

**Watertown City Council**December 11<sup>th</sup>, 2018**Agenda Item: Erosion Control & Infrastructure Protection Policy****Request for Action: Adopt Resolution #2018-159, Adopting the Building Site Condition Policy****Department: Shane Fineran, City Administrator****Background:**

Over the last few years of increased residential building activity within the community, concerns regarding adequate erosion control and infrastructure protection have arisen. On sites larger than 1 acre in size the Carver County Watershed Management Organization reviews, issues, and inspects construction sites for adherence to their regulations for erosion control. This leads such activity on sites less than 1 acre in size the responsibility of the City.

While we do note that erosion control is required on issued building permits, our compliance inspection is inconsistent and with no guidance provided by the City as to the measures or maintenance expectations we would like to see in place. As far as infrastructure protection for items such as installed sidewalks, trail surfaces, curb and gutter sections, as well as pavement surfaces, we do not have any adopted standards. This exposes municipal infrastructure to damage with no means of re-cooping costs associated with repair or replacement of these items.

Staff is recommending that the City adopt a policy as it relates to erosion control and infrastructure protection standards that shall be in place during site construction. This includes standards for various types of erosion control and inlet protection. The main component of the erosion control standards shall be at minimum the installation of staked bio-rolls as well as inspection by contractors following rain events and the cleaning of collected sediment in order to maintain their effectiveness. Bio-rolls are large fabric socks which contain materials such as wood chips. These systems prevent conveyance of top soil from disturbed areas onto adjacent properties, local streets, and the storm water collection system.

Infrastructure protection would consist of providing gravel or excavated soil material over and across side walk and trail surfaces as well as curb sections. This method, called "blistering", provide protection of these items from damage caused by construction traffic such as trucks, tracked equipment, etc. Wood boards or rubber mats would be required to be placed on street surface as equipment is loaded near a site.

Staff has developed a process in which documentation would occur prior to work begins on a site. We are alerted to site excavation via utility locates. At the time of performing utility locates staff will document site conditions via photograph at that time and will inspect for potential damage prior to the issuance of a certificate of occupancy by the building official. In order to maintain compliance with the requirements it is recommended that the City take an escrow of \$2,000 at the time of building permit issuance. This escrow will be held as security if the City has to take corrective measures regarding the placement of erosion control systems or if municipal infrastructure as been found to be damaged due to inadequate protective measurement placement or maintenance.

Builders would incur additional expense in the installation and maintenance of such systems, and the upfront expense of a building permit would increase. The \$2,000 escrow would be re-fundable upon satisfactory inspection of infrastructure items not needing repair.

**Attachments:**

Building Site Condition - Erosion Control and Infrastructure Control Policy  
Resolution #2018-159

**BUILDING SITE CONDITION POLICY  
FOR INFRASTRUCTURE PROTECTION AND EROSION CONTROL**

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The City of Watertown wishes to provide an orderly and consistent application of protective measures and site control of sediment during active site excavation, grading, and construction activities. In order to do so the following conditions and policy practices have been adopted. To ensure compliance to protect the residents of Watertown, financial security will be required. The required security will not be released until final inspection of the site and any required remedy to cure has been completed.

**A. SECURITY REQUIRED AND REMEDY TO CURE.**

1. \$2,000 escrow will be required at the time of building permit issuance and will be held pending satisfactory inspection of the site by City staff.
2. The escrow will not be released until any required repairs or cleaning to municipal infrastructure are made, required restoration, and or required permanent soil stabilization (i.e. sodding, seeding) have been installed.
3. Failure of the permit holder, after notification from the City, to adequately repair any damage to municipal infrastructure and/or remedy unsatisfactory site conditions related to erosion control may result in the City causing the repair to be made and drawing upon the \$2,000 escrow.
4. Any costs associated with the repair of the municipal infrastructure not covered by the \$2,000 escrow will be assessed to the property.

**A. DOCUMENTATION METHODS**

- a) Prior to the excavation or grading of any site, and after the proper locates have been request, City staff will take photographs and field notes of the condition infrastructure around the site.

- b) An inspection will be performed following the request for final permit inspection or the issuance of a certificate of occupancy from the permit holder.

## **SIDEWALK, CURB, AND ROADWAY PROTECTION**

### **B. GENERAL**

1. The purpose of this Section is to promote the public health, safety, property and general welfare of the City of Watertown and to protect infrastructure such as concrete sidewalks, bituminous trail, concrete curbing and gutter, and bituminous street surfaces from damage caused by equipment and vehicles accessing land and building sites during residential or commercial construction.

#### **2. ACTIVITIES SUBJECT TO SIDEWALK, CURB, AND ROADWAY PROTECTION**

1. The following activities are subject to the provisions of this section:
  - a) Any improvement that requires a building and or grading permit from the City of Watertown and:
  - b) Any site that has a building and or grading permit that will be accessed over and across existing sidewalk or trail segments, curb and gutter, and or which an adjacent street surface has the wear course of asphalt in place.

### **C. PERFORMANCE STANDARDS**

In general, this Section does not require the use of any particular method to protect noted infrastructure. However, the recommended protection measures may reduce the liability of the permit holder in the repair and/or replacement of infrastructure to be determined to have been damaged by the permit holder's failure to adequately provide protection to such infrastructure.

1. General Recommendations
  - a) Concrete sidewalk shall be protected by providing a minimum of 6" of  $\frac{3}{4}$ " minus gravel or 8" of excavated soil and must remain ADA compliant.

- b) Bituminous trail shall be protected by providing a minimum of 6” of  $\frac{3}{4}$ ” minus gravel or 8” of excavated soil and must remain ADA compliant.
- c) Concrete curb and gutter sections shall be protected by providing a wood or preformed rubber ramp.
- d) Wear course layer of street surface shall be protected from damage from excessive turning movements, tracked vehicles, outriggers, dumpsters, etc. with the use of plywood or sheathing material.

### **SEDIMENT AND EROSION CONTROL**

#### **D. GENERAL**

- 3. The purpose of this Section is to promote the public health, safety, property and general welfare of the City of Watertown and to conserve the soil, water and related resources and to control erosion and sedimentation caused by land disturbing activities. Refer to the sub-sections below, as well as, the attached “Building Permit - Standard Details”.

