PM ENVIRONMENTAL
Risk Well Managed

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February 7, 2020

Mr. Paul Owens
Michigan Department of Environment, Great Lakes, and Energy (EGLE)
Warren District Office
27700 Donald Court
Warren, Michigan 48092

Response to January 31, 2020 Compliance Communication: Notice of Section 20107a of Part 201 Obligations
Former Revere Copper and Brass
5851 West Jefferson, Detroit, Wayne County, Michigan 48209
EGLE Site ID No. 82000136

Dear Mr. Owens,

On behalf of Revere Dock, LLC (Revere Dock) PM Environmental, Inc. (PM) is providing a response to the above-referenced Compliance Communication, which requested a written update describing additional measures to prevent erosion and direct contact of contaminated soils from river users in the bank failure area of the subject property.

Existing Bank Failure Area Dermal Contact and Erosion Controls

As outlined in the January 24, 2020 Interim Response Plan prepared for the subject property by PM, direct contact and erosion controls in the area of the bank failure consist of the following (refer to the attached Figure 2):

- **Gravel/Concrete Surface Cover:** The majority of the area of the bank failure is equipped with a gravel cover (limited areas of concrete surfacing are also present) that provides a barrier to dermal contact with contaminated soils. Some areas along the southern area of the subject property where the bank failure occurred contain surface cracking that have not been filled with gravel due to geotechnical concerns associated with the added weight of a full-coverage gravel blanket in that area.

- **Security Fencing:** A 6-foot tall chain link fence was constructed across the entire north/south width of the subject property, which is equipped with a locked security gate. This fence prevents access to the bank failure area by unauthorized persons. This fencing is inspected on a weekly basis with records maintained by Revere Dock.

- **Gravel Erosion Control Berm:** A gravel control berm was installed along the northeast boundary of the pond within the bank failure area to provide erosion control and filtration of potential runoff in the pond area.

- **5-foot Turbidity Curtains**: Turbidity control curtains (five-foot curtain depth) with linked surface flotation elements/buoys are present in the water immediately adjacent to the bank failure area, which are anchored to the river bottom in accordance with manufacturer recommendations. The depth of the curtains approximates the bottom depth of the area where they are installed such that they are serving to contain potential erosion/turbidity sourced from the site. Linked surface floatation elements/buoys at the top of the turbidity

curtains prevent access to the bank collapse area via the water.

The 5-foot turbidity curtains are inspected on a weekly basis with records maintained by Revere Dock. However, the frequency of inspections will increase to daily as outlined below.

20-foot Turbidity Curtains: Deeper turbidity control curtains (20-foot curtain depth) with linked surface flotation elements/buoys were also installed beyond the 5-foot turbidity curtains to provide additional erosion/turbidity control. However, the larger curtains, have not been able to be maintained in place in a vertical orientation in the strong river current. Therefore, the 20-foot turbidity curtains will be removed and additional controls employed as outlined below.

Additional Controls

The following additional controls are to be employed at the subject property:

- **Erosion Control Blanketing:** Erosion control blanketing in the form of approximate 8-foot by 100-foot straw panels with plastic netting will be installed and secured with wooden stakes in accordance with manufacturer recommendations along the boundary of the bank failure area as depicted in Figure 2. Installation of the erosion control blanketing material will be completed by February 8, 2020. Documentation of installation will be furnished to EGLE.

  Daily visual erosion control inspections of the erosion control blanketing will be completed in combination with daily inspections of the 5-foot turbidity curtains and daily inspections of the gravel erosion control berm that was installed east of the pond area. Refer to Appendix A for inspection and recordkeeping forms used to document the daily inspections.

- **Cable Buoys:** These buoys will be installed in the river across the entire length of the subject property as depicted on Figure 2 to further restrict access via the river. Installation of the buoys will be completed by February 8, 2020. Documentation of installation will be furnished to EGLE.

  The cable buoys will be inspected on a weekly basis, concurrently with the fencing inspections. Refer to Appendix A for the inspection and recordkeeping form used to document the weekly inspections.

