Weekly Field Report

Week: 11-17-13 through 11-23-13 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 third 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 Third Report for the LHCC dredging activities includes:

- Daily Inspection Reports from the dredging oversight performed during the week of November 17th through November 23rd. 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 November 17th through November 23rd 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 this dredging effort Apex will;
 - Conduct three consecutive water quality monitoring events in the first week of new dredging activities, and thereafter two days per week until Phase I dredging of the LHCC has been completed.
 - Conduct water quality monitoring of each disposal event into either the existing CAD Cell #2 or CAD Cell #3 of Top of LHCC sediments removed by this Project.
 - Perform a visual inspection 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 November 18th through the 23rd with 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*, and a small utility boat. Tripp Marine was utilizing the Cashman dewatering barge as a staging area for dewatering operations and as an aide 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 November 17th utilizing an open conventional digging bucket per the terms outlined during the November 13th weekly meeting and the formal 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 18th, 20th, and 22nd of November. 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 November 18th, 20th, and 22nd. Based on scow logs for the *TMC 140*, approximately 500 cubic yards of material (assuming 120 pounds/ft³ for dredged materials) was placed into CAD Cell #3 during each disposal event. 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.

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.

Attachment 1 Daily Inspection Reports



				tion Roport						
Inspector:	Kaios Ryan	l		-	Date	:	18-Nov-13			
Contractor:	Tripp Mar	ine		Foreman/Supt:	Pyne Trip	р				
Weather	AM: PM:	Winds 10-15k	c SW	Temperature -	AM: PM:	48				
Tides	High Low	0758 0038		2020 1338	PM PM					
Manpower O	nsite			Equipment Ons	site					
Other:	Foreman Operators Laborers Drivers	1@ _ 1@ _ 1@ _ 	8 Hrs 8 Hrs Hrs	Description: Pu	Scow sh Boat Sa	47 Dredge v TMC 140 nd Pebble oport Boat	Hrs8_ Hrs8_ Hrs8_ Hrs8_ Hrs8	_ _ _		
Contractor Ac	tivities: (Att	ach Additiona	Sheets as Ne	ecessary)						
Contractor Activities: (Attach Additional Sheets as Necessary) Apex on-site at 0900 to conduct background water quality monitoring and to inspect sediment materials in scow TMC 140. Scow draft marks were recorded as 6' FWD and 7.5' AFT. Scow was approved for disposal into CAD Cell #3, and disposal occurs at 1028. Scow TMC 140 maneuvered into position alongside dredge and dredging begins at 1119 using an open conventional digging bucket. Apex inspects material in scow at 1246. Dredging continues until 1603 at which time dredging stops for the day and scow TMC 140 is maneuvered over to dewatering barge. End of day draft marks on the scow were recorded as 8' FWD and 8.5' AFT. No water quality issues were observed during the day										
Problems/Issu	ies or Actio	n Items:								
None / n/a										
Visitors:										
Signature: Title:	D.Boye (Ap	oex)		- -	Date Page		18-Nov-13 1			
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Inspector:	M. Martinh	10					Date:		19-Nov-1	.3
Contractor:	Tripp Mari	ne			Foreman/Supt:	Pyne	e Tripp)		_
Weather	AM: PM:	Rain. Wind	s 5-15k	NW	Temperature		M: M:	36 51		
Tides	High Low	08 01		AM AM	2115 1436	PM PM				
Manpower O Other:	nsite Foreman Operators Laborers Drivers	1@	8_ 8_	Hrs Hrs	Equipment Ons Description: Pus	T	Scow at Sar	TMC 140 nd Pebble port Boat	Hrs Hrs Hrs Hrs	8 8 8
conventional dig dredging stops fo	.100 to cond ging bucket. or the day a	luct oversig Apex insp nd scow TM	nt of dre ects mat C 140 is	edging a terial in s maneu	cessary) ctivities. Dredging scow at 1145. Dre vered over to dew quality issues wer	edgin vater	g cont ing ba	tinues until irge. End c	1555 at vor	
Problems/Issu None / n/a	ues or Actior	ı Items:								
Visitors:										
Signature: Title: Copy to:	D.Boye (Ap	ex)			·		Date: Page: File:		19-Nov-1 1_ 111913	3



