HUTCHINSON

Erosion/Sediment Control Standards

Public Works Department

Updated
2/14/23

CITY OF HUTCHINSON CONSTRUCTION
EROSION AND SEDIMENT CONTROL STANDARDS

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INTRODUCTION

This booklet contains standard plans and procedures sufficient for typical building construction. It is not intended to address all circumstances.

Since our streets and storm sewers are conduits for draining stormwater it is important to keep sediment and debris on the lots rather than tracked or eroded onto streets.

Our primary objective is to eliminate or reduce the amount of sediments and other pollutants leaving a construction site. To accomplish this goal, steps and procedures called Best Management Practices (BMPs) are undertaken. When properly implemented, these erosion and sediment controls are very effective.

Subdivisions in which homes are being built may already have an overall Stormwater Pollution Prevention Plan (SWPPP) and Minnesota Pollution Control Agency Construction Stormwater Permit (MPCA permit). Non-residential development will oftentimes have a SWPPP and MPCA permit specific to the individual project. That permit remains in effect until all the lots are developed or construction is completed. BMPs related to that permit and plan are in place and should not be removed or compromised. Permittees will need to submit a Notice of Termination/Permit Modification form to the MPCA if they are not the subdivision developer, or working for the subdivision developer.

The grading/erosion control permit holder and the building permit holder are responsible for ensuring that adequate BMPs are in place on the individual lot, catch basins and functioning until the project is completed. A project is defined as completed only when 70 percent of the lot has been re-vegetated. When terminating your MPCA permit you must supply the new property owner with the MPCA New Homeowner Fact Sheet. The MPCA New Homeowner Fact Sheet is located on the City's website at www.hutchinsonmn.gov.

There will be situations where side or rear lot line protection may not be required. For example two houses under construction on adjacent lots where the surface drainage runs away from the other lot. Given this scenario, it is not the intention to require perimeter protection between the two lots.

When reviewing the standards presented in this publication and considering implementation on your construction project, keep in mind the intent of the standard is "to prevent erosion and to minimize sediments from leaving the lot." Failure to do so can result in damage to adjacent property, damage to the City's storm sewer system, as well as contributing to the pollution of stormwater ponds and the South Fork of the Crow River.

If any questions or concerns arise, please feel free to contact the City Project/Environmental/Regulatory Manager at 320.234.5682. We are committed to helping all of those involved with the implementation of these construction procedures.

BEST MANAGEMENT PRACTICES

BMP's — Examples include, but are not limited to, temporary construction entrance, sediment (silt) fence, sediment logs, erosion control mat, straw mulch, sod, seed and fiber mulch.

Installation Sequencing

1. **Grass Buffer Strips** — Ensure that the existing grass buffer strips along the curb line (and if present at the rear yard) are not disturbed. Temporary fencing can be used to keep vehicles and material storage from disturbing these buffers.

2. **Inlet Protection** — Ensure that the curb or rear yard inlets that receive runoff water from your lot have inlet protection.

3. **Protection of Adjacent Lots** — Install BMP's along the common lot lines where the adjacent lot receives runoff water from your lot **and** the adjacent lot has been graded, sodded or seeded. Sediment (silt) fence, sediment logs can be used as a perimeter BMP.

4. **Grading/Excavating** — Install all BMP's prior to any grading or excavation.
   - An exception is allowed for the temporary construction entrance. The future driveway may be excavated, then the temporary construction entrance installed.
   - Take special care when stripping and stockpiling the topsoil from the lot to avoid disturbing the grass buffer strips. Do NOT store stockpiles on city boulevards.
   - When excavating for sewer and water connections, the grass buffer strip may be unavoidably disturbed. The grass buffer strip must be restored or a BMP installed in the area disturbed. Sediment (silt) fence or sediment logs are acceptable.
   - Dewatering of excavated trenches, basements or foundation walls must be done in a manner to protect the inlets from sediments. This can be accomplished by use of sediment or filter bags (see detail), or temporary sediment basins.

5. **Stabilize Soil Stockpiles** — Install BMP's to stabilize stockpiles to prevent erosion of sediments onto adjacent lots or into rear yard or curb line inlets. Use sediment (silt) fence or sediment logs. Do NOT place stockpiles on city boulevards or in the street.

6. **Temporary Construction Entrance** — Required (see detail). The temporary construction entrance must be used by all trades and delivery personnel entering the property. Acceptable materials for the entrance will be crushed rock, crushed concrete, class 5, wood chips, tracking mat, or driveway.

