

# Storm Water Management Practice Maintenance Agreement

Document Number

[Owners Name], as “Owner” of the property described below, in accordance with Chapter 14 Waukesha County Code of Ordinances [or other applicable code], agrees to install and maintain storm water management practice(s) on the subject property in accordance with approved plans and Storm Water Permit conditions. The owner further agrees to the terms stated in this document to ensure that the storm water management practice(s) continues serving the intended functions in perpetuity. This Agreement includes the following exhibits:

**Exhibit A:** Legal Description of the real estate for which this Agreement applies (“Property”).

**Exhibit B:** Location Map(s) – shows an accurate location of each storm water management practice affected by this Agreement.

**Exhibit C:** Maintenance Plan – prescribes those activities that must be carried out to maintain compliance with this Agreement.

**Exhibit D:** Design Summary – contains a summary of key engineering calculations and other data used to design the wet detention basin.

**Exhibit E:** As-built Survey – shows detailed “as-built” cross-section and plan view of the wet detention basin.

**Exhibit F:** Engineering/Construction Verification – provides verification from the project engineer that the design and construction of the wet detention basin complies with all applicable technical standards and Waukesha County ordinance requirements.

Name and Return Address

Through this Agreement, the Owner hereby subjects the Property to the following covenants, conditions and restrictions:

1. The Owner shall be responsible for the routine and extraordinary maintenance and repair of the storm water management practice(s) and drainage easements identified in Exhibit B in accordance with the maintenance plan contained in Exhibit C.
2. Upon written notification by **Town of \_\_\_\_\_** or their designee, the Titleholder(s) shall, at their own cost and within a reasonable time period determined by the **Town of \_\_\_\_\_**, have an inspection of the storm water management practice conducted by a qualified professional, file a report with the **Town of \_\_\_\_\_** and complete any maintenance or repair work recommended in the report. The Titleholder(s) shall be liable for the failure to undertake any maintenance or repairs.
3. In addition, and independent of the requirements under paragraph 3 above, the **Town of \_\_\_\_\_**, or its designee, is authorized to access the property as necessary to conduct inspections of the storm water management practices or drainage easements to ascertain compliance with the intent of this Agreement and the activities prescribed in Exhibit C. The **Town of \_\_\_\_\_** may require work to be done which differs from the report described in paragraph 3 above, if the **Town of \_\_\_\_\_** reasonably concludes that such work is necessary and consistent with the intent of this agreement. Upon notification by the **Town of \_\_\_\_\_** of required maintenance or repairs, the Titleholder(s) shall complete the specified maintenance or repairs within a reasonable time frame determined by the **Town of \_\_\_\_\_**.
4. If the Titleholder(s) do not complete an inspection under 3. above or required maintenance or repairs under 4. above within the specified time period, the **Town of \_\_\_\_\_** is authorized, but not required, to perform the specified inspections, maintenance or repairs. In the case of an emergency situation, as determined by the **Town of \_\_\_\_\_**, no notice shall be required prior to the **Town of \_\_\_\_\_** performing emergency maintenance or repairs. The **Town of \_\_\_\_\_** may levy the costs and expenses of such inspections, maintenance or repair related actions as a special charge against the Property and collected as such in accordance with the procedures under s. 66.0627 Wis. Stats. or subch. VII of ch. 66 Wis. Stats.
5. This Agreement shall run with the Property and be binding upon all heirs, successors and assigns. After the Owner records the addendum noted above, the **Town of \_\_\_\_\_** shall have the sole authority to modify this agreement upon a 30-day notice to the current Titleholder(s).

Parcel Identification Number(s) – (PIN)

Dated this \_\_\_\_ day of \_\_\_\_\_, 200\_.

**Owner:**

\_\_\_\_\_  
(Owners Signature)

\_\_\_\_\_  
(Owners Typed Name)

### Acknowledgements

State of Wisconsin:  
County of Waukesha

Personally came before me this \_\_\_\_ day of \_\_\_\_\_, 200\_, the above named \_\_\_\_ [Owners name] to me known to be the person who executed the foregoing instrument and acknowledged the same.