Inspector:	Kaios Ryan	l						Date	:	20-Nov	v-13	
Contractor:	Tripp Mar	ine				Foreman/Supt:	Pyne	e Trip	р			
Weather	AM: PM:	Winds	5-10k	N		Temperature		M: M:	26 41			
		1111100				• • • •						
Tides	High Low		0917 0200		_AM _AM	2144 1450	PM PM					
Manpower O	nsite	_				Equipment Ons	ite			_	_	
	Foreman Operators	1		8 8	Hrs Hrs	Description:			47 Dredge v TMC 140	_	8 8	
	Laborers	1_			Hrs	Pus	sh Bo		nd Pebble	_	8	
Out	Drivers		_@_		Hrs			Sup	port Boat	_	8	
Other:			_ @ _		Hrs					Hrs		
Contractor Ac						• • • • • • • • • • • • • • • • • • • •						
•			•		•	ity monitoring an nd 7.5' AFT. Scov		•				
						rered into positio				•		
						ing continues un		_	_			
•	•	rks on t	he sco	w were	recor	ded as 3.5' FWD a	and 5	5.5' AI	T. No wat	er quali	ty issues	were
observed during	the day											
Problems/Issu	ies or Actio	n Items:										
None / n/a												
Visitors:												
Signature: Title:	D.Boye (Ap	oex)						Date Page	:of	20-Nov	v-13 <u></u>	
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Inspector:	M. Tumulo)						Date	:	21-Nov-	13
Contractor:	Tripp Mari	ine				Foreman/Supt	:: <u>Py</u>	ne Trip	р		
Weather	AM: PM:	Clear. Winds v	/ariablo	e 5k or	less W	Temperatur /SW	е	AM: PM:	21 46		
Tides	High Low		0955 0247		AM AM	2025 1533	_ PN _ PN				
Manpower O	nsite					Equipment On	site				
Other:	Foreman Operators Laborers Drivers	1	_ @ _		Hrs Hrs Hrs Hrs	Descriptior P		Scow Boat Sa	47 Dredge 7 TMC 140 nd Pebble oport Boat	Hrs Hrs Hrs Hrs Hrs	8 8 8
Contractor Ac	tivities: (Att	ach Add	itional	Sheets	as Ne	cessary)					
Apex on-site at C conventional dig due to unfavoral until 0955 at wh End of day draft during the day.	ging bucket ble tides acc ich time dre	. Scow voording tedging st	vas pai o Dred ops for	rtially fi ge Capt the da	lled w tain. A y and	rith dredged ma Apex inspects m scow TMC 140	teria nater is ma	al from print in scaneuver	previous da ow at 0945 red over to	y; limite . Dredg dewater	d dredging ing continues ing barge.
Problems/Issu	ies or Actioi	n Items:									
None / n/a											
Visitors:											
Signature: Title:	D.Boye (Ap	oex)						Date Page	:of_	21-Nov- 1_	13
Copy to:	file							File	: DIR_LHCC	_112113	<u> </u>

Attachment 2 Water Quality Monitoring Forms

PROJECT:	New Bedford Harbor Lower Harbor CAD Cell
JOB NUMBER:	6724
SURVEY DATE:	18 November 2013
MONITORS:	Kaios Ryan, Chris Stillman
WEATHER CONDITIONS:	Low: 48 High: 64
WIND CONDITIONS:	Speed: 10-15k Direction: SW
PRIOR STORM EVENTS:	n/a
DREDGE / SCOW Position	: Northing/Easting: 2696775 / 815273
TYPE OF WATER QUALITY	/ MONITORING EVENT: TOP CAD Dredging / BTM CAD Dredging / Disposal
TIDE INFORMATION:	High: 0758/2020 Low: 0038/1338
WAS WATER QUALITY SA	MPLING PERFORMED? (YES/NO): N IF YES, ATTACH COC FORMS
GENERAL NOTES:	



	<u>UP-CURRENT</u>											
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			
111813-00-1-1		1116] [1	4.91							
111813-00-1-2	2697199 / 815443	1118	4.9	2	4.56		Ebbing	200' N of Dredge	0			
111813-00-1-4		1120		4	6.41							
			AVERAGE T	URBIDITY:	5.29	_						
444040.00.4.4	1	4040	1		0.00	ı	Γ	1				
111813-02-1-1 111813-02-1-2	2697187 / 815423	1318 1320	4.2	2	2.88 3.93	1	Ebbing / Slack	200' N of Dredge	2			
111813-02-1-4	20071077010420	1320	4.2	4	3.53	1	Ebbling / Glack	200 N of Dicage	-			
111013-02-1-4	L	1022	AVERAGE T		3.45							
			TWEITHOLI	ORDIDITI.	0.40	-1						
111813-04-1-1		1515		1	2.28							
111813-04-1-9	2696440 / 815287	1517	18.6	9	3.22		Flooding tide	200' S of Dredge	4			
111813-04-1-18		1519		18	4.62							
			AVERAGE T	URBIDITY:	3.37							
									T			
111813-06-1-1	0000004/045000	1707	4 1	1	5.64		·- ·- ·- ·	00010 15 1				
111813-06-1-5	2696624 / 815280	1709	9.2	5	5.71	4	Flooding tide	200' S of Dredge	6			
111813-06-1-9		1711		9	5.7	ļ						
			AVERAGE T	URBIDITY:	5.68	J						
		1	 			1						
	1		1 1			1						
	1		1 1		1	1						
		I.	AVERAGE T	URBIDITY.								
						_						

