

Storm Water Management Practice Maintenance Agreement

Document Number

Boucher Holdings 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.

Name and Return Address

City of Waukesha
201 Delafield Street
Waukesha, WI 53188

Parcel Identification Number(s) – (PIN)
WAKC1007054

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 repair work recommended in the report. The Owner(s) shall be liable for the failure to undertake 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 subch. 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).

Dated this ____ day of _____, 202_.

Owner:

(Owners Signature)

Daniel G. Nienhuis, General Counsel, Boucher Holdings, LLC.

(Owners Typed Name)

Acknowledgements

State of Wisconsin:
County of Waukesha

Personally came before me this ____ day of _____, 202_, the above named Daniel G. Nienhuis 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:

Jeremy Jeffery, P.E.

16745 W Bluemound Road,
Brookfield, WI 53005

[Name and address of drafter]

City of Waukesha Common Council Approval

Dated this ____ day of _____, 202_.

Shawn N. Reilly, Mayor

Gina Kozlik, City Clerk

Acknowledgements

State of Wisconsin:
County of Waukesha

Personally came before me this ____ day of _____, 202_, the above named _ Daniel G. Nienhuis 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:_____.

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.

Project Identifier: **Waukesha Genesis** Acres: **2.94**
 Date of Recording: **July 22, 2022**
 Map Produced By: **raSmith, Brookfield, WI**
 Legal Description: **Recorded as CSM TBD, on 07/22/2022**

A redivision of Lot 1 and Lot 2 of the Certified Survey Map No. 12248, being part of the Northeast 1/4 of the Southeast 1/4 of Section 35, the Northwest 1/4 of the Southwest 1/4, and the Southwest 1/4 of the Northwest 1/4 of Section 36, all in Township 7 North, Range 19 East, in the City of Waukesha, Waukesha County, WI. TO BEGIN; N74°53'05"E 443.77', N15°03'38"W 153.73, S74°53'05"W 50.36', N15°06'55"W 150', S74°53'05"W 388.72', S01°15'5905"E 44.65', S16°23'45"E 260.58' TO BEGIN. 2.9406 ACRES

