Weekly Field Report Week: 03-02-14 through 03-08-14 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), 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 eighteenth 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 18th Report for the LHCC dredging activities includes:

- Daily Inspection Reports from the dredging oversight performed during the week of March 2nd through March 8th, 2014. These reports include notes on the equipment used on site, and a summary of contractor activities. (See Attachment 1);
- Water Quality Monitoring Forms completed for the week of March 2nd through March 8th, 2014, (Attachment 2) summarizing monitoring survey data recorded during active dredging. 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 a minimum of one day per week
 - Performed visual inspections of dredged materials before the disposal of a scow for any visible debris or other items that could potentially become a hazard to navigation prior to the scow's departure for the offshore disposal site.

Summary:

The Contractor, Cashman Dredging and Marine Contracting, Co. LLC (Cashman) conducted dredging at the LHCC on March 3rd, 4th, 5th, 6th, 7th, and 8th. Dredging operations focused on the strategic removal of Phase I Bottom of CAD Cell sediments. During this reporting period, dredging operations were conducted using a conventional digging bucket, with dredged materials being disposed offshore at the Rhode Island Sound Disposal Site (RISDS). Cashman was observed conducting these activities during the authorized operational window of 7AM until sunset, utilizing a single dredge plant – the Bobby D; the tugs Henri, Ellsea, and Lucinda Smith; a 2800 cubic yard split scow – Eddie Carroll; and two small utility boats. With time of year restrictions now in place (January 15th through June 15th) all dredging activities were conducted within a silt curtained perimeter surrounding the LHCC.

2. Operational Notes:

Dredging:

Dredging of LHCC Phase I Bottom of CAD sediments continued during the week. Dredging operations focused on the removal of bottom of dredge sediments. Apex conducted one day of water quality monitoring on March 5th while dredging was being performed to ensure that this activity did not result in an exceedance of any project-specific water quality standards.

Offshore Disposal:

Offshore disposal for LHCC Phase I Bottom of CAD sediments is scheduled and permitted for the Rhode Island Sound Disposal Site. Three offshore disposal events, using the split scow Eddie Carroll, were recorded during the week and occurred on March 4th, 6th, and 8th.

Table 1 – Cumulative Dredging Progress

Period of Activity	Volume (cy)
Approximate Top of CAD Volume Dredged to Date*	24,890
Approximate Bottom of CAD Volume Dredged this Reporting Period	5,400
Approximate Bottom of CAD Volume Dredged to Date*	15,400

^{*} Dredge volume quantities are estimated based on observed scow draft marks and an assumed density of the materials dredged. Given the uncertainty in the density of a composite mix of sediments being dredged, all volumes are confirmed and adjusted as necessary using bathymetric survey data.

3. Monitoring Summary

There were no water quality exceedances observed during this reporting period related to dredging 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



