Weekly Field Report
Week: 12-01-13 through 12-07-13
New Bedford Harbor Lower Harbor CAD Cell (LHCC)

This Weekly Field Report was prepared to serve as a summary of field activities conducted throughout the week for Phase I dredging of the New Bedford Harbor Lower Harbor CAD Cell (LHCC) in New Bedford, Massachusetts.

1. Introduction:

The weekly field report describes the activities carried out by the Contractor (Cashman/Tripp Marine), the Owner's Representative (Apex Companies, LLC), and any subcontractors completing work within the scope of the project requirements.

This Weekly Field Report represents the fifth Report associated with Phase I dredging of the LHCC in New Bedford Harbor, and the associated handling and disposal of dredged materials at CAD cells within the Harbor, and at designated open-water disposal sites approved for this Project.

This Fifth Report for the LHCC dredging activities includes:

- Daily Inspection Reports from the dredging oversight performed during the week of December 1st through December 7th. Daily contractor activities are included in the form of Daily Inspection Reports noting equipment observed on site and a summary of contractor activities. (See Attachment 1);
- Water Quality Monitoring Forms completed for the week of December 1st through December 7th are attached (Attachment 2). Included with the attached forms is Figure 1 *Lower Harbor CAD Cell Phase I Water Quality Monitoring Plan*, which shows the locations of the water quality monitoring events conducted during this reporting period. Per the approved Water Quality Monitoring Plan and associated performance standards for the dredging efforts being conducted during this reporting period Apex has;
    - Conducted water quality monitoring events a minimum of two days per week.
    - Conducted water quality monitoring for disposal events into either the existing CAD Cell #2 or CAD Cell #3 of Top of LHCC sediments removed by this Project.
    - Performed visual inspections of dredged materials in the disposal scow prior to disposal to ascertain the effectiveness of dewatering. If deemed necessary by the visual inspection, Apex will monitor the water quality of the effluent discharge from the carbon filtration system.

2. Summary:

The Contractor, through its subcontractor, Tripp Marine, conducted dredging at the LHCC daily December 3rd through the 7th. No dredging was conducted on Monday, December 2nd as this day was reserved for a grid survey to evaluate surficial sediment characteristics in Dredge Areas T-4, T-5, and T-6. Dredging operations focused on the removal of Phase I Top of CAD cell sediments and the disposal of these sediments into CAD Cell #3. Dredging operations during this reporting period were conducted using a conventional digging bucket in certain areas of the dredge footprint where dense sandy materials were known to exist, per verbal approval discussed at the November 13th project meeting and the subsequent formal letter provided on November 21st . Tripp Marine was observed conducting these activities during the authorized operational window of 7AM until sunset, utilizing a single dredge plant; the tug *Sand Pebble;* a 900 cubic yard dump scow – *TMC 140*; a 3000 cubic yard pocket scow SEI-2000, and a small utility boat. Tripp Marine was utilizing

the Cashman dewatering barge as a staging area for dewatering operations and as an aid in accurately positioning the dump scow for disposal operations into CAD Cell #3. Dredging operations were conducted without the use of silt curtains because these activities lie outside the time of year restrictions noted in the Project Specifications.

3. Operational Notes:

Dredging:

Dredging at the LHCC continued through the week of December 1st utilizing an open conventional digging bucket per the terms outlined in the letter issued on November 21st. Apex conducted three days of water quality monitoring while the open conventional bucket was being used in ensure that the use of the conventional bucket did not result in an exceedance of any project-specific water quality standards. Water quality monitoring was completed on the 4th, 5th, and 6th of December. Monitoring of dredging activities will continue on a schedule of a minimum of two events per week as required by the project performance standards.

Disposal:

Disposal of "Top of LHCC" sediments was conducted on December 2nd, 4th, 5th, 6th, and 7th. Based on scow logs, approximately 500 and 800 cubic yards of material (assuming 120 pounds/ft^3 for dredged materials) was placed into CAD Cell #3 during each disposal event for scow TMC-140 and SEI-2000, respectively. Sediments contained in the scow were inspected prior to each disposal to assess the effectiveness of dewatering. Water quality monitoring, required for each CAD Cell disposal event, was completed for each day of disposal activity.

Table 1 – Cumulative Dredging Progress

Period of Activity	Volume (cy)
Approximate Vol. Dredged this Reporting Period	3,300
Approximate Volume Dredged to Date	9,600

4. Monitoring Summary

There were no water quality exceedances observed during this reporting period related to either dredging or disposal operations. No water quality samples were collected.