Waukesha Genesis

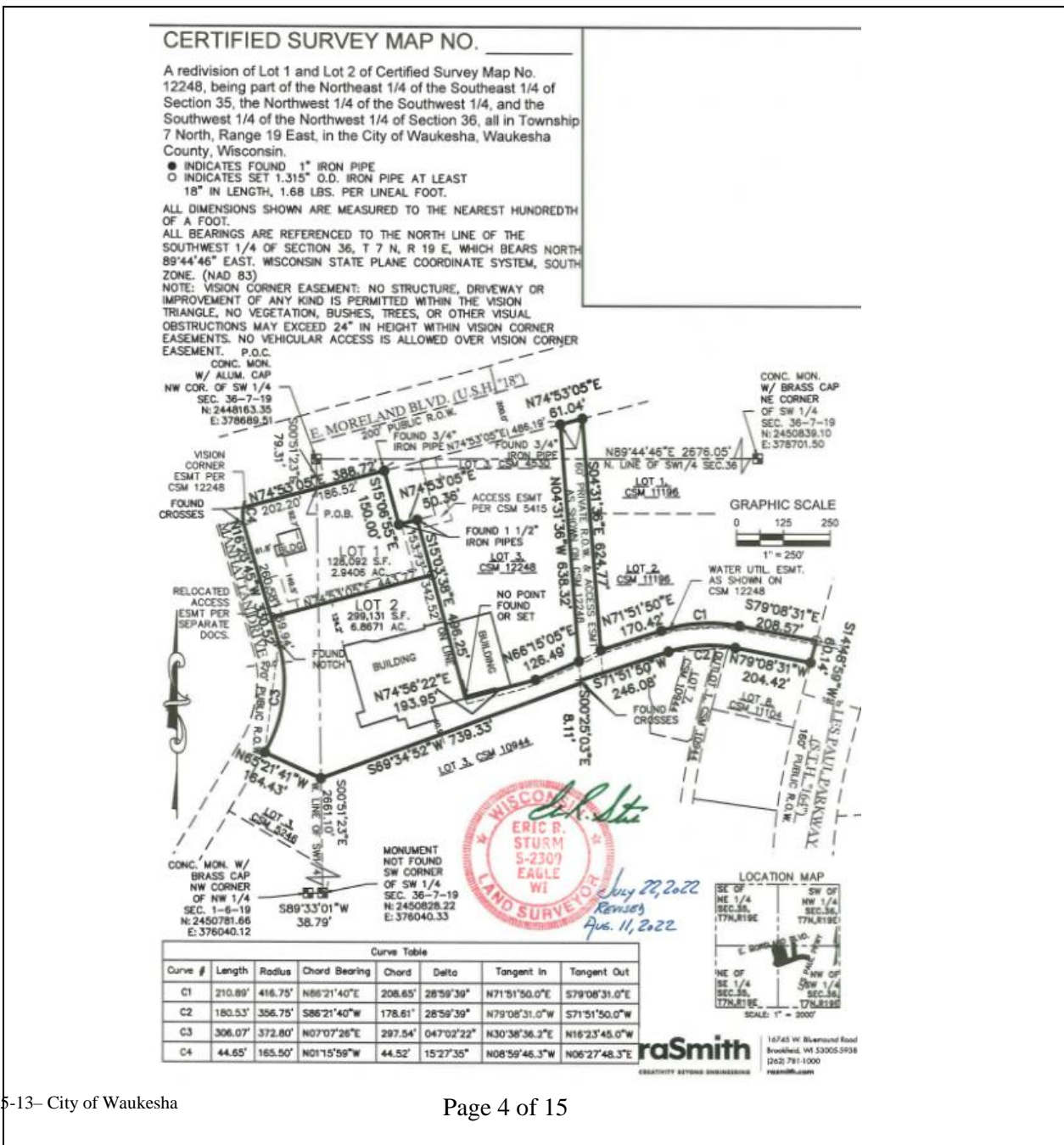


Exhibit B - Location Map

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 two independent underground detention tanks.

Project Name: Waukesha Genesis
Storm water Practices: Underground Detention Tank – North, South & West
Location of Practices: Under parking lot

