



## DEPARTMENT OF DEVELOPMENT SERVICES – PLANNING DIVISION

*REPORT:* Inland Wetlands & Watercourses Permit, MDC SHCST, 611 Brookfield St. and 180 John D. Wardlaw Way  
for consideration April 27, 2021

### STAFF REPORT

**TO:** Inland Wetlands & Watercourses Commission  
**PREPARED BY:** Elizabeth Sanderson, Municipal Inland Wetlands Agent  
[Elizabeth.sanderson@hartford.gov](mailto:Elizabeth.sanderson@hartford.gov), 860-936-4489

**PROJECT INFO:** Application for Inland Wetlands & Watercourses Permit at  
1) 611 Brookfield St., Parcel ID 140-588-004,  
Property Owner: The Metropolitan District Commission  
2) 180 John D. Wardlaw Way, Parcel ID 140-588-003,  
Property Owner: City of Hartford Housing Authority

**ENERGOV ID:** P&Z-COMM-2021-0373  
**ZONE:** OS Open Space District

**TYPE:** Inland Wetlands & Watercourse Permit per Sec. 4.3 of Inland Wetlands & Watercourses Regulations Last Amended Feb. 28, 2017

**APPLICANT:** Jessica Webb, Empire Paving



City of Hartford GIS Map, 611 Brookfield St. and 180 John D. Wardlaw Way

### **BACKGROUND INFORMATION**

Application is for an Inland Wetlands and Watercourses Permit to conduct regulated activity within wetlands, watercourse and upland review area related to remediation activities required as result of an inadvertent discharge of material from 611 Brookfield St. onto 180 John D. Wardlaw Way during construction of the MDC South Hartford Conveyance and Storage Tunnel. The requested permit term is one year. This application is provided in response to a Notice of Violation dated March 2, 2021 that was issued to the property owner's representative via e-mail, certified mail, and regular mail (Accela Code Case #: 9636459, see Attachment #1).

At its regular meeting on June 12, 2018 the Planning & Zoning Commission, acting in its authority as the Inland Wetlands Agency, approved an Inland Wetlands Permit for new construction of a Utility Use at 611 Brookfield St., subject to conditions (see Attachment #2). At the same meeting the Commission approved a Special Permit for the project, also subject to conditions (see Attachment #3). However, the previously issued permits do not include filling within the wetlands, watercourse, and upland review area.



Figure 1. Photograph from AECOM depicting slurry waste that leaked from 611 Brookfield St. onto a portion of the adjacent property (180 John D. Wardlaw Way), owned by the City of Hartford Housing Authority, which contains the South Branch of the Park River and associated wetlands and upland review area.

### **KEY APPLICATION TIMELINES**

- Submission Date: March 12, 2021.
- Application Date of Receipt: March 23, 2021 (sooner of either: date of next regularly scheduled meeting, or 35 days after acceptance of complete application).
- Public Hearing is scheduled to open on Tuesday, May 11, 2021; Open Hearing Deadline: May 27, 2021.
- Close Hearing Deadline (if opens May 11, 2021): Tuesday, June 15, 2021.

- CT General Statutes Sec.8-7D allow that the applicant may consent to one or more extensions of time, provided the total extension of all time periods shall not be for longer than 65 days\*.
- On March 10, 2020, State of Connecticut Governor Ned Lamont declared a public health and civil preparedness emergency (“state of emergency”) as a result of coronavirus disease 2019 (COVID-19) outbreak and pandemic.
- The Planning Division is operating under a series of Executive Orders issued by Governor Lamont (7.E & 7.I) which modify public hearing noticing requirements (“Executive Orders”).
- \*Time periods that may pass or expire during the state of emergency may be further extended by no more than an additional 90 days, for a total of 155 extension days available, which may be applied towards all time periods, as needed.

### **LEGAL STANDARD**

The Inland Wetlands Agency of the City of Hartford was established in accordance with an ordinance and designated to be the zoning commission (now the Planning and Zoning Commission) by ordinance in 1977, and shall implement the purposes and provisions of the Inland Wetlands and Watercourses Regulations (IWWR) and the Inland Wetlands and Watercourses Act in the City of Hartford. (IWWR, Sec. 1.3)

The Agency shall enforce the Inland Wetlands and Watercourses Act and shall issue, issue with terms, conditions, limitations or modifications, or deny permits for all regulated activities on inland wetlands and watercourses in the City of Hartford pursuant to sections 22a-36 to 22a-45, inclusive, of the Connecticut General Statutes, as amended. (IWWR, Sec.1.5)

### **STANDARDS SPECIFIC TO THE USE**

Relevant Sections of the Inland Wetlands & Watercourses Regulations, Last Amended February 28, 2017:

#### **Sec. 2. Definitions**

**Sec. 2.1...**“Regulated activity” means any operation within or use of a wetland or watercourse involving removal or deposition of material, or any obstruction, construction, alteration or pollution, of such wetlands or watercourses... Furthermore, any clearing, grubbing, filling, grading, paving, excavating, constructing, depositing or removing of material and discharging of storm water on the land within 100 feet measured horizontally from the boundary of any wetland or watercourse is a regulated activity...

#### **Sec. 4. Permitted Uses As of Right and Nonregulated Uses**

**Sec. 4.3.** All activities in wetlands or watercourses involving filling, excavating, dredging, clear cutting, clearing, or grading or any other alteration or use of a wetland or watercourse not specifically permitted by this section and otherwise defined as a regulated activity by these regulations shall require a permit from the Agency in accordance with section 6 of these regulations, or for certain regulated activities located outside of wetlands and watercourses from the duly authorized agent in accordance with section 12 of these regulations.

## **Section 10. Considerations for Decision**

### **Sec. 10.2.**

“Criteria for Decision... the Agency shall take into consideration all relevant facts and circumstances, including but not limited to:

- (a) The environmental impact of the proposed regulated activity on wetlands or watercourses;
- (b) The applicant’s purpose for, and any feasible and prudent alternatives to, the proposed regulated activity which alternatives would cause less or no environmental impact to wetlands or watercourses.
- (c) The relationship between the short term and long term impacts of the proposed regulated activity on wetlands or watercourses and the maintenance and enhancement of long-term productivity of such wetlands or watercourses.
- (d) Irreversible and irretrievable loss of wetland or watercourse resources which would be caused by the proposed regulated activity, including the extent to which such activity would foreclose a future ability to protect, enhance or restore such resources, and any mitigation measures which may be considered as a condition of issuing a permit for such activity including, but not limited to, measures to (1) prevent or minimize pollution or other environmental damage, (2) maintain or enhance existing environmental quality, or (3) in the following order of priority: restore, enhance and create productive wetland or watercourse resources;
- (e) The character and degree of injury to, or interference with, safety, health or the reasonable use of property which is caused or threatened by the proposed regulated activity; and
- (f) Impacts of the proposed regulated activity on wetlands or watercourses outside the area for which the activity is proposed and future activities associated with or reasonably related to, the proposed regulated activity which are made inevitable by the proposed regulated activity and which may have an impact on wetlands and watercourses.”

### **Sec. 10.3.**

“... the Agency finds on the basis of the record that a feasible and prudent alternative does not exist. In making this finding the Agency shall consider the facts and circumstances set forth in subsection 10.2 of this section. The finding and the reasons therefore shall be stated on the record in writing.”

### **Sec. 10.4.**

If an application is denied “on the basis of a finding that there may be feasible and prudent alternatives to the proposed regulated activity which have less adverse impact on wetlands or watercourses, the Agency shall propose on the record in writing the types of alternatives which the applicant may investigate...”

### **Sec. 10.5.**

“... “wetlands and water courses” includes aquatic, plant or animal life and habitats in wetlands or watercourses, and (b) “habitats” means areas or environments in which an organism or biological population normally lives or occurs.



## **FINDING OF FACTS**

- Key findings and recommendations from the report entitled “611 Brookfield Street Slurry Release Evaluation Project Wetland Impact Assessment,” prepared for Empire Paving, prepared by SLR International Corporation (SLR), dated April 2021 (the “Wetlands Report,” Attachment #2):
  - The area of slurry deposition within the wetland and watercourse is approximately 4,710 sq. ft. (see Figure 2), including:
    - 4,140 sq. ft. of slope and floodplain wetland; and
    - 570 sq. ft. of river channel.
  - If left in place, the slurry will impact short-term herbaceous growth within parts of the wetland and affect water quality within the South Branch Park River.
  - It is recommended that the slurry be strategically removed, disturbed areas seeded, sediment & erosion controls installed, followed by post-restoration monitoring of the advancement of natural vegetation recovery (p.1).
  - Many herbaceous species were emerging through the slurry cracks in all but the deepest areas of deposited slurry, suggesting that parts of the impact areas will naturally revegetate and retain their critical functions (p. 3).

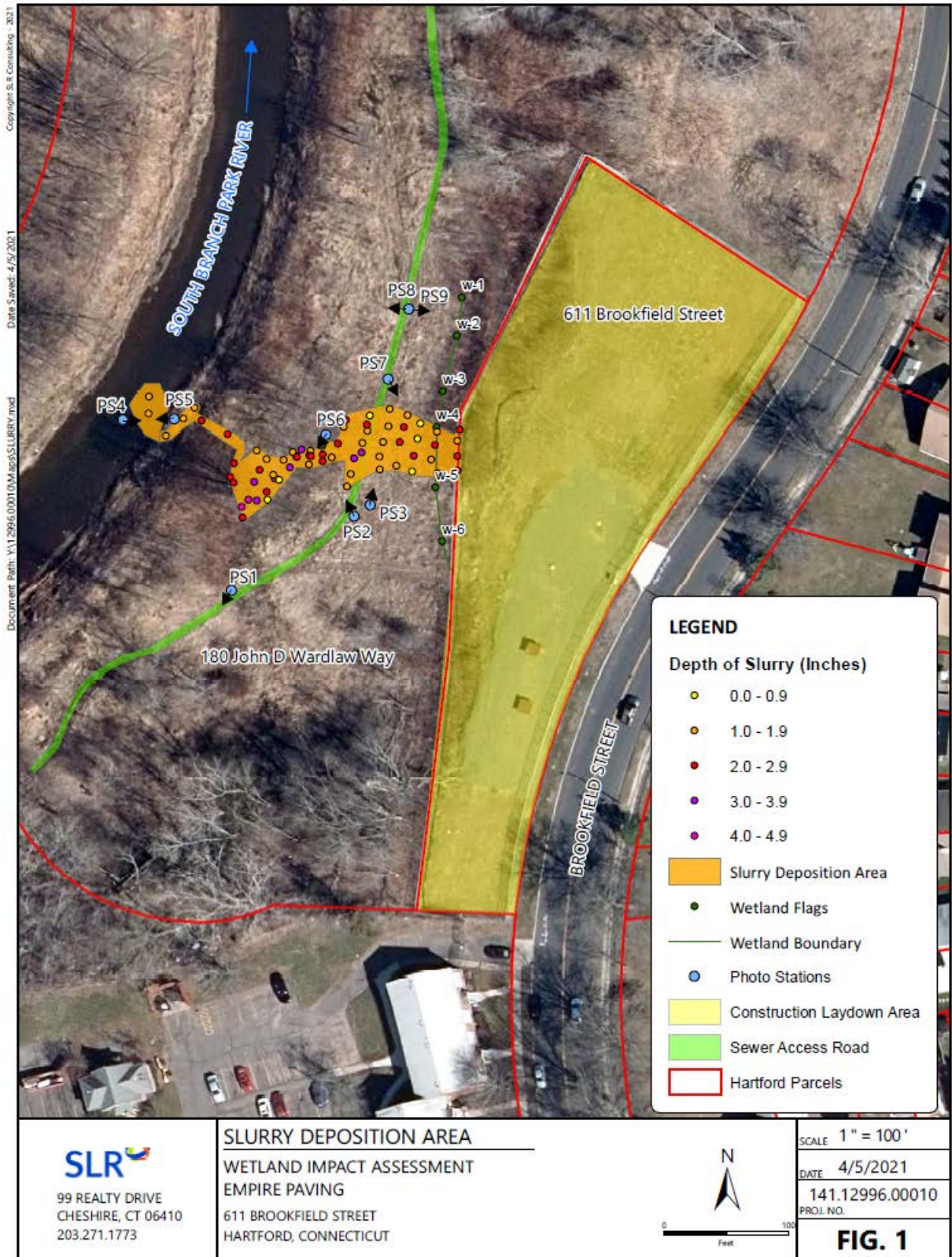


Figure 2. Map of Slurry Deposition Area from the Wetlands Report.

## Wetland Functions and Values

- The Table of Wetland Functions and Values is included as Figure 3.
  - As identified within the table, certain functions and value are being impaired as a result of the deposition of material including:
    - floodflow alteration (net fill deposited in floodplain);
    - reduction in sediment retention/nutrient transformation from herbaceous vegetation suffocation; and
    - shellfish habitat (p.6).

**Table 2-1 Wetland Functions and Values Assessment**













	Functions and Values	Comments	Function and Value Impaired by Slurry (Y/N)
	Groundwater Recharge/Discharge	Yes – Seeps are present along wetland slopes.	N
	Flood Flow Alteration (Storage & Desynchronization)	Yes – The landscape position is within a mapped Federal Emergency Management Agency (FEMA) floodplain.	Y – fill deposited in floodplain
	Fish & Shellfish Habitat	Yes – The South Branch Park River provides fish and shellfish habitat.	Y -sediment covering gravel and pebbles
	Sediment/Toxicant Retention	Yes – Dense vegetation within the wetland allows for the retention of sediment/toxicants.	Y
	Nutrient Removal/Retention/Transformation	Yes – Dense vegetation within the wetland allows for removal and retention of nutrients.	Y
	Production Export (Nutrient)	Yes – The wetland includes mast- and berry-producing vegetation, and the wetland is connected to a watercourse that would transport allochthonous materials to downstream habitats.	N
	Sediment/Shoreline/Watercourse Bank Stabilization	Yes – The wetland is connected to the South Branch Park River and contributes to bank stability.	N
	Wildlife Habitat	Yes – Existing wetland provides habitat for suburban and urban wildlife species and does not provide any wetland-dependent wildlife habitat. No vernal pools and/or other wetland-dependent wildlife habitat was found.	Y
	Recreation (Consumptive & Non-Consumptive)	Yes – Walking trails are located north of the project area. Evidence of public using the sanitary sewer access road is evident. The South Branch Park River can be used by canoers and kayakers.	N
	Educational Scientific Value	No – These wetlands currently do not provide educational opportunities. This wetland is located away from existing schools and is not publicly accessible.	N
	Uniqueness/Heritage	No – This wetland does not present unique attributes.	N
	Visual Quality/Aesthetics	No – The wetland does not contain inherent visual quality or aesthetic value.	N
ES	Endangered Species	No – This wetland is not mapped within a Connecticut Department of Energy & Environmental Protection (CTDEEP) Natural Diversity Database (NDDb) polygon, dated December 2020.	N

Figure 3. Table of Wetland Functions and Values Assessment from the Wetlands Report.  
611 Brookfield St. and 180 John D. Wardlaw Way



## Proposed Remediation

- SLR recommends a combination of alternatives be implemented to achieve appropriate restoration of impacted wetland functions and values.
- Figure 4 depicts the different “Community Types” within the slurry deposition area.
- Figure 5 depicts SLR’s recommended remediation alternatives.



Figure 4. Map depicting Community Types on the subject site from the Wetlands Report.



Figure 5. Map from the Wetlands Report depicting areas of proposed remediation activities.



## **Wetland Remediation**

- In the Sloped Wet Meadow Wetland, it is recommended that:
  - the thin slurry layer be left as is and allowed to revegetate through natural processes;
  - to speed the natural processes, it is recommended that a supplemental application of a seed mix New England Erosion Control for Moist Site and Detention Basin be applied to the thin layer of slurry present during the spring growing season April through early June.
  - Install a straw wattle (a.k.a. straw bio-log) at the toe of the slope to allow for filtering of stormwater runoff until the vegetation has reestablished itself along the slope.
- In the Wet Meadow Sanitary Sewer Access Road and Floodplain Scrub-Shrub Wetland, the following is recommended:
  - Remove slurry deposits in this area by hand until the underlying herbaceous vegetation is observed;
  - Use of rubber matting, plywood, and/or timber planks placed over the wetland and slurry will allow workers to access the material;
  - A rubber-tracked skid steer would be the most appropriate machine to gain access to the site while minimizing rutting within the wetland and sanitary sewer road;
  - Slurry material will need to be removed by hand shovels and metal rakes;
  - Wheelbarrows and/or 5-gallon buckets can be used to wheel or carry the excavated material out to the skid steer;
  - After material is removed, then the silt fence should be removed and replaced with straw wattles;
  - Work should be overseen by as wetland specialist to confirm appropriate remedial requirements have been achieved.

## **Watercourse Remediation**

- SLR proposed 3 alternatives within the watercourse:
  1. No Action – if a moderate to large flood event occurred, then the slurry would be removed from the substrate through shear stress velocities. The slurry would not likely re-concentrate downstream, but instead likely to be more evenly distributed within the channel.
  2. Manually Disturb Slurry – would require workers to wade into the impacted area and stir-up the deposited slurry using the kick and scrap method. This would cause a temporary plume of turbid water to move downstream. Slurry particles would eventually settle out and be more evenly distributed within the channel substrate located downstream. This would re-establish the interstitial spaces within the substrate and allow green algae to recoat the substrate gravel, pebbles, cobbles, and stones.
    - This alternative requires approval from the City of Hartford to allow the slurry material to be resuspended and moved downstream through the natural flow regime.

3. Mechanically Remove Slurry – requires installation of a cofferdam around the deposition zone and would require dewatering of the area to allow for either mechanical excavation of slurry sediments and/or vacuum suction of material. Scrub-shrub wetland vegetation would need to be cleared and a temporary access road would need to be constructed to provide access to the river. Import of new substrate material would also be likely. The impact to mechanically remove slurry would result in a larger impact than recommended, and this alternative is not recommended.
- Preferred Alternatives: allow Mother Nature to restore the impacted segment of river channel through natural floodflow processes.
  - If the City of Hartford prefers that the material be resuspended and carried downstream through manual processes, then Alternative #2 could be implemented instead.

#### **Site Monitoring**

- SLR proposes that a wetland specialist be on site during the remedial processes to document compliance with the recommended remediation plan.
- Key findings in letter from Paul F. Muniz, LEP, dated April 5, 2021 (Attachment #3) based on analysis of the Soils Sample Analysis Report by Phoenix Environmental Laboratories, Inc., dated March 10, 2021 (Attachment #4):
  - No anthropogenic compounds were detected at concentrations above the laboratory reporting limit in the sample that was collected and analyzed.
    - A third-party environmental professional clarified that “Anthropogenic” means “caused or deposited by man,” and is a term used to describe soil or sediment “impacted with compounds associated with human deposition, but not contaminated above a regulatory level.”
- Key findings from report entitled “Auxiliary Soil Solidification Pit 2, Analysis of Pit-Retaining Walls Design Submittal, South Hartford Conveyance and Storage Tunnel, MDC Contract 5, Hartford, CT” prepared for Empire Paving, dated March 26, 2021, prepared by GeoEngineers, Inc. (the “Structural Report,” Attachment #5):
  - The concrete block pit-walls are expected to be stable given a maximum slurry height of 6-ft.
- The following remediation work and regulated activity is proposed with this application, as depicted in Figures 4 & 5:
  - In areas with minimal slurry cover and where vegetation is beginning to grow through, seed over and install straw wattle at the toe of the slope;
  - In areas with thicker slurry cover, hand remove a portion of the slurry cover to allow for vegetation to grow through while not disturbing existing vegetation, seed, and install straw wattle at toe of slope;
  - For slurry in the waterway – alternative #1 from the Wetlands Report, allowing Mother Nature to dissipate the sediment;
  - In addition to the above, this permit would also cover the erosion & sedimentation control measures that have been installed at the site to comply with actions ordered

in the Notice of Violation dated March 2, 2021 (included with Attachment #6), and in response to concerns raised during a site inspection conducted with representatives from Empire Paving, Hartford Housing Authority, and City of Hartford Inland Wetlands Agent on March 4, 2021.

- FEMA Flood Insurance Rate Map Panel 09003C0502F, effective 9/26/2008, depicts the Subject Site within the following flood designation areas: Special Flood Hazard Area Zone AE, Special Flood Hazard Area Regulatory Floodway, Other Areas of Flood Hazard Zone X, and Other Areas Zone X.

