

# Storm Water Management Practice Maintenance Agreement

Document Number

IP Dolphin, LLC, as "Owner" of the property described below, in accordance with Chapter 32 City of Waukesha Storm Water Management and Erosion Control, agrees to install and maintain storm water management practice(s) on the subject property in accordance with approved plans and Storm Water Management Plan 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.

Note: After construction verification has been accepted by the City of Waukesha, for all planned storm water management practices, an addendum(s) to this agreement shall be recorded by the Owner showing design and construction details. The addendum(s) may contain several additional exhibits, including certification by City of Waukesha of Storm Water and Erosion Control Permit termination, as described below.

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 until Storm Water and Erosion Control Permit termination by the City of Waukesha in accordance with Chapter 32 of the City Code of Ordinances.
2. After Storm Water and Erosion Control Permit termination under 1, the current Owner(s) shall be solely responsible for maintenance and repair of the storm water management practices and drainage easements in accordance with the maintenance plan contained in Exhibit C.
3. The Owner(s) shall, at their own cost, complete inspections of the storm water management practices at the time intervals listed in Exhibit C, and conduct the inspections by a qualified professional, file the reports with the City of Waukesha after each inspection and complete any maintenance or repairs. After the work is completed by the contractor, the qualified professional shall verify that the work was properly completed and submit the follow-up report to the City within 30 days.
4. In addition, and independent of the requirements under paragraph 3 above, the City of Waukesha, 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 City of Waukesha may require work to be done which differs from the report described in paragraph 3 above, if the City of Waukesha reasonably concludes that such work is necessary and consistent with the intent of this agreement. Upon notification by the City of Waukesha of required maintenance or repairs, the Owner(s) shall complete the specified maintenance or repairs within a reasonable time frame determined by the City of Waukesha.
5. If the Owner(s) do not complete an inspection under 3. above or required maintenance or repairs under 4. above within the specified time period, the City of Waukesha is authorized, but not required, to perform the specified inspections, maintenance or repairs. In the case of an emergency situation, as determined by the City of Waukesha, no notice shall be required prior to the City of Waukesha performing emergency maintenance or repairs. The City of Waukesha 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 such. VII of Ch. 66 Wis. Stats.
6. 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 City of Waukesha shall have the sole authority to modify this agreement upon a 30-day notice to the current Owner(s).

Name and Return Address

City of Waukesha  
130 Delafield Street  
Waukesha, WI 53188

WAKC1007033

Parcel Identification Number(s) – (PIN)

Dated this 7<sup>th</sup> day of September, 2016.

Owner:  
IP Dolphin LLC

[Signature]  
Sign

John B. Heller, Member  
Print Title

### Acknowledgements

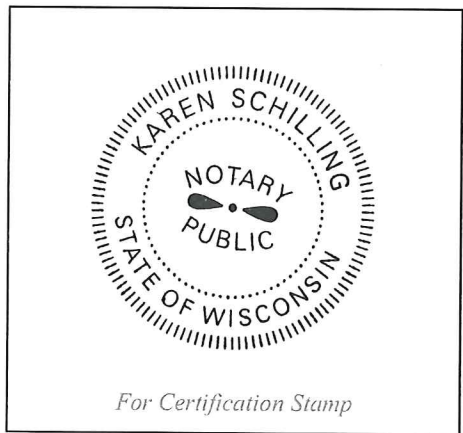
State of Wisconsin )  
                                  )  
County of Waukesha )

Personally came before me this 7 day of Sept, 2016, the above named John Heller, to me known to be the person who executed the foregoing instrument and acknowledged the same.

[Signature]  
Sign

Karen Schilling  
Print  
Notary Public, Waukesha County, WI  
My commission expires: 7-6-20

**This document was drafted by:  
JSD Professional Services, Inc.  
N22 W22931 Nancy's Ct. Suite 3  
Waukesha, WI 53186**



City of Waukesha Common Council Approval

Dated this \_\_\_\_ day of \_\_\_\_\_, 201\_\_.

\_\_\_\_\_  
Shawn N. Reilly, Mayor

\_\_\_\_\_  
Gina Kozlik, City Clerk

**Acknowledgements**

State of Wisconsin )  
                                  )  
County of Waukesha )

Personally came before me this \_\_\_\_ day of \_\_\_\_\_, 201\_\_, the above named \_\_\_\_\_, to me known to be the person who executed the foregoing instrument and acknowledged the same.