<u>Down-Current</u>											
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		
111813-00-9-1		1123		1	4.37						
111813-00-9-8	2696517 / 815324	1125	16.6	8	4.96		Ebbing	200' S of Dredge	0		
111813-00-9-16		1127		16	4.61						
			AVERAGE T	URBIDITY:	4.65						
			TURBIDITY	INCREASE:	-0.65						
111813-02-9-1		1326		1	3.89						
111813-02-9-3	2696580 / 815330	1328	5.8	3	4.41	_	Ebbing / Slack	200' S of Dredge	2		
111813-02-9-5		1330		5	4.37						
			AVERAGE T	URBIDITY:	4.22						
			TURBIDITY	INCREASE:	0.78						
111813-04-9-1		1525		1	7.23						
111813-04-9-2	2697275 / 815519	1527	4.4	2	21.8		Flooding tide	200' N of Dredge	4		
111813-04-9-4		1529		4	12.5						
			AVERAGE T	URBIDITY:	13.84						
			TURBIDITY	INCREASE:	10.47						
111813-06-9-1		1718		1	14						
111813-06-9-2	2697151 / 815352	1720	5.2	2	18.4	1	Flooding tide	200' N of Dredge	6		
111813-06-9-4		1722	1 1	4	14.5						
			AVERAGE T	URBIDITY:	15.63	* Vessel manue	evering scow to dewatering barge				
			TURBIDITY	INCREASE:	9.95						
]								
			AVERAGE T	I IDRIDITY:							
			TURBIDITY			<u> </u>					
* Turbidity Increase = Down-Cu	rrent Average Turbidity - Up-Cui	rrent Average	Turbidity								

PROJECT:	New Bedford Harbor L	_ower Harbo	r CAD Cell				
JOB NUMBER:	6724						
SURVEY DATE:	18 November 2013						
MONITORS:	Kaios Ryan, Chris Stil	lman					
WEATHER CONDITIONS:	Low:	48	High:	64			
WIND CONDITIONS:	Speed:	10-15k	Direction: S	SW			
PRIOR STORM EVENTS:	N/A						
DREDGE / SCOW Position	: Northing/Easting:	CAD Cell #3	1				
TYPE OF WATER QUALITY	MONITORING EVENT	: TOP CAD I	Oredging / BTM	CAD Dredging /	Disposal		
TIDE INFORMATION:	High:	0758/2020	Low: 0	0038/1338			
14/40 14/4 TED 01141 ITV 04	MOUNTAIN DEDEADMEN	0.750010					