The following erosion control contingencies will also be employed:

- **Additional Gravel Surface Cover:** If erosion is observed during the daily inspections, additional erosion control blankets will be installed within 24-hours of discovery, the existing 5-foot turbidity curtains will be adjusted, and the gravel erosion control berm will be restored as needed. If erosion is identified that cannot be addressed with the erosion control blanketing, contingency actions will be implemented that include the installation of a minimum of 6" gravel cover in the localized affected area within 24 hours of discovery. If needed geotextile underlayment or skirting may be employed to support or contain the gravel cover material.

Turbidity Curtain Replacement and Gravel Erosion Control Berm Restoration: If the 5-foot turbidity curtains become damaged and cannot be repaired, they will be replaced within 72 hours (river conditions permitting). Restoration of the gravel erosion control berm would occur within 24 hours of discovery.

- **Temporary Sheet Piling**: Although visual monitoring completed at the subject property since December 2019 has documented that the topography of the bank failure area remains consistent, in the event that the contingency gravel cover is determined to be ineffective, EGLE, the United States Environmental Protection Agency, and the United States Army Corps of Engineers will be notified and temporary sheet piling installed to stabilize the affected area. The temporary sheet piling installation will be initiated within seven to ten days (river conditions permitting), or as authorized by relevant regulatory agencies. Other interim controls may be utilized (i.e. staked turbidity control panels, staked planks, etc.) until the temporary shoring is in place, as needed.

Records of implemented contingency erosion controls will be maintained by Revere Dock, and inspection and maintenance protocols developed to ensure their effectiveness.

Revere Dock, LLC is committed to addressing the November 2019 bank collapse in accordance with all applicable regulations. If you have questions regarding the contents of this response please contact us at 800-313-2966.

Sincerely,
PM Environmental, Inc.

J. Adam Patton, CHMM
Vice President

FIGURES

Figure 1: Property Vicinity Map
Figure 2: Surface Cover and Erosion/Sedimentation Control Map