Prepared by:
Apex Companies, LLC

John B. McAllister, P.E.
Senior Project Engineer

Don Boyé
Senior Project Manager

Attachment 1
Daily Inspection Reports

City of New Bedford Harbor Development Commission

New Bedford Harbor USEPA Lower Harbor CAD Cell

CFDA No.: 66.802

Inspection Report

Inspector: Kaios Ryan **Date:** 02 December 2013

Contractor: **Tripp Marine** Foreman/Supt: Pyne Tripp

Weather	AM:	Early fog	**Temperature**	AM:	36
	PM:	Ptly. Cloudy Winds 5k N		PM:	45

Tides	High	0648	AM	1910	PM
	Low		AM	1242	PM

Manpower Onsite

Foreman	1	@ 8	Hrs
Operators	1	@ 8	Hrs
Laborers	1	@ 8	Hrs
Drivers		@	Hrs
Other:		@	Hrs

Equipment Onsite

Description:	Dredge Tripp 47	Hrs. 8
	Scow TMC 140	Hrs. 8
	Push boat Sand Pebble	Hrs. 8
	Support boat	Hrs. 8
		Hrs.

Contractor Activities: (Attach Additional Sheets as Necessary)

Apex on-site at 0955 to conduct oversight of dredging activities and to inspect dredge materials in scow to provide clearance to dispose materials into CAD Cell #3. Disposal occurs at 1009 and scow manuevered into position alongside dredge plant. Dredge positioned at the edge of Dregde Area T-5, and Contractor requesting authorization to use conventional bucket in this area. At 1400 Tripp re-rigs the dredge plant with the environmental bucket, and under Apex supervision, surficial sediments (top 2-feet) are collected on a 50-foot grid spacing within Dredge Areas T-4, T-5, and T-6 for evaluation. 17 samples were collected during the day and sampling ends at 1600. No water quality issues were observed during the day.

Problems/Issues or Action Items:

None / N/A

Visitors:

Signature: D. Boye Date: 2-Dec-13

Title: Page: 1 of 1

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City of New Bedford Harbor Development Commission

New Bedford Harbor USEPA Lower Harbor CAD Cell

CFDA No.: 66.802

Inspection Report

Inspector: Kaios Ryan **Date:** 03 December 2013

Contractor: **Tripp Marine** Foreman/Supt: Pyne Tripp

Weather	AM:	Cloudy	**Temperature**	AM:	35
	PM:	Cloudy Winds 10-15k NNW		PM:	50

Tides	High	0735	AM	1958	PM
	Low	1235	AM	1336	PM

Manpower Onsite

Foreman	1	@ 8	Hrs
Operators	1	@ 8	Hrs
Laborers	1	@ 8	Hrs
Drivers		@	Hrs
Other:		@	Hrs

Equipment Onsite

Description:	Dredge Tripp 47	Hrs. 8
	Scow TMC 140	Hrs. 8
	Push boat Sand Pebble	Hrs. 8
	Support boat	Hrs. 8
		Hrs.

Contractor Activities: (Attach Additional Sheets as Necessary)

Apex on-site at 0730 to continue grid sampling survey in Dredge Areas T-4, T-5, and T-6. Sampling was completed at 0839 with (11) additional samples collected for evaluation. After review and consultation amongst the Owner's team authorizes the use of the conventional digging bucket in a small swath of Dredge Area T-5 and at 0925 Contractor begins re-rigging the dredge plant accordingly. At 1135 dredging begins with scow draft marks at 3' FWD and 4' AFT. Dredging was conducted briefly in Dredge Area T-5, after which dredge plant was repositioned into Dredge Area T-2. Dredging continues until 1515. End of day draft marks on the scow were 7.5' FWD/AFT. No water quality issues were observed during the day.

Problems/Issues or Action Items:

None / N/A

Visitors:

Signature: D. Boye Date: 3-Dec-13

Title: Page: 1 of 1

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City of New Bedford Harbor Development Commission
New Bedford Harbor USEPA Lower Harbor CAD Cell
CFDA No.: 66.802

Inspection Report

Inspector: Kaios Ryan **Date:** 04 December 2013

Contractor: **Tripp Marine** Foreman/Supt: Pyne Tripp

Weather	AM:	Ptly. Cloudy	**Temperature**	AM:	28
	PM:	Clearing skies. 5-10k WNW		PM:	46

Tides	High	0826	AM	2050	PM
	Low	0125	AM	1426	PM

Manpower Onsite

Foreman	1	@ 8	Hrs
Operators	1	@ 8	Hrs
Laborers	1	@ 8	Hrs
Drivers		@	Hrs
Other:		@	Hrs

Equipment Onsite

Description:	Dredge Tripp 47	Hrs. 8
	Scow TMC 140	Hrs. 8
	Push boat Sand Pebble	Hrs. 8
	Support boat	Hrs. 8
		Hrs.