#### **E. ACTIVITIES SUBJECT TO EROSION CONTROL MEASURES**

- 2. The following activities are subject to the provisions of this section:
  - c) Any improvement that requires a building permit from the City of Watertown.
  - d) Any land disturbing activity disturbing 500 square feet or greater but less than one acre (43,560 square feet) within city limits. If a Sediment and Erosion Control Permit is required by the Carver County Watershed Management Organization, the City delegates all sediment and erosion control review and authority to the Carver County Water Management Organization.

#### **F. PERFORMANCE STANDARDS**

In general, this Section does not require the use of any particular method to control erosion and sedimentation. The City shall evaluate the proposed measures to determine if they follow current “Best Management Practices” and engineering standards are met.

- 1. General Requirements

- e) Land disturbing activities shall be planned and conducted to minimize the extent of disturbed area, runoff velocities and erosion potential, and to reduce and delay runoff volumes.
  - f) Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within seven (7) days on all perimeter dikes, swales, ditches, perimeter slopes, and all slopes greater than 3 horizontal to 1 vertical; embankment of ponds, basins, and traps; and within 14 days on all other disturbed or graded areas unless they are actively being worked regardless of season.
  - g) Erosion and sediment control measures shall be consistent with standard industry best management practices, and shall be sufficient to retain sediment on-site.
  - h) All erosion and sediment controls shall be inspected and approved by the City staff before commencing the land disturbing activity.
  - i) See City of Watertown “Building Permit - Standard Detail” for erosion control details.
2. Erosion Control Standards
- c) The natural drainage system shall be used to the extent possible for storage and flow of runoff before release to a stormwater conveyance system. Temporary storage areas or retention ponds shall be considered to reduce peak flows, erosion damage and construction costs.
  - d) If needed, sod shall be laid in strips at right angles to the direction of drainage to prevent erosion.
  - e) At existing storm sewer inlets, temporary sedimentation traps will be necessary to prevent erosion from entering the storm sewer system, and downstream water bodies.
  - f) Erosion and sediment controls may include, but are not limited to sediment basins, debris basins, silt traps, silt fence, biorolls, erosion control blanket, rock construction entrance, straw mulch, vegetation, sediment basins, rock check dams, regular street sweeping, etc.

- g) Biorolls shall be used rather than silt fence wherever possible to eliminate the need to remove the silt fence after turf is established. Biorolls shall be staked per the Standard Detail.
  - h) Straw or hay bales shall not be used as an erosion or sediment control device.
  - i) Silt fence is not acceptable as an inlet grate BMP.
  - j) Additional erosion control may be necessary where biofiltration/infiltration is the primary means of stormwater management.
3. Exposed Slopes
- 3. Exposed slopes shall be protected by whatever means will effectively prevent erosion considering the degree of slope, soil materials, and expected length of exposure. Slope protection shall consist of mulch, erosion control blankets, sod blankets, fast growing grasses or temporary seeding of annual grasses. Mulch may consist of hay, straw, wood chips, corn stalks, bark or other protective material. Mulch shall be anchored to the slopes to provide additional slope stability.
4. Dust Control Measures
- 1. Temporary mulching or seeding shall be applied to open soil to minimize dust.
  - 2. Barriers such as snow fences, commercial wind fences and similar materials shall be used to control air currents and blowing soil if the City determines it is necessary.
  - 3. The exposed soil shall be watered, as necessary, to control dust.

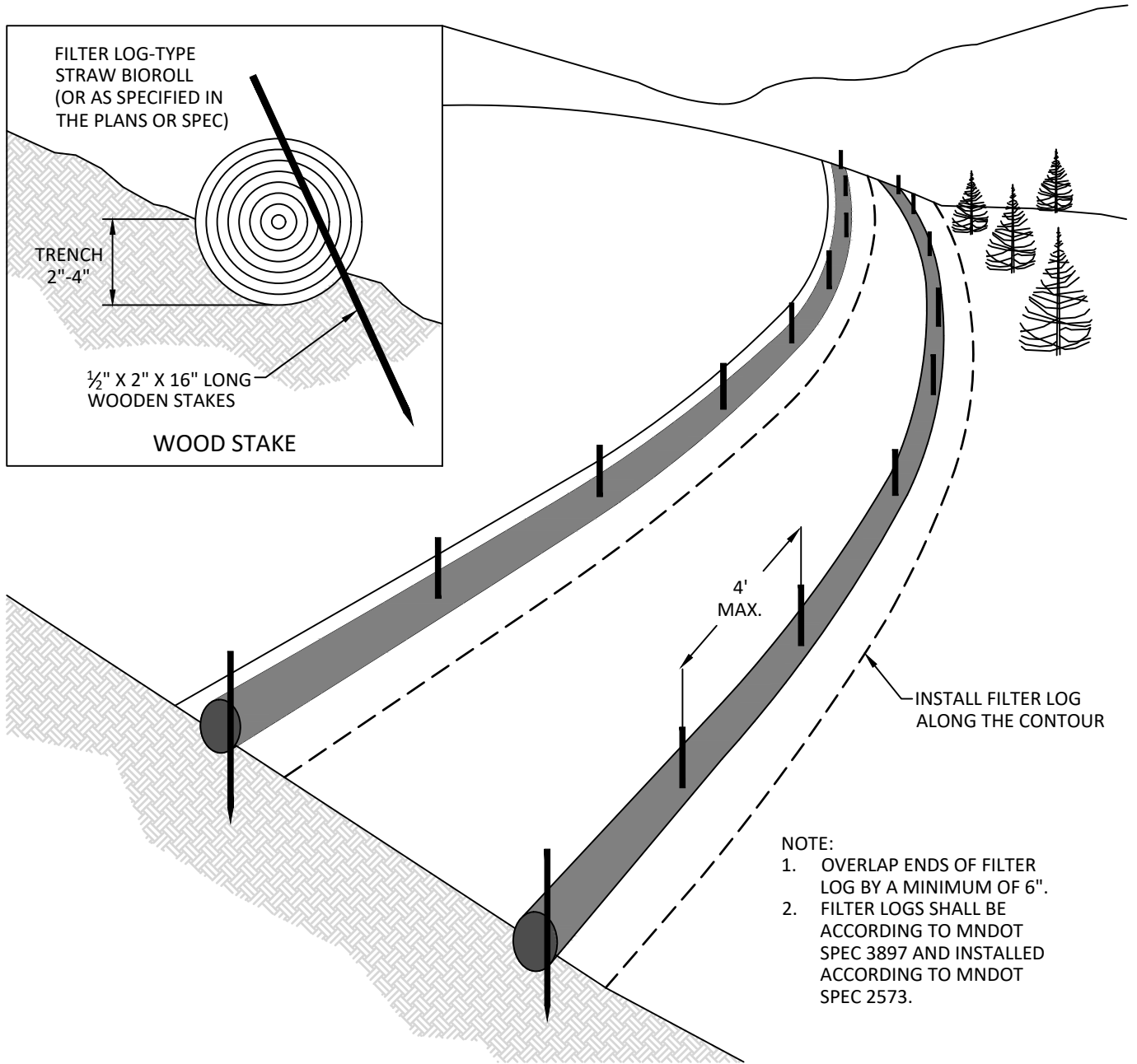
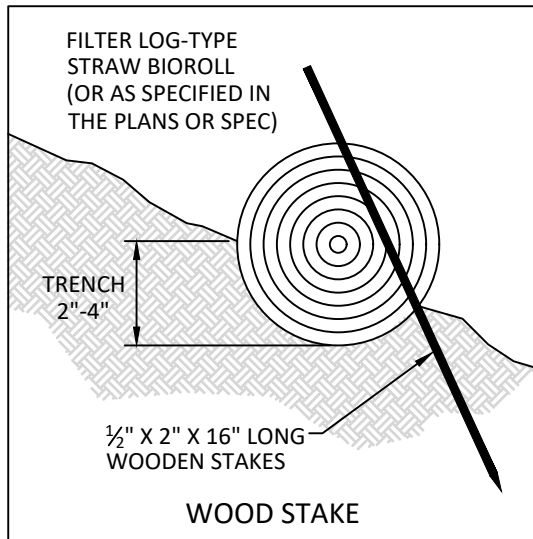
**G. MAINTENANCE OF EROSION CONTROL MEASURES**