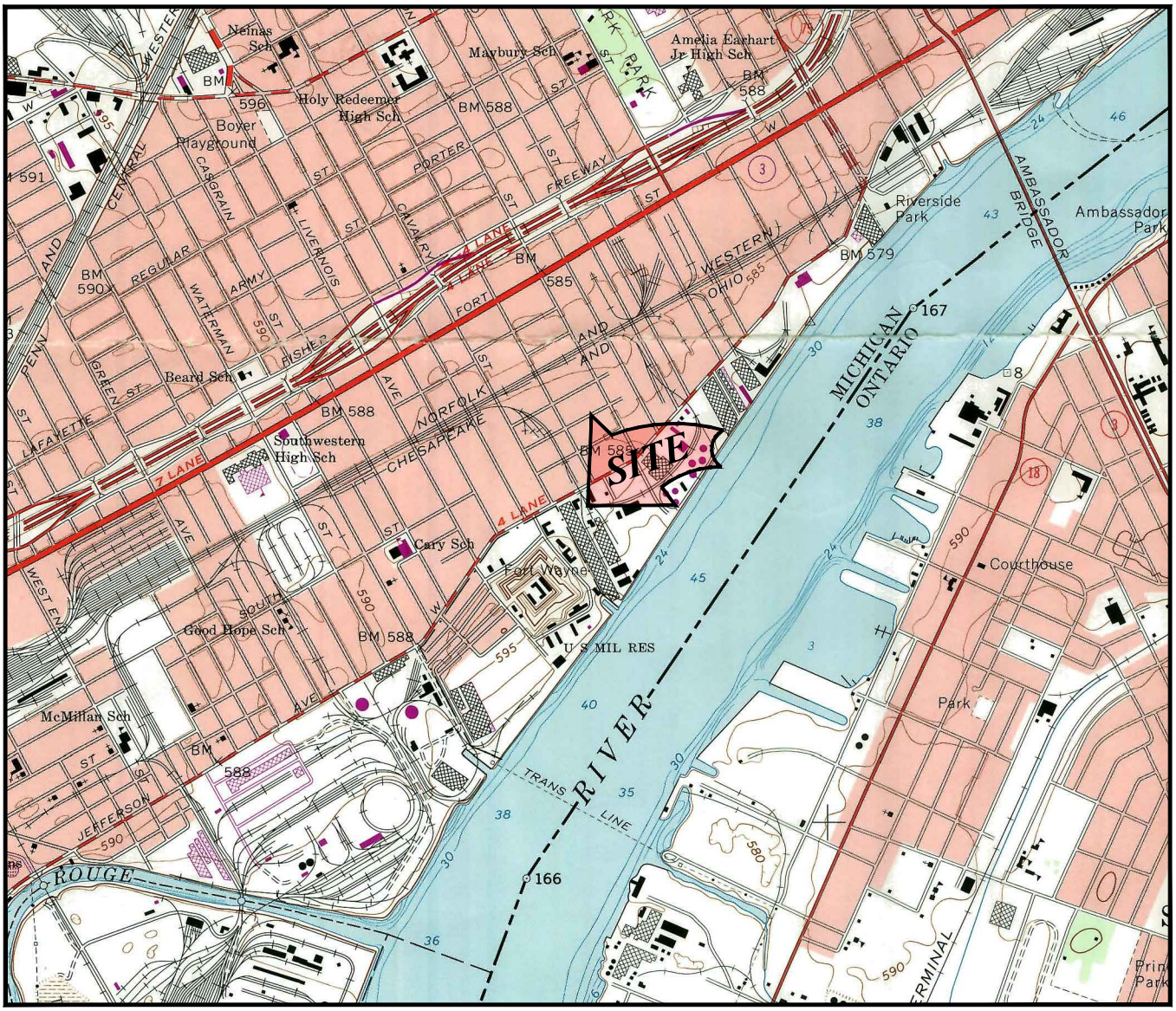
APPENDICES

Appendix A: Inspection and Maintenance Record Forms

cc:
Mr. Brian Kelly, USEPA (electronic delivery)
Mr. Donald Reinke, United States Army Corps of Engineers (electronic delivery)
Mr. Josh Scheels, EGLE-RRD (electronic delivery)
Ms. Beth Vens, EGLE-RRD (electronic delivery)
Mr. Andrew Harz, EGLE-WRD (electronic delivery)
Ms. Anita Harrington, City of Detroit Environmental Affairs (electronic delivery)
Ms. Beth Gotthelf, Butzel Long (electronic delivery)
Ms. Susan Johnson, Butzel Long (electronic delivery)
Mr. Steve Erickson, Revere Dock, LLC (electronic delivery)

Figures

PM ENVIRONMENTAL Environmental & Engineering Services



MICHIGAN QUADRANGLE LOCATION

WAYNE COUNTY

SCALE 1:24,000

1 MILE 1/2 MILE 0 1 MILE

FIGURE 1

PROPERTY VICINITY MAP

USGS, 7.5 MINUTE SERIES

DETROIT, MI QUADRANGLE, 1968. PHOTO REVISED 1973 & 1980.

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PROJ: 5851 WEST JEFFERSON AVENUE DETROIT, MI

