JOSEPH G. MINISH PASSAIC RIVER WATERFRONT PARK AND HISTORIC AREA HSLRR

COST ENGINEERING APPENDIX

August 2015

APPENDIX C – COST ESTIMATES

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COST ENGINEERING

PROECT BACKGROUND

C1. Joseph G. Minish Passaic River Waterfront Park and Historic Area – Phase 1 is located in along the west bank of the Passaic River between Bridge and Brill Streets in the City of Newark, New Jersey (see Figure C1). This reach of the Passaic River is eroded, deteriorated and environmentally degraded due to past commercial and industrial use and flooding. Construction of Phase I was initiated in 1999 and is being carried out under multiple separate contracts. Work constructed to date includes 2,920 linear feet of bulkhead. Remaining Phase I work to be constructed, which is the focus of this HSLRR, includes almost 2,852 linear feet of bulkhead, 2,659 linear feet of streambank stabilization, and the installation of railings and access ladders along the bulkhead including those sections previously completed and 1.68 acres of wetland mitigation. Work remaining for Phase I will be constructed under two contracts. Contract 3A consists of approximately 1,100 feet of new bulkhead (Stations 9+05 to Station 20+03) and railings and ladders along previously completed bulkhead. Contract 3B, 4B, Streambank Stabilization, Wetland consists of approximately 1,800 feet of new bulkhead (Stations 0+00 to 9+05 and Stations 37+10 to 45+68.60) and 2,659 feet of Streambank Stabilization (Stations 57+80.10 to 92+13.59), along with wetland mitigation. The size and location of the wetland mitigation is to be determined. The stations mentioned above are indicated by the map shown on Figure C1 below.

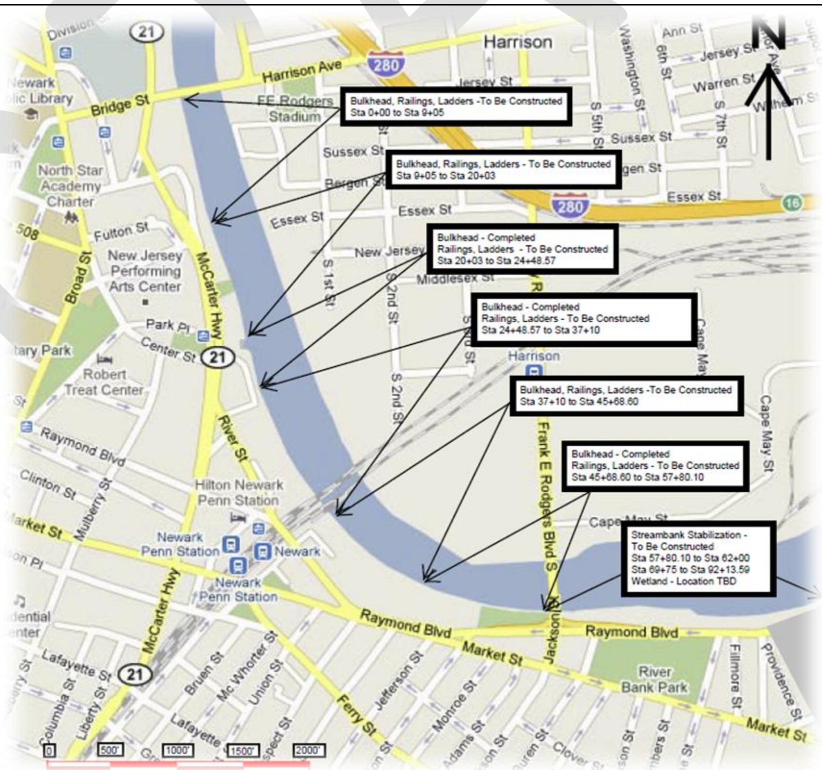

Figure C1: Study Area Location Map

BASIS OF COST

C2. The recommended project elements presented in the 1996 Design Memorandum (DM), and subsequently approved by the Chef of Engineers and authorized by the Congress, were reviewed for this HSLRR (Hurricane Sandy Limited Re-evaluation Report). Phase I work remaining to be constructed was determined to be appropriate for and consistent with conditions that presently exist in the project area. Therefore, the construction cost estimate was updated in MCACES, Second Generation (MII) using the appropriate Work Breakdown Structure (WBS), based on current estimated quantities provided by the design engineers. Using the quantities, the cost estimate was developed utilizing cost resources such as RSMeans, MII Cost Libraries and vendor quotations. Figure C2, as show on page C6 provides the first cost estimates for the remaining Phase I work. Figure C3 provides the Total Project Cost Summary (TPCS), showing the cost escalated to the midpoint of construction along with the project cost share.