### National Flood Hazard Layer FIRMette

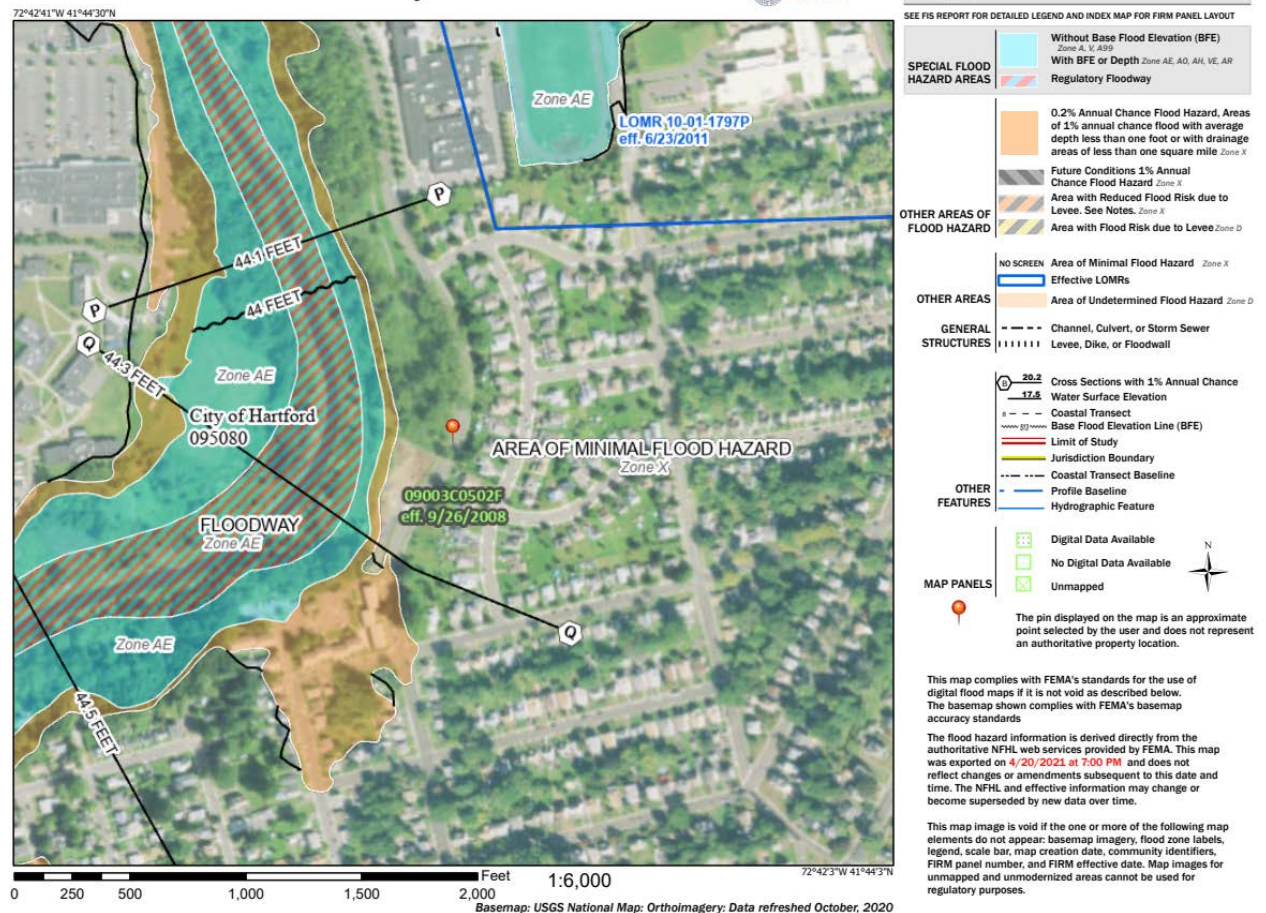


Figure 6. FEMA Flood Insurance Rate Map, Panel #09003C0502F, effective 9/26/2008.

- The subject site is part of an area that has been identified as a future location of the South Branch Trail Extension, a multi-use path to be located along the South Branch of the Park River, which will provide a link between the East Coast Greenway and the Trout Brook Trail in West Hartford (see Figure 7).

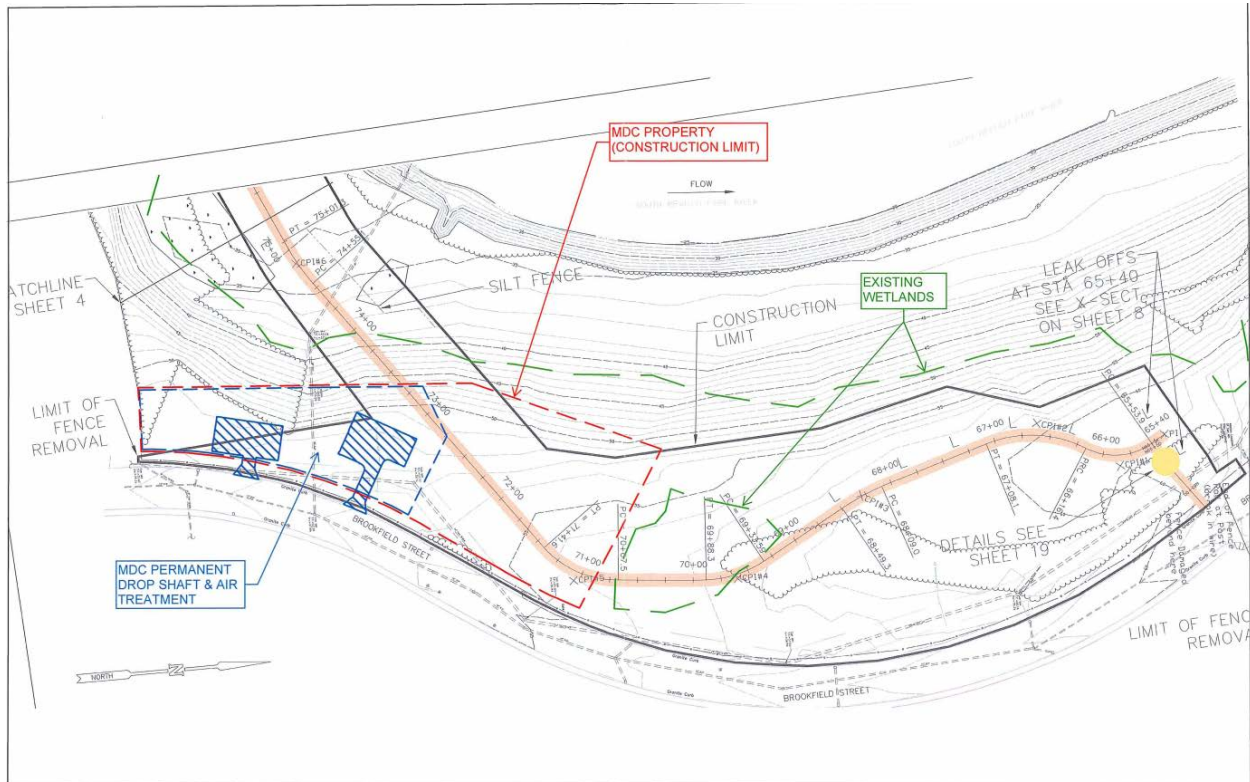


Figure 7. Drawing depicting an early design of the South Branch Trail in the subject area – an orange line traversing the site. 611 Brookfield St., the “MDC Property,” is outlined in red dashed line. The City is in the process of soliciting a new design consultant to relocate the trail outside of the MDC Property.





Figure 8.



Figure 9.

Figures 8 & 9. Photographs of slurry containment pits at 611 Brookfield St., taken 3/4/2021. Per Applicant, an earthen containment area was established adjacent to the concrete pit, which ultimately failed and caused slurry waste to migrate off-site onto adjacent land containing wetlands, watercourse, and upland review area.





SLR		PHOTOGRAPHIC LOG	
Client Name: Empire Paving		Site Location: Hartford, CT	
Project No. 141.12996.00010			
Photo No. 7	Date: 3/29/2021		
Direction Photo Taken: West			
Description: <b>Photo Station 5</b> View from eastern bank of the South Branch Park River looking into the impacted watercourse. The area within the channel that is a light tan color is the slurry deposition area.			
Photo No. 8	Date: 3/29/2021		
Direction Photo Taken: South			
Description: <b>Photo Station 6</b> View from west of access road and north of slurry deposition area looking downgradient towards floodplain scrub/shrub wetland.			

Figure 10.



		<b>PHOTOGRAPHIC LOG</b>	
<b>Client Name:</b> Empire Paving		<b>Site Location:</b> Hartford, CT	
<b>Project No.</b> 141.12996.00010			
<b>Photo No.</b> 13	<b>Date:</b> 3/29/2021		
<b>Direction Photo Taken:</b> Southwest			
<b>Description:</b> Turbidity curtain installed within the South Branch Park River. The curtain runs parallel along the eastern bank to limit further deposition of slurry into the watercourse.			

Figure 11.

Figures 10 & 11. Select photographs with notes taken from the Photographic Log that is included in Appendix C of the Wetlands Report.

#### **COMMENTS RECEIVED (DEPARTMENTS, AGENCIES, NRZs, PUBLIC)**

On March 19, 2020 Planning Staff referred the application to the Southwest Behind the Rocks Neighborhood Revitalization Zone (NRZ).

- Representatives from the Southwest Behind the Rocks NRZ have expressed interest in the application, but as of April 26, 2021, no comments have been received.

On April 14, 2021 the Inland Wetland Agent emailed a request for comments to Frank Dellaripa, City Engineer; Heather Dionne, City Forester; Sandy Fry, City Bicycle & Pedestrian Coordinator; and Brian Golembiewski, Supervising Environmental Analyst with State of Connecticut Department of Energy and Environmental Protection (CT DEEP) (see Attachment #7).

- Following the March 9, 2021 Agency meeting where the Notice of Violation was discussed, Mr. Golembiewski indicated that CT DEEP would not require any license, and that remediation (removal of sediment) is within the scope of jurisdiction for the City's Inland Wetlands Agency.
- In a telephone conversation held on April 7, 2021, Ms. Fry informed that the subject site is the location of the future extension of the South Branch Trail, and directed me to available documents (see Figure 7).
- As of April 26, 2021, no other comments have been received.

## **ANALYSIS**

The remediation efforts proposed with this application have been prepared in conjunction with environmental scientists at SLR International Corporation, and take into consideration recommendations made in the Wetlands Report.

Although a No Action alternative is proposed to address deposited slurry within the South Branch Park River, this course of action likely represents the least impact to the watercourse and river banks, and may therefore be the preferred alternative.

In order to ensure work is completed in accordance with recommendations made within the Wetlands Report, staff recommends that the Applicant be required to engage a wetlands scientist to oversee the remedial activities, providing reports of progress to the Commission at project milestones, and to conduct a post-restoration site visit to document the success of the remediation effort following the first full growing season, again notifying the Commission of findings in a written report.

It is also recommended that the Applicant be required to pay an agreed upon amount into one or more of the following City Accounts in order to provide opportunities to advance efforts to preserve wetlands and open spaces throughout the City and to promote sustainable projects, wetlands education programs, and/or efforts to extend the South Branch Trail at the site, which will serve as an important link between the East Coast Greenway and the Trout Brook Trail in West Hartford.

## **STAFF RECOMMENDATION**

Staff recommends approval of this application, subject to conditions.

**A draft resolution follows.**

## **ATTACHMENTS**

1. Application & Supporting Documents.
  - a. Proposed Remediation Actions, via e-mail from Applicant dated April 8, 2021.
2. 611 Brookfield Street Slurry Release Evaluation Project Wetland Impact Assessment, prepared by SLR, dated April 2021.
3. Letter from Paul F. Muniz, LEP, of Environmental Partners, LLC, dated April 5, 2021.
4. Soils Sample Analysis Report, by Phoenix Environmental Laboratories, Inc., dated March 10, 2021.
5. Structural Report entitled "Auxiliary Soil Solidification Pit 2," prepared by GeoEngineers Inc., dated March 26, 2021.
6. Staff Report and Attachments from the March 9, 2021 Inland Wetlands Commission Meeting.
7. Request for Comments, issued April 14, 2021.

## **REVIEWED AND EDITED BY,**

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Aimee Chambers, Director

**PLANNING & ZONING COMMISSION AS INLAND WETLANDS AND  
WATERCOURSES COMMISSION**

**INLAND WETLANDS AND WATERCOURSES PERMIT**

**DRAFT APPROVAL RESOLUTION**

**180 John D. Wardlaw Way and 611 Brookfield St.**

**May 11, 2021**

**Whereas,** The Planning & Zoning Commission is designated as the Inland Wetlands Agency of the City of Hartford (the “Agency”); and

**Whereas,** The Agency has reviewed the petition of Jessica Webb of Empire Paving (the “Applicant”) for an Inland Wetlands and Watercourses Permit to conduct regulated activity within delineated wetlands, watercourse, and upland review area related to remediation activities required as result of an inadvertent discharge of material from 611 Brookfield St. onto 180 John D. Wardlaw Way (collectively the “Subject Site”) that occurred during construction of the Metropolitan District Commission (MDC) South Hartford Conveyance and Storage Tunnel; and

**Whereas,** This application has been submitted in response to the Notice of Violation, dated March 2, 2021, that was issued to MDC Counsel via email, certified mail, and regular mail (Accela Code Case #: 9636459); and

**Whereas,** FEMA Flood Insurance Rate Map Panel 09003C0502F, effective 9/26/2008, depicts the Subject Site within the following flood designation areas: Special Flood Hazard Area Zone AE, Special Flood Hazard Area Regulatory Floodway, Other Areas of Flood Hazard Zone X, and Other Areas Zone X; and

**Whereas,** A report entitled “611 Brookfield Street Slurry Release Evaluation Project, Wetland Impact Assessment,” prepared for Empire Paving, prepared by SLR International Corporation, dated April 2021 (the “Wetlands Report”) describes current conditions of the impacted inland wetlands and watercourse, and provides recommendations for remediation strategies to alleviate the impacts, while also evaluating functions and values of the impacted 611 Brookfield St. and 180 John D. Wardlaw Way

wetland and watercourse resources as compared to adjacent unimpacted wetlands in order to develop an appropriate mitigation strategy; and

**Whereas,** The Analysis of Pit-Retaining Walls of Auxiliary Soil Solidification Pit 2, prepared by Dimitrios Palantzas, State of Connecticut Professional Engineer, and Franklin M. Gryniewicz, State of Massachusetts Professional Engineer, both of GeoEngineers, Inc., dated March 26, 2021 indicates that the concrete block pit-walls are expected to be stable given a maximum slurry height of six (6) feet; and

**Whereas,** The Subject Site is part of an area that has been identified as a future location of the South Branch Trail Extension, a multi-use path to be located along the South Branch of the Park River, which will provide a link between the East Coast Greenway and the Trout Brook Trail in West Hartford; and

**Whereas,** The Agency has determined the proposed activity involves a significant impact to the wetlands and watercourse; and

**Whereas,** The Agency finds that the Applicant's chosen remediation strategies are adequate to alleviate the impacts imposed to the inland wetlands, watercourse, and the upland review areas; and

**Whereas,** The Agency finds that the proposed activity represents remediation of activity conducted without the benefit of a permit, and that a feasible and prudent alternative to the proposed regulated activity does not exist; **Now Therefore Be It**

**Resolved,** *That* the Agency hereby approves the petition of Jessica Webb, Empire Paving, to conduct the following activities on properties that are identified by the City Assessor as 611 Brookfield Street (Parcel ID 140-588-004) and 180 John D. Wardlaw Way (Parcel ID 140-588-003), collectively referred to as the "Subject Site," as depicted on Fig. 2 "Community Type in Slurry Deposition Area," and Fig. 3 "Proposed Remediation," that were prepared by SLR, dated 4/5/2021, included in Appendix A of the document entitled: 611 Brookfield St. and 180 John D. Wardlaw Way



“611 Brookfield Street Slurry Release Evaluation Project, Wetland Impact Assessment,” prepared for Empire Paving, prepared by SLR International Corporation, dated April 2021 (the “Wetlands Report”), subject to conditions:

1. Soil erosion and sediment control measures shall be installed, maintained, and supplemented with additional measures if found to be inadequate, to the satisfaction of the Inland Wetland Agent and/or City Engineer.
2. In the Slurry Deposition Area of the Sloped Wetland depicted on aforementioned Fig. 2 and Fig. 3, the following activity is proposed:
  - a. the thin slurry layer be left as is and allowed to revegetate through natural processes;
  - b. supplemental application of a seed mix New England Erosion Control for Moist Site and Detention Basin be applied to the thin layer of slurry present during the spring growing season April through early June;
  - c. Installation of a straw wattle (a.k.a. straw bio-log) at the toe of the slope to allow for filtering of stormwater runoff until the vegetation has reestablished itself along the slope.
3. In the Slurry Deposition Area of the Floodplain Scrub/Shrub Wetland depicted on aforementioned Fig. 2 and Fig. 3, the following activity is proposed:
  - a. Remove slurry deposits in this area by hand until the underlying herbaceous vegetation is observed;
  - b. After material is removed, then the silt fence should be removed and replaced with straw wattles.
4. The Applicant proposes a No Action alternative to address deposited material within the South Branch Park River watercourse itself, in accordance with Watercourse Remediation Alternative #1, recommended within the Wetlands Report.

5. It is the Applicant's responsibility to obtain other necessary approvals and or permits from the State of Connecticut Department of Energy and Environmental Protection (CTDEEP); the U.S. Army Corps of Engineers (USACE); and/or other City of Hartford Departments, Commissions, and/or Agencies.
6. No vegetation is proposed to be removed with this permit.
7. The permit is subject to the following conditions, to be completed to satisfaction of the City Inland Wetland Agent:
  - a. Remediation work shall be completed in accordance with recommendations made within the Wetlands Report, and shall be conducted under the supervision and oversight of a Qualified Wetland Scientist in the State of Connecticut (the "Wetland Scientist") at the Applicant's expense.
  - b. The Wetland Scientist shall provide the Agency with monthly progress reports.
  - c. To ensure the long-term success of the remediation plan, the Applicant shall engage a Qualified Wetland Scientist in the State of Connecticut to conduct a post-restoration site visit and document observations regarding the success of the remediation effort following the first full growing season, providing the Agency with a written report of findings and recommendations.
  - d. The concrete block pit-retaining walls shall only be filled with slurry wastewater to levels and/or volumes that were certified by a State of Connecticut Professional Engineer.
  - e. To promote efforts to preserve and enhance wetlands, watercourses, and open spaces throughout the City, and to provide opportunities for

educational programs related to such, the Applicant shall make the following payments to the City of Hartford as prescribed:

- i. The Applicant shall make payment into the City Green Infrastructure Fund in the amount of [Enter Agreed Upon Amount], to assist with costs related to flood prevention and/or stormwater management improvements;
- ii. The Applicant shall make payment into the City Tree Account in the amount of [Enter Agreed Upon Amount] to support new plantings in other areas throughout the City;
- iii. To mitigate disturbances on the Property, the Applicant shall make payment to the City Complete Streets Fund in the amount of [Enter Agreed Upon Amount] to support efforts to extend the South Branch Trail on the Property.

**Resolved,**     *That* this permit shall become effective the day after the notice of this action is posted, and shall expire one year from that date;

**Resolved** this 11<sup>th</sup> day of May, 2021.

**Sanderson, Elizabeth**

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**From:** Jessica Webb <JessicaW@empirepaving.com>  
**Sent:** Thursday, April 8, 2021 10:52 AM  
**To:** Sanderson, Elizabeth  
**Cc:** Ben Bare  
**Subject:** RE: Slurry Impact Assessment - 611 Brookfield St. & 180 John D. Wardlaw Way  
**Attachments:** FINAL\_ImpactAssessment.pdf

Hi Elizabeth –

We would be proposing to proceed with the following remediation recommendations:

1. Areas with minimal slurry cover and where vegetation is beginning to grow through – seed over and install straw waddle at toe of slope
2. Areas with thicker slurry cover – hand remove a portion of the slurry cover to allow for vegetation to grow through while not disturbing existing vegetation, seed after removal and install straw waddle at toe of slope
3. Slurry in the waterway – Recommendation #1 from SLR to allow Mother Nature to dissipate the sediment.

In following with SLR's recommendation of minimizing further impact to the area, we feel the above remediation steps are the best and most expeditious options for correcting our containment failure while not causing additional negative impact(s) to the area.

Jessica Webb  
 Project Manager  
 c: 203-996-6963

**Empire Paving**

---

**From:** Sanderson, Elizabeth <Elizabeth.Sanderson@hartford.gov>  
**Sent:** Wednesday, April 7, 2021 9:40 PM  
**To:** Jessica Webb <JessicaW@empirepaving.com>  
**Cc:** Ben Bare <BBare@hartfordhousing.org>  
**Subject:** RE: Slurry Impact Assessment - 611 Brookfield St. & 180 John D. Wardlaw Way

Jessica,

Thanks for sending the report. **Please confirm what wetland and watercourse remediation activities you plan to implement from SLR's recommendations as part of this permit application.**

Also, please note that since I did not receive the report in time to complete a staff report, the opening of the public hearing may be delayed or continued. I hope to know more tomorrow (Thursday), and will get back to you.