THIS IS NOT A LEGAL SURVEY

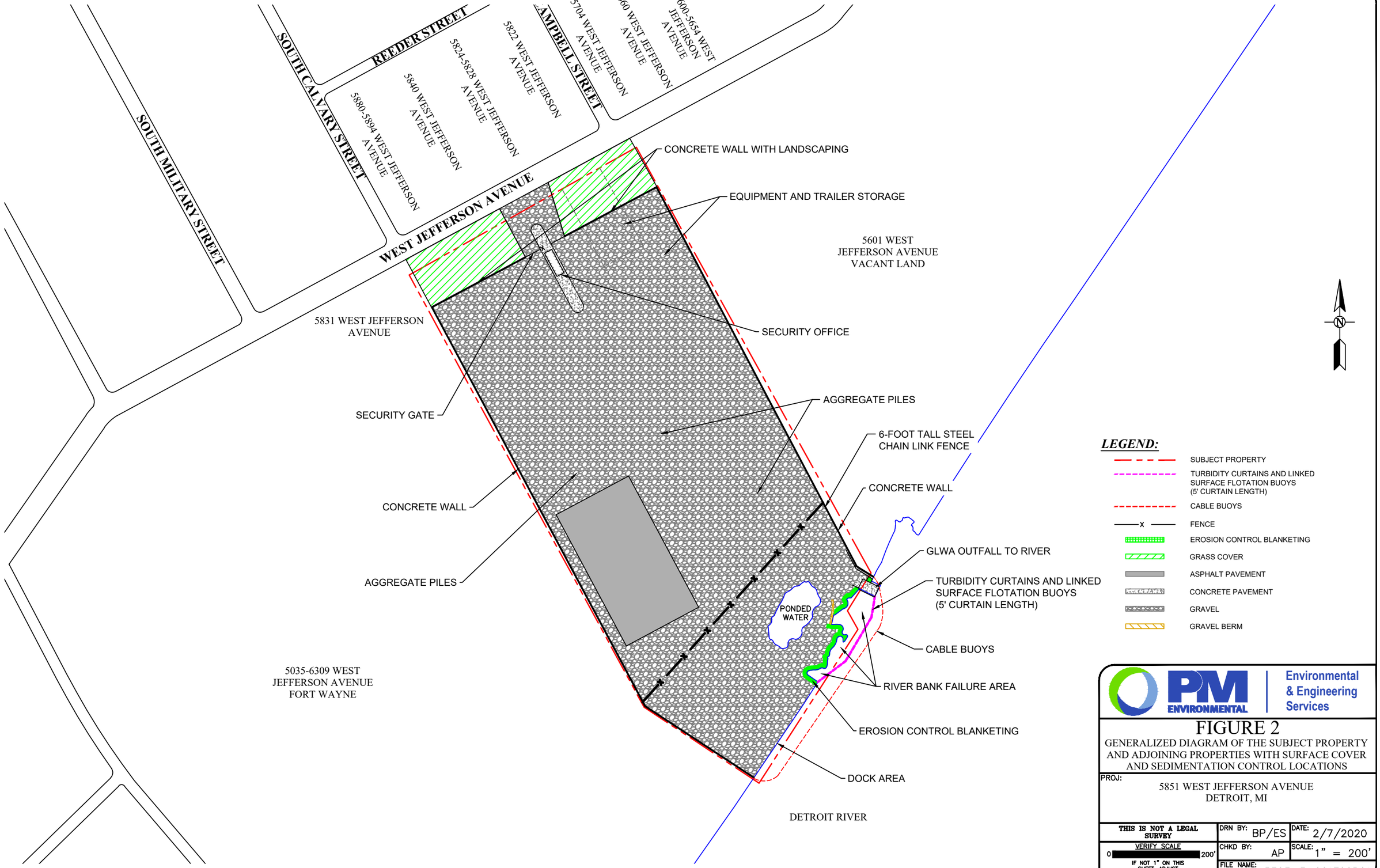
VERIFY SCALE 0 2,000'

IF NOT 1" ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRN BY: ES/CS/BP | DATE: 1/10/2020

CHKD BY: RF/AP | SCALE: 1" = 2,000'

FILE NAME: 01-5303-3-001F01R00



PM ENVIRONMENTAL | Environmental & Engineering Services

FIGURE 2

GENERALIZED DIAGRAM OF THE SUBJECT PROPERTY AND ADJOINING PROPERTIES WITH SURFACE COVER AND SEDIMENTATION CONTROL LOCATIONS

PROJ:
5851 WEST JEFFERSON AVENUE
DETROIT, MI

THIS IS NOT A LEGAL SURVEY	DRN BY: BP/ES	DATE: 2/7/2020
VERIFY SCALE 0 — 200' IF NOT 1" ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	CHKD BY: AP	SCALE: 1" = 200'
	FILE NAME: 01-5303-3-001F00R01	