7. **Backfill and Rough Grading** — Take special care when backfilling the foundation and rough grading the lot to avoid disturbing the grass buffer strips.

8. **Maintenance** — The grading/erosion control permit holder (also the building permit holder) is responsible for ensuring that adequate BMPs are in place and functioning until the project is completed.

BEST MANAGEMENT PRACTICES continued

9. **Final Grading** — BMP's may be removed to complete final lot grading. However, if the lot is to remain without vegetation for fourteen (7) days, per MPCA general construction permit, the

   BMP's must remain in place and final grading should be delayed to coincide with seeding or sodding. During final grading, back dragging soil onto the street must be avoided. Any soil placed on the street must be removed and the street swept immediately.

10. **Seeding or Sodding** — The right-of-way (boulevard) along the curb line must receive one of the following within 7 days after final grading has been completed:
    - Sod
    - Seed with erosion mat
    - Seed with sprayed fiber mulch
    - Seed with anchored straw mulch

CONTRACTOR RESPONSIBILITIES

1. The grading/erosion control permit holder (also the building permit holder) is responsible for ensuring that adequate BMPs are in place and functioning until the project is completed.

2. Periodic inspection shall be at least once a week or more frequently following rainfalls to ensure that erosion and sediment control measures are functioning as designed. In addition to standard periodic inspections, city ordinance requires inspections that comply with Minnesota Pollution Control Agency (MPCA) permits. MPCA currently requires that an inspection be conducted after every rain event of 0.5 inches or more within a 24 hour period. Any problems noted during these inspections should be corrected immediately. A log of the inspections and remedial measures undertaken must be kept for three (3) years after the project is terminated.

Attachment B: Sample Maintenance Records

Construction Site Storm Water Inspection Log : Inspect *EVERY 7 Days or after Every 0.5 in or greater rain event*

	Type of Inspection		Date of Inspection				Time of Inspection			Areas Inspected						Project:
Inspectors Initials	Routine Weekly	24 Hrs After A Rain Event	Month	Day	Year	Rainfall (*Record All Events Greater Than 0.5 in*)	Time	AM	PM	All Erosion & Sediment Control BMPs	Silt Fences	Temporary Sedimentation Basins	Drainage Ditches & Other Waters Of The State	Construction Site Exits	Pollution Prevention Measures (Spill Kits, Etc...)	(All areas not actively being worked MUST be stabilized within 7 days) **Findings, Corrective Actions and Comments:**

CONTRACTOR RESPONSIBILITES continued

3. Once construction has commenced, the permit holder is responsible for maintenance of erosion and sediment control measures protecting area inlets on their lots, as well as curb inlets along the street frontage. It is critical that sediment not be allowed to enter the storm sewer system.

4. The temporary construction entrance provides a place for entering and leaving the construction site. The intent of the requirement is to provide a stable surface for vehicles entering and leaving the lot where mud is not likely to be tracked onto the street. The contractor is responsible for ensuring that all employee and delivery vehicles use this entrance and do not disturb the grass buffer strips along the curb line. Proper maintenance of the temporary construction entrance is required until such time as a permanent driveway can be put in place.

5. **During the entire construction period, the permit holder is responsible for ensuring that mud, dirt, rocks and other debris are not allowed to erode or be blown onto City streets or sidewalks, nor to be tracked onto streets by vehicles leaving the construction site.** Should any mud or other debris be tracked or eroded onto the street, the contractor shall take immediate steps to have it removed. Tracking must be removed from city streets by the end of the day.

Maintenance (silt fence and sediment logs)

1. Inspect silt fences and sediment logs at least once a week and after every 0.5 inch or greater rainfall. Make needed repairs immediately.

2. Promptly replace any collapsed, torn, decomposed or ineffective silt fence or sediment logs.

3. Remove the sediments accumulated against silt fences and sediment logs when those sediments reach 1/3 the height of the fence or sediment logs (MPCA requirement). Take care to avoid damaging or undermining the fence or sediment logs during cleanout.

4. If utilities are installed after construction commences, the permit holder is responsible for control of erosion and sediment during the process. The contractor is responsible for ensuring that all BMP devices are reinstalled per the original design.

Maintenance (grass buffer strips)

1. Promptly repair any damage to the grass buffer strip or install BMPs (silt fence, sediment logs, sod or mulch) if the area is beyond repair.