Either way, the meeting will be virtual – access information is below, and also available at [meetinginfo.org](http://meetinginfo.org):

**Meeting Details**

When? Tuesday, April 13, 2021 at 6:00pm - Eastern Time (US & Canada)

## Meeting Details

Virtual Link: <https://tinyurl.com/ddsPZC041321>

Virtual Notes: Meeting number: 129 996 3292 Password: ddsPZC OR Join by phone: 408-418-9388 Access code:

Thank you,

Elizabeth Sanderson, AICP RLA CZEO  
Project Leader  
City of Hartford Department of Development Services Economic Development Division  
Desk: 860-757-9238  
Cell: 860-936-4489

Follow Us @DDSHartford!

---

**From:** Jessica Webb <[JessicaW@empirepaving.com](mailto:JessicaW@empirepaving.com)>  
**Sent:** Wednesday, April 7, 2021 6:55 AM  
**To:** Sanderson, Elizabeth <[Elizabeth.Sanderson@hartford.gov](mailto:Elizabeth.Sanderson@hartford.gov)>  
**Subject:** FW: Slurry Impact Assessment

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe. Please contact the helpdesk at 860-757-9411 if you have any questions.

Elizabeth –

Sorry for the delay. Please see attached.

Can you please confirm whether the 4/13 meeting is in person or virtual? I know last time I checked online it said in person; just want to confirm (and the location). Thanks,

Jessica Webb  
Project Manager  
c: 203-996-6963

## Empire Paving

---

**From:** Matthew J. Sanford <[msanford@slrconsulting.com](mailto:msanford@slrconsulting.com)>  
**Sent:** Wednesday, April 7, 2021 7:47 AM  
**To:** Jessica Webb <[JessicaW@empirepaving.com](mailto:JessicaW@empirepaving.com)>  
**Cc:** Aidan Barry <[abarry@slrconsulting.com](mailto:abarry@slrconsulting.com)>  
**Subject:** Slurry Impact Assessment



Jessica,

We have updated the impact assessment to include the turbidity curtain.

Let me know if you have any other comments.

Thank You,



**Matthew J. Sanford, MS, PWS, RSS**

US Manager of Ecology

**O** 203-271-1773, Ext. 2284

**C** 203-910-9546

**E** [msanford@slrconsulting.com](mailto:msanford@slrconsulting.com)

SLR International Corporation  
99 Realty Drive, Cheshire, CT 06410



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# 611 BROOKFIELD STREET SLURRY RELEASE EVALUATION PROJECT

## Wetland Impact Assessment

Prepared for:  
Empire Paving

SLR #141.12996.00010.0020

April 2021



## WETLAND IMPACT ASSESSMENT

Prepared for:  
Jessica Webb  
Empire Paving  
30 Bernhard Road  
North Haven, CT 06473

This document has been prepared by SLR International Corporation (SLR). The material and data in this report were prepared under the supervision and direction of the undersigned.



---

Matthew J. Sanford, MS, PWS, RSS  
US Manager of Ecology



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Marlee Antill  
Project Environmental Scientist



---

Aidan Barry  
Environmental Scientist

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## APPENDICES

Appendix A	Site Figures
Appendix B	Vegetation Community Survey
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## ACRONYMS

CTDEEP	Connecticut Department of Energy & Environmental Protection
FEMA	Federal Emergency Management Agency
GPS	Global Positioning System
MDC	Metropolitan District Commission
NDDB	Natural Diversity Database
SLR	SLR International Corporation
USDA-NRCS	United States Department of Agriculture – Natural Resources Conservation Service



## 1. INTRODUCTION

On March 29, 2021, environmental scientists with SLR International Corporation (SLR), on behalf of Empire Paving, visited the site at 180 John D. Wardlaw Way in Hartford to assess the condition of impacted wetlands in response to construction-related discharges resulting in unauthorized fill to a wetland and watercourse and to outline a recommended mitigation strategy to compensate for damages.

SLR has prepared the following Wetland Impact Assessment report for damages incurred by the construction of the Metropolitan District Commission (MDC) South Hartford Conveyance and Storage Tunnel project under contract by Empire Paving. A Notice of Violation (Case Code Number: Accela #9636459) was submitted by the City of Hartford's MDC related to offsite slurry waste associated with construction activities at Site DS-2 located at 611 Brookfield Street in Hartford, Connecticut. An inspection conducted by a City of Hartford Municipal Inland Wetlands Agent on February 26, 2021, revealed that a failure of the slurry wastewater containment pit caused waste material to migrate from the site and be deposited into the adjacent wetlands and upland review area without proper permits and approvals in place.

This waste is in violation of the Hartford Inland Wetlands and Watercourse Regulations Section 4.3 – for conducting a Regulated Activity (deposition of material) within a wetland/watercourse and the associated upland review area without first obtaining necessary approvals in accordance with Section 6: Regulated Activities to be Licensed and Section 7: Application Requirements.

The purpose of this report is to describe the current conditions of the impacted inland wetlands and watercourse and to provide potential remediation strategies to alleviate the impacts. The adjacent property affected is 180 John D. Wardlaw Way – Housing Authority – City of Hartford located west of 611 Brookfield Street. The wetland resources impacted by this slurry discharge include the South Branch Park River and its associated floodplain wetlands. SLR evaluated the functions and values of the impacted wetland and watercourse resources and compared the impacted resources to adjacent unimpacted wetlands to obtain a proper baseline for development of an appropriate mitigation strategy.

The area of slurry deposition within the adjacent wetland and watercourse is approximately 4,710 square feet (as shown on Figure 1 in Appendix A) and consists of a silty slurry that covers existing herbaceous vegetation within the floodplain wetlands and watercourse. This slurry will impact short-term herbaceous growth within parts of the wetland and affect water quality within the South Branch Park River if left in place. Based on these impacts, our team has developed recommendations for remediating the conditions within the wetland resources. In summary, the unauthorized slurry deposition can be remediated through strategic material removal, seeding, and installation of sediment and erosion controls, followed by postrestoration monitoring of the advancement of natural vegetation recovery.

## 2. GENERAL SITE DESCRIPTION

611 Brookfield Street is a 1.1-acre property located in a densely populated residential area in the southwest portion of Hartford. The eastern property line contains frontage along Brookfield Street, and the western property line abuts 180 John D. Wardlaw Way – Housing Authority, owned by the City of Hartford. The site is being used as a temporary construction laydown site for the MDC South Hartford Conveyance and Storage Tunnel project and consists of frac tanks, material stockpiles, equipment storage, and a slurry containment pit. The slurry containment system breached, causing slurry wastewater to be discharged into the adjacent wetlands and watercourse. This accidental discharge caused slurry waste consisting of fine-grained sediments to be deposited on the Hartford Housing Authority property as well as within the South Branch Park River.

SLR understands that Empire Paving repaired the breach containment system and immediately installed geotextile silt fence and hay bales within the wetland and installed a turbidity curtain parallel to the river bank to help mitigate any additional migration of slurry-deposited sediments from discharging into the South Branch Park River.

The slurry deposition impacted an area consisting of vegetated uplands, sloped wet meadow wetlands, meadow/scrub shrub floodplain wetlands, and a watercourse. The vegetated upland adjacent to the slurry containment area slopes to the west at a 2:1 slope. The upland vegetation largely comprises Japanese knotweed (*Fallopia japonica*), ragweed (*Ambrosia artemisiifolia*), and various grasses. The slope transitions from upland to a wet meadow slope wetland. Vegetation within the slope wetland consists of purple loosestrife (*Lythrum salicaria*), soft rush (*Juncus effusus*), grasses, and isolated patches of silky dogwood (*Cornus amomum*) and willows (*Salix* sp.). At the toe of the slope, there is an existing formalized meadow sanitary sewer access road that services a series of sewer manholes along the South Branch Park River. West of the sanitary sewer access road, the land remains flat and consists of a meadow/scrub-shrub floodplain wetland described in further detail below.

Geospatial data accessed via the United States Department of Agriculture – Natural Resources Conservation Service (USDA-NRCS) web soil survey identifies soils within the project area as being uniformly moderately well-drained to well-drained Udorthents, which is typical of such urbanized, highly manipulated areas. Although the soil survey mapping does not indicate wetland soils within this area, based on our observations, the area west of the construction laydown area would be classified as Aquent soils. Aquent soils are man-made soils that have been cut or filled by at least 2 feet and lack a natural soil profile. These soils exhibit a somewhat poorly drained to poorly drained to very poorly drained drainage classification. As such, they are typically delineated as wetlands but do not fit within a specific taxonomic classification. SLR graphically delineated the wetland boundary within the immediate project area, and this boundary is depicted on Figure 1 (Appendix A).

The property is located in the Park River subregional watershed. The entire impact area slopes to the west and drains into the South Branch Park River. The river flows northwest before draining into the Connecticut River approximately 4.03 miles away from the impacted property.

## 2.1 WETLAND DESCRIPTION

As noted above, a graphical wetland delineation was performed by SLR, and we examined the existing soils using a Dutch auger. Graphical depictions of wetland boundaries were collected in the field using a handheld Global Positioning System (GPS) unit with submeter accuracy, along with the perimeter of the impact zone. Using the mapped wetland boundaries, we estimate that the total area of wetland resources impacted by the slurry deposition is approximately 4,710 square feet made up of 4,140 square feet of slope and floodplain wetland and 570 square feet of river channel.

The wet meadow/scrub-shrub floodplain wetland within the project area spans approximately 150 feet from the toe of slope to the South Branch Park River (see Figure 2 in Appendix A). This floodplain wetland has historically been manipulated by anthropogenic activities including creation of the river channel and floodplain bench, installation of sanitary sewer lines, and maintenance of access roads. This historical disturbance has shaped the vegetative communities observed within the project area. Three plant species indicate the historical disturbances including the presence of multiflora rose (*Rosa multiflora*), Japanese knotweed, and purple loosestrife. The wet meadow/scrub-shrub wetland plant community consists of black willow (*Salix nigra*), false indigo (*Amorpha fruticosa*), common box elder (*Acer negundo*), and silky dogwood. Herbaceous species observed include purple loosestrife, garlic mustard (*Alliaria petiolata*), rough cocklebur (*Xanthium strumarium*), wild onion (*Allium* sp.), common mullein (*Verbascum thapsus*), and various annual and perennial bunchgrasses (See Appendix B for a full plant inventory collected during the survey).

Of note, many of the herbaceous species observed were perennial species that were emerging through the slurry cracks in all but the deepest areas of deposited slurry. Though the mostly invasive herbaceous community is not considered to be of the highest ecological value, from a sediment retention perspective, this composition of grass and forbs performs a critical role of preventing further sediment from migrating downslope toward the South Branch Park River. The seeming ability of these species to be resilient and find opportunities to grow through the slurry indicates that parts of the impact areas will naturally revegetate and retain their critical wetland functions (see Table 2-1, Wetland Functions and Values Assessment) with little intervention.

A contiguous wetland area outside of the impact zone and unaffected by the slurry spill was examined to establish a reference wetland for the site. The reference wetland features a similar plant composition of native and invasive shrubs and herbaceous species, with the most apparent difference being the presence of a patch of invasive common reed (*Phragmites australis*) in a depression upgradient from the river. The similar landscape position, land use history, and plant composition between the subject impacted wetland and the adjacent reference wetland will further assist in the continued monitoring of the impacted area and in determining the most appropriate course of mitigation to ensure a successful restoration of wetland function and value to the site (See Appendix C – Photographic Log).

South Branch Park River flows north within the project area. The river is approximately 50 feet wide and has a normal water depth ranging from 2 to 3 feet. This segment of the river has a fluvial geomorphology consisting of a linear run with no riffles or pools present. The channel substrate consists of rounded gravel, pebbles, and cobbles. In addition to the rounded substrate materials, several angular (likely dumped riprap) stones were found interspersed amongst the channel substrate. The east bank of the river has a high flow floodshelf that has areas of alluvial deposition and other areas dominated by Japanese knotweed. During our fieldwork, several of the in-water cobbles were inspected for macroinvertebrate

assemblages. One macroinvertebrate order caddisfly larval nymphs (*Trichoptera*) and one bivalve Triangle Floater (*Alasmidonta undulata*) mussels, approximately 2 centimeters wide, were found upstream of the impacted area. Both species are less sensitive to pollution and habitat disturbance. Neither species was observed within the area of deposition.

## 2.2 WETLAND FUNCTIONS AND VALUES

A function evaluation of onsite wetlands and watercourses based on SLR field observations is summarized below (Table 2-1). The first column lists the functions and values generally ascribed to wetlands/watercourses, the second column summarizes the rationale used to determine whether these functions and values are being performed within the subject wetland/watercourse, and the third column summarizes whether the deposition of slurry has affected that particular function and value. As revealed in the following table, the existing wetland community displays attributes that contribute to basic wetland functions.

Table 2-1 Wetland Functions and Values Assessment

	Functions and Values	Comments	Function and Value Impaired by Slurry (Y/N)
	Groundwater Recharge/Discharge	Yes – Seeps are present along wetland slopes.	N
	Flood Flow Alteration (Storage & Desynchronization)	Yes – The landscape position is within a mapped Federal Emergency Management Agency (FEMA) floodplain.	Y – fill deposited in floodplain
	Fish & Shellfish Habitat	Yes – The South Branch Park River provides fish and shellfish habitat.	Y -sediment covering gravel and pebbles
	Sediment/Toxicant Retention	Yes – Dense vegetation within the wetland allows for the retention of sediment/toxicants.	Y
	Nutrient Removal/Retention/Transformation	Yes – Dense vegetation within the wetland allows for removal and retention of nutrients.	Y
	Production Export (Nutrient)	Yes – The wetland includes mast- and berry-producing vegetation, and the wetland is connected to a watercourse that would transport allochthonous materials to downstream habitats.	N
	Sediment/Shoreline/Watercourse Bank Stabilization	Yes – The wetland is connected to the South Branch Park River and contributes to bank stability.	N
	Wildlife Habitat	Yes – Existing wetland provides habitat for suburban and urban wildlife species and does not provide any wetland-dependent wildlife habitat. No vernal pools and/or other wetland-dependent wildlife habitat was found.	Y
	Recreation (Consumptive & Non-Consumptive)	Yes – Walking trails are located north of the project area. Evidence of public using the sanitary sewer access road is evident. The South Branch Park River can be used by canoers and kayakers.	N
	Educational Scientific Value	No – These wetlands currently do not provide educational opportunities. This wetland is located away from existing schools and is not publicly accessible.	N
	Uniqueness/Heritage	No – This wetland does not present unique attributes.	N
	Visual Quality/Aesthetics	No – The wetland does not contain inherent visual quality or aesthetic value.	N
ES	Endangered Species	No – This wetland is not mapped within a Connecticut Department of Energy & Environmental Protection (CTDEEP) Natural Diversity Database (NDDDB) polygon, dated December 2020.	N



There are several local watershed functions and values provided by the sloped wetland, wet meadow/scrub-shrub floodplain wetland, and river; however, there are some principal functions and values that should be highlighted. These include the following:

- Floodflow Alteration
- Fish & Shellfish Habitat
- Sediment/Toxicant Retention
- Nutrient Removal/Retention/Transformation
- Production/Export

As identified within the table, certain functions and values are being impaired as a result of the deposition of material including floodflow alteration (net fill deposited in floodplain), reduction in sediment retention/nutrient transformation from herbaceous vegetation suffocation, and shellfish habitat.

## 2.3 IMPACT DESCRIPTION

The slurry consists of dense reddish-color silty material that has strong cohesive and adhesive sediment properties (i.e., sticky). The silty material has settled within the floor of the floodplain wetland, the river's high-flow flood shelf, and the river channel. The deposited material varies in thickness within the wetland and river with accumulation depths ranging from 1 inch to 4 inches. As stated previously, the deposition areas within the wetland and river are approximately 4,710 square feet (see Figure 1 in Appendix A).

Slurry deposition data was collected by our SLR team by walking transects across the impacted area, advancing a Dutch auger to determine depths at 67 locations across the deposition site (Figure 1 in Appendix A). Depth of slurry was measured at each augering location by extracting a core and measuring the length of accumulation within each core. The sediment depth was easily distinguishable from the existing native underlying soils that were dark brown in color as compared to the red silty slurry material (as illustrated in Photo 2 in the attached Photographic Log; Appendix C). Total volume of slurry deposition within the wetlands and watercourse is approximately 26 cubic yards.

The sloped wetland adjacent to the slurry settling pit has a relatively thin deposit of slurry present. Herbaceous plant material was observed growing through the cracks in the slurry including some annual and perennial grasses, garlic mustard, wild onion, and common mullein. This is most likely due to the open canopy, west-facing slope, and thinly deposited slurry on this slope.

Within the flatter portions of the wet meadow/scrub-shrub floodplain wetland, the slurry accumulates to thicker depths, ranging from 2 to 4 inches. Limited herbaceous plant material was observed growing within the slurry in this area, which features a dense canopy of Japanese knotweed, false indigo, black willow, and box elder. The thickest deposition occurs at the base of a multistemmed black willow where deposits are approximately 4 inches thick. The vegetation that is present is common to disturbed areas; however, the thickness of the deposited material can influence oxygen, water, and nutrient exchange within the buried root zone. This is especially true within the thickest areas of deposition.

South Branch Park River was impacted by slurry deposition. The channel substrate has been coated with a thin slurry deposition layer that is approximately 1 inch thick. The deposition extends from the east bank

out to the center of the channel within an approximate area of 570 square feet. This slurry is stuck to the substrate; however, it becomes resuspended with any substrate disturbance. Probing for the sediment thickness and extents of deposition caused the material to become resuspended and be carried downstream. This material is currently covering the natural substrate and is filling in the interstitial spaces that aquatic organisms utilize for feeding and survival. During the investigations, our team inspected the slurry-covered pebbles and stones and did not observe any macroinvertebrates attached to the stones. Algae, which is present on stones adjacent to the slurry deposition zone, was absent as well.

### 3. PROPOSED REMEDIATION

SLR has provided recommendations for remediating the impacts presented by the slurry wastewater and deposition. Remediation measures can take on several alternative forms including 1) no action, 2) selective slurry removal, 3) complete slurry removal, and 4) some combination of alternatives 1 and 2. When evaluating remediation alternatives for wetland restoration projects, it is important to identify the impacts to or loss of the important wetland/watercourse functions, the level of impact required to restore the wetland, and the long-term benefits of the restoration.

For this site, SLR recommends a combination of alternatives be implemented to achieve appropriate restoration of impacted wetland functions and values. These recommended actions are subdivided into the wetland and watercourse remediation plans. The recommended remediation alternatives are depicted on Figure 3 (Appendix A).

#### 3.1 WETLAND REMEDIATION

##### *Sloped Wet Meadow Wetland*

The sloped wetland area has a relatively thin deposition layer. In addition, SLR observed herbaceous plant material beginning to poke through the surface cracks within this deposition layer. For this area, it is recommended that the thin slurry layer be left as is and allowed to revegetate through natural processes. To help speed the natural processes, SLR recommends adding a supplemental application of a seed mix New England Erosion Control for Moist Sites and Detention Basin to the thin layer of slurry present. The seed mix can be applied during the spring growing season April through early June. In addition, it is recommended that a straw wattle be added at the toe of the slope to allow for filtering of stormwater runoff until the vegetation has reestablished itself along this slope wetland. This minor action alternative will restore the nutrient, toxicant, and wildlife habitat function of this wetland.

##### *Wet Meadow Sanitary Sewer Access Road and Floodplain Scrub-Shrub Wetland*

The slurry deposits within this section of the impact area should be removed. The sediment is thickest in and around a black willow tree. Underlying herbaceous vegetation will have a difficult time poking through this thicker material. In addition, this material may impact the root interface zone of the existing trees and shrubs within this wetland. Removal of this material is recommended. The density of shrubs within this area prevents the use of mechanical means of slurry removal. This slurry should be removed by hand. This removal will not be easy given the sticky properties of this slurry and the density of the shrubby vegetation present. Cutting of the shrubby vegetation is not recommended. The use of rubber matting, plywood, and/or timber planks placed over the wetland and slurry will allow workers to access the material. A skid steer can access the site using the sanitary sewer access road or may gain access from the adjacent laydown area. A rubber-tracked skid steer would be the most appropriate machine to gain access to the site while minimizing rutting within the wetland and sanitary sewer road. The slurry material will need to be removed by hand shovels and metal rakes. Wheelbarrows and/or 5-gallon buckets can be used to wheel or carry the excavated material out to the skid steer. The slurry should be removed until the

underlying herbaceous vegetation is observed. Leaving some thin deposits within the wetland is acceptable. After removal of the sediment, the existing silt fence that has been placed within the wetland should be removed and replaced with straw wattles. The New England Erosion Control seed mix for Moist Sites/Detention Basins should be applied to the slurry removal area. The slurry removal work should be overseen by a wetland specialist to confirm appropriate remedial requirements have been achieved.

The above-noted remedial actions will restore important impacted functions of floodplain storage, nutrient transformation, and sediment retention and will maintain plant diversity and density and wildlife habitat.