DREDGE / SCOW Position								- /\ 1) \
TYPE OF WATER QUALIT				M CAD Dredg 0038/1338	ing / Disposa	al		AF	リー λ
TIDE INFORMATION: WAS WATER QUALITY SA		0758/2020			CH COC FOR	Me		/ \1	
GENERAL NOTES:	AMI LING I LIN OKMED	: (123/110)	. 14	IF IES, AITA	CH COC FOR	INIO		=	
					UP-CURRI	-NT			
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		1							
			TOTAL WATER	SAMPLE	TURBIDITY			RELATIVE POSITION	NUMBER OF HOURS
Monitoring ID #	NORTHING / EASTING	TIME	DEPTH (ft)	DEPTH (ft)	(NTUs)	GPS FILE NAME	TIDAL STAGE	OF MEASUREMENT	DREDGING
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111813-00-1-1	2697385 / 815433	0921		1	2.37		Ebbing	200' N of Disposal	0
111813-00-1-4 111813-00-1-8	2097363 / 613433	0922 0924	8.5	8	4.56 1.93	1	Ebbing	200 N of Disposal	U
111013-00-1-0	<u> </u>	0924	AVERAGE T		2.95				
			717210102	0110101111	2.00				
111813-01-1-1		1028		1	2.26				
111813-01-1-4	2697070 / 815883	1030	8.7	4	3.61		Ebbing	200' N of Disposal	post
111813-01-1-8		1032		8	2.43				
			AVERAGE T	URBIDITY:	2.77	_			
	1	ı	1		1	1			
	+		1			1			
	1		1			1			
	II.		AVERAGE T	URBIDITY:					
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Monitoring ID #	NORTHING / EASTING	TIME	TOTAL WATER	SAMPLE	TURBIDITY		TIDAL STAGE	DISTANCE FROM	NUMBER OF HOURS
Monitoring ID #	NORTHING / EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)		<u>rent</u> GPS FILE NAME	TIDAL STAGE	DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
111813-00-9-1		0932	DEPTH (ft)	DEPTH (ft)	TURBIDITY (NTUs)			LOCATION	DREDGING
111813-00-9-1 111813-00-9-7	NORTHING / EASTING 2696603 / 814975	0932 0934		1 7	TURBIDITY (NTUs) 2.22 3.48		TIDAL STAGE Ebbing		
111813-00-9-1		0932	13.4	1 7 13	TURBIDITY (NTUs) 2.22 3.48 2.26			LOCATION	DREDGING
111813-00-9-1 111813-00-9-7		0932 0934	13.4 AVERAGE T	DEPTH (ft) 1 7 13 TURBIDITY:	TURBIDITY (NTUs) 2.22 3.48 2.26 2.65			LOCATION	DREDGING
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111813-00-9-1 111813-00-9-7		0932 0934	13.4 AVERAGE T	DEPTH (ft) 1 7 13 TURBIDITY: INCREASE:	TURBIDITY (NTUs) 2.22 3.48 2.26 2.65 -0.30			LOCATION	DREDGING
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111813-00-9-1 111813-00-9-1 111813-00-9-13 111813-01-9-1 111813-01-9-6	2696603 / 814975	0932 0934 0936 1036 1038	AVERAGE T 11.8 AVERAGE T AVERAGE T AVERAGE T	DEPTH (ft) 1 7 13 TURBIDITY: INCREASE: 1 6 11 TURBIDITY:	TURBIDITY (NTUs) 2.22 3.48 2.26 2.65 -0.30 3.9 2.68 2.66 3.08		Ebbing	200' S of Disposal	DREDGING 0
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111813-00-9-1 111813-00-9-7 111813-00-9-13 111813-01-9-1 111813-01-9-6	2696603 / 814975	0932 0934 0936 1036 1038	13.4 AVERAGE T TURBIDITY I 11.8 AVERAGE T TURBIDITY I AVERAGE T AVERAGE T AVERAGE T	DEPTH (ft) 1 7 13 TURBIDITY: INCREASE: 1 6 11 TURBIDITY: INCREASE:	TURBIDITY (NTUs) 2.22 3.48 2.26 2.65 -0.30 3.9 2.68 2.66 3.08		Ebbing	200' S of Disposal	DREDGING 0
111813-00-9-1 111813-00-9-7 111813-00-9-13 111813-01-9-1 111813-01-9-6	2696603 / 814975	0932 0934 0936 1036 1038	13.4 AVERAGE T TURBIDITY I 11.8 AVERAGE T TURBIDITY I AVERAGE T TURBIDITY I AVERAGE T TURBIDITY I	DEPTH (ft) 1 7 13 FURBIDITY: INCREASE: 1 6 11 FURBIDITY: INCREASE: TURBIDITY: INCREASE:	TURBIDITY (NTUs) 2.22 3.48 2.26 2.65 -0.30 3.9 2.68 2.66 3.08		Ebbing	200' S of Disposal	DREDGING 0
111813-00-9-1 111813-00-9-7 111813-00-9-13 111813-01-9-1 111813-01-9-6	2696603 / 814975	0932 0934 0936 1036 1038	13.4 AVERAGE T TURBIDITY I 11.8 AVERAGE T TURBIDITY I AVERAGE T TURBIDITY I AVERAGE T AVERAGE T AVERAGE T AVERAGE T	DEPTH (ft) 1 7 13 TURBIDITY: INCREASE: 1 6 11 TURBIDITY: INCREASE: TURBIDITY: INCREASE: TURBIDITY: INCREASE:	TURBIDITY (NTUs) 2.22 3.48 2.26 2.65 -0.30 3.9 2.68 2.66 3.08		Ebbing	200' S of Disposal	DREDGING 0