\_\_\_\_\_  
[Name]  
Notary Public, Waukesha County, WI  
My commission expires:\_\_\_\_\_.

**This document was drafted by:**

[Name and address of drafter]

**Approved for recording: \_\_\_\_\_**  
**[Initials of Municipal staff]**

## Exhibit A – Legal Description

The following description and reduced copy map identifies the land parcel(s) affected by this Agreement. For a larger scale view of the referenced document, contact the Waukesha County Register of Deeds office.

Date of Recording: [date.]

Map Produced By: [designer's name.]

Legal Description: [enter legal description as described on the property title here.]

Survey map of property showing  
legal boundaries.



Drainage Easement Restrictions: Shaded area on map indicates a drainage easement for storm water collection, conveyance and treatment. No buildings or other structures are allowed in these areas. No grading or filling is allowed that may interrupt storm water flows in any way. See Exhibit C for specific maintenance requirements for storm water management practices within this area. See Exhibit B for details on location.

## Exhibit B - Location Map

### Storm Water Management Practices Covered by this Agreement

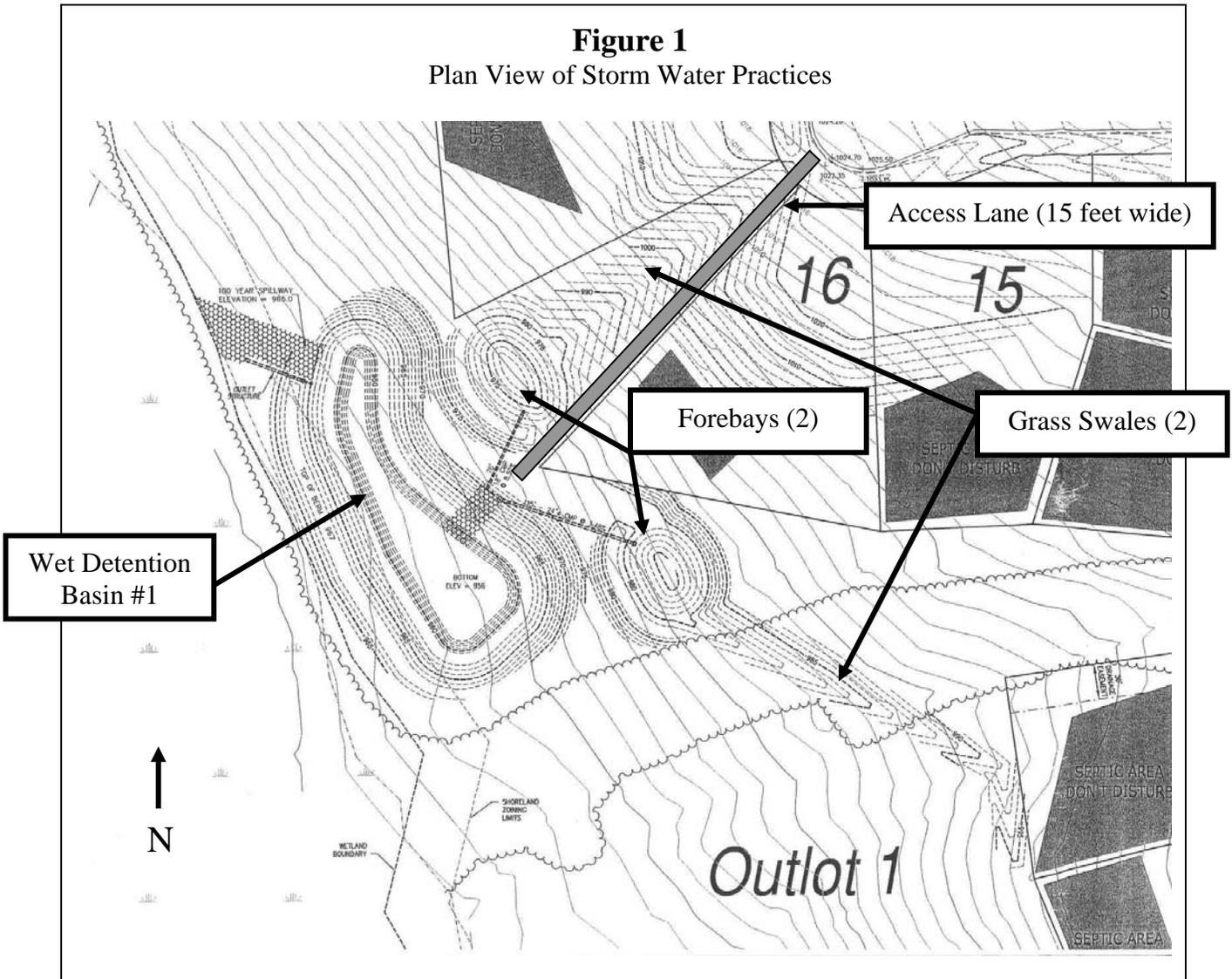
*[An example location map and the minimum elements that must accompany the map are shown below. This exhibit must be customized for each site. Map scale must be sufficiently large enough to show necessary details.]*

