

February 5, 2020

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

**RE: Bank Failure Area Aggregate Material Removal and Visual Stability Evaluation Summary (December 2019 and January 2020)
5851 West Jefferson Avenue, Detroit Michigan
Former Revere Copper and Brass
EGLE Site ID No. 82000136
PM Environmental Project No. 01-5303-3-0001**

Dear Mr. Owens

Per the request of the Michigan Department of Environment, Great Lakes, and Energy (EGLE), PM Environmental, Inc. (PM), on behalf of Revere Dock, LLC (Revere Dock) is submitting this Bank Failure Area Aggregate Material Removal Visual Stability Evaluation Summary for the above-referenced subject property.

The summary below is based on interviews and information obtained from Detroit Bulk Storage, Inc. (DBS), which leases the property from Revere Dock, photo documentation obtained from aerial drones operated by Revere Dock, EGLE, and G2 Consulting Group, Inc. (G2), Revere Dock's Geotechnical consultant, and the results of visual monitoring of the subject property completed by G2.

Background Information

A failure of approximately 200-feet of shoreline along the bank of the Detroit River occurred at the subject property on November 26, 2019. A large aggregate stockpile owned by DBS was present in the area at the time of the incident. The presence of the aggregate stockpile resulted in an apparent rotational slope failure that displaced soils downward within and outward from the subject property to an area of the Detroit River immediately east of the former shoreline boundary. Photo #1 in Appendix A depicts the aggregate stockpile on November 27, 2019, the day after the bank failure incident occurred.

Refer to Figure 1 for the location of the subject property and Figure 2 for a generalized diagram of the subject property and adjoining properties.

Aggregate Removal Activities

Subsequent to the apparent bank failure incident, the aggregate material was reportedly removed from the area by DBS between November 29 and December 5, 2019, to an elevation approximately equivalent to the surrounding ground surface within the failure area. The aggregate material was relocated to an area west of the bank failure area.

Photo #2 in Appendix A depicts the area of the bank failure on December 6, 2019, when EGLE, the United States Environmental Protection Agency (USEPA), and others toured the subject property.

Between December 11 and December 13, the area formerly occupied by the aggregate stockpile was further excavated by DBS to recover aggregate material that had become located below the surrounding ground surface elevation as a result of the bank failure. The excavation was dug in the area currently occupied by a pond and reportedly reached an approximate maximum depth of 20-feet.

At that depth, the asphalt-gravel surfacing that was previously located at the pre-incident ground surface reportedly was encountered by DBS and the excavation was not dug beyond that depth. Similar to the aggregate removed between November 29 and December 5, 2019, aggregate removed between December 11 and December 13, 2019 was relocated to an area west of the bank failure area. Water was reportedly present in the excavation area during the aggregate recovery activities, which formed the current pond after the excavation activities were complete.

Photo #3 in Appendix A depicts the area of the bank failure on December 13, 2019, during the latter stages of aggregate excavation from the pond area.

Appendix B contains DBS equipment/time tickets documenting the equipment used to remove the aggregate material between November 29 and December 13, 2019. The volume of aggregate removed/relocated from the bank failure area by DBS was reportedly not calculated.

Based on the information and documentation provided by DBS, the pond area was excavated using power equipment and its presence is consistent with a dug pond.

Visual Ground Surface Monitoring

On December 13, 2019, G2 established temporary ground control points to facilitate ongoing ground surface monitoring to visually monitor and evaluate the stability of the bank failure area. Additional semi-permanent ground control points were installed on January 17, 2020 by G2.

A baseline visual survey was completed using an aerial drone on December 13, 2019 with subsequent weekly visual surveys (i.e. drone "flights") initiated on January 17, 2020, with visual surveys to be completed on a weekly basis thereafter.

The results of the December 13, 2019 and January 17 and January 21, 2020 visual surveys are summarized in the February 3, 2020 Status Report Revere Dock Shoreline Evaluation prepared by G2 included in Appendix C. That report documents the presence of a gravel erosion control berm that was installed along the eastern edge of the pond area in early January 2020 and concludes that no large-scale changes were detected between December 13, 2019 and January 21, 2020 in the survey area. With the exception of erosion berm construction activities between the ponded areas and the shoreline, the February 3, 2020 Status Report prepared by G2 documents that the topography remained relatively constant during the reported timeframe.

The results of subsequent weekly visual surveys and Status Reports will be provided to EGLE as they become available.

Aerial drone photos of the bank failure area collected by G2 on December 13, 2019 and January 17 and 21, 2020 are included in Appendix A as Photos # 4 and #5, respectively.

Conclusions

Between November 29 and December 13, 2019 aggregate material present in the area of the river bank failure was removed/excavated and relocated onsite by DBS. Based on the information and documentation provided by DBS, the pond area was excavated using power equipment and its presence is consistent with a dug pond.

Visual surveys of the river bank failure area completed by G2 in December 2019 and January 2020 did not detect large-scale changes in the survey area. With the exception of erosion berm construction activities between the ponded areas and the shoreline, this documents that the topography remained relatively constant during the reported timeframe.

The results of subsequent visual surveys will be provided to EGLE as they become available.

If you have any questions regarding the information in this summary, please contact us at 800-313-2966.

Sincerely,

PM Environmental, Inc.



J. Adam Patton, CHMM
Vice President

FIGURES:

- Figure 1: Site Vicinity Map
Figure 2: Generalized Diagram of the Subject Property and Adjoining Properties

APPENDICES:

- Appendix A: Aerial Drone Photos, November 2019 through January 2020
Appendix B: DBS Equipment and Time Tickets for Aggregate Removal Activities
Appendix C: February 3, 2020 Status Report Revere Dock Shoreline Evaluation prepared by G2

cc:

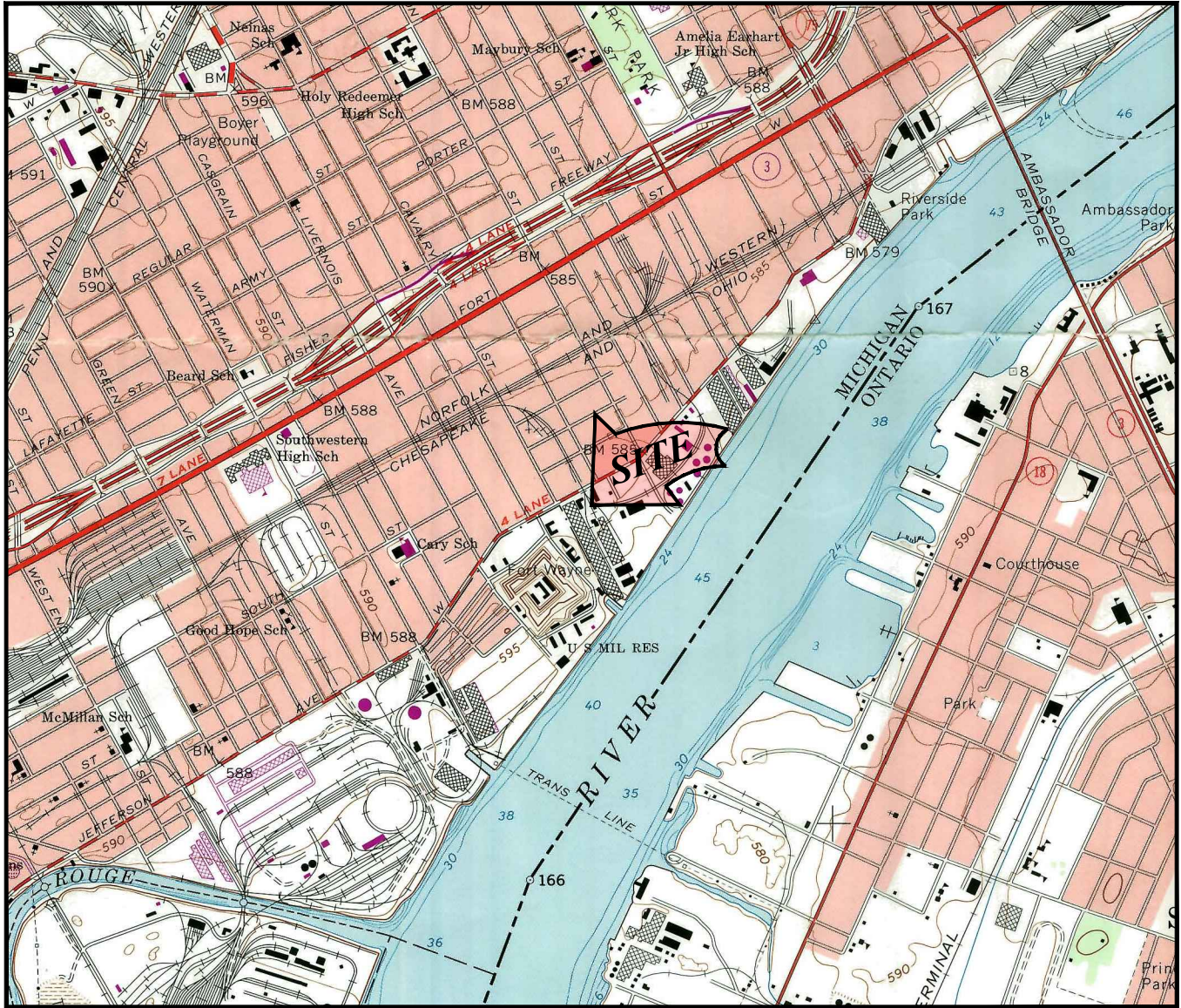
- Mr. Brian Kelly, USEPA (electronic delivery)
Mr. Donald Reinke, United States Army Corps of Engineers (electronic delivery)
Mr. Josh Scheels, EGLE-RRD (electronic delivery)
Ms. Beth Vens, EGLE-RRD (electronic delivery)