C3. The construction durations for Contract 3A and Contract 3B, 4B, Streambank Stabilization, Wetlands were estimated at 12 months and 13 months, respectively as show on Figure C4 and C5 on page C10 and C11 respectively. A construction schedule for the two contracts was developed based on crew outputs referenced from RSMeans and assuming multiple crews working simultaneously.

CONTINGENCIES

C4. As stated in ER 1110-2-1302, the goal in contingency development is to identify the uncertainty associated with an item of work or task, forecast the cost/risk relationship, and assign a value to this task that would limit the cost risk to an acceptable degree of confidence. Consideration must be given to the details available at each stage of planning, design, or construction for which a cost estimate is being prepared. Contingencies may vary throughout the cost estimate and could constitute significant portion of the overall costs when the lack of investigated data or design details are available. Final contingency development and assignment that describes the potential for cost growth is included in the cost estimate. During development of the cost estimates, sufficient contingencies developed via PDT discussions during Abbreviated Risk Analysis (ARA) were applied to develop the Total Project First Cost. The ARA for each of the remaining contracts is show in Figure C6. Please note that the contingency for the remaining construction items, bulkheads, and sitework located in the proximity of the bulkhead are incorporated into the Breakwater & Seawalls account for each remaining contract. The breakdown of items within each account is shown in Figure C6. The contingency factors used in the two remaining contracts are summarized in Tables C1 and C2 below.

Table C1 – Contract 3A Contingency Factors

Element	Contingency Factor
Breakwater & Seawalls	27.55%
Total Construction Contingency	**27.55%**
Lands & Damages	20.00%
Planning, Engineering, and Design	18.64%
Construction Management	15.37%

Table C2 – Contract 3B, 4B, Streambank Stabilization, Wetland Contingency Factors

Element	Contingency Factor
Fish & Wildlife Facilities	36.44%
Breakwater & Seawalls	44.69%
Bank Stabilization	24.90%
Total Construction Contingency	**39.74%**
Lands & Damages	20.00%
Planning, Engineering, and Design	18.64%
Construction Management	15.37%

PLANNING, ENGINEERING AND DESIGN

C5. The costs were developed for all activities associated with the planning, engineering and design effort. The cost for this account includes the preparation of Design Documentation Reports and plans and specifications for each construction contract and engineering support during construction through project completion. It includes all the in-house labor based upon work-hour requirements, material and facility costs, travel and overhead. The percentage breakout in the Total Project Cost Summary (TPCS), as show in Figure C3, was developed based on input from respective offices in accordance with the CWBS.

CONSTRUCTION MANAGEMENT

C6. The costs were developed for all construction management activities from pre-award requirements through final contract closeout. These costs include the in-house labor based upon work-hour requirements, materials, facility costs, support contracts, travel and overhead. Costs were developed based on the input from the construction division in accordance with the CWBS and include but are not limited to anticipated items such as the salaries of the resident engineer and staff, survey men, inspectors, draftsmen, clerical, and custodial personnel; operation, maintenance and fixed charges for transportation and for other field equipment; field supplies; construction management, general construction supervision; project office administration, distributive cost of area office and general overhead charged to the project. The work items and activities would include, but not be limited to: the salaries of all supervisory, engineering (including resident geologist and geological staff), office and safety field personnel; all on site expenses.

INTEREST DURING CONSTRUCTION

C7. Interest during construction (IDC) is the cost of construction money invested before the beginning of the period of economic analysis and before the accumulation of benefits by the project. IDC costs have been added to the project cost to determine investment costs. Average annual costs were determined based on investment costs which include IDC. The pre-base year costs were estimated using the Federal interest rate of 3.375 percent (FY15).

OPERATION AND MAINTENANCE

C8. The Operation and Maintenance (O&M) costs were estimated to represent the anticipated annual costs necessary to maintain the project at full operating efficiency throughout the project life. Following completion of the project, operation and maintenance of project facilities would be performed by the local cooperating agency in accordance with federal regulations and operations manual.

ESTIMATED ANNUAL CHARGES

C9. Annualized costs are based on an economic project life of 50 years and an interest rate of 3.375%. The annual charges include the annualized investment costs along with annual operation and maintenance costs. A detailed breakdown of annual costs for Phase I is presented in Table C3 below. Table C4 and Table C5 shows the breakdown of the two contracts: Contract 3A and Contract 3B, 4B, Streambank Stabilization and Wetland respectively.

