public streets, sidewalks, or paths. If a parking area contains over 100 spaces, the frontage strip shall be increased to twelve feet in width.
        1. Within the frontage strip, screening shall consist of either a masonry wall, fence, berm, or hedge or combination that forms a screen a minimum of 3 1/2 and a maximum of four feet in height, and not less than 50 percent opaque on a year-round basis.
        2. Trees shall be planted at a minimum of one deciduous tree per 50 linear feet within the frontage strip.
    2. Alongside and rear property lines abutting residential properties or districts, screening shall be provided, consisting of either a masonry wall, fence or berm in combination with landscape material that forms a screen a minimum of four feet in height, a maximum of six feet in height, and not less than 90 percent opaque on a year-round basis. Landscape material shall include trees, planted at a minimum of one deciduous or coniferous tree per 40 linear feet along the property line.

Figure A: Example cross-section view of perimeter parking lot landscape screening.

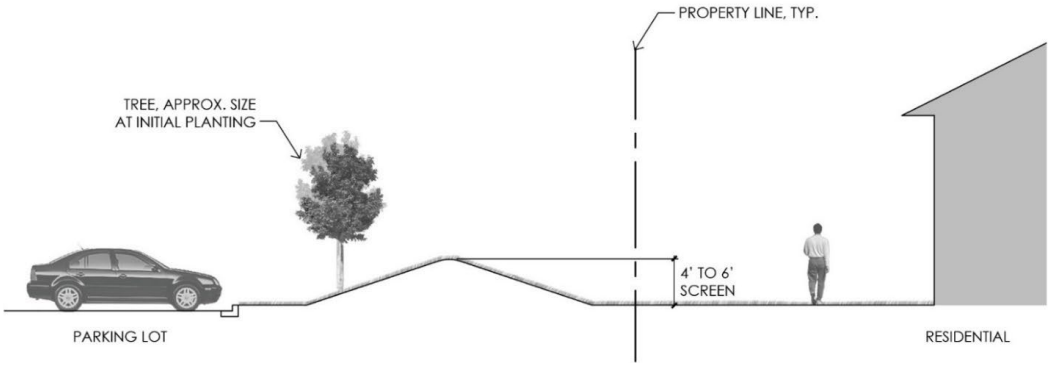
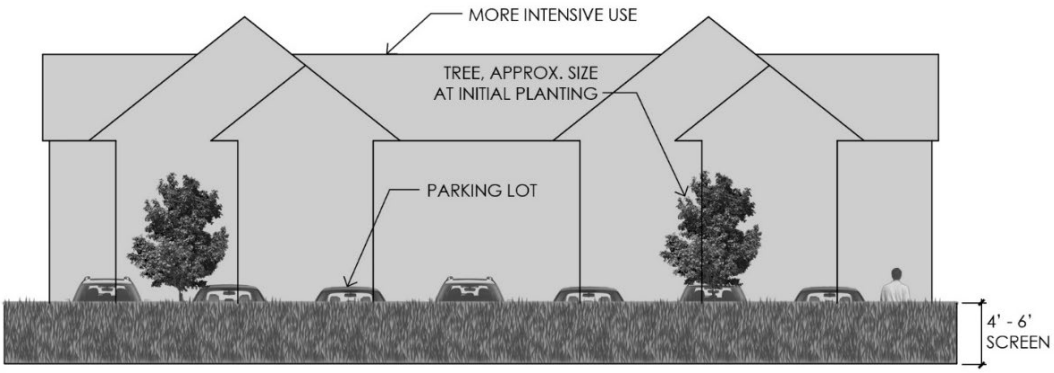


Figure B: Example elevation view of perimeter parking lot landscape screening.



6. *Screening*. Screening shall be used to provide visual and noise separation of more intensive uses from less intensive uses. Where screening is required in the City Code between uses or districts, it shall consist of either a wall or fence, or berm in combination with landscape material that forms a screen at least six feet in height, and not less than 90 percent opaque on a year-round basis. Top of wall or fence shall be a minimum of six feet above the elevation along the property line(s) from which screening of the less intensive use is required. The city may require screening at least eight feet in height were the difference in intensity of uses is greater, such as between lots planned for development with single-family attached and detached residential development and certain service uses such as self-service storage and trade shops, automotive/vehicular uses, or industrial and extractive uses. Landscape material shall include trees, planted at a minimum of one deciduous or coniferous tree per 25 linear feet along the property line. Screening trees shall be adequately sized and offset from the property line so as not to overhang adjacent properties upon reaching mature size. Additional landscape material, such as shade trees or trellises, may be required to partially screen views from above.

Figure C: Example cross-section of screening between land uses.

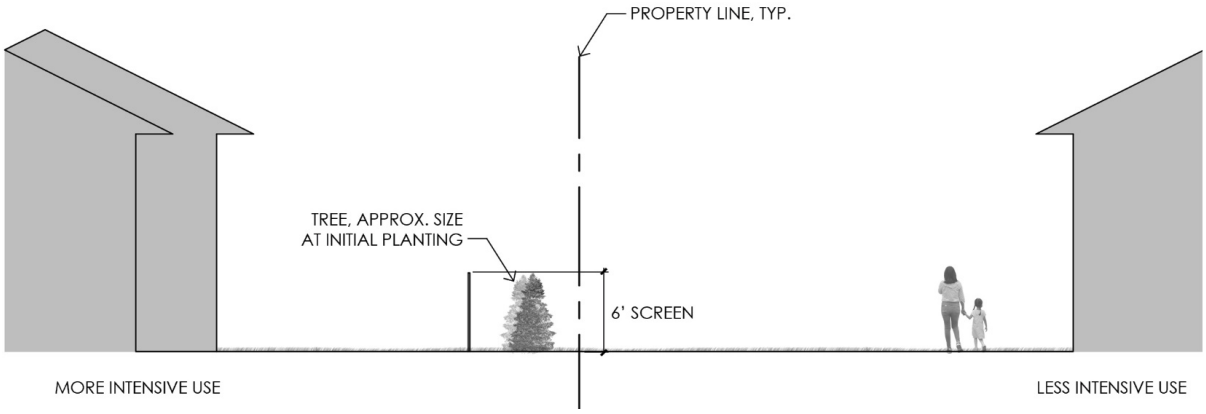
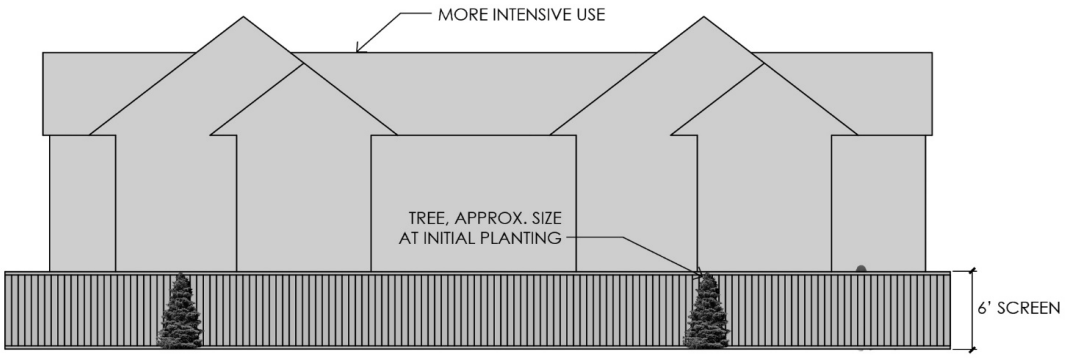


Figure D: Example elevation view of screening between land uses.



7. *Maintenance and installation of materials*. Installation and maintenance of all landscape materials shall comply with the following standards:
    1. All landscape materials shall be installed to current industry standards. Special attention must be paid to initial soil preparation, drainage, and proper initial planting of plant root mass.
    2. Irrigation or other water supply adequate to support the specified plant materials shall be provided at the time of, or immediately after, plant installation.
    3. All required landscaping and screening features shall be kept free of refuse and debris.
    4. All landscape plantings, seeded, and sodded areas shall be maintained to manage weeds and ensure establishment of intended plant materials.
    5. All landscape materials shall be guaranteed for two years. Any landscape material that dies, has a dead or broken central leader, exhibits 30% or more crown death, is damaged by construction, or becomes diseased before the end of the second year after installation shall be replaced by the developer.
    6. For nonresidential projects, continuing maintenance and replacement of landscape materials shall be the responsibility of the property owner, including after two years of initial installation. Improvements identified on the landscape plan, including non-plant materials, such as fencing, shall be maintained for the life of the project for which the plan was required.
8. *Topsoil Borrow Requirements.* Earthwork and topsoil shall comply with the following standards:
    1. The topsoil stock pile location and erosion controls shall be called out in the plan set when building permit for new residential or commercial construction is submitted to the City. All areas disturbed, outside of paved areas, shall be excavated to a depth of four (4) inches and tilled to a depth of six (6) inches to remove compaction. The depth of the topsoil borrow shall be no less than four (4) inches, not including sod depth.

2. Only topsoil borrow meeting MN DOT Spec 3877 as modified to contain no less than 6% organic matter, is to be placed as the final soil layer on a site to provide the required depth of topsoil borrow cover and to bring the entire site to grade.
3. Confirmation of topsoil depth and quality shall be submitted with the final grading as-built as written confirmation from a licensed party before a full Certificate of Occupancy is issued.

9. *Financial security*. The city will require that a financial security, in a form acceptable to the city, be provided as part of a development agreement or applicable permit to ensure compliance and performance of the landscape plan and topsoil requirements. The financial security will be released to the applicant upon verification by the city that the landscape plan was followed, and that all landscape materials are planted and in a reasonable state of health. The financial security may be used to replace any landscape materials that have become damaged or diseased after planting. Adequate security must be retained to ensure performance for at least two years after the installations have been completed.

105.12.480 Landscape Requirements Current Lanscape Requirements Code

All development sites shall be landscaped, as provided in this section, in order to control erosion and runoff, moderate extremes of temperature and provide shade, aid in energy conservation, preserve habitat, provide visual softening of, especially, urban development, and generally enhance the quality of the physical environment within the city.

(a) *Landscape plan required*. A landscaping plan is required for all new commercial, industrial, institutional, and multifamily development, all planned unit developments, and all subdivisions, with the exception of minor subdivisions, as defined in this chapter. The landscape plan shall be prepared by a certified landscape architect, shall be drawn to a scale identified on the plan, and include the following:

(1) The location, size, quantity, and species of all existing and proposed plant materials.

(2) Methods for protecting existing trees and other landscape material, consistent with LEC 105.12.470.

(3) The plant schedule shall depict the height and spread of each plant type at the time of planting and at the time of maturity.

(4) All existing and proposed features such as buildings, structures, parking areas, pervious and impervious pavement, signs, fences, walls, enclosures, natural features, grading, property lines, easements, utilities, and driveways shall shall be clearly shown on the plans.

(5) Seeding, sodding, and ground cover materials.

(6) Provisions for irrigation and other water supplies.

(7) Elevation view, details, and cross-sections of all required screening.

(8) City standard plan notes and planting details, as well as any additional planting instructions and notes.

(b) *Design considerations*. The following design concepts and requirements shall be considered when developing a landscape plan.

(1) To the maximum extent possible, the landscape plan shall incorporate, preserve and protect, existing significant trees and other healthy, non-invasive vegetation on the site.

(2) Landscaped areas should be of adequate size to allow for healthy plant growth, to a typical mature size without impeding on roads, walks, trails, buildings or other areas needed for service access or public safety. Planting areas should provide adequate areas for plant maintenance.

(3) A variety of trees and shrubs should be used to provide visual interest year-round. No more than 50 percent of the required number of trees and shrubs may consist of any one species. A minimum of 25 percent of the required number of trees shall be deciduous shade trees, and a minimum of 25 percent shall be coniferous trees. Ornamental trees may be used when applied towards landscaping requirements. However, the number of trees shall not exceed 15 percent of the required amount.

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schedule shall meet the minimum requirements outlined in LEC 105.12.470(c)(8)d.

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* Approximately five gallons.	
** See American Standards for Nursery Stock, ANSI 260.1-2004 for exact specifications.	
* This table and its requirements do not apply to the tree replacement schedule.	

(6) As an alternative to the minimum standards for landscape materials, a landscape plan prepared by a qualified professional certifying that said plan will meet the intent of this section may be submitted.

(7) As a general rule, trees should be planted ten feet away from all utilities including water and sewer stubs unless approved by the city's landscape architect.

(c) *Landscaping of setback areas.* All required setbacks not occupied by buildings, parking, paths or plazas shall be landscaped with turf grass, native grass, trees, shrubs, vines, perennial flowering plants, and surrounding pervious ground cover.

(1) A minimum of one tree per lot or one tree for every 50 feet of street footage, lake shore or stream frontage, or fraction thereof shall be planted at the time of development. The total tree requirement will be whichever quantity is greater.

a. Trees adjacent to streets shall be planted within the front yard and may be arranged in a cluster or placed at regular intervals to best complement existing landscape design patterns in the area.

b. Salt tolerance, species soil compatibility, and root structure should be considered when selecting tree species adjacent to streets, sidewalks and parking areas.

c. Where property abuts a lake or stream, trees shall be planted at intervals of no more than 50 feet along the shoreline, except where natural vegetation is sufficient to meet this requirement.

(2) In addition to the requirements of subsection (c)(1) of this section, a minimum of five trees shall be planted for every one acre of land that is disturbed by development activity. Such

trees may be used for parking lot landscaping or screening as specified in subsections (d) and (e) of this section.

(d) *Interior parking lot landscaping.* The purpose of interior parking lot landscaping is to minimize the expansive appearance of parking lots and provide shaded parking areas. Landscaping shall consist of planting islands, medians and borders, comprising the required planting area specified under subsection (d)(1) of this section.

(1) At least five percent of the interior area of parking lots with more than 30 spaces shall be devoted to landscape planting areas. Areas may consist of islands or corner planting beds.

(2) Shade trees shall be provided within the interior of parking lots (in islands or corner planting beds) in accordance with the following table:

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(e) *Perimeter parking lot landscaping.* Parking areas, and especially vehicle headlights, shall be screened from public streets and sidewalks, public open space, and adjacent residential properties. Where applicable an applicant may demonstrate that distance and/or finished grades would achieve this objective, whereupon this requirement may be waived by the Planning Director. The perimeter of parking areas shall be screened as follows:

(1) With the exception of VMX area, a landscaped frontage strip at least eight feet wide shall be provided between parking areas and public streets, sidewalks, or paths. If a parking area contains over 100 spaces, the frontage strip shall be increased to twelve feet in width.

a. Within the frontage strip, screening shall consist of either a masonry wall, fence, berm, or hedge or combination that forms a screen a minimum of 3 1/2 and a maximum of four feet in height, and not less than 50 percent opaque on a year-round basis.

b. Trees shall be planted at a minimum of one deciduous tree per 50 linear feet within the frontage strip.