Inspector:	Kaios Ryan				Date	03/02/20:	14
Contractor:	Cashman			Foreman/Supt	:	No Cap	tain on site
Weather	AM: PM:	Cloudy Light Snow		Temperature	AM: PM:	37 19	
Tides	High Low	0826 0143	AM AM	2048 1402	PM PM		
Manpower O	nsite			Equipment Or	nsite		
	Foreman	0 @ 0) Hrs	Description:	Bobby D.		Hrs0
	Operators	0 @ 0			Eddie Carr	oll	Hrs0
	Laborers	0 @ 0			Lauic Sa	<u> </u>	Hrs
	Drivers	0 @ 0					
Othor							Hrs.
Other:		@	Hrs				Hrs
Contractor Ac	 tivities: (Atta	ach Additional She	ets as Ne	cessary)	·	·	
0634 no activity	on site. 0934	no activity on sit	e. Eddie (Carroll is back fr	rom its off s	shore dispo	sal. 1245 no activity
on site.		,				•	,
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5 11 "							
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				Ins	pect	ion Report						
Inspector:	Chris Stillma	an, Kaio	s Ryan,	, Adam	Hart	-	ſ	Date:	03/03/20	14		
Contractor:	Cashman					Foreman/Supt	: St	eve Ba	aynes, Jur	nior Hugg	gins_	
Weather	AM: PM:		ght sno vercas			Temperature	AN PN		9 24			
Tides	High Low		0913 0230		AM AM	2137 1442	PM PM					
Manpower O	nsite					Equipment Or	nsite					
Other:	om Marx, Mar by D Idle at LH la Smith leave begins dredg and moves 20 ne Eddie Carro and Tug Elsea Smith unties f by D. resumes 6. 1730 Dredg	te- David ICC. Tug s LHCC ar ging into t o' to the v oll 180°. 1 a flip the from the dredging ge Plant I	Sampso Lucinda nd ties u the Edd vest. 13 L525 Re Eddie C Eddie C Eddie C g into th	10 10 10 10 Sheets on, Engia Smith, up to th ie Carro 28 Bobl d skiff of Carrol ar arroll ar arroll ar ar scow 0. stops	ineer- and E e Rich oll. 091 by D. r opens s ound. nd leav Eddie dredg	Dwight McCrear Isea Moving the Isea Moving the Isea Moving the Isea Barber. 0701 to 5 the bobby D. isesumes dredging silt curtain so the 1610 Scow Eddie Ves the silt curtain Carroll. 1702 Dring, scow Eddie C	Eddie Ellsea Lucino Red S Ty,and s Eddie C he red s s still dr s scow E e Carrol n. 1624 edge pl Carroll i	Carro da Sm kiff skiff and carrol the skiff of the edging one Edd Eddie Coll is tied and selant Book sonot for the edge of	ith Ind deck hare coward the coses the current can be done to the Drikiff closes obby D. lift:	Bobby Dartain to to didie Carro 1500 the perflipped edge Plant the silt cuts spuds a will remain.	No Activi Silt Curtathe dredgeroll. 1243 Bobby D. daround. Int Bobby urtain. 163 Ind relocation in port f	ain ge area. Bobby stops 1554 D. 30 tes to
all equipment is in Visitors:	active.											
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			Inspect	ion Report				
Inspector:	Kaios Ryan				Date	: 03/04/20)14	_
Contractor:	Cashman			Foreman/Supt:	Junior	Huggins, St	teve Bayne	<u>es</u>
Weather	AM: PM:	Clear Clear		Temperature	AM: PM:	29 19		
Tides	High Low	1003 313	AM AM	2226 1517	PM PM			
Manpower O	nsite			Equipment On	site			
	Engineer Operators Mate Deckhand Captains	1	10 Hrs 10 Hrs 10 Hrs 10 Hrs 10 Hrs	Description:	Bobby D. Eddie Carr Ellsea Red Skiff Lucinda Si		Hrs Hrs Hrs Hrs	 _10
Other:			Hrs				Hrs	
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Problems/Issu	ies or Action	Items:						
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CFDA No.: 66.802