Table C3 – Estimated Annual Charges

Joseph G. Minish Passaic River Waterfront Park & Historic Area - Phase 1

First Cost	$	52,462,000
Sunk Cost	$	28,162,000
Investment Cost		
Interest During Construction (a)	$	862,000
Total Investment Cost:	$	81,486,000
Annual Costs		
Annualized Investment Cost (b)	$	2,222,398
Annualized Operation & Maintenance Cost (c)	$	216,000
Total Annual Cost*	**$**	**2,438,398**

*October 2014 Price Level

(a) Based on 2 construction contracts: 12 and 13 months of construction @ 3.3750% (IDC, E&D, RE and Sunk costs calculated separately and included in this total)

(b) Annualized investment cost only includes the remaining features. For annualized investment cost with the sunk cost, please see the economic appendix.
I = 3.375% and n = 50 yrs

(c) Assume 0.5% of total construction first cost for Breakwaters & Seawalls and streambank stabilization. Assume 2 man crew for on-surface investigation (railings, riverbank, rip rap, drainage structure and etc.) four times a year and 4 man crew for diving inspection at least once every five years.

Table C4 – Estimated Contract 3A Annual Charges

Joseph G. Minish Passaic River Waterfront Park & Historic Area - Phase 1
Contract 3A

First Cost	$	13,584,000
Investment Cost		
Interest During Construction (a)	$	209,000
Total Investment Cost:	$	13,793,000
Annual Costs		
Annualized Investment Cost (b)	$	566,144
Annualized Operation & Maintenance Cost (c)	$	63,900
Contract 3A Annual Cost*	**$**	**630,044**

*October 2014 Price Level

(a) Based on 12 months of construction @ 3.375% (IDC, E&D, RE and Sunk costs calculated separately and included in this total)

(b) Annualized investment cost only includes the remaining features. For annualized investment cost I = 3.375% and n = 50 yrs

(c) Assume 0.5% of total construction first cost for Breakwaters & Seawalls. Assume 2 man crew for on-surface investigation (railings, riverbank, rip rap, drainage structure and etc.) four times a year and 4 man crew for diving inspection at least once every five years.

Table C5 – Estimated Contract 3B, 4B, S.B. Stabilization, Wetland Annual Charges

Joseph G. Minish Passaic River Waterfront Park & Historic Area - Phase 1
Contract 3B, 4B, Streambank Stabilization, Wetland

First Cost		$	38,879,000
Investment Cost			
Interest During Construction (a)		$	653,000
	Total Investment Cost:	$	39,532,000
Annual Costs			
Annualized Investment Cost (b)			1,620,370
Annualized Operation & Maintenance Cost (c)		$	152,500
Contract 3B, 4B, S.B. Stabilization, Wetland Annual Cost*		**$**	**1,772,870**

*October 2014 Price Level
(a) Based on 13 months of construction @ 3.375% (IDC, E&D, RE and Sunk costs calculated separately and included in this total)
(b) Annualized investment cost only includes the remaining features. For annualized investment cost with the I = 3.375% and n = 50 yrs
(c) Assume 0.5% of total construction first cost for Breakwaters & Seawalls and streambank stabilization. Assume 2 man crew for on-surface investigation (railings, riverbank, rip rap, drainage structure and etc.) four times a year and 4 man crew for diving inspection at least once every five years.

COST SUMMARY

The total fully funded project cost for the remaining Phase I work is $85,151,600 as show in Figure C3 on page C7. This cost is 100% federally funded and includes the construction of bulkheads, streambank stabilization and wetland mitigation, along with contingencies, lands & damages, design (E&D), supervision and administration (S&A) fully funded costs. A summary of the cost estimate components is presented in Table C6, comparing the cost from the 1996 DM (October 1995 cost), including the actual sunk cost to date (4th Quarter 2014). Changes in cost reflect the impact of changes in the initial construction and the cost escalation.

Table C6 – Cost Comparison (Fully Funded Cost)

	1996 DM (October 1995 PL)	Oct 2014 HSLRR
Estimated Federal Cost	$26,775,000	$56,196,000
Estimated Non-Federal Cost	$8,925,000	$0
Subtotal	$35,700,000	$56,196,000
Sunk Cost	$0	$28,955,600
Total	$35,700,000	$85,151,600