111813-00-9-1 111813-00-9-7 111813-00-9-13 111813-01-9-1 111813-01-9-6	2696603 / 814975	0932 0934 0936 1036 1038	13.4 AVERAGE T TURBIDITY I 11.8 AVERAGE T TURBIDITY I AVERAGE T TURBIDITY I AVERAGE T TURBIDITY I	DEPTH (ft) 1 7 13 TURBIDITY: INCREASE: 1 6 11 TURBIDITY: INCREASE: TURBIDITY: INCREASE: TURBIDITY: INCREASE:	TURBIDITY (NTUs) 2.22 3.48 2.26 2.65 -0.30 3.9 2.68 2.66 3.08		Ebbing	200' S of Disposal	DREDGING 0
111813-00-9-1 111813-00-9-7 111813-00-9-13 111813-01-9-1 111813-01-9-6	2696603 / 814975	0932 0934 0936 1036 1038	13.4 AVERAGE T TURBIDITY I 11.8 AVERAGE T TURBIDITY I AVERAGE T TURBIDITY I AVERAGE T AVERAGE T AVERAGE T AVERAGE T	DEPTH (ft) 1 7 13 TURBIDITY: INCREASE: 1 6 11 TURBIDITY: INCREASE: TURBIDITY: INCREASE: TURBIDITY: INCREASE:	TURBIDITY (NTUs) 2.22 3.48 2.26 2.65 -0.30 3.9 2.68 2.66 3.08		Ebbing	200' S of Disposal	DREDGING 0
111813-00-9-1 111813-00-9-7 111813-00-9-13 111813-01-9-1 111813-01-9-6	2696603 / 814975	0932 0934 0936 1036 1038	13.4 AVERAGE T TURBIDITY I 11.8 AVERAGE T TURBIDITY I AVERAGE T TURBIDITY I AVERAGE T AVERAGE T AVERAGE T AVERAGE T	DEPTH (ft) 1 7 13 TURBIDITY: INCREASE: 1 6 11 TURBIDITY: INCREASE: TURBIDITY: INCREASE: TURBIDITY: INCREASE:	TURBIDITY (NTUs) 2.22 3.48 2.26 2.65 -0.30 3.9 2.68 2.66 3.08		Ebbing	200' S of Disposal	DREDGING 0
111813-00-9-1 111813-00-9-1 111813-00-9-13 111813-01-9-1 111813-01-9-6	2696603 / 814975	0932 0934 0936 1036 1038	AVERAGE T TURBIDITY I	DEPTH (ft) 1 7 13 TURBIDITY: INCREASE: 1 6 11 TURBIDITY: INCREASE: TURBIDITY: INCREASE: TURBIDITY: INCREASE: TURBIDITY: INCREASE: TURBIDITY: INCREASE:	TURBIDITY (NTUs) 2.22 3.48 2.26 2.65 -0.30 3.9 2.68 2.66 3.08		Ebbing	200' S of Disposal	DREDGING 0
111813-00-9-1 111813-00-9-7 111813-00-9-13 111813-01-9-1 111813-01-9-6	2696603 / 814975	0932 0934 0936 1036 1038	13.4 AVERAGE T TURBIDITY I 11.8 AVERAGE T TURBIDITY I AVERAGE T TURBIDITY I AVERAGE T TURBIDITY I AVERAGE T TURBIDITY I	DEPTH (ft) 1 7 13 TURBIDITY: INCREASE: 1 6 11 TURBIDITY: INCREASE: TURBIDITY: INCREASE: TURBIDITY: INCREASE: TURBIDITY: INCREASE: TURBIDITY: INCREASE:	TURBIDITY (NTUs) 2.22 3.48 2.26 2.65 -0.30 3.9 2.68 2.66 3.08		Ebbing	200' S of Disposal	DREDGING 0
111813-00-9-1 111813-00-9-7 111813-00-9-13 111813-01-9-1 111813-01-9-6	2696603 / 814975	0932 0934 0936 1036 1038	AVERAGE T TURBIDITY I	DEPTH (ft) 1 7 13 TURBIDITY: INCREASE: 1 6 11 TURBIDITY: INCREASE: TURBIDITY: INCREASE: TURBIDITY: INCREASE: TURBIDITY: INCREASE: TURBIDITY: INCREASE:	TURBIDITY (NTUs) 2.22 3.48 2.26 2.65 -0.30 3.9 2.68 2.66 3.08		Ebbing	200' S of Disposal	DREDGING 0
111813-00-9-1 111813-00-9-7 111813-00-9-13 111813-01-9-1 111813-01-9-6	2696603 / 814975	0932 0934 0936 1036 1038	13.4 AVERAGE T TURBIDITY I 11.8 AVERAGE T TURBIDITY I AVERAGE T TURBIDITY I AVERAGE T TURBIDITY I AVERAGE T TURBIDITY I	DEPTH (ft) 1 7 13 TURBIDITY: INCREASE: 1 6 11 TURBIDITY: INCREASE: TURBIDITY: INCREASE: TURBIDITY: INCREASE: TURBIDITY: INCREASE: TURBIDITY: INCREASE:	TURBIDITY (NTUs) 2.22 3.48 2.26 2.65 -0.30 3.9 2.68 2.66 3.08		Ebbing	200' S of Disposal	DREDGING 0
111813-00-9-1 111813-00-9-7 111813-00-9-13 111813-01-9-1 111813-01-9-6	2696603 / 814975 2696452 / 815732	0932 0934 0936 1036 1038 1040	AVERAGE T TURBIDITY I	DEPTH (ft) 1 7 13 TURBIDITY: INCREASE: 1 6 11 TURBIDITY: INCREASE: TURBIDITY: INCREASE: TURBIDITY: INCREASE: TURBIDITY: INCREASE: TURBIDITY: INCREASE:	TURBIDITY (NTUs) 2.22 3.48 2.26 2.65 -0.30 3.9 2.68 2.66 3.08		Ebbing	200' S of Disposal	DREDGING 0