(2) Alongside and rear property lines abutting residential properties or districts, screening shall be provided, consisting of either a masonry wall, fence or berm in combination with landscape material that forms a screen a minimum of four feet in height, a maximum of six feet in height, and not less than 90 percent opaque on a year-round basis. Landscape material shall include trees, planted at a minimum of one deciduous or coniferous tree per 40 linear feet along the property line.

(3) Figure A & B

Figure A: Example cross-section view of perimeter parking lot landscape screening.

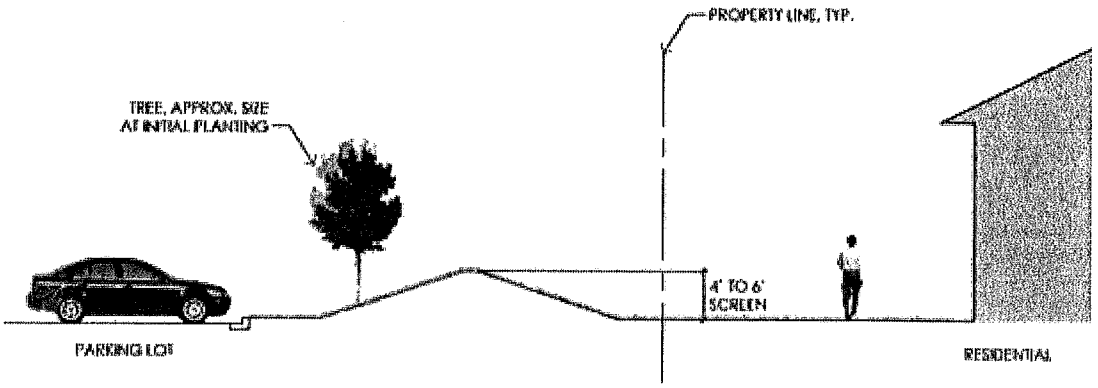
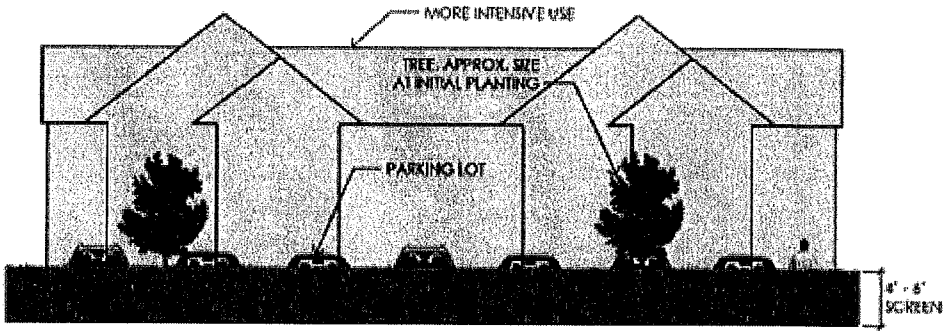


Figure B: Example elevation view of perimeter parking lot landscape screening.



(f) *Screening.* Screening shall be used to provide visual and noise separation of more intensive uses from less intensive uses. Where screening is required in the City Code between uses or districts, it shall consist of either a wall or fence, or berm in combination with landscape material that forms a screen at least six feet in height, and not less than 90 percent opaque on a year-round basis. Top of wall or fence shall be a minimum of six feet above the elevation along the property line(s) from which screening of the less intensive use is required. The city may require screening at least eight feet in height were the difference in intensity of uses is greater, such as between lots planned for development with single-family attached and detached residential development and certain service uses such as self-service storage and trade shops, automotive/vehicular uses, or industrial and extractive uses. Landscape material shall include trees, planted at a minimum of one deciduous or coniferous tree per 25 linear feet along the property line. Screening trees shall be adequately sized and offset from the property line so as not to overhang adjacent properties upon reaching mature size. Additional landscape material, such as shade trees or trellises, may be required to partially screen views from above.

(1) Figure C & D

Figure A: Example cross-section view of perimeter parking lot landscape screening.

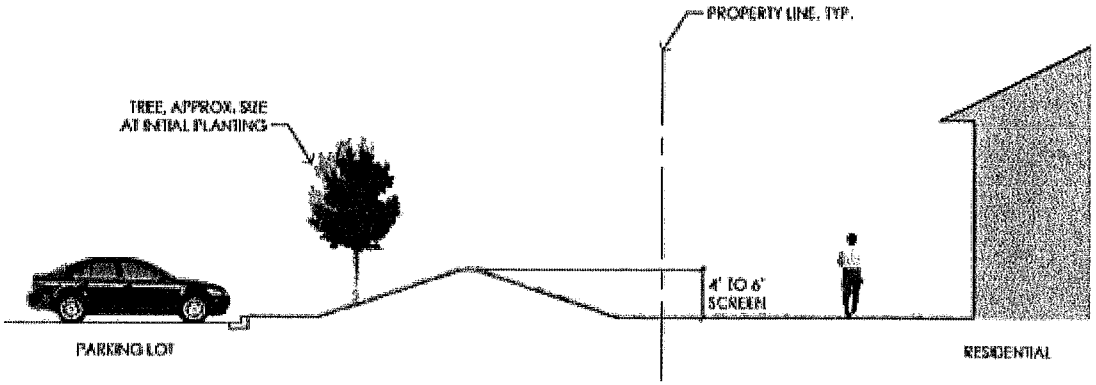
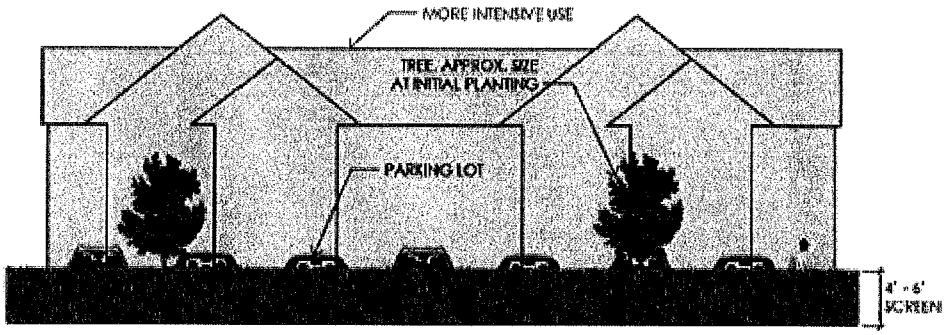


Figure B: Example elevation view of perimeter parking lot landscape screening.



(g) *Maintenance and installation of materials*. Installation and maintenance of all landscape materials shall comply with the following standards:

(1) All landscape materials shall be installed to current industry standards. Special attention must be paid to initial soil preparation, drainage, and proper initial planting of plant root mass.

(2) Irrigation or other water supply adequate to support the specified plant materials shall be provided at the time of, or immediately after, plant installation.

(3) All required landscaping and screening features shall be kept free of refuse and debris.

(4) All landscape plantings, seeded, and sodded areas shall be maintained to manage weeds and ensure establishment of intended plant materials.

(5) All landscape materials shall be guaranteed for two years. Any landscape material that dies, has a dead or broken central leader, exhibits 30% or more crown death, is damaged by construction, or becomes diseased before the end of the second year after installation shall be replaced by the developer.

(6) For nonresidential projects, continuing maintenance and replacement of landscape materials shall be the responsibility of the property owner, including after two years of initial installation. Improvements identified on the landscape plan, including non-plant materials, such as fencing, shall be maintained for the life of the project for which the plan was required.

(h) *Financial security*. The city will require that a financial security, in a form acceptable to the city, be provided as part of a development agreement or applicable permit to ensure compliance and performance of the landscape plan. The financial security will be released to the applicant upon verification by the city that the landscape plan was followed, and that all landscape materials are planted and in a reasonable state of health. The financial security may be used to replace any landscape materials that have become damaged or diseased after planting. Adequate security must be retained to ensure performance for at least two years after the installations have been completed.

HISTORY
Adopted by Ord. 08-253 on 11/3/2021

SECTION 3292 – TURF ESTABLISHMENT AND RESTORATION

SCOPE:

Under this Section of the Specifications shall be included the general clean-up and restoration of areas disturbed by construction, and the temporary and permanent turf establishment measures for seeding and sodding.

GENERAL REQUIREMENTS:

1. RESTORATION OF PAVED SURFACES If the Project requires cutting through a sidewalk, trail, street or private property, the Contractor will be required to restore these areas within five working days after completing the work or installation.

PRODUCTS:

1. FERTILIZER Commercial fertilizer, analysis 23-0-30, MnDOT Specification 3881, shall be spread at the rate of 350 pounds per acre.

2. TOPSOIL. The topsoil shall meet MnDOT Specification 3877, for the applicable area to be restored. Unless otherwise called for on the Plans, the topsoil shall meet MnDOT Specification 3877-A Common Topsoil Borrow with at least 6.0% organic matter.

3. SEED The grass seed mixtures shall meet MnDOT Specification 3876, for the applicable area to be restored. Unless otherwise called for on the Plans, the grass seed shall meet MnDOT Specification 3876, Seed Mixture 25-141 applied at a rate of 59 pounds per acre. In high maintained areas such as residential and commercial lawns, Seed Mixture 25-151 shall be applied at a rate of 120 pounds per acre. The seed mixture for temporary erosion control shall comply with MnDOT Specification 3876, Seed Mixture series 21-112 as applicable and only with prior approval by the Engineer.

4. SOD All sod shall meet the requirements of MnDOT Specification 3878 for the applicable area to be restored. Unless otherwise called for on the Plans, the sod shall meet MnDOT Specification 3878.2A Lawn Sod, a premium quality sod for use in high maintained areas, such as lawns. Native Sod, MnDOT Specification 3878.2D, an average to high density sod with low maintenance requirements, may be used in ditch bottoms and at pipe inlets or outlets.

5. WOOD FIBER BLANKET The erosion control blanket shall be MnDOT 3885 Category 25 (netting on both sides), and shall be made of wood fiber material. Straw fiber material will not be allowed.

6. MULCH Type 3 Mulch meeting the requirements of MnDOT Specification 3882.

7. HYDRAULIC EROSION CONTROL PRODUCTS. Type Bonded Fiber Matrix. (BFM) meeting the requirements of MnDOT Specification 3884, dyed green.

EXECUTION:

1. TURF ESTABLISHMENT The requirements and operations for tilling, fertilizing, seeding, sodding and mulching shall be in accordance with MnDOT Specification 2575. Seed or sod restoration shall be applied as designated on the Plans.

   Boulevards shall be graded upon completion of curb work and graded to allow for placement of six inches of topsoil and two rows of sod. Beyond the sod the Contractor shall place heavy duty silt fence along each lot line and seed the remaining boulevard and disturbed areas. When a platted lot is not adjacent to the boulevard the entire boulevard shall be restored with quality lawn sod. Seeding shall be completed beyond designated sod limits.

2. SOIL PREPARATION Finished grades shall slope uniformly between elevations shown and shall meet flush with walks and pavement. Allow for the thickness of sod, as applicable. The finished Work shall be true, smooth and sightly.

   Topsoil shall be spread smooth but shall not be compacted. Topsoil shall be raked free of lumps and rocks to provide a smooth, mowable surface. Sticks, stones, and trash over one inch, shall be removed. The surface shall be finished to the designated slope and contour. The topsoil shall be loosened and thoroughly pulverized by discing to a depth of six inches.

   Fertilizer shall be spread and worked into the top six inches of soil during preparation. Apply fertilizer in two passes at approximately right angles to each other, each pass placing approximately half of the fertilizer.

3. SEEDING Seeding shall be done between April 1 and June 1 or between July 20 and September 20, except as otherwise may be allowed by the Engineer. Reseeding will be required as may be necessary to obtain a satisfactory stand of grass. Sow seed (for lawn areas) uniformly at the seed mixture specified application rate, adjusting for the certified purity and germination.

   Seeds are to be sown by hand operated or machine operated mechanical seeder, which shall continuously mix the seeds to prevent segregation. Seeding shall be performed in two passes at approximately right angles, each pass placing approximately half of the seed. Immediately after the seed has been sown, the entire area shall be raked lightly and rolled lightly to pack the soil firmly around the seed.

4. WOOD FIBER BLANKET Erosion control fabric shall be placed on all slopes at 3:1 or greater, where indicated on the plans, and in ditches. Erosion control fabric shall be placed over newly seeded areas within 24 hours of seeding. Install in accordance with the manufacturer's instructions, including spacing anchors.

5. MULCH Seeded areas shall be mulched and disc-anchored with the specified mulch type, except where plastic netting or hydraulic erosion control products for stabilization are specified. Mulch shall be spread by mechanical means to provide a uniform distribution at the target application rate. When poor mulch distribution occurs The Contractor will be required to remulch areas where coverage is too light and remove excess where coverage is too heavy, as determined by the Engineer.

6. SODDING Sod operations shall not be started until all necessary equipment, supplies, and labor forces are available to sufficiently place the sod without avoidable delays. Immediately before the sod is laid, the prepared bed shall be sprinkled until all of the loose material is moist. Sodding shall be done only when soil and weather conditions are favorable. The sod strips shall be carefully placed by hand beginning at the toes of the slopes and progressing upwards, the length of the strips as nearly as practical at right angles to the direction of the flow of the surface water. All joints shall be tightly butted and the end joints shall be staggered at least 12 inches. After sod has been placed, the sod shall be pressed into the underlying soil by rolling or tamping. The sod shall be pegged with suitable wood stakes as necessary to keep it in place.

7. MAINTENANCE The Contractor shall water and maintain seeded and sodded areas on a timely basis as the need arises and without the Engineer having to so order. Seed, Mulch, Erosion Control Fabric and Sod shall be maintained until final acceptance of the improvements by the City. The Contractor shall promptly replace all sod that dries out, or is damaged, displaced, or weakened, or is heavily infected by weed growth. Seeded areas shall be reseeded as necessary to establish a permanent vegetative cover acceptable to the City.

END OF SECTION

SECTION 900
TURF ESTABLISHMENT

St Louis Park Engineer Standards

901.0 DESCRIPTION

This section covers the furnishing of all labor, materials, tools, equipment and performances of all work and services necessary or incidental to turf restoration as indicated on the drawings or as specified herein. Unless noted otherwise, the provisions in this section are in addition to the referenced specification.

902.0 MATERIALS

902.1 SEED (MnDOT Spec. 3876)

Seed type shall be MnDOT Mix Number 25-151, MnDOT Specification 3876.2, unless otherwise indicated on the plans and specifications.

Seed shall be tagged to comply with the requirements of the specified seed mixture and tags delivered to the Engineer.

902.2 SOD (MnDOT Spec. 3878)

Sod shall be Lawn Sod as described in MnDOT specification section 3878.2A unless otherwise indicated on the plans and specifications.

Not more than 24 hours shall elapse between cutting and placement of sod. Precautions shall be taken to prevent sod from drying out and from heating. Sod that shows visible signs of heating shall not be incorporated in the project.

902.3 TOPSOIL MATERIAL (MnDOT Spec. 3877)

The type of topsoil material placed on the project shall be called out in the Contract Documents.