Contractor Activities: (Attach Additional Sheets as Necessary)

Apex on-site at 0735 to conduct oversight of dredging activities and to inspect dredge materials in scow to provide clearance to dispose materials into CAD Cell #3. Disposal occurs at 0817 and scow TMC-140 was then maneuvered into position alongside dredge plant. Dredging begins at 0853 using the open conventional digging bucket after making adjustments on the crane boom. Due to unfavorable tides, dredging stops at 1324 and scow TMC-140 is maneuvered over to dewatering barge. End of day draft marks on the scow were recorded as 6.5' FWD/AFT. No water quality issues were observed during the day.

Problems/Issues or Action Items:

None / N/A

Visitors:

Signature: D. Boye Date: 4-Dec-13

Title: Page: 1 of 1

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City of New Bedford Harbor Development Commission

New Bedford Harbor USEPA Lower Harbor CAD Cell

CFDA No.: 66.802

Inspection Report

Inspector: Mike Tumolo **Date:** 05 December 2013

Contractor: **Tripp Marine** Foreman/Supt: Pyne Tripp

Weather	AM:	Overcast with fog	**Temperature**	AM:	28
	PM:	Rain. Winds 5k ESE shifting to S		PM:	55

Tides	High	0907	AM	2133	PM
	Low	0216	AM	1440	PM

Manpower Onsite

Foreman	1	@ 8	Hrs
Operators	1	@ 8	Hrs
Laborers	1	@ 8	Hrs
Drivers		@	Hrs
Other:		@	Hrs

Equipment Onsite

Description:	Dredge Tripp 47	Hrs. 8
	Scow TMC 140	Hrs. 8
	Push boat Sand Pebble	Hrs. 8
	Support boat	Hrs. 8
	Scow SEI 2000	Hrs. 4

Contractor Activities: (Attach Additional Sheets as Necessary)

Apex on-site at 0700 to conduct oversight of dredging activities and to inspect dredge materials in scow to provide clearance to dispose materials into CAD Cell #3. Disposal occurs at approximately 0715 and scow TMC-140 maneuvered into position alongside dredge plant. Dredging begins at 0747 using the open conventional digging bucket and continues until 1212 at which point scow TMC-140, with draft marks recorded as 7.5' FWD and 7' AFT, is maneuvered over to dewatering barge. Apex inspects dredged materials in scow . Contractor maneuvers a second scow (Scow SEI-2000) alongside dredge plant at 1245 and resumes dredging. Dredging continues until 1615. No water quality issues were observed during the day.

Problems/Issues or Action Items:

None / N/A

Visitors:

Signature: D. Boye Date: 5-Dec-13

Title: Page: 1 of 1

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City of New Bedford Harbor Development Commission

New Bedford Harbor USEPA Lower Harbor CAD Cell

CFDA No.: 66.802

Inspection Report

Inspector: Mike Tumolo **Date:** 06 December 2013

Contractor: **Tripp Marine** Foreman/Supt: Pyne Tripp

Weather	AM:	Overcast with fog	**Temperature**	AM:	37
	PM:	Winds 5-10k SSW shifting to N		PM:	55

Tides	High	1003	AM	2030	PM
	Low	0243	AM	1526	PM

Manpower Onsite

Foreman	1	@ 8	Hrs	
Operators	1	@ 8	Hrs	
Laborers	1	@ 8	Hrs	
Drivers		@	Hrs	
Other:		@	Hrs	

Equipment Onsite

Description:	Dredge Tripp 47	Hrs. 8
	Scow TMC 140	Hrs. 8
	Push boat Sand Pebble	Hrs. 8
	Support boat	Hrs. 8
	Scow SEI 2000	Hrs. 8

Contractor Activities: (Attach Additional Sheets as Necessary)

Apex on-site at 0720 to conduct oversight of dredging activities and to inspect dredged materials in scow to provide clearance for the disposal of materials into CAD Cell #3. Disposal occurs at approximately 0725 and scow TMC-140 is maneuvered into position alongside dredge plant. Dredging begins at 0750 using the open conventional digging bucket, with dredged materials being placed into scow TMC-140. Scow SEI-2000 alongside dredge plant as well, but is shifted over to dewatering barge at 1052. Scow TMC-140, with draft marks recorded as 7' FWD/AFT, is maneuvered over to dewatering barge at 1324. At 1355 scow SEI-2000 is brought back alongside dredge plant and dredging continues until 1600. End of day draft marks on scow SEI-2000 were recorded as 7.5' FWD and 8'AFT with approximately 1-1/2 of the 4 compartments in the scow loaded. No water quality issues were observed during the day. Apex departs site at 1615, noting that scow SEI-2000 and the dredge plant were in position over the LHCC.