2. On a regular basis reinforce the need to use the construction entrance and to preserve the grass buffer strips with employees and delivery personnel.

INSPECTIONS — CITY

1. The City inspector will inspect erosion and sediment control measures. Inspections will ensure that appropriate erosion and sediment control measures are in place and properly installed.

2. As noted in the previous section on BMP's Installation Sequencing, there are a number of items to check. This inspection will concentrate on the following:

   - Perimeter Controls
   - Inlet Protection
   - Construction Entrance
   - Tracking
   - Debris/trash Control
   - Concrete Washout Area
   - Dewatering
   - Hazardous Material Storage

   If BMP's are not installed, improperly installed, or are in need of maintenance then the permit holder will be notified by the inspector verbally or in writing. The initial notification will include the appropriate timeline to address any issues of non-compliance. If the violations are not repaired within the allowed time the inspector may issue a Notice of Violation and/or stop work order until the sediments have been removed and proper BMP's are established. Escalated enforcement may be used in instances of non-compliance of a more serious nature. A decision tree can be found on the last page for more information about enforcement response procedures.

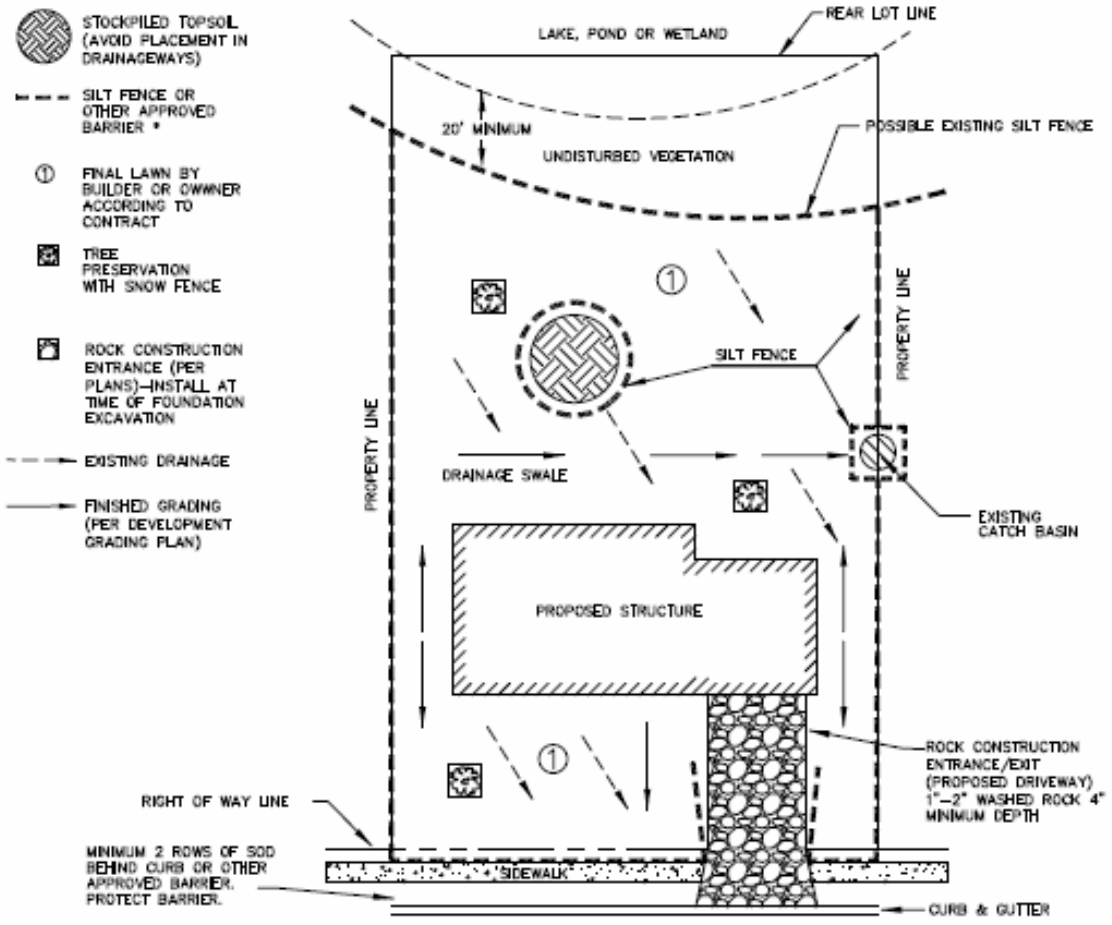
3. Site inspections shall be done weekly by the permittee (general contractor, developer or the developer's designates representative), and within twenty four (24) hours after every storm event of 0.5 inches or greater.

