



# Project Submittal Checklist

## City Use Only

Initial Submittal Date:

City Project #:

Notes:

### Project/Site Information:

Project Name:	Project Location:
Owner:	Engineer/Consultant:
Number of Acres Disturbed: <small>*Note: If over 0.2 acres are disturbed stormwater management required</small>	Site Acres:
Existing Impervious (Acres):	Proposed Impervious (Acres):
Proposed Curve Number:	Percent Impervious: <small>*subject to City Ordinance 155.350 for residential lots</small>

### Stormwater Management (see City's Surface Water Management Plan (SWMP) - Section 5.2 for Policy References)

Yes	No	N/A	Standard			
			<p><b>Volume Requirement</b> (Policy 6.2 and Policy 6.10) Provide infiltration volume of 0.5 inches of runoff over the area of the development OR 1 inches over the new impervious – MIDs standards (<i>whichever is greater</i>)</p> <table border="1"> <tr> <td><b>Provided Treatment:</b> _____ ft<sup>3</sup></td> <td><b>Requirement 0.5 Inch:</b> _____ ft<sup>3</sup></td> <td><b>Requirement 1-inch:</b> _____ ft<sup>3</sup></td> </tr> </table>	<b>Provided Treatment:</b> _____ ft <sup>3</sup>	<b>Requirement 0.5 Inch:</b> _____ ft <sup>3</sup>	<b>Requirement 1-inch:</b> _____ ft <sup>3</sup>
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			<p><b>Volume Requirements for Sites Creating Over 1 Acre of Impervious</b> (Policy 6.6) Runoff from 2-year, 24 hour must not exceed existing condition</p>			
			<p><b>Pollutant Reduction</b> (Policy 6.3) Developments over 0.2 acres shall have no net increase in annual TSS or TP loading compared to pre-development standards. Provide documentation showing pollutant loads.</p>			
			<p><b>Rate Control</b> (Policy 1.5) Project does not increase peak runoff rates relative to pre-project runoff rates for the:</p> <ul style="list-style-type: none"> <li>1-year, 2-year, 10-year, and 100-year critical storm event</li> </ul>			
			<p><b>Vulnerable Infiltration</b> (Policy 6.5; See Figure 2.4 of SWMP for Wellhead Vulnerability Areas) Project located in area vulnerable for infiltration such as industrial area, vehicle fueling, Very high/High DWSMA; Type D soils etc. (<i>Note: if yes, infiltrating in area will require additional review</i>)</p>			
			<p><b>Design of Infiltration/Filtration Basin</b> (infiltration is preferred method)</p> <ul style="list-style-type: none"> <li>3 ft. of separation between seasonally high water table (based on soil borings) &amp; basin bottom</li> <li>Infiltration or infiltration rates to demonstrate 48-hour drawdown</li> <li>Consideration of vulnerable areas listed above</li> </ul> <p><i>*Refer to Minnesota Stormwater Manual</i></p>			
			<p><b>Design of Detention Basins</b> (Appendix E of SWMP – Basin Detention Design)</p> <ul style="list-style-type: none"> <li>Permanent pool shall be designed to NURP standards (2.5 inch rainfall over drainage area)</li> <li>Mean depth of permanent pool (volume/surface area) shall be ≥ 4 feet. Small ponds 3-4 feet</li> <li>Ratio of length to maximum width ≥ 3. Consider use of baffles or two celled ponds.</li> <li>Aquatic bench at least 10 feet in width; slope ≤10:1 shall extend into pond</li> <li>Side slopes are not steeper than 3:1 below NWL</li> <li>Maximum depth of permanent pool shall be ≤ 8 feet</li> </ul> <p><i>*Refer to Minnesota Stormwater Manual</i></p>			
			<p><b>Stormwater Management Report with Calculations and Narrative</b></p> <ul style="list-style-type: none"> <li>Calculations for the 2, 10, and 100-year storm events in HydroCAD and Rational Method</li> <li>Include entire drainage area draining to the site</li> </ul>			