Bank Failure Area Aggregate Material Removal and December-January Visual Stability Evaluation Summary
Former Revere Copper and Brass
EGLE Site ID No. 82000136
PM Environmental Project No. 01-5303-3-0001; February 5, 2020

Mr. Andrew Harz, EGLE-WRD (electronic delivery)
Ms. Anita Harrington, City of Detroit Environmental Affairs (electronic delivery)
Ms. Beth Gotthelf, Butzel Long (electronic delivery)
Mr. Steve Erickson, Revere Dock, LLC (electronic delivery)

Figures





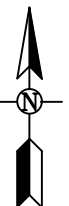
WAYNE COUNTY

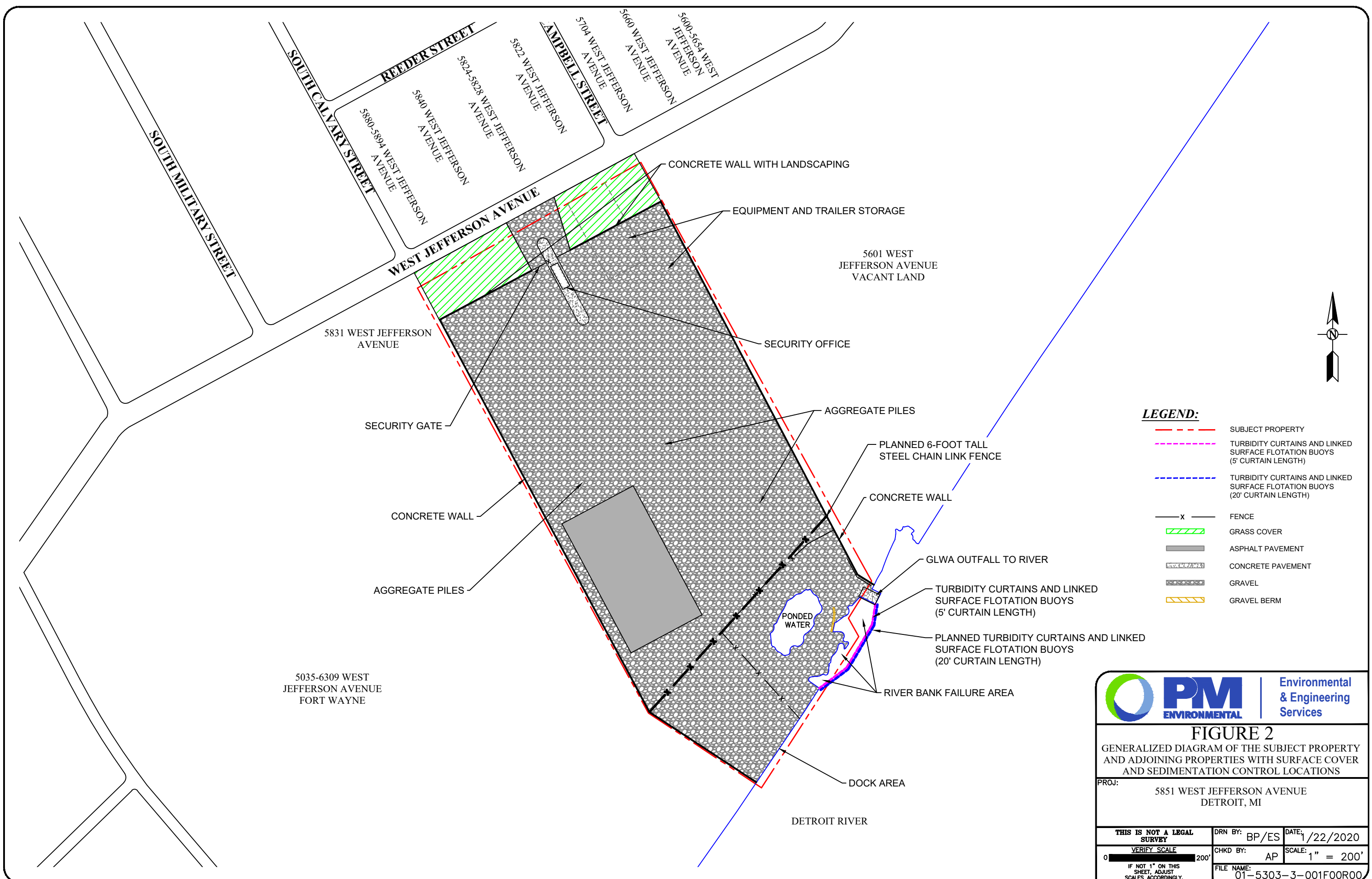
SCALE 1:24,000



MICHIGAN QUADRANGLE LOCATION

FIGURE 1
 PROPERTY VICINITY MAP
 USGS, 7.5 MINUTE SERIES
 DETROIT, MI QUADRANGLE, 1968. PHOTO REVISED 1973 & 1980.





LEGEND:

- SUBJECT PROPERTY
- TURBIDITY CURTAINS AND LINKED SURFACE FLOTATION BUOYS (5' CURTAIN LENGTH)
- TURBIDITY CURTAINS AND LINKED SURFACE FLOTATION BUOYS (20' CURTAIN LENGTH)
- x— FENCE
- ▨ GRASS COVER
- ▨ ASPHALT PAVEMENT
- ▨ CONCRETE PAVEMENT
- ▨ GRAVEL
- ▨ GRAVEL BERM



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: 1/22/2020
VERIFY SCALE	CHKD BY: AP	SCALE: 1" = 200'
0 200'	FILE NAME: 01-5303-3-001F00R00	

Appendix A





PM Project No. 01-05303-3-0001
Location: 5851 West Jefferson Avenue, Detroit, Michigan

Photograph 1 – Taken by Revere Dock, LLC (November 27, 2019)



View of river bank failure area, facing west.

Photograph 2 – Taken by EGLE (December 6, 2019)



View of river bank failure area, facing west.



PM Project No. 01-05303-3-0001
Location: 5851 West Jefferson Avenue, Detroit, Michigan

Photograph 3 – Taken by G2 Consulting Group (December 13, 2019)



View of river bank failure area, facing west/northwest.

Note in-progress excavation activities within the southern portion of the pond area.

Also note that this photo was overlaid on a reference aerial for location comparison purposes.