Figure C2 – First Cost Table

Joseph G. Minish Passaic River Waterfront Park & Historic Area - Phase 1

October 2014 Price Level

Hurricane Sandy Limited Reevaluation Report Cost Estimate Summary

Feat. Acct.	Description	Qty	UoM	Subtotal	Cont. %	Cont $$	Total Cost
	Contract 3A						
01	Lands & Damages			$ 844,970	20.00%	$ 168,994	$ 1,013,964
	Total Lands & Damages			**$ 844,970**		**$ 168,994**	**$ 1,013,964**
10	**Breakwaters and Seawalls**						
	Sitework	1	LS	$ 1,312,832	27.55%	$ 361,722	$ 1,674,554
	Bulkhead	1	LS	$ 6,678,339	27.55%	$ 1,840,071	$ 8,518,410
	Total Breakwaters and Seawalls			**$ 7,991,171**		**$ 2,201,793**	**$ 10,192,964**
30	Planning, Engineering, and Design	1	LS	$ 1,319,000	18.64%	$ 245,908	$ 1,564,908
31	Construction Management	1	LS	$ 703,584	15.37%	$ 108,132	$ 811,716
	Total Contract 3A			**$ 10,858,725**		**$ 2,724,828**	**$ 13,583,553**
	Contract 3B, 4B, S.B. Stabilization, Wetland						
01	Lands & Damages			$ 7,201,752	20.00%	$ 1,440,350	$ 8,642,102
	Total Lands & Damages			**$ 7,201,752**		**$ 1,440,350**	**$ 8,642,102**
06	Fish & Wildlife Facilities	1	LS	$ 679,259	39.74%	$ 269,947	$ 949,206
	Total Fish & Wildlife Facilities			**$ 679,259**		**$ 269,947**	**$ 949,206**
10	**Breakwaters and Seawalls**						
	Sitework	1	LS	$ 1,902,172	39.74%	$ 755,950	$ 2,658,122
	Bulkhead	1	LS	$ 11,124,789	39.74%	$ 4,421,146	$ 15,545,934
	Total Breakwaters and Seawalls			**$ 13,026,961**		**$ 5,177,095**	**$ 18,204,056**
16	**Bank Stabilization**						
	Bank Stabilization						
	Site Work	1	LS	$ 3,446,911	39.74%	$ 1,369,850	$ 4,816,761
	Landscaping	1	LS	$ 777,858	39.74%	$ 309,132	$ 1,086,990
	Total Bank Stabilization			**$ 4,224,769**		**$ 1,678,982**	**$ 5,903,751**
30	Planning, Engineering, and Design	1	LS	$ 2,959,000	18.64%	$ 551,662	$ 3,510,662
31	Construction Management	1	LS	$ 1,446,570	15.37%	$ 222,320	$ 1,668,890
	Total Contract 3B, 4B, S.B. Stabilization, Wetland			**$ 29,538,310**		**$ 9,340,357**	**$ 38,878,667**
	Total First Cost			**$ 40,397,035**		**$ 12,065,185**	**$ 52,462,000**
	Sunk Cost						**$ 28,955,600**
	Total First Cost + Sunk Cost						**$ 81,417,600**

Figure C3 – Total Project Cost Summary

****** TOTAL PROJECT COST SUMMARY ******

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PROJECT: Joseph G. Minish Passaic River Waterfront Park & Historic Area - Phase 1
PROJECT NO: 403333
LOCATION: Newark, NJ

DISTRICT: NAN New York
PREPARED: 10/24/2014
POC: CHIEF, COST ENGINEERING, Mukes

This Estimate reflects the scope and schedule in report; Minish HSLRR

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)						TOTAL PROJECT COST (FULLY FUNDED)			
						Program Year (Budget EC): 2015									
						Effective Price Level Date: 1 OCT 14									
WBS NUMBER A	Civil Works Feature & Sub-Feature Description B	COST ($K) C	CNTG ($K) D	CNTG (%) E	TOTAL ($K) F	ESC (%) G	COST ($K) H	CNTG ($K) I	TOTAL ($K) J	Spent Thru: 10/1/2013 ($K)	FIRST COST ($K)	ESC (%)	COST ($K) M	CNTG ($K) N	FULL ($K) O
06	FISH & WILDLIFE FACILITIES	$8,670	$2,472	29%	$11,142	1.6%	$8,805	$2,510	$11,315	$0	$11,315	3.5%	$9,113	$2,600	$11,713
10	BREAKWATER & SEAWALLS	$13,027	$5,177	40%	$18,204	1.6%	$13,229	$5,258	$18,487	$0	$18,487	5.4%	$13,949	$5,544	$19,493
16	BANK STABILIZATION	$4,225	$1,679	40%	$5,904	1.6%	$4,290	$1,705	$5,996	$0	$5,996	5.4%	$4,524	$1,798	$6,322
	CONSTRUCTION ESTIMATE TOTALS:	$25,922	$9,328		$35,250	1.6%	$26,325	$9,473	$35,798	$0	$35,798	4.8%	$27,586	$9,941	$37,528
01	LANDS AND DAMAGES	$8,047	$1,609	20%	$9,656	1.6%	$8,172	$1,634	$9,806	$0	$9,806	5.2%	$8,598	$1,720	$10,318
30	PLANNING, ENGINEERING & DESIGN	$4,278	$798	19%	$5,076	2.2%	$4,370	$815	$5,185	$0	$5,185	7.7%	$4,705	$877	$5,582
31	CONSTRUCTION MANAGEMENT	$2,150	$330	15%	$2,481	2.2%	$2,197	$338	$2,534	$0	$2,534	9.2%	$2,399	$369	$2,768
	PROJECT COST TOTALS:	$40,397	$12,065	30%	$52,462		$41,064	$12,260	**$53,324**	$28,956	**$53,324**	5.4%	$43,289	$12,907	$85,152