The storm water management practices covered by this Agreement are depicted in the reduced copy of a portion of the construction plans, as shown below. All of the noted storm water management practices are located within a drainage easement, as noted in Exhibit A.

Storm water Practices: [brief list]

Location of Practices: [enter a metes and bounds description of the easement area. The figure below must illustrate this description.]

**Figure 1**  
Plan View of Storm Water Practices



## **Exhibit C**

### **Storm Water Practice Maintenance Plan**

This exhibit explains the basic function of each of the storm water practices listed in Exhibit B and prescribes the minimum maintenance requirements to remain compliant with this Agreement. The maintenance activities listed below are aimed to ensure these practices continue serving their intended functions in perpetuity. The list of activities is not all inclusive, but rather indicates the minimum type of maintenance that can be expected for this particular site. Access to the stormwater practices for maintenance vehicles is shown in Exhibit B. Any failure of a storm water practice that is caused by a lack of maintenance will subject the Titleholder(s) to enforcement of the provisions listed on page 1 of this Agreement by the **Town of \_\_\_\_\_**.

#### **System Description:**

*[ include a description of the drainage area and the installed storm water management system & best management practices.]*

#### **Minimum Maintenance Requirements:**

To ensure the proper function of storm water infiltration basin, the following list of maintenance activities are recommended:

1. A minimum of 70% soil cover made up of native grasses must be maintained on the basin bottom to ensure infiltration rates. Periodic burning or mowing is recommended to enhance establishment of the prairie grasses (which may take 2-3 years) and maintain the minimum native cover. To reduce competition from cool season grasses (bluegrass, fescues, quack, etc.) and other weeds:
  - For the first year, cut to a 6" height three times – once each in June, July and early August. To prevent damage to the native grasses, do not mowed below a 6" height. Remove excessive accumulation of clippings to avoid smothering next year's seedlings.
  - After the first year, mowing may only be needed in early June each year to help control the spread of cool season plants. The mowing should also be raised to 10-12" to avoid damage to the warm season plants.
  - Burning may also be used to manage weeds in 2-5 years intervals. Late spring burns (mid-late May) provide maximum stimulus to warm season grasses and work well to control cool season grasses. Burn when the cool season grasses are growing and the warm season plants are just barely starting to grow to get maximum control of cool season species.
  - Any major bare areas or areas taken over by nonnative species must be reseeded. To clear area of weeds and cool season grasses, treat with an herbicide that contains glyphosphate in accordance with manufacture's instructions. Ensure a firm seedbed is prepared to a depth of 3 inches (a roller is recommended). Seeding should occur in early-mid June. Seed with Big Bluestem, Indian Grass, Little Blue Stem or Switchgrass (preferably an equal mix of all four types). A companion crop of oats is recommended. Seed must be placed at a depth of 1/4 – 1/2" and a minimum rate of 1/4 pound per 100 square feet. If broadcast seeding by hand, drag leaf rake over soil surface after seeding. Then roll it again and cover with a light layer of mulch and staked erosion control netting to hold it in place until germination. For other planting details, see NRCS standard 342 (Critical Area Planting).
2. The basin and all components (grass swales, forebay, inlets, outlets, etc.) should be inspected after each heavy rain, but at a minimum of once per year. If the basin is not draining properly (within 72 hours), further inspection may be required by persons with expertise in storm water management and/or soils.
  - If soil testing shows that the soil surface has become crusted, sealed or compacted, some deep tillage should be performed. Deep tillage will cut through the underlying soils at a 2-3 foot depth, loosening the soil and improving infiltration rates, with minimal disturbance of the surface vegetation. Types of tillage equipment that can be used include a subsoiler or straight, narrow-shanked chisel plow.
  - If sedimentation is determined to be causing the failure, the accumulated sediment must be removed and the area reseeded in accordance with the notes above.
  - If inspection of the basin shows that groundwater is regularly near the surface, additional design features may need to be considered, such as subsurface drainage or conversion to a wetland treatment system.