on Report

on Report								
Inspector:	Kaios Ryan	/ Adam Hart		-	Date	e: <u>03/05/20</u>	14	
Contractor:	Cashman			Foreman/Supt:	Steve	Baynes, Jun	ior Hugg	gins
Weather	AM: PM:	Cloudy Cloudy/Light Si	now	_ Temperature	AM: PM:	33 13		
Tides	High Low	1053 0354	AM AM	2317 1555	PM PM			
Manpower O		1 0 (2.5	Equipment Or				0.5
	Engineer Operators Mate Deckhand Captains	1 @8 1 @ _8 1 @ _8 1 @ _8 2 @ 8	8.5Hrs 8.5Hrs 8.5Hrs	Description:	Bobby D Eddie Car Ellsea Lucinda S Red Skiff		Hrs Hrs Hrs	8.5 8.5 4 4 8.5
Other:							Hrs	
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				spec	tion Report					
Inspector:	Kyle Miller,	/Brett Young			-	Date	: <u>03/06/20</u>	14		
Contractor:	Cashman				Foreman/Supt:	Steve Bay	nes, Junior	Huggins	<u> </u>	
Weather	AM:	Clear			Temperature		14			
	PM:	Clear			-	PM:	28			
Tides	High	1144		_AM		PM				
	Low	0446		AM	1640	PM				
Manpower O	nsite				Equipment Ons	site				
	Engineer	1@_		_ Hrs	Description:			Hrs	9.5	_
	Operators		9.5	_ Hrs		Eddie Car	roll		9.5	_
	Mate		9.5	_ Hrs		Ellsea			9	
	Deckhand	1@_				Red Skiff		_	9.5	_
	Captains	2 @ _				Survey 4		Hrs	1	
Other:		@		Hrs				Hrs		
Contractor Ac	tivities: (Att	ach Additiona	Sheet	s as N	ecessary)					
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dredge plant. 07	03- Red Skif	f moving insid	e silt c	urtain	. 0758- The Bobb	y D begins	dredging in	nto the I	Eddie Carro	oll.
0930- The Bobb	y D stops dre	edging. The Ell	sea exi	ts the	site and Survey 4	l enters. 1	011- The Ed	ldie Carı	roll is drafti	ing:
bow 8' stern 7'.	1020- Surve	y 4 exits the si	te. 103	9- The	Bobby D stops d	redging to	fix wires o	n the bu	ıcket. 1100)-
The Bobby D res	sumes dredg	ing. 1301- The	Bobby	D sto	ps dredging to ch	neck the w	ater depth.	1325- T	he Bobby I	D
resumes dredgir	ng into the E	ddie Carroll. 1	347- TI	he Bok	oby D stops dredg	ging becau	se the Eddi	e Carrol	l is touchin	ıg
the silt curtain o	n the south	side. 1402- Th	e Bobk	y D re	esumes dredging.	1436- The	Bobby D re	epositio	ns. 1625- T	he
Bobby D stops d	redging to r	eposition the	Eddie C	Carroll.	1640- The Bobb	y D resum	es dredging	into the	e Eddie	
Carroll. 1740- Th	ne Bobby D s	tops dredging	. 1753-	- The c	rew departs, ope	rations fo	r the day ar	e comp	lete.	
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Inspector:	Josh Ray				Date	: <u>03/07/20</u>	14	
Contractor:	Cashman			Foreman/Supt	t Junior Hu	ggins		
Weather	AM: PM:	Clea Clea		Temperature	AM: PM:	12 39		
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Manpower O	nsite			Equipment C	Onsite			
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Inspector:	Josh Ray					Dat	e: 0	3/07/20)14		
Contractor:	Cashman			ļ	Foreman/Supt	Junior Hu	uggir	ns			
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Tides	High Low	0:09 05:2		AM AM	12:36 17:24	PM PM					
Manpower O	nsite				Equipment O	nsite					
	Engineer Operators Mate Deckhand Captains Tug Op. Survey Mechanic	1 @ 1 @ 0 @ 0 @ 0 @ 0 @ 0 @ 0 @ 0 @ 0 @	10.5 10.5 9.0 8 2.5 5 & _5_	Hrs Hrs Hrs Hrs Hrs Hrs		Bobby D Eddie Ca Ellsea Red Skiff Survey 4	rroll		Hrs Hrs Hrs Hrs Hrs	7 74.5 72.5	- -
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			3obby D. p	ressi	ures and releas						
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Inspector:	Josh Ray			-	Date	e: <u>03/07/20</u>	14	
Contractor:	Cashman			Foreman/Supt	:: Jur	nior Higgins		_
Weather	AM: PM:	Clear Clear		Temperature	AM: PM:	12 39		
Tides	High Low	0:09 05:25	AM AM	12:36 17:24	PM PM			
Manpower O	nsite			Equipment C	Onsite			
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Visitors:		ngineer to fix Eddi		•	-			
		nanic) to fix Bobby	D. pressi	ures and relea		1 1		
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				111	spec	ction Report					
Inspector:	Kaios Ryan	, Adam H	lart				Da	nte: 03/08/14			
Contractor	:Cashman					Foreman/Supt	:Ju	nior Huggins			
Weather	AM:	Clear				Temperature					
	PM:	Clear				-	PM:	58			
Tides	High	1	0107		AM	1331	PM				
	Low		0701		_AM	1826	-PM				
Manpower	Onsite					Equipment O	nsite				
	Engineer	1_	@	8	_ Hrs	Description:			Hrs		
	Operators	1	_ `	8	_ Hrs		Eddie C	arroll	Hrs		
	Mate	1_		8	_		Ellsea		Hrs		
	Deckhand	1_			_ Hrs		Lucinda		Hrs		
	Captains	1_		8	_ Hrs		Red skif	<u>f</u>	Hrs		
Other:			_ @		Hrs				Hrs		
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			_			n the Eddie Carro				· ·	
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· · ·		_				to the scow Eddi		_			
						vard the bridge.	_				
		the bridge	2. 1528	Tug Bo	at Luc	inda Smith and s	cow Eddie	e Carroll leave t	he New E	Bedford Ha	arbor
for disposal off	of KI.										
Visitors:											
Signature:	edding	flower.						ate: 03/08/20			
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Attachment 2 Water Quality Monitoring Forms