4. The City conducts site inspections at the start of construction (installation of BMPs) and throughout construction. Inspections will be documented when evidence of non-compliance or follow-up inspections are done, and at final completion, at a minimum. Factors such as rain events, spring thaw, prior to freeze-up, complaints, and historical contractor compliance will be used to determine and adjust the frequency of inspections by the City.

5. Complaints received for ESC at construction sites will be documented on the Complaint Tracking Log. Investigation of a complaint shall be done as soon as possible, or by the end of the next business day. Complainant can remain anonymous. Follow appropriate steps identified in the ESC ERP at the bottom of this document.

6. There will be instances that fall outside the norms. City staff will be available to discuss erosion and sediment control measures for any lot and the sequencing for installation. If you have questions or concerns call (320)234-5682 to speak with the Project/Environmental/Regulatory Manager.

SINGLE FAMILY LOT EROSION CONTROL PLAN

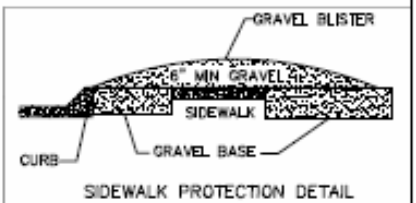


CONTRACTOR TO SWEEP OR SCRAPE SOIL FROM STREETS AS NEEDED

*APPROVED BARRIERS INCLUDE: SILT FENCE, SOD, BIOROLLS, COMPOST LOGS, WOODCHIP WINDROW AGAINST SNOW FENCE AND 100% VEGETATED BUFFER OF >25 FEET PROTECTED WITH SNOW FENCE

EXTRA MEASURES MAY BE NEEDED IF YOUR SITE:
IS WITHIN 200 FEET OF A WATER OF THE STATE.
IS STEEP (SLOPES OF 18% OR MORE).
RECEIVES RUNOFF FROM ADJACENT LAND.

