

Moll, John G - DNR (Gregory)

From: Richard Mazurkiewicz <RMAZURKIEWICZ@ramboll.com>
Sent: Friday, June 30, 2023 15:50
To: Moll, John G - DNR (Gregory)
Cc: Nick Orthmann; Kevin Kaiser; Daniel Petersen; Grittner, Paul V - DNR; Pfeiffer, Jane K - DNR
Subject: RE: Development at Historic Fill Site or Licensed Landfill Exemption Application, FS Apartments, LLC, BRRTS #07-41-589480
Attachments: F1 - New Concept Layout.pdf; F2 - Bio-Basin Detail.pdf; F3 - SL Base Map w Borings.pdf

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Greg,

Please find Ramboll's responses to your questions below.

Best regards,

ricmaz

Classification: Confidential

From: Moll, John G - DNR (Gregory) <john.moll@wisconsin.gov>
Sent: Friday, June 23, 2023 12:45 PM
To: Richard Mazurkiewicz <rmazurkiewicz@ramboll.com>
Subject: Development at Historic Fill Site or Licensed Landfill Exemption Application, FS Apartments, LLC, BRRTS #07-41-589480

You don't often get email from john.moll@wisconsin.gov. [Learn why this is important](#)

Richard,

The DNR has completed a preliminary review of the *Development at Historic Fill Site or Licensed Landfill Exemption Application* (Application) for the FS Apartments, LLC site (BRRTS #07-41-589480). To help with our review, we are requesting additional information to address the following items:

1. The summary of existing and potential impacts in the Application describes installing vapor barriers under the proposed buildings as a precaution for vapor intrusion. The *Request to Manage Materials under Wis. Admin. Code §§ NR 718.12 and 718.15* describes installing vapor barriers and sub-slab passive vapor mitigation systems under the proposed buildings as a precaution for vapor intrusion. Provide clarification for what will be installed under the buildings as a precaution for vapor intrusion.

A passive sub-slab ventilation system will be installed beneath the new buildings as a precautionary measure. This passive sub-slab ventilation system will consist of a 4-inch diameter corrugated, acrylonitrile butadiene styrene drain-tile pipe covered with a filter fabric to prevent the entrainment of fine debris. The bottom of the horizontal pipe will be buried approximately 1-foot below ground surface (bgs) with 1- to 2-inch diameter crushed limestone backfill. The subsurface corrugated piping will be positioned around the inside perimeter of the building foundations wall. There will be 4-inch diameter polyvinyl chloride riser pipes tied into the perimeter sub-slab piping network to exhaust the sub-slab air to the apartment rooftop. As an additional protective measure, a 10 mil (0.010-inch) thick vapor barrier

will be installed beneath the slab-on-grade concrete based on recommended manufacturer's installation methods. The passive sub-slab ventilation system can be upgraded to an active system, if warranted, based on future sub-slab testing results.

2. Two proposed stormwater basins are shown in Figures 17 and 18 of the Application, however, the basins are not described in the Application. Describe the basin construction and design details.

The two bio-basins (see attached Figure 1), will be lined with 2 feet of compacted clay, the basin overflow goes to a slotted PVC pipe, which is diverted to a catch basin, and then enters a 12-inch PVC storm sewer (see bio-basin detail attached Figure 2). The bio-basins do not leach back into the historical urban fill.

3. Methane samples were previously collected at the development site. Provide the methane sampling results and a discussion on whether methane presents a risk for the proposed development.

Due to the presence of organic matter (peat) at depth, Ramboll conducted a methane evaluation at the site. The methane evaluation was performed to assess if methane generated by the peat would cause a threat to the planned residential units at the site. A methane gas measurement was collected from 17 Vapor Pins® (VP-1 through VP-13, and VP 17 through VP-20; see attached Figure 3), five NR 141 monitoring wells (MW-1 through MW-5), and temporary monitoring well TW-14. A Landtec GEM Series (5000) landfill monitor was utilized to purge and collect methane measurements.