Photograph 4 – Taken by G2 Consulting Group (January 17, 2020)



View of river bank failure area, facing west/northwest.

Note in-progress turbidity curtain installation activities and presence of gravel erosion control berm installed along the eastern boundary of the pond area.

Also note that this photo was overlaid on a reference aerial for location comparison purposes.



PM Project No. 01-05303-3-0001
Location: 5851 West Jefferson Avenue, Detroit, Michigan

Photograph 5 – Taken by G2 Consulting Group (January 21, 2020)



View of river bank failure area, facing west/northwest.

Note that this photo was overlaid on a reference aerial for location comparison purposes.

Appendix B



LOAD AND TIME TICKET

PRO. NO.

50356

NAME OF CARRIER



Detroit Bulk Storage, Inc.

P.O. Box 600

Marine City, MI 48039

MATERIAL HAULED: 346

SECTION 1

M.P.S.C. TRUCK NO. *Stacker* JOB TRUCK NO. *11-29-19* DATE: *11-29-19*

NAME OF SHIPPER: *D.B.S.*

FROM: (LOADING PLACE) *Revere*

TO: (UNLOADING PLACE) *Revere Stockpile*

GROSS _____ NET OR ESTIMATE WEIGHT _____

TARE _____

SEC. 2

PIT TICKET NO.: _____ TONS _____

YARDS _____

SECTION 3

(FOR HOURLY RATED HAULS)

	TIME		HOURS	RATE	CHARGES
	START	FINISH			
REGULAR	8:00	12:00	4		
OVERTIME					

SECTION 4

(FOR BOTH TON-MILE AND HOURLY HAULS)

DRIVER'S SIGNATURE: *Remax*

AGENT FOR SHIPPER SIGNATURE: _____

White Copy: DBS • Green: DBS • Canary: DBS • Pink: Drivers • Gold: Customers

LOAD AND TIME TICKET

PRO. NO.

50357

NAME OF CARRIER



Detroit Bulk Storage, Inc.

P.O. Box 600

Marine City, MI 48039

MATERIAL HAULED: 346

SECTION 1

M.P.S.C. TRUCK NO. *200 F* JOB TRUCK NO. *11-29-19* DATE: *11-29-19*

NAME OF SHIPPER: *D.B.S.*

FROM: (LOADING PLACE) *Revere*

TO: (UNLOADING PLACE) *Revere Stockpile*

GROSS _____ NET OR ESTIMATE WEIGHT _____

TARE _____

SEC. 2

PIT TICKET NO.: _____ TONS _____

YARDS _____

SECTION 3

(FOR HOURLY RATED HAULS)

	TIME		HOURS	RATE	CHARGES
	START	FINISH			
REGULAR	8:00	12:00	4		
OVERTIME					

SECTION 4

(FOR BOTH TON-MILE AND HOURLY HAULS)

DRIVER'S SIGNATURE: *Eric*

AGENT FOR SHIPPER SIGNATURE: _____

White Copy: DBS • Green: DBS • Canary: DBS • Pink: Drivers • Gold: Customers

LOAD AND TIME TICKET

PRO. NO.

50358

NAME OF CARRIER



Detroit Bulk Storage, Inc.

P.O. Box 600

Marine City, MI 48039

MATERIAL HAULED: 346

SECTION 1

M.P.S.C. TRUCK NO. 22061 JOB TRUCK NO. DATE: 11-29-19

NAME OF SHIPPER: D.B.S.

FROM: (LOADING PLACE) Revere

TO: (UNLOADING PLACE) Revere Stockpile

GROSS	NET OR ESTIMATE WEIGHT
TARE	

SEC. 2

PIT TICKET NO.:

TONS

YARDS

SECTION 3

(FOR HOURLY RATED HAULS)

TIME		HOURS	RATE	CHARGES
REGULAR	START 8:00 FINISH 12:00	4		
OVERTIME	START FINISH			

SECTION 4

(FOR BOTH TON-MILE AND HOURLY HAULS)

DRIVER'S SIGNATURE: Craig

AGENT FOR SHIPPER SIGNATURE:

White Copy: DBS • Green: DBS • Canary: DBS • Pink: Drivers • Gold: Customers

LOAD AND TIME TICKET

PRO. NO.

50359

NAME OF CARRIER



Detroit Bulk Storage, Inc.

P.O. Box 600

Marine City, MI 48039

MATERIAL HAULED: 346

SECTION 1

M.P.S.C. TRUCK NO. 22062 JOB TRUCK NO. DATE: 11-29-19

NAME OF SHIPPER: D.B.S.

FROM: (LOADING PLACE) Revere

TO: (UNLOADING PLACE) Revere Stockpile

GROSS	NET OR ESTIMATE WEIGHT
TARE	

SEC. 2

PIT TICKET NO.:

TONS

YARDS

SECTION 3

(FOR HOURLY RATED HAULS)

TIME		HOURS	RATE	CHARGES
REGULAR	START 8:00 FINISH 12:00	4		
OVERTIME	START FINISH			

SECTION 4

(FOR BOTH TON-MILE AND HOURLY HAULS)

DRIVER'S SIGNATURE: Austin

AGENT FOR SHIPPER SIGNATURE:

White Copy: DBS • Green: DBS • Canary: DBS • Pink: Drivers • Gold: Customers

LOAD AND TIME TICKET PRO: NO. 50353

NAME OF CARRIER



Detroit Bulk Storage, Inc.
P.O. Box 600
Marine City, MI 48039

MATERIAL HAULED: *Stack Material*

M.P.S.C. TRUCK NO. *Stacker* JOB TRUCK NO. *17-2-19* DATE: *17-2-19*

NAME OF SHIPPER: *D.B.S.*

FROM: (LOADING PLACE) *Revere*

TO: (UNLOADING PLACE) *Revere Stackpile*

GROSS _____ NET OR ESTIMATE WEIGHT _____
TARE _____

PIT TICKET NO.: _____ TONS _____
YARDS _____

SECTION 3 (FOR HOURLY RATED HAULS)

TIME		HOURS	RATE	CHARGES
REGULAR	START 8:00 FINISH 4:00	8		
OVERTIME	START _____ FINISH _____			

SECTION 4 (FOR BOTH TON-MILE AND HOURLY HAULS)
DRIVER'S SIGNATURE: _____
AGENT FOR SHIPPER SIGNATURE: _____

White Copy: DBS • Green: DBS • Canary: DBS • Pink: Drivers • Gold: Customers

AND TIME TICKET PRO: NO. 50354

CARRIER



Detroit Bulk Storage, Inc.
P.O. Box 600
Marine City, MI 48039

AL HAULED: *346*

M.P.S.C. TRUCK NO. *220 G1* JOB TRUCK NO. *17-2-19* DATE: *17-2-19*

NAME OF SHIPPER: *D.B.S.*

FROM: (LOADING PLACE) *Revere*

TO: (UNLOADING PLACE) *Revere Stackpile*

GROSS _____ NET OR ESTIMATE WEIGHT _____
TARE _____

PIT TICKET NO.: _____ TONS _____
YARDS _____

SECTION 3 (FOR HOURLY RATED HAULS)

TIME		HOURS	RATE	CHARGES
REGULAR	START 10:00 FINISH 4:00	6		
OVERTIME	START _____ FINISH _____			

SECTION 4 (FOR BOTH TON-MILE AND HOURLY HAULS)
DRIVER'S SIGNATURE: *Cray*
AGENT FOR SHIPPER SIGNATURE: _____

White Copy: DBS • Green: DBS • Canary: DBS • Pink: Drivers • Gold: Customers

AND TIME TICKET PRO: NO. 50355

CARRIER



Detroit Bulk Storage, Inc.
P.O. Box 600
Marine City, MI 48039

AL HAULED: *346*

M.P.S.C. TRUCK NO. *220 G2* JOB TRUCK NO. *17-2-19* DATE: *17-2-19*

NAME OF SHIPPER: *D.B.S.*

FROM: (LOADING PLACE) *Revere*

TO: (UNLOADING PLACE) *Revere Stackpile*

GROSS _____ NET OR ESTIMATE WEIGHT _____
TARE _____

PIT TICKET NO.: _____ TONS _____
YARDS _____

SECTION 3 (FOR HOURLY RATED HAULS)

TIME		HOURS	RATE	CHARGES
REGULAR	START 8:00 FINISH 4:00	8		
OVERTIME	START _____ FINISH _____			

SECTION 4 (FOR BOTH TON-MILE AND HOURLY HAULS)
DRIVER'S SIGNATURE: *Austin*
AGENT FOR SHIPPER SIGNATURE: _____

White Copy: DBS • Green: DBS • Canary: DBS • Pink: Drivers • Gold: Customers

LOAD AND TIME TICKET

PRO. NO.