NOTE: ALL EROSION CONTROL MEASURES SHOWN REQUIRE REGULAR MONITORING AND MAINTENANCE BY CONTRACTOR



SIDEWALK PROTECTION DETAIL

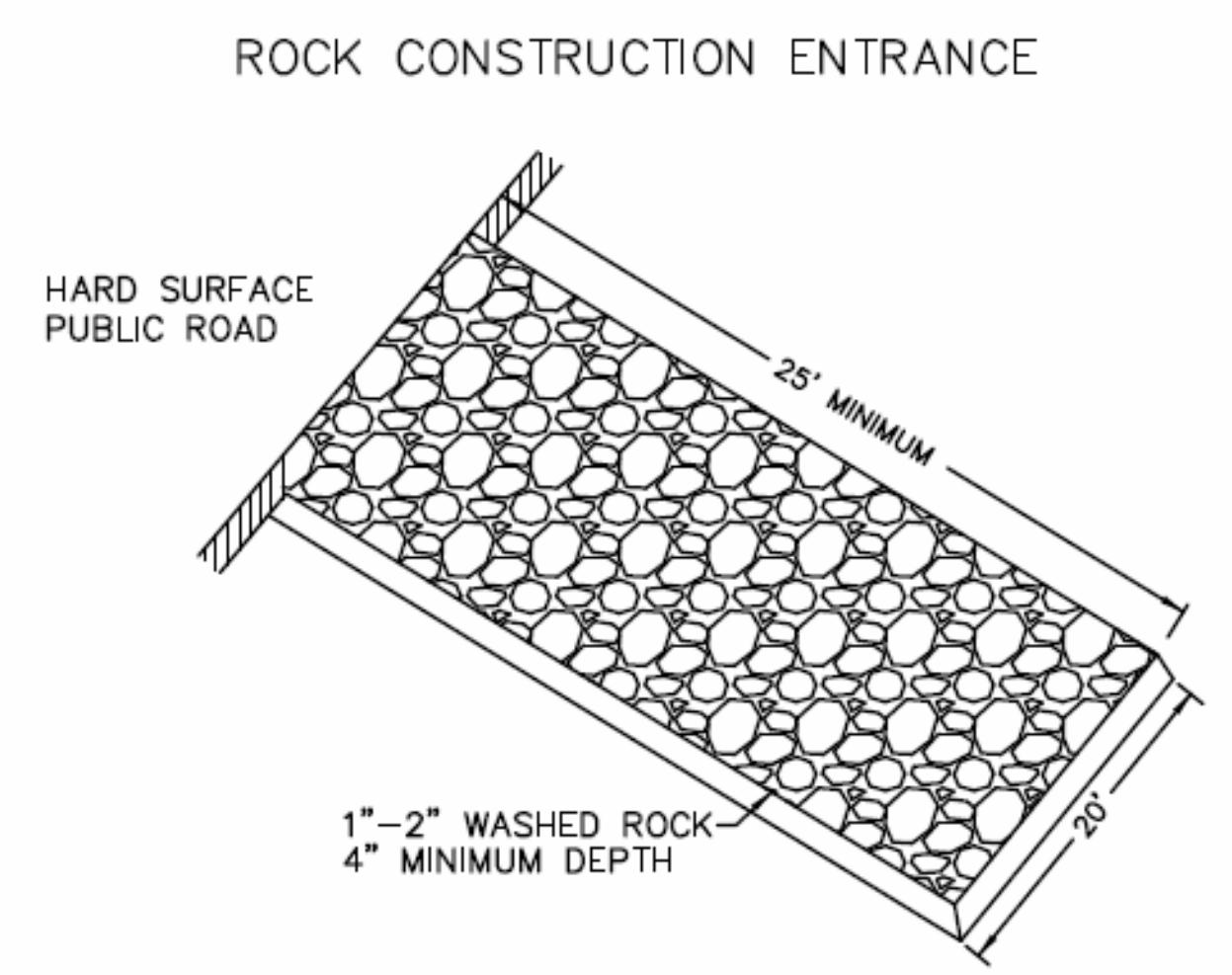
EROSION CONTROL FOR HOME BUILDERS AND SMALL CONSTRUCTION SITES

CITY OF HUTCHINSON MN.		3/06	STANDARD DRAWING NO. 2622.01b

TEMPORARY CONSTRUCTION ENTRANCE

Each building site must have a designated construction entrance. The future driveway is a good place for the construction entrance. Insist that all trades, delivery and supply companies only use the approved entrance.

- Construction entrances must have a minimum depth of six (6) inches.
- The construction entrance should consist of gravel, wood chips, crushed concrete, crushed rock, class 5 or a tracking mat.
- Should access block drainage from the road, a pipe must be installed along the curb to allow water to pass to the storm drain.
- Any sediment tracked on a paved surface from the construction site must be removed by the end of the day.
- Vehicles should stay off the construction site during wet conditions.



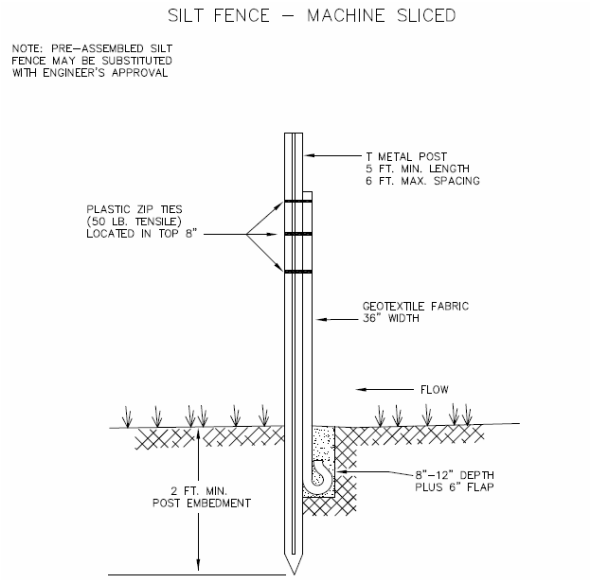
TEMPORARY CONSTRUCTION ENTRANCE continued

