RESOLUTION NO. 2009-193

SPONSOR Mr. Pry

DATE June 1, 2009 COMMITTEE Planning

A Resolution authorizing the County Executive to execute an agreement with the City of Akron, whereby the County agrees to operate and maintain certain bioretention areas at the location of the Veterans Service Commission Administration Building at 1060 East Waterloo Road for storm water purposes, in Council District 6, for the Executive's Department of Administrative Services, Physical Plants Division, and declaring an emergency.

WHEREAS, the County is constructing the new Veterans Services Commission Administrative Building at 1060 East Waterloo Road (the "Center"); and

WHEREAS, plans for the Center included bioretention areas for the control of the flow and quality of storm water from the Center, with the plans being approved by the City of Akron conditionally on the County operating and maintaining the bioretention areas; and

WHEREAS, the quality of storm water from the Center will be improved by the operation and maintenance of the bioretention areas;

WHEREAS, this Council finds and determines, after reviewing all pertinent information, that it is necessary and in the best interest of the County to authorize the Executive to execute an agreement with the City of Akron whereby the County agrees to operate and maintain the bioretention areas at the Center;

NOW THEREFORE, BE IT RESOLVED, by the Council of the County of Summit, State of Ohio, that:

SECTION 1

The County Executive is hereby authorized to execute an agreement with the City of Akron whereby the County of Summit agrees to operate and maintain the bioretention areas at the Center, in Council District 6, which is attached hereto as Exhibit "A."

SECTION 2

This Resolution is hereby declared an emergency in the interest of the health, safety and welfare of the residents of the County of Summit and for the further reason that it will immediately authorize the County Executive to execute said agreement that fulfills a condition for the approval of the plans for the Veterans Services Commission Administration Building.

SECTION 3

Provided that this Resolution receives the affirmative vote of eight members, it shall take effect immediately upon its adoption and approval by the Executive; otherwise it shall take effect and be in force at the earliest time provided by law.

SECTION 4

It is found and determined that all formal actions of this Council concerning and related to the adoption of this Resolution were adopted in open meeting of this Council, and that all deliberations of this Council and of any of its committees that resulted in such formal action, were in meetings open to the public, in compliance with all legal requirements, including section 121.22 of the Ohio Revised Code.

INTRODUCED May 11, 2009

ADOPTED June 1, 2009

Shirley P Green
CLERK OF COUNCIL

Nicole Kostandaras
PRESIDENT OF COUNCIL

APPROVED June 1, 2009

EXECUTIVE

ENACTED EFFECTIVE June 1, 2009

Voice Vote: 9-0 YES: Comunale, Crawford, Crossland, Feeman, Kostandaras Poda, Prentice, Schmidt, Shapiro, ABSENT: Rodgers & Smith

EXHIBIT A

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VETERANS SERVICE COMMISSION

POST CONSTRUCTION BMP INSPECTION & MAINTENANCE AGREEMENT

1060 East Waterloo Road

Akron, Ohio 44306

Summit County

PROJECT NO. 2008070.00
October 9, 2008

Prepared For: City of Akron

Prepared by:
GPD Associates
Architects-Engineers-Planners
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Akron, Ohio 44311-1010
Phone: 330-572-2100
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GPD ASSOCIATES

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Operation and Maintenance Manual Guideline
For Veterans Service Commission Bioretention Areas

(Source: EPA 1999, 2003; ODNR Rainwater and Land Development 2006; Georgia Stormwater Management Manual Vol 2; North Carolina State University BAE 2006)

Maintenance Tasks

Task	Frequency	Maintenance Notes
Activity log	Every event related to the bioretention area	Maintain an active neatly organized log of all events, maintenance activities. Keep log available for officials to review at any time.
Pruning	1 - 2 times / year	Nutrients in runoff often cause vegetation to flourish. Do not let area become overgrown "jungle like"
Mowing	2 - 12 times / year	Frequency depends upon location and desired aesthetic appeal limited to the side slopes and top of embankment
Mulching	1 - 2 times / year	Use triple-shredded hardwood mulch, remove and replacement when erosion is evident. Mulch depth shall not exceed 3 inches.
Mulch removal	1 time / 2 - 3 years	Mulch accumulation reduces available water storage volume. Removal of mulch also increases surface infiltration rate of fill soil.
Watering	1 time / 2 - 3 days for first 1 - 2 months. Sporadically after establishment	If droughty, watering after the initial year may be required.
Fertilization	1 time initially	One time spot fertilization for "first year" vegetation only.
pH testing	1 time / year	The planting soils should be tested for pH to establish acidic levels. If the pH is below 5.2, limestone should be applied. If the pH is above 7.0 to 8.0, then iron sulfate plus sulfur can be added to reduce the pH.
Remove and replace dead plants	1 time / year	Within the first year, 10 percent of plants may die. Survival rates increase with time. (Trees and shrubs should be inspected to evaluate their health and remove any dead or severely diseased vegetation. Semi-annually)
Miscellaneous upkeep	12 times / year and as necessary	Tasks include trash collection, spot weeding, and removing mulch from overflow device, ensure drainage system is always free of debris and is functioning as intended.
Soil Media Replacement	As required	Tasks include soil testing of physical and chemical properties by a qualified facility. Replace soil as needed in accordance with current environmental regulations and standard practices.