### 3.2 WATERCOURSE REMEDIATION

SLR has proposed three alternatives to remediate the impacted river area. Details related to each alternative are provided below:

#### 1) No Action

The no-action alternative would require no manual or mechanical means of slurry removal. It is estimated that if a moderate to large flood event occurred within this reach of the channel that the slurry would be removed from the substrate through shear stress velocities on the substrate and natural channel bed movement. The slurry would not likely reconcentrate in such a manner downstream given the fluvial geomorphology of the river. Instead, it is anticipated that this slurry material would be more evenly distributed within the channel.

#### 2) Manually Disturb Slurry

This alternative would require workers to wade into the impacted area and stir up the deposited slurry using the kick and scrap method. Wader boots and a metal yard rake could be used to resuspend the material. This would clean off the substrate and restore to previous conditions. However, this alternative would cause a temporary plume of turbid water to move downstream. The slurry particles would eventually settle out and be more evenly distributed within the channel substrate located downstream of the site. This would allow for reestablishment of the interstitial spaces within the substrate and allow green algae to recoat the substrate gravel, pebbles, cobbles, and stones. This alternative requires approval from the City of Hartford to allow the slurry material to be resuspended and moved downstream through the natural flow regime.

#### 3) Mechanically Remove Slurry

This alternative would require the installation of a cofferdam around the deposition zone and would also require dewatering of the area to allow for either mechanical excavation of slurry sediments and/or vacuum suction of material. This work would necessitate the clearing of the scrub-shrub wetland vegetation and construction of a temporary access road to provide access to the river. The use of a mechanical excavator to remove the sediments will likely result in the need to import new substrate material. The vacuum suction method may also require the import of new substrate material. The impact required to achieve removal of this slurry by mechanical



methods from the river would result in a larger impact than recommended. For this reason, the mechanical removal of the slurry is not recommended.

#### Preferred Alternatives

At this time, it is recommended to allow Mother Nature to restore the impacted segment of river channel through natural floodflow processes. However, if the City of Hartford prefers that the material be resuspended and carried downstream through manual processes, then this restoration method can be implemented as part of the remedial actions for this project.

### 3.3 SITE MONITORING

SLR proposes that a wetland specialist be on site during the remedial processes to document compliance with the recommended remediation plan. In addition, a follow-up postrestoration site visit should be completed to document the success of the slurry removal and vegetative growth following the first full growing season. A summary findings letter should be prepared and submitted to the City of Hartford Inland Wetlands and Watercourse Commission.

## 4. CONCLUSION

SLR evaluated the impacts of the slurry deposition on adjacent wetlands and watercourses. A total of 4,710 square feet of wetlands and watercourses were impacted by this unauthorized slurry spill. SLR has developed a sound remediation plan for restoring the impacted functions and values of the sloped wetland, floodplain wetland, and South Branch Park River. Furthermore, oversight of the remedial activities by a wetland specialist is recommended to confirm compliance with the remediation plan.

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## APPENDIX A

### SITE FIGURES

#### **Wetland Impact Assessment**

Empire Paving  
30 Bernhard Road  
North Haven, CT 06473

April 2021

---



99 REALTY DRIVE  
CHESHIRE, CT 06410  
203.271.1773

## SLURRY DEPOSITION AREA

WETLAND IMPACT ASSESSMENT  
EMPIRE PAVING

611 BROOKFIELD STREET  
HARTFORD, CONNECTICUT



0 100  
Feet

SCALE 1" = 100'

DATE 4/5/2021

141.12996.00010

PROJ. NO.

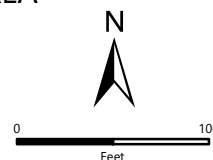
**FIG. 1**





**SLR**  
99 REALTY DRIVE  
CHESHIRE, CT 06410  
203.271.1773

**COMMUNITY TYPE IN SLURRY DEPOSITION AREA**  
WETLAND IMPACT ASSESSMENT  
EMPIRE PAVING  
611 BROOKFIELD STREET  
HARTFORD, CONNECTICUT



SCALE 1" = 100'  
DATE 4/5/2021  
141.12996.00010  
PROJ. NO.

**FIG. 2**





**LEGEND**

- Straw Wattle
- Seed Only
- Manual Removal & Seed
- Wetland Flags
- Wetland Boundary
- Slurry Deposition Area
- Potential Remediation Access
- Construction Laydown Area
- Sewer Access Road
- Hartford Parcels



99 REALTY DRIVE  
CHESHIRE, CT 06410  
203.271.1773

## PROPOSED REMEDIATION

WETLAND IMPACT ASSESSMENT  
EMPIRE PAVING

611 BROOKFIELD STREET  
HARTFORD, CONNECTICUT



0 100  
Feet

SCALE 1" = 100'

DATE 4/5/2021

141.12996.00010

PROJ. NO.

**FIG. 3**

## APPENDIX B

### VEGETATION COMMUNITY SURVEY

#### Wetland Impact Assessment

Empire Paving  
30 Bernhard Road  
North Haven, CT 06473

April 2021

---

### Vegetation Survey

180 John D. Wardlaw Way, Hartford, CT

March 29, 2021

Weather: Sunny, 50° F

#### Slurry Deposition Impact Zone

Herbaceous Strata		
Common Name	Scientific Name	Percent Cover
common mullein	<i>Verbascum thapsus</i>	1
garlic mustard	<i>Alliaria petiolata</i>	2
joe pyeweed	<i>Eutrochium purpureum</i>	1
common mugwort	<i>Artemisia vulgaris</i>	1
purple loosestrife	<i>Lythrum salicaria</i>	10
unknown grass	<i>Poa sp.</i>	60
wild onion	<i>Allium sp</i>	1
Shrub Strata		
black willow	<i>Salix nigra</i>	15
box elder	<i>Acer negundo</i>	10
false indigo	<i>Amorpha fruticosa</i>	60
Japanese knotweed	<i>Fallopia japonica</i>	50
Morrow's honeysuckle	<i>Lonicera morrowii</i>	3
multiflora rose	<i>Rosa multiflora</i>	2
northern catalpa	<i>Catalpa speciosa</i>	1
silky dogwood	<i>Swida amomum</i>	7

### Vegetation Survey

180 John D. Wardlaw Way, Hartford, CT

March 29, 2021

Weather: Sunny, 50° F

#### Southern Reference Wetland

Herbaceous Strata		
Common Name	Scientific Name	Percent Cover
common mullein	<i>Verbascum thapsus</i>	1
common reed	<i>Phragmites australis</i>	25
garlic mustard	<i>Alliaria petiolata</i>	2
joe pyeweed	<i>Eutrochium purpureum</i>	1
common mugwort	<i>Artemisia vulgaris</i>	1
purple loosestrife	<i>Lythrum salicaria</i>	10
unknown grass	<i>Poa sp.</i>	30
wild onion	<i>Allium sp</i>	1
Shrub Strata		
black willow	<i>Salix</i>	30
box elder	<i>Acer negundo</i>	25
false indigo	<i>Amorpha fruticosa</i>	10
Japanese knotweed	<i>Fallopia japonica</i>	50
Morrow's honeysuckle	<i>Lonicera morrowii</i>	3
multiflora rose	<i>Rosa multiflora</i>	5
northern catalpa	<i>Catalpa speciosa</i>	1
silky dogwood	<i>Swida amomum</i>	10



## APPENDIX C

### PHOTOGRAPHIC LOG

#### **Wetland Impact Assessment**

Empire Paving  
30 Bernhard Road  
North Haven, CT 06473

April 2021

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**Client Name:**  
Empire Paving

**Site Location:**  
Hartford, CT

**Project No.**  
141.12996.00010

**Photo No.**  
1

**Date:**  
3/29/2021

**Direction Photo Taken:**  
East

**Description:**  
View of approximately 3 to 4 inches of sediment around the base of large, multi-stemmed black willow (*Salix nigra*) just upgradient of silt fence.



**Photo No.**  
2

**Date:**  
3/29/2021

**Direction Photo Taken:**  
N/A

**Description:**  
Probing hole with Dutch auger in area of moderate slurry deposition showing approximately 2 inches of red-colored slurry sediment deposited above the local soil.





**Client Name:**  
Empire Paving

**Site Location:**  
Hartford, CT

**Project No.**  
141.12996.00010

**Photo No.**  
3

**Date:**  
3/29/2021

**Direction Photo Taken:**  
South

**Description:**  
**Photo Station 1**  
Reference wetland south of  
slurry deposition area.



**Photo No.**  
4

**Date:**  
3/29/2021

**Direction Photo Taken:**  
Northwest

**Description:**  
**Photo Station 2**  
View from sewer access road  
looking downgradient  
towards the impacted  
floodplain scrub/shrub  
wetland.





**Client Name:**  
Empire Paving

**Site Location:**  
Hartford, CT

**Project No.**  
141.12996.00010

**Photo No.**  
5

**Date:**  
3/29/2021

**Direction Photo Taken:**  
Northeast

**Description:**  
**Photo Station 3**  
View from access road  
looking upgradient towards  
the sloped wetland and  
upland.



**Photo No.**  
6

**Date:**  
3/29/2021

**Direction Photo Taken:**  
East

**Description:**  
**Photo Station 4**  
View of South Branch Park  
River looking towards the  
eastern bank. The area  
within the channel that is a  
light tan color is the slurry  
deposition area.





**Client Name:**  
Empire Paving

**Site Location:**  
Hartford, CT

**Project No.**  
141.12996.00010

**Photo No.**  
7

**Date:**  
3/29/2021

**Direction Photo Taken:**  
West

**Description:**

**Photo Station 5**

View from eastern bank of the South Branch Park River looking into the impacted watercourse. The area within the channel that is a light tan color is the slurry deposition area.



**Photo No.**  
8

**Date:**  
3/29/2021

**Direction Photo Taken:**  
South

**Description:**

**Photo Station 6**

View from west of access road and north of slurry deposition area looking downgradient towards floodplain scrub/shrub wetland.





**Client Name:**  
Empire Paving

**Site Location:**  
Hartford, CT

**Project No.**  
141.12996.00010

**Photo No.**  
9

**Date:**  
3/29/2021

**Direction Photo Taken:**  
South

**Description:**  
**Photo Station 7**  
View from sewer access road  
looking upgradient towards  
the sloped wetland and  
upland.



**Photo No.**  
10

**Date:**  
3/29/2021

**Direction Photo Taken:**  
West

**Description:**  
**Photo Station 8**  
Reference wetland north of  
slurry deposition area.





**Client Name:**  
Empire Paving

**Site Location:**  
Hartford, CT

**Project No.**  
141.12996.00010

**Photo No.**  
11

**Date:**  
3/29/2021

**Direction Photo Taken:**  
East

**Description:**  
**Photo Station 9**  
Reference wetland north of  
slurry deposition area.



**Photo No.**  
12

**Date:**  
3/29/2021

**Direction Photo Taken:**  
Southwest

**Description:**  
View of South Branch Park  
River looking upstream.





**Client Name:**  
Empire Paving

**Site Location:**  
Hartford, CT

**Project No.**  
141.12996.00010

**Photo No.**  
13

**Date:**  
3/29/2021

**Direction Photo Taken:**  
Southwest

**Description:**

Turbidity curtain installed within the South Branch Park River. The curtain runs parallel along the eastern bank to limit further deposition of slurry into the watercourse.



**Photo No.**  
14

**Date:**  
3/29/2021

**Direction Photo Taken:**  
N/A

**Description:**

Approximately 4 inches of tan-colored slurry (beginning at measuring tape) collected and measured above local soil material within the area of deepest deposition on site using a Dutch auger.





**Client Name:**  
Empire Paving

**Site Location:**  
Hartford, CT

**Project No.**  
141.12996.00010

**Photo No.**  
15

**Date:**  
3/29/2021

**Direction Photo Taken:**  
N/A

**Description:**

Bunches of perennial grass stalks from previous year's growth (dead) with current year's new growth coming up through deposited slurry on site.



**Photo No.**  
16

**Date:**  
3/29/2021

**Direction Photo Taken:**  
Northeast

**Description:**

View from within floodplain wetland upslope (east) of silt fence. Foreground: dense shrub canopy (at least 85% total cover) composed mostly of false indigo (*Amorpha fruticosa*) and Japanese knotweed (*Fallopia japonica*). Background: view upslope (east) toward upland community and construction site/slurry spill source.







April 5, 2021

Ms. Jessica Webb  
Empire Paving, Inc.  
30 Bernhard Road  
North Haven, CT 06473

Subject: **MDC Project No. 2015B-35**  
**South Hartford Conveyance and Storage Tunnel**  
**Arlington, Newington and New Britain Consolidation Conduits**

Dear Ms. Webb:

The attached lab results represent sample CH 74522 which was collected on March 8, 2021 in the wetlands area west of the drilling mud stabilization pit, located on Brookfield Street south of Waste Storage Area Bin #3.

No anthropogenic compounds were detected at concentrations above the laboratory reporting limit in the sample that was collected and analyzed.

Please contact me at [pmuniz@ctlep.com](mailto:pmuniz@ctlep.com) or at 860-251-9059 with any questions or if you require additional information.

Sincerely,  
**ENVIRONMENTAL PARTNERS, LLC**

A handwritten signature in black ink that reads "Paul F. Muniz". The signature is written in a cursive, flowing style.

Paul F. Muniz, LEP #177  
Member





Environmental Laboratories, Inc.  
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

## Analysis Report

March 10, 2021

FOR: Attn: Mr. Paul Muniz  
Environmental Partners, LLC  
26 Broadway  
North Haven CT 06473

### Sample Information

Matrix: SOIL  
Location Code: ENVPARTMDC  
Rush Request: 24 Hour  
P.O.#: MDC 2012-21

### Custody Information

Collected by:  
Received by: B  
Analyzed by: see "By" below

### Date

03/08/21  
03/09/21

### Time

11:15  
12:24

## Laboratory Data

SDG ID: GCH74522  
Phoenix ID: CH74522

Project ID: MDC SOUTH CONVEYANCE TUNNEL  
Client ID: 030821-01

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.54	0.54	mg/Kg	1	03/10/21	CPP	SW6010D
Arsenic	5.6	1.1	mg/Kg	1	03/10/21	CPP	SW6010D
Barium	276	0.54	mg/Kg	1	03/10/21	CPP	SW6010D
Beryllium	1.41	0.43	mg/Kg	1	03/10/21	CPP	SW6010D
Cadmium	1.73	0.54	mg/Kg	1	03/10/21	CPP	SW6010D
Chromium	52.4	0.54	mg/Kg	1	03/10/21	CPP	SW6010D
Mercury	< 0.11	0.11	mg/Kg	5	03/10/21	RS	SW7471B
Nickel	45.9	0.54	mg/Kg	1	03/10/21	CPP	SW6010D
Lead	19.6	0.54	mg/Kg	1	03/10/21	CPP	SW6010D
Antimony	< 5.4	5.4	mg/Kg	1	03/10/21	CPP	SW6010D
Selenium	< 2.1	2.1	mg/Kg	1	03/10/21	CPP	SW6010D
Thallium	< 4.8	4.8	mg/Kg	1	03/10/21	CPP	SW6010D
Vanadium	72.2	0.54	mg/Kg	1	03/10/21	CPP	SW6010D
Zinc	107	1.1	mg/Kg	1	03/10/21	CPP	SW6010D
Percent Solid	63		%		03/09/21	AN	SW846-%Solid
Mercury Digestion	Completed				03/10/21		SW7471B
Soil Extraction for PCB	Completed				03/09/21	L/N	SW3545A
Soil Extraction for SVOA	Completed				03/09/21	R/A	SW3546
Total Metals Digest	Completed				03/09/21	J/AG	SW3050B

### Polychlorinated Biphenyls

PCB-1016	ND	53	ug/Kg	2	03/10/21	SC	SW8082A
PCB-1221	ND	53	ug/Kg	2	03/10/21	SC	SW8082A
PCB-1232	ND	53	ug/Kg	2	03/10/21	SC	SW8082A
PCB-1242	ND	53	ug/Kg	2	03/10/21	SC	SW8082A
PCB-1248	ND	53	ug/Kg	2	03/10/21	SC	SW8082A
PCB-1254	ND	53	ug/Kg	2	03/10/21	SC	SW8082A
PCB-1260	ND	53	ug/Kg	2	03/10/21	SC	SW8082A