Problems/Issues or Action Items:

None / N/A

Visitors:

Signature: D. Boye Date: 6-Dec-13

Title: Page: 1 of 1

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Attachment 2
Water Quality Monitoring Forms

PROJECT:	**New Bedford Harbor Lower Harbor CAD Cell**
JOB NUMBER:	**6724**
SURVEY DATE:	**02 December 2013**
MONITORS:	**K. Ryan**
WEATHER CONDITIONS:	**Early fog. Partly Cloudy through the day. Temperatures 36F early, 45F PM**
WIND CONDITIONS:	**Speed: 5k Direction: N**
PRIOR STORM EVENTS:	**N/A**
DREDGE / SCOW Position:	**Northing/Easting: CAD Cell #3**
TYPE OF WATER QUALITY MONITORING EVENT:	**TOP CAD Dredging / BTM CAD Dredging / Disposal**
TIDE INFORMATION:	**High: 0648/1910 Low: 1242**
WAS WATER QUALITY SAMPLING PERFORMED? (YES/NO):	**N IF YES, ATTACH COC FORMS**
GENERAL NOTES:	**Disposal into CAD Cell #3 occurred at 1020.**

UP-CURRENT

Monitoring ID #	NORTHING / EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	RELATIVE POSITION OF MEASUREMENT	NUMBER OF HOURS DREDGING
120213-00-1-1	2697015 / 815837	1013	8.6	1	2.59		Ebbing	200' N of Disposal	0
120213-00-1-4		1015		4	4.22				
120213-00-1-8		1017		8	4.98				
			AVERAGE TURBIDITY:		3.93				
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						

Down-Current

Monitoring ID #	NORTHING / EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
120213-01-9-1	2696439 / 815837	1022	14.3	1	9		Ebbing	200' S of Disposal	post
120213-01-9-7		1024		7	4.6				
120213-01-9-14		1026		14	10.3				
			AVERAGE TURBIDITY:		7.97				
			TURBIDITY INCREASE:		4.04				
			AVERAGE TURBIDITY:						
			TURBIDITY INCREASE:						
			AVERAGE TURBIDITY:						
			TURBIDITY INCREASE:						
			AVERAGE TURBIDITY:						
			TURBIDITY INCREASE:						
			AVERAGE TURBIDITY:						
			TURBIDITY INCREASE:						

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT:	**New Bedford Harbor Lower Harbor CAD Cell**
JOB NUMBER:	**6724**
SURVEY DATE:	**04 December 2013**
MONITORS:	**K. Ryan, K. Miller**
WEATHER CONDITIONS:	**Ptly. cloudy, clearing Low: 28 High: 46**
WIND CONDITIONS:	**Speed: 5-10k Direction: WNW**
PRIOR STORM EVENTS:	**N/A**
DREDGE / SCOW Position:	**Northing/Easting: CAD Cell #3**
TYPE OF WATER QUALITY MONITORING EVENT:	**TOP CAD Dredging / BTM CAD Dredging / Disposal**
TIDE INFORMATION:	**High: 0826/2050 Low: 0125/1426**
WAS WATER QUALITY SAMPLING PERFORMED? (YES/NO): N	**IF YES, ATTACH COC FORMS**
GENERAL NOTES:	**Disposal into CAD Cell #3 occurred at 0817**

UP-CURRENT

Monitoring ID #	NORTHING / EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	RELATIVE POSITION OF MEASUREMENT	NUMBER OF HOURS DREDGING
120413-00-1-1	2696556 / 814976	0740	12.6	1	2.56		Flooding tide	200' S of Disposal	0
120413-00-1-6		0742		6	3.67				
120413-00-1-12		0744		12	3.44				
			AVERAGE TURBIDITY:		3.22				
120413-01-1-1	2696690 / 816082	0817	18	1	3.4		Flooding tide / Slack	200' N of Disposal	post
120413-01-1-9		0819		9	2.91				
120413-01-1-17		0821		17	3.13				
			AVERAGE TURBIDITY:		3.15				
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						