902.3.1 LOAM TOPSOIL BORROW

Loam Topsoil Borrow as described in MnDOT specification section 3877.2 B modified to meet the following requirements. The components consist of the following by volume:

Requirement	**Range**	**Test Method**
Material Passing the ¾ in	100%	ASTM D 422
Material passing the No. 4	≥ 90%	-
Clay	5% - 35%	ASTM D 422
Silt	10% - 60%	ASTM D 422
Sand	15% - 60%	ASTM D 422
Organic Matter	**6 %** – 15%	ASTM D2974
pH	6.1 – 7.5	ASTM G 51
Soluble salts	≤ 0.15 siemens/m [	-

902.3.2 MODIFIED TOPSOIL BORROW

Topsoil Borrow as described in MnDOT specification section 3877.2 F, modified to have the following components:

(1) Fifty percent topsoil meeting the requirements of Loam Topsoil Borrow, except modified to have a minimum organic content of 6 %.

(2) Twenty percent sand in accordance with 3149.2J, “Fine Filter Aggregate;” or 3149.2K, “sand cover”

(3) Thirty percent compost in accordance with 3890, "Grade 2 Compost." The compost must be source-separated organic material (SSOM) and must be provided by one of the following suppliers.

The Mulch Store
16454 Blaine Avenue East
Rosemount, MN 55068
952.946.6999

SMSC Organic Recycling Facility
1905 Mystic Lake Dr. S.
Shakopee, MN 55379
952.233.9191

902.4 HYDROMULCH (MnDOT Spec. 3884 B.3)

Type Stabilized Fiber Matrix (SFM) shall be used for hydroseeding in accordance with MnDOT Specifications Section 3884.

902.5 NET FREE EROSION CONTROL BLANKET

As part of the boulevard turf reestablishment and to maintain NPDES permit compliance for not having sediment controls along the back of curb, the Contractor may provide a net free erosion control blanket to stabilize the previously applied hydro-mulch, type to be determined by plans or as directed by the Engineer.

902.6 OTHER MATERIALS

Stakes for holding sod on slopes shall be wood 1 inch X 1/2 inch by 12 inch long and pointed. Where this length of stake does not provide firm bearing, a stake of sufficient length to secure firm bearing shall be used.

Commercial fertilizer shall be delivered in original unopened containers with labels indicating the manufacturer, brand name, and chemical analysis intact.

903.0 CONSTRUCTION REQUIREMENTS

For the following individual work items in addition to the general conditions required by MnDOT standard specifications for construction, individual special items shall apply as indicated.

903.1 SEQUENCING AND SCHEDULING

Sodding will be performed according to the MnDOT Specifications 2575 and the Inspection and Contract Administration Manual for MnDOT Landscape Projects, 2017 Edition.

Seed may be planted during the season of planting appropriate for the particular seed mixture. The season of planting is according to MnDOT Specifications 2575 and the Inspection and Contract Administration Manual for MnDOT Landscape Projects, 2017 Edition.

903.1.1 SEEDING AND PLANTING DATES

Plant seed mixtures during the seasons of planting for the various seed mixtures in accordance with the following Table:

Season of Planting		
Seed Mixture Number	**Spring**	**Fall**
21-112	N/A	Aug. 1 - Oct. 1
21-111	May 1 - Aug. 1	N/A
22-111, 22-112	April 1 - July 20	July 20 - Oct. 20
25-121, 25-131, 25-141, 25-151	April 1 - June 1	July 20 - Sept. 20

25-142	April 1- Sept. 1	N/A
Any seed mix that beginning with at "3"	April 15 - July 20	Sept. 20 - Oct. 20
Adjustments to growing dates may be modified by no more than 10 calendar days by the Engineer based on weather conditions. Provide temporary stabilization when outside the season of planting dates of the specified permanent seed mixture.		

A full warranty period is required to ensure proper vegetation establishment and longevity.

A 45 day maintenance period is required for all seeded areas. For seed that is planted after November 1, the 45 day maintenance period will not begin until the following April 15 and will continue for the full 45 days.

If the Contractor chooses to temporarily stabilize the areas to be seeded after November 1 instead of completing the final stabilization process, the Contractor may submit a temporary stabilization plan to the Engineer defining the temporary stabilization plan, to include erosion and sediment controls, schedule, and a maintenance plan. The costs to implement a temporary stabilization plan after November 1 will be considered incidental to this Contract.

A 30 day maintenance period is required for sod which shall not include days between November 1 and April 15.

903.2 GROUND PREPARATION

Topsoil shall be placed no more than five (5) working days before placement of sod or seed.

All areas disturbed by construction outside of paved areas shall be excavated to a depth of six (6) inches, and tilled to a depth of six (6) to twelve (12) inches to remove compaction, unless otherwise indicated.

Distribute only stockpiled and/or designated select topsoil borrow over the areas to be sodded or seeded to provide the specified depth of cover for the areas shown on the plans to be sodded and bring the entire site to grade. The depth of topsoil cover shall be six (6) inches, unless otherwise indicated.

Areas shall be worked until soil is completely fined and in a mellow condition to finish grade. Holes, depressions, and rivulets shall be filled in and brought to a smooth grade.

All sticks, branches, stones, or other debris on the surface over two (2) inch in size shall be picked up and removed.

No heavy equipment except lawn rollers shall be moved over turf areas after soil has been prepared, unless soil is again graded and loosened as specified above.

Grades not otherwise indicated shall be uniform between points where elevations are given or between such points and finish grades. The maximum slope shall be no steeper than one (1) vertical to three (3) horizontal. Abrupt changes in slopes shall be rounded. All holes, depressions, and rivulets shall be filled and brought to a smooth grade. All areas shall be graded to drain to the street or to a drainage structure.

If the placed topsoil is compacted, the topsoil shall be loosened to a minimum depth of six (6) inches using disks, harrows, field diggers, or other suitable cultivating equipment.

903.3 TOPSOIL

Submit a list of prospective sources for topsoil material to the Engineer at the preconstruction meeting to allow for inspecting, testing, and approving the sources. Submit preapproval test results to the Office of Environmental Stewardship, Erosion & Stormwater Management Unit. If federal or state chemical or biological requirements conflict, provide material meeting the most stringent requirement.

Test blended topsoil for each individual component before blending.

Fertility testing will be in accordance with the standard testing procedures of the University of Minnesota Soils and Testing Laboratory, Soil Science Department.

903.4 FERTILIZING TURF AREAS

A soil test shall be taken and commercial fertilizer shall be applied and raked in at the rate recommended for the Loam Topsoil Borrow provided for the areas identified for turf establishment.

Fertilizer application shall be per manufacturer's printed instructions.

Fertilizer must be dry and free flowing when applied. Caked or deteriorated materials will not be permitted.

Where liming is required, it shall be applied prior to sodding, and the soil shall be tilled at least once within 24 hours following the liming and prior to the sodding.

903.5 SODDING

Areas to be sodded shall be brought to within thickness of sod of finish grade. Allowance for settlement shall be made.

Sod strips shall be placed tightly against each other so no open joints are apparent. Joints between ends of strips shall be staggered at least one (1) foot between adjacent rows. At the edge of walks, curbs, and drives, sod shall have the same finish grade as hard surfaced area. Sod shall be laid so water from adjacent areas will have free flow onto sodded area. Light rolling of sod will be required to achieve smooth planes and so no void occurs between sod and subsoil. Edges of sod where rolls abut each other or another material shall be cut, not torn.

Sod covering drainage swales and on slopes steeper than three (3) to one (1) shall be held in place by wooden stakes driven through the sod into subsoil until flush with top of sod or by other approved method to hold sod in place.

Sod areas shall be fertilized, watered, and mowed, if necessary, to assure that sod areas are uniformly moistened and maintained in a moist condition for a minimum of thirty (30) growing days or until sod work has been approved by final acceptance and responsibility for maintenance accepted by the Engineer.

903.6 SEEDING

Seed application rate is 150% of MnDOT’s recommended rate.

Seeding shall be applied by a Hydroseeder as described in MnDOT specification section 2575.

Firming the seedbed with a corrugated cultipacker or other approved method will be required.

Seeding shall be performed only during the season(s) of planting associated with the specified seed mixture unless indicated in the plans and specifications or approved by the Engineer in writing. The season(s) of planting are as outlined in MnDOT Specification Section 2575.

All seed shall conform to the requirements of the latest seed laws of the State and to the requirements of MnDOT Specification 3876.

All seeded areas in drainage swales and/or on slopes 3:1 or greater shall be covered with ECB Category 3B Wood Fiber (MnDOT Specifications 3885) erosion control blanket and staples installed according to manufacturer's installation instructions as approved by the Engineer.

903.7 NET FREE EROSION CONTROL BLANKET

Before installing net free erosion control blankets, the seedbed shall be inspected by the Engineer to ensure it has been properly compacted and fine graded to remove any existing rills. It shall be free of obstructions, such as tree roots, projections such as stones, and other foreign objects. The contractor shall proceed when satisfactory conditions are present. After the area has been properly shaped, per MnDOT specification based on slopes, hydro-seeded, fertilized, and compacted, locate the start of the roll, making sure the roll is facing toward the area to be covered, and then roll out the blanket. Blankets shall be rolled out flat, even, and smooth without stretching the material then anchored to the subgrade.

Place the blankets the same day after sowing of the seed on that area. Roll out or lay the blankets without netting on top of hydro-mulch. Roll out blankets flat and parallel or perpendicular to the direction of water flow. Evenly spread the blankets without stretching, allowing the fibers to come in direct contact with the soil over the entire area. Shingle and overlap the edges parallel to water flow by at least 4 inches. Shingle and overlap the edges perpendicular to water flow by at least seven (7) inches. Staple overlaps on slopes at 1½ ft intervals, see MnDOT Table 3885-5 for further stapling information.

903.8 TESTING

All testing of materials and densities in this section as directed by the Engineer shall be taken by the Engineer or an independent testing laboratory. Cost of these tests shall be paid by the Owner, except that any retesting of areas that fail to meet specifications shall be paid by the Contractor.

903.9 WATER

The Contractor shall work with the City to obtain permits required for obtaining the water required to spray the Turf Establishment Areas.

The Contractor shall maintain a log of watering dates and volumes and provide them to the Engineer to review for payment.

904.0 TURF ACCEPTANCE

The Contractor shall be solely responsible for Turf Establishment as outlined in the plans and specifications for this project. The Engineer and Contractor shall inspect the turf prior to final closeout.

Contractor will be responsible for any and all repairs required to achieve the required vegetative cover.

904.1 SEED

The contractor is responsible for the warranty of all seed installation. The warranty period for Seeded areas is 45 growing days. Water within one day after areas have been seeded. Apply water at a rate that prevents any damage to hydro-mulch, erosion blanket, and so that no runoff should occur from the seeded areas.

Supply water to seed daily for the first 15 calendar days at a rate to keep soil surface moist. For the remainder of the 30 calendar days, water seeded areas as needed to provide one (1) inch per week. The warranty period is suspended at freeze up and resumes April 15th.

During the warranty period, contractor shall repair seeded areas that have dried, died, that have been damaged, displaced, or weakened or is infested with over 40 percent of invasive species and does not have the desired outcome.

Prior to the expiration of warranty period, the Engineer will inspect the seeded areas to determine if the seeded areas have established a uniform 70 percent or greater vegetative cover. If the uniform 70 percent or greater cover has not been established, the contractor is responsible for any and all maintenance and repairs necessary to achieve the uniform cover at no additional cost to the City.

904.2 SOD

The contractor is responsible for the warranty of all sod installation. The warranty period for sod is 35 growing days. New sod must be watered within four hours of placement. Apply water at a rate that prevents any damage to sod, minimizes runoff, and keeps the sod moist. The sod should be watered a minimum of twice per day for the first 10 days and a minimum of once per day beyond the first 10 days. The contractor must maintain a log of the watering which shows the date, time, and amount of water which was used. This log must be provided to the engineer upon request.

Failure to water the sod within 4 hours of placement or less than the minimum number of occurrences as provided above will result in a $500 penalty per occurrence.

During the warranty period, the contractor shall repair sodded areas that have dried, died, that have been damaged, displaced, or weakened or is infested with over 30 percent of invasive species and does not have desired outcome.

Prior to the expiration of the warranty period, the Engineer will inspect the sodded areas to determine if the Contractor has established a uniform growth. If the uniform growth has not been established, the contractor is responsible for any and all maintenance and repairs necessary to achieve the uniform growth at no additional cost to the City.

905.0 METHOD OF MEASUREMENT AND BASIS OF PAYMENT

All other work under this section is incidental to the contract for this section unless specifically listed in the Special Conditions. The basis of measurement and payment shall be as follows:

905.1 FERTILIZER TYPE 3

Payment for Fertilizer shall be by the weight of each type applied. If the Contractor provides fertilizer with different type than as shown on the plans, the Engineer will adjust the application

rate of the fertilizer provided to meet the equivalent type proportions of the fertilizer shown on the plans.

905.2 _____ TOPSOIL BORROW (LV)

Payment for "_____ Topsoil Borrow" shall be by the cubic yard. If the topsoil fails to meet the requirements of the testing, and no suitable replacement material is found, a reduction of 10% will be applied to the Topsoil Borrow item in the Proposal. Unit prices in the Proposal shall prevail with no adjustment being made due to an increase or decrease in quantities.

905.3 SEED

Payment at the unit price for "Seed" shall be by the acre as measured by the disturbed area. Measurement and payment shall be full compensation for all materials, delivery, ground preparation, placement, debris and rock removal, rolling, specified maintenance, coordination and associated work complete and in place.

The City will pay up to 60 percent of the contract unit price for each seed, hydro-mulch, and net free erosion blanket until the seeded areas have achieved a uniform 70 percent or greater vegetative cover.

The City will pay up to 95 percent of the contract unit price for each seeded area that has been accepted by the engineer.

905.4 SODDING TYPE LAWN

Payment at the unit price for "Sodding Type Lawn" shall be by the square yard of sod as measured in place. Measurement and payment shall be full compensation for all materials, delivery, ground preparation, placement, cutting in edges, rolling, staking, specified maintenance, coordination and associated work complete and in place.

The City will pay up to 60 percent of the contract unit price for each sodded area during the warranty period.

The City will pay up to 95 percent of the contract unit price for each sodded area that has been accepted by the engineer.

905.5 WATER (TURF ESTABLISHMENT)

Payment for "Water (Turf Establishment)" shall be by the M gallons. The Unit prices in the Proposal shall prevail with no adjustment being made due to an increase or decrease in quantities.

Water paid for under this item will be used only on this Contract for Turf Establishment.

905.6 HYDROSEED

Payment at the unit price for "Hydroseed" shall be by the square yard of seeded area as measured in place and payment shall be based at the contract unit price. Measurement and payment shall include all materials, delivery, ground preparation, seeding, rolling, hydromulch, specified maintenance, coordination and associated work complete and in place.

905.7 NET FREE EROSION CONTROL BLANKET

Net free erosion control blankets shall be measured by the square yard that has been installed.