Additional Maintenance Considerations and Requirements

The site facility maintenance individuals shall be provided all of these requirements as well as access to the maintenance log for event entries. The individuals responsible for the everyday and regular maintenance of the Bioretention Areas shall be informed on how and why these living water quality feature work to ensure premature failure does not occur. The surface of the ponding area may become clogged with fine sediment over time. Core aeration or cultivating of unvegetated areas may be required to ensure adequate filtration. Should ponding persist soil media tests shall be completed by a qualified testing facility and may be removed and replaced with the specified mix with in the current environmental regulations and current standard practices for Bioretention Areas. Regular inspection and maintenance is critical to the effective operation of bioretention facilities as designed. The up to date Maintenance Log will provide an accurate history of the functionality of the Bioretention Area which will also be used for future maintenance task decisions and task due dates. Maintenance responsibility for a bioretention area should be vested with a

responsible authority by means of a legally binding and enforceable maintenance agreement that is executed as a condition of plan approval.

Landscaping Notes

- Landscaping is critical to the performance and function of bioretention areas.
- A dense and vigorous vegetative cover should be established over the contributing pervious drainage areas before runoff can be accepted into the facility.
- The bioretention area should be vegetated to resemble a terrestrial forest ecosystem, with a mature tree canopy, subcanopy of understory trees, scrub layer, and herbaceous ground cover. Three species each of both trees and scrubs are recommended to be planted.
- The tree-to-shrub ratio should be 2:1 to 3:1. On average, the trees should be spaced 8 feet apart. Plants should be placed at regular intervals to replicate a natural forest. Woody vegetation should not be specified at inflow locations.
- After the trees and shrubs are established, the ground cover and mulch should be established.
- Choose plants based on factors such as whether native or not, resistance to drought and inundation, cost, aesthetics, maintenance, etc. Planting recommendations for bioretention facilities are as follows:
- Native plant species should be specified over non-native species.
- Vegetation should be selected based on a specified zone of hydric tolerance.
- A selection of trees with an understory of shrubs and herbaceous materials should be provided.

Soil Media Mix

Selection of the appropriate fill soil media for a bioretention area is important to ensure adequate drainage, reduce pollutant loads, and support plant growth. The coefficient of permeability or hydraulic conductivity for the following soils is predicted to be between 1.5 to 2.6 inches/hour.

The half day soil mix shall be tested and certified to meet the following criteria (ODNR):

- Texture class: sandy loam or loamy sand. Having no less than 72% sand and no greater than 10% clay considering only the mineral fraction of the soil.
- pH Range 5.2-7.0
- Soluble Salts: 500 ppm maximum
- Organic matter: 5-20%
- Phosphorus: soil p-index should be between 15 and 40.
- Sand added to meet textural class or the composition below shall be clean and meet AASHTO M-6 or ASTM C-33 with a grain size of 0.02-0.04 inches

Alternate: The following "recipe" for a bioretention soil media, or fill-soil mix, works best (BAE):

- 85 to 88 percent sand. A washed, medium sand is sufficient. A USGA greens mix is not necessary and can be costly.
- 8 to 12 percent fines. Fines include both clay and silt.
    - 12% to obtain 1 in/hr infiltration rate for nitrogen removal
    - 8% to obtain 2 in/hr infiltration rate for phosphorus, metal, and other pollutant removal

- 3 to 5 percent organic matter. Studies in Maryland have shown newspaper mulch to be an ideal source of organics. In North Carolina, peat moss has been successfully used.

Soil Chemistry

To support plant growth while removing phosphorus from runoff, the fill soil must have a P-index between 10 and 30. If the bioretention area is not designed to reduce phosphorus in runoff, a P-Index for the fill soil of 25 to 40 is recommended. In addition to having a low P-Index, it is best for fill media to have a relatively high cation exchange capacity (CEC). Higher CECs describe soils that have a greater ability to capture and retain phosphorus. While a minimum CEC has yet to be established, CECs exceeding 10 are expected to work relatively well at removing target pollutants in bioretention systems.

Owner/Operator Signature

Owner/Operator agrees to perform the Maintenance Tasks and complete the attached Log Report as frequently as requested. Also the Owner/Operator agrees to submit the completed Log Report to the City of Akron on an annual basis for their records.

_____

Russell M. Pry Date
County of Summit Executive
(330) 643-2510

City of Akron Signature

_____
Printed Name

_____ _____
Signature Date

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Veterans Service Commission Inspection Log

Post-Construction BMP Inspection and Maintenance Log Report

Facility Address: 1060 East Waterloo Road
City,State: Akron, OH 44306

Owner/Operator shall maintain this log sheet per the specified Maintenance Tasks specified in the Inspection and Maintenance Agreement. Owner/Operator must submit this Inspection Log to the City of Akron on an annual basis.