Down-Current

Monitoring ID #	NORTHING / EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
120413-00-9-1	2696930 / 815180	0748	8.8	1	6.4		Flooding tide	200' N of Disposal	0
120413-00-9-4		0750		4	5.39				
120413-00-9-8		0752		8	4.68				
			AVERAGE TURBIDITY:		5.49				
			TURBIDITY INCREASE:		2.27				
120413-01-9-1	2696567 / 816023	0822	11.5	1	2.87		Slack	200' S of Disposal	post
120413-01-9-5.5		0824		5.5	3.02				
120413-01-9-11		0826		11	4.71				
			AVERAGE TURBIDITY:		3.53				
			TURBIDITY INCREASE:		0.39				
			AVERAGE TURBIDITY:						
			TURBIDITY INCREASE:						
			AVERAGE TURBIDITY:						
			TURBIDITY INCREASE:						
			AVERAGE TURBIDITY:						
			TURBIDITY INCREASE:						

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT:	**New Bedford Harbor Lower Harbor CAD Cell**
JOB NUMBER:	**6724**
SURVEY DATE:	**04 December 2013**
MONITORS:	**K. Ryan, K. Miller**
WEATHER CONDITIONS:	**Ptly. Cloudy, clearing Low: 28 High: 46**
WIND CONDITIONS:	**Speed: 5-10k Direction: WNW**
PRIOR STORM EVENTS:	**N/A**
DREDGE / SCOW Position:	**Northing/Easting: CAD Cell #3**
TYPE OF WATER QUALITY MONITORING EVENT:	**TOP CAD Dredging / BTM CAD Dredging / Disposal**
TIDE INFORMATION:	**High: 0826/2050 Low: 0125/1426**
WAS WATER QUALITY SAMPLING PERFORMED? (YES/NO):	**N IF YES, ATTACH COC FORMS**
GENERAL NOTES:	**Dredging begins at 0853 and ends for the day at 1324**

UP-CURRENT

Monitoring ID #	NORTHING / EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	RELATIVE POSITION OF MEASUREMENT	NUMBER OF HOURS DREDGING
120413-00-1-1	2696971 / 815136	0950	8.2	1	2.92		Ebbing	200' N of Dredge	0
120413-00-1-4		0952		4	2.56				
120413-00-1-8		0954		8	2.16				
			AVERAGE TURBIDITY:		2.55				
120413-02-1-1	2696985 / 815048	1136	5.6	1	4.31		Ebbing	200' N of Dredge	2
120413-02-1-2.5		1138		2.5	3.45				
120413-02-1-5		1140		5	2.71				
			AVERAGE TURBIDITY:		3.49				
120413-04-1-1	2696960 / 815191	1342	3.8	1	4.21		Ebbing	200' N of Dredge	4
120413-04-1-2		1344		2	5.09				
120413-04-1-3		1346		3	4.5				
			AVERAGE TURBIDITY:		4.60				
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						

Down-Current

Monitoring ID #	NORTHING / EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
120413-00-9-1	2696520 / 814937	0955	13.7	1	4.45		Ebbing	200' S of Dredge	0
120413-00-9-6.5		0957		6.5	9.22				
120413-00-9-13		0959		13	9.43				
			AVERAGE TURBIDITY:		7.70				
			TURBIDITY INCREASE:		5.15				
120413-02-9-1	2696508 / 814996	1142	9.3	1	5.3		Ebbing	200' S of Dredge	2
120413-02-9-4.5		1144		4.5	10.4				
120413-02-9-9		1146		9	10.7				
			AVERAGE TURBIDITY:		8.80				
			TURBIDITY INCREASE:		5.31				
120413-04-9-1	2696566 / 815069	1347	6.5	1	5.71		Ebbing	200' S of Dredge	4
120413-04-9-3		1349		3	5.33				
120413-04-9-6		1351		6	5.74				
			AVERAGE TURBIDITY:		5.59				
			TURBIDITY INCREASE:		0.99				
			AVERAGE TURBIDITY:						
			TURBIDITY INCREASE:						
			AVERAGE TURBIDITY:						
			TURBIDITY INCREASE:						

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT:	**New Bedford Harbor Lower Harbor CAD Cell**
JOB NUMBER:	**6724**
SURVEY DATE:	**05 December 2013**
MONITORS:	**M. Tumolo, M. Martinho**
WEATHER CONDITIONS:	**Overcast, fog and rain Low: 28 High: 55**
WIND CONDITIONS:	**Speed: 5-10k Direction: ESE shifting to S in PM**
PRIOR STORM EVENTS:	**N/A**
DREDGE / SCOW Position:	**Northing/Easting: 2699761 / 815119**
TYPE OF WATER QUALITY MONITORING EVENT:	**TOP CAD Dredging / BTM CAD Dredging / Disposal**
TIDE INFORMATION:	**High: 0907/2133 Low: 1440**
WAS WATER QUALITY SAMPLING PERFORMED? (YES/NO): N	**IF YES, ATTACH COC FORMS**
GENERAL NOTES:	**Dredging begins at 0747 and ends for the day at 1615. Capping activities on-going at the Borrow Pit site just south of the LHCC today.**