Appendix A

PM ENVIRONMENTAL Environmental & Engineering Services

Operation and Maintenance Plan for Security Fencing and Cable Buoys Around the Riverbank Failure Area 5815-5851 West Jefferson Avenue, Detroit, Michigan

Instructions:

The inspection of the chain-link fence barrier and cable buoys must be conducted on a weekly basis Each inspection must include a walkthrough of the subject property to document the condition of the fencing and cable buoys, whether repairs are needed to prevent trespass by the public, and to document the actions taken to repair or replace the fencing or cable buoys if necessary, including the timeline for repair replacement following identification of an issue. Records of the inspections must be maintained by Revere Dock, LLC for the duration of its ownership of the subject property or until the riverbank failure has been resolved and the subject property can revert to normal (i.e., pre-riverbank failure) use.

The area of concern on the subject property consist of two main components as depicted on the map on Page 3: 1) the chain link fencing and 2) the cable buoys.

Chain-link Fencing: On a weekly basis, inspect and record the condition of the chain link fencing installed around the riverbank failure area.

If the fence is found to be damaged or otherwise breached, the damage must be repaired within 24 hours of discovery. Records of any repairs must be included on the attached log included on Page 2. If trespassing is evident, local law enforcement and/or site security personnel should be notified.

Cable Buoys: On a weekly basis, inspect and record the condition of the cable buoys installed around the riverbank failure area.

If the cable buoys are found to be damaged or if buoys are missing, the damage must be repaired or missing buoys replaced within 24 hours of discovery. Record of any repairs must be included on the attached log included on Page 2.

Inspection Form for Security Fencing and Cable Buoys
Around the Riverbank Failure Area
5815-5851 West Jefferson Avenue, Detroit, Michigan

Provide further description and comments, if necessary, on a separate sheet of paper and attach to this sheet. **Any item that receives "yes" as an answer must be described and addressed.**