50360

NAME OF CARRIER



Detroit Bulk Storage, Inc.

P.O. Box 600

Marine City, MI 48039

MATERIAL HAULED:

346

M.P.S.C. TRUCK NO. *Stucker* DATE: *12.3.19*

NAME OF SHIPPER: *D.B.S.*

FROM: (LOADING PLACE) *Revere*

TO: (UNLOADING PLACE) *Revere Stockpile*

GROSS TARE NET OR ESTIMATE WEIGHT

PIT TICKET NO.: TONS YARDS

SECTION 3

(FOR HOURLY RATED HAULS)				
TIME		HOURS	RATE	CHARGES
REGULAR	START <i>8:00</i> FINISH <i>4:00</i>	<i>8</i>		
OVERTIME	START FINISH			

SECTION 4

(FOR BOTH TON-MILE AND HOURLY HAULS)

DRIVER'S SIGNATURE: _____

AGENT FOR SHIPPER SIGNATURE: _____

White Copy: DBS • Green: DBS • Canary: DBS • Pink: Drivers • Gold: Customers

LOAD AND TIME TICKET

PRO. NO.

50361

NAME OF CARRIER



Detroit Bulk Storage, Inc.

P.O. Box 600

Marine City, MI 48039

MATERIAL HAULED:

346

M.P.S.C. TRUCK NO. *220 61* DATE: *12.3.19*

NAME OF SHIPPER: *D.B.S.*

FROM: (LOADING PLACE) *Revere*

TO: (UNLOADING PLACE) *Revere Stockpile*

GROSS TARE NET OR ESTIMATE WEIGHT

PIT TICKET NO.: TONS YARDS

SECTION 3

(FOR HOURLY RATED HAULS)				
TIME		HOURS	RATE	CHARGES
REGULAR	START <i>10:00</i> FINISH <i>4:00</i>	<i>6</i>		
OVERTIME	START FINISH			

SECTION 4

(FOR BOTH TON-MILE AND HOURLY HAULS)

DRIVER'S SIGNATURE: _____

AGENT FOR SHIPPER SIGNATURE: _____

White Copy: DBS • Green: DBS • Canary: DBS • Pink: Drivers • Gold: Customers

LOAD AND TIME TICKET

PRO. NO.

50362

NAME OF CARRIER



Detroit Bulk Storage, Inc.

P.O. Box 600

Marine City, MI 48039

MATERIAL HAULED:

346

M.P.S.C. TRUCK NO. *2062* DATE: *12.3.19*

NAME OF SHIPPER: *D.B.S.*

FROM: (LOADING PLACE) *Revere*

TO: (UNLOADING PLACE) *Revere Stockpile*

GROSS TARE NET OR ESTIMATE WEIGHT

PIT TICKET NO.: TONS YARDS

SECTION 3

(FOR HOURLY RATED HAULS)				
TIME		HOURS	RATE	CHARGES
REGULAR	START <i>8:00</i> FINISH <i>4:00</i>	<i>8</i>		
OVERTIME	START FINISH			

SECTION 4

(FOR BOTH TON-MILE AND HOURLY HAULS)

DRIVER'S SIGNATURE: *AUSTIN*

AGENT FOR SHIPPER SIGNATURE: _____

White Copy: DBS • Green: DBS • Canary: DBS • Pink: Drivers • Gold: Customers

LOAD AND TIME TICKET PRO. NO. 50365

NAME OF CARRIER



Detroit Bulk Storage, Inc.
P.O. Box 600
Marine City, MI 48039

MATERIAL HAULED: 346

M.P.S.C. TRUCK NO. Stacker JOB TRUCK NO. 12-4-19 DATE: 12-4-19

NAME OF SHIPPER: D.B.S.

FROM: (LOADING PLACE) Revere

TO: (UNLOADING PLACE) Revere Stockpile

GROSS	NET OR ESTIMATE WEIGHT
TARE	

PIT TICKET NO.: _____ TONS _____

YARDS _____

(FOR HOURLY RATED HAULS)

TIME		HOURS	RATE	CHARGES
REGULAR	START 8:00 FINISH 4:00	8		
OVERTIME	START FINISH			

(FOR BOTH TON-MILE AND HOURLY HAULS)

DRIVER'S SIGNATURE: _____

AGENT FOR SHIPPER SIGNATURE: _____

White Copy: DBS • Green: DBS • Canary: DBS • Pink: Drivers • Gold: Customers

LOAD AND TIME TICKET PRO. NO. 50363

NAME OF CARRIER



Detroit Bulk Storage, Inc.
P.O. Box 600
Marine City, MI 48039

MATERIAL HAULED: 346

M.P.S.C. TRUCK NO. 22061 JOB TRUCK NO. 12-4-19 DATE: 12-4-19

NAME OF SHIPPER: D.B.S.

FROM: (LOADING PLACE) Revere

TO: (UNLOADING PLACE) Revere Stockpile

GROSS	NET OR ESTIMATE WEIGHT
TARE	

PIT TICKET NO.: _____ TONS _____

YARDS _____

(FOR HOURLY RATED HAULS)

TIME		HOURS	RATE	CHARGES
REGULAR	START 8:00 FINISH 4:00	8		
OVERTIME	START FINISH			

(FOR BOTH TON-MILE AND HOURLY HAULS)

DRIVER'S SIGNATURE: Craig

AGENT FOR SHIPPER SIGNATURE: _____

Copy: DBS • Green: DBS • Canary: DBS • Pink: Drivers • Gold: Customers

LOAD AND TIME TICKET PRO. NO. 50364

NAME OF CARRIER



Detroit Bulk Storage, Inc.
P.O. Box 600
Marine City, MI 48039

MATERIAL HAULED: 346

M.P.S.C. TRUCK NO. 2062 JOB TRUCK NO. 12-4-19 DATE: 12-4-19

NAME OF SHIPPER: DBS.

FROM: (LOADING PLACE) Revere

TO: (UNLOADING PLACE) Revere Stockpile

GROSS	NET OR ESTIMATE WEIGHT
TARE	

PIT TICKET NO.: _____ TONS _____

YARDS _____

(FOR HOURLY RATED HAULS)

TIME		HOURS	RATE	CHARGES
REGULAR	START 9:00 FINISH 4:00	7		
OVERTIME	START FINISH			

(FOR BOTH TON-MILE AND HOURLY HAULS)

DRIVER'S SIGNATURE: Austin

AGENT FOR SHIPPER SIGNATURE: _____

Copy: DBS • Green: DBS • Canary: DBS • Pink: Drivers • Gold: Customers

LOAD AND TIME TICKET

PRO. NO.

50366

NAME OF CARRIER



Detroit Bulk Storage, Inc.

P.O. Box 600

Marine City, MI 48039

MATERIAL HAULED: 346

SECTION 1

M.P.S.C. TRUCK NO. 220 F JOB TRUCK NO. DATE: 12.5.19

NAME OF SHIPPER: D.B.S.

FROM: (LOADING PLACE) Revere

TO: (UNLOADING PLACE) Revere Stockpile

GROSS NET OR ESTIMATE WEIGHT

TARE

SEC. 2

PIT TICKET NO. TONS

YARDS

SECTION 3

(FOR HOURLY RATED HAULS)

	TIME		HOURS	RATE	CHARGES
	START	FINISH			
REGULAR	10:00	4:00	6		
OVERTIME					

SECTION 4

(FOR BOTH TON-MILE AND HOURLY HAULS)

DRIVER'S SIGNATURE: [Signature]

AGENT FOR SHIPPER SIGNATURE: [Signature]

White Copy: DBS • Green: DBS • Canary: DBS • Pink: Drivers • Gold: Customers

LOAD AND TIME TICKET

PRO. NO.