- If the **washed stone trench** has become clogged, the stone – and possibly the soil immediately around the stone - must be replaced.
3. All outlet pipes, stone trenches and other flow control devices must be kept free of debris. Any blockage must be removed immediately.
  4. Any eroding areas must be repaired immediately to prevent premature sediment build-up in the system. Erosion matting is recommended for repairing grassed areas.
  5. Heavy equipment and vehicles must be kept off of the bottom and side slopes of infiltration basins to prevent soil compaction. Soil compaction will reduce infiltration rates and may cause failure of the basin, resulting in ponding and possible growth of wetland plants.
  6. No trees are to be planted or allowed to grow on the earthen berms of the bottom of the basin. On the berms, tree root systems can reduce soil compaction and cause berm failure. On the basin bottom, trees may shade out the native grasses. The basin must be inspected annually and any woody vegetation removed.
  7. Grass swales leading to the basin shall be preserved to allow free flowing of surface runoff in accordance with approved grading plans. No buildings or other structures are allowed in these areas. No grading or filling is allowed that may interrupt flows in any way.
  8. If floating algae or weed growth becomes a nuisance in the forebay (decay odors, etc.), it must be removed and deposited where it cannot drain back into the basin or forebay. Removal of the vegetation from the water reduces regrowth the following season (by harvesting the nutrients). Wetland vegetation must be maintained along the waters edge for safety and pollutant removal purposes.
  9. When sediment in the forebay has accumulated to an elevation of three feet below **the outlet** elevation, it must be removed (refer to figure). All removed sediment must be placed in an appropriate upland disposal site and stabilized (grass cover) to prevent sediment from washing back into the basin. Failure to remove sediment from the forebays will cause resuspension of previously trapped sediments and increase deposition in the infiltration basin.
  10. No grading or filling of the basin or berms other than for sediment removal is allowed.
  11. Periodic mowing of the grass swales will encourage rigorous grass cover and allow better inspections for erosion. Waiting until after August 1 will avoid disturbing nesting wildlife. Mowing around forebay may attract nuisance populations of geese to the property and is not necessary or recommended.
  12. Any other repair or maintenance needed to ensure the continued function of the infiltration basin as ordered by the **Town of \_\_\_\_\_** under the provisions listed on page 1 of this Agreement.

Exhibit D  
**Design Summaries for Wet Detention Basin #1**

**Project Identifier:** Highland Preserve Subdivision **Project Size:** 40 Acres **No. of Lots:** 22  
**Number of Runoff Discharge Points:** 1 **Watershed (ultimate discharge):** Pewaukee Lake  
**Watershed Area** (including off-site runoff traveling through project area): 67 acres (26 acres off-site)

**Watershed Data Summary.** The following table summarizes the watershed data used to determine peak flows and runoff volumes required to design wet detention basin #1.