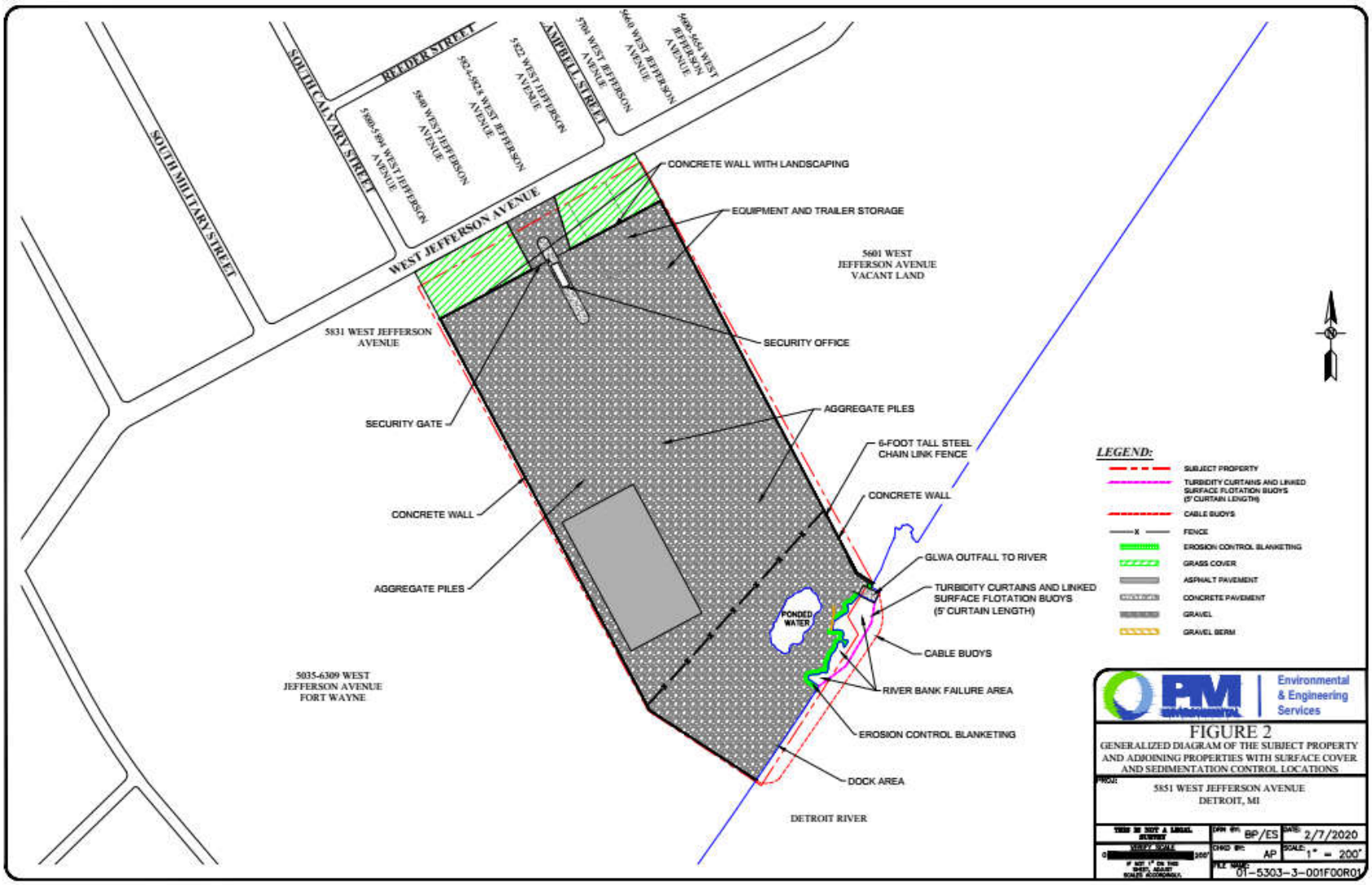
Exposure Barrier Type	Y	N	Date of Inspection, Description & Comments, Summary of Actions Taken
Fencing			
Is the gate not securely locked?			
Is the fencing damaged, cut, or otherwise compromised?			
*Are there any indications of t*respassing?			
Cable Buoys			
Are the cable buoys not present along the entire width of property?			
Are the cable buoys damaged, cut, or otherwise compromised?			
Are any buoys missing?			

Additional Remarks:

Date: _____ **Signature: _____**

Inspection Form for Security Fencing and Cable Buoys
Around the Riverbank Failure Area
5815-5851 West Jefferson Avenue, Detroit, Michigan

Map of Exposure Barrier Area



Operation and Maintenance Plan for Turbidity Curtain, Erosion Control Blanketing, and Erosion Control Berm
Installed at the Riverbank Failure Area
5815-5851 West Jefferson Avenue, Detroit, Michigan

Instructions:

The inspection of the turbidity curtain, erosion control blanketing, and erosion control berm must be conducted on a daily basis. Each inspection must include a walkthrough of the waterfront area of subject property to document the condition of the turbidity curtain, erosion control blanketing, and erosion control berm, whether repairs are needed to prevent potential impact to the Detroit River, and to document the actions taken to repair or replace the turbidity curtain if necessary, including the timeline for repair replacement following identification of an issue. Records of the inspections must be maintained by Revere Dock, LLC for the duration of its ownership of the subject property or until the riverbank failure has been resolved and the subject property can revert to normal (i.e., pre-riverbank failure) use.

The areas of concern on the subject property consists of three main components as depicted on the map on Page 3: 1) the turbidity curtain 2) the erosion control blanketing, and 3) the erosion control berm.

Turbidity Curtain: On a daily basis, inspect and record the condition of the turbidity curtain installed around the riverbank failure area.