50318

NAME OF CARRIER



Detroit Bulk Storage, Inc.

P.O. Box 600

Marine City, MI 48039

MATERIAL HAULED: 346

SECTION 1

M.P.S.C. TRUCK NO. 220 GA JOB TRUCK NO. DATE: 12.5.19

NAME OF SHIPPER: D.B.S.

FROM: (LOADING PLACE) Revere

TO: (UNLOADING PLACE) Revere Stockpile

GROSS NET OR ESTIMATE WEIGHT

TARE

SEC. 2

PIT TICKET NO. TONS

YARDS

SECTION 3

(FOR HOURLY RATED HAULS)

	TIME		HOURS	RATE	CHARGES
	START	FINISH			
REGULAR	8:00	4:00	8		
OVERTIME					

SECTION 4

(FOR BOTH TON-MILE AND HOURLY HAULS)

DRIVER'S SIGNATURE: [Signature]

AGENT FOR SHIPPER SIGNATURE: [Signature]

White Copy: DBS • Green: DBS • Canary: DBS • Pink: Drivers • Gold: Customers

LOAD AND TIME TICKET

PRO. NO. 43990

NAME OF CARRIER



Detroit Bulk Storage, Inc.
P.O. Box 600
Marine City, MI 48039

MATERIAL HAULED: 346

M.P.S.C. TRUCK NO. Stacker JOB TRUCK NO. 12.S.19 DATE: 12.S.19

NAME OF SHIPPER: DBS

FROM: (LOADING PLACE) Revere

TO: (UNLOADING PLACE) Revere Stockpile

GROSS _____ NET OR ESTIMATE WEIGHT _____

TARE _____

PIT TICKET NO.: _____ TONS _____

YARDS _____

SECTION 3 (FOR HOURLY RATED HAULS)

	TIME		HOURS	RATE	CHARGES
	START	FINISH			
REGULAR	8:00	4:00	8		
OVERTIME					

SECTION 4 (FOR Both Ton-Mile and Hourly Hauls)

DRIVER'S SIGNATURE: _____

AGENT FOR SHIPPER SIGNATURE: _____

White Copy: DBS • Green: DBS • Canary: DBS • Pink: Drivers • Gold: Customers

LOAD AND TIME TICKET

PRO. NO. 50317

NAME OF CARRIER



Detroit Bulk Storage, Inc.
P.O. Box 600
Marine City, MI 48039

MATERIAL HAULED: 346

M.P.S.C. TRUCK NO. Deere 470 JOB TRUCK NO. 12.S.19 DATE: 12.S.19

NAME OF SHIPPER: DBS

FROM: (LOADING PLACE) Revere

TO: (UNLOADING PLACE) Revere Dock

GROSS _____ NET OR ESTIMATE WEIGHT _____

TARE _____

PIT TICKET NO.: _____ TONS _____

YARDS _____

SECTION 3 (FOR HOURLY RATED HAULS)

	TIME		HOURS	RATE	CHARGES
	START	FINISH			
REGULAR	8:00	4:00	8		
OVERTIME					

SECTION 4 (FOR BOTH TON-MILE AND HOURLY HAULS)

DRIVER'S SIGNATURE: J.P.

AGENT FOR SHIPPER SIGNATURE: _____

White Copy: DBS • Green: DBS • Canary: DBS • Pink: Drivers • Gold: Customers

LOAD AND TIME TICKET

PRO. NO.

53922

NAME OF CARRIER



Detroit Bulk Storage, Inc.

P.O. Box 600

Marine City, MI 48039

MATERIAL HAULED: 346

SECTION 1

M.P.S.C. TRUCK NO. 22061	JOB TRUCK NO.	DATE: 12-11-19
NAME OF SHIPPER: Detroit Bulk Storage		
FROM: (LOADING PLACE) Revere Dock		
TO: (UNLOADING PLACE) Revere Stockpile		
GROSS	NET OR ESTIMATE WEIGHT	
TARE		

SEC. 2

PIT TICKET NO.:	TONS
	YARDS

SECTION 3

(FOR HOURLY RATED HAULS)					
TIME		HOURS	RATE	CHARGES	
REGULAR	START 12:00	FINISH 4:00	6hrs		
OVERTIME	START	FINISH			

SECTION 4

(FOR BOTH TON-MILE AND HOURLY HAULS)

DRIVER'S SIGNATURE: *[Signature]*

AGENT FOR SHIPPER SIGNATURE:

White Copy: DBS • Green: DBS • Canary: DBS • Pink: Drivers • Gold: Customers

LOAD AND TIME TICKET

PRO. NO.

53930

NAME OF CARRIER



Detroit Bulk Storage, Inc.

P.O. Box 600

Marine City, MI 48039

MATERIAL HAULED: 349

SECTION 1

M.P.S.C. TRUCK NO. 22062	JOB TRUCK NO.	DATE: 12-11-19
NAME OF SHIPPER: Detroit Bulk Storage		
FROM: (LOADING PLACE) Revere Dock		
TO: (UNLOADING PLACE) Revere Stock Pile		
GROSS	NET OR ESTIMATE WEIGHT	
TARE		

SEC. 2

PIT TICKET NO.:	TONS
	YARDS

SECTION 3

(FOR HOURLY RATED HAULS)					
TIME		HOURS	RATE	CHARGES	
REGULAR	START 12:00	FINISH 4:00	6		
OVERTIME	START	FINISH			

SECTION 4

(FOR BOTH TON-MILE AND HOURLY HAULS)

DRIVER'S SIGNATURE: *[Signature]*

AGENT FOR SHIPPER SIGNATURE:

White Copy: DBS • Green: DBS • Canary: DBS • Pink: Drivers • Gold: Customers

LOAD AND TIME TICKET

PRO. NO. 53926

NAME OF CARRIER



Detroit Bulk Storage, Inc.

P.O. Box 600
Marine City, MI 48039

MATERIAL HAULED: 346

SECTION 1

M.P.S.C. TRUCK NO. 4706 JOB TRUCK NO. DATE: 12-11-19

NAME OF SHIPPER: DBS

FROM: (LOADING PLACE) Reverse Dock

TO: (UNLOADING PLACE) Reverse Stock Pile

GROSS NET OR ESTIMATE WEIGHT

TARE

SEC. 2

PIT TICKET NO.:

TONS

YARDS

SECTION 3

(FOR HOURLY RATED HAULS)

	TIME		HOURS	RATE	CHARGES
	START	FINISH			
REGULAR	10:00	4:00	6		
OVERTIME					

SECTION 4

(FOR BOTH TON-MILE AND HOURLY HAULS)

DRIVER'S SIGNATURE: [Signature]

AGENT FOR SHIPPER SIGNATURE: [Signature]

White Copy: DBS • Green: DBS • Canary: DBS • Pink: Drivers • Gold: Customers

LOAD AND TIME TICKET

PRO. NO. 53940

NAME OF CARRIER



Detroit Bulk Storage, Inc.

P.O. Box 600
Marine City, MI 48039

MATERIAL HAULED: 346

SECTION 1

M.P.S.C. TRUCK NO. Stacker JOB TRUCK NO. DATE: 12-11-19

NAME OF SHIPPER: D.B.S.

FROM: (LOADING PLACE) Reverse Dock

TO: (UNLOADING PLACE) Reverse Stockpile

GROSS NET OR ESTIMATE WEIGHT

TARE

SEC. 2

PIT TICKET NO.:

TONS

YARDS

SECTION 3

(FOR HOURLY RATED HAULS)

	TIME		HOURS	RATE	CHARGES
	START	FINISH			
REGULAR	10:00	4:00	6		
OVERTIME					

SECTION 4

(FOR BOTH TON-MILE AND HOURLY HAULS)

DRIVER'S SIGNATURE: [Signature]

AGENT FOR SHIPPER SIGNATURE: [Signature]

White Copy: DBS • Green: DBS • Canary: DBS • Pink: Drivers • Gold: Customers

LOAD AND TIME TICKET

PRO. NO. 53931

PRO. NO. 53923

NAME OF CARRIER



Detroit Bulk Storage, Inc.