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Signature

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

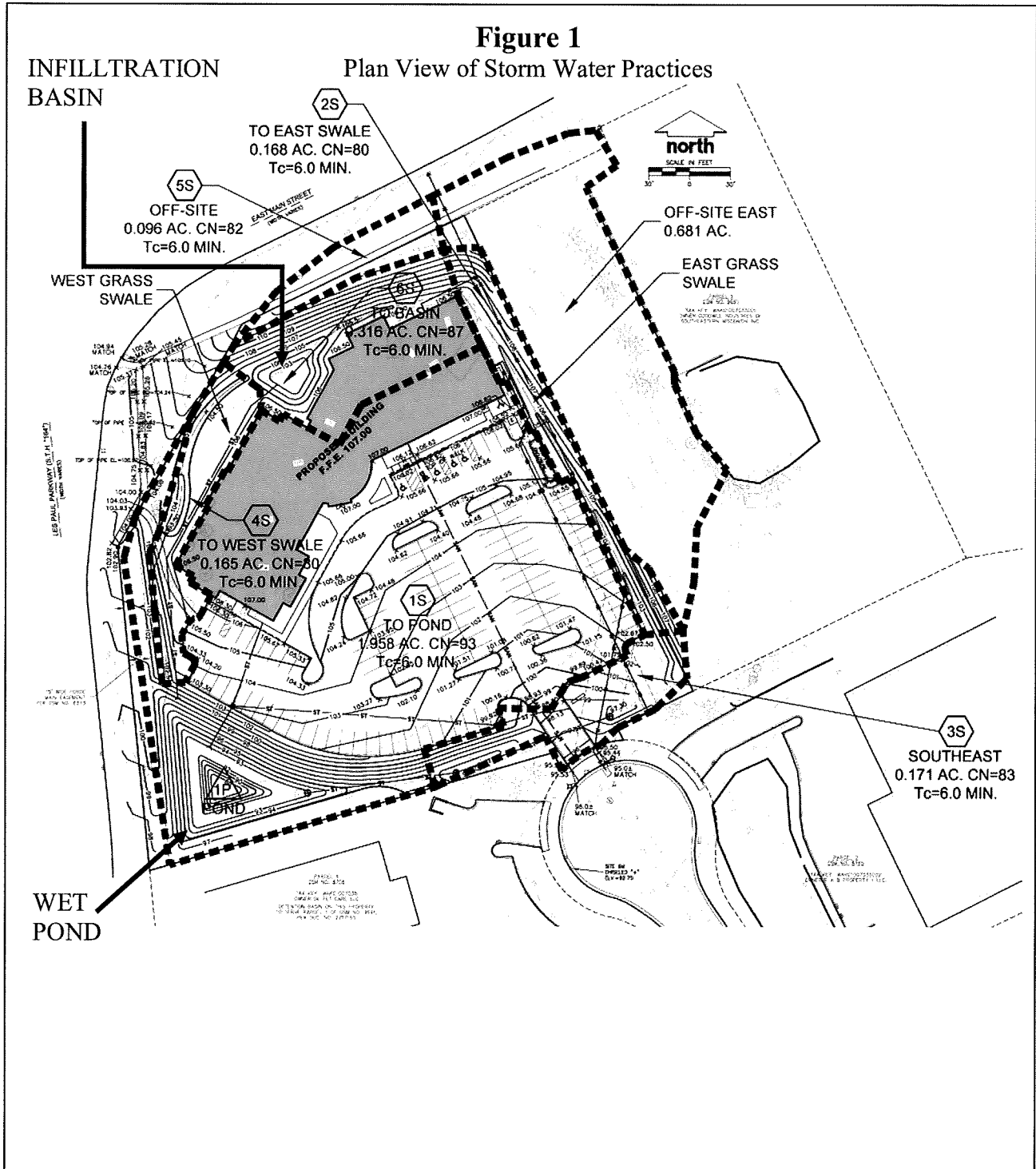


## Exhibit B - Location Map

### Storm Water Management Practices Covered by this Agreement

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. The practices include one infiltration basin, one detention pond, and two grass swales. All of the noted storm water management practices are located within a Parcel 2 of CSM No. 9691, as noted in Exhibit A.

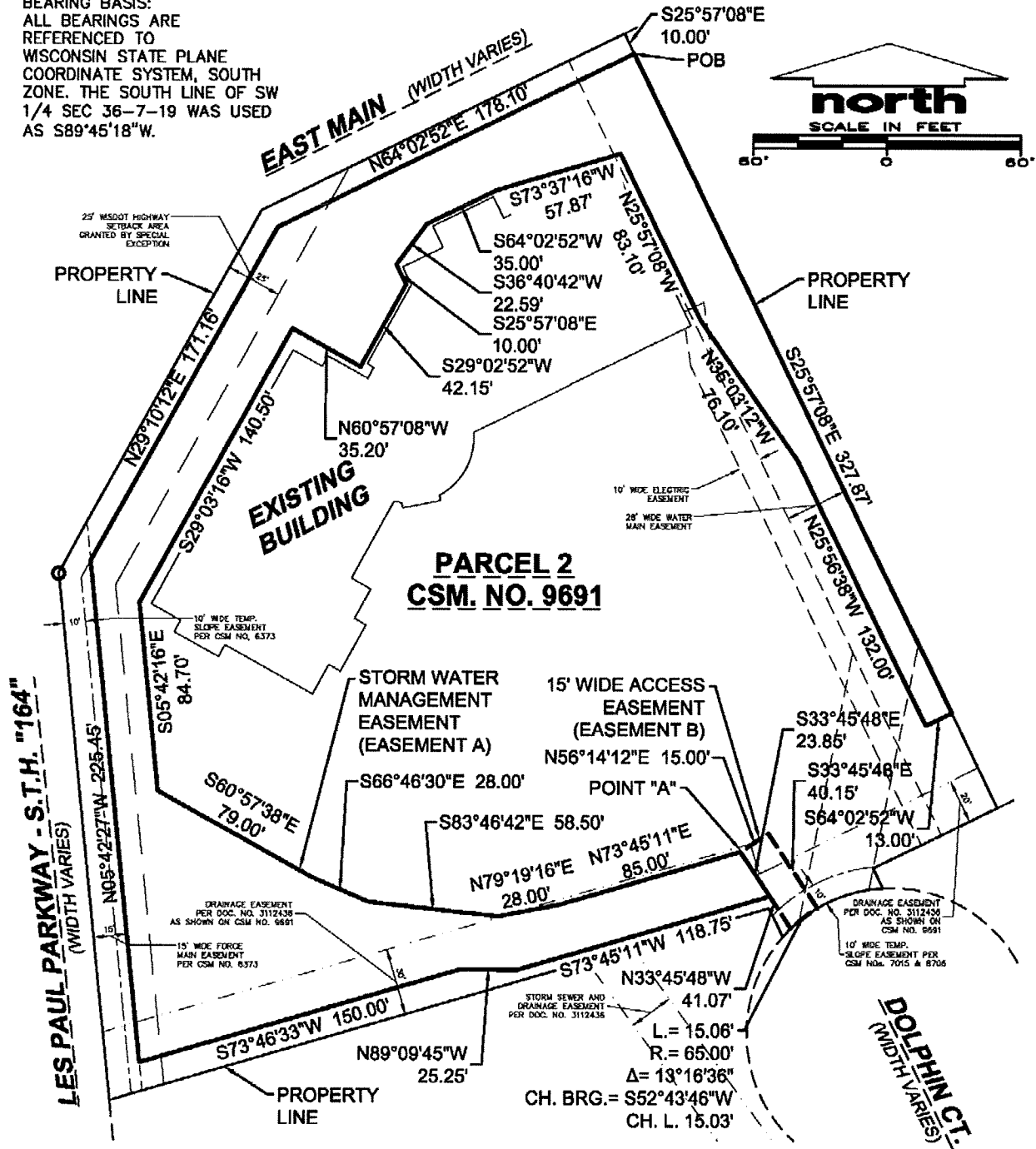
**Storm water Practices:** Infiltration Basin, Detention Pond 1P, and Grass swales (2)  
**Location of Practices:** Detention Pond located on the southwest corner of property, the infiltration basin located on the north portion of property, one grass swale located on the northwest portion of property, and the other swale located on the east portion of property.