PROJECT:	New Bedford Harbor Lower Ha	bor CAD Cell		
JOB NUMBER:	6724			
SURVEY DATE:	20 November 2013			
MONITORS:	Kaios Ryan, Dennis Claffey			
WEATHER CONDITIONS:	Low: 26	High:	41	
WIND CONDITIONS:	Speed: 5-10k	Direction: N		
PRIOR STORM EVENTS:	N/A			
DREDGE / SCOW Position:	Northing/Easting: 2697088	/ 815411		
TYPE OF WATER QUALITY	MONITORING EVENT: TOP CA	D Dredging / BTM C	AD Dredging / Disposal	
TIDE INFORMATION:	High: 0917/214	4 Low: 145	0	
14/40 14/4 TED 01141 ITV 04	ADI INO DEDEGRAMENO (VEGA)	a\		



WIND CONDITIONS:	Speed:		Direction:					-	
PRIOR STORM EVENTS:	N/A								
DREDGE / SCOW Position				M CAD Drade	ina / Dianas	-1		ΛГ	EX
TYPE OF WATER QUALITIES TIDE INFORMATION:		0917/2144			ing / Disposa	31		/ - /-	リー 入
WAS WATER QUALITY S				IF YES, ATTA	CH COC FOR	MS		/ 1	
GENERAL NOTES:								-	
					UP-CURRI	<u>ENT</u>			
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
112013-00-1-1		1115		1	3.6				
112013-00-1-3	2697207 / 815401	1117	5.8	<u>3</u>	6.34	- I	Ebbing	200' N of Dredge	0
112013-00-1-5		1119	AVERAGE		7.43 5.79	1			
			TITLITIE		0.70	_			
112013-02-1-1	0007440 / 045004	1320		1	2.76	_	5111	000111 (D)	
112013-02-1-2	2697142 / 815361	1322	4.5	2 4	4.08	-	Ebbing	200' N of Dredge	2
112013-02-1-4		1324	AVERAGE ⁻		2.55 3.13	I			
						_			
112013-04-1-1	2000044 / 0450 12	1512	4	1	2.45	4	Flooring and	2001 8 of Decide	
112013-04-1-3	2696611 / 815249	1514	5.7	3	5.61	- I	Flooding tide	200' S of Dredge	4
112013-04-1-5		1516	AVERAGE 1	5 TURBIDITY:	3.59 3.88				
	_					<u> </u>			
			4			- I			
	=		-			1			
			AVERAGE	TURBIDITY:		•			
	•			1					
			-			-{			
						1			
			AVERAGE	TURBIDITY:					
					Down-Cur	rent			
		7				<u></u>			
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
112013-00-9-1	2696669 / 815241	1121		1	3.04	- I	Fhhina	200' S of Dredge	0
112013-00-9-3 112013-00-9-6	2090009 / 015241	1123 1125	6.5	<u>3</u>	4.11 9.71	1 1	Ebbing	200 S of Dreage	U
112010 00 0 0	· ·	1120	AVERAGE ²		5.62				
			TURBIDITY		-0.17				
112013-02-9-1		1326		1	6.9	1		1	
112013-02-9-1	2696523 / 815153	1328	6.5	3	6.48	1 1	Ebbing	200' S of Dredge	2
112013-02-9-6		1330		6	3.32				
			AVERAGE		5.57	-			
			TURBIDITY	INCREASE:	2.44	J			
112013-04-9-1		1518		1	1.49				
112013-04-9-2	2697181 / 815372	1520	4.5	2	3.2] [Flooding tide	200' N of Dredge	4
112013-04-9-4		1522	A) #FF : 5 = -	4	5.4				
			AVERAGE TURBIDITY		3.36 -0.52	1			
			. C. COLDITT		0.02				
							<u> </u>		
	4	<u> </u>	4		 	-			
		1	AVERAGE	TURBIDITY:	<u> </u>				
			TURBIDITY						
								1	
	=		4			- I			
	7		1			1			
	-	-	AVERAGE			<u> </u>			
			TURBIDITY	INCREASE:	<u> </u>				
ļ									

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

PROJECT:	New Bedford Harbor Low	er Harbo	or CAD Cell				
JOB NUMBER:	6724						
SURVEY DATE:	20 November 2013						
MONITORS:	Kaios Ryan, Dennis Claff	ey					
WEATHER CONDITIONS:	Low:	26	High:	41			
WIND CONDITIONS:	Speed: 5-1	l0k	Direction: N				
PRIOR STORM EVENTS:	N/A						
DREDGE / SCOW Position:	Northing/Easting: CA	D Cell #	3				
TYPE OF WATER QUALITY	MONITORING EVENT: T	OP CAD	Dredging / BTM C	AD Dredging	/ Disposal		
TIDE INFORMATION:	High: 09	17/2144	Low:	1450	•		



TIDE INFORMATION:		0917/2144		1450				· /~\	
WAS WATER QUALITY S	SAMPLING PERFORMED	? (YES/NO): N	IF YES, ATTA	CH COC FOR	MS		_	
GENERAL NOTES:									
					UP-CURRI	<u>ENT</u>			
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
112013-00-1-1		0720		1	3.67				
112013-00-1-4	2696395 / 815257	0722	8.4	4	5.78		Flooding tide	200' S of Disposal	0
112013-00-1-8		0724		8	3.11				
	·		AVERAGE T	URBIDITY:	4.19	_	·		
}		Т			ī			T T	
112013-00-1-1	2697090 / 815489	0920		1	2.52	-	Ehhina / Clask	200' N of Disposal	0
112013-00-1-3	2097090 / 615469	0922	7.6	3.5	4.33	-	Ebbing / Slack	200 N OI DISPOSAI	U
112013-00-1-7		0924	1) (50.405 T	7	5.19	 			
			AVERAGE T	URBIDITY:	4.01	_			
112013-01-1-1		1038		1	1.85				
112013-01-1-13	2696967 / 815977	1040	18.5	13	3.32	1	Ebbing	200' N of Disposal	post-disposal
112013-01-1-18		1042		18	4.03	1			
			AVERAGE T	URBIDITY:	3.07				
					T				
			4			4 1			
	_		-			-			
			1) (50.405 T			 			
			AVERAGE T	OKBIDITY:		_			
]			
•		-	AVERAGE T	URBIDITY:			_		
				·					