City of Woodbury Reply

Sophia Jensen

From: Searles, Eric <eric.searles@woodburymn.gov>
Sent: Wednesday, February 8, 2023 9:55 AM
To: Sophia Jensen; McCormack, Gina; Krumwiede, Dan; Thoen, Jamie
Subject: RE: City of Lake Elmo - Topsoil Requirements

Sophia:

We do not address in the code. Instead we do it through conditions of approval and the Development Agreement. Below is that language from our form agreement.

a. Where topsoil is removed, sufficient arable soil shall be set aside for re-spreading over the development area. The topsoil shall be restored to a depth of at least four (4) inches and shall be of a quality at least equal to the soil quality prior to development. On a lot-by-lot basis, the Developer shall provide the City with written verification that the topsoil equal to the soil quality prior to development has been placed on each respective lot. Site inspections will be completed by the City to ensure the required topsoil is provided and compliance with this paragraph shall be secured via the Plan A Security, as defined herein.

Eric Searles
Assistant Community Development Director/City Planner
8301 Valley Creek Road Woodbury, MN 55125
(651) 714-3532 | www.woodburymn.gov

From: Sophia Jensen <SJensen@lakeelmo.org>
Sent: Wednesday, February 8, 2023 8:09 AM
To: Searles, Eric <eric.searles@woodburymn.gov>; McCormack, Gina <gina.mccormack@woodburymn.gov>; Krumwiede, Dan <dan.krumwiede@woodburymn.gov>; Thoen, Jamie <jamie.thoen@woodburymn.gov>
Subject: City of Lake Elmo - Topsoil Requirements
Importance: High

Greetings,
The City of Lake Elmo is looking into requiring 4-6in of topsoil borrow on newly developed lots in the City – the intent of this change is to reduce water demand for irrigation. I understand that Woodbury has a similar requirement and I was wondering if there is a policy or code language you can share with me regarding this matter.

If I could get an answer by the end of the day today or early tomorrow that would be ideal. We are trying to have the draft text amendment done by the end of the week.

Thank you,

Sophia Jensen
City Planner

City of Lake Elmo
3800 Laverne Ave N
Lake Elmo, MN 55042
651-747-3911

City of Victoria Reply

Sophia Jensen

From: Jenn Brewington <jbrewington@ci.victoria.mn.us>
Sent: Wednesday, February 8, 2023 10:12 AM
To: Sophia Jensen
Subject: RE: City of Lake Elmo - Topsoil Requirements

Hi Sophia,

The City of Victoria has a long history of trying to come up with the best solution to address this very concern outlined in your email. Our current growth is occurring in areas located within the Carver County WMO. CCWMO has been a leader in Carver County in trying to come up with the best approach to solve this issue. Their rules require projects to include a topsoil management plan and their staff provides assistance to developers and project owners to implement and enforce the topsoil management plan.

Here is a link to their website: https://www.co.carver.mn.us/departments/public-services/planning-water-management/water-management

Here is a link to their ordinance that includes the requirements for a topsoil management plan: https://www.co.carver.mn.us/home/showpublisheddocument/9682/637920100192670000

Here is a link to their guidance document that provides detailed information (see page 9) about what is required: https://www.co.carver.mn.us/home/showpublisheddocument/9970/636174948145200000

The city is currently observing how this process works in our current growth area but may at some point extend similar requirements of our own across the entire city but need to determine how we would provide the expertise/enforcement needed for this to be successful.

From: Sophia Jensen <SJensen@lakeelmo.org>
Sent: Wednesday, February 8, 2023 8:10 AM
To: Jenn Brewington <jbrewington@ci.victoria.mn.us>
Subject: City of Lake Elmo - Topsoil Requirements
Importance: High

Greetings,
The City of Lake Elmo is looking into requiring 4-6in of topsoil borrow on newly developed lots in the City – the intent of this change is to reduce water demand for irrigation. I understand that Victoria has a similar requirement and I was wondering if there is a policy or code language you can share with me regarding this matter.

If I could get an answer by the end of the day today or early tomorrow that would be ideal. We are trying to have the draft text amendment done by the end of the week.

Thank you,
Sophia Jensen
City Planner

City of Lake Elmo
3800 Laverne Ave N
Lake Elmo, MN 55042
651-747-3911

Chapter 153 Water Resource Management

Carver County Topsoil Requirements

General Provisions

General Requirements and Review Process

Application Requirements

Standards

Enforcement

GENERAL PROVISIONS

§ 153.01 DISCLAIMER, INTERPRETATION AND OTHER GENERAL PROVISIONS.

(A) Disclaimer. This chapter does not imply that areas within or outside of the CCWMO will be free from water related damages. This chapter does not create liability on the part of the county or its officers or employees for water related damage that may result from reliance on this chapter or any administrative decisions made under it.

(B) Interpretation. In their interpretation and application, the provisions of this chapter shall be held to be minimum requirements and shall be liberally construed in favor of the governing body and shall not be deemed a limitation or repeal of any other powers granted by state statutes.

(C) Supremacy. This chapter is not intended to abrogate any easements, restrictions, or covenants, relating to the use of land or imposed on lands within the community by private declaration or agreement, but

where the provisions of this chapter are more restrictive than any such easement, restriction, or covenant, or the provision of any private agreement, the provisions of this chapter shall prevail.

(D) Liability. The responsible party is responsible for safely and legally completing the project. Neither the issuance of approval under the provisions of this chapter nor the compliance with the provisions hereto or with any condition imposed by the issuing authority, shall relieve any person from responsibility for damage to persons or property resulting therefrom, or as otherwise imposed by law, nor impose any liability upon the county for damages to persons or property.

§ 153.02 DEFINITIONS.

(A) Definitions as set forth in Appendix B of the Minnesota Permit R100001 (the General Permit Authorization to Discharge Storm Water Associated With Construction Activity Under The National Pollutant Discharge Elimination System) as amended from time to time which are hereby adopted and incorporated by reference.

(B) Unless specifically defined below, words or phrases used in this chapter shall be interpreted so as to give them the same meaning as they have in common usage and to give this chapter its most reasonable application. The following words and terms, whenever they occur in this chapter are defined as follows:

APPLICATION. A completed application for activities regulated by this permit.

ATLAS 14. A publication from the National Oceanic and Atmospheric Administration (NOAA) that provides precipitation event frequency and magnitude estimates.

BARE AREAS. Areas that are intended to be fully vegetated, where vegetative cover is less than 70%.

BEST MANAGEMENT PRACTICE (BMP). A stationary and permanent best management practice that is designed, constructed, and operated to prevent or reduce the discharge of pollutants in stormwater. BMPs may be structural or non-structural.

BIORETENTION. A best management practice (BMP) that captures stormwater runoff, holding it, and removing suspended particles from the runoff via plant uptake and by passing it through a porous media. Also see FILTRATION.

BLUFF. A topographic feature such as a hill, cliff, or embankment having the following characteristics:

(1) The slope rises at least 25 feet; and
(2) The grade of the slope from the toe of the bluff to the top of the bluff averages 30% or greater, except that an area with an average slope of less than 18% of a distance of at least 50 feet shall not be considered part of the bluff.

BLUFF TOP. The top of a bluff is a point on the upper part of a bluff where the average slope levels off to 18% or less.

BRIDGE. Structures having an opening measured horizontally along the center of the roadway of ten feet or more between undercopings of abutments, between spring line of arches, or between extreme ends of openings for multiple boxes. Bridge also includes multiple pipes where the clear distance between openings is less than half of the smaller contiguous opening.

CCWMO. Carver County Water Management Organization.

COMMON PLAN OF DEVELOPMENT. A common plan of development or sale means a contiguous area where multiple separate and distinct land disturbing activities may be taking place at different times, on different schedules, but under one proposed plan.

COMPENSATORY STORAGE. The replacement of floodplain storage lost by placement of fill below the 100-year flood elevation. Measured by the volume of material excavated below the floodplain elevation that is required to offset floodplain fill.

CONSTRAINED AREA. An area or site with specific conditions that make volume control BMPs difficult, undesirable, or impossible. If these conditions are present, the site may qualify as "constrained," subject to county review and determination. Examples of constraints include potential contamination, low permeability soils, etc.

CONSTRUCTION ACTIVITY. A disturbance to the land that results in a change in the topography, existing soil cover (both vegetative and non-vegetative), or the existing soil topography that may result in accelerated stormwater runoff, leading to soil erosion and movement of sediment into surface waters or drainage systems. Examples of construction activity may include clearing, grading, filling, and excavating.

COUNTY. Shall refer to Carver County as the water management authority within the CCWMO.

CROSSINGS. Culverts, bridges, dams, or other obstructions or alterations to flow in waters of the state as defined with flows equal to or greater than 10 cubic feet per second.

DISCHARGE. The conveyance, channeling, runoff, or drainage of stormwater, including snow melt, from a construction site.

DNR CATCHMENT AREA. The smallest delineated and digitized drainage area mapped by the Minnesota DNR Watershed Delineation Project, as updated from time to time.

DOWNSTREAM CAPACITY. The ability of the natural and structural conveyance system to accommodate additional flows from the site discharge points to the nearest receiving major waterbody without causing nuisance conditions or flooding. This includes capacity of the conveyance system to accommodate additional rates, volumes, velocities and duration of flow.

DOWNSTREAM FACILITY. A constructed/altered water body created specifically for the purpose of treating stormwater runoff which may be located off the project site and would receive runoff from the project site.

EMERGENCY WORK. Work needed to protect life, limb, and property.

EROSION. The wearing away of soil by rainfall, surface water runoff, wind, or ice movement.

EROSION CONTROL. Methods employed to prevent erosion. Examples include, but are not limited to soil stabilization practices, horizontal slope grading, temporary or permanent cover, and construction phasing.

EXISTING CONDITIONS. The condition of a site (amount of impervious, soil condition, topography, vegetative cover, etc) prior to the start of a land altering activity.

FEEDLOT. Refer to the feedlot management regulations, Chapter 54 of this code of ordinances.

FILL. Any solid material added to or redeposited in an area that changes the area's hydrological characteristics, obstructs flow patterns, converts wetland to non-wetland, or alters the area's capacity to store the 100-year flood.

FILTRATION. The process of capturing stormwater runoff, holding it, and removing suspended particles from the runoff by passing it through porous media. Also see BIORETENTION.

FLOOD. A temporary increase in the flow or stage of a stream or in the stage of a wetland or lake that results in the inundation of normally dry areas.

FLOODPLAIN. The beds proper and the areas adjoining a wetland, lake or watercourse which have been or hereafter may be covered by the regional flood.

FLOODWAY. The bed of a wetland or lake and the channel of a watercourse and those portions of the adjoining floodplain which are reasonably required to carry or store the regional flood discharge.

HIGH WATER LEVEL (HWL). The calculated peak elevation of a water body for the greater of the 100-year, 24-hour rainfall or 100-year, 10-day snowmelt event as described in Atlas-14.

IMPERVIOUS. A constructed hard surface that either prevents or retards the entry of water into the soil and causes water to run off the surface in greater quantities and at an increased rate of flow than prior to development. Examples include rooftops, sidewalks, patios, driveways, parking lots, storage areas, and concrete, asphalt, or gravel roads.

INFILTRATION AREAS. A stormwater runoff impoundment designed to capture stormwater runoff volume, hold this volume and infiltrate it into subsurface soil.

LAND ALTERING ACTIVITY. See CONSTRUCTION ACTIVITY.

LINEAR PROJECT (LINEAR). A project that constructs or reconstructs a road, trail, rail line, or sidewalk and is not part of a common plan of development.

LOCAL GOVERNMENT UNIT, LGU or LOCAL UNIT. Has the meaning given it in M.S. § 473.852, as it may be amended from time to time.

MAJOR WATERBODY. See PROTECTED WATERS AND WATERWAYS.

MAJOR SUBWATERSHED. Major subwatersheds within the Carver County Watershed Management Organization are defined as the drainage areas for the following waterbodies: Bevens Creek, Carver Creek, East Chaska Creek, West Chaska Creek, and the South Fork of the Crow River.

MILL AND OVERLAY. A pavement maintenance technique that removes the top layer of pavement by the grinding action of a large milling machine. After the top layer is removed, a new layer of bituminous pavement is put in its place. Underlying base, subbase, and subgrade are not disturbed.

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4). A municipal separate storm sewer system is a conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, storm drains, etc.) that is also:

- owned or operated by a public entity (which can include cities, townships, counties, military bases, hospitals, prison complexes, highway departments, universities, etc.) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage districts, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the Clean Water Act that discharges to waters of the United States;
- designed or used for collecting or conveying stormwater;
- which is not a combined sewer; and

- which is not part of a publicly owned treatment works.

NORMAL WATER LEVEL (NWL). The elevation of water at its fixed or designed outlet elevation

PAVEMENT RECLAMATION. A pavement maintenance technique that consists of uniformly crushing, pulverizing and re-mixing the pavement section along with a small portion of the underlying base material and relaying it in one operation. The existing subgrade and the large majority of the subbase are left undisturbed.

PAVEMENT REHABILITATION. A pavement maintenance technique that consists of structural enhancements that extend the service life of an existing pavement and/or improve its load carrying capacity. Rehabilitation techniques include restoration treatments and structural overlays but do not typically involve more than spot corrections to base or subbase.

PEAK RATES. The maximum rate of flow from a point of storm water discharge during or immediately following a storm event, usually in reference to a specific design storm.

PERVIOUS. A surface that is readily penetrated or permeated by rainfall or runoff resulting in infiltration and reduced runoff.

POND. A graded area which collects and stores water.

PRETREATMENT. Sediment removal designed to capture or trap coarse sediments to preserve storage, prevent clogging and extend the life of facilities. Pretreatment may include but is not limited to vegetated filter strips, small sedimentations basins, forebays, and grit chambers.

PROPERTY OWNER. The person or party possessing the title of the land on which the construction activities will occur; or if the construction activity is for a lease holder, the party or individual identified as the lease holder; or the contracting government agency responsible for the construction activity.

PROTECTED WATERS AND WATERWAYS. Water bodies or watercourses so identified on the Public Waters Wetlands Inventory Map published by the Department of Natural Resources, State of Minnesota or watercourses determined by the county to have a watershed of two square miles or more.

PUBLIC WATER. See PROTECTED WATERS AND WATERWAYS.

RECEIVING WATERBODY. A body of water such as a stream, river, lake, or wetland which receives stormwater.

REGIONAL FLOOD. A flood which is representative of large floods known to have occurred generally in Minnesota and reasonably characteristic of what can be expected to occur on an average frequency in a magnitude of the 1% chance or 100-year recurrence interval.

RECONSTRUCTION (FULL RECONSTRUCTION). Full removal and reconstruction of impervious surfaces (including pavement structure, base, and subbase). Activities including mill and overlay projects pavement reclamation, or pavement rehabilitation projects that do not expose the underlying soils are not considered fully reconstructed.

REDEVELOPMENT. A land altering activity that creates new or replaces existing impervious surface on a parcel that is fully or partially occupied by buildings and/or other impervious surface. Redevelopment does not apply to in-kind replacement (i.e. replacing a parking lot with a parking lot in the same location).

RESPONSIBLE PARTY. The property owner or his or her agent.