P.O. Box 600
Marine City, MI 48039



Detroit Bulk Storage, Inc.

P.O. Box 600
Marine City, MI 48039

MATERIAL HAULED: 34g

MATERIAL HAULED: 34g

SECTION 1

M.P.S.C. TRUCK NO. 12092	JOB TRUCK NO.	DATE: 12-12-19
NAME OF SHIPPER: Detroit Bulk Storage		
FROM: (LOADING PLACE) Revere Dock		
TO: (UNLOADING PLACE) Revere Stockpile		
GROSS	NET OR ESTIMATE WEIGHT	
TARE		

SECTION 1

M.P.S.C. TRUCK NO. 28021	JOB TRUCK NO.	DATE: 12-12-19
NAME OF SHIPPER: Detroit Bulk Storage		
FROM: (LOADING PLACE) Revere Dock		
TO: (UNLOADING PLACE) Revere Stockpile		
GROSS	NET OR ESTIMATE WEIGHT	
TARE		

SEC. 2

PIT TICKET NO.:

TONS

YARDS

SEC. 2

PIT TICKET NO.:

TONS

YARDS

SECTION 3

(FOR HOURLY RATED HAULS)

	TIME		HOURS	RATE	CHARGES
	START	FINISH			
REGULAR	8am	4pm	8		
OVERTIME					

SECTION 3

(FOR HOURLY RATED HAULS)

	TIME		HOURS	RATE	CHARGES
	START	FINISH			
REGULAR	8am	4pm	8hrs		
OVERTIME					

SECTION 4

(FOR BOTH TON-MILE AND HOURLY HAULS)

DRIVER'S SIGNATURE: *Carroll*

AGENT FOR SHIPPER SIGNATURE: *Ward*

SECTION 4

(FOR BOTH TON-MILE AND HOURLY HAULS)

DRIVER'S SIGNATURE: *[Signature]*

AGENT FOR SHIPPER SIGNATURE: *[Signature]*

White Copy: DBS • Green: DBS • Canary: DBS • Pink: Drivers • Gold: Customers

White Copy: DBS • Green: DBS • Canary: DBS • Pink: Drivers • Gold: Customers

LOAD AND TIME TICKET

PRO. NO.

53927

NAME OF CARRIER



Detroit Bulk Storage, Inc.

P.O. Box 600
Marine City, MI 48039

MATERIAL HAULED:

3416

SECTION 1

M.P.S.C. TRUCK NO. 4706 JOB TRUCK NO. DATE: 12-12-19

NAME OF SHIPPER: DBS

FROM: (LOADING PLACE) Reverse Dock

TO: (UNLOADING PLACE) Reverse Stock Pile

GROSS NET OR ESTIMATE WEIGHT

TARE

SEC. 2

PIT TICKET NO.: TONS

YARDS

SECTION 3

(FOR HOURLY RATED HAULS)

	TIME		HOURS	RATE	CHARGES
	START	FINISH			
REGULAR	8:00	4:00	8		
OVERTIME					

SECTION 4

(FOR BOTH TON-MILE AND HOURLY HAULS)

DRIVER'S SIGNATURE: *[Signature]*

AGENT FOR SHIPPER SIGNATURE:

White Copy: DBS • Green: DBS • Canary: DBS • Pink: Drivers • Gold: Customers

LOAD AND TIME TICKET

PRO. NO.

53941

NAME OF CARRIER



Detroit Bulk Storage, Inc.

P.O. Box 600
Marine City, MI 48039

MATERIAL HAULED:

346

SECTION 1

M.P.S.C. TRUCK NO. Stacker JOB TRUCK NO. DATE: 12-12-19

NAME OF SHIPPER: D.B.S.

FROM: (LOADING PLACE) Reverse Dock

TO: (UNLOADING PLACE) Reverse Stockpile

GROSS NET OR ESTIMATE WEIGHT

TARE

SEC. 2

PIT TICKET NO.: TONS

YARDS

SECTION 3

(FOR HOURLY RATED HAULS)

	TIME		HOURS	RATE	CHARGES
	START	FINISH			
REGULAR	8:00	4:00	8		
OVERTIME					

SECTION 4

(FOR BOTH TON-MILE AND HOURLY HAULS)

DRIVER'S SIGNATURE: *[Signature]*

AGENT FOR SHIPPER SIGNATURE:

White Copy: DBS • Green: DBS • Canary: DBS • Pink: Drivers • Gold: Customers

LOAD AND TIME TICKET

PRO. NO.

53932

NAME OF CARRIER



Detroit Bulk Storage, Inc.

P.O. Box 600
Marine City, MI 48039

MATERIAL HAULED: 3H9

SECTION 1

M.P.S.C. TRUCK NO. Volvo 2009 JOB TRUCK NO. DATE: 12-13-19

NAME OF SHIPPER: Detroit Bulk Storage

FROM: (LOADING PLACE) Reverse Dock

TO: (UNLOADING PLACE) Reverse Stock pile

GROSS NET OR ESTIMATE WEIGHT

TARE

SEC. 2

PIT TICKET NO.:

TONS

YARDS

SECTION 3

(FOR HOURLY RATED HAULS)

	TIME		HOURS	RATE	CHARGES
	START	FINISH			
REGULAR	8:00am	9:00am	8		
OVERTIME					

SECTION 4

(FOR BOTH TON-MILE AND HOURLY HAULS)

DRIVER'S SIGNATURE: *[Signature]*

AGENT FOR SHIPPER SIGNATURE:

White Copy: DBS • Green: DBS • Canary: DBS • Pink: Drivers • Gold: Customers

LOAD AND TIME TICKET

PRO. NO.

53924

NAME OF CARRIER



Detroit Bulk Storage, Inc.

P.O. Box 600
Marine City, MI 48039

MATERIAL HAULED: 3H6

SECTION 1

M.P.S.C. TRUCK NO. 20061 JOB TRUCK NO. DATE: 12-13-19

NAME OF SHIPPER: Detroit Bulk Storage

FROM: (LOADING PLACE) Reverse Dock

TO: (UNLOADING PLACE) Reverse Stockpile

GROSS NET OR ESTIMATE WEIGHT

TARE

SEC. 2

PIT TICKET NO.:

TONS

YARDS

SECTION 3

(FOR HOURLY RATED HAULS)

	TIME		HOURS	RATE	CHARGES
	START	FINISH			
REGULAR	8am	9pm	8hrs		
OVERTIME					

SECTION 4

(FOR BOTH TON-MILE AND HOURLY HAULS)

DRIVER'S SIGNATURE: *[Signature]*

AGENT FOR SHIPPER SIGNATURE:

White Copy: DBS • Green: DBS • Canary: DBS • Pink: Drivers • Gold: Customers

LOAD AND TIME TICKET

PRO. NO.

53928

NAME OF CARRIER



Detroit Bulk Storage, Inc.

P.O. Box 600

Marine City, MI 48039

MATERIAL HAULED: 346

SECTION 1

M.P.S.C. TRUCK NO. 4706 JOB TRUCK NO. DATE: 12-13-19

NAME OF SHIPPER: DBS

FROM: (LOADING PLACE) Reverse Dock

TO: (UNLOADING PLACE) Reverse Stock Pile

GROSS NET OR ESTIMATE WEIGHT

TARE

SEC. 2

PIT TICKET NO.:

TONS

YARDS

SECTION 3

(FOR HOURLY RATED HAULS)

	TIME		HOURS	RATE	CHARGES
	START	FINISH			
REGULAR	8:00	4:00	8		
OVERTIME					

SECTION 4

(FOR BOTH TON-MILE AND HOURLY HAULS)

DRIVER'S SIGNATURE: [Signature]

AGENT FOR SHIPPER SIGNATURE: [Signature]

White Copy: DBS • Green: DBS • Canary: DBS • Pink: Drivers • Gold: Customers

LOAD AND TIME TICKET

PRO. NO.