PROJECT: New Bedford Harbor Lower Harbor CAD Cell
JOB NUMBER: 6724
DATE: 3/5/2014
MONITORS: Chris Stillman, Kyle Miller
WEATHER CONDITIONS: High:34 Low:17
WIND: 2-3 N
PRIOR STORM EVENTS:
DREDGE UPDATE:
TYPE OF WATER QUALITY MONITORING EVENT: TOP CAD Dredging / BTM CAD Dredging / Disposal



Please Note: In some in	nstances, the down-curre	ent monitori	ng event occur	red prior to th	e up-current	monitoring event	. This is the result of the init	tial analysis of our field o	rew indicating one
direction of flow, howe	ever our checks from ou	r Quality Co	ontrol program	provided a m	ore accurate	depiction of the p	eattern, which is how the infe	ormation is now presente	d below.
					UP-CURRE	<u>NT</u>			
Monitoring ID #	NORTHING/ EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	TYPE OF WQM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
30514-00-1-1		755		1	4.82				
30514-00-1-3 30514-00-1-6	815183, 2696457	757 759	7.3	3 6	5.93 4.23	1	Flooding	200' S of Dredge	00
30014 00 1 0	013103, 2030437	700	AVERAGE	-	4.99		ribbuilig	200 O of Dreage	00
0514-02-1-1		1017		1	2.84				
30514-02-1-4.5		1019	10	4.5	3.6				
30514-02-1-9	814961, 2696493	1021	A)/EDACE	9	4.5		Flooding	200' N of Dredge	02
			AVERAGE	IURBIDITY:	3.65	1			
30514-04-1-1		1155		1	4.22				
30514-04-1-4	945440 0007044	1157	8.9	4	4.15		Chtin.	2001 N = 4 D== 40	0.4
30514-04-1-8	815149, 2697014	1159	AVERAGE 7	8 FURBIDITY:	4.3 4.22		Ebbing	200' N of Dredge	04
	_		2.0.02						
30514-06-1-1	┥	1349		1	4.3	l T			
30514-06-1-3 30514-06-1-6	814943, 2697183	1351 1353	7.3	3 6	4.3 4.49		Ebbing	200' N of Dredge	06
30314-00-1-0	814943, 2097 103	1333	AVERAGE		4.49	I	Lbbillg	200 N of Dreage	00
	1		1						
30514-08-1-1 30514-08-1-2	-	1600 1602	4	1 2	5.08 4.71				
	815031, 2697091	1604	AVERAGE ⁻	3	5.89 5.23		Ebbing	200' N of Dredge	80
30514-08-1-3		1604	TOTAL WATER	3 FURBIDITY: SAMPLE	5.89 5.23 Down-Curre	ent_		DISTANCE FROM	NUMBER OF HOURS
30514-08-1-3 Monitoring ID #	815031, 2697091 NORTHING/ EASTING	1604		3 FURBIDITY:	5.89 5.23 Down-Curre TURBIDITY (NTUs)	<u>ent</u> GPS FILE NAME	Ebbing TIDAL STAGE		08 NUMBER OF HOURS DREDGING
Monitoring ID # 30514-09-9-1		1604	TOTAL WATER DEPTH (ft)	3 FURBIDITY: SAMPLE	5.89 5.23 Down-Curre TURBIDITY (NTUs) 4.35	<u>ent</u> GPS FILE NAME		DISTANCE FROM DREDGE/SILT	NUMBER OF HOURS