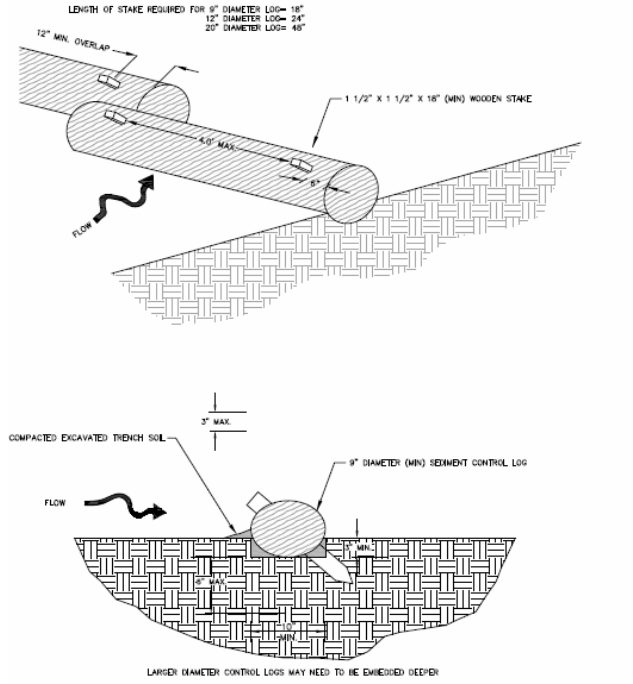
THIS IS NOT ACCETABLE. The lack of a construction entrance has resulted in mud tracked onto the street and the curb line is full of sediment.

THESE ARE ACCETABLE. Examples of a construction entrances that meet standards.

SILT FENCE AND SEDIMENT LOGS

Silt fence, as shown in the detail drawings, must be installed properly to be effective. That means the bottom of the fence must be installed in a 6 inch deep trench and anchored with soil.





Sediment logs (also called bio-rolls or wattles) are made of straw or wood fiber bound within a net to form a tube.

CURB AND INLET PROTECTION

Curb and inlet protection begins when the streets and utilities are installed. The City invests considerable effort to protect the curb line and inlets from sediment.

The boulevard (right-of-way) are either seeded with fast germinating seed and then mulched with straw, sprayed with hydromulch or sodded. The straw is anchored into the soil with a disk to reduce soil erosion from the boulevard and private lot entering the curb line.

The City also installs a second form of pollution protection at each stormwater inlet. These are called drop in inlet protection. They work by filtering and capturing sediments while allowing stormwater to pass through the fabric.

The drop ins are not meant to replace the grass boulevard strips, because they cannot hold high volumes of sediment before they must be cleaned. They are a second line of defense in keeping sediments out of the stormwater system.

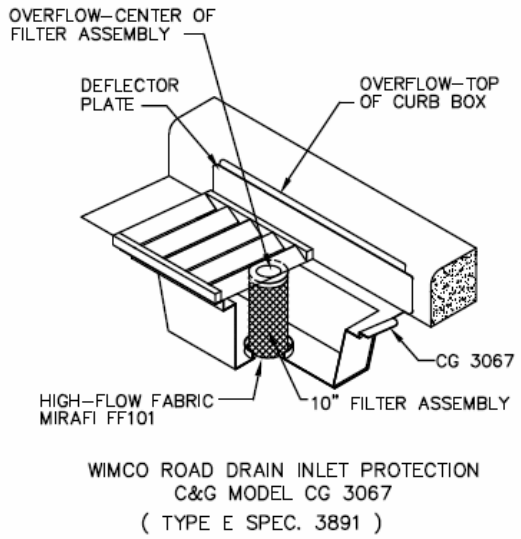
Inlet protection is to remain in place until the lawns in the neighborhood that drain to the inlet have been installed.

Temporary removal of inlet protections in city streets is allowed in the winter as long as it is reinstalled prior to receiving runoff.

Inlet protection installed in a new subdivision. The purpose is to capture any sediments that are in the curb line while still allowing stormwater to drain.

Boulevard recently seeded with disk anchored straw mulch applied to prevent sediments from entering the curb line.

Established grass buffer strip. These should be left undisturbed until the final lot grading and sodding or seeding.



WIMCO ROAD DRAIN INLET PROTECTION
C&G MODEL CG 3067
(TYPE E SPEC. 3891)

CURB AND INLET PROTECTION continued

The photos on this page show things that are not allowed. The purpose of the grass filter strip has been compromised in each instance.

If the grass filter strip becomes damaged or is removed by such activity, then silt fence or sediment logs must be installed to serve the purpose of filtering sediments before they reach the curb line.

Park vehicles on the street or on the private lot. Do not park trailers, cars and trucks on the grass filter strips.

Building materials including sand, clay, black dirt and gravel should never be stored on the grass filter strips or in the city street. Building material storage belongs on the private lot, not in the right-of-way.

When unloading and loading equipment use the construction entrance.