- 1. The cleanup and restoration needed on adjoining properties, City streets, storm sewers, etc., due to erosion or sedimentation leaving the project site, shall be the responsibility of the Contractor or property owner.
- 2. The Contractor or property owner shall be responsible for maintaining all erosion control devices in a condition that will ensure that they will function properly.

Erosion control systems shall be inspected by the Contractor and an inspection report shall be provided to the City after every rainfall event ½” or greater, or at a minimum of once per week. This report can be emailed to the building official at [sdornfeld@ci.watertown.mn.us](mailto:sdornfeld@ci.watertown.mn.us) or sent to City Hall, 309 Lewis Avenue South.

Erosion control measures shall be maintained as necessary, or within twenty-four (24) hours following discovery or notification of maintenance requirements. Such erosion control measures not employed or functional following such notification may result in the issuance of a stop work order. If erosion control deficiencies are consistently in disrepair, the City shall have the problems corrected at the expense of the Contractor/property owner and will deduct all related expenses from the building permit escrow.





- NOTE:
1. OVERLAP ENDS OF FILTER LOG BY A MINIMUM OF 6".
  2. FILTER LOGS SHALL BE ACCORDING TO MNDOT SPEC 3897 AND INSTALLED ACCORDING TO MNDOT SPEC 2573.