**Exhibit B (continued)**  
**Storm Water Management Practices Easement and Access Easement**  
**Boundary Map**

**STORM WATER MANAGEMENT EASEMENT**  
**AND ACCESS EASEMENT**

BEARING BASIS:  
 ALL BEARINGS ARE  
 REFERENCED TO  
 WISCONSIN STATE PLANE  
 COORDINATE SYSTEM, SOUTH  
 ZONE. THE SOUTH LINE OF SW  
 1/4 SEC 36-7-19 WAS USED  
 AS S89°45'18"W.



**Exhibit B (continued)**  
**Storm Water Management Practices Easement and Access Easement**  
**Boundary Description**

All part of Parcel Two (2) of Certified Survey Map No. 9691, being a redivision of Parcel Two (2) of Certified Survey Map No. 8706, being a part of the Northeast One-quarter (1/4) and the Southeast One-quarter (1/4) of the Southwest One-quarter (1/4) of Section Thirty-six (36), in Township Seven (7) North, Range Nineteen (19) East, in the City of Waukesha, County of Waukesha, State of Wisconsin, recorded in the Office of the Register of Deeds for Waukesha County on December 18, 2003 in Volume 89 of Certified Survey Map on Page 196 to 202, inclusive, as Document No. 3110780, bounded and described as follow;

**STORM WATER MANAGEMENT EASEMENT (EASEMENT 'A'):**

Commencing at the northeast corner of said Parcel 2; thence South 25°57'08" East along the east line of said Parcel 2, 10.00 feet to the point of beginning;

Thence continuing South 25°57'08" East along said east line of said Parcel 2, 327.87 feet; thence South 64°02'52" West, 13.00 feet; thence North 25°56'38" West, 132.00 feet; thence North 35°03'12" West, 76.10 feet; thence North 25°57'08" West, 83.10 feet; thence South 73°37'16" West, 57.87 feet; thence South 64°02'52" West, 35.00 feet; thence South 36°40'42" West, 22.59 feet; thence South 25°57'08" East, 10.00 feet; thence South 29°02'52" West, 42.15 feet; thence North 60°57'08" West, 35.20 feet; thence South 29°03'16" West 140.50 feet; thence South 05°42'16" East, 84.70 feet; thence South 60°57'38" East, 79.00 feet; thence South 66°46'30" East, 28.00 feet; thence South 88°46'42" East, 58.50 feet; thence North 79°19'16" East, 28.00 feet; thence North 73°45'11" East, 85.00 to Point "A"; thence South 33°45'48" East, 23.85 feet; thence South 73°45'11" West, 118.75 feet; thence North 89°09'45" West, 25.25 feet; thence South 73°46'33" West, 150.00 feet; thence North 05°42'27" West, 225.45 feet; thence North 29°10'12" East, 171.16 feet; thence North 64°02'52" East, 178.10 feet to the point of beginning.

Containing in all 32,697 square feet (0.7506 acres) of land, more or less.

**ACCESS EASEMENT (EASEMENT 'B'):**

Commencing and beginning at said Point "A"; thence North 56°14'12" East, 15.00 feet; thence South 33°45'48" East, 40.15 feet to the right of way line of Dolphin Court, to the south line of said Parcel 2, and to a point on a curve; thence southwesterly 15.06 feet along said right of way line of Dolphin Court, along said south line of Parcel 2, and along the arc of said curve to whose radius is 65.00 feet and whose chord bears South 52°43'46" West, 15.03 feet to a point on a curve; thence North 33°45'48" West, 41.07 to said Point "A" and the point of beginning.

Containing in all 605 square feet (0.0139 acres) of land, more or less.

## **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 Owner(s) to enforcement of the provisions listed on page 1 of this Agreement by the City of Waukesha.

#### **System Description:**

The wet detention basin is designed to trap 70% of sediment in runoff and maintain pre-development downstream peak flows. The basin is located at the end of the west grass swale. In addition to runoff conveyance, the grass swales on-site also allow infiltration and filtering of pollutants, especially from smaller storms. The permanent pool of the wet detention pond will trap suspended sediment from storm water runoff. To do this, the pond size, water level and outlet structures must be maintained as specified in this Agreement (see Figures 1, 2 and 3).