RIGHT-OF-WAY (R-O-W). A strip of land acquired by reservation, dedication, prescription, or condemnation and intended to be occupied or used by a road, street, trail, water line, sewer line, electrical transmission line or similar public and/or utility service. Unless otherwise specified, the term RIGHT-OF-WAY (R-O-W) as used in this chapter refers to road or street right-of-way.

SEDIMENT. 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, air or ice, and has come to rest on the earth's surface either above or below water level.

SEDIMENT CONTROL. Methods employed to prevent sediment from leaving the site. Sediment control practices include, but are not limited to 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.

SENSITIVE AREAS. Areas that are within 50 feet of and drain to one or more of the following resources: DNR protected waters, watercourses as defined, designated floodplain, bluffs and bluff tops, Wellhead Protection Areas as adopted by LGU, delineated wetland boundaries, or wetlands as shown on the National Wetland Inventory (NWI). The distance is measured horizontally from construction limits.

SITE. One or more contiguous properties that are the location of construction activity and are under the control of the applicant.

SOIL. The unconsolidated mineral and organic mineral material on the immediate surface of the earth.

STABILIZED. The exposed ground surface has been covered by staked sod, riprap, wood fiber blanket, or other material which prevents erosion from occurring. Grass seed is not stabilization.

STORM EVENT. As defined in Technical Paper 40 from NOAA, Rainfall Frequency Atlas of the United States for Durations from 30 minutes to 24 Hours and Return Periods from 1 to 100 Years (1961).

STRUCTURE. Anything constructed or erected on or connected to the ground.

SWCD. The Carver County Soil and Water Conservation District.

TOP OF BANK. For natural watercourses, the first major change in slope of the incline above a clearly defined channel. For altered watercourses, the top of the constructed bank.

TOPSOIL. The uppermost layer of soil, containing organic matter and micro-organisms.

WATERBODY. All waterbasins, watercourses, and wetlands as defined in these rules.

WATERBASIN. An enclosed natural depression with definable banks, capable of containing water, that may be partly filled with waters of the state.

WATERCOURSE. Any channel having definable beds and banks capable of conducting generally confined runoff from adjacent lands. During floods water may leave the confining beds and banks but under low and normal flows water is confined within the channel. A watercourse may be perennial or intermittent. This definition excludes road ditches and swales constructed solely for the purpose of conveying runoff from highways, roads and streets and the adjacent lands.

WATERS OF THE STATE. All streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, reservoirs, aquifers, irrigation systems, drainage systems and all other bodies or accumulations of water,

surface or underground, natural or artificial, public or private, which are contained within, flow through, or border upon the state or any portion thereof.

WATERSHED. The drainage area under the jurisdiction of a watershed management organization.

WETLANDS. All wetlands identified as wetlands under M.S. § 103G.005, subd 19. The term does not include "public waters wetlands" as defined under M.S. § 103G.005, subd 15a.

WETLAND CONSERVATION ACT (WCA). As defined by Minnesota Wetland Conservation Rules, Minn. Rules Ch. 8420, as it may be amended from time to time.

(C) All distances, unless otherwise specified, shall be measured horizontally.

(D) Any words not defined in this section shall have the meanings given them in Merriam-Webster's Collegiate Dictionary, 11th Edition.

§ 153.03 STATUTORY AUTHORIZATION AND PURPOSE.

(A) This chapter is adopted pursuant to M.S. §§ 103B.211 through 103B.255 and Minn. Rules 8410, as they may be amended from time to time.

(B) The overall purpose of this chapter is to protect, preserve and manage natural surface and groundwater systems within Carver County in the face of rapid urban growth and intensive agricultural activity. The chapter also presents sustainable and equitable means to effectively reach those goals by providing guidance and specific standards for decision-makers, residents, landowners, educators, and implementing staff at the local level.

GENERAL REQUIREMENTS AND REVIEW PROCESS

§ 153.10 GENERAL REQUIREMENT FOR COMPLIANCE.

(A) Effective date. This chapter shall take effect immediately upon its passage and publication according to law.

(B) The standards contained in this chapter shall be the minimum standards for the issues covered by this chapter for any land altering activity in the CCWMO. All land altering activities shall conform to the standards in this chapter unless specifically exempted below. For long term land altering activity that does not have a defined start and stop timeframe (such as routine agricultural activity), standards under other state and federal programs may apply. Some projects or activities fall below the thresholds that require formal review and approval process. The fact that formal review and approval is not required does not excuse these activities from compliance with this chapter.

(C) The following activities shall not be subject to the requirements of this chapter or to the specific requirement as shown below. Activities exempt from a specific requirement may still be subject to other requirements in this chapter.

(1) Routine agricultural activity. Tilling, planting, harvesting, and associated activities. Other agricultural activities are not exempt such as feedlots, storage sheds;

(2) Emergency work to protect life, limb, or property;

(3) Installation of fence, sign, telephone, electric or other kinds of posts or poles;

(4) Utility maintenance and horizontal drilling projects that are part of a larger plan of development;

(5) Construction or replacement of crossings that are not in contact with watercourses as defined in these rules.

(6) Downstream Facility Exemption. A project is exempt from the rate control, water quality, and volume control standards of this chapter upon determination by the county that a downstream facility is in place or has been ordered and the facility is designed with adequate capacity to meet the treatment requirements for the project.

(7) Projects consisting of mill and overlay activities, pavement rehabilitation, pavement reclamation, and normal road maintenance are exempt from the rate control, water quality, and volume control requirements of this chapter;

(8) New trails or sidewalk projects that create impervious surfaces 12 feet or less in width, are created independently from linear projects, and will be bordered on the downgradient side(s) by a pervious buffer averaging at least one-half the width of the sidewalk or trail are exempt from the rate control, water quality, and volume control requirements of this chapter;

(9) Reconstruction projects that reduce cumulative site impervious by 10% or more are exempt from the rate control, water quality, and volume control requirements of this chapter; and

(10) Individual residential lots that are part of a common plan of development with an approved stormwater or erosion and sediment control permit shall not require an individual permit unless an individual permit was required under the approval conditions for the common plan of development.

(11) Projects which extend drainage conveyance pipes and other crossings which do not significantly alter the hydraulic drainage characteristics of the crossing (e.g. do not result in changes to the 2-, 10-, and/or 100-year hydraulic profile, flow capacity, invert elevations, upstream and downstream water elevations).

(D) For previously approved projects, the conditions which require permit review and reapproval are described below:

(1) If the amount of impervious surface approved in the stormwater permit increases, a new stormwater permit shall be required and the project shall meet the rules in place at the time of re-application;

(2) If 18 months have passed since the date of approval without construction activity on the site or if 18 months have passed since the last construction activity on the site, permit review and reapproval are required;

(3) Common Plan of Development. Individual commercial or industrial lots or phases of a residential development that are part of a common plan of development that has received an approved stormwater permit from the county on or before the effective date of this chapter shall be required to obtain a permit as described below:

(a) If previously approved stormwater infrastructure has been fully constructed and or alterations will not result in reductions in approved treatment amounts, a new erosion control permit shall be obtained. Verification that the stormwater treatment infrastructure is functioning shall be required.

(b) If previously approved stormwater treatment infrastructure has not been constructed, a new stormwater permit shall be obtained. The project shall meet standards in place at the time of re-application.

(4) Projects Proposed for Replatting. Projects with a previously approved stormwater permit that are proposed for replatting shall be required to obtain a permit as described below:

(a) If previously approved stormwater treatment infrastructure has been fully constructed or alterations will not result in reductions in approved treatment amounts, if the stormwater treatment infrastructure is functioning as designed, and the amount of proposed impervious surface remains the same or decreases, the project will be considered exempt from the current stormwater treatment requirements and a new erosion control permit shall be obtained.

(b) If previously approved stormwater treatment infrastructure has not been constructed, a new stormwater permit shall be obtained. The project shall meet standards in place at the time of re-application.

§ 153.11 REVIEW PROCESS.

Carver County shall have the authority to administer and enforce this chapter.

(A) Thresholds and requirements for review and approval. The need for review and approval and procedures will be dependent on the scale of the project and its location relative to sensitive areas. Regardless of whether or not an activity meets a threshold for review, all land altering activities shall take appropriate erosion control measures to prevent the sedimentation of receiving waterbodies or discharges of sediment onto neighboring properties. See § 153.10(C) and See § 153.10(D) for a description of activities and situations that are exempt from some or all of the requirements of this chapter. Applicant should contact the County if unsure of the project level.

(1) Activities requiring an Erosion Control Permit.

(a) Any of the following activities shall require an Erosion Control Permit:

(1) Projects with one acre or more of construction activity and not in a sensitive area; or

(2) Projects with less than one acre of construction activity that are part of a larger common plan of development or sale if the larger common plan ultimately has construction activity equal to or greater than one acre; or
(3) Projects with less than one acre of construction activity within a sensitive area; or
(4) Projects which require the release of material off-site or into waters of the state; or
(5) Projects which create or concentrate new discharges or flows over ten cubic feet per second (cfs) (NOTE: see 153.11(A)(3) for thresholds for projects that remove or replace and existing stream crossing or create a new stream crossing); or

(b) Activities described in § 153.11(A)(1)(a)1-4 require review and approval by the county based on standards in § 153.55.

(c) Activities described in §153.11(A)(1)(a)5 require review and approval by the county based on standards in § 153.55 and § 153.56(G).

(2) Activities requiring a Stormwater Permit.

(a) Any of the following activities shall require a Stormwater Permit:

i. Projects which cumulatively construct, reconstruct, or redevelop one acre or more of impervious surfaces after September 1, 2002; or

ii. Projects which cumulatively construct, reconstruct, or redevelop 10,000 square feet of impervious surfaces after September 1, 2002 and located within a sensitive area; or

iii. Projects which result in a loss of stormwater treatment from an impervious area of 10,000 square feet or greater. Examples include loss of treatment by impervious disconnection through creation of curb and gutter or impacts to existing stormwater BMPs.

iv. Projects which include structural stormwater treatment.

(b) These activities require review and approval by the county based on standards in §§ 153.55 through 153.64.

(3) Activities requiring a Stream Crossings Permit

(a) Projects which create new crossings as defined in these rules.

(b) Projects which replace or improve existing crossings as defined in these rules and result in changes to the 2-, 10-, and/or 100-year hydraulic profile, flow capacity, invert elevations, or upstream and downstream water elevations.

(c) Projects which remove existing crossings as defined in these rules.

(d) These activities require review and approval by the county based on standards in § 153.57.

(4) Activities requiring a Maintenance Permit

(a) Any of the following activities shall require a Maintenance Permit:

i. Projects which involve the replacement of existing crossings as defined in these rules and result in changes to the hydraulic profile of the waterbody in the 2-, 10-, and 100-year events that are minor enough to result in no adverse impacts to structures or watercourses; or

ii. Projects which involve slip-lining culverts; or

iii. Projects which involve chip seal pavement surface treatment in urban areas where streets or paved areas have surface inlets; or

iv. Projects which involve horizontal drilling and are within sensitive areas (utility maintenance work and projects that part of a larger plan of development are exempt); or

v. Projects which maintain or restore the function of stormwater BMPs by replacing structures or filtration media, dredging, grading, or other activities beyond routine maintenance (i.e. sediment removal, trash removal, vegetation management).

(b) These activities must adhere to the maintenance standards described in § 153.58.

(5) General review process. The following steps are recommended prior to LGU preliminary plat approval in order to expedite the review process.

(a) Determination of project level. Project level shall be determined based on the thresholds described above. Projects that meet the thresholds described above shall continue with the process described below.

(b) Pre-application meeting. An initial development review team (DRT) meeting between the responsible party, SWCD, county and LGU should be held as early as possible in the process. Typically, submittal of a concept plan for review initiates this process.

(c) Application submittal. A permit application which includes all required exhibits described in § 153.40 shall be submitted to the county. This should occur in conjunction with an application to the LGU.

(d) Application review and determination of completeness. The county shall make a determination regarding the completeness of an application within ten business days of the receipt of the application and notify the applicant if the application is not complete. The county will make its decision in accordance with M.S. § 15.99, as it may be amended from time to time.

(e) Approval. The responsible party shall not commence any construction activity subject to this chapter until approval has been given by Carver County. If the county determines that the application meets the requirements of this chapter, the county may issue approval which authorizes the project or activity.

i. Time period of approval. Construction activity must commence within 18 months of the date of approval, or permit reapproval or reverification is required.
ii. Form of approval. Approval will typically be in the form of a letter from the county to the applicant.
iii. Incomplete/insufficient applications. If the application does not meet the requirements, the county may issue conditional approval, meaning approval contingent upon compliance with this chapter. If non-compliance is substantial, the county may require a re-application.
iv. Permit modifications. An approved application may be modified following review and approval by the county. In reviewing the modifications, the county may require additional submittals.

(f) Denial. If the responsible party fails to meet requirements the county may deny the application. Reason for denial shall be in writing.

APPLICATION REQUIREMENTS

§ 153.40 FEES.

Responsible parties for approval of a project shall provide a fee as set forth in the Carver County fee schedule.

§ 153.41 SUBMITTAL REQUIREMENTS – GENERAL

An application containing the information listed under each permit level section shall be submitted by the responsible party of a site or an authorized representative. The responsible party must sign the application and cannot transfer authority. At county discretion, less information may be required to constitute a complete application.

§ 153.42 EROSION CONTROL PERMIT - SUBMITTAL REQUIREMENTS.

(A) Location map. The map shall show the site location with property lines in relation to surrounding roads, other geographic features, buildings and other structures.

(B) Topography.

(1) Topography showing two-foot contours for the site, invert elevations of existing storm sewer, and/or spot elevations of the conveyance system from drainage discharge points to the nearest receiving waterbody and for a minimum of 100 feet beyond the site boundary.

(2) Topography showing ten-foot contours for subwatersheds upstream and downstream of the project site. Where topography in the region is characteristically flat or hydrologic flow path is undetermined, two-foot contours may be required.

(C) Vegetation map. In areas where there has been a natural resource or similar inventory, the map shall show the location of trees and vegetation on-site, with identification of those trees and vegetation intended to be retained.

(D) Landscape Plan. The plan shall show proposed conditions and shall contain the following:

(3) Pervious area identified in square feet or acres;

(4) Seed mix(es) or other vegetation type(s) proposed;

(5) Note that vegetation must be established to 90% coverage with 100% coverage in areas of concentrated flow.

(E) Erosion and Sediment Control Plan. The plan shall have both existing and final proposed conditions drawn to scale, shall be consistent with the manual Protecting Water Quality in Urban Areas (Minnesota Pollution Control Agency, 2000) as revised, and shall include the following:

(1) Proposed area of grading or other land-disturbing activities and delineation of the limits of disturbance including areas of grubbing, clearing, tree removal, grading, excavation, fill and other disturbance;

(2) Quantity of soil or earth material to be removed, placed, stored or otherwise moved on site;

(3) Locations and descriptions of proposed runoff control, erosion prevention, sediment control and temporary and permanent soil stabilization measures;

(4) A sequence of land alteration activity and corresponding implementation of erosion control practices, monitoring, maintenance and removal of erosion and sediment control measures; and permanent site stabilization measures. Prior to commencing activity (following all necessary approvals), the responsible party shall provide the SWCD with a construction schedule which will include approximate dates for the following:

(a) Completion of installation of perimeter erosion and sediment controls;

(b) Completion of required seeding and mulching activities;

(c) Completion of land-disturbing activities and putting into place measures for final soil stabilization and re-vegetation;

(d) When the site will be permanently stabilized and re-vegetated;

(e) When all temporary erosion and sediment controls will be removed from the site.