## PERIMETER PROTECTION-FILTER LOG

NOT TO SCALE

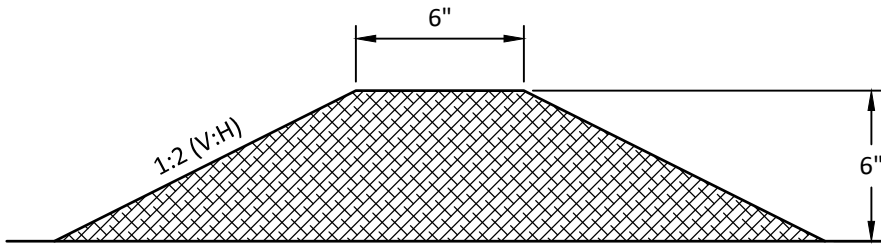


CITY OF WATERTOWN

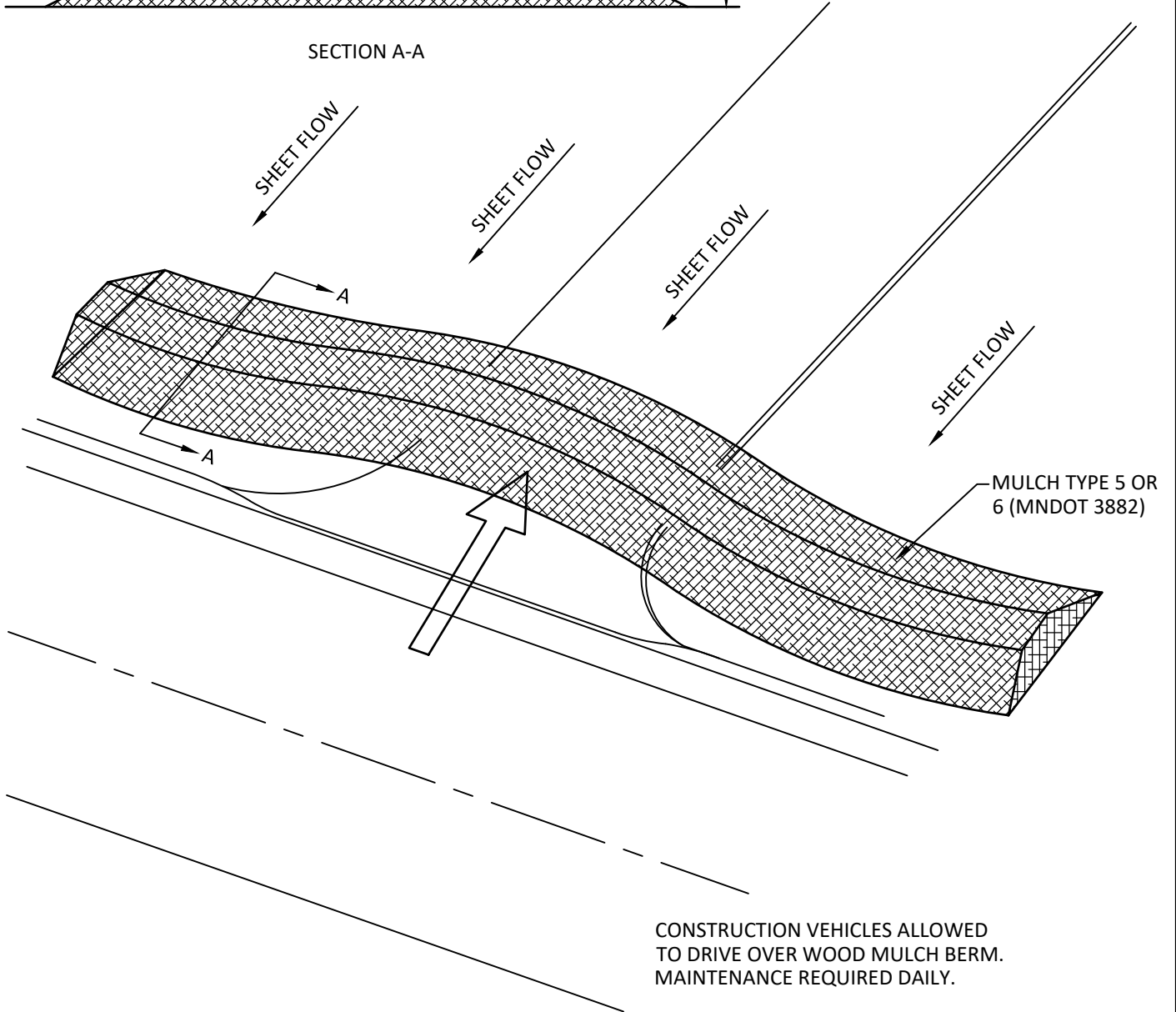
SEPTEMBER 2018

STANDARD DETAIL  
NO.

**7-001**



SECTION A-A



**PERIMETER PROTECTION-WOOD MULCH BERM**

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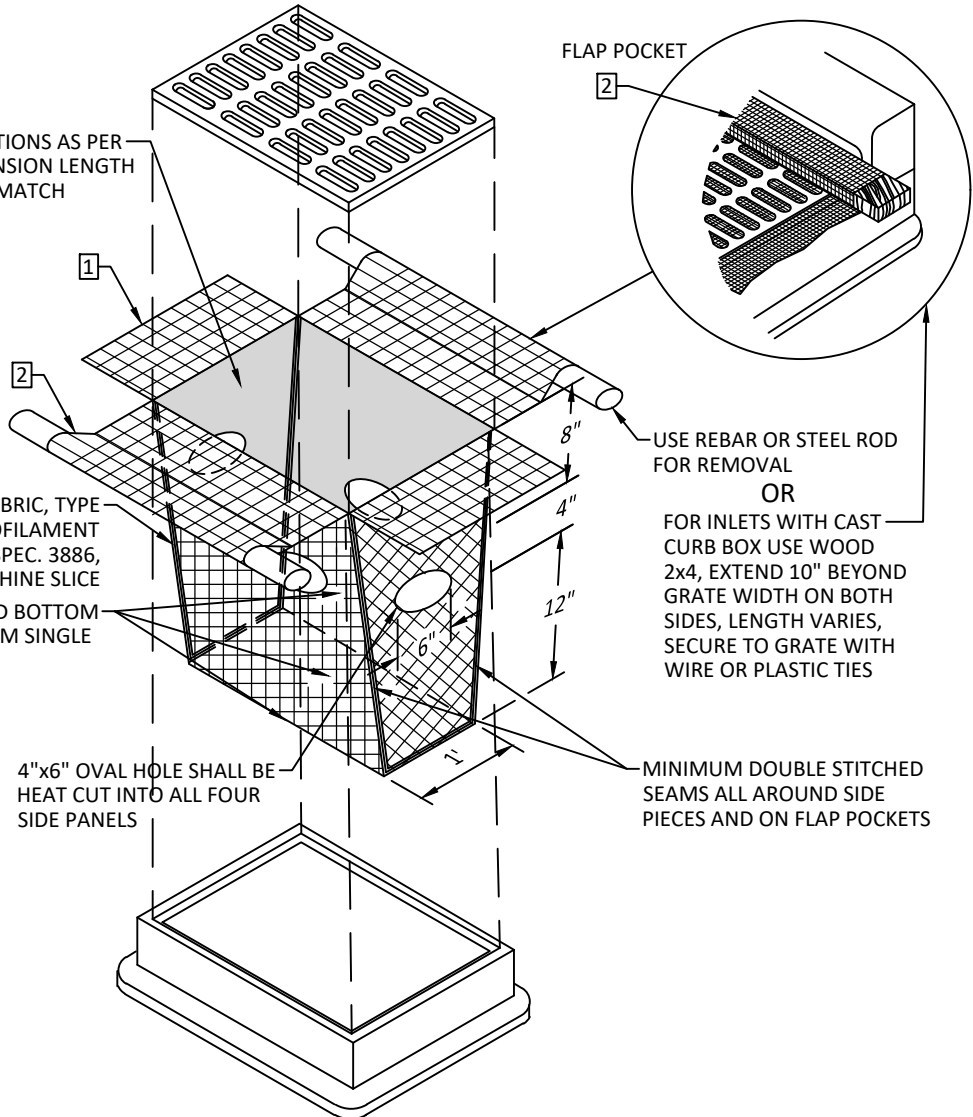
CITY OF WATERTOWN

SEPTEMBER 2018

STANDARD DETAIL  
NO.