Mandatory by Regulation	CHIEF, COST ENGINEERING, Mukesh Kumar	ESTIMATED FEDERAL COST:	**100%**	**$85,152**
Mandatory by Regulation	PROJECT MANAGER, David Gentile	ESTIMATED NON-FEDERAL COST:	**0%**	**$0**
Mandatory by Regulation	CHIEF, REAL ESTATE, Noreen Dresser	**ESTIMATED TOTAL PROJECT COST:**		**$85,152**
	CHIEF, PLANNING, Frank Santomauro			
	CHIEF, ENGINEERING, Arthur Connolly			
	CHIEF, OPERATIONS, Tom Creamer			
	CHIEF, CONSTRUCTION, Timothy Yarger			
	CHIEF, CONTRACTING, Frank Cashman			
	CHIEF, PM-PB, Anthony Ciorra			
	CHIEF, DPM, Joseph Seebode			

****** TOTAL PROJECT COST SUMMARY ******

****** CONTRACT COST SUMMARY ******

PROJECT: Joseph G. Minish Passaic River Waterfront Park & Historic Area - Phase 1
LOCATION: Newark, NJ
This Estimate reflects the scope and schedule in report; Minish HSLRR

DISTRICT: NAN New York
POC: CHIEF, COST ENGINEERING, Mukesh Kumar
PREPARED: 10/24/2014

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 3/15/2014 Effective Price Level: 10/1/2013				Program Year (Budget EC): 2015 Effective Price Level Date: 1 OCT 14								
				RISK BASED										
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST ($K)	CNTG ($K)	CNTG (%)	TOTAL ($K)	ESC (%)	COST ($K)	CNTG ($K)	TOTAL ($K)	Mid-Point Date	ESC (%)	COST ($K)	CNTG ($K)	FULL ($K)
A	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*	*P*	*L*	*M*	*N*	*O*
	Contract #3A													
10	BREAKWATER & SEAWALLS	$7,991	$2,202	28%	$10,193	1.6%	$8,115 $0	$2,236	$10,351	2016Q4	3.3%	$8,386	$2,311	$10,697
	CONSTRUCTION ESTIMATE TOTALS:	$7,991	$2,202	28%	**$10,193**		$8,115	$2,236	$10,351			$8,386	$2,311	$10,697
01	LANDS AND DAMAGES	$845	$169	20%	$1,014	1.6%	$858	$172	$1,030	2016Q4	3.3%	$887	$177	$1,064
30	PLANNING, ENGINEERING & DESIGN													
2.0%	Project Management	$160	$30	19%	$190	2.2%	$163	$30	$194	2016Q2	4.4%	$171	$32	$202
1.0%	Planning & Environmental Compliance	$80	$15	19%	$95	2.2%	$82	$15	$97	2016Q2	4.4%	$85	$16	$101
8.0%	Engineering & Design	$639	$119	19%	$758	2.2%	$653	$122	$775	2016Q2	4.4%	$682	$127	$809
1.0%	Reviews, ATRs, IEPRs, VE	$80	$15	19%	$95	2.2%	$82	$15	$97	2016Q2	4.4%	$85	$16	$101
0.5%	Life Cycle Updates (cost, schedule, risks)	$40	$7	19%	$47	2.2%	$41	$8	$48	2016Q2	4.4%	$43	$8	$51
0.5%	Contracting & Reprographics	$40	$7	19%	$47	2.2%	$41	$8	$48	2016Q2	4.4%	$43	$8	$51
1.5%	Engineering During Construction	$120	$22	19%	$142	2.2%	$123	$23	$145	2016Q4	6.4%	$130	$24	$155
2.0%	Planning During Construction	$160	$30	19%	$190	2.2%	$163	$30	$194	2016Q4	6.4%	$174	$32	$206
0.0%	Project Operations	$0	$0	19%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
31	CONSTRUCTION MANAGEMENT													
0.0%	Construction Management	$704	$108	15%	$812	2.2%	$719	$110	$829	2016Q4	6.4%	$765	$118	$883
0.0%	Project Operation:	$0	$0	15%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
0.0%	Project Management	$0	$0	15%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	CONTRACT COST TOTALS:	$10,859	$2,725		**$13,584**		$11,040	$2,769	$13,809			$11,451	$2,869	**$14,319**