UP-CURRENT

Monitoring ID #	NORTHING / EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	RELATIVE POSITION OF MEASUREMENT	NUMBER OF HOURS DREDGING
120513-00-1-1	2696449 / 814976	0757	12.1	1	3.98		Flooding tide	200' S of Dredge	0
120513-00-1-5		0759		5	5.1				
120513-00-1-11		0801		11	4.24				
			AVERAGE TURBIDITY:		4.44				
120513-02-1-1	2697040 / 815044	1000	8.5	1	3.2		Ebbing	200' N of Dredge	2
120513-02-1-4		1002		4	3.4				
120513-02-1-8		1004		8	3.3				
			AVERAGE TURBIDITY:		3.30				
120513-04-1-1	2697057 / 814855	1200	11.2	1	2.1		Ebbing	200' N of Dredge	4
120513-04-1-5		1202		5	2.4				
120513-04-1-10		1204		10	1.9				
			AVERAGE TURBIDITY:		2.13				
120513-06-1-1	2697195 / 815016	1400	6	1	1.82		Ebbing	200' N of Dredge	6
120513-06-1-3		1402		3	2.02				
120513-06-1-5		1404		5	1.82				
			AVERAGE TURBIDITY:		1.89				
120513-08-1-1	2696512 / 814939	1604	7.4	1	2.74		Flooding tide	200' S of Dredge	8
120513-08-1-3		1606		3	1.97				
120513-08-1-6.5		1608		6.5	2.22				
			AVERAGE TURBIDITY:		2.31				

Down-Current

Monitoring ID #	NORTHING / EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
120513-00-9-1	2697187 / 815067	0804	10.1	1	5.41		Flooding tide	200' N of Dredge	0
120513-00-9-4		0806		4	4.41				
120513-00-9-9		0808		9	4.32				
			AVERAGE TURBIDITY:		4.71				
			TURBIDITY INCREASE:		0.27				
120513-02-9-1	2696522 / 814896	1005	14	1	2.9		Ebbing	200' S of Dredge	2
120513-02-9-6		1007		6	4.9				
120513-02-9-13		1009		13	5.8				
			AVERAGE TURBIDITY:		4.53				
			TURBIDITY INCREASE:		1.23				
120513-04-9-1	2696558 / 814907	1205	11.4	1	2.7		Ebbing	200' S of Dredge	4
120513-04-9-5		1207		5	3.8				
120513-04-9-10		1209		10	5.3				
			AVERAGE TURBIDITY:		3.93				
			TURBIDITY INCREASE:		1.80				
120513-06-9-1	2696604 / 814929	1406	8.4	1	3.35		Ebbing	200' S of Dredge	6
120513-06-9-3		1408		3	4				
120513-06-9-7.5		1410		7.5	3.37				
			AVERAGE TURBIDITY:		3.57				
			TURBIDITY INCREASE:		1.69				
120513-08-9-1	2697266 / 814948	1615	6.5	1	3.47		Flooding tide	200' N of Dredge	8
120513-08-9-2		1617		2	4.5				
120513-08-9-5		1619		5	3.2				
			AVERAGE TURBIDITY:		3.72				
			TURBIDITY INCREASE:		1.41				

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT:	**New Bedford Harbor Lower Harbor CAD Cell**
JOB NUMBER:	**6724**
SURVEY DATE:	**06 December 2013**
MONITORS:	**M. Tumolo**
WEATHER CONDITIONS:	**Overcast and foggy Low: 37 High: 55**
WIND CONDITIONS:	**Speed: 5-10k Direction: SSW shifting to N in PM**
PRIOR STORM EVENTS:	**N/A**
DREDGE / SCOW Position:	**Northing/Easting: 2697665 / 814981**
TYPE OF WATER QUALITY MONITORING EVENT:	**TOP CAD Dredging / BTM CAD Dredging / Disposal**
TIDE INFORMATION:	**High: 1003/2030 Low: 0243/1526**
WAS WATER QUALITY SAMPLING PERFORMED? (YES/NO): N	**IF YES, ATTACH COC FORMS**
GENERAL NOTES:	**Dredging begins at 0750 and ends for the day at 1600**