(F) SWPPP. The Stormwater Pollution Prevention Plan (SWPPP) developed for the site to meet National Pollution Discharge Elimination System/State Disposal System (NPDES/SDS) Phase II requirements shall be submitted as part of the applications.

(G) Wetland protection. The plan shall have both existing and final proposed conditions drawn to scale and shall contain the following:

(1) Delineated boundaries of wetlands as determined under the Wetland Conservation Act;

(2) Boundaries of wetland transition setbacks, if applicable per § 153.59;

(3) Computations/calculations used to design the wetland transition setback;

(4) Upon request, evidence of permits and process required under the Wetland Conservation Act (WCA).

(H) Monumentation. Plans for sites with buffers including wetland and shoreland setbacks, and sites with dedicated upland preserve areas must include monumentation locations and notes per § 153.64.

(I) Topsoil Management Plan. The plan shall include the following:

(1) Carver County topsoil standard or a site-specific topsoil standard per § 153.62;

(2) Note that six inches of topsoil must be restored to all pervious areas;

(3) Note regarding the topsoil standard:

(a) For sites that have not been previously graded and/or linear reconstruction projects, the note must state that topsoil must meet the Carver County topsoil standard or an approved site-specific topsoil standard. If topsoil does not meet the standard, it must be amended or topsoil meeting the standard must be imported to the site.

(b) For sites that have been graded after 2016, the note must state that topsoil must meet the Carver County topsoil standard or a previously approved site-specific standard for the site. If topsoil does not meet the standard, it must be amended or topsoil meeting the standard must be imported to the site.

(c) For non-linear sites that were mass-graded before 2016, the note must state that if topsoil does not meet the Carver County topsoil standard, two inches of compost must be added to the soil and tilled to a depth of six inches;

(4) Note that subsoil must be de-compacted to a depth of six inches prior to placement of topsoil;

(5) Location(s) where topsoil is to be reapplied;

(6) Quantity of topsoil needed to restore six inches in all pervious areas;

(7) Location of stockpile(s), if existing topsoil is to be stockpiled on site;

(8) Method of topsoil testing.

(J) Additional information as relevant and necessary to evaluate an application may be required. Requests for additional information shall be submitted in writing to the responsible party and shall specify requirements for submittal to the county.

§ 153.43 STORMWATER PERMIT - SUBMITTAL REQUIREMENTS.

(A) All requirements per § 153.42 and § 153.43 must be submitted.

(B) Stormwater management plan. The stormwater management plan shall contain the following:

(1) Existing and proposed sub-watershed boundaries, upstream and downstream hydrologic flow paths, all on-site water features (including waters of the state), drainage patterns, flow directions, floodplain, and shoreland shown on separate figures;

(2) Location and amount of existing and proposed impervious area including roads, trails, parking areas, and building areas;

(3) Location, alignment, and elevation of existing and proposed stormwater facilities;

(4) Construction plans and specifications for all proposed facilities designed to meet requirements of §§ 153.55 – 153.64;

(5) Hydrologic calculations for runoff volume, velocities, and peak flow rates using Atlas 14 precipitation depths and storm distributions for the 2-year rainfall event; 10-year, 24-hour storm event; 100-year, 24-hour storm event; and 100-year, 10-day snowmelt event for existing and proposed conditions;

(6) All hydrologic, hydraulic, and water quality computations completed to design the proposed facilities, including a demonstration of conformance with the water quality and volume control requirements of § 153.56;

(7) Curve numbers used to calculate runoff; Curve numbers used to calculate runoff shall be based on TR 55, Second Edition, June 1986, Table 2 2a with the following changes:

(a) Cover type “open space” will be based on the amount of topsoil as well as grass cover. Less than six inches of topsoil equals poor condition; and more than six inches of topsoil equals good condition;

(b) Curve numbers used for cover types “urban districts” and “residential districts” assume at least six inches of topsoil and six inches of non-compacted subsoil soil based on the standards in § 153.62 Topsoil management.

(8) Existing and proposed normal water level, high water level, and emergency overflow elevations for the site;

(9) For sites requiring extended detention, calculations showing the 2-year storm discharge reduced by 50 percent of existing conditions to demonstrate compliance with the extended detention requirement. The minimum outlet diameter shall be 6 inches;

(10) Plans, specifications and computations for stormwater management facilities submitted for review shall be signed by a professional engineer licensed in the State of Minnesota.

(C) Operation and Maintenance Plan. The operation and maintenance plan shall identify the BMPs constructed as part of the project and shall contain the following:

(1) Description of inspection and maintenance activities for the stormwater BMPs;

(2) Timeline of inspection and maintenance activities for the stormwater BMPs;

(3) Contact information for the parties responsible for inspection and maintenance;

(4) Signatures of the parties responsible for inspection and maintenance.

(D) Additional information as relevant and necessary to evaluate an application may be required. Requests for additional information shall be submitted in writing to the responsible party and shall specify requirements for submittal to the county.

(E) At county discretion, less information may be required to constitute a complete application.

§ 153.44 STREAM CROSSINGS PERMIT - SUBMITTAL REQUIREMENTS.

(A) For projects which construct, reconstruct, or remove crossings as defined in these rules, except for dams and bridges as defined in these rules, the following information must be submitted.

(1) Location map. A map showing the site location with property lines in relation to surrounding roads, other geographic features, buildings and other structures.

(2) Topography. Topography showing two-foot contours for the site, invert elevations of existing storm sewer, and/or spot elevations of the conveyance system from drainage discharge points to the nearest receiving waterbody and for a minimum of 100 feet beyond the site boundary. Topography showing ten-foot contours for subwatersheds upstream and downstream of the project site. Where topography in the region is characteristically flat or hydrologic flow path is undetermined, two-foot contours may be required.

(3) Project Description. Dimensions, invert elevation(s), and location(s) of the proposed and, if applicable, existing structure.

(4) Nearby Structures. Locations and elevations of existing structures, pipes, or other constructed features upstream and downstream of the site, which have the potential to be impacted by proposed changes in the 2-, 10-, and 100-year hydraulic profile of the waterbody. This may be shown on an aerial photograph.

(5) Erosion and Sediment Control Plan. An erosion and sediment control plan showing existing and final proposed conditions drawn to scale that is consistent with the manual Protecting Water Quality in Urban Areas (Minnesota Pollution Control Agency, 2000) as revised and includes the following:

(a) Proposed area of grading or other land-disturbing activities and delineation of the limits of disturbance including areas of grubbing, clearing, tree removal, grading, excavation, fill and other disturbance;

(b) Quantity of soil or earth material to be removed, placed, stored or otherwise moved on site;

(c) Locations and descriptions of proposed runoff control, erosion prevention, sediment control and temporary and permanent soil stabilization measures;

(d) A sequence of land alteration activity and corresponding implementation of erosion control practices, monitoring, maintenance and removal of erosion and sediment control measures; and permanent site stabilization measures. Prior to commencing activity (following all necessary approvals), the responsible party shall provide the SWCD with a construction schedule which will include approximate dates for the following:

(i) Completion of installation of perimeter erosion and sediment controls;

(ii) Completion of required seeding and mulching activities;

(iii) Completion of land-disturbing activities and putting into place measures for final soil stabilization and re-vegetation;

(iv) When the site will be permanently stabilized and re-vegetated;

(v) When all temporary erosion and sediment controls will be removed from the site.

(6) Dewatering Plan. Plan indicating several options for dewatering or by-passing, depending on site conditions at the time of construction. Once the contractor has selected a stream diversion option, the SWCD must be notified so that the plan can be reviewed and approved.

(7) Channel Bottom Information. Information regarding the existing and proposed channel bottom materials. If rip-rap must be used, an explanation of the need should be provided.

(8) For projects in the FEMA floodway or 100-year floodplain:

(a) Quantity of fill within the 100-year floodplain;

(b) Existing and proposed 100-year floodplain storage volumes to document that there is no net change to floodplain storage. If fill will be added, a note signed by a professional engineer documenting that the change in storage has no significant impact on the flood elevation.

(c) Figure showing the extent of the designated floodway and 100-year flood plain;

(9) Additional information as relevant and necessary to evaluate an application may be required. Requests for additional information shall be submitted in writing to the responsible party and shall specify requirements for submittal to the county.

(B) For projects which construct, reconstruct, or remove bridges as defined in these rules or dams, the following information must be submitted.

(1) All requirements per § 153.42 must be submitted.

(2) Hydraulic report prepared by a professional engineer.

(3) Risk assessment form prepared by a registered professional engineer in the state of Minnesota.

(4) Profile showing existing structures and 100- year flow elevation for existing and proposed conditions. Flow elevation in the 2 and 10-year storm events may also be required.

(5) Inundation maps showing existing structures and 100- year flow elevation for existing and proposed conditions. Flow elevation in the 2 and 10-year storm events may also be required.

(6) Cross sectional flow area at 100-year flow elevation for existing and proposed conditions. For sites with low-lying land, or structures, pipes, or other constructed features at elevations that are at risk of being affected by changes in the 2- and 10-year hydraulic profile, the cross-sectional flow area at the 2- and 10-year flow elevations will also be required.

(7) Changes to water surface elevations between no-bridge, existing, and proposed conditions. This information should be provided for a range of river stations and should encompass, at a minimum, the point upstream and downstream of the structure at which the project results in no change in water surface elevation.

(8) For projects on public waters, provide a copy of the permit package submitted to the DNR. Additional information as relevant and necessary to evaluate an application may be required. Requests for additional information shall be submitted in writing to the responsible party and shall specify requirements for submittal to the county.

(C) At county discretion, less information may be required to constitute a complete application.

§ 153.45 MAINTENANCE PERMIT - SUBMITTAL REQUIREMENTS.

(A) Completed Maintenance Notification Form, submitted a minimum of ten (10) business days prior to the start of the project. If it is not possible to submit a form 10 business days prior to the start of the project, notification should be provided as soon as possible and the county reserves the right to provide review comments within 10 business days of receipt.

(B) Sketches, maps, drawings, and plans relating to the proposed project.

(C) Certain submittal items per §153.42 may be required.

(D) Additional information as relevant and necessary to evaluate an application may be required. Requests for additional information shall be submitted in writing to the responsible party and shall specify requirements for submittal to the county.

STANDARDS

§ 153.55 EROSION AND SEDIMENT CONTROL DESIGN AND OPERATIONAL STANDARDS.

(A) Carver County adopts and incorporates by reference the erosion and sediment control design and operational standards as set forth in Minnesota Permit R100001 (the General Permit Authorization to Discharge Storm Water Associated With Construction Activity Under The National Pollutant Discharge Elimination System), as amended from time to time.

(B) Land altering activity shall not result in the detrimental deposition of sediment or construction materials into the waters of the state or onto neighboring property. Erosion and sediment control facilities must be installed prior to commencing any construction activity.

(C) Erosion and sediment control measures must be designed and maintained to prevent the detrimental deposition of sediment or construction materials into the waters of the state or onto neighboring property. There are a variety of publications available that describe BMP's that can be used to meet these standards. Examples of BMP's can be found in:

(1) Minnesota Stormwater Manual, Minnesota Pollution Control Agency, as amended from time to time;

(2) Erosion Control Handbook, Minnesota Department of Transportation, 2006.

§ 153.56 STORMWATER MANAGEMENT STANDARDS.

(A) Stormwater BMP Design.

(1) Design Standards. BMPs shall be designed according to the design standards included in Appendix A: Volume and Water Quality Calculations. Compliance with the water quality treatment standard will be calculated by the applicant using Appendix A: Volume and Water Quality Calculations or industry standard water quality models.

(2) The Minnesota Stormwater Manual, Minnesota Pollution Control Agency, as amended from time to time is a supplemental resource, which provides examples of BMP's and design, construction, and maintenance guidelines;

(3) The county spreadsheet calculator tool may be used to track and document stormwater treatment requirements and credits. Other stormwater calculator tools may also be used.

(B) Treatment Volume Requirements.

(1) All projects requiring stormwater treatment must meet the requirements for rate, water quality, and volume described in sections §§ 153.56(E) – 153.56(G). Treatment must be designed for the volume of water draining to the feature.

(2) Non-Linear Projects. The treatment volume must be calculated as 1.0-inch times the sum of new and fully reconstructed impervious surface.

(3) Linear Projects. The treatment volume must be calculated as the larger of 1.0-inch times the new impervious surface or 0.5-inch times the sum of the new and fully reconstructed impervious surface.

(C) Treatment Locations/Sequencing.

(1) Treatment Locations.

(a) Water Quality. Water quality treatment must be provided on-site prior to discharging stormwater runoff to a receiving waterbody.

(i) Non-linear Projects and New Linear Projects: If it is not feasible to provide full water quality treatment prior to discharge to a receiving waterbody, structural treatment for TSS removal must be provided at a minimum. Full water quality treatment shall then be provided at a 2:1 ratio at a discharge point to a different receiving waterbody.

(ii) Linear Reconstruction Projects: Additional right of way, easements, or permissions should be obtained to provide treatment within the drainage area to the same waterbody. If additional right of way, easements, or permissions cannot be obtained, full water quality treatment shall then be provided to a discharge point to a different receiving waterbody within the project area. If it is not feasible to provide full water quality treatment prior to discharging to a receiving waterbody, structural treatment for TSS removal must be provided at a minimum.

(b) Volume Control. Volume control must be provided on-site within the same DNR catchment area as the construction activity.

(c) Offsite Treatment Sequencing. If water quality and/or volume treatment cannot be fully provided on-site in a cost-effective manner per a and b, the offsite treatment may be utilized to provide remaining treatment at locations in the following order of preference. The combination of on-site and off-site treatment must yield the minimum required stormwater benefit and be approved by the County prior to construction.

Order of preference for offsite treatment:

(i) To a location that yields benefits to the same receiving water that receives runoff from the original construction activity.

(ii) Within the same DNR catchment area as the impact.

(iii) In the next adjacent DNR catchment area upstream.

(iv) Any feasible location within the CCWMO.

(D) Alternative Compliance Options. If specific site conditions may make water quality treatment and/or volume control treatment difficult, undesirable, or impossible AND offsite treatment is not feasible. The applicant may submit a request to the County for alternative compliance treatment. Alternative compliance options are only available following the sequencing steps outlined above (§ 153.56.C.1.c).

All requests for alternative compliance shall address the treatment location sequencing steps, indicate the specific site conditions and limitations present, and include the applicable submittals per §§ 153.42 – 153.43. The County may request site-specific information, such as soils data, local water table data, and correspondence from parties affected by the project when deciding on alternative compliance eligibility.