Post-Construction BMP:		**Bio-Cell 1 or Bio-Cell 2 (circle one)**		
Task	**Frequency**	**Maintenance Notes**	**Date Task Completed**	**Completed By**
Activity log	Every event related to the bioretention area			
Pruning	1 - 2 times / year			
Mowing	2 - 12 times / year			
Mulching	1 - 2 times / year			
Mulch removal	1 time / 2 - 3 years			
Watering	1 time / 2 - 3 days for first 1 - 2 months. Sporadically after establishment			
Fertilization	1 time initially			
pH testing	1 time / year			
Remove and replace dead plants	1 time / year			
Miscellaneous upkeep	12 times / year and as necessary			
Soil Media Replacement	As required			

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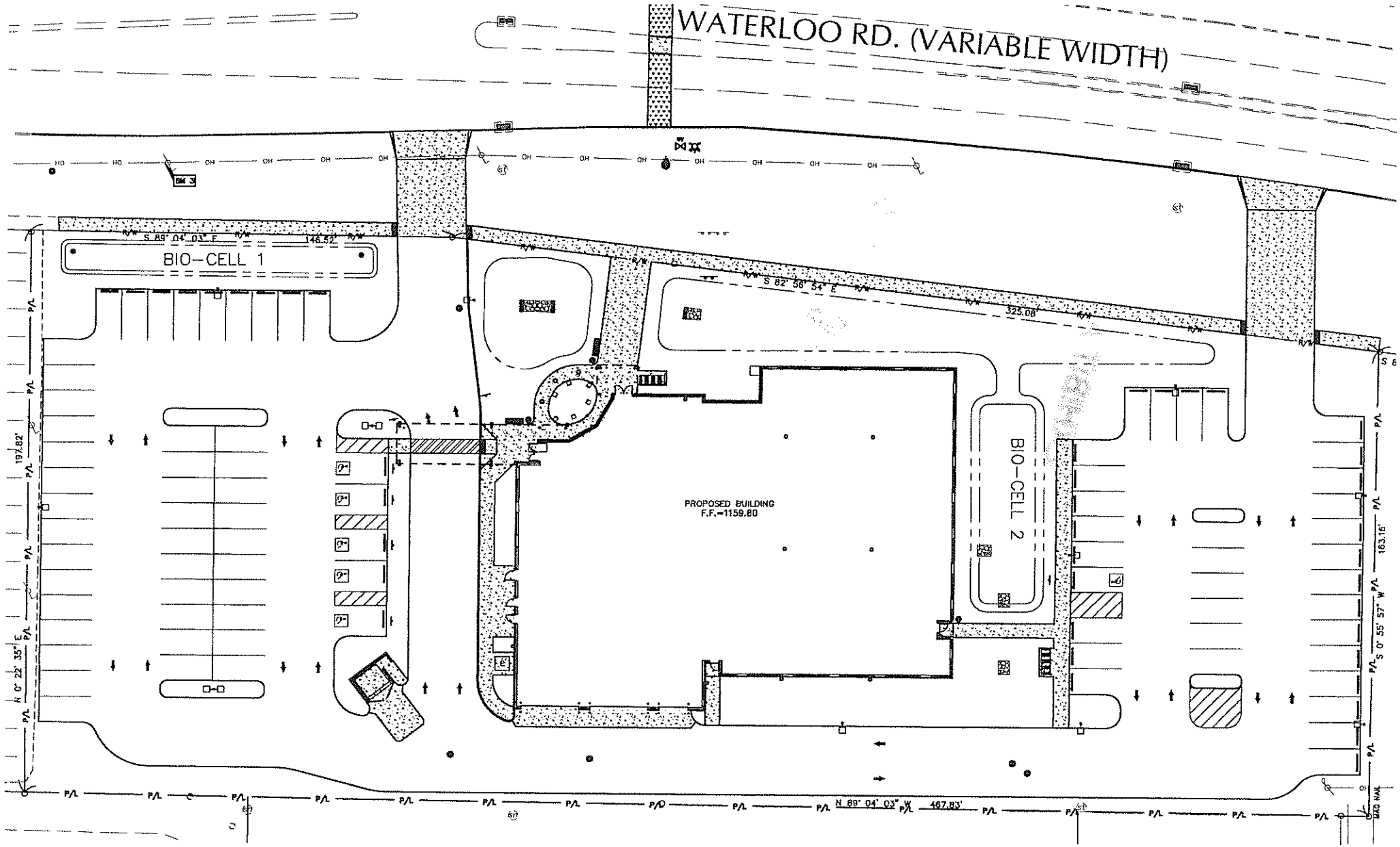
WATERLOO RD. (VARIABLE WIDTH)
BIO-CELL 1
BIO-CELL 2
PROPOSED BUILDING
F.F.=1159.80
S 89° 04' 03" E
146.52'
S 82° 56' 54" E
325.08'
N 89° 04' 03" W
467.83'
197.82'
163.16'
N 0° 22' 35" E
S 0° 55' 57" W
P/L
R/W
HO
OH
BM 3