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
PCB-1262	ND	53	ug/Kg	2	03/10/21	SC	SW8082A
PCB-1268	ND	53	ug/Kg	2	03/10/21	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	66		%	2	03/10/21	SC	30 - 150 %
% DCBP (Confirmation)	66		%	2	03/10/21	SC	30 - 150 %
% TCMX	67		%	2	03/10/21	SC	30 - 150 %
% TCMX (Confirmation)	66		%	2	03/10/21	SC	30 - 150 %
<b><u>Volatiles</u></b>							
1,1,1,2-Tetrachloroethane	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
1,1,1-Trichloroethane	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.5	ug/Kg	1	03/10/21	JLI	SW8260C
1,1,2-Trichloroethane	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
1,1-Dichloroethane	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
1,1-Dichloroethene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
1,1-Dichloropropene	ND	1.0	ug/Kg	1	03/10/21	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
1,2,3-Trichloropropane	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
1,2-Dibromoethane	ND	0.59	ug/Kg	1	03/10/21	JLI	SW8260C
1,2-Dichlorobenzene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
1,2-Dichloroethane	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
1,2-Dichloropropane	ND	1.0	ug/Kg	1	03/10/21	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
1,3-Dichlorobenzene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
1,3-Dichloropropane	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
1,4-Dichlorobenzene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
2,2-Dichloropropane	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
2-Chlorotoluene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
2-Hexanone	ND	29	ug/Kg	1	03/10/21	JLI	SW8260C
2-Isopropyltoluene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
4-Chlorotoluene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
4-Methyl-2-pentanone	ND	29	ug/Kg	1	03/10/21	JLI	SW8260C
Acetone	ND	290	ug/Kg	1	03/10/21	JLI	SW8260C
Acrylonitrile	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Benzene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Bromobenzene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Bromochloromethane	ND	1.0	ug/Kg	1	03/10/21	JLI	SW8260C
Bromodichloromethane	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Bromoform	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Bromomethane	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Carbon Disulfide	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Carbon tetrachloride	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Chlorobenzene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Chloroethane	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Chloroform	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Chloromethane	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
cis-1,2-Dichloroethene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
cis-1,3-Dichloropropene	ND	1.0	ug/Kg	1	03/10/21	JLI	SW8260C
Dibromochloromethane	ND	0.5	ug/Kg	1	03/10/21	JLI	SW8260C
Dibromomethane	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Dichlorodifluoromethane	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Ethylbenzene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Hexachlorobutadiene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Isopropylbenzene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
m&p-Xylene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Methyl Ethyl Ketone	ND	35	ug/Kg	1	03/10/21	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	10	ug/Kg	1	03/10/21	JLI	SW8260C
Methylene chloride	ND	10	ug/Kg	1	03/10/21	JLI	SW8260C
Naphthalene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
n-Butylbenzene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
n-Propylbenzene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
o-Xylene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
p-Isopropyltoluene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
sec-Butylbenzene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Styrene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
tert-Butylbenzene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Tetrachloroethene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Tetrahydrofuran (THF)	ND	12	ug/Kg	1	03/10/21	JLI	SW8260C
Toluene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Total Xylenes	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
trans-1,2-Dichloroethene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
trans-1,3-Dichloropropene	ND	1.0	ug/Kg	1	03/10/21	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	12	ug/Kg	1	03/10/21	JLI	SW8260C
Trichloroethene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Trichlorofluoromethane	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Trichlorotrifluoroethane	ND	12	ug/Kg	1	03/10/21	JLI	SW8260C
Vinyl chloride	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	99		%	1	03/10/21	JLI	70 - 130 %
% Bromofluorobenzene	96		%	1	03/10/21	JLI	70 - 130 %
% Dibromofluoromethane	96		%	1	03/10/21	JLI	70 - 130 %
% Toluene-d8	98		%	1	03/10/21	JLI	70 - 130 %
<b><u>Oxygenates &amp; Dioxane</u></b>							
1,4-Dioxane	ND	20	ug/Kg	1	03/10/21	JLI	SW8260C (OXY)
Diethyl ether	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C (OXY)
Di-isopropyl ether	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C (OXY)
Ethyl tert-butyl ether	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C (OXY)
tert-amyl methyl ether	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C (OXY)
<b><u>Semivolatiles</u></b>							
1,2,4,5-Tetrachlorobenzene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
1,2,4-Trichlorobenzene	ND	200	ug/Kg	1	03/10/21	WB	SW8270D
1,2-Dichlorobenzene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
1,2-Diphenylhydrazine	ND	770	ug/Kg	1	03/10/21	WB	SW8270D
1,3-Dichlorobenzene	ND	300	ug/Kg	1	03/10/21	WB	SW8270D
1,4-Dichlorobenzene	ND	70	ug/Kg	1	03/10/21	WB	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2,4,5-Trichlorophenol	ND	400	ug/Kg	1	03/10/21	WB	SW8270D
2,4,6-Trichlorophenol	ND	70	ug/Kg	1	03/10/21	WB	SW8270D
2,4-Dichlorophenol	ND	70	ug/Kg	1	03/10/21	WB	SW8270D
2,4-Dimethylphenol	ND	70	ug/Kg	1	03/10/21	WB	SW8270D
2,4-Dinitrophenol	ND	300	ug/Kg	1	03/10/21	WB	SW8270D
2,4-Dinitrotoluene	ND	70	ug/Kg	1	03/10/21	WB	SW8270D
2,6-Dinitrotoluene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
2-Chloronaphthalene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
2-Chlorophenol	ND	70	ug/Kg	1	03/10/21	WB	SW8270D
2-Methylnaphthalene	ND	70	ug/Kg	1	03/10/21	WB	SW8270D
2-Methylphenol (o-cresol)	ND	100	ug/Kg	1	03/10/21	WB	SW8270D
2-Nitroaniline	ND	770	ug/Kg	1	03/10/21	WB	SW8270D
2-Nitrophenol	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	770	ug/Kg	1	03/10/21	WB	SW8270D
3,3'-Dichlorobenzidine	ND	100	ug/Kg	1	03/10/21	WB	SW8270D
3-Nitroaniline	ND	100	ug/Kg	1	03/10/21	WB	SW8270D
4,6-Dinitro-2-methylphenol	ND	770	ug/Kg	1	03/10/21	WB	SW8270D
4-Bromophenyl phenyl ether	ND	770	ug/Kg	1	03/10/21	WB	SW8270D
4-Chloro-3-methylphenol	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
4-Chloroaniline	ND	100	ug/Kg	1	03/10/21	WB	SW8270D
4-Chlorophenyl phenyl ether	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
4-Nitroaniline	ND	1200	ug/Kg	1	03/10/21	WB	SW8270D
4-Nitrophenol	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Acenaphthene	ND	400	ug/Kg	1	03/10/21	WB	SW8270D
Acenaphthylene	ND	100	ug/Kg	1	03/10/21	WB	SW8270D
Acetophenone	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Aniline	ND	770	ug/Kg	1	03/10/21	WB	SW8270D
Anthracene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Benz(a)anthracene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Benzidine	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Benzo(a)pyrene	ND	200	ug/Kg	1	03/10/21	WB	SW8270D
Benzo(b)fluoranthene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Benzo(ghi)perylene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Benzo(k)fluoranthene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Benzoic acid	ND	1500	ug/Kg	1	03/10/21	WB	SW8270D
Benzyl butyl phthalate	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Bis(2-chloroethoxy)methane	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Bis(2-chloroethyl)ether	ND	70	ug/Kg	1	03/10/21	WB	SW8270D
Bis(2-chloroisopropyl)ether	ND	70	ug/Kg	1	03/10/21	WB	SW8270D
Bis(2-ethylhexyl)phthalate	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Carbazole	ND	100	ug/Kg	1	03/10/21	WB	SW8270D
Chrysene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Dibenz(a,h)anthracene	ND	70	ug/Kg	1	03/10/21	WB	SW8270D
Dibenzofuran	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Diethyl phthalate	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Dimethylphthalate	ND	70	ug/Kg	1	03/10/21	WB	SW8270D
Di-n-butylphthalate	ND	770	ug/Kg	1	03/10/21	WB	SW8270D
Di-n-octylphthalate	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Fluoranthene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Fluorene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Hexachlorobenzene	ND	70	ug/Kg	1	03/10/21	WB	SW8270D
Hexachlorobutadiene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Hexachlorocyclopentadiene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Hexachloroethane	ND	70	ug/Kg	1	03/10/21	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Isophorone	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Naphthalene	ND	400	ug/Kg	1	03/10/21	WB	SW8270D
Nitrobenzene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
N-Nitrosodimethylamine	ND	770	ug/Kg	1	03/10/21	WB	SW8270D
N-Nitrosodi-n-propylamine	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
N-Nitrosodiphenylamine	ND	770	ug/Kg	1	03/10/21	WB	SW8270D
Pentachloronitrobenzene	ND	770	ug/Kg	1	03/10/21	WB	SW8270D
Pentachlorophenol	ND	300	ug/Kg	1	03/10/21	WB	SW8270D
Phenanthrene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Phenol	ND	100	ug/Kg	1	03/10/21	WB	SW8270D
Pyrene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Pyridine	ND	770	ug/Kg	1	03/10/21	WB	SW8270D
<b>QA/QC Surrogates</b>							
% 2,4,6-Tribromophenol	80		%	1	03/10/21	WB	30 - 130 %
% 2-Fluorobiphenyl	75		%	1	03/10/21	WB	30 - 130 %
% 2-Fluorophenol	74		%	1	03/10/21	WB	30 - 130 %
% Nitrobenzene-d5	71		%	1	03/10/21	WB	30 - 130 %
% Phenol-d5	73		%	1	03/10/21	WB	30 - 130 %
% Terphenyl-d14	79		%	1	03/10/21	WB	30 - 130 %
Field Extraction	Completed				03/08/21		SW5035A

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

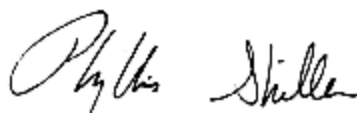
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

### **Comments:**

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**

**March 10, 2021**

**Official Report Release To Follow**



Sample Criteria Exceedances Report  
GCH74522 - ENVPARTMDC

Criteria: MA: S1 Calc.

State: CT

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
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\*\*\* No Data to Display \*\*\*

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.





Environmental Laboratories, Inc.  
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

## Analysis Report

March 10, 2021

FOR: Attn: Mr. Paul Muniz  
Environmental Partners, LLC  
26 Broadway  
North Haven CT 06473

### Sample Information

Matrix: SOIL  
Location Code: ENVPARTMDC  
Rush Request: 24 Hour  
P.O.#: MDC 2012-21

### Custody Information

Collected by:  
Received by: B  
Analyzed by: see "By" below

### Date

03/08/21 11:15  
03/09/21 12:24

### Time

## Laboratory Data

SDG ID: GCH74522  
Phoenix ID: CH74522

Project ID: MDC SOUTH CONVEYANCE TUNNEL  
Client ID: 030821-01

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.54	0.54	mg/Kg	1	03/10/21	CPP	SW6010D
Arsenic	5.6	1.1	mg/Kg	1	03/10/21	CPP	SW6010D
Barium	276	0.54	mg/Kg	1	03/10/21	CPP	SW6010D
Beryllium	1.41	0.43	mg/Kg	1	03/10/21	CPP	SW6010D
Cadmium	1.73	0.54	mg/Kg	1	03/10/21	CPP	SW6010D
Chromium	52.4	0.54	mg/Kg	1	03/10/21	CPP	SW6010D
Mercury	< 0.11	0.11	mg/Kg	5	03/10/21	RS	SW7471B
Nickel	45.9	0.54	mg/Kg	1	03/10/21	CPP	SW6010D
Lead	19.6	0.54	mg/Kg	1	03/10/21	CPP	SW6010D
Antimony	< 5.4	5.4	mg/Kg	1	03/10/21	CPP	SW6010D
Selenium	< 2.1	2.1	mg/Kg	1	03/10/21	CPP	SW6010D
Thallium	< 4.8	4.8	mg/Kg	1	03/10/21	CPP	SW6010D
Vanadium	72.2	0.54	mg/Kg	1	03/10/21	CPP	SW6010D
Zinc	107	1.1	mg/Kg	1	03/10/21	CPP	SW6010D
Percent Solid	63		%		03/09/21	AN	SW846-%Solid
Mercury Digestion	Completed				03/10/21		SW7471B
Soil Extraction for PCB	Completed				03/09/21	L/N	SW3545A
Soil Extraction for SVOA	Completed				03/09/21	R/A	SW3546
Total Metals Digest	Completed				03/09/21	J/AG	SW3050B

### Polychlorinated Biphenyls

PCB-1016	ND	53	ug/Kg	2	03/10/21	SC	SW8082A
PCB-1221	ND	53	ug/Kg	2	03/10/21	SC	SW8082A
PCB-1232	ND	53	ug/Kg	2	03/10/21	SC	SW8082A
PCB-1242	ND	53	ug/Kg	2	03/10/21	SC	SW8082A
PCB-1248	ND	53	ug/Kg	2	03/10/21	SC	SW8082A
PCB-1254	ND	53	ug/Kg	2	03/10/21	SC	SW8082A
PCB-1260	ND	53	ug/Kg	2	03/10/21	SC	SW8082A

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
PCB-1262	ND	53	ug/Kg	2	03/10/21	SC	SW8082A
PCB-1268	ND	53	ug/Kg	2	03/10/21	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	66		%	2	03/10/21	SC	30 - 150 %
% DCBP (Confirmation)	66		%	2	03/10/21	SC	30 - 150 %
% TCMX	67		%	2	03/10/21	SC	30 - 150 %
% TCMX (Confirmation)	66		%	2	03/10/21	SC	30 - 150 %
<b><u>Volatiles</u></b>							
1,1,1,2-Tetrachloroethane	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
1,1,1-Trichloroethane	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.5	ug/Kg	1	03/10/21	JLI	SW8260C
1,1,2-Trichloroethane	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
1,1-Dichloroethane	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
1,1-Dichloroethene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
1,1-Dichloropropene	ND	1.0	ug/Kg	1	03/10/21	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
1,2,3-Trichloropropane	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
1,2-Dibromoethane	ND	0.59	ug/Kg	1	03/10/21	JLI	SW8260C
1,2-Dichlorobenzene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
1,2-Dichloroethane	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
1,2-Dichloropropane	ND	1.0	ug/Kg	1	03/10/21	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
1,3-Dichlorobenzene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
1,3-Dichloropropane	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
1,4-Dichlorobenzene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
2,2-Dichloropropane	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
2-Chlorotoluene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
2-Hexanone	ND	29	ug/Kg	1	03/10/21	JLI	SW8260C
2-Isopropyltoluene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
4-Chlorotoluene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
4-Methyl-2-pentanone	ND	29	ug/Kg	1	03/10/21	JLI	SW8260C
Acetone	ND	290	ug/Kg	1	03/10/21	JLI	SW8260C
Acrylonitrile	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Benzene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Bromobenzene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Bromochloromethane	ND	1.0	ug/Kg	1	03/10/21	JLI	SW8260C
Bromodichloromethane	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Bromoform	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Bromomethane	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Carbon Disulfide	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Carbon tetrachloride	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Chlorobenzene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Chloroethane	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Chloroform	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Chloromethane	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
cis-1,2-Dichloroethene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C



Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
cis-1,3-Dichloropropene	ND	1.0	ug/Kg	1	03/10/21	JLI	SW8260C
Dibromochloromethane	ND	0.5	ug/Kg	1	03/10/21	JLI	SW8260C
Dibromomethane	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Dichlorodifluoromethane	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Ethylbenzene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Hexachlorobutadiene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Isopropylbenzene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
m&p-Xylene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Methyl Ethyl Ketone	ND	35	ug/Kg	1	03/10/21	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	10	ug/Kg	1	03/10/21	JLI	SW8260C
Methylene chloride	ND	10	ug/Kg	1	03/10/21	JLI	SW8260C
Naphthalene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
n-Butylbenzene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
n-Propylbenzene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
o-Xylene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
p-Isopropyltoluene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
sec-Butylbenzene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Styrene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
tert-Butylbenzene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Tetrachloroethene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Tetrahydrofuran (THF)	ND	12	ug/Kg	1	03/10/21	JLI	SW8260C
Toluene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Total Xylenes	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
trans-1,2-Dichloroethene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
trans-1,3-Dichloropropene	ND	1.0	ug/Kg	1	03/10/21	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	12	ug/Kg	1	03/10/21	JLI	SW8260C
Trichloroethene	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Trichlorofluoromethane	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
Trichlorotrifluoroethane	ND	12	ug/Kg	1	03/10/21	JLI	SW8260C
Vinyl chloride	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	99		%	1	03/10/21	JLI	70 - 130 %
% Bromofluorobenzene	96		%	1	03/10/21	JLI	70 - 130 %
% Dibromofluoromethane	96		%	1	03/10/21	JLI	70 - 130 %
% Toluene-d8	98		%	1	03/10/21	JLI	70 - 130 %
<b><u>Oxygenates &amp; Dioxane</u></b>							
1,4-Dioxane	ND	20	ug/Kg	1	03/10/21	JLI	SW8260C (OXY)
Diethyl ether	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C (OXY)
Di-isopropyl ether	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C (OXY)
Ethyl tert-butyl ether	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C (OXY)
tert-amyl methyl ether	ND	5.9	ug/Kg	1	03/10/21	JLI	SW8260C (OXY)
<b><u>Semivolatiles</u></b>							
1,2,4,5-Tetrachlorobenzene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
1,2,4-Trichlorobenzene	ND	200	ug/Kg	1	03/10/21	WB	SW8270D
1,2-Dichlorobenzene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
1,2-Diphenylhydrazine	ND	770	ug/Kg	1	03/10/21	WB	SW8270D
1,3-Dichlorobenzene	ND	300	ug/Kg	1	03/10/21	WB	SW8270D
1,4-Dichlorobenzene	ND	70	ug/Kg	1	03/10/21	WB	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2,4,5-Trichlorophenol	ND	400	ug/Kg	1	03/10/21	WB	SW8270D
2,4,6-Trichlorophenol	ND	70	ug/Kg	1	03/10/21	WB	SW8270D
2,4-Dichlorophenol	ND	70	ug/Kg	1	03/10/21	WB	SW8270D
2,4-Dimethylphenol	ND	70	ug/Kg	1	03/10/21	WB	SW8270D
2,4-Dinitrophenol	ND	300	ug/Kg	1	03/10/21	WB	SW8270D
2,4-Dinitrotoluene	ND	70	ug/Kg	1	03/10/21	WB	SW8270D
2,6-Dinitrotoluene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
2-Chloronaphthalene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
2-Chlorophenol	ND	70	ug/Kg	1	03/10/21	WB	SW8270D
2-Methylnaphthalene	ND	70	ug/Kg	1	03/10/21	WB	SW8270D
2-Methylphenol (o-cresol)	ND	100	ug/Kg	1	03/10/21	WB	SW8270D
2-Nitroaniline	ND	770	ug/Kg	1	03/10/21	WB	SW8270D
2-Nitrophenol	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	770	ug/Kg	1	03/10/21	WB	SW8270D
3,3'-Dichlorobenzidine	ND	100	ug/Kg	1	03/10/21	WB	SW8270D
3-Nitroaniline	ND	100	ug/Kg	1	03/10/21	WB	SW8270D
4,6-Dinitro-2-methylphenol	ND	770	ug/Kg	1	03/10/21	WB	SW8270D
4-Bromophenyl phenyl ether	ND	770	ug/Kg	1	03/10/21	WB	SW8270D
4-Chloro-3-methylphenol	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
4-Chloroaniline	ND	100	ug/Kg	1	03/10/21	WB	SW8270D
4-Chlorophenyl phenyl ether	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
4-Nitroaniline	ND	1200	ug/Kg	1	03/10/21	WB	SW8270D
4-Nitrophenol	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Acenaphthene	ND	400	ug/Kg	1	03/10/21	WB	SW8270D
Acenaphthylene	ND	100	ug/Kg	1	03/10/21	WB	SW8270D
Acetophenone	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Aniline	ND	770	ug/Kg	1	03/10/21	WB	SW8270D
Anthracene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Benz(a)anthracene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Benzidine	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Benzo(a)pyrene	ND	200	ug/Kg	1	03/10/21	WB	SW8270D
Benzo(b)fluoranthene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Benzo(ghi)perylene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Benzo(k)fluoranthene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Benzoic acid	ND	1500	ug/Kg	1	03/10/21	WB	SW8270D
Benzyl butyl phthalate	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Bis(2-chloroethoxy)methane	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Bis(2-chloroethyl)ether	ND	70	ug/Kg	1	03/10/21	WB	SW8270D
Bis(2-chloroisopropyl)ether	ND	70	ug/Kg	1	03/10/21	WB	SW8270D
Bis(2-ethylhexyl)phthalate	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Carbazole	ND	100	ug/Kg	1	03/10/21	WB	SW8270D
Chrysene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Dibenz(a,h)anthracene	ND	70	ug/Kg	1	03/10/21	WB	SW8270D
Dibenzofuran	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Diethyl phthalate	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Dimethylphthalate	ND	70	ug/Kg	1	03/10/21	WB	SW8270D
Di-n-butylphthalate	ND	770	ug/Kg	1	03/10/21	WB	SW8270D
Di-n-octylphthalate	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Fluoranthene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Fluorene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Hexachlorobenzene	ND	70	ug/Kg	1	03/10/21	WB	SW8270D
Hexachlorobutadiene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Hexachlorocyclopentadiene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Hexachloroethane	ND	70	ug/Kg	1	03/10/21	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Isophorone	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Naphthalene	ND	400	ug/Kg	1	03/10/21	WB	SW8270D
Nitrobenzene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
N-Nitrosodimethylamine	ND	770	ug/Kg	1	03/10/21	WB	SW8270D
N-Nitrosodi-n-propylamine	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
N-Nitrosodiphenylamine	ND	770	ug/Kg	1	03/10/21	WB	SW8270D
Pentachloronitrobenzene	ND	770	ug/Kg	1	03/10/21	WB	SW8270D
Pentachlorophenol	ND	300	ug/Kg	1	03/10/21	WB	SW8270D
Phenanthrene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Phenol	ND	100	ug/Kg	1	03/10/21	WB	SW8270D
Pyrene	ND	540	ug/Kg	1	03/10/21	WB	SW8270D
Pyridine	ND	770	ug/Kg	1	03/10/21	WB	SW8270D
<b>QA/QC Surrogates</b>							
% 2,4,6-Tribromophenol	80		%	1	03/10/21	WB	30 - 130 %
% 2-Fluorobiphenyl	75		%	1	03/10/21	WB	30 - 130 %
% 2-Fluorophenol	74		%	1	03/10/21	WB	30 - 130 %
% Nitrobenzene-d5	71		%	1	03/10/21	WB	30 - 130 %
% Phenol-d5	73		%	1	03/10/21	WB	30 - 130 %
% Terphenyl-d14	79		%	1	03/10/21	WB	30 - 130 %
Field Extraction	Completed				03/08/21		SW5035A

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

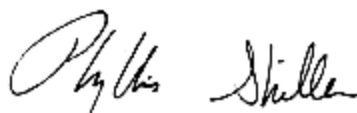
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

### **Comments:**

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**

**March 10, 2021**

**Official Report Release To Follow**

Sample Criteria Exceedances Report  
GCH74522 - ENVPARTMDC

Criteria: MA: S1 Calc.  
State: CT

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
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\*\*\* No Data to Display \*\*\*

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.





**AUXILIARY SOIL SOLDIFICATION PIT 2  
Analysis of Pit-Retaining Walls  
Design Submittal**

South Hartford Conveyance and Storage Tunnel  
MDC Contract 5  
Hartford, Connecticut

*for*

**Empire Paving**

March 26, 2021



4 California Avenue, Suite 204  
Framingham Massachusetts 01701  
508.283.6340



4 California Avenue, Suite 204  
Framingham, Massachusetts 01701  
508.283.6340

March 26, 2021

Empire Paving, Inc.  
30 Bernhard Rd  
North Haven, Connecticut

Attention: Jessica Webb

Subject: Auxiliary Soil Solidification Pit 2 – Supplemental Design Submittal  
South Hartford Conveyance and Storage Tunnel – MDC Contract No. 5  
Hartford, Connecticut  
File No. 24407-002-00

GeoEngineers Inc. (GeoEngineers) has prepared the attached pit-retaining wall supplemental design calculations in support of the South Hartford Conveyance and Storage Tunnel project – MDC Contract No. 5, located in Hartford Connecticut.

The attached calculations show that the concrete block pit-walls are expected to be stable given a maximum slurry height of 6-ft.

We trust that this satisfies the needs of the project at this time. Please contact Dimitrios Palantzas (508)-468-5714 or Franklin Grynkewicz at (781) 413-7240 with any questions or comments.

Sincerely,  
GeoEngineers Inc.



Dimitrios Palantzas, PE  
Senior Geostructural Engineer



Franklin M. Grynkewicz, PE (MA)  
Senior Principal Engineer

## TABLE OF CONTENTS

Auxiliary Soil Solidification Pit 2 Supplemental Design Submittal  
South Hartford Conveyance and Storage Tunnel – MDC Contract No. 5  
Hartford, Connecticut

### CALCULATIONS

Wall Analysis – MathCAD

### DESCRIPTION

Pit-Retaining Wall Analyses

### DRAWINGS

Sheets 552 C-131

### DESCRIPTION

DS-2 Staging & Temporary Erosion Control &  
Stormwater Management Plan





Job No. 24407-002-00

### Introduction

Auxilliary Soil Solidification Pit 2 (AP2) has been constructed using precast concrete blocks as the retaining wall. Analyses of the retaining wall is required. The blocks are  $B := 3 \text{ ft}$  and  $H := 3 \text{ ft}$ ; constructed of unreinforced concrete (assumed), and stacked two units high. A soil berm has been constructed outside of the pit and adjacent to the wall. AP2 retains slurry spoil from drilling operations.