Monitoring ID # 30514-09-1 30514-00-9-4		1604 TIME 815	TOTAL WATER	3 FURBIDITY: SAMPLE	5.89 5.23 Down-Curre TURBIDITY (NTUs)	<u>ent</u> GPS FILE NAME		DISTANCE FROM DREDGE/SILT	NUMBER OF HOURS
Monitoring ID # 30514-09-1 30514-00-9-4	NORTHING/ EASTING	TIME 815 817	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft) 1 7 TURBIDITY:	5.89 5.23 Down-Curre TURBIDITY (NTUs) 4.35 6.17	<u>ent</u> GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
Monitoring ID # 30514-00-9-1 30514-00-9-4 30514-00-9-7	NORTHING/ EASTING	TIME 815 817	TOTAL WATER DEPTH (ft) 8.5 AVERAGE	SAMPLE DEPTH (ft) 1 7 TURBIDITY:	5.89 5.23 Down-Curry (NTUs) 4.35 6.17 4.52 5.01	<u>ent</u> GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
Monitoring ID # 30514-00-9-1 30514-00-9-7 30514-00-9-7 30514-02-9-1 30514-02-9-4	NORTHING/ EASTING 815050, 2697009	TIME 815 817 819	TOTAL WATER DEPTH (ft) 8.5 AVERAGE	SAMPLE DEPTH (ft) 1 4 7 TURBIDITY: INCREASE:	5.89 5.23 Down-Curre (NTUs) 4.35 6.17 4.52 5.01 0.02 4.3 4.68	<u>ent</u> GPS FILE NAME	TIDAL STAGE Flooding	DISTANCE FROM DREDGE/SILT CURTAIN 200' N of Dredge	NUMBER OF HOURS DREDGING 00
Monitoring ID # 30514-00-9-1 30514-00-9-4 30514-00-9-7	NORTHING/ EASTING	TIME 815 817 819	TOTAL WATER DEPTH (ft) 8.5 AVERAGE TURBIDITY 9.2	SAMPLE DEPTH (ft) 1 4 7 TURBIDITY: INCREASE:	5.89 5.23 Down-Curre TURBIDITY (NTUs) 4.35 6.17 4.52 5.01 0.02 4.3 4.68 4.09	<u>ent</u> GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
Monitoring ID # 30514-00-9-1 30514-00-9-4 30514-00-9-7	NORTHING/ EASTING 815050, 2697009	TIME 815 817 819	TOTAL WATER DEPTH (ft) 8.5 AVERAGE TURBIDITY	SAMPLE DEPTH (ft) 1 4 7 TURBIDITY: INCREASE: 1 4 8 TURBIDITY:	5.89 5.23 Down-Curre (NTUs) 4.35 6.17 4.52 5.01 0.02 4.3 4.68	GPS FILE NAME	TIDAL STAGE Flooding	DISTANCE FROM DREDGE/SILT CURTAIN 200' N of Dredge	NUMBER OF HOURS DREDGING 00
30514-08-1-3	NORTHING/ EASTING 815050, 2697009	TIME 815 817 819	TOTAL WATER DEPTH (ft) 8.5 AVERAGE TURBIDITY 9.2 AVERAGE	SAMPLE DEPTH (ft) 1 4 7 TURBIDITY: INCREASE: 1 4 8 TURBIDITY:	5.89 5.23 Down-Curre TURBIDITY (NTUs) 4.35 6.17 4.52 5.01 0.02 4.33 4.68 4.09 4.36	GPS FILE NAME	TIDAL STAGE Flooding	DISTANCE FROM DREDGE/SILT CURTAIN 200' N of Dredge	NUMBER OF HOURS DREDGING 00