The pond receives runoff from a 2.0 acre drainage area. During high rainfall or snow melt events, the water level will temporarily rise and slowly drain down to the elevation of the control structure. The water level is controlled by a 30" diameter concrete standpipe connected to a 24-inch diameter HDPE outlet pipe at the east end of the pond (see Figures 1 and 3). On the face of the concrete standpipe, there is a 2-inch drilled hole (orifice). This orifice controls the water level and causes the pond to temporarily rise during runoff events. A metal trash grate is placed in front of the orifice to prevent clogging. Higher flows will enter the grated concrete standpipe. "As-built" construction drawings of the pond, showing actual dimensions, elevations, outlet structures, etc. will be recorded as an addendum(s) to this agreement within 60 days after City of Waukesha accepts verification of construction from the project engineer.

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

To ensure the proper long-term function of the storm water management practices described above, the following activities must be completed:

1. All outlet pipes must be checked monthly to ensure there is no blockage from floating debris or ice, especially the trash grate in front of the 2-inch orifice and the grate on the riser. Any blockage must be removed immediately.
2. Grass swales 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.
3. Grass swales, inlets and outlets must be checked after heavy rains (minimum of annually) for signs of erosion. Any eroding areas must be repaired immediately to prevent premature sediment build-up in the downstream detention pond. Erosion matting is recommended for repairing grassed areas.
4. NO trees are to be planted or allowed to grow on the earthen berms. Tree root systems can reduce soil compaction and cause berm failure. The berms must be inspected annually and any woody vegetation removed.
5. Invasive plant and animal species shall be managed in compliance with Wisconsin Administrative Code Chapter NR 40. This may require eradication of invasive species in some cases.
6. If the permanent pool falls below the safety shelf, a review shall be performed to determine whether the cause is liner leakage or an insufficient water budget. If the cause is leakage, the liner shall be repaired. Leakage due to muskrat burrows may require removal of the animals. If the permanent pool cannot be sustained at the design elevation, benching of the safety shelf may be necessary.
7. If floating algae or weed growth becomes a nuisance (decay odors, etc.), it must be removed from the pond and deposited where it cannot drain back into the pond. 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.
8. When sediment in the pond has accumulated to an elevation of three feet below the outlet elevation, it must be removed (see Exhibit D). All removed sediment must be placed in an appropriate upland disposal site and stabilized (grass cover) to prevent sediment from washing back into the pond. Failure to remove sediment from the pond will cause resuspension of previously trapped sediments and increase downstream deposition.



9. No grading or filling of the pond or berm other than for sediment removal is allowed, unless otherwise approved by the City of Waukesha.
10. Periodic mowing of the grass swales will encourage vigorous grass cover and allow better inspections for erosion. Waiting until after August 1 will avoid disturbing nesting wildlife. Mowing around the pond may attract nuisance populations of geese to the property and is not necessary or recommended.
11. Any other repair or maintenance needed to ensure the continued function of the storm water practices or as ordered by the City of Waukesha under the provisions listed on page 1 of this Agreement.
12. The titleholder(s) or their designee must document all inspections as specified above. Documentation shall include as a minimum: (a) Inspectors Name, Address and Telephone Number, (b) Date of Inspections, (c) Condition Report of the Storm Water Management Practice, (d) Corrective Actions to be Taken and Time Frame for Completion, (e) Follow-up Documentation after Completion of the Maintenance Activities. All documentation is to be delivered to the attention of the City Engineer at the City of Waukesha Engineering Department on January 10<sup>th</sup> and July 10<sup>th</sup> each year.

**System Description:**

The infiltration basin is designed to reduce runoff volume after development by intercepting the runoff and allowing it to slowly seep (infiltrate) into the underlying soil and groundwater. The basin has been designed to completely infiltrate runoff from events up to and including the 2-year storm event. The infiltration basin will also reduce peak flows by temporarily detaining runoff from larger storms and releasing it through an earthen spillway. The drainage area served by the infiltration basin is 0.316 acres. Source areas include grass slopes and roof surface.

**Minimum Maintenance Requirements:**

To ensure the proper function of the 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 mow 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 manufacturer'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. Invasive plant and animal species shall be managed in compliance with Wisconsin Administrative Code Chapter NR 40. This may require eradication of invasive species in some cases.
3. The basin and all components (grass swales, 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.
- 4. All outlet pipes and other flow control devices must be kept free of debris. Any blockage must be removed immediately.
- 5. Any eroding areas must be repaired immediately to prevent premature sediment build-up in the system. Erosion matting is recommended for repairing grassed areas.
- 6. Heavy equipment and vehicles must be kept off of the bottom and side slopes of the infiltration basin 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.
- 7. 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.
- 8. 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.
- 9. If floating algae or weed growth becomes a nuisance (decay odors, etc.), it must be removed and deposited where it cannot drain back into the basin. 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.
- 10. 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 will cause resuspension of previously trapped sediments and increase deposition in the infiltration basin.
- 11. No grading or filling of the basin or berms other than for sediment removal is allowed.
- 12. 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 basin may attract nuisance populations of geese to the property and is not necessary or recommended.
- 13. Any other repair or maintenance needed to ensure the continued function of the infiltration basin as ordered by the City of Waukesha under the provisions listed on page 1 of this Agreement.
- 14. The titleholder(s) or their designee must document all inspections as specified above. Documentation shall include as a minimum: (a) Inspectors Name, Address and Telephone Number, (b) Date of Inspections, (c) Condition Report of the Storm Water Management Practice, (d) Corrective Actions to be Taken and Time Frame for Completion, (e) Follow-up Documentation after Completion of the Maintenance Activities. All documentation is to be delivered to the attention of the City engineer at the City of Waukesha Engineering Department on January 10th and July 10th each year..