**7-002**

INLET SPECIFICATIONS AS PER THE PLAN DIMENSION LENGTH AND WIDTH TO MATCH



GEOTEXTILE FABRIC, TYPE WOVEN MONOFILAMENT CONFORMING TO SPEC. 3886, TABLE 3886-1 MACHINE SLICE FRONT, BACK AND BOTTOM TO BE MADE FROM SINGLE PIECE OF FABRIC

4"x6" OVAL HOLE SHALL BE HEAT CUT INTO ALL FOUR SIDE PANELS

FLAP POCKET

2

USE REBAR OR STEEL ROD FOR REMOVAL

OR

FOR INLETS WITH CAST CURB BOX USE WOOD 2x4, EXTEND 10" BEYOND GRATE WIDTH ON BOTH SIDES, LENGTH VARIES, SECURE TO GRATE WITH WIRE OR PLASTIC TIES

MINIMUM DOUBLE STITCHED SEAMS ALL AROUND SIDE PIECES AND ON FLAP POCKETS

NOTES:

- 1 INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER. MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENTS EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED. WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL IN THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.
- 2 FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2x4.

INSTALLATION NOTES:

DO NOT INSTALL PROTECTION IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CLINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

**INLET PROTECTION GEOTEXTILE BAG**

NOT TO SCALE

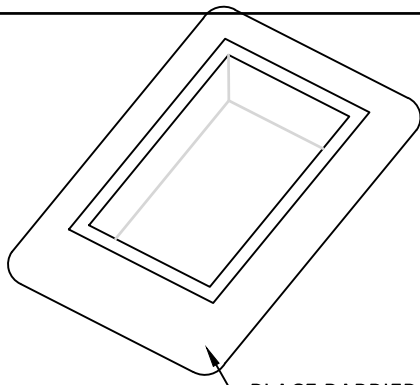


CITY OF WATERTOWN

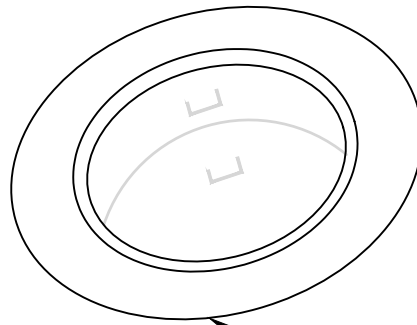
SEPTEMBER 2018

STANDARD DETAIL NO.

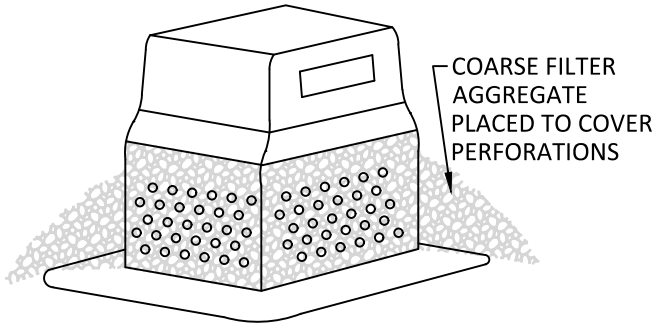
7-003



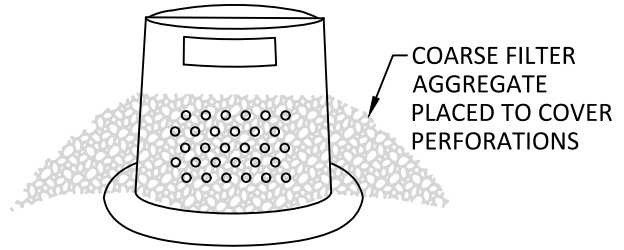
PLACE BARRIER FRAME  
ATOP PRE-CAST TOP SLAB



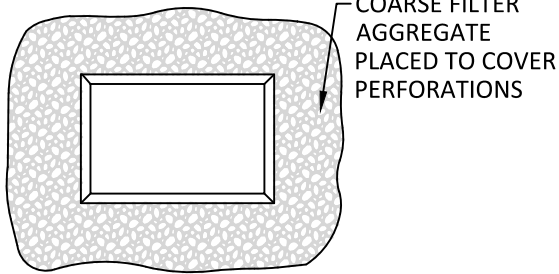
PLACE BARRIER FRAME  
ATOP PRE-CAST TOP SLAB



COARSE FILTER  
AGGREGATE  
PLACED TO COVER  
PERFORATIONS

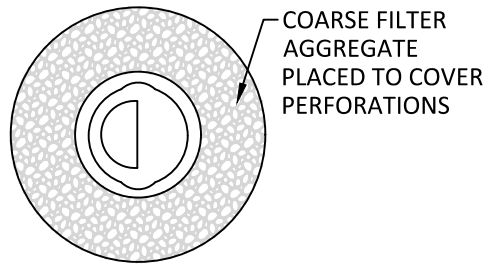


COARSE FILTER  
AGGREGATE  
PLACED TO COVER  
PERFORATIONS



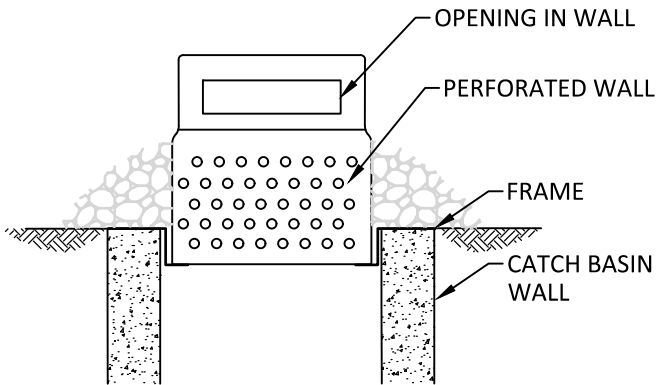
COARSE FILTER  
AGGREGATE  
PLACED TO COVER  
PERFORATIONS