### References

1. Contract plan sheet "552 C-131"; and
2. Project photographs from GeoEngineers site visit (March 17, 2021).

### Conclusion

The calculated factors of safety for bearing and sliding for the given conditions are adequate.

### Analyses

#### Assumptions

Assume:

- wall is coherent mass;
- wall is "pushed" into soil embankment;
- groundwater is well below wall base; and
- Height of berm is about 3 ft (based on photographs).

#### Materials

##### Soil berm

$$\gamma_{fill} := 115 \text{ pcf}$$

$$\phi_{fill} := 28 \text{ deg}$$

$$k_{a\_fill} := \tan \left( 45 \text{ deg} - \frac{\phi_{fill}}{2} \right)^2 = 0.36$$

$$k_{p\_fill} := \frac{1}{k_{a\_fill}} = 2.77$$

##### Soil subgrade

$$\gamma_{exist} := 120 \text{ pcf}$$

$$\phi_{exist} := 32 \text{ deg}$$

##### Slurry spoil

$$\gamma_{slurry} := 90 \text{ pcf}$$

$$k_{slurry} := 1$$

##### Concrete blocks

$$\gamma_{concrete} := 145 \text{ pcf}$$

$$B = 3 \text{ ft}$$

$$H = 3 \text{ ft}$$

$$W := \gamma_{concrete} \cdot B \cdot H = 1.31 \frac{\text{kip}}{\text{ft}}$$



Job No. 24407-002-00

### Check final wall condition

#### Stability / Overturning (per foot of wall)

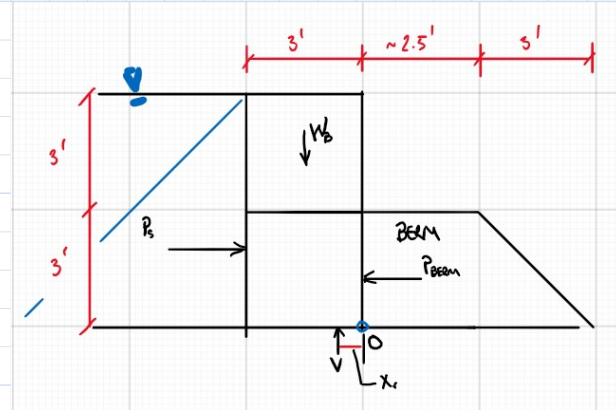
$$H_{T1} := 2 \cdot H = 6 \text{ ft} \quad V_1 := 2 \cdot W = 2.61 \frac{\text{kip}}{\text{ft}} \quad B = 3 \text{ ft} \quad H = 3 \text{ ft} \quad W = 1.31 \frac{\text{kip}}{\text{ft}}$$

$$P_{slurry} := \frac{1}{2} k_{slurry} \cdot \gamma_{slurry} \cdot H_{T1}^2 = 1.62 \frac{\text{kip}}{\text{ft}}$$

$$P_{berm} := \frac{1}{2} k_{p\_fill} \cdot \gamma_{fill} \cdot H^2 = 1.43 \frac{\text{kip}}{\text{ft}}$$

$$x_{r1} := \frac{\frac{H_{T1}}{3} \cdot P_{slurry} + \frac{B}{2} \cdot 2 \cdot W + \frac{H}{3} \cdot P_{berm}}{V_1} = 0.81 \text{ ft}$$

(Note: ignore trapezoidal shape of berm and use triangular portion for moment arm - conservative).



e with respect to center of block:

$$e := \frac{B}{2} - x_{r1} = 0.69 \text{ ft} \quad \frac{B}{3} = 1 \text{ ft}$$

$$B' := B - 2 \cdot e = 1.62 \text{ ft}$$

∴ Resultant in kern; OK

#### Sliding

$\delta_{c-s} := 14 \text{ deg}$  (ultimate friction factor for precast concrete on soil - NAVFAC DM7.02)

$$f_{c-s} := \tan(\delta_{c-s}) = 0.25$$

$$F_{r1} := V_1 \cdot \tan(\delta_{c-s}) + P_{berm} = 2.08 \frac{\text{kip}}{\text{ft}}$$

$$FS_{slide1} := \frac{F_{r1}}{P_{slurry}} = 1.29$$

∴ FS sliding > 1.25 (temp condition); OK

#### Bearing

$$q_1 := \frac{V_1}{B'} = 1.62 \text{ ksf} \quad (\text{estimated bearing pressure})$$

$$N_y := 30.21 \quad (\text{Vesic bearing capacity factor for } \phi_{exist} = 32 \text{ deg})$$

$$q_a := \frac{1}{2} \cdot B' \cdot \gamma_{exist} \cdot N_y = 2.93 \text{ ksf}$$

$$FS_{brg1} := \frac{q_a}{q_1} = 1.81$$

∴ FS bearing > 1.50 say OK for temp condition

Check sliding at intermediate level

$$H_{T2} := H = 3 \text{ ft} \quad V_2 := W = 1.31 \frac{\text{kip}}{\text{ft}}$$

Blocks

$$B = 3 \text{ ft}$$

$$H = 3 \text{ ft}$$

$$W = 1.31 \frac{\text{kip}}{\text{ft}}$$

$$P_{slurry2} := \frac{1}{2} k_{slurry} \cdot \gamma_{slurry} \cdot H_{T2}^2 = 0.41 \frac{\text{kip}}{\text{ft}}$$

Sliding

$$\delta_{c-c} := 38.6 \text{ deg} \quad (\text{ultimate friction factor for precast concrete on concrete - PCI})$$

$$F_{r2} := V_2 \cdot \tan(\delta_{c-c}) = 1.04 \frac{\text{kip}}{\text{ft}}$$

$$FS_{slide1} := \frac{F_{r2}}{P_{slurry2}} = 2.57$$

$\therefore$  FS sliding > 1.25 (temp condition): OK





EROSION CONTROL NOTES:

1. THE CONTRACTOR SHALL BEGIN CONSTRUCTION ACTIVITY ONLY AFTER THE EROSION CONTROL MEASURES ARE IN PLACE AND INSPECTED BY THE ENGINEER
2. THE STOCKPILING OF MATERIALS SHALL BE LIMITED ONLY TO MUCK GENERATED ONSITE AND SHALL BE LIMITED TO LOCATIONS APPROVED BY THE TOWN PLANNER. STOCKPILING OF MATERIAL SHALL BE LIMITED TO A MAXIMUM OF THIRTY DAYS OF DURATION. ALL HIGH STANDARD STOCKPILING AREA DETAILS SHOULD BE ADHERED TO IN SUCH CASES.
3. THE CONTRACTOR SHALL INSTALL BASE COURSE OF ASPHALT AS SOON UTILITY INSTALLATION IS FINISHED TO PREVENT EROSION.
4. THE ACCUMULATED SEDIMENT IN STILLING BASINS OR SEDIMENT TRAPS SHALL BE CLEANED AND MAINTAINED ON A REGULAR BASIS
5. THE TEMPORARY EROSION CONTROL AND STORMWATER MANAGEMENT TECHNIQUES PRESENTED HEREIN ARE TO BE USED BY THE CONTRACTOR AS A GUIDELINE FOR HIS CONSTRUCTION PERMIT APPLICATION WITH CT DEEP AND MAY VARY BASED ON HIS ADOPTED MEANS AND METHODS.

STAGING NOTES:

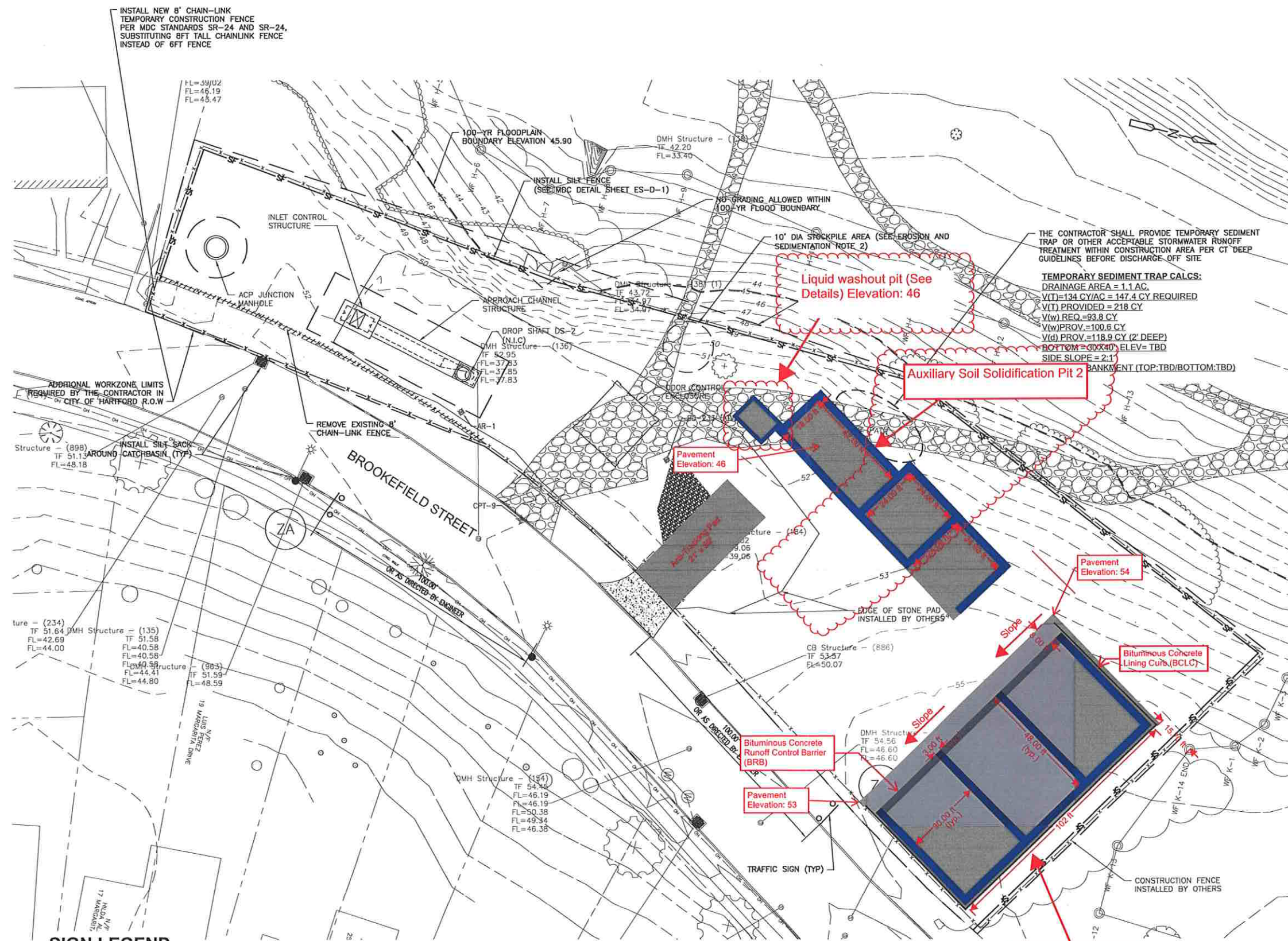
1. CONTRACTOR SHALL NOT ENCROACH CONSTRUCTION EQUIPMENT OR VEHICLES IN NON-CONSTRUCTION AREAS.
2. CONTRACTOR SHALL NOT PERFORM ANY CONSTRUCTION ACTIVITY OUTSIDE NORMAL CONSTRUCTION HOURS (7 A.M TO SUNSET)
3. THE CONTRACTOR SHALL ONLY DISTURB AREA NECESSARY TO COMPLETE EACH PHASE OF CONSTRUCTION ACTIVITY.

ADDITIONAL GENERAL NOTES:

1. FOR GENERAL NOTES, LEGENDS AND ABBREVIATIONS SEE SHEET 500 C-001 AND 002.
2. FOR TRAFFIC MANAGEMENT SEE SHEETS 510 T-101 THROUGH 103.
3. FOR PLAN AND PROFILE SEE SHEET 552 C-101
4. FOR SITE RESTORATION SEE SHEET 552 C-141
5. FOR SITE LAYOUT AND GRADING SEE SHEET 552 C-201
6. FOR SITE LANDSCAPING SEE SHEET 552 C-211
7. THE LIMITS OF EXCAVATION SUPPORT SYSTEM SHOWN HEREIN ARE APPROXIMATE. CONTRACTORS SHALL SELECT EXCAVATION DIMENSIONS BASED ON HIS MEANS AND METHODS, CONSTRUCTION TOLERANCES AND OTHER LIMITATIONS NOTED HEREIN.
8. THE LOCATIONS OF STOCKPILE AREA AND SEDIMENTATION TRAP ARE APPROXIMATE AND MAY CHANGE BASED ON CONTRACTORS ADOPTED MEANS AND METHODS
9. THE CONTRACTOR SHALL NOTE THAT THIS SHEET INCORPORATES INTERIM RESTORATION OF THE SITE POST SHALT CONSTRUCTION WITHIN OWNER PROPERTY. THE CONTOURS SHOWN IN THIS SHEET WIN THE OWNER PROPERTY DEPICT ANTICIPATED EXISTING SITE CONDITIONS AND MAY VARY FROM CONTOURS SHOWN IN THE EXISTING SITE CONDITIONS SHEET.



VERTICAL DATUM IS NGVD 29  
HORIZONTAL DATUM IS NAD 83/92



## STAGING PLANS FOR DROP SHAFT DS-2 AND MICROTUNNEL SHAFT AT ACP JUNCTION MANHOLE

SCALE: 1"=20'

## SIGN LEGEND



Ⓜ



**The Metropolitan District**  
555 Main Street  
Hartford, Connecticut

1	1/30/19	SG	JS	SITE INTERIM RESTORATION DETAILS POST-SHAFT CONSTRUCTION	
REV.	DATE	DRWN	CHKD	REMARKS	

FILE NAME: 552 C-131  
DESIGNED BY: S. GANESH  
DRAWN BY: S. GANESH  
CHK'D BY: C. COSTELLO  
X-CHK'D BY: J. SULLIVAN  
APPROVED BY: J. SULLIVAN  
DATE: MAY 2016



**AECOM** 500 ENTERPRISE DRIVE, SUITE 1A  
ROCKY HILL, CT 06067  
PHONE (860) 263-5800

CONTRACT NO. 2015B-35  
SOUTH HARTFORD CONVEYANCE AND  
STORAGE TUNNEL

in association with



**BLACK & VEATCH**

CONTRACT 5

DS-2 STAGING & TEMPORARY EROSION  
CONTROL & STORMWATER MANAGEMENT

CIVIL

PLAN NUMBER

SHEET NO. \_\_\_\_\_

552 C-131





**DEPARTMENT OF DEVELOPMENT SERVICES – PLANNING DIVISION**  
**REPORT:** Summary of Wetlands Violation, MDC SHCST, 611 Brookfield St.  
 for consideration March 9, 2021

**STAFF REPORT**

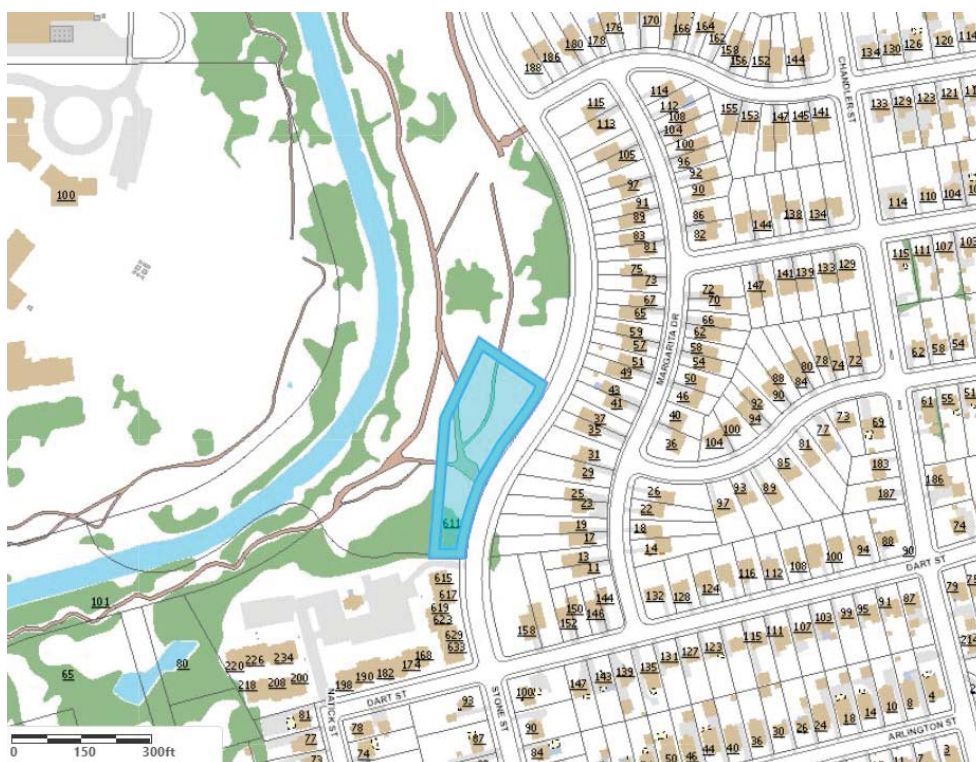
**TO:** Inland Wetlands & Watercourses Commission  
**PREPARED BY:** Elizabeth Sanderson, Municipal Inland Wetlands Agent  
[Elizabeth.sanderson@hartford.gov](mailto:Elizabeth.sanderson@hartford.gov), 860-936-4489

**SUBJECT:** Communication/Discussion Related to Wetlands Violation at The  
 Metropolitan District Commission (MDC) South Hartford Conveyance  
 and Storage Tunnel (SHCST), Site DS-2  
 Accela Code Case #: 9636459

**PROPERTIES  
 IMPACTED:**

- 1) 611 Brookfield St., Parcel ID 140-588-004,  
 Owner: The Metropolitan District Commission
- 2) 180 John D. Wardlaw Way, Parcel ID 140-588-003,  
 Owner: City of Hartford Housing Authority

**ZONE:** OS Open Space District



City of Hartford GIS Map, depicting 611 Brookfield St.

### **BACKGROUND INFORMATION**

Activities related to the construction of The MDC's South Hartford Conveyance and Storage Tunnel (SHCST) Site DS-2 at 611 Brookfield St. have resulted in depositing material into an adjacent wetlands, watercourse, and upland review area without approvals or permits. A Notice of Violation dated March 2, 2021 was issued to the property owner's representative via e-mail, certified mail, and regular mail (see Attachment #1).

At its regular meeting on June 12, 2018 the Planning & Zoning Commission, acting in its authority as the Inland Wetlands Agency, approved an Inland Wetlands Permit for new construction of a Utility Use at 611 Brookfield St., subject to conditions (see Attachment #2). At the same meeting the Commission approved a Special Permit for the project, also subject to conditions (see Attachment #3). Previously issued permits do not include filling within the wetlands, watercourse, and upland review area, which recently occurred.



Figure 1. Photograph from AECOM depicting slurry waste that leaked from 611 Brookfield St. onto the adjacent property owned by the City of Hartford Housing Authority, which contains the South Branch of the Park River and associated wetlands and upland review area.

### **LEGAL STANDARD**

Relevant Sections of the Inland Wetlands & Watercourses Regulations, Last Amended February 28, 2017:

#### **Sec. 2. Definitions**

**Sec. 2.1...**“Regulated activity” means any operation within or use of a wetland or watercourse involving removal or deposition of material, or any obstruction, construction, alteration or pollution, of such wetlands or watercourses... Furthermore, any clearing, grubbing, filling, grading, paving, excavating, constructing, depositing or removing of material and discharging of storm water on the land within 100 feet measured horizontally from the boundary of any wetland or watercourse is a regulated activity...

#### **Sec. 4. Permitted Uses As of Right and Nonregulated Uses**

**Sec. 4.3.** All activities in wetlands or watercourses involving filling, excavating, dredging, clear cutting, clearing, or grading or any other alteration or use of a wetland or watercourse not specifically permitted by this section and otherwise defined as a regulated activity by these regulations shall require a permit from the Agency in accordance with section 6 of these regulations, or for certain regulated activities located outside of wetlands and watercourses from the duly authorized agent in accordance with section 12 of these regulations.

#### **Sec. 14. Enforcement**

**Sec. 14.4.** If the Agency or its duly authorized agent finds that any person is conducting or maintaining any activity, facility or condition which is in violation of the Act or these regulations, the Agency or its duly authorized agent may:

...