53942

NAME OF CARRIER



Detroit Bulk Storage, Inc.

P.O. Box 600

Marine City, MI 48039

MATERIAL HAULED: 346

SECTION 1

M.P.S.C. TRUCK NO. Stacker JOB TRUCK NO. DATE: 12-13-19

NAME OF SHIPPER: D.B.S.

FROM: (LOADING PLACE) Reverse Dock

TO: (UNLOADING PLACE) Reverse Stockpile

GROSS NET OR ESTIMATE WEIGHT

TARE

SEC. 2

PIT TICKET NO.:

TONS

YARDS

SECTION 3

(FOR HOURLY RATED HAULS)

	TIME		HOURS	RATE	CHARGES
	START	FINISH			
REGULAR	8:00	4:00	4		
OVERTIME					

SECTION 4

(FOR BOTH TON-MILE AND HOURLY HAULS)

DRIVER'S SIGNATURE: [Signature]

AGENT FOR SHIPPER SIGNATURE: [Signature]

White Copy: DBS • Green: DBS • Canary: DBS • Pink: Drivers • Gold: Customers

Appendix C





CONSULTING
GROUP

February 3, 2020

Mr. Steve Erickson
Revere Dock LLC
3128 Three Mile Road NW
Grand Rapids, Michigan 49534

RE: Status Report
Revere Dock Shoreline Evaluation
5851 West Jefferson Avenue
City of Detroit, Wayne County, Michigan
G2 Project No. 193662

Dear Mr. Erickson:

The purpose of this letter is to provide a status report of the observed site conditions at the above referenced project site. Subsequent to reported deep seated rotational slope movements at the project site, we have conducted Unmanned Aerial Vehicle (UAV) operations of the property to observe and document visual conditions of the site. These operations capture images and these data were used to prepare topographic information. Based on review of the data we collected, it appears that site contours have not deviated much and the surface of the ponded area within the reported failure area appears to remain relatively constant.

UAV operations were conducted by a G2 Federal Aviation Administration (FAA) Part 107 Licensed Remote Pilot in Command in accordance with FAA Part 107 guidelines and regulations. G2 utilized a DJI Phantom 4 Pro to capture 385 nadir aerial images at an approximate altitude of 200 feet, on a predetermined grid flight pattern with a front overlap ratio of 82 percent and a side overlap ratio of 71 percent, corresponding to a ground sampling distance of 0.65 inches per pixel. The grid pattern was generated using Pix4Dcapture. The same grid pattern was used for all flights.

For the site visit on December 13, 2019, G2 established Ground Control Points (GCPs) using a set of 8 survey grade GPS targets (Aeropoints, manufactured by Propeller). At this time, G2 understood the scope of work would not include subsequent site visits. Upon return to the site on January 17, 2020, G2 established 10 semi-permanent GCPs, and on January 21, 2020 G2 used a set of 10 Propeller Aeropoints to obtain accurate geolocation information for the new semi-permanent GCPs. Aerial imagery was processed using a desktop version of Pix4D Mapper. For each flight, certain GCP's were selected as Check Points to verify accuracy. NAVD88 was used for the model's vertical coordinate system. NAD 1983 State Plane Michigan South FIPS 2113 was used for the model's horizontal coordinate system. In addition, the following information was determined regarding the water surface elevation at the time of our UAV operations.

g2consultinggroup.com

Headquarters	1866 Woodslee St	Troy, MI 48083	P 248.680.0400	F 248.680.9745
Ann Arbor	1350 Eisenhower Pl	Ann Arbor, MI 48108	P 734.390.9330	F 734.390.9331
Chicagoland	1186 Heather Dr	Lake Zurich, IL 60047	P 847.353.8740	F 847.353.8742



Flight Date	River Elevation at USGS Fort Wayne Station
December 13, 2019	+/- 575.2 feet (NOAA Fort Wayne IGLD 85)
January 17, 2020	+/- 576.0 feet (NOAA Fort Wayne IGLD 85)
January 21, 2020	+/- 575.5 feet (NOAA Fort Wayne IGLD 85)

*Source: waterdata.usgs.gov

For the purpose of this report, the site is divided into two areas; The Disturbed Zone where ponded area is visible, and the Undisturbed Zone located downstream from the Disturbed Zone. Review of Plates 1 through 3 show the contour maps of the project site in the near vicinity of the Detroit River shoreline. In the Disturbed Zone, a ponded area is identified and is located about 100 feet landward of the Detroit River shoreline. We have also highlighted the topographic lines representing Elevations 576, 580, and 585. Further, we have simplified the presentation by indicating the shoreline to be at Elevation 576.

Based on analysis of the Ponded Area, our calculations indicate the following:

Flight Date	Approximate Surface Area of Water in Failure Dep
December 13, 2019	+/- 16,830 sq. ft.
January 17, 2020	+/- 16,381 sq. ft.
January 21, 2020	+/- 16,160 sq. ft.

It should be noted that between the date of December 13, 2019 and January 17, 2020, fill activities took place between the ponded area and the Detroit River shoreline. We understand these operations were intended to armor the shoreline and reduce erosion and scour in the ponded area. Examination of the contour lines from the three flight dates verify that the shoreline along the Detroit River was straightened and that a berm of higher elevation was established separating the Detroit River from the ponded area. It should also be noted that the ground surface was snow covered and the ponded area was frozen on the January 21, 2020 flight. Based on the data we collected, we do not detect large scale changes in the ponded area.

In the Undisturbed Area, our baseline flight indicated the area just landward of the shoreline has a topographic elevation between Elevation 578 and 579. In the subsequent flights, the ground surface remains between Elevations 578 and 579. Based on the visual data we collected, we do not detect large scale ground surface changes in this vicinity. Further review of the contour lines shown on Plates 1 through 3 attached to this report indicates the Elevation 580 and 585 contour lines remain relatively constant in their location. Based on this information, we do not detect any large-scale ground surface movements in this zone located northwest of the Disturbed Zone and Undisturbed Zone.

We hope the information contained in this letter is sufficient for your present needs. If you have questions of require additional information, please contact us.