Addendum 1  
Storm Water Management Practice  
Maintenance Agreement

Document Number

The purpose of this addendum is to record verified "as-built" construction details, supporting design data and permit termination documentation for the storm water management practice(s) located on Parcel 2 of Certified Survey Map No. 9691, being a Redivision of Parcel 2 of Certified Survey Map No. 8706, being a part of the Northeast 1/4 and the Southeast 1/4 of the Southwest 1/4 of Section 36, Township 7 North, Range 19 East, in the City of Waukesha, County of Waukesha, State of Wisconsin. This document shall serve as an addendum to Document # \_\_\_\_\_, herein referred to as the "Maintenance Agreement". This addendum includes all of the following exhibits:

**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.

**Exhibit G: Storm Water Management & Erosion Control Permit Termination** – provides certification by the City of Waukesha that the Storm Water and Erosion Control Permit for the above noted site has been terminated.

Name and Return Address  
City of Waukesha  
130 Delafield Street  
Waukesha, WI 53188

WAKC1007033

Parcel Identification Number(s) – (PIN)

Dated this 7<sup>th</sup> day of September, 2016.

Owner: IP Dolphin LLC

[Signature]  
Sign

John B. Heller, Member  
Print Title

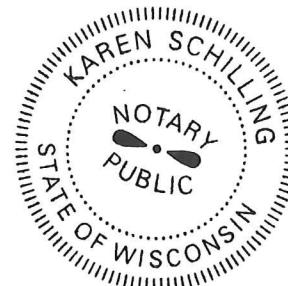
**Acknowledgements**

State of Wisconsin )  
                                  )  
County of Waukesha )

Personally came before me this 7 day of Sept, 2016, the above named John Heller, to me known to be the person who executed the foregoing instrument and acknowledged the same.

[Signature]  
Sign  
Karen Schilling  
Print  
Notary Public, Waukesha County, WI  
My commission expires: 7-6-20

**This document was drafted by:**  
**JSD Professional Services, Inc.**  
N22 W22931 Nancy's Ct. Suite 3  
Waukesha, WI 53186



For Certification Stamp

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

**Project Identifier:** Dental Associate Office Building **Project Size:** 2.87 Acres **No. of Lots:** N/A  
**Number of Runoff Discharge Points:** 1 **Watershed (ultimate discharge):** Fox River  
**Watershed Area (including off-site runoff traveling through project area):** 3.6 acres (0.8 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 1P.

Summary Data Elements	Subwatershed A		Subwatershed B (off-site)	
	Pre-develop	Post-develop	Pre-develop	Post-develop
<b>Watershed Areas (in acres)</b> <i>(see attached map)</i>	2.78	2.44	0.10	0.10
<b>Average Watershed Slopes (%)</b>	2-26%	3-33%	3-10%	3-10%
<b>Land Uses (% of each)</b> <i>(see attached map)</i>	100% brush	20% Roofs 44% Pavement 36% grass	83% grass 17% pavement	83% grass 17% pavement
<b>Runoff Curve Numbers</b>	RCN=73	98 x 0.494 ac.= 48.412 98 x 1.081 ac.= 105.938 80 x 0.864 ac.= 69.12 <u>Net 223.47/2.439ac.</u> RCN = 92	98 x 0.016 ac.= 1.57 80 x 0.08 ac.= 6.4 <u>Net 7.97/0.096 ac.</u> RCN = 83	98 x 0.016 ac.= 1.57 80 x 0.08 ac.= 6.4 <u>Net 7.97/0.096 ac.</u> RCN = 83
<b>Conveyance Systems Types</b>	Range/Grass Pasture Surface	25% grass swale 75% storm sewer	Grass Surface	Grass Surface
<b>Summary of Average Conveyance System Data</b>	2-26% grade	0.1' depth swale/1% 12-15" HDPE sewer (see calcs.)	10% grade	10% grade
<b>Time of Concentration (Tc)</b> <i>(see attached map &amp; worksheets)</i>	0.37 hrs.	0.10 hrs.	0.10 hrs.	0.10 hrs.
<b>25% of 2-yr 24-hr post-dev runoff volume</b>	N/A	0.85 ac. ft.	N/A	N/A
<b>1-year/24 hour Runoff Volume</b>	0.107 ac. ft.	0.267 ac. ft.	0.007 ac. ft.	0.007 ac. ft.
<b>2-yr./24 hour Peak Flow</b> <i>(see attached hydrographs)</i>	1.74 cfs	6.55 cfs	0.19 cfs	0.19 cfs
<b>10-yr./24 hour Peak Flow</b>	4.31 cfs	10.52 cfs	0.36 cfs	0.36 cfs
<b>100-yr./24 hour Peak Flow</b>	7.99 cfs	17.17 cfs	0.58 cfs	0.58 cfs