Summary Data Elements	Subwatershed A		Subwatershed B (off-site)	
	Pre-develop	Post-develop	Pre-develop	Post-develop
<b>Watershed Areas</b> ( <i>in acres</i> ) (see attached map)	41 acres	41 acres	26	26
<b>Average Watershed Slopes (%)</b>	2-8%	2-8%	3-6%	3-6%
<b>Land Uses (% of each)</b> (see attached map)	75 ac. cropland 15 ac. brush 10 ac. woodland	110 ac. ½ ac. lots 5ac. brush 5 ac. woodlands	50% cropland 50% 1 acre lots	50% cropland 50% 1 acre lots
<b>Runoff Curve Numbers</b>	68 x 75ac.= 5100 30 x 25ac.= 750 <u>Net 5850/100 ac.</u> RCN = 59	70 x 110 ac.= 7700 10 x 10 ac.= 100 <u>Net 7800/120ac</u> RCN = 65	RCN = 68 (state standard)	RCN = 70
<b>Conveyance Systems Types</b>	Grass waterway	50% grass swale 50% storm sewer	100% bare channel	100% grass swale
<b>Summary of Average Conveyance System Data</b>	8' bottom/4:1 ss 2' depth/3% grade	2' depth swale/3% 30" r/c sewer/2% (see calcs.)	15' (w) top 1' (d) parabolic 2% grade	2' deep standard road ditch 2% grade
<b>Time of Concentration (Tc)</b> (see attached map & worksheets)	1.1 hrs.	.97 hrs.	.74 hrs.	.65 hrs.
<b>25% of 2-yr 24-hr post-dev runoff volume</b>	N/A	2.29 ac. ft.	N/A	.19 ac. ft.
<b>1-year/24 hour Runoff Volume</b>	N/A	(.2" x 60 ac.) 1.0 ac. ft.	N/A	(.34" x 10 ac.) .28 ac. ft.
<b>2-yr./24 hour Peak Flow</b> (see attached hydrographs)	11.2 cfs	14.3 cfs	5.1 cfs	3.2 cfs
<b>10-yr./24 hour Peak Flow</b>	21 cfs	32 cfs	18.4 cfs	11.3 cfs
<b>100-yr./24 hour Peak Flow</b>	78 cfs	91 cfs	53 cfs	21 cfs

## Exhibit D (continued)

**Practice Design Summary.** The following table summarizes the data used to design wet detention basin #1.

Design Element	Design Data
<b>Site assessment data: (see attached maps)</b>	
Contributing drainage area to basin (subwatershed A & B)	70 acres
Distance to nearest private well (including off-site wells)	> 100 feet
Distance to municipal well (including off-site wells)	> 1200 feet
Wellhead protection area involved?	No
Ground slope at site of proposed basin	average 3%
Any buried or overhead utilities in the area?	No
Proposed outfall conveyance system/discharge (w/ distances)	35 ft. to CTH "U" Road ditch 1000 ft. to wetland
Any downstream roads or other structures? (describe)	Yes – 36" cmp road culvert
Floodplain, shoreland or wetlands?	No
<b>Soil investigation data (see attached map &amp; soil logs):</b>	
Number of soil investigations completed	3 (in basin area)
Do elevations of test holes extend 3 ft. below proposed bottom?	Yes (see map)
Average soil texture at pond bottom elevation (USDA)	Clay loam
Distance from pond bottom to bedrock	> 5 feet
Distance from pond bottom to seasonal water table	Pond bottom 2 ft. below mottling No water observed in test holes
<b>General basin design data (see attached detailed drawings):</b>	
Permanent pool surface area	1.5 acres
Design permanent pool water surface elevation	elev. 900.0
Top of berm elevation (after settling) and width	elev. 905.0 / 10 feet wide
Length/width (dimensions/ratio)	445 ft. (L) x 145 ft. (W) = 3:1
Safety shelf design (length, grade, max. depth)	10 ft. @ 10% slope/1.5' deepest
Ave. water depth (minus safety shelf/sediment)	5 ft. (in center)
Sediment forebay size & depth	.16 acres (13% pool size)/5 feet
Sediment storage depth & design maintenance	2 ft. depth for forebay & pool 15 year maintenance schedule