(1) Banked Credits. Water quality treatment and volume reduction credits may be purchased from qualifying banks. To qualify, the bank must be within the CCWMO and must be reviewed and approved by the County per the water rules in place at the time of approval. Banked credit locations will be reviewed by the County according to the order of preference for alternative compliance treatment locations. Applicants shall submit a letter to the County outlining the conditions of the transfer and confirming the volume of the transfer. The County must review and approve all credit transfers.

(2) In-Lieu Fee. The applicant may choose to pay into the County's Stormwater Treatment In-Lieu Fund to cover the cost of implementing equivalent stormwater treatment elsewhere in the CCWMO.

(a) The required amount to contribute to the In-Lieu Fund shall be based on the cost of planning, designing, constructing, and maintaining stormwater BMP(s) that provide the required water quality treatment and/or volume reduction credit. This amount shall be calculated as:

(i) The flat fee per cubic foot of stormwater treatment required based on the Carver County fee schedule, as update from time to time; OR

(ii) 80% of the estimated cost provided by the applicant, provided as an itemized list, and as reviewed and approved by the County.

(b) Money contributed to the Stormwater Treatment In-Lieu Fund shall be allocated to water quality treatment and/or volume reduction projects by the county according to the Water Plan, local Stormwater Management Plans, and the county's list of stormwater

improvements as updated from time to time. The treatment achieved by these projects will offset the treatment that was not achieved on the permitted development.

(3) Credit Banking. Water quality treatment credit and volume reduction credit provided in excess of the treatment requirement may be banked for use on another project. Excess banked credit amounts shall not exceed stormwater credit awarded for the BMP by the county. The county must review and approve all banking credits generated.

(E) Rate control standard.

(1) Peak rates. The peak rates shall not increase from existing conditions for the 2-, 10-, 100-year storm events, and the 100-year, 10-day snowmelt event. Peak rates shall be calculated using Atlas 14 precipitation depths and storm distributions.

(2) Conveyance System. At a minimum, the storm sewer conveyance system shall be designed for a 10-year, 24-hour storm event. The pond and pond outlet structure shall handle the 100-year, 24-hour storm event.

(F) Water quality standard.

(1) Total Phosphorus (TP) Removal Standards. The stormwater management plan must remove 90% of the TP generated by the site under developed conditions.

(2) Total Suspended Solids (TSS) Removal Standards. The stormwater management plan must remove 90% of the TSS generated by the site under developed conditions.

(3) BMP Sizing. Treatment areas must be sized appropriately for the area draining to the feature.

(G) Volume Control Standards

(1) Volume Control Standard. The stormwater management plan must provide volume control for:

(a) 1.0 inches from the impervious surface for unconstrained sites.

(b) 0.5 inches from the impervious surface for constrained sites.

(2) BMP Sizing. Volume control areas must be sized appropriately for the area draining to the feature.

(3) Volume Control Standard for Constrained Sites. Specific site conditions may make volume control difficult, undesirable, or impossible. If these conditions are present, the site may qualify as “constrained,” subject to county review and determination. Some of these conditions are listed in Table 1. The applicant may also submit a request to the County for Constrained Site eligibility for site conditions not listed below. All requests for constrained site eligibility shall indicate the specific site conditions present and include a grading plan, utility plan and the submittal requirement listed in Table 1.

Table 1. Constrained Site Conditions

Type	Specific Site Condition	Volume Reduction Limitation	Submittal Requirement
Potential	Potential stormwater	Infiltration	

Contamination	hotspots/industrial facilities	prohibited	
	Contaminated soils	Infiltration prohibited	Soil analysis
	Vehicle fueling and maintenance areas	Infiltration prohibited	Site map with vehicle fueling/maintenance areas shown
Physical Limitations	Low permeability soils	Infiltration restricted	1) Carver County Soil Survey data showing greater than 50% of site is hydrologic group C and D soils; or 2) Carver County Soil survey data showing greater than 50% of site has the following Unified Soil Classifications: MH, ML, GS, SC, CL, OL, CH, OH 3) Documentation that site has been previously disturbed by construction activity that resulted in compaction and/or other significant reduction in permeability as shown by field infiltration test rate showing infiltration rate of less than 0.3 inches per hour.; or 4) Documentation of field infiltration tests showing infiltration rate of less than 0.3 inches per hour.
	Bedrock or groundwater within 3 vertical feet of bottom of volume control practice	Infiltration restricted	Soil borings required; Piezometer data may be required.
Land Use Limitations	Wellhead Protection Areas	Infiltration restricted	Site map with wellhead protection areas shown

High Water Elevation Standard.

(1) As described below, all applications shall provide vertical separation between low openings of new and existing structures and high water elevations of local existing and proposed stormwater facilities and surface waters. The high water elevations used should be the greater between the 100-year, 24-

hour or 100-year, 10-day high water elevations. Emergency overflows are required for all ponds and basins.

(a) Low opening of new and existing structures must have a minimum of 2 feet of separation from local high water level.

(b) Low floor of new and existing structures must have a minimum of 1 foot of vertical separation from local high water level.

(c) In rare cases where an emergency overflow (overland or pipe) is not feasible, the low opening vertical separation is increased to 3 feet.

(2) The requirements described above can be waived for non-habitable structures if an LGU allows for less vertical separation from high water elevations based on flood-proofing standards included in a building code.

(3) If side or rear yard overflow swales are constructed, the cities should document through the building permitting and inspection process that high water levels for side or rear yard overflow swales are below the low openings of structures.

Requirements for Maintenance and Access.

(1) Maintenance of stormwater facilities. All stormwater management structures and facilities must be designed to allow access for maintenance and must be properly maintained in perpetuity to ensure that they continue to function according to the approved design.

(2) Maintenance Agreement. No stormwater plan may be approved unless a maintenance agreement is provided that defines maintenance responsibilities following completion of the project, specifies types and frequency of inspection and maintenance activities, and specifies who will conduct inspections and maintenance activities. A sample agreement and list of inspection/maintenance activities are included in the Carver County Water Resource Management Ordinance and BMP Guidelines.

(a) Prior to project close out return of the financial security, an agreement shall be in place regarding maintenance responsibilities.

(b) Maintenance responsibilities must be assumed by either the local government unit (LGU) or by the responsible party. If the LGU is assuming maintenance responsibilities, written acknowledgement and acceptance is needed from the LGU.

(c) If the Local Government Unit (LGU) is assuming maintenance responsibilities, a single Memorandum of Agreement for each LGU may be used to cover all stormwater management structures and facilities required by this ordinance within the LGU's jurisdiction.

(d) The agreement must be executed and recorded in a format acceptable to the county. The recordable executed agreement must be submitted to the county prior to release of financial security for the project.

(3) Drainage and utility easement. A drainage and utility easement is required in the following situations:

(a) When a stormwater management BMP must be placed on private property.

(b) When changes caused by a land disturbing activity result in alterations to flow paths which impound or slow down water on an adjacent property.

(c) When changes caused by a land disturbing activity reroute water onto a neighboring property, where it wasn't previously routed.

§ 153.57 STREAM CROSSING STANDARDS.

Construction, replacement, removal, or improvement of a crossing as defined in these rules will:

(A) Retain adequate hydraulic capacity and assure no net increase in the flood stage of the pertinent waterbody.

(B) Not change the existing flowline/gradient, or cause increased scour, erosion, or sedimentation.

(C) Not adversely impact properties adjacent to the stream (examples include impeding drainage, inundation of land or structures in the 2-year event or higher, etc)

(D) Mimic channel bottom relative to upstream and downstream conditions. Lining channel bottoms with riprap should be avoided when possible.

(E) Maintain existing fish passage in the waterbody for fish species native to the area.

§ 153.58 MAINTENANCE PERMIT STANDARDS.

Projects meeting the standards described below automatically qualify for a General Maintenance Permit.

(A) For all projects meeting the thresholds described in § 153.44, a General Maintenance Notification Form must be submitted to the county 10 business days prior to the start of the activity. The county reserves the right to provide review comments within 10 business days of receipt.

(B) Projects which involve the replacement of existing crossings as defined in these rules and result in changes to the hydraulic profile of the waterbody in the 2-, 10-, and 100-year storm events that are minor enough to result in no adverse impacts to structures or watercourses:

(1) Crossing replacement may not result in a net increase in the flood stage of the pertinent waterbody from the existing bridge condition;

(2) Crossing replacement may not adversely affect water quality, change the existing flowline/gradient, or cause increased scour, erosion or sedimentation;

(3) Crossing replacement must be timed in a way to protect the surface water from sediment pollution (i.e. during frozen conditions or not preceding a forecasted rain event);

(4) Bare areas must be stabilized with erosion control BMPs, vegetation, and/or other approved measures according to the stabilization timelines identified in the general NPDES permit, as amended from time to time.

(5) If sediment has been discharged downstream as a result of the project, it may need to be removed and the area restored.

(6) Energy dissipation may be needed

(C) Projects which involve slip-lining culverts:

(1) The project must maintain the hydraulic capacity of the existing structure to the extent practicable.

(D) Projects which use chip seal pavement surface treatment:

(1) Inlet protection must be used on any structures that may be affected by the project;

(2) If any material has been discharged downstream as a result of the project, it may need to be removed and the area restored.

(E) Projects which involve horizontal drilling and are within sensitive areas (utility maintenance and construction projects that part of a larger plan of development are exempt):

(1) If drillers mud has been discharged downstream or into a surface water as a result of the project, it may need to be removed and the area restored.

(F) Projects which maintain or restore the function of stormwater BMPs by replacing structures or filtration media, dredging, grading, or other activities beyond routine maintenance (ie. sediment removal, trash removal, vegetation management).

(1) Record drawings documenting the elevations of structures, inverts, basin bottoms, and/or other relevant details must be collected before and after the maintenance activity is performed and sent to the county.

(2) If the project results in a loss of BMP function, work to restore the function of the BMP will be required (restoring approved elevations, etc.).

§ 153.59 SURFACE WATER PROTECTION AND SETBACK STANDARDS.

(A) Wetland Conservation Act Implementation. Carver County adopts and incorporates by reference the Minnesota Wetland Conservation Act and its implementing rules as set forth in Minn. Rules chapter 8420, as amended periodically.

(B) Transition setbacks for surface water protection

(1) Requirement. Establishment or preservation of an unmanicured, vegetated, transition setback adjacent and contiguous to wetlands, lakes, streams, rivers, and public and private ditches is required for projects meeting the thresholds described in § 153.43. For projects where the construction activity does not occupy the full parcel, the requirement for setbacks applies only to the portion of the parcel where construction activity is taking place.

(2) Exempt Activities. Activities meeting the exemption requirements of Minnesota Rule 8420 are exempt from these requirements. Wetlands or portions of wetlands impacted and mitigated through Minnesota Rule 8420 are exempt from these setback requirements.

(3) Determining setback widths.

(a) Reference Point. The setback width will be measured from:

(i) The delineated wetland edge for wetlands; For wetlands without an approved wetland boundary and type, the wetland boundary shall be determined based on aerial review. NWI mapping may be used if aerial photography is not available.

(ii) The top of bank for streams and rivers.

(iii) The ordinary high-water level (OHWL) for lakes; For lakes without an approved OHWL, the water's edge as determined based on aerial review shall be used.

(b) Base Width. The base width for a transition setback is 20 feet for wetlands and 30 feet for lakes and streams.

(c) Minimum Width. The minimum width for a transition setback is:

(i) 30 feet for lakes and streams

(ii) 30 feet for wetlands that receive a ranking of "High" value in the Carver County Wetland Function and Value Assessment or an equivalent wetland function and value assessment.

(iii) 20 feet for wetlands, except for "High" value wetlands.

(d) Applied Width. The setback width shall be adjusted to reflect site conditions based on the criteria below. The maximum applied width is 50 feet.

(i) Stormwater treatment. The base width must be increased by 10 feet in areas where untreated stormwater runoff from impervious surfaces is directed to the surface water and not stormwater BMPs.

(ii) Slopes. For every 5 percent increase in average setback slope from 5 percent, the base width must be increased 5 feet in the area where the slope increase exists.

Average Setback Slope	Increase in Setback Width
0-5% slope	No increase
5-10% slope	Add 5 feet to Base Width
10-15% slope	Add 10 feet to Base Width
>15% slope	Add 15 feet to Base Width

(e) Flexibility in Applied Width. The county retains the right to allow the setback width to vary and the minimum width to be reduced based on demonstrated site constraints, to allow unique BMPs, or to allow other activities that protect and enhance the surface water resource. Adjustments to the applied width may not result in a reduction to the total setback area and the adjusted setback must provide surface water protection at least equivalent to a setback of uniform width (e.g. the setback area may be reduced in one area adjacent to the surface water if the area is replaced at a 1:1 ratio elsewhere around the same resource).

(f) Subject to county approval, the total setback area may be reduced if the area is replaced at a 2:1 ratio around another surface water of comparable value on site.

(g) Linear Projects. For linear projects, non-impervious portions of the right of way are allowed within the setback.

(h) Access. In situations where the setback is entirely on private property, limited clearing and trimming of trees, shrubs, and other vegetation within the setback is allowed to create an access path to the waters edge. The path shall not exceed 12 feet in width.

(4) Setback vegetation requirements.

(a) Setback vegetation shall not be cultivated, cropped, pastured, mowed, fertilized, subject to the placement of mulch or yard waste, or otherwise disturbed, except for:

(i) Periodic cutting or burning that promotes the health of the setback or to maintain the proposed natural community,

(ii) Removal of trees, limbs, or branches that are dead, diseased, or pose safety hazards,

(iii) Actions to address disease or invasive species,

(iv) Mowing for purposes of public safety,

(v) Mowing or clearing of trees and shrubs to create an access path no more than 12 feet in width to allow access to the water resource,

(vi) Temporary disturbance for placement or repair of buried utilities, or

(vii) Other actions to maintain or improve setback quality, each as approved by the CCWMO.

(b) Pesticides and herbicides may be used in accordance with Minnesota Department of Agriculture rules and guidelines.

(c) Once vegetation is established in a setback, no fill, debris or other material shall be excavated from or placed within a setback except as allowed under § 153.59.B.4.a.

(d) Areas of the transition setback that will be disturbed by grading activities during construction, shall be planted according to the following standards:

(i) Soils must be decompacted to a depth of 18 inches and organic matter must be incorporated into soils before seeding or planting. Decompaction shall be accomplished solely by incorporation of organic matter within the drip line or critical root zone of trees or within 10 feet of underground utilities.

(ii) Transition setback areas shall be planted with a native seed mix and/or native plantings approved by the CCWMO.

(5) Recording of Setback. The setback shall be documented by a declaration or other document approved by the CCWMO or municipality and recorded in the office of the County Recorder before the permit will be issued.

(6) Monumentation. The setback shall be indicated by permanent, free-standing markers at the setback's upland edge. Monumentation shall conform with the guidelines described in *§153.62.*

(7) Maintenance. The setback shall be maintained in accordance with the provisions outlined in the Carver County Water Management Ordinance and BMP Guidelines and with any applicable establishment and maintenance plans.

§ 153.60 SHORELAND STANDARDS.