Monitoring ID # 30514-00-9-1 30514-00-9-7 30514-00-9-7 30514-02-9-1 30514-02-9-8 30514-02-9-8	NORTHING/ EASTING 815050, 2697009 815135, 2696493	TIME 815 817 819 1005 1007 1009	TOTAL WATER DEPTH (ft) 8.5 AVERAGE TURBIDITY 9.2 AVERAGE TURBIDITY	SAMPLE DEPTH (ft) 1 4 7 TURBIDITY: INCREASE: 1 4 8 TURBIDITY: INCREASE: 1 6	5.89 5.23 Down-Curre TURBIDITY (NTUS) 4.35 6.17 4.52 5.01 0.02 4.33 4.68 4.09 4.36 0.71 6.9	GPS FILE NAME	TIDAL STAGE Flooding	DISTANCE FROM DREDGE/SILT CURTAIN 200' N of Dredge 200' S of Dredge	NUMBER OF HOURS DREDGING 00
Monitoring ID # 30514-00-9-1 30514-00-9-7 30514-00-9-7 30514-02-9-1 30514-02-9-8 30514-02-9-8	NORTHING/ EASTING 815050, 2697009	TIME 815 817 819 1005 1007 1009	TOTAL WATER DEPTH (ft) 8.5 AVERAGE TURBIDITY 9.2 AVERAGE TURBIDITY 12.3	SAMPLE DEPTH (tt) 1 4 7 TURBIDITY: INCREASE: 1 4 8 TURBIDITY: INCREASE: 1 6 11	5.89 5.23 Down-Curre TURBIDITY (NTUs) 4.35 6.17 4.52 5.01 0.02 4.33 4.68 4.09 4.36 0.71 6.99 6.8	GPS FILE NAME	TIDAL STAGE Flooding	DISTANCE FROM DREDGE/SILT CURTAIN 200' N of Dredge	NUMBER OF HOURS DREDGING 00
Monitoring ID # 30514-00-9-1 30514-00-9-4 30514-00-9-7 30514-02-9-1 30514-02-9-8 30514-02-9-8	NORTHING/ EASTING 815050, 2697009 815135, 2696493	TIME 815 817 819 1005 1007 1009	TOTAL WATER DEPTH (ft) 8.5 AVERAGE TURBIDITY 9.2 AVERAGE TURBIDITY	SAMPLE DEPTH (ft) 1 4 7 TURBIDITY: INCREASE: 1 4 8 TURBIDITY: INCREASE: 1 1 6 11 TURBIDITY:	5.89 5.23 Down-Curre TURBIDITY (NTUS) 4.35 6.17 4.52 5.01 0.02 4.33 4.68 4.09 4.36 0.71 6.9	GPS FILE NAME	TIDAL STAGE Flooding Flooding	DISTANCE FROM DREDGE/SILT CURTAIN 200' N of Dredge 200' S of Dredge	NUMBER OF HOURS DREDGING 00
Monitoring ID # 30514-00-9-1 30514-00-9-4 30514-00-9-7 30514-02-9-1 30514-02-9-8 30514-02-9-8 30514-04-9-1 30514-04-9-1 30514-04-9-1	NORTHING/ EASTING 815050, 2697009 815135, 2696493	TIME 815 817 819 1005 1007 1009	TOTAL WATER DEPTH (ft) 8.5 AVERAGE TURBIDITY 9.2 AVERAGE TURBIDITY 12.3 AVERAGE TURBIDITY	SAMPLE DEPTH (ft) 1 4 7 TURBIDITY: INCREASE: 1 4 8 TURBIDITY: INCREASE: 1 1 6 11 TURBIDITY:	5.89 5.23 Down-Curre TURBIDITY (NTUs) 4.35 6.17 4.52 5.01 0.02 4.33 4.68 4.09 4.36 0.71 6.99 6.8 6.84 6.85	GPS FILE NAME	TIDAL STAGE Flooding Flooding	DISTANCE FROM DREDGE/SILT CURTAIN 200' N of Dredge 200' S of Dredge	NUMBER OF HOURS DREDGING 00