DEWATERING

During the spring, summer and fall months standing water can be a problem on the construction site. It costs time and money to wait for the construction site to dry out naturally. The most common way of eliminating standing water is to pump it onto the city street. The water that is being pumped is carrying fine sediment and must be treated before it is discharged into the storm inlet. It is the permit holder's responsibility for keeping sediment from leaving the construction site.

- Dewater sediment laden water through a sediment filter bag or a temporary sediment basin.
- Visual inspection must be done to ensure adequate treatment is obtained.
- Disperse discharge using appropriate energy dissipation measures.
- Dewatering cannot cause nuisance conditions or erosion of boulevard or receiving channel.

The solution for instances where construction site water must be pumped is to use filter bags, socks or a temporary sediment basin.

The photos below show pumping unfiltered, sediment-laden water into curb lines resulting in pollution of the stormwater system inlets.

CONCRETE WASHOUT AREA

The grading/erosion control permit holder is responsible for keeping sediments from leaving the construction site. This includes the actions of sub-contractors, suppliers and delivery firms visiting the site.

- If a regional washout area is not provided, than the site MUST have a constructed washout.
- The washout material and water must be contained, meaning that none of the water can leave the washout area.
- Do not use boulevards as washout areas.
- Washout areas must be lined or compacted per MPCA NPDES construction permit.
- The washout area should be property marked.
- The permit holder is responsible for making sure that the suppliers know where the washout area is located.
- The washout area must be a minimum fifteen (15) feet away from any storm inlet.
- Washout area must be inspected once a week, and within 24 hours after a rain event of 0.5 inches or more.
- Washout must be emptied when 80% of it's capacity is used.

In the instance of a mechanical breakdown, where a truck must be cleaned on the street, all spilled material shall be shoveled off the street. Simply spraying the spill with water will send the pollutants into the storm inlet.

To prevent the potential need for cleanout on the street, whenever possible, the truck should setup on the lot rather than the street.

The photos below show an illegal discharge of concrete in the right of way.
THIS IS NOT ACCEPTABLE.

STABILIZATION

These two photos illustrate the need to stabilize the soil adjacent to the curb line when doing final lot grading and seeding. Each photo shows erosion without sod on the boulevard of the lot in the foreground for eliminating erosion of sediments into the curb line. Note also the sod in the right hand photo that has no evidence of erosion occurring.

Seed with Erosion Mat is shown in the photo on the right. Erosion mats are typically 8 feet wide by 90 feet long. They are made with either straw or wood fiber and covered with a photodegradable net. They are held down with staples and can be easily installed by homeowners.

Seed with Anchored Straw (shown above) is also acceptable. The straw holds the soil in place until the seed germinates. It is critical that the straw be disk anchored, otherwise strong winds will blow the straw away from the area to be protected. Local landscaping firms offer this service.

Seed Sprayed with Fiber Mulch (shown above) is a product offered by several local landscape firms. The sprayed mulch is effective if applied when the seed will germinate and grow during the current season.

WINTER STABILIZATION

The permit holder is responsible for erosion control devices year round until the permit is closed. To prevent sediment and other pollutants from leaving the construction site during the winter season it is recommended that the following are considered.

- Halt land disturbing activities, until warm weather returns. Sequence work such that all land disturbing activities take place prior to freeze up.

- Stabilize all exposed soil surfaces with vegetation, mulch, or erosion control blankets before the ground freezes. Seeding should occur prior to October 1st to provide time for germination and plant growth. Sod can be placed at any time and provides final stabilization.

- Provide a construction entrance that can be accessed throughout the winter. Stockpile gravel on the construction site to maintain the construction entrance.

- If new land disturbing activities occur, then stabilization methods must be put into place immediately.

Inlet Protection

Although inlet protection devices are an effective form of sediment control, they can pose problems in the winter time. Inlet protection must be removed by November 1st of each year. These devices may need to be reinstalled before work commences in the spring or no later than April 1st.

Perimeter Control Devices

If perimeter control devices are left in during the winter there is a chance of them getting destroyed by a snow plow. Moving the perimeter control device back two (2) feet, before winter and marking them with a four (4) foot orange stake will help prevent City plows from catching and destroying the BMP.

NOTE:
Spring snowmelt is considered stormwater runoff and is required to be treated.

GOOD HOUSEKEEPING

Potential Sources of Stormwater Contamination
The purpose of this section is to identify pollutants that could impact stormwater during and after construction of this project. Pollutants can be in many forms including liquids, powders, dust granules, soil or other sediments, building materials and debris leaving the worksite.