TOP VIEW



COARSE FILTER  
AGGREGATE  
PLACED TO COVER  
PERFORATIONS

TOP VIEW

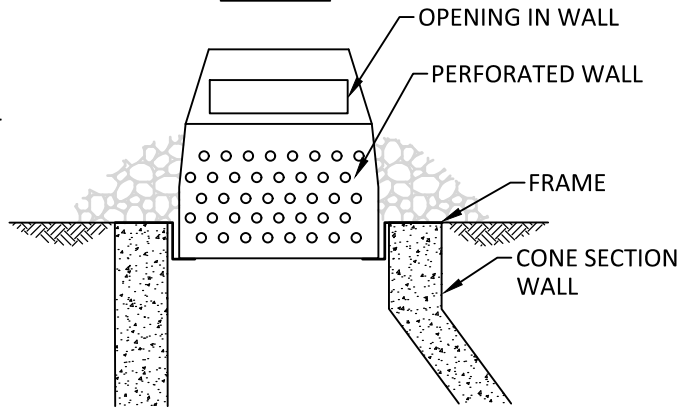


OPENING IN WALL

PERFORATED WALL

FRAME

CATCH BASIN  
WALL



OPENING IN WALL

PERFORATED WALL

FRAME

CONE SECTION  
WALL

## INLET PROTECTION PERFORATED WALL

NOT TO SCALE

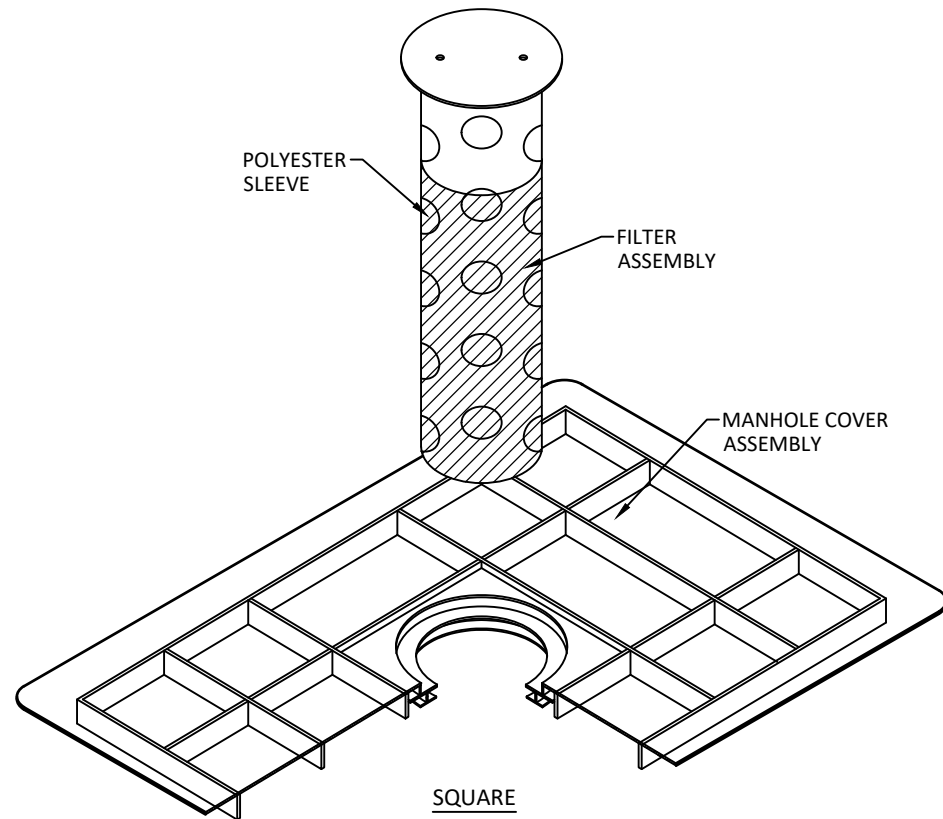
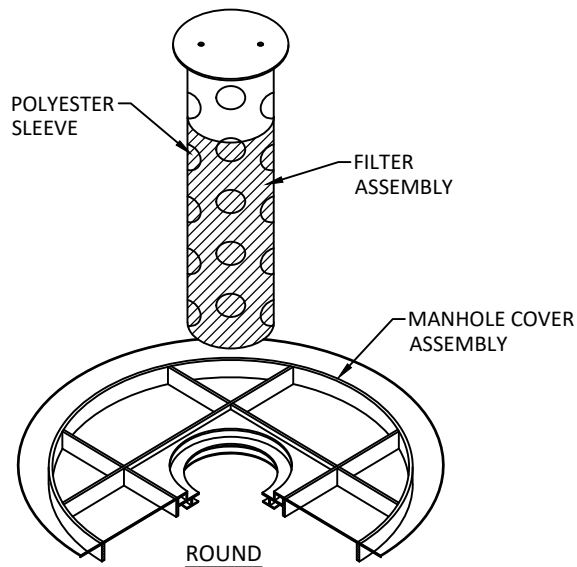


CITY OF WATERTOWN

SEPTEMBER 2018

STANDARD DETAIL  
NO.

**7-004**



**NOTES:**

1. PLACE THE ROAD DRAIN-TOP SLAB MODEL DIRECTLY ON THE TOP OF STRUCTURE OR ON ENGINEER APPROVED ADJUSTING RINGS
2. INSTALL GASKET AND COVER CENTER OF GASKET WITH PIPE GREASE OR OTHER APPROVED LUBRICATION
3. PLACE THE FILTER MEDIA ONTO THE RISER PIPE
4. ADJUST FILTER MEDIA TO PROPER HEIGHT FOR OVERFLOW
5. CHECK RISER TUBE TO MAKE SURE IT IS FULLY EXTENDED AND ALL FILTER HOLES ARE EXPOSED
6. CHECK FILTER MEDIA AFTER EACH RAIN EVENT; CLEAN OR REPLACE IF SEDIMENT CLOGS FILTER
7. REMOVE SEDIMENT AND DEBRIS FROM THE BASE OF THE RISER PIPE