****** TOTAL PROJECT COST SUMMARY ******

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****** CONTRACT COST SUMMARY ******

PROJECT: Joseph G. Minish Passaic River Waterfront Park & Historic Area - Phase 1
LOCATION: Newark, NJ
This Estimate reflects the scope and schedule in report; Minish HSLRR

DISTRICT: NAN New York
POC: CHIEF, COST ENGINEERING, Mukesh Kumar
PREPARED: 10/24/2014

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: / Effective Price Level:			3/15/2014 10/1/2013	Program Year (Budget EC): / Effective Price Level Date:			2015 1 OCT 14					
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST ($K)	CNTG ($K)	CNTG (%)	TOTAL ($K)	ESC (%)	COST ($K)	CNTG ($K)	TOTAL ($K)	Mid-Point Date	ESC (%)	COST ($K)	CNTG ($K)	FULL ($K)
A	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*	*P*	*L*	*M*	*N*	*O*
	Contract #3B, 4B, SB Stabilization, Wetland													
06	FISH & WILDLIFE FACILITIES	$679	$270	40%	$949	1.6%	$690	$274	$964	2017Q4	5.4%	$727	$289	$1,016
10	BREAKWATER & SEAWALLS	$13,027	$5,177	40%	$18,204	1.6%	$13,229	$5,258	$18,487	2017Q4	5.4%	$13,949	$5,544	$19,493
16	BANK STABILIZATION	$4,225	$1,679	40%	$5,904	1.6%	$4,290 $0	$1,705	$5,996	2017Q4	5.4%	$4,524	$1,798	$6,322
	CONSTRUCTION ESTIMATE TOTALS:	$17,931	$7,126	40%	**$25,057**		$18,210	$7,237	$25,447			$19,201	$7,631	$26,831
01	LANDS AND DAMAGES	$7,202	$1,440	20%	$8,642	1.6%	$7,314	$1,463	$8,776	2017Q4	5.4%	$7,712	$1,542	$9,254
30	PLANNING, ENGINEERING & DESIGN													
2.0%	Project Management	$359	$67	19%	$426	2.2%	$367	$68	$435	2017Q2	8.5%	$398	$74	$472
1.0%	Planning & Environmental Compliance	$179	$33	19%	$212	2.2%	$183	$34	$217	2017Q2	8.5%	$198	$37	$235
8.0%	Engineering & Design	$1,434	$267	19%	$1,701	2.2%	$1,465	$273	$1,738	2017Q2	8.5%	$1,589	$296	$1,885
1.0%	Reviews, ATRs, IEPRs, VE	$179	$33	19%	$212	2.2%	$183	$34	$217	2017Q2	8.5%	$198	$37	$235
0.5%	Life Cycle Updates (cost, schedule, risks)	$90	$17	19%	$107	2.2%	$92	$17	$109	2017Q2	8.5%	$100	$19	$118
0.5%	Contracting & Reprographics	$90	$17	19%	$107	2.2%	$92	$17	$109	2017Q2	8.5%	$100	$19	$118
1.5%	Engineering During Construction	$269	$50	19%	$319	2.2%	$275	$51	$326	2017Q4	10.6%	$304	$57	$361
2.0%	Planning During Construction	$359	$67	19%	$426	2.2%	$367	$68	$435	2017Q4	10.6%	$406	$76	$481
0.0%	Project Operations	$0	$0	19%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
31	CONSTRUCTION MANAGEMENT													
0.0%	Construction Management	$1,447	$222	15%	$1,669	2.2%	$1,478	$227	$1,705	2017Q4	10.6%	$1,634	$251	$1,885
0.0%	Project Operation:	$0	$0	15%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
0.0%	Project Management	$0	$0	15%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	CONTRACT COST TOTALS:	$29,538	$9,340		**$38,879**		$30,024	$9,490	$39,514			$31,839	$10,038	**$41,877**