(A) This chapter applies only in situations where a protected water exists but the LGU responsible for land use planning and zoning has not adopted a DNR-approved shoreland ordinance.

(B) All development and land use changes shall meet the setback requirements of Minn. Rules Parts 6120.3300 and 6120.3400, as they may be amended from time to time.

§ 153.61 FLOODPLAIN STANDARDS.

(A) This section applies in situations where the floodway and 100-year flood elevation have been defined by the Federal Emergency Management Agency (FEMA).

(B) Regulation.

(1) Fill in the floodway. Placement of fill in the floodway shall not be allowed.

(2) Fill in the 100-year flood elevation.

(a) Placement of up to 50 cubic yards of fill below the 100-year flood elevation for the purposes of restoring or stabilizing soils, banks, or slopes shall be allowed.

(b) Placement of more than 50 cubic yards of fill below the 100-year flood elevation for the purposes of restoring or stabilizing soils, banks, or slopes OR any amount of fill placed below the 100-year flood elevation for other purposes shall not be allowed unless it is shown that the proposed fill can be mitigated through provision of compensatory storage, or will not cause a net decrease in flood storage.

(c) Placement of fill for the construction of linear public projects that are necessary in order to meet state or federal safety standards or requirements shall meet the following requirements:

(i) If it can be demonstrated that the fill will not cause a net decrease in flood storage, compensatory storage is not required.

(ii) If analysis shows that the fill will cause a net decrease in flood storage, compensatory storage must be provided per the requirements described in 153.61.(C) below.

(C) Requirements for compliance.

(1) Fill placed below the 100-year flood elevation must not hydraulically separate one area of the floodplain from another.

(2) Demonstration that the placement of fill will not cause a net decrease in storage must be provided by a professional engineer licensed in the State of Minnesota.

(3) Compensatory storage must be created prior to or concurrent with the placement of fill.

(4) Siting of compensatory storage must follow this priority order:

(a) on the same property as the affected floodplain;

(b) on properties adjacent to the affected floodplain;

(c) in the same major watershed as the affected floodplain.

(5) Meeting the requirements of this section does not constitute compliance with an existing DNR-approved local floodplain ordinance.

§ 153.62 TOPSOIL MANAGEMENT STANDARDS.

(A) Requirement. A minimum of 6 inches of topsoil must be provided in all green space areas of the project. Topsoil shall meet one of the topsoil standards described in §153.62(B) below. When available onsite, topsoil shall be managed to protect and/or restore soil permeability to non-compacted soil conditions following construction.

(B) Topsoil Standards.

(1) Carver County Topsoil Standard

Table 2. Carver County Topsoil Standard

Requirement	Range	Test Method
Material Passing the ¾ in [19 mm]	100 %	ASTM D 422
Material passing No 4 in [4.75 mm]	≥ 85%	-
Clay	5% – 33%	ASTM D 422
Silt	5% - 35%	ASTM D 422
Sand	30% - 75%	ASTM D 422
Organic matter	2.5% – 15%	ASTM D 2974
pH	6.1 – 8.0	ASTM G 51
Compaction	- 1,400 kilopascals (kPa) / 200 pounds per square inch (psi) in the upper 12 inches of soil, or - bulk density of less than 1.4 grams per cubic centimeter (g/cm3) in the upper 12 inches of soil	Field test

(2) Match Existing Soils. For linear reconstruction projects and sites that have not been previously graded, a site-specific topsoil standard can be developed using one of the methods described below.

(a) Soil Survey Data. A site-specific topsoil standard can be developed using information on physical soil properties from the Natural Resource Conservation Service's Web Soil Survey for Carver County. The proposed site-specific standard must be submitted prior to permit approval.

(b) Onsite Testing. A site-specific topsoil standard may be developed using onsite sampling results. Sample results and the proposed site-specific standard must be submitted prior to permit approval.

(i) Non-linear Projects. One (1) sample shall be collected of the top 12 inches of soil from each soil map unit within the disturbed area of the project. Alternatively, a minimum of (2) samples can be collected per 5 acres disturbed, from locations that characterize the site overall or from which topsoil will be stripped and stockpiled. Samples shall be collected and

analyzed for percent clay, percent sand, percent silt, organic matter content, and pH. A site-specific standard shall then be developed using a weighted average of the samples collected on site.

(ii) Linear Projects. One (1) composite sample shall be collected in select areas where grading and topsoil replacement are proposed, or at a density of approximately one sample per mile. Each composite sample will be comprised of eight individual samples collected of the top 12 inches of soil. Samples shall be collected and analyzed for percent clay, percent sand, percent silt, organic matter content, and pH. A site-specific standard shall then be developed using a weighted average of the samples collected on site.

(3) Site Specific Standard.

(a) Clay, Sand Silt Standards. To develop a site-specific topsoil standard for clay, sand, and silt:

(i) Calculate the weighted average for each parameter.

(ii) Round to the nearest whole number.

(iii) When the rounded average matches the lower end of the standard range, subtract 3% from the low end of the CCWMO standard range to establish the lower end of the site-specific standard.

(iv) When the rounded average matches the upper end of the standard range, add 3% to the high end of the CCWMO standard range to establish the upper end of the site-specific standard.

(v) When the rounded average falls below the CCWMO standard range, subtract 3% from the rounded average and use that value as the lower end of the site-specific standard.

(vi) When the rounded average falls above the CCWMO standard range, add 3% from the rounded average and use that value as the high end of the site-specific standard.

(vii) If the weighted average falls within the CCWMO standard range, use the CCWMO standard range.

(viii) Organic Matter, pH, and Compaction Standards. All site-specific topsoil standards shall include the ranges described in the Carver County Topsoil Standard for organic matter, pH, and compaction. The ranges for organic matter, pH, and compaction may not be changed for the site-specific topsoil standard.

(4) Non-linear sites that were mass-graded before 2016 are not eligible to create a site-specific topsoil standard. For these sites, if topsoil does not meet the Carver County topsoil standard, two inches of compost must be added to the soil and tilled to a depth of six inches. No further amendment will be required.

(C) Topsoil Replacement Methods.

(1) Stockpile Existing Material and Re-spread. When available, on-site topsoil shall be stripped and stockpiled for later reapplication. Stockpiled topsoil shall meet the standard selected for the project. If stockpiled material does not meet the selected standard for the project, the material shall be amended to meet the selected standard or topsoil meeting the selected standard shall be imported to the site.

i. Stockpile Testing. The stockpile shall be tested prior to re-spreading. Sample results must be submitted to County staff a minimum of 2 business days prior to re-spreading. Topsoil test results are valid for one year.

(2) Import Material and Spread. If topsoil is not available on-site due to previous construction activity and existing material cannot be amended to meet the Carver County Topsoil Standard, topsoil meeting the standard shall be imported to the site.

(D) Submittal Requirements. A "Topsoil Management Plan" shall be submitted as part of the application for Erosion and Sediment Control permits and shall include information on the topsoil management strategies to be utilized to maintain soil permeability at or above required standards. Required components of the topsoil management plan are outlined in section § 153.43(I).

§ 153.63 UPSTREAM AND DOWNSTREAM IMPACT STANDRADS.

(A) Upstream. Drainage flowing onto the site from upstream areas must be managed and accommodated. Alterations to flow paths which impound or slow down water will not be allowed unless it can be shown that the upstream system can accommodate the change. Proposed rates, volumes, velocities, and duration of flow may be requested in order to document that any impacts are nonexistent or insignificant.

(B) Downstream.

(1) To the extent possible, existing drainage areas and discharge points from the site should be maintained post-development and concentrated flows onto neighboring properties should be avoided or mitigated. The downstream conveyance system (natural or structural) must be able to accommodate, to the nearest major receiving waterbody, increased volumes caused by development.

(2) If diversions from existing drainage areas and alterations to discharge points are proposed, the responsible party shall provide additional documentation (rates, volumes, velocities, duration of flow, etc.) to demonstrate that the downstream conveyance system can accommodate the change. The responsible party shall provide evidence of easements or other agreements concerning water flow if a plan involves increased impervious or directing concentrated runoff onto a neighboring property.

(3) If diversions from existing drainage areas, alterations to discharge points, increased duration of flow, or additional runoff volumes are proposed, the responsible party shall provide additional documentation (rates, volumes, velocities, duration of flow, etc.) to demonstrate that the downstream conveyance system can accommodate the change. The responsible party shall provide evidence of mitigation, easements or other agreements concerning water flow if a plan involves increased impervious or directing concentrated runoff from onto a neighboring property.

§ 153.64 CONSERVATION AREA STANDARDS.

(A) Upland preservation areas placed under conservation easement must be placed in outlots or other publicly owned or accessible land.

(B) Fencing between conservation areas and private property may be required in some circumstances.

(C) Monumentation is required for wetland and shoreland setbacks, as well as areas designated as upland preserves and placed under conservation easement.

(D) Posts must be placed at each corner, angle point, approximately every 500 feet along a tangent (straight line segment), and at each intersection between the setback boundary and existing property lines (i.e. at each lot line). An exception to this specification may be for setback boundaries that are described as abutting and following a meandering riparian edge where permanent monumentation would be impracticable.

(E) Posts must be a minimum length of seventy two (72) inches.

(F) An appropriate, approved setback boundary sign must be attached to the top of each post. Easement boundary signs must be no smaller than 6 inches by 9 inches in size. At a minimum, easement boundary signs must identify the area as a conservation area and indicate that mowing, spraying, and other land disturbing activities are not permitted.

(G) Monumentation requirements may be altered for sites with unique circumstances at County discretion.

ENFORCEMENT

§ 153.70 AUTHORITY/RESPONSIBILITY.

The county shall have the overall authority to enforce the provisions of this chapter. If the LGU has an approved and adopted Local Water Plan and elects to take on principal responsibility for enforcement of this chapter, an individual agreement will be negotiated to determine principal review and enforcement responsibility based on the LGU's ability to implement this chapter.

§ 153.71 METHOD OF ENFORCEMENT.

The county may take the following actions as appropriate:

(A) Issue stop work orders;

(A) Issue a notice of violation;

(B) Issue an order for correction;

(C) Withhold the scheduling of inspections and/or the issuance of a certificate of occupancy;

(D) Revoke any approval issued by the county to the responsible party for the site in question;

(E) Take such action as necessary in a court of competent jurisdiction to attain compliance;

(F) Use financial security as provided under § 153.74;

(G) Institute appropriate actions or proceedings, including injunctive relief to prevent, restrain, correct or abate such violations or threatened violations. The county may recover costs incurred for corrective action in a civil action in any court of competent jurisdiction and such costs may be certified by court order to the County Auditor as a special tax against the real property.

§ 153.73 INSPECTIONS.

(A) After issuance of a permit, the county or SWCD may perform such field inspections and monitoring of the approved activity as the county or SWCD deems necessary to determine compliance with the conditions

of the permit and this ordinance. Any portion of the activity not in compliance shall be promptly corrected. In applying for a permit, the applicant consents to the county or SWCDs entry upon the land for field inspections and monitoring.

§ 153.74 FINANCIAL SECURITY.

(A) Purpose. The purpose of the financial security is to ensure installation and maintenance of erosion and sediment control measures, installation of practices intended to meet stormwater requirements, replacement of topsoil, and establishment of vegetation. The responsible party will provide a financial security for projects requiring an Erosion and Sediment Control Permit per §153, Stormwater Permit per 153.11(A)(2), or Stream Crossings Permit per § 153.44. Federal, state, county, city, and township governments will not be required to provide financial security.

(B) Form and amount.

(1) The responsible party shall provide security as set forth in the Carver County fee schedule for the performance of the work described and delineated on the approved construction plans and any related remedial work.

(2) The responsible party shall deposit, either with the county, a responsible escrow agent, or trust company, at the option of the county, an irrevocable letter of credit, cash escrow, or other assurance. The financial assurance must be in a form acceptable to the county and from a surety licensed to do business in the State of Minnesota.

(3) The financial assurance shall be in favor of the county and conditioned upon the applicant's performance of the authorized activity in compliance with the permit and applicable laws, including this Chapter, and the payment when due of any fees or other charges authorized or required by the permit and this Chapter. The financial assurance shall state that in the event the conditions of the financial assurance are not met, the county may make a claim against it. The county shall be authorized to make a claim or draw against the security after any default by the responsible party under the permit or these rules.

(C) Maintaining the financial security.

(4) If at any time during the course of the work the financial security amount falls below 50% of the required deposit, the responsible party shall make another deposit in the amount necessary to restore the cash deposit to the required amount.

(5) If the responsible party does not bring the financial security back up to the required amount within seven days after notification by the county that the amount has fallen below 50% of the required amount the county may take such legal action as specified in § 153.74.

(D) Action against the financial security.

(1) The county shall be authorized to make a claim or draw against the security after any default by the responsible party under the permit or this chapter.

(2) The county may use funds from this security to finance remedial work undertaken by the county or a private contractor and to reimburse the county for all costs incurred in the process of remedial work including, but not limited to, staff time and attorney's fees under the following circumstances:

(a) The responsible party ceases land altering activities and abandons the work site prior to completion of the grading plan.

(b) The responsible party fails to conform to the grading plan, erosion and sediment control plan, and/or the approved stormwater management plan as approved by the county.

(c) The erosion and sediment control techniques utilized under the erosion and sediment control plan and/or the approved stormwater management plan are not maintained during site construction.

(d) The responsible party fails to reimburse the county for corrective action.

(E) Returning the financial security. The security shall be released after:

(1) Construction is complete

(2) The site has been re-vegetated (90% percent vegetated cover across the site and 100% in areas of concentrated flow);

(3) All erosion and sediment measures have been removed;

(4) When applicable, the practices identified in the approved stormwater management plan have been installed and are working as designed;

(5) When applicable, record drawings have been received and reviewed by the county;

(6) When applicable, an Operation and Maintenance plan has been received and reviewed by the county;

(7) When applicable, conditions to final approval have been met;

(8) A final inspection has been completed by the county and the county determines that the project adheres to the standards in this chapter.

(F) Partial return of the financial security. The county may return a portion of the financial security submitted to assure performance if the county determines that the entire amount is no longer required to ensure compliance with permit conditions and rules.

§ 153.75 RELIEF.

Any request for relief from a standard of this chapter must be decided by the Carver County Board of Adjustment. The standards and procedures set forth in §§ 152.214 through 152.218 shall apply to any request for relief in this chapter

(A) Carver County Board of Adjustment cannot grant relief from any Minnesota Permit R100001 (the General Permit Authorization to Discharge Storm Water Associated with Construction Activity Under the National Pollutant Discharge Elimination System) requirements. Such requests for relief must be heard by the Minnesota Pollution Control Agency (MPCA).

(B) Carver County Board of Adjustment cannot grant relief which is in conflict with or violates the Water Management Plan.

(C) In cases where an LGU has a similar standard, the Carver County Board of Adjustment cannot grant relief in instances where the LGU has not granted similar relief.

(D) Notice must also be given to the following:

(1) Property owners located adjacent to the applicant property,

(2) Property owners located downstream of the applicant property to the nearest receiving waterbody, and

(3) Property owners located upstream affected by the project.