Figure 1
 Plan View of Storm Water Practices

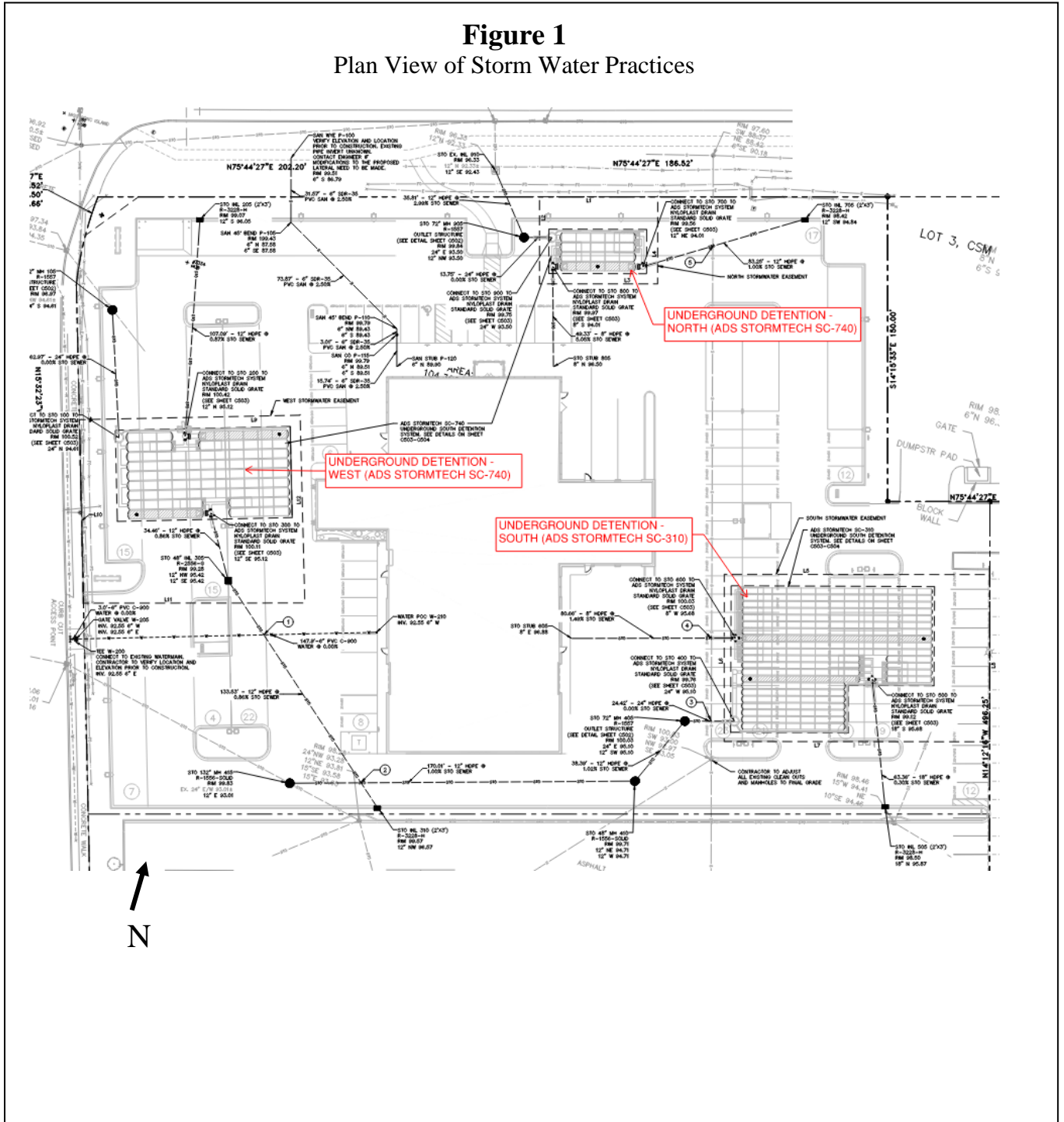


Exhibit C

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. 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. Any repair, maintenance, or 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.

I. ROUTINE MAINTENANCE

- A. Inspections (A competent inspector or inspection service qualified to review drainage systems shall be chosen and hired by the Owner.)
 - 1. Inspection priorities include visual observation and documentation of:
 - a. Accumulation of sediment and debris in the storm sewer inlets, wet underground detention systems, and outlet control structures.
 - b. Any modification to the contributory watershed. Confirm and document any modifications.
 - c. Inspect underground detention systems for settling, cracking, erosion, leakage, and structural condition of outlet control structure. Make repairs as necessary.
 - d. Inspect site for areas of erosion. If present, eroded areas shall be repaired using low-impact earth moving techniques commensurate with the scale of the repair task. Any bare soil areas shall be revegetated according to the original design specifications.
 - 2. Inspect all storm sewer structures, underground detention system basins, and outlet control structures after significant rainfall events and at least twice annually, once in the Spring and once in the Fall. Conduct inspections during wet weather conditions to determine if the storm sewer system is functioning properly.
- B. Debris and Litter Removal.
 - 1. Remove debris and litter from the area, including the storm sewer system, underground detention systems, and outlet control structures.
 - 2. Remove debris and litter from the grates and inverts of all the storm sewer inlets, catch basins, and manholes.
 - 3. Remove accumulated sediment from all storm sewer inlets, catch basins, and manholes.

II. NON-ROUTINE MAINTENANCE

- A. Post Construction Monitoring
 - 1. For the first 12 months following installation of the underground detention systems and storm sewers, the system is to be inspected on a quarterly basis to verify the integrity of the conveyance system. Following the initial 12 months, the system is to be inspected at least every 6 months or more frequently as determined by the initial 12-month monitoring period.
- B. Structural Repairs and Replacement.
 - 1. Conduct routine inspection and maintenance of all storm sewer structures to promote longevity.

III. DOCUMENTATION OF MAINTENANCE

- A. Complete attached "Inspection Form for Storm Water Management Systems" The Owner will maintain the records.

1. Document Number

Document number

Addendum 1 Storm Water Management Practice Maintenance Agreement

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 at Waukesha Genesis, a redivision of Lots 1 and 2 of Certified Survey Map No. 5415, and part of Lot 2 of Certified Survey Map No. 4530, and lands, in the Northeast 1/4 of the Southeast 1/4 of Section 35, the Northwest 1/4 of the Southwest 1/4, and Southwest 1/4 of the Northwest 1/4 of Section 36, all in Town 7 North, Range 19 East, in the City of Waukesha, Waukesha County, 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

Parcel Identification Number(s) – (PIN)

Dated this ___ day of _____, 202_.