Figure C4 – Construction Schedule for Contract 3A

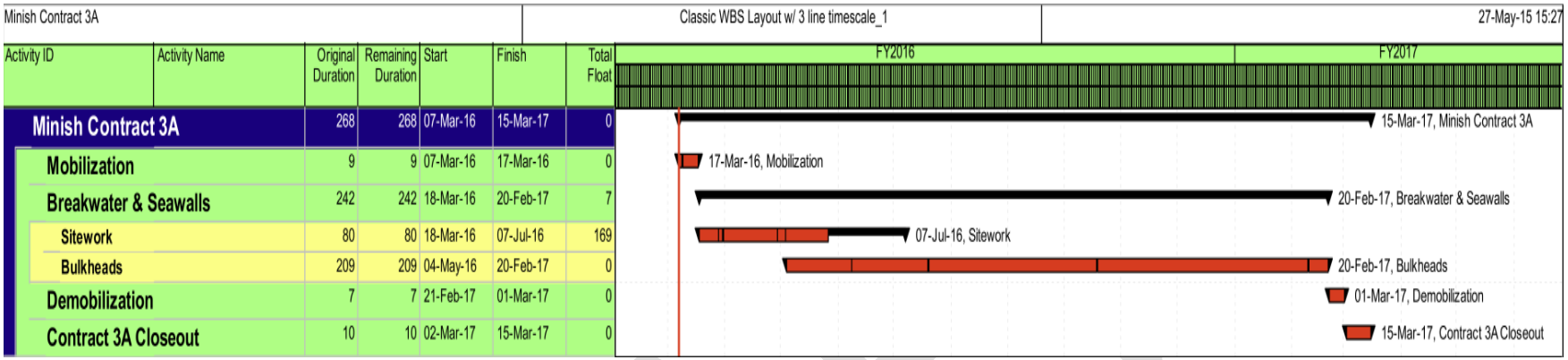

Figure C5 – Construction Schedule for Contract 3B, 4B, Streambank Stabilization, Wetland

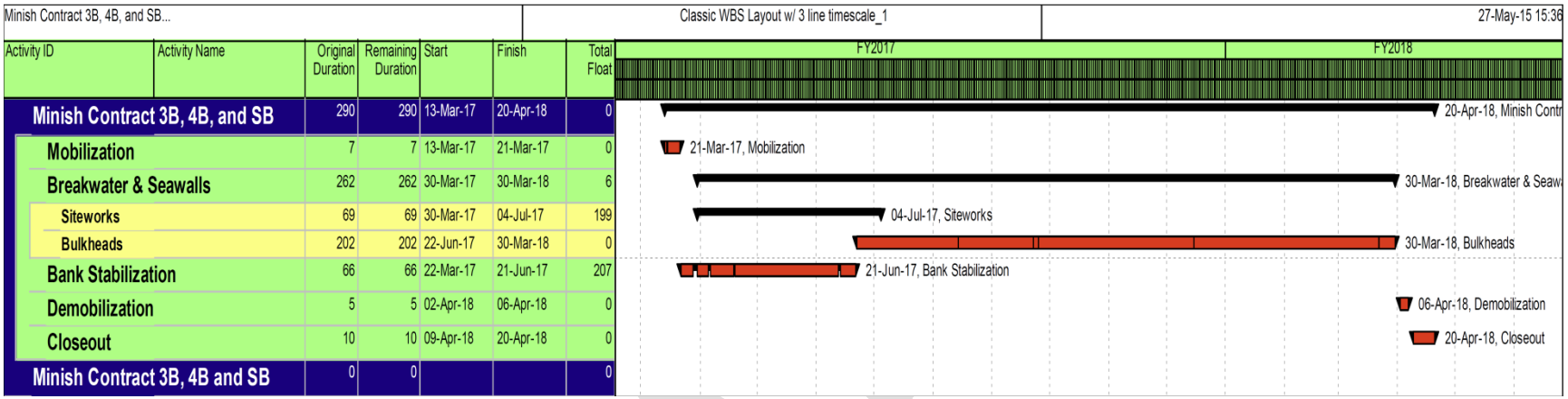

Figure C6 – Abbreviated Risk Analysis

Abbreviated Risk Analysis

Project (less than $40M): **Contract 3A - Joseph G. Minish Passaic River Waterfrc**
Project Development Stage: **Feasibility (Recommended Plan)**
Risk Category: **Moderate Risk: Typical Project or Possible Life Safety**