Ramboll collected methane gas measurements from 17 currently-installed vapor pins® (VP-1 through VP-13, and VP-18 through VP-20), 5 NR 141 groundwater monitoring wells (MW-1 through MW-5), and one 1" diameter polyvinyl chloride temporary monitoring well TW-14 (note that the annular space of this well was sealed with at least 12 inches of potable-water hydrated granular bentonite swelling clay to seal off the well and prevent surface air short-circuiting while conducting the methane gas sampling.) Methane was measured based on Ramboll's identification of peat (from 0.5 to 2 feet thick) found in 16 soil borings at the site. Methane gas is produced in the peat soil by methanogenic archaea under anoxic conditions and may be released as a free-phase gas to the atmosphere mainly via diffusion or rapid ebullition i.e., bubbling (Le Mer, 2001). Methane measurements were compared to concentrations stated in WAC Ch. NR 507.22(1)(c), the maximum allowable methane level in landfill boundary gas monitoring wells cannot exceed the lower explosive limit (5 percent methane by volume).

Methane measurements at the site ranged from 0.1 to 0.2 percent, well below the 5 percent by volume NR 507.22 limit. Therefore, methane is not a health threat to human health or the environment. Ramboll's methane measurement data are provided in Appendix I of Ramboll's February 24, 2022, Site Investigation and Remedial Action Options Report.

The requested information can be submitted directly to me by email. Please contact me if you have questions or require additional information.

Thank you,
Greg

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Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

J. Gregory Moll, P.G.

Hydrogeologist - Remediation and Redevelopment Program

Wisconsin Department of Natural Resources

Southeast Region - Milwaukee Service Center

1027 W. St. Paul Ave.

Milwaukee, WI 53233

Phone: 262-202-3921

john.moll@wisconsin.gov



LEGEND

- - - FILER & STOWELL SITE BOUNDARY (APPROXIMATE)
- PROPERTY BOUNDARY (APPROXIMATE)
- NEW BUILDING CONCRETE FLOOR FOUNDATION
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- LANDSCAPED AREAS



E Becher St

Bio-Basin

Railroad

Bio-Basin

S 1st Street

W Lincoln Avenue

Five Buildings Total
 Five Floors Each Building
 595 Total Complex Units
 265 Total Interior Parking
 480 Total Exterior Parking
 Approximately 144,400 square feet complex total under roof.