Owner:

[Owners Signature – per the Maintenance Agreement]

[Owners Typed Name]

Acknowledgements

State of Wisconsin County of Waukesha

Personally came before me this ___ day of _____, 202_, the above named Daniel G. Nienhuis 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:

Jeremy Jeffery, P.E.

16745 W Bluemound Road,
Brookfield, WI 53005

[Name and address of drafter]



Exhibit D Design Summaries for Underground Detention Tank - North

Project Identifier: Waukesha Genesis **Project Size:** 2.94 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): 3.15 acres

Watershed Data Summary. The following table summarizes the watershed data used to determine peak flows and runoff volumes required to design Underground Detention Tank - West

Summary Data Elements	E-1 and P-1	
	Pre-develop (E-1)	Post-develop (P-1)
Watershed Areas (in acres) <i>(see attached map)</i>	0.61	1.00
Average Watershed Slopes (%)	2-4%	2-4%
Land Uses (% of each) <i>(see attached map)</i>	0.04ac Grass 0.47ac Pavement 0.10ac Roof	0.05ac Grass 0.88ac Pavement 0.07ac Sidewalk
Runoff Curve Numbers	RCN = 94	RCN = 95
Conveyance Systems Types	50% overland 50% storm sewer	50% overland 50% storm sewer
Time of Concentration (Tc) <i>(see attached map & worksheets)</i>	6 min.	6 min.
1-year/24 hour Runoff Volume	1.91 cfs	1.12 cfs
2-yr./24 hour Peak Flow <i>(see attached hydrographs)</i>	2.20 cfs	1.23 cfs
10-yr./24 hour Peak Flow	3.26 cfs	1.61cfs
100-yr./24 hour Peak Flow	5.48 cfs	2.31 cfs

Watershed Data Summary. The following table summarizes the watershed data used to determine peak flows and runoff volumes required to design Underground Detention Tank - South

Summary Data Elements	E-2 and P-2	
	Pre-develop (E-2)	Post-develop (P-2)
Watershed Areas (in acres) <i>(see attached map)</i>	1.47	0.94
Average Watershed Slopes (%)	2-4%	2-4%

Land Uses (% of each) <i>(see attached map)</i>	0.06ac Grass 1.41ac Pavement 0.00ac Roof	0.03ac Grass 0.72ac Pavement 0.18ac Roof 0.01 Sidewalk
Runoff Curve Numbers	RCN = 96	RCN = 96
Conveyance Systems Types	50% overland 50% storm sewer	50% overland 50% storm sewer
Time of Concentration (Tc) <i>(see attached map & worksheets)</i>	6 min.	6 min.
1-year/24 hour Runoff Volume	4.93 cfs	1.05 cfs
2-yr./24 hour Peak Flow <i>(see attached hydrographs)</i>	5.61 cfs	1.15 cfs
10-yr./24 hour Peak Flow	8.12 cfs	1.46 cfs
100-yr./24 hour Peak Flow	13.42 cfs	3.57 cfs

Watershed Data Summary. The following table summarizes the watershed data used to determine peak flows and runoff volumes required to design Underground Detention Tank - North

Summary Data Elements	E-3 and P-3	
	Pre-develop (E-3)	Post-develop (P-3)
Watershed Areas (in acres) <i>(see attached map)</i>	0.86	0.76
Average Watershed Slopes (%)	2-4%	2-4%
Land Uses (% of each) <i>(see attached map)</i>	0.30ac Grass 0.56ac Pavement 0.00ac Roof	0.04ac Grass 0.44ac Pavement 0.25ac Roof 0.03 Sidewalk
Runoff Curve Numbers	RCN = 77	RCN = 95
Conveyance Systems Types	Overland	50% overland 50% storm sewer
Time of Concentration (Tc) <i>(see attached map & worksheets)</i>	6 min.	6 min.
1-year/24 hour Runoff Volume	1.41 cfs	2.03 cfs
2-yr./24 hour Peak Flow <i>(see attached hydrographs)</i>	1.81 cfs	2.55 cfs
10-yr./24 hour Peak Flow	3.38 cfs	3.37 cfs
100-yr./24 hour Peak Flow	6.75 cfs	5.05 cfs

Practice Design Summary. The following table summarizes the data used to design Underground Detention Tank - North