## Exhibit D (continued)

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

Design Element	Design Data
<b>Site assessment data: (see attached maps)</b>	
Contributing drainage area to basin (subwatershed 1S, 4S, 5S, & 6S)	2.535 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 7%
Any buried or overhead utilities in the area?	No
Proposed outfall conveyance system/discharge (w/ distances)	110 ft. of HDPE pipe to existing storm sewer to existing pond
Any downstream roads or other structures? (describe)	Yes – 24" storm sewer
Floodplain, shoreland or wetlands?	No
<b>Soil investigation data (see attached map &amp; soil logs):</b>	
Number of soil investigations completed	10
Do elevations of test holes extend 3 ft. below proposed bottom?	Yes
Average soil texture at pond bottom elevation (USDA)	sand
Distance from pond bottom to bedrock	> 5 feet
Distance from pond bottom to seasonal water table	No water observed in test holes
<b>General basin design data (see attached detailed drawings):</b>	
Permanent pool surface area	4,812 square feet
Design permanent pool water surface elevation	elev. 93.0
Top of berm elevation (after settling) and width	elev. 97.1 / 10 feet wide
Length/width (dimensions/ratio)	58 ft. x 81 ft. x 91 ft.
Safety shelf design (length, grade, max. depth)	8 ft. @ 10% slope/ 0.8' deepest
Ave. water depth (minus safety shelf/sediment)	5 ft. (in center)
Sediment forebay size & depth	N/A
Sediment storage depth & design maintenance	2 ft. depth 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)	0.15 cfs	95.00 ft.	7,570 cubic feet	#1 and #2
6.55 cfs (Post 2-yr./24 hr. peak)	0.16 cfs	95.40 ft.	9,626 cubic feet	#1 and #2
10.52 cfs (Post 10-yr./24 hr. peak)	5.08 cfs	95.73 ft.	11,493 cubic feet	#1, #2, and #3
17.17 cfs (Post 100-yr./24 hr. peak)	14.25 cfs	96.07 ft.	13,567 cubic feet	#1, #2, and #3

- \* #1 = 24 inch HDPE storm sewer @ elev. 92.75  
 #2 = 2 inch orifice @ elev. 93.00  
 #3 = 30 inch diameter RCP standpipe – rim elev. @ 95.4  
 #4 = 5 foot wide earthen/grass spillway @ elev. 96.1





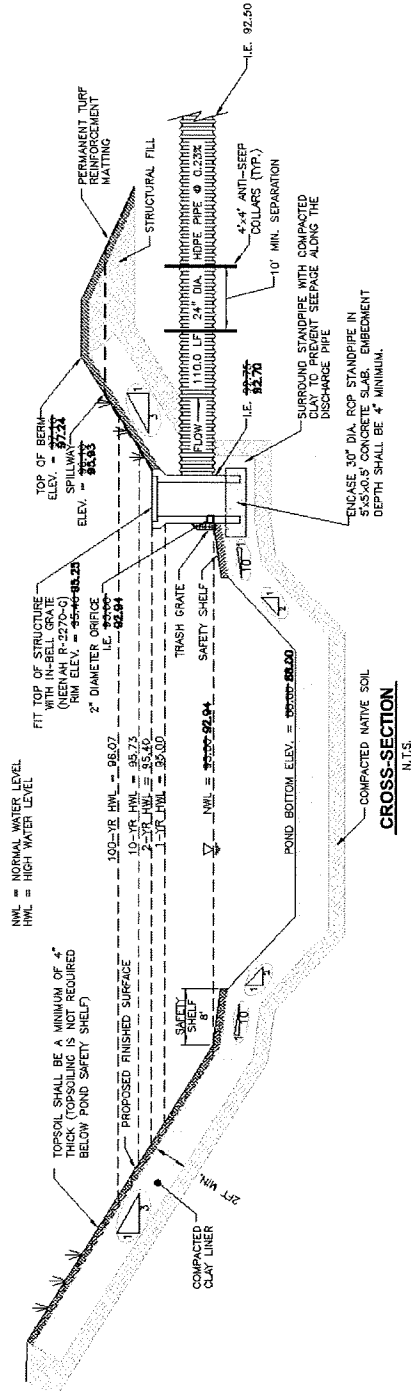
# Exhibit E (continued)

## As-built Survey for Wet Detention Basin P1

The wet detention basin depicted in Figure 1 is a reduced copy of the as-built plan.

**Project Identifier:** Dolphin Court Office Building  
**Storm water Practice:** Wet Detention Basin #1  
**Location of Practice:** Southwest corner of Parcel 2 CSM No. 6961