If the turbidity curtain is found to be damaged, loose, unanchored, or otherwise ineffective, the damage must be repaired or the turbidity curtain replaced within 72 hours of discovery. Records of any repairs must be included on the attached log included on Page 3.

Erosion Control Blanketing: On a daily basis, inspect and record the condition of the erosion control blanketing installed around the riverbank failure area.

If erosion is observed during the daily inspections, additional erosion control blankets will be installed within 24 hours of discovery. In addition, if the erosion control blanketing is found to be damaged, loose, or otherwise compromised, the damage must be repaired or replaced within 24 hours of discovery. Records of any repairs must be included on the attached log included on Page 3.

Erosion Control Berm: On a daily basis, inspect and record the condition of the erosion control berm installed along the northeast boundary of the pond within the riverbank failure area.

If erosion is observed during the daily inspections, the gravel erosion control berm will be restored as needed. In addition, if the erosion control berm is found to be damaged, moved, or otherwise disturbed, the berm must be restored within 24 hours of discovery. Records of any repairs must be included on the attached log included on Page 4.

Inspection Form for Turbidity Curtain, Erosion Control Blanketing, and Erosion Control Berm Installed at the Riverbank Failure Area 5815-5851 West Jefferson Avenue, Detroit, Michigan

CONTINGENCY PLAN

The following contingency actions are to be used if the existing erosion controls are determined to be ineffective:

Additional Gravel Surface Cover: If erosion is identified that cannot be addressed with the erosion control blanketing, contingency actions will be implemented that include the installation of a minimum of 6" gravel cover in the localized affected area within 24 hours of discovery. If needed geotextile underlayment or skirting may be employed to support or contain the gravel cover material.

Turbidity Curtain Replacement and Gravel Erosion Control Berm Restoration: If the 5-foot turbidity curtains become damaged and cannot be repaired, they will be replaced within 72 hours (river conditions permitting).

Temporary Sheet Piling: Although visual monitoring completed at the subject property since December 2019 has documented that the topography of the bank failure area remains consistent, in the event that the contingency gravel cover is determined to be ineffective, EGLE, the United States Environmental Protection Agency, and the United States Army Corps of Engineers will be notified and temporary sheet piling installed to stabilize the affected area. The temporary sheet piling installation will be initiated within seven to ten days (river conditions permitting), or as authorized by relevant regulatory agencies. Other interim controls may be utilized (i.e. staked turbidity curtans, staked wooden planks, etc.) until the temporary shoring is in place, as needed.

Inspection Form for Turbidity Curtain, Erosion Control Blanketing, and Erosion Control Berm Installed at the Riverbank Failure Area 5815-5851 West Jefferson Avenue, Detroit, Michigan

Provide further description and comments, if necessary, on a separate sheet of paper and attach to this sheet. **Any item that receives "yes" as an answer must be described and addressed.**

Exposure Barrier Type	Y	N	Date of Inspection, Description & Comments, Summary of Actions Taken
Turbidity Curtain			
Is the turbidity curtain not installed correctly in accordance with the manufacturer's specifications?			
Does the turbidity curtain not span the entirety of the riverbank failure area?			
Is the turbidity curtain not appear to be properly anchored to the riverbed?			

Erosion Control Blanketing			
Is the erosion control blanketing not secured with stakes or is damage present?			
Are areas of exposed soil present?			
Is evidence of erosion present?			

Inspection Form for Turbidity Curtain, Erosion Control Blanketing, and Erosion Control Berm Installed at the Riverbank Failure Area 5815-5851 West Jefferson Avenue, Detroit, Michigan

Erosion Control Berm			
Is the erosion control berm damaged or eroded?			
Does the erosion control berm not cover the entire area depicted on the figure located on page 5 of this form?			

Additional Remarks (Including a description of contingency actions taken):

Date: _____ **Signature: _____**

Inspection Form for Turbidity Curtain, Erosion Control Blanketing, and Erosion Control Berm Installed at the Riverbank Failure Area
5815-5851 West Jefferson Avenue, Detroit, Michigan

Map of Exposure Barrier Areas