Stormwater Management (see City's Surface Water Management Plan (SWMP) - Section 5.2 for Policy References)			
Yes	No	N/A	Standard
			<b>Soil Borings</b> Soil borings taken in location of proposed stormwater management feature.
			<b>Building &amp; Relevant Elevations*</b> (Policy 1.1 and 1.3) <ul style="list-style-type: none"> <li>• Include all relevant elevations: OHW, NWL, HWL, EOF, &amp; datum sources</li> </ul> Lowest floor (including basement) shall be: <ul style="list-style-type: none"> <li>• 1 feet above ~100-year water surface elevation</li> <li>• 3 feet above seasonal high local groundwater elevation</li> </ul> Lowest opening shall be: <ul style="list-style-type: none"> <li>• 3 feet above ~100-year water surface elevation</li> <li>• 1 foot above the stormwater facility emergency overflow elevation</li> </ul> <i>*Elevations for landlocked basins/large watersheds may be subject to additional review</i>
			<b>Stormwater Pollution Prevention Plan</b> This is reviewed as part of NRMP. Include material storage, haul plans, phasing, and parking.
			<b>Cross Section of Stormwater Management Feature (Basins/Swales/Underground Detention)</b> Include dimensions, type & depth of filter media. Refer to MN Stormwater Manual for design info.
			<b>Pretreatment for BMPs</b> Adequate pre-treatment (sumps, rain guardian, SAFL etc.) provided before discharging to BMP. Any sumps shall be privately maintained, routinely cleaned, & included on Maintenance Agreement.
			<b>Maintenance Access</b> Adequate inspection and maintenance access provided for BMPs and BMP pre-treatment Consideration of future maintenance; Maintenance Agreement with figures will be required
			<b>Snow Storage Plan</b> Submit plan for snow storage to ensure BMPs will not be affected
			<b>Drainage and Utility Easements</b> No structures allowed in existing easements; infrastructure is to city standards New easements must be dedicated on final plat over all public infrastructure & to city standards
			<b>Emergency Overflows and Spillways</b> Include elevation and labels of all emergency overflows and spillways
			<b>As-Builts Required</b> As-builts for constructed basin will be required in format acceptable to City engineer (CAD and GIS)
			<b>Landlocked Basin</b> (Policy 1.3 and 1.7) Projects within landlocked basins do not increase runoff volume relative to pre-project conditions. Include modeling for back to back 100-year events under frozen conditions
			<b>Storm Sewer Design to City standards</b> Applies to public infrastructure only. See reference on final page for storm sewer design criteria
			<b>Landscape Plan (consideration of Buffer Establishment Plan)</b> Planting/seeding list and methods; methods for vegetation removal; protecting vegetation in BMPs
			<b>Shoreland Overlay District</b> See Zoning Map Shoreland District Projects located within shoreland overland district may be subject to additional requirements 1,000 feet
			<b>Project within TMDL/Impaired Subwatershed</b> (Policy 6.4; See Figure 2.9 MPCA Impaired Waters) <i>(Note: additional treatment standards may apply; above and beyond treatment preferred)</i>
			<b>Protective Buffer Zones</b> (Policy 4.9 and 4.10) Includes 16.5 foot buffer width adjacent to any newly created stormwater pond <b>OR</b> projects adjacent to Alimagnet, Lac Lavon, Long, Keller and Farquar
			<b>Protective Buffer Zone Signage and Memorialization</b> (Policy 4.7 and 4.8) When required, buffer zones: <ol style="list-style-type: none"> <li>(1) Includes permanent markers to identify the upland boundary line of buffer</li> <li>(2) Includes written management documents according to City Ordinance 152.57 and memorialized at county and certified on the property.</li> </ol>