Monitoring ID # 30514-00-9-1 30514-00-9-1 30514-00-9-7 30514-02-9-1 30514-02-9-8 30514-02-9-8 30514-04-9-1 30514-04-9-1 30514-04-9-1 30514-04-9-1 30514-04-9-1	815050, 2697009 815135, 2696493 815279, 2696504	TIME 815 817 819 1005 1007 1009 1205 1207 1209	TOTAL WATER DEPTH (ft) 8.5 AVERAGE TURBIDITY 9.2 AVERAGE TURBIDITY 12.3 AVERAGE TURBIDITY	SAMPLE DEPTH (ft) 1 4 7 TURBIDITY: INCREASE: 1 4 8 TURBIDITY: INCREASE: 1 1 6 11 TURBIDITY:	5.89 5.23 Down-Curre TURBIDITY (NTUS) 4.35 6.17 4.52 5.01 0.02 4.33 4.68 4.09 4.36 0.71 6.9 6.8 6.84 6.85 2.62 7.3	GPS FILE NAME	Flooding Flooding Ebbing	DISTANCE FROM DREDGE/SILT CURTAIN 200' N of Dredge 200' S of Dredge	NUMBER OF HOURS DREDGING 00 02
Monitoring ID # 30514-00-9-1 30514-00-9-4 30514-00-9-7 30514-02-9-1 30514-02-9-4 30514-02-9-8	NORTHING/ EASTING 815050, 2697009 815135, 2696493	TIME 815 817 819 1005 1007 1009 1205 1207 1209	TOTAL WATER DEPTH (ft) 8.5 AVERAGE TURBIDITY 9.2 AVERAGE TURBIDITY 12.3 AVERAGE TURBIDITY 7	SAMPLE DEPTH (tt) 1 4 7 TURBIDITY: INCREASE: 1 4 8 TURBIDITY: INCREASE: 1 1 6 11 TURBIDITY: INCREASE: 1 1 6 11 TURBIDITY: INCREASE:	5.89 5.23 Down-Curre TURBIDITY (NTUs) 4.35 6.17 4.52 5.01 0.02 4.33 4.68 4.09 4.36 0.71 6.9 6.8 6.84 6.85 2.62 7.3 9.3	GPS FILE NAME	TIDAL STAGE Flooding Flooding	DISTANCE FROM DREDGE/SILT CURTAIN 200' N of Dredge 200' S of Dredge	NUMBER OF HOURS DREDGING 00
Monitoring ID # 30514-08-1-3 Monitoring ID # 30514-00-9-1 30514-00-9-4 30514-00-9-7 30514-02-9-1 30514-02-9-8 30514-04-9-1 30514-04-9-1 30514-04-9-1 30514-04-9-1 30514-06-9-1 30514-06-9-3	815050, 2697009 815135, 2696493 815279, 2696504	TIME 815 817 819 1005 1007 1009 1205 1207 1209	TOTAL WATER DEPTH (ft) 8.5 AVERAGE TURBIDITY 9.2 AVERAGE TURBIDITY 12.3 AVERAGE TURBIDITY	SAMPLE DEPTH (ft) 1 4 7 TURBIDITY: INCREASE: 1 4 8 TURBIDITY: INCREASE: 1 1 1 1 1 TURBIDITY: INCREASE: 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5.89 5.23 Down-Curre TURBIDITY (NTUS) 4.35 6.17 4.52 5.01 0.02 4.33 4.68 4.09 4.36 0.71 6.9 6.8 6.84 6.85 2.62 7.3	GPS FILE NAME	Flooding Flooding Ebbing	DISTANCE FROM DREDGE/SILT CURTAIN 200' N of Dredge 200' S of Dredge	NUMBER OF HOURS DREDGING 00 02