Design Element	Design Data
Site assessment data: (see attached maps)	
Contributing drainage area to basin	0.76 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 2-3%
Any buried or overhead utilities in the area?	No
Proposed outfall conveyance system/discharge (w/ distances)	35.81' – 12 HDPE pipe into back of existing Inlet along Moreland
Any downstream roads or other structures? (describe)	No
Floodplain, shoreland or wetlands?	No
General basin design data (see attached detailed drawings):	
Top of Stone	97.00
Top of Chamber	96.50
Chamber Invert	94.00
Bottom of Stone	93.50

Design Basin Inflow, Outflow & Storage Data (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.	2.03	94.61	0.015 af	#1, #2 and #3
2-yr./24 hr.	2.55	94.67	0.016 af	#1, #2 and #3
10-yr./24 hr.	3.37	95.02	0.022 af	#1, #2 and #3
100-yr./24 hr.	5.05	96.29	0.039 af	#1, #2 and #3

*#1 = 8 inch orifice in water level control weir plate – flow line elev. @ 93.50'

#2 = 6 foot wide rectangular weir – flow line elev. @ 94.50'

#3 = 12 inch diameter hdpe pipe – flow line elev. @ 93.50'

Practice Design Summary. The following table summarizes the data used to design Underground Detention Tank - South

Design Element	Design Data
Site assessment data: (see attached maps)	
Contributing drainage area to basin	0.94 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 2-3%
Any buried or overhead utilities in the area?	No
Proposed outfall conveyance system/discharge (w/ distances)	38.39' – 12 HDPE pipe into proposed MH
Any downstream roads or other structures? (describe)	No
Floodplain, shoreland or wetlands?	No
General basin design data (see attached detailed drawings):	
Top of Stone	97.43
Top of Chamber	96.93
Chamber Invert	95.60
Bottom of Stone	95.10

Design Basin Inflow, Outflow & Storage Data (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.	1.05	95.83	0.053 af	#1
2-yr./24 hr.	1.15	95.90	0.061 af	#1
10-yr./24 hr.	1.46	96.19	0.091 af	#1
100-yr./24 hr.	3.57	96.75	0.139 af	#1, #2 and #3

*#1 = 8 inch orifice in water level control weir plate – flow line elev. @ 95.10

#2 = 6 foot wide rectangular weir – flow line elev. @ 96.30

#3 = 12 inch diameter hdpe pipe – flow line elev. @ 95.10

Practice Design Summary. The following table summarizes the data used to design Underground Detention Tank - West

Design Element	Design Data
Site assessment data: (see attached maps)	
Contributing drainage area to basin	1.00 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 2-3%
Any buried or overhead utilities in the area?	No
Proposed outfall conveyance system/discharge (w/ distances)	36.9' – 8" ex. RCP pipe into back of existing Inlet along Manhattan
Any downstream roads or other structures? (describe)	No
Floodplain, shoreland or wetlands?	No
General basin design data (see attached detailed drawings):	
Top of Stone	98.11
Top of Chamber	97.61
Chamber Invert	95.11
Bottom of Stone	94.61

Design Basin Inflow, Outflow & Storage Data (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.	1.12	95.55	0.048 af	#1
2-yr./24 hr.	1.23	95.67	0.056 af	#1
10-yr./24 hr.	1.61	96.13	0.086 af	#1
100-yr./24 hr.	2.31	97.37	0.156 af	#1

*#1 = 8 inch diameter rcp pipe – flow line elev. @ 94.61

Exhibit D (continued)

Watershed Map. The watershed map shown below was used to determine the post-development data contained in this exhibit.