UP-CURRENT

Monitoring ID #	NORTHING / EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	RELATIVE POSITION OF MEASUREMENT	NUMBER OF HOURS DREDGING
120613-00-1-1	2696594 / 815016	0812	10.1	1	2.5		Flooding tide	200' S of Dredge	0
120613-00-1-5		0814		5	1.9				
120613-00-1-9		0816		9	1.8				
			AVERAGE TURBIDITY:		2.07				
120613-02-1-1	2697184 / 815026	1015	11.4	1	2.2		Ebbing	200' N of Dredge	2
120613-02-1-5		1017		5	2				
120613-02-1-10		1019		10	2.2				
			AVERAGE TURBIDITY:		2.13				
120613-04-1-1	2697202 / 815030	1215	9	1	3.4		Ebbing	200' N of Dredge	4
120613-04-1-4		1217		4	3.2				
120613-04-1-8		1219		8	3.3				
			AVERAGE TURBIDITY:		3.30				
120613-06-1-1	2697214 / 815027	1410	8.5	1	2.9		Ebbing	200' N of Dredge	6
120613-06-1-4		1412		4	3.3				
120613-06-1-8		1414		8	3.1				
			AVERAGE TURBIDITY:		3.1				
120613-08-1-1	2696518 / 814900	1615	9.8	1	2		Flooding tide	200' S of Dredge	8
120613-08-1-1		1617		4	1.7				
120613-08-1-1		1619		8	2.1				
			AVERAGE TURBIDITY:		1.93				

Down-Current

Monitoring ID #	NORTHING / EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
120613-00-9-1	2697368 / 815058	0821	9.1	1	2.5		Flooding tide	200' N of Dredge	0
120613-00-9-4		0823		4	3.3				
120613-00-9-8		0825		8	3.2				
			AVERAGE TURBIDITY:		3.00				
			TURBIDITY INCREASE:		0.93				
120613-02-9-1	2696550 / 815083	1022	11	1	3.3		Ebbing	200' S of Dredge	2
120613-02-9-5		1024		5	3.4				
120613-02-9-10		1026		10	3.1				
			AVERAGE TURBIDITY:		3.27				
			TURBIDITY INCREASE:		1.13				
120613-04-9-1	2696594 / 814997	1220	10.7	1	5.4		Ebbing	200' S of Dredge	4
120613-04-9-5		1222		5	5.8				
120613-04-9-10		1224		10	6				
			AVERAGE TURBIDITY:		5.73				
			TURBIDITY INCREASE:		2.43				
120613-06-9-1	2696583 / 814985	1415	10	1	4.6		Ebbing	200' S of Dredge	6
120613-06-9-4		1417		4	4.8				
120613-06-9-8		1419		8	3.9				
			AVERAGE TURBIDITY:		4.43				
			TURBIDITY INCREASE:		1.33				
120613-08-9-1	2697165 / 814993	1620	6	1	2.9		Flooding tide	200' N of Dredge	8
120613-08-9-3		1622		3	3.1				
120613-08-9-5		1624		5	3.9				
			AVERAGE TURBIDITY:		3.30				
			TURBIDITY INCREASE:		1.37				

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT:	**New Bedford Harbor Lower Harbor CAD Cell**
JOB NUMBER:	**6724**
SURVEY DATE:	**07 December 2013**
MONITORS:	**M. Tumolo**
WEATHER CONDITIONS:	**Overcast and rain. Temperatures 28F early, increasing to 41F PM**
WIND CONDITIONS:	**Speed: 5-10k Direction: NNW**
PRIOR STORM EVENTS:	**N/A**
DREDGE / SCOW Position:	**Northing/Easting: CAD Cell #3**
TYPE OF WATER QUALITY MONITORING EVENT:	**TOP CAD Dredging / BTM CAD Dredging / Disposal**
TIDE INFORMATION:	**High: 1106/2334 Low: 1624**
WAS WATER QUALITY SAMPLING PERFORMED? (YES/NO):	**N IF YES, ATTACH COC FORMS**
GENERAL NOTES:	**Disposal into CAD Cell #3 occurred at 0735**