### Wet Detention Basin Cross-Section

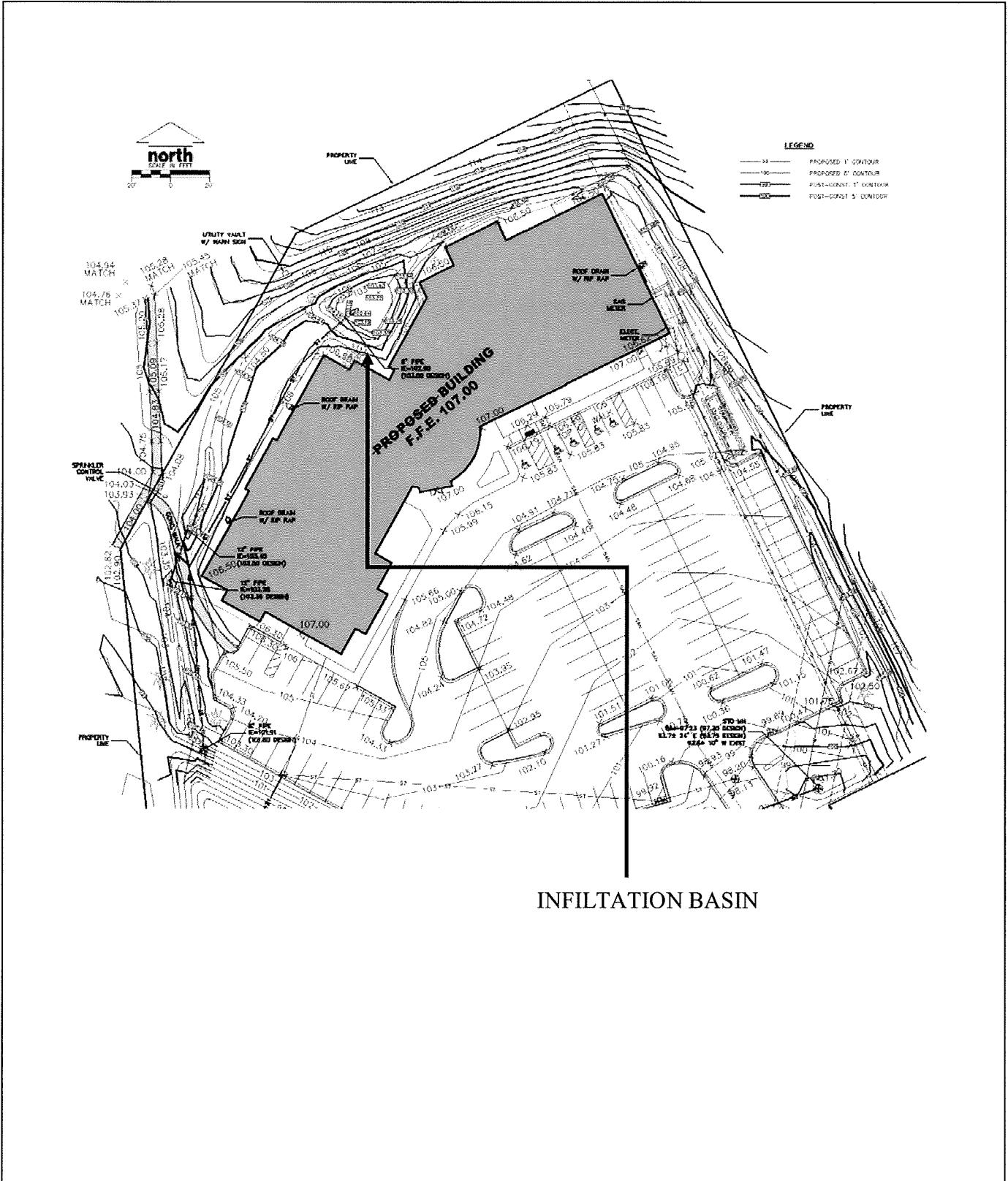




# Exhibit E (continued) As-built Survey for Infiltration Basin

The wet detention basin depicted in Figure 1 is a reduced copy of the as-built plan.

**Project Identifier:** Dolphin Court Office Building  
**Storm water Practice:** Infiltration Basin  
**Location of Practice:** North side of Parcel 2 CSM No. 6961

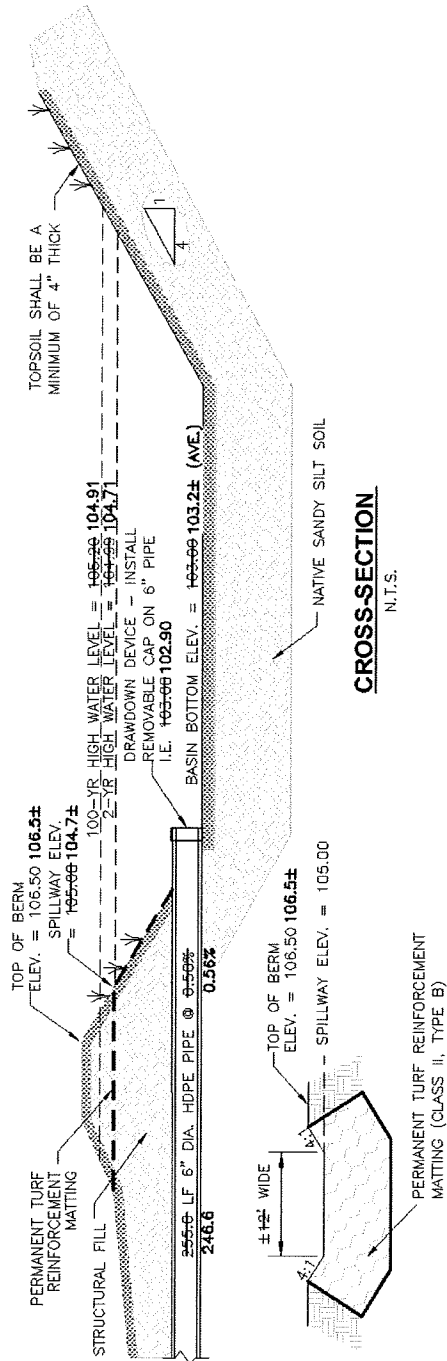


# Exhibit E (continued) As-built Survey for Infiltration Basin

The wet detention basin depicted in Figure 1 is a reduced copy of the as-built plan.

**Project Identifier:** Dolphin Court Office Building  
**Storm water Practice:** Infiltration Basin  
**Location of Practice:** North side of Parcel 2 CSM No. 6961