Good housekeeping measures can eliminate or significantly reduce these pollutants from contaminating the storm sewer system. The following are some measures that should be implemented on every worksite.

- Every worksite should be clean.
- Each worksite should be inspected regularly to discover and remove potential sources of pollutants.
- Building supplies and waste material should be appropriately contained so that nothing can be blown off-site by wind.
- Potential pollutants should be stored to protect against accidental release during storm events.
- Spills and mechanical breakdowns should be anticipated by having a plan in place, and materials on hand, to properly address such incidents.

Significant Materials Inventory
The more common pollutants that result from clearing, grading, excavation, road and home construction, which have the potential to be present in stormwater runoff, are listed in the table on the following page.

The table includes information regarding material type, chemical and physical description and specific regulated stormwater pollutants associated with each material.

Good housekeeping measures should be concentrated on keeping these pollutants out of the stormwater system.

GOOD HOUSEKEEPING continued

SIGNIFICANT MATERIALS INVENTORY				
Material/Chemical	**Physical Description**	**Stormwater Pollutants**	**Location**	**Process For Containment**
Pesticides (insecticides, fungicides, herbicides, rodenticides	**Various colored to colorless liquids, powders, pellets or grains**	**Chlorinated hydrocarbons, organophosphates, carbamates and arsenic**	**Herbicides used for noxious weed control**	**Certified applicator**
Permanent Seeding Fertilizer	**Liquid or solid grains, nitrogen and phosphorus**	**Nitrogen, phosphorus, organic substrate**	**Permanent cover - newly seeded areas**	**Organic base, slow release forms only, tied up in compost**
Cleaning Solvents	**Colorless, blue or yellow-green liquid**	**Perchloroethylene, methylene chloride, trichloroethylene, petroleum distillates**	**No equipment cleaning allowed in project limits**	**Tarps, monitor weather for rain and wind**
Wastewater from construction	**Equipment washing rinse water**	**Water soil, oil, grease and solids**	**Equipment washing not allowed in project limits**	**N/A**
Asphalt	**Black solid**	**Oil, petroleum distillates**	**Streets, roofing**	**Excess material to be removed for project limits**
Concrete	**White solid**	**Limestone, sand**	**Railroad tracks, culverts, curb and gutter, driveways, home foundations, masonry**	**Designated wash areas or complete haul removal**
Glue, adhesives	**White or yellow liquid**	**Polymers, epoxies**	**Expansion joints, home construction**	**Empty container management**
Gypsum board	**White solid or powder**	**Calcium carbonate**	**Home construction**	**Good housekeeping during construction**
Joint compound, wall and ceiling texture	**White-grey paste or powder**	**Silica, calcium carbonate**	**Home construction**	**Good housekeeping during construction**
Paints	**Various colored liquids**	**Metal oxides, Stoddard solvent, talc calcium carbonate, arsenic**	**Roadway striping, home construction**	**Empty container management**
Curing compounds	**Creamy white liquid**	**Naphtha**	**Curb and gutter**	**Follow manufacturers recommendations**
Wood preservatives	**Clear amber or dark brown liquids**	**Stoddard solvent, petroleum distillates, arsenic, copper, chromium**	**Timber pads, railroad tracks, home construction**	**Oil absorbing diapers, trained personnel**
Hydraulic oil/fluids	**Brown oily petroleum hydrocarbon**	**Mineral oil**	**Random leaks broken hoses**	**Oil absorbing diapers, trained personnel**
Gasoline	**Colorless pale brown or pink liquids**	**Petroleum hydrocarbon, benzene, ethyl benzene, toluene, xylene, MTBE**	**Secondary containment**	**Oil absorbing diapers, trained personnel**
Diesel fuel	**Clear blue-green to yellow liquids**	**Petroleum distillates, oil & grease, naphthalene, xylene**	**Secondary containment**	**Oil absorbing diapers, trained personnel**
Kerosene	**Pale yellow liquid petroleum hydrocarbon**	**Coal oil, petroleum distillates**	**Secondary containment**	**Oil absorbing diapers, trained personnel**
Anti-freeze/coolant	**Clear green/yellow liquids**	**Ethylene glycol, propylene glycol**	**Random leaks and broken hoses**	**Trained personnel**
Soil erosion	**Solid particles**	**Soil, sediment**	**Project limits**	**Prevention and Stabilization measures within prescribed periods**

Erosion Sediment Control Non-compliance Procedures & ERP