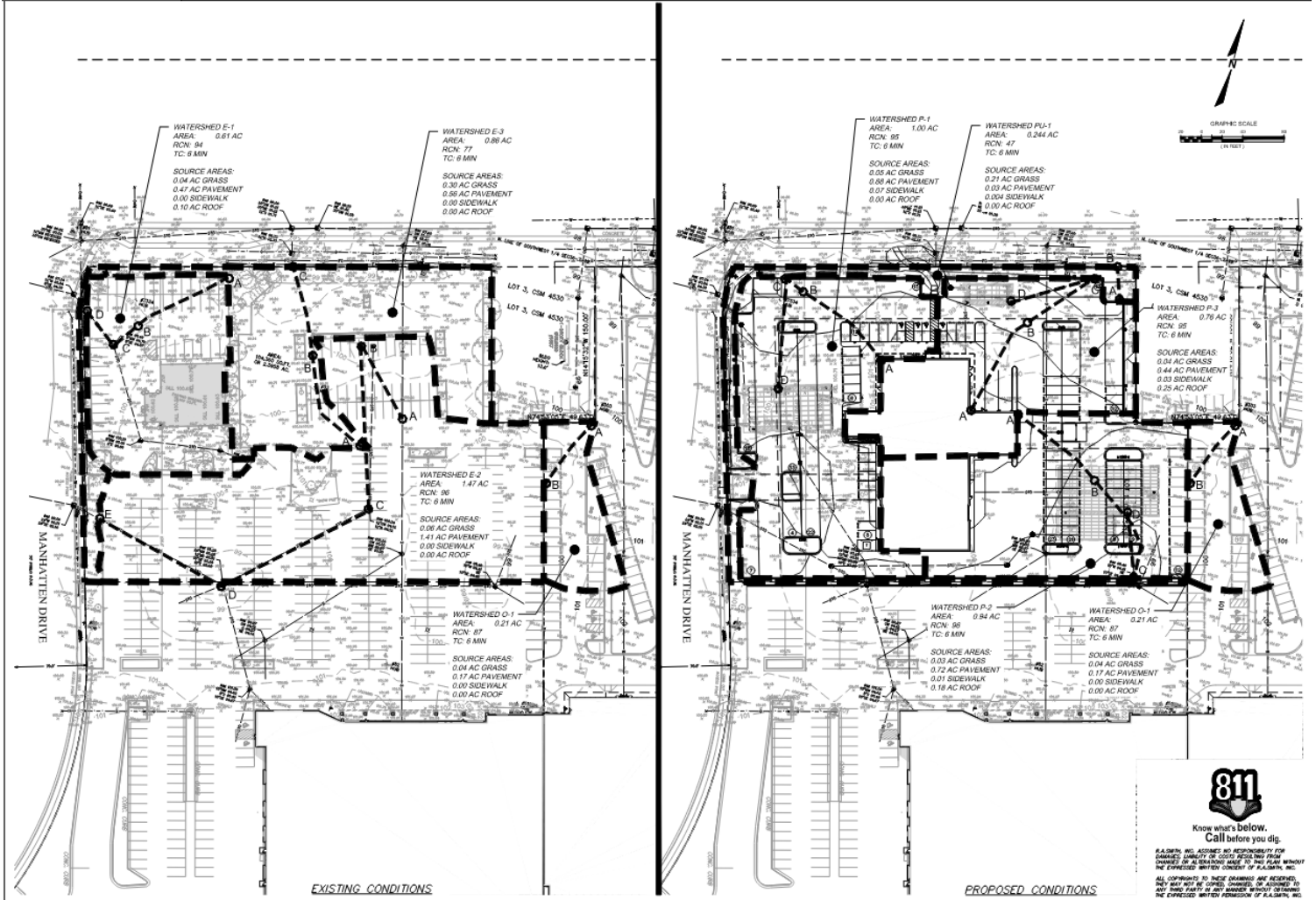


Exhibit E

As-built Survey for Underground Detention Tank – North, South & West

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

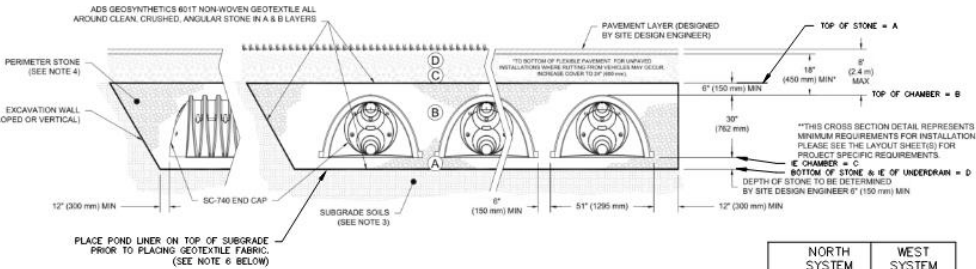
Project Identifier: Waukesha Genesis
Storm water Practice: Underground Detention Tanks North, South and West
Location of Practice: Under parking lot

Cross-Section A – A'

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 12" (400 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	AASHTO M40 ¹ A-1, A-2-A, A-3 OR AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN), DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}