Monitoring ID # 30514-00-9-1 30514-00-9-1 30514-00-9-7 30514-02-9-1 30514-02-9-8 30514-02-9-8 30514-04-9-1 30514-04-9-1 30514-04-9-6 30514-04-9-1 30514-06-9-1 30514-06-9-3 30514-06-9-6	815050, 2697009 815135, 2696493 815279, 2696504	TIME 815 817 819 1005 1007 1009 1205 1207 1209 1359 1401 1403	TOTAL WATER DEPTH (ft) 8.5 AVERAGE TURBIDITY 9.2 AVERAGE TURBIDITY 12.3 AVERAGE TURBIDITY 7 AVERAGE TURBIDITY	SAMPLE DEPTH (ft) 1 4 7 TURBIDITY: INCREASE: 1 4 8 TURBIDITY: INCREASE: 1 1 1 1 1 TURBIDITY: INCREASE: 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5.89 5.23 Down-Curre TURBIDITY (NTUs) 4.35 6.17 4.52 5.01 0.02 4.36 4.68 4.09 4.36 0.71 6.9 6.84 6.85 2.62 7.3 9.3 10.1 8.90 4.54	GPS FILE NAME	Flooding Flooding Ebbing	DISTANCE FROM DREDGE/SILT CURTAIN 200' N of Dredge 200' S of Dredge	NUMBER OF HOURS DREDGING 00 02
Monitoring ID # 30514-08-1-3 Monitoring ID # 30514-00-9-1 30514-00-9-4 30514-00-9-7 30514-02-9-4 30514-02-9-8 30514-02-9-8 30514-04-9-1 30514-04-9-6 30514-06-9-1 30514-06-9-6	815050, 2697009 815135, 2696493 815279, 2696504	TIME 815 817 819 1005 1007 1009 1205 1207 1209	TOTAL WATER DEPTH (ft) 8.5 AVERAGE TURBIDITY 9.2 AVERAGE TURBIDITY 12.3 AVERAGE TURBIDITY 7 AVERAGE TURBIDITY	SAMPLE DEPTH (ft) 1 4 7 TURBIDITY: INCREASE: 1 4 8 TURBIDITY: INCREASE: 1 1 1 1 1 TURBIDITY: INCREASE: 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5.89 5.23 Down-Curry (NTUs) 4.35 6.17 4.52 5.01 0.02 4.3 4.68 4.09 4.36 0.71 6.9 6.8 6.84 6.85 2.62 7.3 9.3 10.1 8.90	GPS FILE NAME	Flooding Flooding Ebbing	DISTANCE FROM DREDGE/SILT CURTAIN 200' N of Dredge 200' S of Dredge	NUMBER OF HOURS DREDGING 00 02
Monitoring ID # 30514-08-1-3 Monitoring ID # 30514-00-9-1 30514-00-9-7 30514-02-9-1 30514-02-9-8 30514-02-9-8 30514-04-9-1 30514-04-9-1 30514-04-9-1 30514-04-9-1 30514-06-9-1	815050, 2697009 815135, 2696493 815279, 2696504	TIME 815 817 819 1005 1007 1009 1205 1207 1209 1359 1401 1403	TOTAL WATER DEPTH (ft) 8.5 AVERAGE TURBIDITY 9.2 AVERAGE TURBIDITY 12.3 AVERAGE TURBIDITY 7 AVERAGE TURBIDITY	SAMPLE DEPTH (ft) 1 4 7 TURBIDITY: INCREASE: 1 4 8 TURBIDITY: INCREASE: 1 1 6 11 TURBIDITY: INCREASE: 1 1 3 6 TURBIDITY: INCREASE: 1 1 2 4 4 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5.89 5.23 Down-Curre TURBIDITY (NTUS) 4.35 6.17 4.52 5.01 0.02 4.33 4.68 4.09 4.36 0.71 6.9 6.8 6.84 6.85 2.62 7.3 9.3 10.1 8.90 4.54	GPS FILE NAME	Flooding Flooding Ebbing	DISTANCE FROM DREDGE/SILT CURTAIN 200' N of Dredge 200' S of Dredge	NUMBER OF HOURS DREDGING 00 02

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

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