(b) Issue a notice of violation to such person conducting such activity or maintaining such facility or condition, stating the nature of the violation, the jurisdiction of the Agency, and prescribing the necessary action and steps to correct the violation including, without limitation, halting work in wetlands or watercourses. The Agency may request that the individual appear at the next regularly scheduled meeting of the Agency to discuss the unauthorized activity, and/or provide a written reply to the notice or file an application for the necessary permit. Failure to carry out the action(s) directed in a notice of violation may result in issuance of the order provided in section 14.3(a) or other enforcement proceedings as provided by law.

#### **TIMELINE AND SUMMARY**

- Notice of the incident was reported to the Inland Wetland Agent on February 23, 2021 (see Attachment #4), including photographs date-stamped February 19, 2021 (see Attachment #5).
- A site inspection of 611 Brookfield St. was conducted on Friday, February 26, 2021 with Jon Melone, Resident Representative of AECOM, the Construction Manager on behalf of The MDC; Jim Tanner, City of Hartford Zoning Enforcement Officer; and Elizabeth Sanderson, City of Hartford Inland Wetland Agent.
  - The area where the leak originated was contained, and no material was seen leaving the site.
  - Some repairs had been made to the silt fence, and a few hay bales were installed near the point of breach. Additional erosion controls are needed to better secure the site.
- Jon Melone of AECOM prepared a summary of the site inspection (included in Attachment #4) and provided a map of the property (see Attachment #6) via e-mail on February 26, 2021.
- On February 26, 2021, an e-mail was sent to Jon Melone, AECOM, and Jessica Webb of Empire Paving, the contractor, with a description of corrective actions needed to stabilize the site, including:
  - Maintain/repair/replace existing silt fence as soon as possible.
  - Install additional erosion controls along the western property line.

- Maintain the anti-tracking pad at the construction entrance to prevent erosion into the city street.
  - Prepare a remediation plan in coordination with the adjacent property owner (City of Hartford Housing Authority).
- On March 2, 2021 representatives from AECOM called a meeting to address questions related to the 2/26 site inspection.
- The Notice of Violation, dated March 2, 2021 cited the following corrective actions:
  - Cease disposition of material outside of limits of construction and slurry containment structures;
  - Where damaged, remove silt fence and replace with new;
  - Remove accumulated soil from silt fence, and dispose of properly;
  - Install additional erosion control measures along the western property line to consist of haybales, second row of siltation fence. Provide an Erosion Control Plan certified by a Professional Engineer;
  - Provide an analysis of the impacts from the spill on the wetlands/watercourse, prepared by a Wetlands/Soils Scientist;
  - Provide certification from a Structural Engineer that the containment structures are structurally sound to contain the slurry wastewater for the duration of the project (project estimated completion date is September 2021);
  - Submit a Remediation Plan to address deposition of material within wetlands/watercourse/upland review areas, prepared in cooperation with the adjacent property owner (Hartford Housing Authority).
- Counsel from the City of Hartford Housing Authority forwarded a draft License Agreement, which would allow Empire Paving access to the property for the purpose of cleaning up spilled waste.
- On March 3, 2021 Jessica Webb, Empire Paving, indicated that additional measures will be taken at 611 Brookfield St. to prevent future spills, and additional erosion controls will be installed to better secure the site.





Figure 2.



Figure 3.

Figures 2 & 3. Photographs of slurry containment pits at 611 Brookfield St. Per contractor, Empire Paving, an earthen containment area was established adjacent to the concrete pit, which ultimately failed and caused slurry waste to migrate off-site onto adjacent land containing wetlands, watercourse, and upland review area.

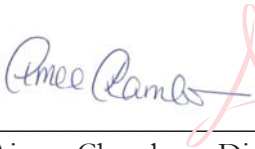
## **RECOMMENDATIONS AND NEXT STEPS**

- A representative from Empire Paving indicated that additional erosion controls would be installed on Friday, March 5<sup>th</sup>.
- Staff recommends that the disturbed areas be analyzed by a Wetlands Scientist/Soils Scientist to ensure proposed remediation is planned and completed in accordance with best practices to protect the wetlands/watercourse.
- Staff will work with the Applicant to obtain the remediation plan and determine next steps in the permit process, which will likely require Commission review and approval due to impacts within wetlands/watercourses.
- The Commission should note that depending on the severity of impacts to the wetlands and watercourse, additional emergency stabilization measures may need to be installed to protect the resources in advance of Commission review/issuance of the permit.

## **ATTACHMENTS**

1. Notice of Violation for Wetlands Violation, dated March 2, 2021.
2. Inland Wetlands Permit Approval Letter (dated June 13, 2018).
3. Special Permit Approval Letter (dated June 13, 2018).
4. E-mail Correspondence (dated February 19, 2021 through February 26, 2021).
5. Photographs from AECOM (date-stamped 2/19/2021)
6. Map of 611 Brookfield St. (from AECOM)

## **REVIEWED AND EDITED BY,**



Digitally signed by Aimee Chambers  
DN: cn=Aimee Chambers, o=City of  
Hartford, ou=Director of Planning,  
email=aimee.chambers@hartford.gov,  
c=US  
Date: 2021.03.03 17:13:26 -05'00'

Aimee Chambers, Director



**LUKE BRONIN**  
MAYOR

# CITY OF HARTFORD

DEPARTMENT OF DEVELOPMENT SERVICES  
Planning Division  
250 Constitution Plaza, 4<sup>th</sup> Floor  
Hartford, Connecticut 06103



**I. CHARLES MATHEWS**  
DIRECTOR

**AIMEE CHAMBERS**  
PLANNING DIRECTOR

## NOTICE OF VIOLATION

SENT BY REGULAR MAIL AND CERTIFIED MAIL

March 2, 2021

**Mr. Christopher R. Stone, District Counsel**  
**The Metropolitan District Commission**  
**555 Main St.**  
**Hartford, CT 06103**

[Service by Certified Mail: 7012 1010 0002 8400 1586 and  
E-mail to [CStone@themdc.com](mailto:CStone@themdc.com) ]

**Re: 611 Brookfield St.**  
**Hartford, CT zip**  
**Parcel 140-588-004**  
**Zone: OS**  
**Case Code Number: Accela #9636459**

Mr. Stone:

It has come to attention that slurry waste from construction activities at Site DS-2 located at 611 Brookfield Street, associated with construction of the South Hartford Conveyance and Storage Tunnel project, have migrated from the approved site onto an adjacent property and into a delineated wetland/watercourse area. An inspection conducted on Friday, February 26, 2021 with Jon Melone, Resident Representative from AECOM, the Construction Manager for the project, revealed that a failure of the slurry wastewater containment pit caused waste material to migrate from the site. As such, material has been deposited into the adjacent wetlands and upland review area without proper permits and approvals in place.

The above referenced property is in violation of the Hartford Inland Wetlands and Watercourses Regulations.

### **Accordingly, you are found to be in violation pursuant to the following Section(s):**

Sec. 4.3 for conducting a Regulated Activity (deposition of material) within a wetland/watercourse and the associated upland review area without first obtaining necessary approvals in accordance with Section 6: Regulated Activities to be Licensed and Section 7: Application Requirements.

In order to bring your property into compliance, the following actions are required:

- **Cease disposition of material outside of limits of construction and slurry containment structures;**
- **Where damaged, remove silt fence and replace with new;**
- **Remove accumulated soil from silt fence, and dispose of properly;**
- **Install additional erosion control measures along the western property line to consist of haybales, second row of siltation fence. Provide an Erosion Control Plan certified by a Professional Engineer;**
- **Provide an analysis of the impacts from the spill on the wetlands/watercourse, prepared by a Wetlands/Soils Scientist;**
- **Provide certification from a Structural Engineer that the containment structures are structurally sound to contain the slurry wastewater for the duration of the project (which my understanding is estimated to complete September 2021);**
- **Submit a Remediation Plan to address deposition of material within wetlands/watercourse/upland review areas, prepared in cooperation with the adjacent property owner (Hartford Housing Authority).**

This violation will be brought to the attention of the Inland Wetlands and Watercourses Commission at their next regularly scheduled meeting on Tuesday, March 9, 2021, in accordance with Section 14.4(b).



You may access the Inland Wetlands and Watercourses Regulations by visiting the following website; regulations are in the "Land Use and Zoning" section: [Planning & Zoning – City of Hartford \(hartfordct.gov\)](http://hartfordct.gov/planning-zoning). Please contact me to discuss your intentions to bring the property into compliance. I can be reached at 860-936-4489.

Respectfully,

*Elizabeth Sanderson*

Elizabeth Sanderson  
Municipal Inland Wetlands Agent  
City of Hartford

**CC: File; Via E-Mail to: Andrew Perham, The MDC ([APerham@themdc.com](mailto:APerham@themdc.com)); Gene Zwicharowski, Empire Paving ([GeneZ@empirepaving.com](mailto:GeneZ@empirepaving.com)); Jessica Webb, Empire Paving ([JessicaW@empirepaving.com](mailto:JessicaW@empirepaving.com)); Tom Loto, AECOM ([Tom.Loto@AECOM.com](mailto:Tom.Loto@AECOM.com)); and Jon Melone, AECOM ([Jon.Melone@AECOM.com](mailto:Jon.Melone@AECOM.com)); Elisa Hobbs, Hartford Housing Authority ([EHobbs@hartfordhousing.org](mailto:EHobbs@hartfordhousing.org)); Frank Dellaripa, City Engineer ([Frank.Dellaripa@hartford.gov](mailto:Frank.Dellaripa@hartford.gov))**





**LUKE BRONIN**  
MAYOR

# CITY OF HARTFORD

DEPARTMENT OF DEVELOPMENT SERVICES  
250 Constitution Plaza, 4<sup>th</sup> floor  
Hartford, Connecticut 06103-1822

Telephone: (860) 757- 9040  
Fax: (860) 722-6402  
[www.hartford.gov](http://www.hartford.gov)



**KILEY A. GOSSELIN**  
INTERIM DIRECTOR

**JAMIE BRATT**  
DEPUTY DIRECTOR

June 13, 2018

Mr. Sankar Ganesh  
The Metropolitan District Commission  
555 Main Street  
P.O. Box 500  
Hartford, CT 06142-0800

**RE: 611 Brookfield Street**

Dear Mr. Ganesh:

At its regular meeting of June 12, 2018, the Planning and Zoning Commission met to consider an Inland Wetland and Watercourse Application for the construction of a drop shaft and odor control facility. In this regard, the Commission voted to approve the following resolution:

**APPROVAL OF AN INLAND WETLANDS PERMIT FOR NEW CONSTRUCTION OF A  
UTILITY USE AT 611 BROOKFIELD STREET**

- WHEREAS,** The Planning and Zoning Commission has reviewed an inland wetlands and watercourses application to construct a drop shaft and odor control facility located at 611 Brookfield Street; and
- WHEREAS,** Whereas a portion of the facility is located within the 100 foot upland review area thus disturbing 0.71 acres within said review area; and
- WHEREAS,** The Applicant is undertaking a Clean Water Project to address two Consent Decrees from the CT DEEP and Federal Government; and
- WHEREAS,** The Applicant is utilizing a South Tunnel to collect and store stormwater as a means to meet the goals and objectives of the Clean Water Project; and
- WHEREAS,** The Applicant has already installed a substantial portion of the drop shaft and vent shaft at 611 Brookfield Street and South Tunnel; and
- WHEREAS,** The drop shaft and odor control facility located at 611 Brookfield Street is one of five to be installed in the City of Hartford and said facilities are required in order to collect and control how stormwater enters the South Tunnel; and
- WHEREAS,** The planning and Zoning Commission hereby approves this inland wetland and watercourse application for the construction of the drop shaft and odor control facility at 611 Brookfield Street with the following conditions:

1. Applicant shall plant a native seed mix in areas that do not require mowing; and
2. Applicant shall work with staff to rearrange or install a variety of native shrubs outside of the fenced area; and
3. Applicant shall plant street trees along the entire length of the frontage, meeting the requirements of 6.7 (7) Street Trees; and
4. Prior to building permit, the contractor shall provide a plan depicting the size and location of all temporary sedimentation traps in locations that appropriately collect runoff from the site during construction. Said plan shall be signed and sealed by a CT Licensed Professional Engineer; and

**NOW THEREFORE BE IT RESOLVED**, This twelfth day of June, 2018

With this approval, you may proceed with application for zoning approvals or building permits, as necessary, for the project. Please bring a copy of this approval letter when you apply for any permits.

Sincerely,

A handwritten signature in black ink, appearing to read "Caitlin Palmer", with a stylized, cursive script.

Caitlin Palmer  
Principal Planner

CC: File



LUKE BRONIN  
MAYOR

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ERIK JOHNSON  
DIRECTOR

JAMIE BRATT  
PLANNING & ECONOMIC  
DEVELOPMENT DIVISION  
DIRECTOR

October 1, 2018

Attn: Susan Negrelli  
555 Main Street  
P.O. Box 500  
Hartford, CT 06142-0800

**RE: 611 Brookfield Street**

Dear Ms. Negrelli:

At its regular meeting of June 12, 2018 the Planning and Zoning Commission met to consider a Special Permit Application for the establishment of an odor control facility in the OS (Open Space zoning district). In this regard, the Commission voted to approve your application with following resolution:

**CITY OF HARTFORD PLANNING AND ZONING COMMISSION  
RESOLUTION FOR  
APPROVAL OF A SPECIAL PERMIT FOR NEW CONSTRUCTION OF A UTILITY USE AT 611  
BROOKFIELD STREET**

- WHEREAS,** The Planning and Zoning Commission has reviewed a special permit application to construct a drop shaft and odor control facility located at 611 Brookfield Street; and
- WHEREAS,** The proposed use is a permitted use in the OS District and meets the criteria of the special permit review and requirements of the Utility Use; and
- WHEREAS,** The Applicant is undertaking a Clean Water Project to address two Consent Decrees from the CT DEEP and Federal Government; and
- WHEREAS,** The Applicant is utilizing a South Tunnel to collect and store stormwater as a means to meet the goals and objectives of the Clean Water Project; and
- WHEREAS,** The Applicant has already installed a substantial portion of the drop shaft and vent shaft at 611 Brookfield Street and South Tunnel; and
- WHEREAS,** The drop shaft and odor control facility located at 611 Brookfield Street is one of five to be installed in the City of Hartford and said facilities are required in order to collect and control how stormwater enters the South Tunnel; and

**WHEREAS,** The Planning and Zoning Commission hereby approves this special permit for the construction of the drop shaft and odor control facility at 611 Brookfield Street with the following conditions:

1. Applicant shall plant a native seed mix in areas that do not require mowing; and
2. Applicant shall plant street trees along the entire length of the frontage, meeting the requirements of 6.7 (7) Street Trees; and
3. All plant materials shall be approved by the City Forester; and
4. A public access pathway shall be provided from Brookfield Street to the Park River and the Applicant shall use best efforts to work with the city to facilitate a Park River trail, if one should be proposed in the future.
5. Prior to building permit, the contractor shall provide an erosion and sedimentation control plan, and the City Engineer shall approve it, depicting actual size and location of all temporary sedimentation traps in locations that appropriately collect runoff from the site during construction as based upon the provided calculation. Said plan shall be signed and sealed by a CT Licensed Professional Engineer; and
6. Applicant shall provide additional annotations to the Erosion Control Notes and outline the required inspections of erosion control measure, when they shall occur. Inspection reports shall be maintained on site and available for inspection by the zoning administrator or city Engineer upon request; and
7. Applicant has represented that it will test the odors annually and publish those reports publically. If not, applicant will provide information to the Zoning Administrator upon request; and
8. Applicant shall provide additional annotations to the Erosion Control Notes outline the required inspections of erosion control measures, when they shall occur. Inspection reports shall be maintained on site and available for inspection by the zoning administrator or city engineer upon request
9. The Applicant shall provide written notice to the zoning administrator and all property owners within a 200 foot radius, measured from all property lines, notifying recipients of the approximate date the facility will come into operation and provide the necessary contact information to report any noxious odors or emergencies. Said notice shall be mailed and Applicant shall provide an Affidavit of Mailing fifteen days prior to anticipated operation commencement; and
10. The Applicant will repair, replace and maintain such facilities at its own expense. Applicant will also operate such facilities so as to control odorous gaseous emissions and off-site nuisance odors and in compliance with all federal, state and local laws, including any regulatory agencies; and
11. In the event that the Applicant fails to comply with the conditions of this approval, the City of Hartford may, but is not obligated to offer a 30-day notice by City to Applicant with an opportunity to cure such actions as may be necessary to secure compliance with the conditions of this approval, including repair, maintain or replace any part or all of the facilities. In such event, the Applicant shall reimburse the City of Hartford for all costs and expenses incurred in connection with such actions within 30 days of demand for such reimbursement; and



12. Applicant shall maintain permanent signage to be approved by the zoning administrator on the facilities as proposed, visible from the public way, with contact information for anyone to report any noxious odors or emergencies related to the facilities.

**NOW THEREFORE BE IT RESOLVED**, This twelfth day of June, 2018

With this approval, you may proceed with application for zoning approvals or building permits, as necessary, for the project. Please bring a copy of this approval letter when you apply for any permits.

Sincerely,

A handwritten signature in black ink, appearing to read "Caitlin Palmer". The signature is fluid and cursive, with the first name "Caitlin" and last name "Palmer" clearly distinguishable.

Caitlin Palmer  
Principal Planner

CP/VLW/vlw

CC: File

**Sanderson, Elizabeth**

---

**From:** Sanderson, Elizabeth  
**Sent:** Friday, February 26, 2021 4:44 PM  
**To:** Melone, Jon; 'Jessica Webb'  
**Cc:** Loto, Tom; Perham, Andrew (APerham@themdc.com); Jim Tanner (James.Tanner@hartford.gov); Aimee Chambers (Aimee.Chambers@hartford.gov)  
**Subject:** RE: apparent leakage of slurry water waste at 611 Brookfield St.

Jon,  
 Thanks for meeting onsite today, and for providing the drawing and the summary. Based on visual inspection, it appears that the existing siltation fence needs to be better maintained/repaired/replaced as soon as possible. Also, additional erosion controls are needed along the western property line to protect against potential future migration of materials from the site. Jim also noted that the anti-tracking pad at the construction entrance requires some attention too in order to prevent erosion into City street.

Please begin preparing a remediation plan in coordination with the adjacent property owner (Hartford Housing Authority, per GIS Map) to address the seepage. Once you submit a plan, then we can review and determine the necessary permit process.

Thank you,

Elizabeth Sanderson, AICP RLA CZEO  
 Project Leader  
 City of Hartford Department of Development Services Economic Development Division  
 Desk: 860-757-9238  
 Cell: 860-936-4489 (preferred)

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---

**From:** Melone, Jon <Jon.Melone@aecom.com>  
**Sent:** Friday, February 26, 2021 3:27 PM  
**To:** 'Jessica Webb' <JessicaW@empirepaving.com>; Sanderson, Elizabeth <Elizabeth.Sanderson@hartford.gov>  
**Cc:** Loto, Tom <tom.loto@aecom.com>; Perham, Andrew (APerham@themdc.com) <APerham@themdc.com>  
**Subject:** RE: apparent leakage of slurry water waste at 611 Brookfield St.

Attached is the plan for the soil staging area & the Soil Solidification Pits (SSPs) used for processing the microtunneling slurry spoils [for thickening and transferring to the Waste Stockpile Area (WSA)] in the project Drop Shaft-2 (DS-2) work area. The plan you had shown me this morning is the same Drop Shaft 2 (DS-2) area, but indicated the restoration work details; this plan shows the how the current site working area is set-up for dealing with soils & slurry spoils in the project work.

Quick summary of items that were discussed this morning between you, Jim Tanner (CofH) and myself at the site:

- Extend the current haybale barrier inside the current/older silt fence, to extend further to the east along the north fence line behind the Soil Solidification Pit, with your suggested comment of an additional silt fence (as primary sediment barrier) just inside this haybale barrier serving secondary buffer wall.
- Silt fence repairs in the north corner fence line to the north of the WSA bins.

- Soil recently piled in WSA Bin #3 appears to have spilled over the top of the bin wall onto the ground behind (still within silt fence and property) but which will need to be collected; more care needed in managing soils to prevent further spill over.
- Contractor clean-up of slurry runoff sediment beyond the MDC property line into the adjacent wetland area; please note the contractor will need to obtain the necessary permitting to complete the this cleanup work
- Please coordinate the work in the wetlands area property owner (City of Hartford Housing Authority).

Let me know if there is any other questions.