<b>Design Basin Inflow, Outflow &amp; Storage Data</b> (see attached hydrographs and detail drawings)				
Inflow Peak/Volume	Maximum Outflow Rate	Max. Water Elevation	Storage Volume at Max. Elev. (above perm. pool)	Outflow Control Structures*
1-yr./24 hr. (volume)	.7 cfs (34 hr. drawdown)	901.3 ft.	2 acre feet	#1
24.3 cfs (Post 2-yr./24 hr. peak)	11 cfs	902.0 ft.	3.1 acre feet	#1 and #2
72 cfs (Post 10-yr./24 hr. peak)	35 cfs	903.0 ft.	4.5 acre feet	#3
171 cfs (Post 100-yr./24 hr. peak)	143 cfs	904.0 ft.	6.0 acre feet	#3 and #4

- \* #1 = 6 inch orifice in water level control weir plate – flow line elev. @ 900.0 (1.3 ft. max. head)  
 #2 = 2 foot wide rectangular weir – flow line elev. @ 901.3 (.7 ft. hydraulic head)  
 #3 = 30 inch diameter smooth wall pvc pipe – flow line elev. @ 900.0 (3.0 ft. max. hydraulic head)  
 #4 = 30 foot wide earthen/grass emergency spillway – flow line elev. @ 903.0 (1.0 ft. max. depth)