- PLEASE NOTE:
 1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
 2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) MAX LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
 3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
 4. ONCE LAYER 'C' IS PLACED, ANY SOLID MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



NOTES:

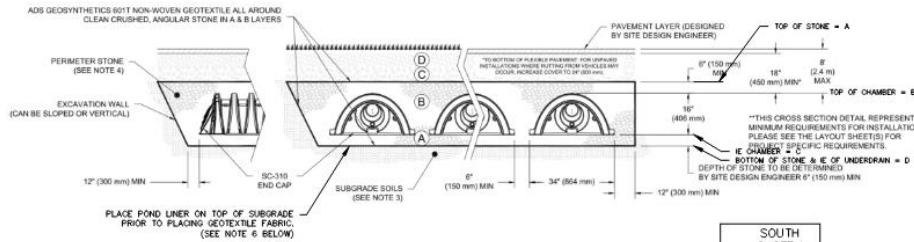
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418: "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 150 (LB/FT² AND 1) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C). CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
- PLACE 40 MIL (HDPE) POND AND CANAL LINER OR EQUAL ON SUBGRADE EXTENDING THE ENTIRE EXCAVATED AREA AND UP EXCAVATED WALLS ONE FOOT PRIOR TO PLACING GEOSYNTHETIC FABRIC.

	NORTH SYSTEM	WEST SYSTEM
A	97.00	98.11
B	96.50	97.61
C	94.00	95.11
D	93.50	94.61

ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 12" (400 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	AASHTO M40 ¹ A-1, A-2-A, A-3 OR AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN), DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}

- PLEASE NOTE:
 1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
 2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) MAX LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
 3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
 4. ONCE LAYER 'C' IS PLACED, ANY SOLID MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



NOTES:

- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2622 (POLYETHYLENE) OR ASTM F2418 (POLYPROPYLENE): "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 400 (LB/FT² AND 1) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C). CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
- PLACE 40 MIL (HDPE) POND AND CANAL LINER OR EQUAL ON SUBGRADE EXTENDING THE ENTIRE EXCAVATED AREA AND UP EXCAVATED WALLS ONE FOOT PRIOR TO PLACING GEOSYNTHETIC FABRIC.

	SOUTH SYSTEM
A	97.43
B	96.93
C	95.60
D	95.10

**Exhibit “F”
Engineering/Construction Verification**

DATE: _____

TO: City of Waukesha

FROM: _____ [Project Engineer’s Name/Company]

RE: Engineering/Construction Verification for the following project:
Project Name: _____
Section _____, Town of _____
Storm Water Management & Erosion Control 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 City of Waukesha Storm Water Management and Erosion Control Ordinance.

[Must include one of the following two statements:]

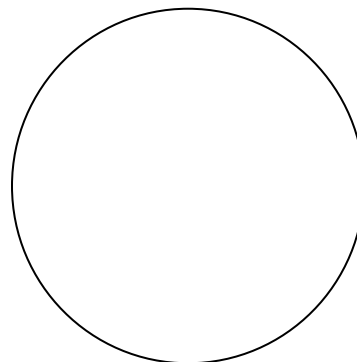
1. Any variations from the originally approved construction plans are noted in Exhibit E. These variations are considered to be within the tolerances of standard construction techniques and do not affect the original design as presented in Exhibit D in any way.

[Note: The City 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 the City of Waukesha.

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



(Signed P.E. stamp must be included)

Exhibit G
Storm Water Management and Erosion Control Permit Termination

Project Identifier: Waukesha Genesis

Location: Recorded as CSM TBD, on 07/22/2022

A redivision of Lot 1 and Lot 2 of the Certified Survey Map No. 12248, being part of the Northeast ¼ of the Southeast ¼ of Section 35, the Northwest ¼ of the Southwest ¼, and the Southwest ¼ of the Northwest ¼ of Section 36, all in Township 7 North, Range 19 East, in the City of Waukesha, Waukesha County, WI.

Storm Water Management and Erosion Control Permit Holder's Name:

Storm Water Management & Erosion Control Permit #: _____

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 subdivision plat [or CSM] 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 ___ day of _____, 202_.

City of Waukesha representative:

(Signature)

(Typed Name and Title)

Acknowledgements

State of Wisconsin
County of Waukesha

Personally came before me this ____ day of _____, 202_, the above named _____ 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: _____