Permit Considerations																														
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			<b>Natural Resource Management Permit Required (Policy 6.11)</b> <ul style="list-style-type: none"> <li>Movement of 20 + cubic yards of soil</li> <li>Disturbance of 3,500 sq. ft. of soil</li> <li>Tree removal destroying 10% of more</li> <li>Land alterations affecting drainage</li> </ul>																											
			<b>NPDES Construction Stormwater Permit Required (Policy 6.12)</b> For sites over 1 acre, provide proof of NPDES permit application and follow permit standards																											
Wetland Considerations (If wetlands are present onsite; please complete the following section)																														
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			<b>Wetland Type</b> (See Figure 2.10 of SWMP – Wetland inventory & Management Classifications) Wetlands are managed according to Wetland Classifications (check relevant classification(s))																											
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			<b>Wetland Conservation Act</b> (Policy 4.1 and 4.3) Wetlands onsite. If yes, a Wetland Conservation Act application may be required including a field delineation/inventory and appropriate documentation for any proposed wetland impacts.																											
			<b>Wetlands and Stormwater Discharge</b> (Policy 4.4) Stormwater must be treated prior to discharging in wetlands																											
			<b>Wetland Bounce and Inundation Standards</b> (Policy 4.5) Wetlands are subject to the following: <table border="1"> <thead> <tr> <th>Wetland Classification</th> <th>Allowable Bounce</th> <th>Allowable Inundation Period (1-year event)</th> <th>Allowable Inundation Period (2-year event)</th> <th>Allowable Inundation Period (10-year event)</th> </tr> </thead> <tbody> <tr> <td>Protect</td> <td>Existing</td> <td>Existing</td> <td>Existing</td> <td>Existing</td> </tr> <tr> <td>Manage 1</td> <td>Existing + 0.5 ft</td> <td>Existing + 1 day</td> <td>Existing + 1 day</td> <td>Existing + 7 days</td> </tr> <tr> <td>Manage 2</td> <td>Existing + 1.0 ft</td> <td>Existing + 2 days</td> <td>Existing + 2 days</td> <td>Existing + 14 days</td> </tr> <tr> <td>Manage 3</td> <td>Existing + 4.0 ft</td> <td>Existing + 7 days</td> <td>Existing + 7 days</td> <td>Existing + 21 days</td> </tr> </tbody> </table>	Wetland Classification	Allowable Bounce	Allowable Inundation Period (1-year event)	Allowable Inundation Period (2-year event)	Allowable Inundation Period (10-year event)	Protect	Existing	Existing	Existing	Existing	Manage 1	Existing + 0.5 ft	Existing + 1 day	Existing + 1 day	Existing + 7 days	Manage 2	Existing + 1.0 ft	Existing + 2 days	Existing + 2 days	Existing + 14 days	Manage 3	Existing + 4.0 ft	Existing + 7 days	Existing + 7 days	Existing + 21 days		
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<p align="center"><b>Please note this Checklist is meant to be a tool. Please refer to the City's Ordinances and Surface Water Management Plan for definitions and exact languages</b></p>																														

## City Design Standards

<b>Storm Sewer Pipe</b>	
Material	RCP in City ROW HDPE in limited circumstances when Pre-approved By City Engineer
Minimum Pipe Diameter	15-inches
Class	Use Load Calculations
Minimum Depth	3-feet
Minimum Grade	3 fps Flow Velocity
Maximum Grade	12 fps Flow Velocity, 6 FPS at Pond Inlets
Location	10-feet from Water Main
Trash Guards	All Pipe Inlets Outlets Greater than 12-inch Diameter
<b>Manholes and Catch basins</b>	
Type	Precast with Gasket Joints Block construction in limited circumstances when Pre-Approved by City Engineer
Manhole Diameter	48-inch Minimum Use Manhole Design Calculations
Manhole Casting	Neenah R-1642 with Solid Lid
Catch Basin Casting	See Detail Plate
Manhole Spacing	400-feet Max All pipe connection points
Catch Basin Spacing	Use Flow Spread Calculations 400-feet Max Upstream of Street Intersections
<b>Design and Capacity</b>	
Design Frequency for Storm Sewers	MSA Routes and New Systems 10-year Tie into Existing Systems 5-year
Design Frequency for Detention Basins	100-year See Surface Water Management Plan
Minimum Manning N Value	0.013 for pipe 0.24 for open channel
Min. Low Opening Freeboard	3-feet above 100-year HWL
Emergency Overflow Swale	Minimum 1-foot below Low Opening
Maximum Basin Side Slopes above NWL	4:1
Basin Safety Bench Slope at NWL	10:1 for min. 10-feet wide
Maximum Site Discharge Limits	See Surface Water Management Plan
Minimum Water Quality and Infiltration	See Surface Water Management Plan
Min Drainage from Structure to Property Line	1.0% 6-inch min. drop within 10-ft from Structure
Swale flatter than 2.0%	Only permitted in limited circumstances Include drain tile