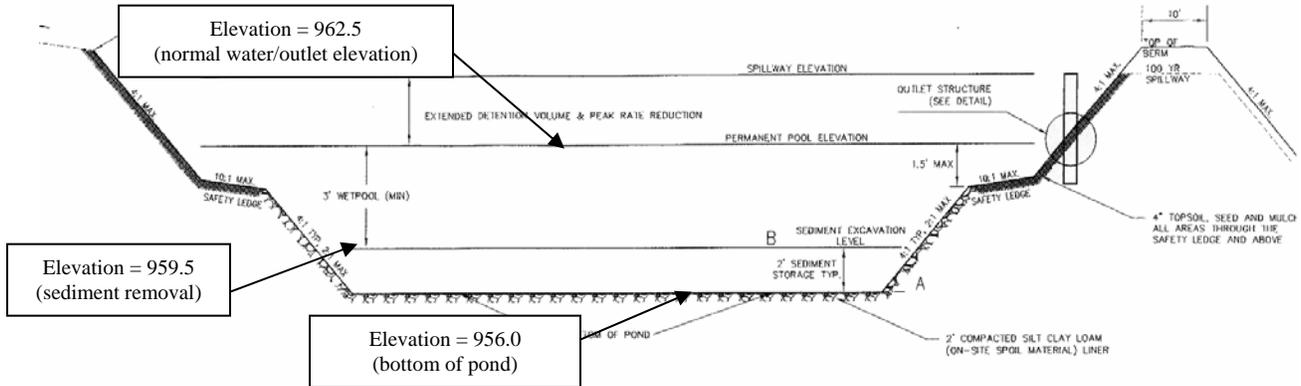
# Exhibit E

## As-built Survey for Wet Detention Basin #1

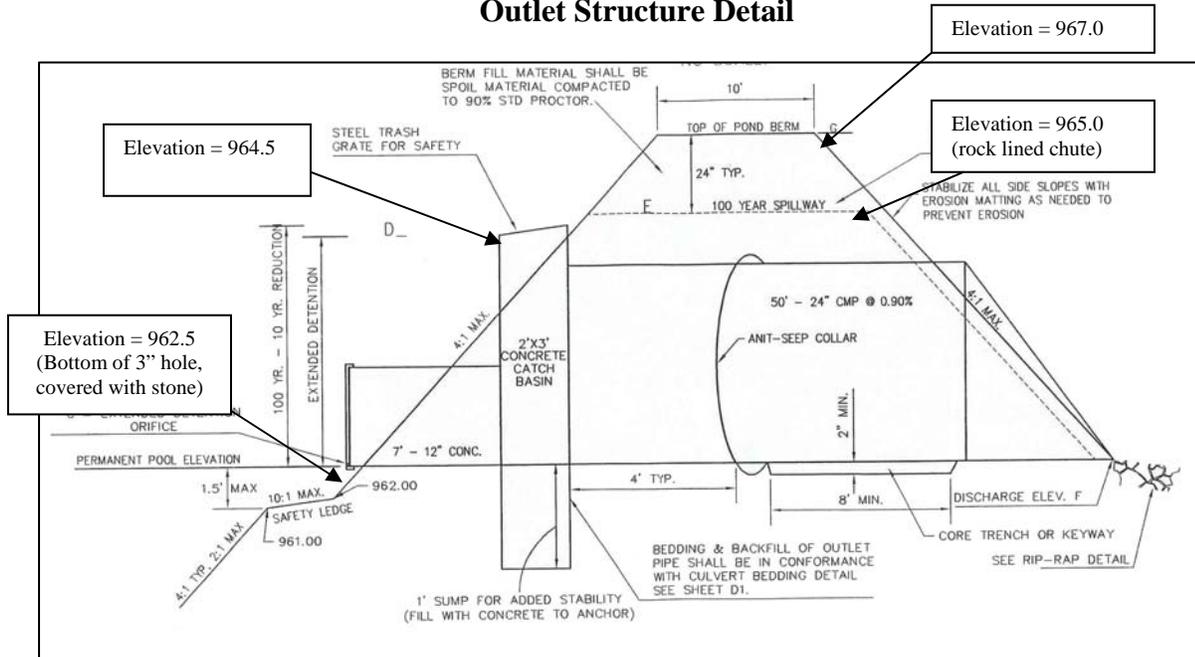
The wet detention basin is depicted below in reduced copies of the as-built plans.

### Cross-Section A – A'

*[Note: Show plan view of BMP with cross-section location clearly labeled and cross-referenced. On cross-section and plan view, clearly label all key components and elevations of the BMP. Also show outlet details. Map scale must be sufficiently large enough to show necessary details, but page size should not exceed 11" x 17".]*



### Outlet Structure Detail



**Exhibit "F"**  
**Engineering/Construction Verification**

DATE: \_\_\_\_\_

TO: Land Resources Division  
Waukesha County Department of Parks and Land Use

FROM: \_\_\_\_\_ [Project Engineer's Name/Company]

RE: Engineering/Construction Verification for the following project:  
Project Name: \_\_\_\_\_  
Section \_\_\_\_\_, Town of \_\_\_\_\_  
Storm Water Permit # \_\_\_\_\_  
Storm Water Management Practices: \_\_\_\_\_  
\_\_\_\_\_

For the above-referenced project and storm water management practices, this correspondence shall serve as verification that: 1) all site inspections outlined in approved inspection plans have been successfully completed; and 2) the storm water management practice design data presented in Exhibit D, and the "as-built" construction documentation presented in Exhibit E comply with all applicable state and local technical standards, in accordance with the Waukesha County Storm Water Management and Erosion Control Ordinance.

*[Must include one of the following two statements:]*

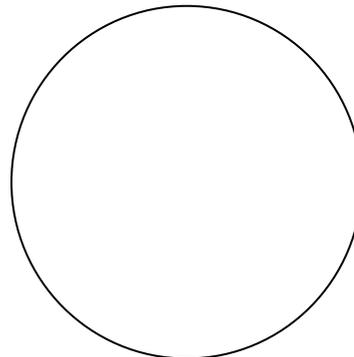
1. Any variations from the originally approved construction plans are noted in Exhibit E. These variations are considered to be within the tolerances of standard construction techniques and do not affect the original design as presented in Exhibit D in any way.

*[Note: The County may request additional documentation to support this statement depending on the extent of deviations from the approved plans.]*

Or

2. Any design or construction changes from the originally approved construction plans are documented in Exhibits D and E and have been approved by Waukesha County.

*[Note: If warm season and wetland planting verification is required, it may be included in this exhibit.]*



(Signed P.E. stamp must be included)