UP-CURRENT

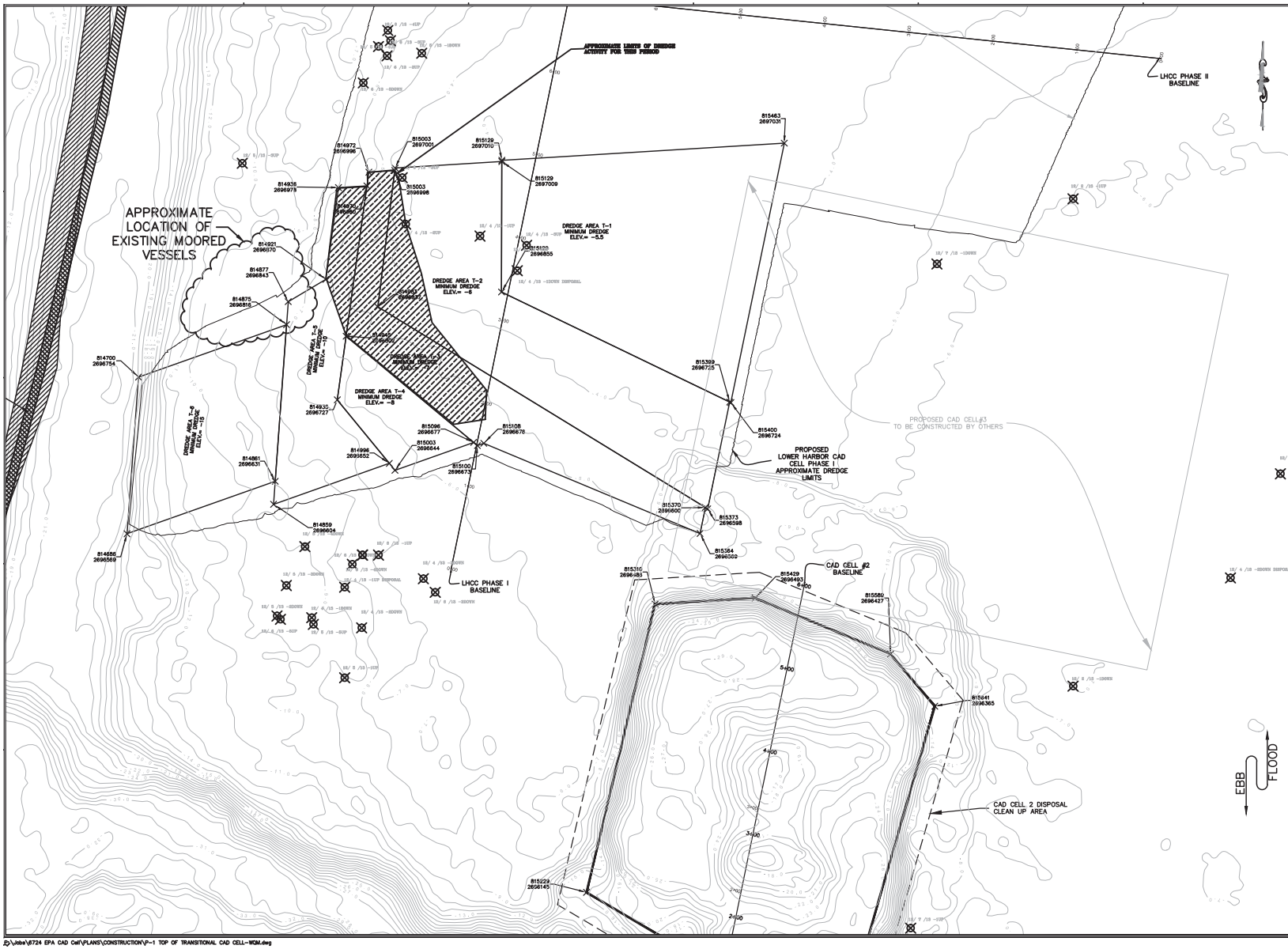
Monitoring ID #	NORTHING / EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	RELATIVE POSITION OF MEASUREMENT	NUMBER OF HOURS DREDGING
120713-00-1-1	2696153 / 815645	0733	9.5	1	3.5		Flooding tide	200' S of Disposal	post
120713-00-1-4		0735		4	3.5				
120713-00-1-8.5		0737		8.5	3.6				
			AVERAGE TURBIDITY:		3.53				
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						

Down-Current

Monitoring ID #	NORTHING / EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
120713-01-9-2	2696938 / 815676	0740	25	2	7		Flooding tide	200' N of Disposal	post
120713-01-9-13		0742		13	5.9				
120713-01-9-24		0744		24	4.7				
			AVERAGE TURBIDITY:		5.87				
			TURBIDITY INCREASE:		2.33				
			AVERAGE TURBIDITY:						
			TURBIDITY INCREASE:						
			AVERAGE TURBIDITY:						
			TURBIDITY INCREASE:						
			AVERAGE TURBIDITY:						
			TURBIDITY INCREASE:						
			AVERAGE TURBIDITY:						
			TURBIDITY INCREASE:						

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

Figure 1
Lower Harbor CAD Cell Phase I – Water Quality Monitoring



APEX
ROCKVILLE, MD
SOUTH WINDSOR, CT - BOSTON, MA - NEW BEDFORD, MA - HOLYOKE, MA
125 BROAD STREET, 5TH FLOOR
BOSTON, MA 02210
594 CONNECTICUT AVENUE
SOUTH WINDSOR, CT