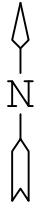
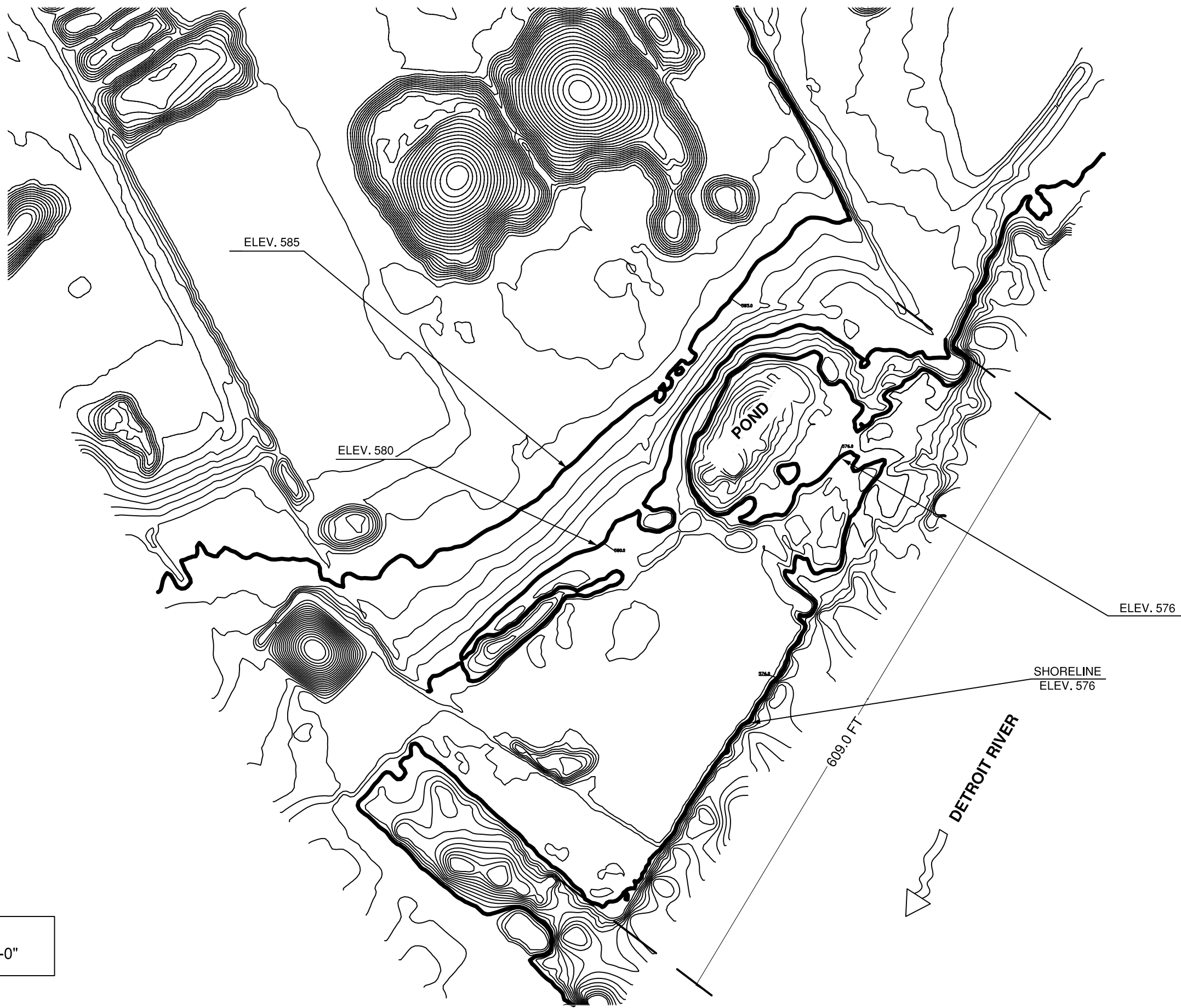
Sincerely,

G2 Consulting Group

Zahraa Roudan
Staff Engineer

Mark S. Stapleton, P.E.
Associate / Project Manager

Encl.



12/13/2019
SCALE: 1/8" = 1'-0"



CONSULTING GROUP

1350 Eisenhower Place
Ann Arbor, Michigan 48108
office (734) 390-9330
fax (734) 390-9331

PROJECT NO.: 193662

DATE: 01-31-2020

DRAWN BY: ZR

CHECKED BY: MSS

REVISION DESCRIPTION	DATE				

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PROJECT NAME:
REVERE DOCK, LLC

ADDRESS:
5851 W. JEFFERSON AVE.
DETROIT, MICHIGAN

SHEET TITLE
CONTOUR MAP
12/13/2019

PLATE NO.
1



CONSULTING GROUP

1350 Eisenhower Place
Ann Arbor, Michigan 48108
office (734) 390-9330
fax (734) 390-9331

PROJECT NO.: 193662

DATE: 01-31-2020

DRAWN BY: ZR

CHECKED BY: MSS

DATE:					
REVISION DESCRIPTION					
No.:					

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PROJECT NAME:
REVERE DOCK, LLC

ADDRESS:
5851 W. JEFFERSON AVE.
DETROIT, MICHIGAN

SHEET TITLE
CONTOUR MAP
1/17/2020

PLATE NO.

2



01/17/2020
SCALE: 1/8" = 1'-0"



**CONSULTING
GROUP**

1350 Eisenhower Place
Ann Arbor, Michigan 48108
office (734) 390-9330
fax (734) 390-9331

PROJECT NO.: 193662

DATE: 01-31-2020

DRAWN BY: ZR

CHECKED BY: MSS

REVISION DESCRIPTION	DATE

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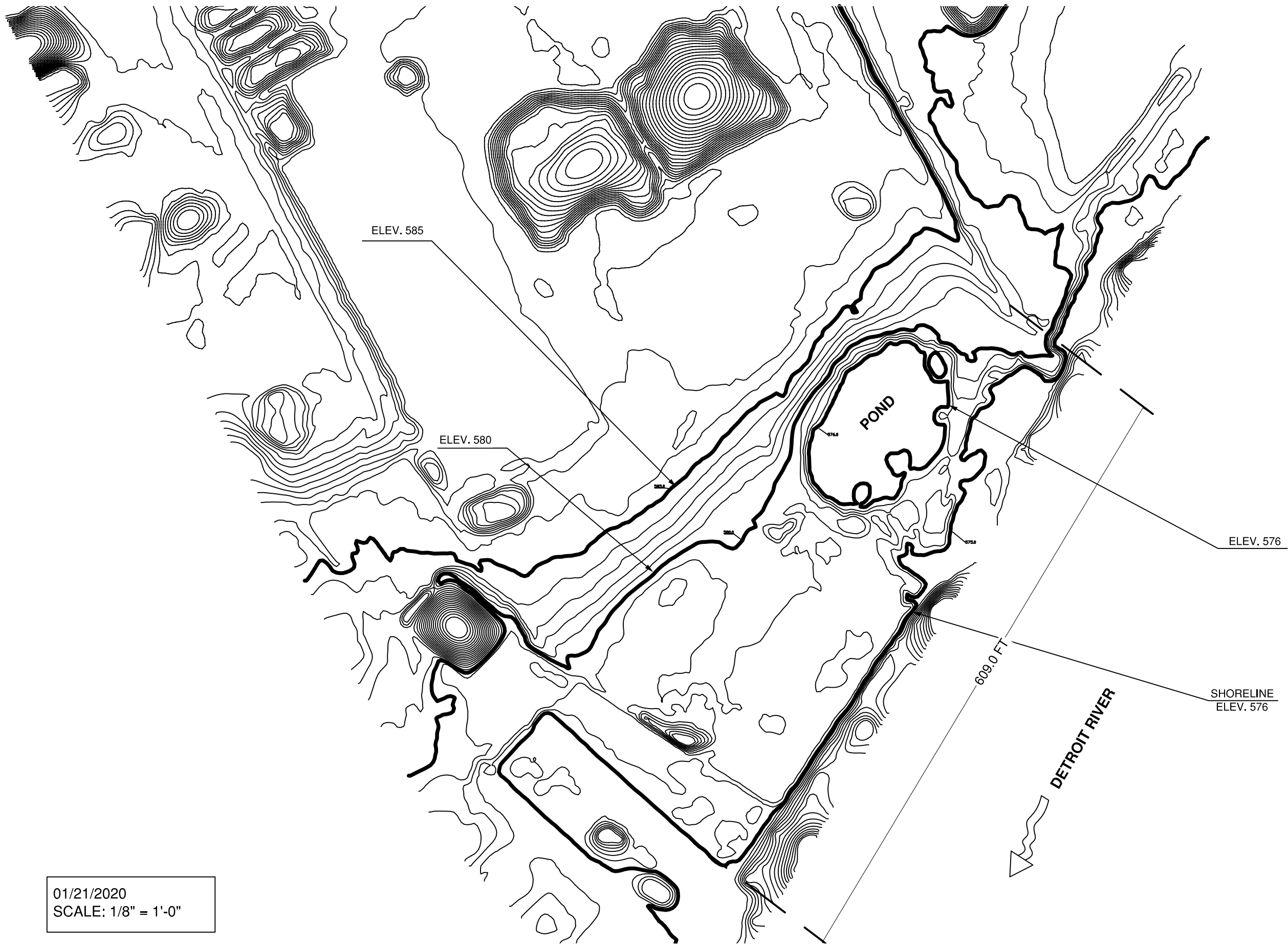
PROJECT NAME:
REVERE DOCK, LLC

ADDRESS:
5851 W. JEFFERSON AVE.
DETROIT, MICHIGAN

SHEET TITLE
CONTOUR MAP
1/21/2020

PLATE NO.

3



01/21/2020
SCALE: 1/8" = 1'-0"