## INLET PROTECTION ROAD DRAIN

NOT TO SCALE

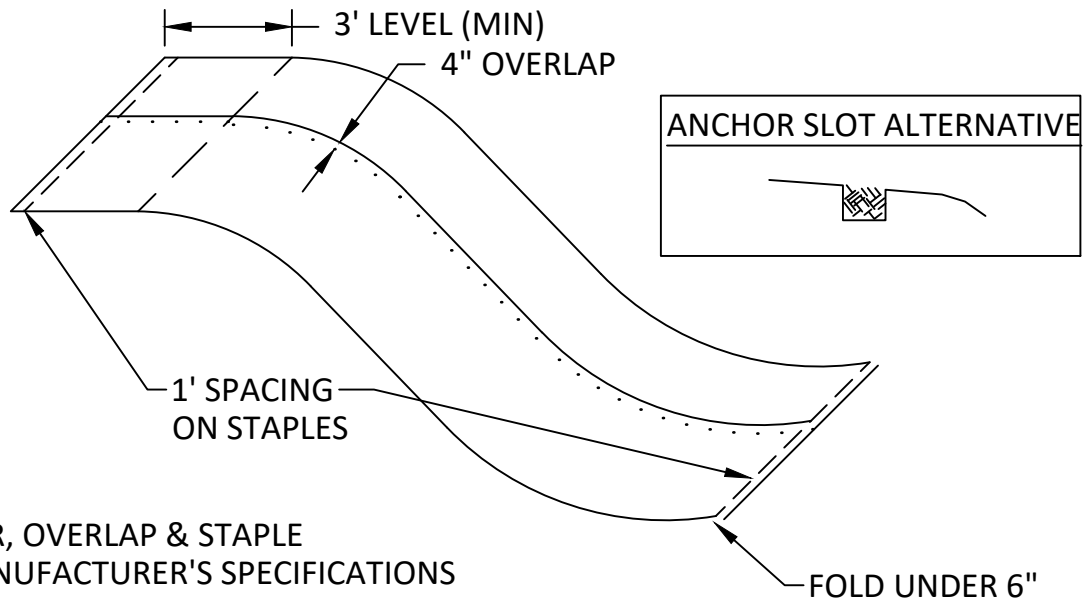


CITY OF WATERTOWN

SEPTEMBER 2018

STANDARD DETAIL  
NO.

**7-005**



NOTE:  
 ANCHOR, OVERLAP & STAPLE  
 PER MANUFACTURER'S SPECIFICATIONS

## EROSION CONTROL BLANKET INSTALLATION

NOT TO SCALE

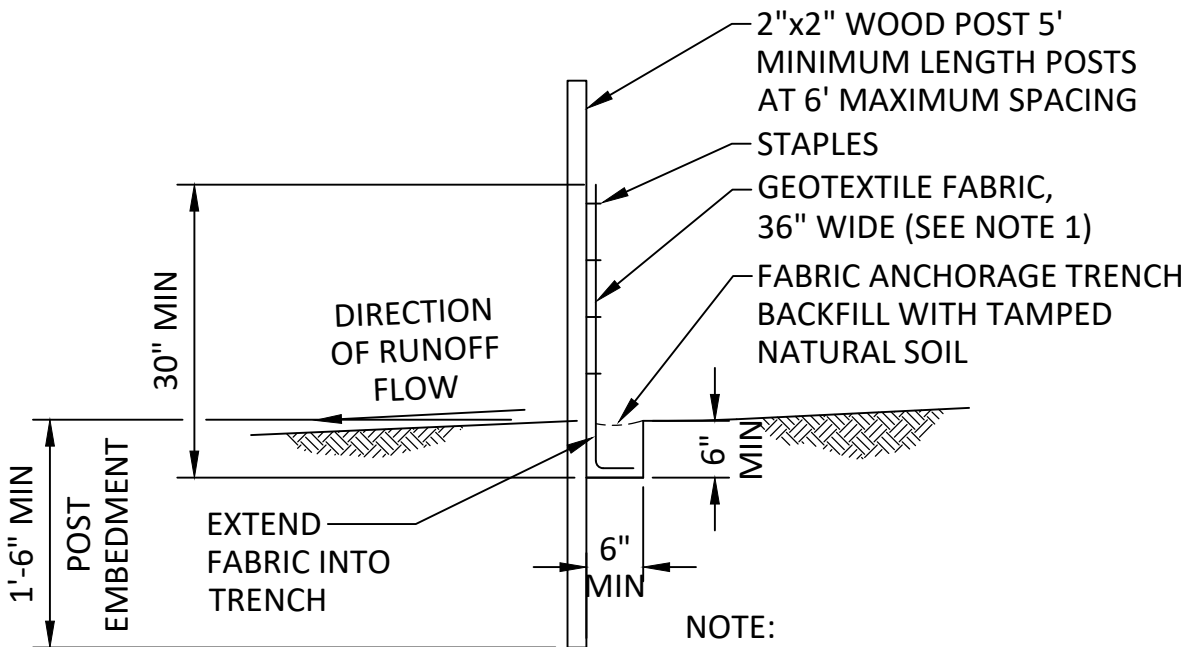


CITY OF WATERTOWN

SEPTEMBER 2018

STANDARD DETAIL  
 NO.