<u>Down-Current</u>										
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	
112013-00-9-1		0729		1	2.48					
112013-00-9-3	2697253 / 815554	0731	6.4	3	3.18	1	Flooding tide	200' N of Disposal	0	
112013-00-9-6		0733		6	2.81					
			AVERAGE T	AVERAGE TURBIDITY:						
			TURBIDITY	NCREASE:	-1.36					
112013-00-9-1		0929		1	1.97					
112013-00-9-4.5	2696342 / 815255	0931	9.1	4.5	2.42		Ebbing Slack	200' S of Disposal	0	
112013-00-9-9		0933		9	2.23					
			AVERAGE T	URBIDITY:	2.21					
			TURBIDITY I	NCREASE:	-1.81	_				
112013-01-9-1		1041		1	3.42					
112013-01-9-9	2696366 / 815378	1043	18.5	9	11.5	1	Ebbing	200' S of Disposal	post	
112013-01-9-18		1045	1 1	18	7.23	1				
			AVERAGE T	URBIDITY:	7.38					
			TURBIDITY	NCREASE:	4.32					
								1		
] [
			AVERAGE T	URBIDITY:						
			TURBIDITY	NCREASE:						
] []				
			AVERAGE T			4				
			TURBIDITY	NCREASE:	<u> </u>					
Turbidity Increase = Down-Cu	rrent Average Turbidity - Up-Cu	rrent Average	Turbidity							

PROJECT:	New Bedford Harbor L	ower Harbor	CAD Cell				
JOB NUMBER:	6724						
SURVEY DATE:	22 November 2013						
MONITORS:	D. Boye, M. Martinho,	C.Stillman					
WEATHER CONDITIONS:	Lt./Moderate Rain	Low:	45	High:	53		
WIND CONDITIONS:	Speed:	Calm	Direction:				
PRIOR STORM EVENTS:	N/A						
DREDGE / SCOW Position:	: Northing/Easting:	CAD Cell #3					
TYPE OF WATER QUALITY	MONITORING EVENT:	TOP CAD D	redging / BTM	CAD Dredging /	Disposal		
TIDE INFORMATION:	High:	1035	Low: 03	329/1613			



WIND CONDITIONS:	Speed:	Calm	Direction:					_			
PRIOR STORM EVENTS: DREDGE / SCOW Position		CAD Cell #	3					A =			
TYPE OF WATER QUALIT			Dredging / BT		ing / Disposa	i		Δ I-	PEX		
TIDE INFORMATION:	High:	1035		0329/1613							
WAS WATER QUALITY SA GENERAL NOTES:	MPLING PERFORMED Disposal begins at 07		: N	IF YES, ATTA	CH COC FOR	MS		•			
CENTERIAL NOTES.	opoodi begins at 0/										
UP-CURRENT											
		1									
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		
			52()	52(.,	(11.00)			or mexiconement	DALDOMO		
112213-00-1-1	0000004 / 045705	0705		1			Flooring dide	00010 -4 D 4	0		
112213-00-1-8 112213-00-1-18	2696391 / 815725	0707 0709	19	8 18	-		Flooding tide	200' S of Dredge	0		
112210 00 1 10	1	0703	AVERAGE		2.09	*Single compos	site sample collected from three sample	e depths for turbidity m	neasurement		
							oment failure, the disposal water quality	reading was used for	the pre-dredge water		
112213-02-1-1	T	0930		1	0.95	quality backgro	und reading.				
112213-02-1-4.5	2696316 /815150	0932	9.3	4.5	1.06		Flooding tide	200' S of Dredge	2		
112213-02-1-8		0934		8	1.34						
			AVERAGE	TURBIDITY:	1.12]					
112213-04-1-1		1120		1	1.29						
112213-04-1-6	2696885 / 815339	1122	14	6	1.07		Ebbing	200' N of Dredge	4		
112213-04-1-12		1124	A)/ED * 0.5.3	12	4.96	ļ					
			AVERAGE	I OKBIDI I Y:	2.44	J					
	4	ļ	1			4					
		1	AVERAGE 1	TURBIDITY:							
						-					
	4	-	4		ļ	4					
	1		1		†	1					
	-	-	AVERAGE	TURBIDITY:				<u> </u>			
					Down-Curr	ent					
		1									
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		
112213-01-9-1	2697100 / 815594	0720	5.5	3	2.19		Flooding tide	200' N of Dredge	0		
	1	<u> </u>	AVERAGE 1	TI IRRIDITY:	2.19	*Single cample	collected from a depth of 3-feet for turi	hidity measurement			
			AVERAGE	ו וושוטאט ו.	2.13		pment failure, the disposal water quality		the pre-dredge water		
			TURBIDITY INCREASE: 0.10			quality backgro					
112213-02-9-1		0937		1	1.08						
112213-02-9-3	2696935 / 815275	0939	6.3	3	2.46	1	Flooding tide	200' N of Dredge	2		
112213-02-9-5	1	0941	A) (55 : 5 =	5	3.74						
			AVERAGE TURBIDITY		2.42	1					
			. JANDIDITI		1.00	<u> </u>					
112213-04-9-1	2696497 / 815218	1135		1	1		Ehb:	200' S of Dredge	4		
112213-04-9-3.5 112213-04-9-6	2090497 / 815218	1137 1139	7.5	3.5 6	3.53 1.26	1	Ebbing	ZUU S UT Dreage	4		
		1100	AVERAGE		1.93						
			TURBIDITY		-0.51]					
	1		j			1					
			AVERAGE TURBIDITY		-	4					
			TUNDINT	ONLAGE.	·	<u> </u>					
	-		-		 	1					
	1		AVERAGE	TURBIDITY:				1			
			TURBIDITY]					
* Turbidity Increase = Down-Curr	ent Average Turbidity - Up-Cu	rrent Average	Γurbidity								