**Jonathan P. Melone**

*Senior Resident Representative/ Scientist*

## **AECOM**

*500 Enterprise Drive, Suite 1A*

*Rocky Hill, CT 06067*

main office: 860.263.5800 fax: 860.263.5777

direct: 860.263.5754

cell: 860.234-3967

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---

**From:** Jessica Webb <[JessicaW@empirepaving.com](mailto:JessicaW@empirepaving.com)>

**Sent:** Thursday, February 25, 2021 12:40 PM

**To:** Sanderson, Elizabeth <[Elizabeth.Sanderson@hartford.gov](mailto:Elizabeth.Sanderson@hartford.gov)>

**Cc:** Melone, Jon <[Jon.Melone@aecom.com](mailto:Jon.Melone@aecom.com)>

**Subject:** [EXTERNAL] Re: apparent leakage of slurry water waste at 611 Brookfield St.

There is no bentonite in that slurry. This material is generated from the face of the microtunneling machine; bentonite is introduced through ports in the pipes that are behind the machine. Again, no bentonite.

Sent from my iPhone

On Feb 25, 2021, at 12:18 PM, Sanderson, Elizabeth <[Elizabeth.Sanderson@hartford.gov](mailto:Elizabeth.Sanderson@hartford.gov)> wrote:

Good Afternoon Jessica,

Jon mentioned there is another additive – bentonite – which I asked for additional information about. Could you please provide more information about this?

Thanks,  
Elizabeth

---

**From:** Jessica Webb <[JessicaW@empirepaving.com](mailto:JessicaW@empirepaving.com)>

**Sent:** Thursday, February 25, 2021 12:01 PM

**To:** Sanderson, Elizabeth <[Elizabeth.Sanderson@hartford.gov](mailto:Elizabeth.Sanderson@hartford.gov)>

**Subject:** Re: apparent leakage of slurry water waste at 611 Brookfield St.

There are no MSDS sheets. It is water mixed with the natural soil.

Sent from my iPhone

On Feb 25, 2021, at 11:48 AM, Sanderson, Elizabeth  
<[Elizabeth.Sanderson@hartford.gov](mailto:Elizabeth.Sanderson@hartford.gov)> wrote:

Thanks for this information Jon. As discussed earlier, please send me the MSDS about materials contained within the slurry.

-Elizabeth

---

**From:** Melone, Jon <[Jon.Melone@aecom.com](mailto:Jon.Melone@aecom.com)>  
**Sent:** Thursday, February 25, 2021 10:53 AM  
**To:** Sanderson, Elizabeth <[Elizabeth.Sanderson@hartford.gov](mailto:Elizabeth.Sanderson@hartford.gov)>; Perham, Andrew <[APerham@themdc.com](mailto:APerham@themdc.com)>  
**Cc:** Tanner, Jim <[James.Tanner@hartford.gov](mailto:James.Tanner@hartford.gov)>; Loto, Tom <[tom.loto@aecom.com](mailto:tom.loto@aecom.com)>; Jessica Webb ([JessicaW@empirepaving.com](mailto:JessicaW@empirepaving.com)) <[JessicaW@empirepaving.com](mailto:JessicaW@empirepaving.com)>  
**Subject:** Re: apparent leakage of slurry water waste at 611 Brookfield St.

I'll see you at the DS-2 work area on Brookfield Street tomorrow morning. The work area is pretty busy right now; I find it best to Park along Dart street (west side of Stone/Brookfield by the apartments & then walking back into site); I can meet you both there at 8:00

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---

**From:** Sanderson, Elizabeth <[Elizabeth.Sanderson@hartford.gov](mailto:Elizabeth.Sanderson@hartford.gov)>  
**Sent:** Thursday, February 25, 2021 10:40:29 AM  
**To:** Perham, Andrew <[APerham@themdc.com](mailto:APerham@themdc.com)>; Melone, Jon <[Jon.Melone@aecom.com](mailto:Jon.Melone@aecom.com)>  
**Cc:** Tanner, Jim <[James.Tanner@hartford.gov](mailto:James.Tanner@hartford.gov)>; Loto, Tom <[tom.loto@aecom.com](mailto:tom.loto@aecom.com)>; Jessica Webb ([JessicaW@empirepaving.com](mailto:JessicaW@empirepaving.com)) <[JessicaW@empirepaving.com](mailto:JessicaW@empirepaving.com)>  
**Subject:** [EXTERNAL] RE: apparent leakage of slurry water waste at 611 Brookfield St.

Thanks All. Jim Tanner and I will be onsite @ 8:30 tomorrow morning.

-Elizabeth

---

**From:** Perham, Andrew <[APerham@themdc.com](mailto:APerham@themdc.com)>  
**Sent:** Thursday, February 25, 2021 10:19 AM  
**To:** Sanderson, Elizabeth <[Elizabeth.Sanderson@hartford.gov](mailto:Elizabeth.Sanderson@hartford.gov)>  
**Cc:** Tanner, Jim <[James.Tanner@hartford.gov](mailto:James.Tanner@hartford.gov)>; Melone, Jon <[Jon.Melone@aecom.com](mailto:Jon.Melone@aecom.com)>; Tom Loto ([tom.loto@aecom.com](mailto:tom.loto@aecom.com)) <[tom.loto@aecom.com](mailto:tom.loto@aecom.com)>; Jessica Webb ([JessicaW@empirepaving.com](mailto:JessicaW@empirepaving.com)) <[JessicaW@empirepaving.com](mailto:JessicaW@empirepaving.com)>  
**Subject:** RE: apparent leakage of slurry water waste at 611 Brookfield St.

Hi Elizabeth,



I've requested that Jon Melone (AECOM Inspector) to be available when you arrive tomorrow morning at Brookfield St.

Please coordinate with him.

Jon is also copied here, as is Jessica Webb from Empire Paving (contractor).

Jon's cell is (860) 234-3967.

Thanks,

*-Andrew*

---

**From:** Sanderson, Elizabeth <[Elizabeth.Sanderson@hartford.gov](mailto:Elizabeth.Sanderson@hartford.gov)>  
**Sent:** Thursday, February 25, 2021 8:57 AM  
**To:** Perham, Andrew <[APerham@themdc.com](mailto:APerham@themdc.com)>  
**Cc:** Tanner, Jim <[James.Tanner@hartford.gov](mailto:James.Tanner@hartford.gov)>  
**Subject:** RE: apparent leakage of slurry water waste at 611 Brookfield St.

OK, thank you.

---

**From:** Perham, Andrew <[APerham@themdc.com](mailto:APerham@themdc.com)>  
**Sent:** Thursday, February 25, 2021 7:55 AM  
**To:** Sanderson, Elizabeth <[Elizabeth.Sanderson@hartford.gov](mailto:Elizabeth.Sanderson@hartford.gov)>  
**Cc:** Tanner, Jim <[James.Tanner@hartford.gov](mailto:James.Tanner@hartford.gov)>  
**Subject:** RE: apparent leakage of slurry water waste at 611 Brookfield St.

Hi Elizabeth,

I forwarded this information to our construction management team (AECOM) and the contractor (Empire). I will not be available at that time tomorrow but will keep you informed of who will meet you at the site.

Thanks,

*-Andrew*

---

**From:** Sanderson, Elizabeth <[Elizabeth.Sanderson@hartford.gov](mailto:Elizabeth.Sanderson@hartford.gov)>  
**Sent:** Wednesday, February 24, 2021 4:14 PM  
**To:** Perham, Andrew <[APerham@themdc.com](mailto:APerham@themdc.com)>  
**Cc:** Tanner, Jim <[James.Tanner@hartford.gov](mailto:James.Tanner@hartford.gov)>  
**Subject:** RE: apparent leakage of slurry water waste at 611 Brookfield St.

Good Afternoon Andrew,

Thanks for taking my call today. As I mentioned, I would like to inspect the site of the spill with another inspector from the City this Friday (2/26) at 8:30 AM.  
Please let me know if this date/time works for you.

Thank you,

Elizabeth Sanderson, AICP RLA CZEO  
Project Leader  
City of Hartford Department of Development Services Economic Development Division  
Desk: 860-757-9238  
Cell: 860-936-4489 (preferred)

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---

**From:** Chambers, Aimee  
**Sent:** Tuesday, February 23, 2021 4:16 PM  
**To:** Sanderson, Elizabeth <[Elizabeth.Sanderson@hartford.gov](mailto:Elizabeth.Sanderson@hartford.gov)>  
**Subject:** FW: apparent leakage of slurry water waste from

**Aimee Chambers, AICP**  
Desk: 860-757-9073  
Cell: 860-372-1389

---

**From:** Dellaripa, Frank <[Frank.Dellaripa@hartford.gov](mailto:Frank.Dellaripa@hartford.gov)>  
**Sent:** Monday, February 22, 2021 11:28 AM  
**To:** Chambers, Aimee <[Aimee.Chambers@hartford.gov](mailto:Aimee.Chambers@hartford.gov)>  
**Subject:** FW: apparent leakage of slurry water waste from

Hi Aimee, the photos attached here are from MDC's tunnel project. They collected slurry from the micro-tunneling machine and discharged it into a pit on site, then the solids would be removed and trucked away. Apparently, the pit overfilled and slurry spilled into the wetlands. The contractor notified DEEP on Friday and then DPW today. I was told that there was an inland wetland permit issued to the contractor by the City and the State. Let me know if you need further information.

Frank

---

**From:** Perham, Andrew <[APerham@themdc.com](mailto:APerham@themdc.com)>  
**Sent:** Monday, February 22, 2021 10:11 AM  
**To:** Dellaripa, Frank <[Frank.Dellaripa@hartford.gov](mailto:Frank.Dellaripa@hartford.gov)>  
**Cc:** Tom Loto ([tom.loto@aecom.com](mailto:tom.loto@aecom.com)) <[tom.loto@aecom.com](mailto:tom.loto@aecom.com)>; Melone, Jon <[Jon.Melone@aecom.com](mailto:Jon.Melone@aecom.com)>; Jessica Webb ([JessicaW@empirepaving.com](mailto:JessicaW@empirepaving.com)) <[JessicaW@empirepaving.com](mailto:JessicaW@empirepaving.com)>; Choquette, Art <[achoquette@themdc.com](mailto:achoquette@themdc.com)>; Jones, Keith <[KJones@themdc.com](mailto:KJones@themdc.com)>  
**Subject:** FW: apparent leakage of slurry water waste from

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe. Please contact the helpdesk at 860-757-9411 if you have any questions.

Hi Frank,

As you requested, here is the initial report of the slurry spill at 611 Brookfield St in Hartford (DS-2). This occurred Friday afternoon and is related to our Contract 5 tunnel project.

Empire notified CT DEEP of this incident. The CT DEEP case number is 2021-608.

Please forward to the appropriate department / personnel as needed.

It was good to speak with you.

Thanks,

**Andrew Perham**  
Construction Manager  
(860) 278-7850 x3449

**The Metropolitan District**  
**231 Brainard Rd**  
**Hartford, CT 06114**

**Mailing address:**  
MDC  
P.O. Box 800  
Hartford, CT 06142

[www.themdc.com](http://www.themdc.com)

---

**From:** Melone, Jon <[Jon.Melone@aeacom.com](mailto:Jon.Melone@aeacom.com)>  
**Sent:** Friday, February 19, 2021 5:12 PM  
**To:** Perham, Andrew <[APerham@themdc.com](mailto:APerham@themdc.com)>; Jones, Keith <[KJones@themdc.com](mailto:KJones@themdc.com)>  
**Cc:** Loto, Tom <[tom.loto@aeacom.com](mailto:tom.loto@aeacom.com)>; 'Jessica Webb' <[JessicaW@empirepaving.com](mailto:JessicaW@empirepaving.com)>;  
Choquette, Art <[achoquette@themdc.com](mailto:achoquette@themdc.com)>  
**Subject:** apparent leakage of slurry water waste from

Just noted while inspecting the RCP pipe set-up to for use with the microtunneling, could see an apparent brown streak in the snow beyond the downslope fence line of DS-2 toward the wetlands and the brook. It appears the slurry leak was noted earlier and subsequently plugged (does not appear to be leaking at this time). The first picture indicates the apparent spill into the wetlands area, while the 2<sup>nd</sup> picture shows the area were spill overtopped the silt fence.

EPI was notified of the observation shortly after it was noted; EPI noted they would address the fence (more silt fence or haybales) & instructed the operator working on the slurry thickening operation to proceed with more caution/be cognizant of this

situation. EPI was also reminded they need to report this apparent spill event (as had occurred with the slurry spill on by NCP MH02/Hillcrest Ave into the brook). I will be onsite tomorrow monitoring the microtunneling as well as the slurry thickening work in the Soil Solidification Pits.

*Jonathan P. Melone*

*Senior Resident Representative/ Scientist*

## **AECOM**

*500 Enterprise Drive, Suite 1A*

*Rocky Hill, CT 06067*

main office: 860.263.5800 fax: 860.263.5777

direct: 860.263.5754

cell: 860.234-3967

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2021/02/19  
16:07





2021/02/19  
16:08









**LUKE BRONIN**  
MAYOR

# CITY OF HARTFORD

## DEPARTMENT OF DEVELOPMENT SERVICES

Planning Division  
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Hartford, Connecticut 06103

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[www.hartford.gov](http://www.hartford.gov)



**I CHARLES MATHEWS**  
ACTING DIRECTOR

**AIMEE CHAMBERS, AICP**  
DIRECTOR OF PLANNING

March 19, 2021

Kathy Evans, Southwest Behind the Rocks NRZ

**Sent via Email**

**Re: 611 Brookfield St, Application Received**  
**Energov ID: COMM-2021-0373**

Dear Ms. Kathy Evans,

The Planning Division has received an application for Inland Wetlands and Watercourses Permit to conduct regulated activity within wetlands, watercourse and upland review area related to remediation activities required as result of an inadvertent discharge of material from 611 Brookfield St. onto 180 John D. Wardlaw Way during construction of the MDC South Hartford Conveyance and Storage Tunnel to be reviewed by the Planning & Zoning and Inland Wetlands and Watercourses Commission.

Application documents and plans are available for public review and inspection  
online: <https://www.meetinginfo.org/meetings/1072>.

The applicant has been provided the NRZ contact information. Either party may initiate contact. The applicant's contact information is as follows:

Jessica Webb, Empire Paving, Applicant  
[jessicaw@empirepaving.com](mailto:jessicaw@empirepaving.com)  
(203)-996-6963

The application will be introduced as "new business" at the Planning & Zoning Commission's March 23<sup>rd</sup> meeting. There will be no public comment at this meeting. A Public Hearing, as required under Section 8-7d of the Connecticut General Statutes will be held virtually on **Tuesday, April 13, 2021 at 6:00pm**. Barring any issues with the application, the public hearing will proceed on this date whether comments have been received by the NRZ or not. Please email [oneplan@hartford.gov](mailto:oneplan@hartford.gov) with comments by close of business on the date of the public hearing.

If you have questions about the details of the application, you can reach out to [oneplan@hartford.gov](mailto:oneplan@hartford.gov). Thank you for your time and input.

Respectfully,

Paige Berschet  
Planning Division, Administrative Assistant



## Sanderson, Elizabeth

---

**From:** Sanderson, Elizabeth  
**Sent:** Friday, April 9, 2021 5:03 PM  
**To:** Dellaripa, Frank; Golembiewski, Brian; Dionne, Heather; Sandy Fry (Sandra.Fry@hartford.gov)  
**Subject:** FW: Slurry Impact Assessment - 611 Brookfield St. & 180 John D. Wardlaw Way  
**Attachments:** FINAL\_ImpactAssessment.pdf

Good Afternoon,

I received the following e-mail and attached pdf re: proposed remediation of the inadvertent deposition of material into the South Branch Park River and adjacent wetlands at 611 Brookfield St. & 180 John D. Wardlaw Way in Hartford. The public hearing before the City of Hartford Inland Wetlands & Watercourse Commission (the "Commission") for this application has been postponed to April 27, 2021, and additional information can be viewed by clicking the following link: [Regular Meeting, Planning & Zoning Commission and Inland Wetlands Commission, City of Hartford, CT | MeetingInfo](#)

Frank, Brian:

In the attached Impact Assessment report, Sec. 3.2 Watercourse Remediation, Alternative #2 (on p. 13 of the pdf), SLR indicates that City of Hartford approval is required for manual disturbance of the material in the watercourse, and I am wondering if approvals from other City Departments/Agencies/Commission, and/or State DEEP and/or U.S. Army Corps of Engineers would also be required. Could you please confirm whether or not additional local/state/federal permits and approvals would be necessary for Watercourse Remediation Alternatives #2 or 3?

If anyone has comments that you would like the Commission to take into account in their decision, then please let me know. I am hoping to finalize the staff report by next Friday, April 16<sup>th</sup>.

Thanks in advance for your comments & feedback!

Sincerely,

Elizabeth Sanderson, AICP RLA CZEO  
Project Leader  
City of Hartford Department of Development Services Economic Development Division  
Desk: 860-757-9238  
Cell: 860-936-4489 - Preferred

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**From:** Jessica Webb <JessicaW@empirepaving.com>  
**Sent:** Thursday, April 8, 2021 10:52 AM  
**To:** Sanderson, Elizabeth <Elizabeth.Sanderson@hartford.gov>  
**Cc:** Ben Bare <BBare@hartfordhousing.org>  
**Subject:** RE: Slurry Impact Assessment - 611 Brookfield St. & 180 John D. Wardlaw Way

Hi Elizabeth –

We would be proposing to proceed with the following remediation recommendations:

1. Areas with minimal slurry cover and where vegetation is beginning to grow through – seed over and install straw waddle at toe of slope

2. Areas with thicker slurry cover – hand remove a portion of the slurry cover to allow for vegetation to grow through while not disturbing existing vegetation, seed after removal and install straw waddle at toe of slope
3. Slurry in the waterway – Recommendation #1 from SLR to allow Mother Nature to dissipate the sediment.

In following with SLR's recommendation of minimizing further impact to the area, we feel the above remediation steps are the best and most expeditious options for correcting our containment failure while not causing additional negative impact(s) to the area.

Jessica Webb  
Project Manager  
c: 203-996-6963

## Empire Paving

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**From:** Sanderson, Elizabeth <[Elizabeth.Sanderson@hartford.gov](mailto:Elizabeth.Sanderson@hartford.gov)>  
**Sent:** Wednesday, April 7, 2021 9:40 PM  
**To:** Jessica Webb <[JessicaW@empirepaving.com](mailto:JessicaW@empirepaving.com)>  
**Cc:** Ben Bare <[BBare@hartfordhousing.org](mailto:BBare@hartfordhousing.org)>  
**Subject:** RE: Slurry Impact Assessment - 611 Brookfield St. & 180 John D. Wardlaw Way

Jessica,

Thanks for sending the report. **Please confirm what wetland and watercourse remediation activities you plan to implement from SLR's recommendations as part of this permit application.**

Also, please note that since I did not receive the report in time to complete a staff report, the opening of the public hearing may be delayed or continued. I hope to know more tomorrow (Thursday), and will get back to you.

Either way, the meeting will be virtual – access information is below, and also available at [meetinginfo.org](http://meetinginfo.org):

### Meeting Details

When? Tuesday, April 13, 2021 at 6:00pm - Eastern Time (US & Canada)

Virtual Link: <https://tinyurl.com/ddsPZC041321>

Virtual Notes: Meeting number: 129 996 3292 Password: ddsPZC OR Join by phone: 408-418-9388 Access code:

Thank you,

Elizabeth Sanderson, AICP RLA CZEO  
Project Leader

City of Hartford Department of Development Services Economic Development Division

Desk: 860-757-9238

Cell: 860-936-4489

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**From:** Jessica Webb <[JessicaW@empirepaving.com](mailto:JessicaW@empirepaving.com)>  
**Sent:** Wednesday, April 7, 2021 6:55 AM  
**To:** Sanderson, Elizabeth <[Elizabeth.Sanderson@hartford.gov](mailto:Elizabeth.Sanderson@hartford.gov)>  
**Subject:** FW: Slurry Impact Assessment

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe. Please contact the helpdesk at 860-757-9411 if you have any questions.

Elizabeth –

Sorry for the delay. Please see attached.

Can you please confirm whether the 4/13 meeting is in person or virtual? I know last time I checked online it said in person; just want to confirm (and the location). Thanks,

Jessica Webb  
Project Manager  
c: 203-996-6963

#### Empire Paving

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**From:** Matthew J. Sanford <[msanford@slrconsulting.com](mailto:msanford@slrconsulting.com)>  
**Sent:** Wednesday, April 7, 2021 7:47 AM  
**To:** Jessica Webb <[JessicaW@empirepaving.com](mailto:JessicaW@empirepaving.com)>  
**Cc:** Aidan Barry <[abarry@slrconsulting.com](mailto:abarry@slrconsulting.com)>  
**Subject:** Slurry Impact Assessment

Jessica,

We have updated the impact assessment to include the turbidity curtain.

Let me know if you have any other comments.

Thank You,



Matthew J. Sanford, MS, PWS, RSS

US Manager of Ecology

☎ 203-271-1773, Ext. 2284

☎ 203-910-9546

✉ [msanford@slrconsulting.com](mailto:msanford@slrconsulting.com)

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Thank you.