**7-006**



NOTE:  
 1. GEOTEXTILE FABRIC SHALL BE PER MnDOT SPEC 3886

### SILT FENCE - PREASSEMBLED

NOT TO SCALE

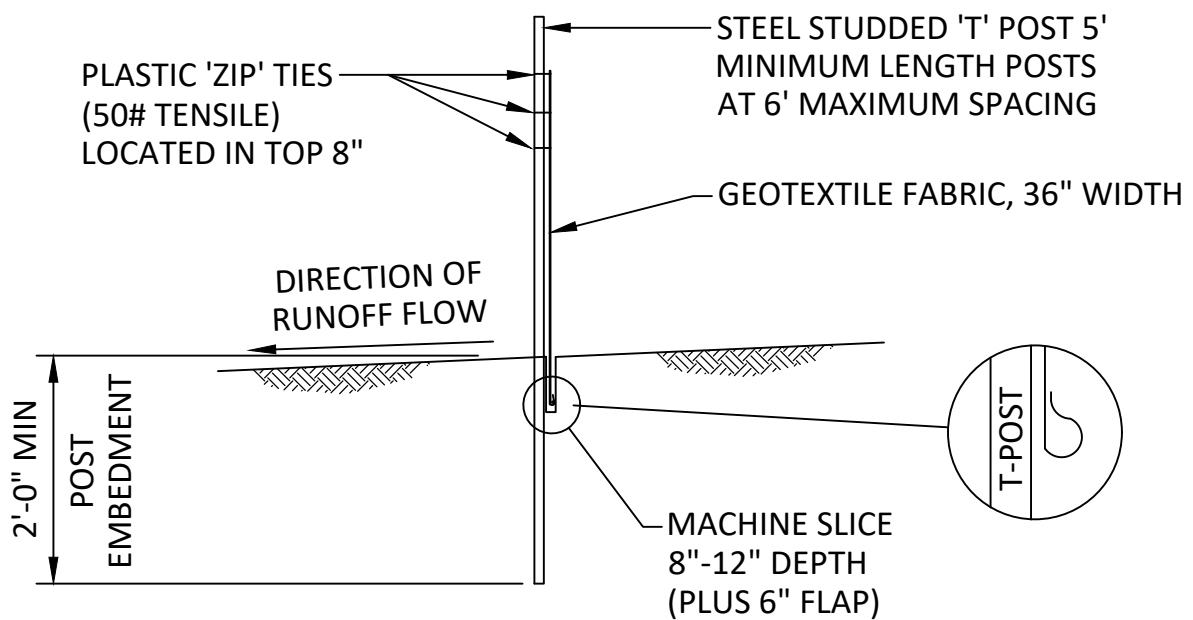


CITY OF WATERTOWN

SEPTEMBER 2018

STANDARD DETAIL NO.

7-007



**SILT FENCE - MACHINE SLICED**

NOT TO SCALE



CITY OF WATERTOWN

SEPTEMBER 2018

STANDARD DETAIL  
NO.

**7-008**



# CITY OF WATERTOWN STANDARD DETAILS

Updated 10/17/18

## GENERAL DETAILS

- 1-001 Manhole & Gate Valve Marker Sign
- 1-002 Jacked Casing
- 1-003 Watermain Pipe Support in Casing, Plastic Spacers
- 1-004 Development Info Sign

## STREETS AND TRAILS

- 2-001 Typical Street Section – 7 Ton
- 2-002 Typical Street Section – 9 Ton
- 2-003 Typical Street Section – Urban Parkway (No Parking)
- 2-004 Typical Street Section – Urban Parkway with Parking
- 2-005 Typical Street Section – Industrial Park
- 2-006 Bituminous Trail & Concrete Walk
- 2-007 Concrete Curb Reinforcement
- 2-008 Concrete Curb & Gutter Transition at Radius
- 2-009 Concrete Curb & Gutter Design B618
- 2-010 Surmountable Concrete Curb & Gutter
- 2-011 B618 Curb & Gutter Construction at Catch Basin
- 2-012 Surmountable Curb & Gutter Construction at Catch Basin
- 2-013 Concrete Valley Gutter
- 2-014 Permanent Barricade
- 2-015 Street & Traffic Sign Installation

## STORM SEWER

- 3-001 Riprap at RCP Culvert End
- 3-002 RC Pipe Class "C" Bedding
- 3-003 Storm Sewer Structure Design 4020
- 3-004 Storm Sewer Structure Design 4022
- 3-005 Catch Basin Structure Design R-1 (2'x3')
- 3-006 Perforated PVC Drintile Pipe Below Concrete Curb

- 3-006 Perforated PVC Drintile Pipe Below Concrete Curb
- 3-007 PVC Sump Line Behind Curb
- 3-008 RC Apron Trash Rack (Steel Bars)
- 3-009 Precast Concrete Pond Skimmer Structure
- 3-010 Precast Concrete Pond Skimmer Structure with Rate Control Baffle
- 3-011 Typical Maintenance Bench Detail

## SANITARY SEWER

- 4-001 Sanitary Manhole
- 4-002 Sanitary Manhole with Outside Drop
- 4-003 Non-Rigid Sanitary Sewer Trench
- 4-004 Sanitary Sewer Service New Construction
- 4-005 Sanitary Sewer Cleanout
- 4-006 Watertight Manhole
- 4-007 Manhole Top Slab
- 4-008 Catch Basin/Manhole External Seals

## WATERMAIN

- 5-001 Hydrant Installation
- 5-002 Water Service Installation New Construction
- 5-003 PVC & DIP Watermain Trench
- 5-004 Watermain Insulation
- 5-005 Watermain Offset
- 5-006 Thrust Blocking
- 5-007 Gate Valve Box Installation
- 5-008 Combined 1" Water & 4" Sewer Service Detail

## LANDSCAPING

- 6-001 Tree Protection
- 6-002 Deciduous Tree Planting Detail
- 6-003 Tree Planted in Slope Detail
- 6-004 Coniferous Tree Planting Detail

## EROSION CONTROL

- 7-001 Perimeter Protection-Filter Log
- 7-002 Perimeter Protection-Wood Mulch Berm
- 7-003 Inlet Protection Geotextile Bag
- 7-004 Inlet Protection Perforated Wall
- 7-005 Inlet Protection Road Drain
- 7-006 Erosion Control Blanket Installation
- 7-007 Silt Fence-Preassembled
- 7-008 Silt Fence-Machine Sliced

**CITY OF WATERTOWN  
RESOLUTION NO. 2018-159**

**RESOLUTION ADOPTING  
BUILDING SITE CONDITIONS FOR EROSION CONTROL AND INFRASTRUCTURE  
PROTECTION**

**WHEREAS**, the City of Watertown (the “City”) desires to reduce the impact of site construction on adjacent properties and municipal infrastructure; and

**WHEREAS**, the City finds it necessary to develop minimum standards and expectations for providing erosion control and the protection of municipal infrastructure including but not limited to installed sidewalks, trail surfaces, curb and gutter, and street surfaces; and

**WHEREAS**, additionally the requirement of financial security to be held by the City in an amount determined annually and noted by the approved fee scheduled shall be required at the time of building permit issuance on eligible sites of disturbance or construction; and

**NOW, THEREFORE, BE IT RESOLVED**, that the City Council of the City of Watertown, Minnesota, hereby approves the Building Site Condition Policy for erosion control and infrastructure protection as attached.

Adopted by the City Council of the City of Watertown this 11<sup>th</sup> day of December, 2018.

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Steve Washburn, Mayor

ATTEST: \_\_\_\_\_  
Lynn Tschudi, Clerk/Treasurer