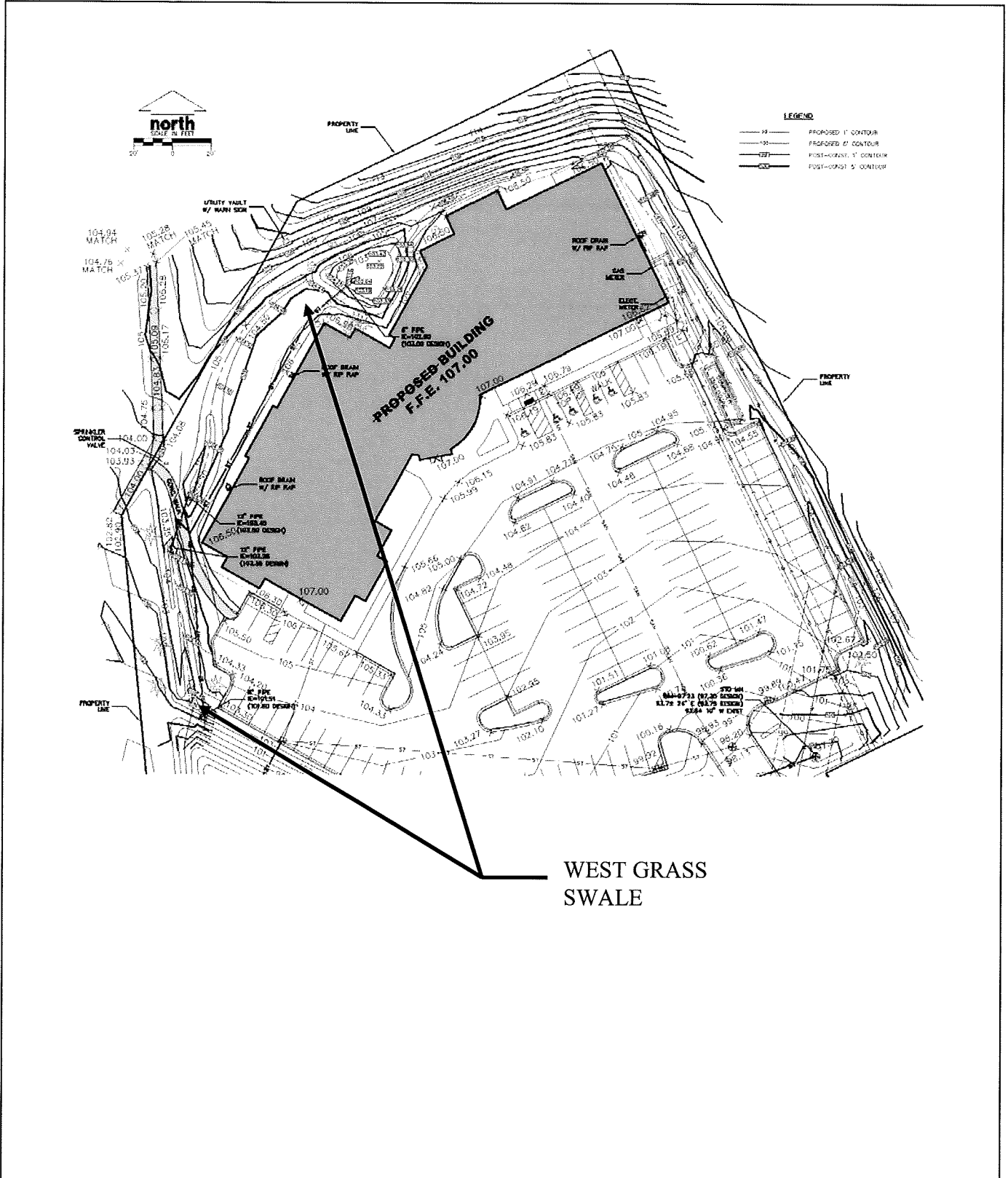
## Infiltration Basin Cross-Section



# Exhibit E (continued) As-built Survey for West Grass Swale

The wet detention basin depicted in Figure 1 is a reduced copy of the as-built plan.

**Project Identifier:** Dolphin Court Office Building  
**Storm water Practice:** Grass Swale (West)  
**Location of Practice:** Westerly portion of Parcel 2 CSM No. 6961





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

DATE: Aug. 22, 2016

TO: City of Waukesha

FROM: Rizal W. Iskandarsjach, JSD Professional Services, Inc.

RE: Engineering/Construction Verification for the following project:  
Project Name: Dental Associates Office Building  
Project Location: Parcel 2 of CSM No. 9691, City of Waukesha  
Storm Water Management & Erosion Control Permit # \_\_\_\_\_  
Storm Water Management Practices: Infiltration Basin (1), Detention Pond (1), and  
Grass swales (2)

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 City of Waukesha Storm Water Management and Erosion Control Ordinance.

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.



(Signed P.E. stamp must be included)

**Exhibit G**  
**Storm Water Management and Erosion Control Permit Termination**

Project Identifier: Dental Associates Office Building  
Location: Lot 2 of CSM No. 9691, being a part of the Northeast 1/4 and the Southeast 1/4 of the Southwest 1/4 of Section 36, Township 7 North, Range 19 East, in the City of Waukesha, County of Waukesha, and State of Wisconsin.  
Storm Water Management and Erosion Control Permit Holder's Name:  
John Heller  
Storm Water Management & Erosion Control Permit #: 15-023

Chapter 32 – City of Waukesha Storm Water Management and Erosion Control requires that all newly constructed storm water management practices be maintained by the Storm Water and Erosion Control Permit Holder until permit termination, after which maintenance responsibilities shall be transferred to the responsible party identified on the CSM No. 9691 and referenced in this Maintenance Agreement.

Upon execution below, this exhibit shall serve to certify that the Storm Water Permit Holder has satisfied all requirements of the Storm Water Management and Erosion Control Ordinance and that the City of Waukesha has terminated the Storm Water Management and Erosion Control Permit for the property covered by this Maintenance Agreement.

Dated this 26<sup>th</sup> day of August, 2016.

City of Waukesha representative:

David Buechl  
\_\_\_\_\_  
Sign

DAVID BUECHL, ENGINEER II  
\_\_\_\_\_  
Name Title

**Acknowledgements**

State of Wisconsin )  
)  
County of Waukesha )

Personally came before me this 29 day of August, 2016, the above named David Buechl, to me known to be the person who executed the foregoing instrument and acknowledged the same.



Barbara Werra  
\_\_\_\_\_  
Signature  
Barbara Werra  
\_\_\_\_\_  
Print  
Notary Public, Waukesha County, WI  
My commission expires: 10/31/2016