PROJECT:	New Bedford Harbor I	Lower Harbo	or CAD Cell					•	
JOB NUMBER:	6724							<u>.</u>	
SURVEY DATE:	22 November 2013	0.0						1000	
MONITORS: WEATHER CONDITIONS:	D. Boye, M. Martinho, Lt./Moderate Rain		45	III ada					
WIND CONDITIONS:	Speed:		Direction:	High:	53	.			
PRIOR STORM EVENTS:	N/A	Callii	Direction.						PEX
DREDGE / SCOW Position		CAD Cell #	3					A =	
TYPE OF WATER QUALITY				M CAD Dredgi	ng / Disposa	al		/\ I_)I_ Y
TIDE INFORMATION:	High:			0329/1613				/~\	
WAS WATER QUALITY SA	MPLING PERFORMED	? (YES/NO)	: N	IF YES, ATTA	CH COC FOR	MS			
GENERAL NOTES:	Disposal begins at 07	05							
					UP-CURRE	<u>NT</u>			
		1							
Monitoring ID #	NORTHING / EASTING	TIME	TOTAL WATER	SAMPLE	TURBIDITY	GPS FILE NAME	TIDAL STAGE	RELATIVE POSITION	NUMBER OF HOURS
monitoring ib #	NORTHING / EASTING	THVIE	DEPTH (ft)	DEPTH (ft)	(NTUs)	GF3 FILE NAME	TIDAL STAGE	OF MEASUREMENT	DREDGING
440040 00 4 4		0705				1			
112213-00-1-1	2696391 / 815725	0705	40	1		-	Flooding tide	200' S of Disposal	0
112213-00-1-8 112213-00-1-18	20300317010723	0707 0709	19	8 18		1	r looding tide	200 O oi Disposai	
112213-00-1-10		0703	AVERAGE T		2.09	*Single compos	site sample collected from three sample	e denths for turbidity n	neasurement
			TWEITHOE	TORBIDITI:	2.00	Cirigio compos	site sample conceted from three sample	c depths for turbidity fi	icasarcinent
			AVERAGE T	TURBIDITY:		<u> </u>			
	T			•					T
						4			
			-			-			
			AVERAGE T	TUDDIDITY:		1			
			AVERAGE	IURBIDITT:					
			1			1			
						1			
			AVERAGE T	TURBIDITY:					
						_			
						4			
			AVERAGE T	TURBIDITY:		_			
					D 0				
		_			Down-Curr	ent			
Manifestor ID #	NORTHING (FACTING		TOTAL WATER	SAMPLE	TURBIDITY	000 511 5 114 115	TIDAL 074.05	DISTANCE FROM	NUMBER OF HOURS
Monitoring ID #	NORTHING / EASTING	TIME	DEPTH (ft)	DEPTH (ft)	(NTUs)	GPS FILE NAME	TIDAL STAGE	LOCATION	DREDGING
112213-01-9-1	2697100 / 815594	0720	5.5	3	2.19	1	Flooding tide	200' N of Disposal	0
]			
			AVERAGE T	TURBIDITY:	2.19	*Single sample	collected from a depth of 3-feet for turi	bidity measurement	
			TURBIDITY	INCREASE:	0.10				
								•	
			-			-			
	-		-		1	-			
			AVERAGE T	TUDDIDITY:					
			TURBIDITY			1			
			TORDIDITI	INTOINE/NOE:		<u> </u>			
			AVERAGE T						
			TURBIDITY	INCREASE:]	J			
		1			r	1			
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	1	1	AVERAGE T			1		1	1
			TURBIDITY			1			
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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