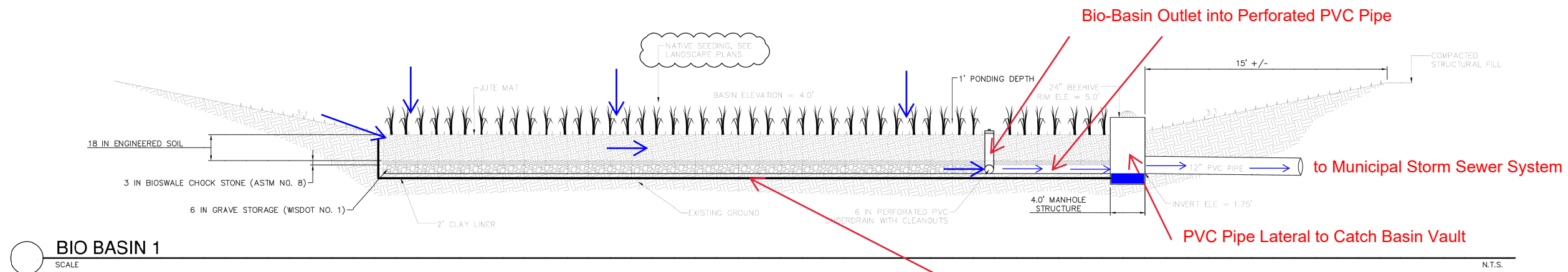
0 90
 SCALE IN FEET

**CAP/BARRIER PLAN
 (CAPPED SURFACE TYPES)**

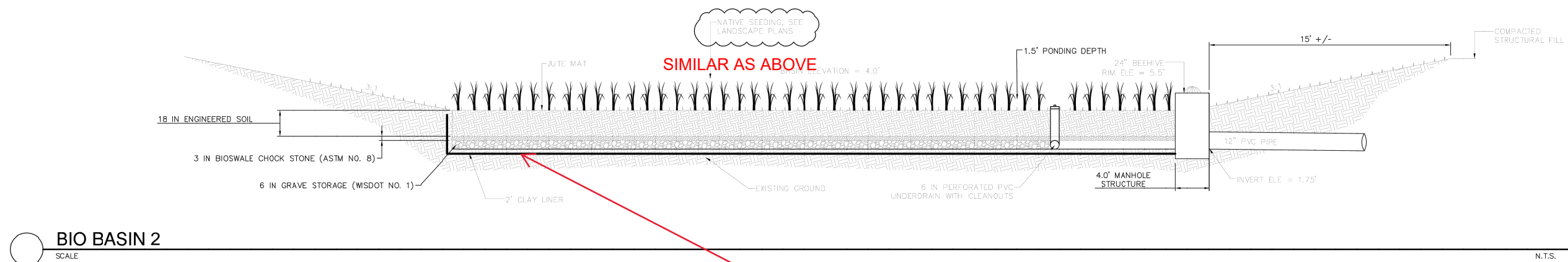
Filer & Stowell Property
 147 East Becher Street
 Milwaukee, Wisconsin 53207



FIGURE 1



2 Feet of Compacted Clay Liner



2 Feet of Compacted Clay Liner

From Kaler Slater
GRAEF
12/22/22

Scale as Shown

Bio-Basin Detail	
Filer & Stowell Property 147 East Becher Street Milwaukee, Wisconsin 53207	
	FIGURE 2
DRAFTED BY: RPM	DATE: 06/30/2023
PROJECT: 20230023383	



LEGEND

- FILER & STOWELL SITE BOUNDARY (APPROXIMATE)
- PROPERTY BOUNDARY (APPROXIMATE)
- TO BE DEMOLISHED
- BORING AND TEMPORARY MONITORING WELL LOCATION
- NR 141 GROUNDWATER MONITORING WELL
- SOIL BORING LOCATION
- CONCRETE TEST PIT LOCATION
- SOIL REUSE SAMPLE LOCATION
- SUB-SLAB SOIL VAPOR SAMPLING LOCATIONS
- CATCH BASIN
- DRAIN
- MANHOLE COVERS
- VAULT
- PIPE

New Barons Brewing
Coop, Twisted Path
Distillery, Beer City
Screen Printing)

Boat Storage

BP AMOCO

E Becher St

Wheel &
Sprocket

S Robinson Avenue

Restaurant Depot

Former Industrial
Property

Multi-Tenant
Apartments

Railroad

S 1st Street

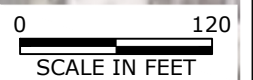
Staffing Partners

Former Industrial
Property

E Ward Street

Kinnickinnic River

W Lincoln Avenue



- SITE FEATURES:**
- | | |
|--|--|
| 1. GARAGE (BUILDING A-1) | 7. FORMER FORGE BUILDING (BUILDING C-4) |
| 2. FOUR-STORY OFFICE BUILDING (BUILDING D-1) | 8. BOAT STORAGE |
| 3. INTEGRATED TOOL & MACHINE BUILDING (D-2) | 9. FORMER BOAT MAINTENANCE AREA (BUILDING B-3) |
| 4. SAW MILL BUILDING (C-1) | 10. POWER HOUSE (BUILDING A-3 THROUGH A-6) |
| 5. PAINT AND SAND BLAST BOOTHS | 11. PATTERN STORAGE (BUILDING A-2) |
| 6. STORAGE BUILDING (BUILDING C-3) | 12. OFFICE (BUILDING B-7) |
| | 13. TREE/LOG STORAGE AREA |

MKE Urban
Stables

SITE LAYOUT

Filer & Stowell Property
147 East Becher Street
Milwaukee, Wisconsin 53207



FIGURE 3