Total Construction Contract Cost = $ 7,991,171

	CWWBS	Feature of Work	Contract Cost		% Contingency	$ Contingency	Total
	01 LANDS AND DAMAGES	Real Estate	$ 844,970		20.00%	$ 168,994	$ 1,013,964.00
1	10 BREAKWATERS AND SEAWALLS	Sitework	$ 1,312,832		38.24%	$ 501,998	$ 1,814,830.40
2	10 BREAKWATERS AND SEAWALLS	Sheetpiling & Bulkhead	$ 6,678,339		25.45%	$ 1,699,795	$ 8,378,133.75
3					0.00%	$ -	$ -
4					0.00%	$ -	$ -
5					0.00%	$ -	$ -
6					0.00%	$ -	$ -
7					0.00%	$ -	$ -
8					0.00%	$ -	$ -
9					0.00%	$ -	$ -
10					0.00%	$ -	$ -
11					0.00%	$ -	$ -
12		Remaining Construction Items	$ -	*0.0%*	0.00%	$ -	$ -
13	30 PLANNING, ENGINEERING, AND DESIGN	Planning, Engineering, & Design	$ 1,319,000		18.64%	$ 245,908	$ 1,564,908.26
14	31 CONSTRUCTION MANAGEMENT	Construction Management	$ 703,584		15.37%	$ 108,132	$ 811,716.33

Totals					
Real Estate	$ 844,970	20.00%	$ 168,994	$ 1,013,964.00
Total Construction Estimate	$ 7,991,171	27.55%	$ 2,201,793	$ 10,192,964
Total Planning, Engineering & Design	$ 1,319,000	18.64%	$ 245,908	$ 1,564,908
Total Construction Management	$ 703,584	15.37%	$ 108,132	$ 811,716
Total	$ 10,858,725		$ 2,724,828	$ 13,583,553

Contract 3A - Joseph G. Minish Passaic River Waterfront Park and Histroic Area - Phase 1 (Contract A)
Feasibility (Recommended Plan)
Abbreviated Risk Analysis

Meeting Date: 1-Oct-13

Risk Level

	Negligible	Marginal	Significant	Critical	Crisis
Very Likely	2	3	4	5	5
Likely	1	2	3	4	5
Possible	0	1	2	3	4
Unlikely	0	0	1	2	3

Risk Element	Feature of Work	Concerns Pull Down Tab (ENABLE MACROS THRU TRUST CENTER) (Choose ALL that apply)	Concerns	PDT Discussions & Conclusions (Include logic & justification for choice of Likelihood & Impact)	Likelihood	Impact	Risk Level
Project Scope Growth							
						Max Potential Cost Growth	75%
PS-1	Sitework	• Investigations sufficient to support design assumptions?	• Potential for scope growth, added features and quantities? • Investigations sufficient to support design assumptions?	Potential for scope growth due to input from local sponsor.	Likely	Significant	3
PS-2	Sheetpiling & Bulkhead	• Project accomplish intent?	• Potential for scope growth, added features and quantities? • Project accomplish intent?	Potential for scope growth due to input from local sponsor.	Unlikely	Marginal	0
PS-3	0				Unlikely	Negligible	0
PS-4	0				Unlikely	Negligible	0
PS-5	0				Unlikely	Negligible	0
PS-6	0				Unlikely	Negligible	0
PS-7	0				Unlikely	Negligible	0
PS-8	0				Unlikely	Negligible	0

PS-9	0				Unlikely	Negligible	0
PS-10	0				Unlikely	Negligible	0
PS-11	0				Unlikely	Negligible	0
PS-12	Remaining Construction Items	• Potential for scope growth, added features and quantities?	• Potential for scope growth, added features and quantities?	Potential for scope growth due to input from local sponsor.	Likely	Negligible	1
PS-13	Planning, Engineering, & Design	• Potential for scope growth, added features and quantities?	• Potential for scope growth, added features and quantities?	Potential for scope growth due to input from local sponsor would require futher design.	Possible	Marginal	1
PS-14	Construction Management	• Potential for scope growth, added features and quantities?	• Potential for scope growth, added features and quantities?	Any increase scope can impact construction duration and therefore impact our construction management account.	Likely	Negligible	1

Acquisition Strategy

					Max Potential Cost Growth		30%
AS-1	Sitework	• Contracting plan firmly established?	• Contracting plan firmly established? • Limited bid competition anticipated? • Bid schedule developed to reduce quantity risks?	Invitation for bid base on construction cost. Limited bid compeition is a concern but negated because new york/new jersey is flooded with contractor to do the work. The bid schedule will be developed in standard practice.	Unlikely	Negligible	0
AS-2	Sheetpiling & Bulkhead	• Bid schedule developed to reduce quantity risks?	• Contracting plan firmly established? • Bid schedule developed to reduce quantity risks?	Invitation for bid base on construction cost. Limited bid compeition is a concern but negated because new york/new jersey is flooded with contractor to do the work. The bid schedule will be developed in standard practice.	Unlikely	Negligible	0
AS-3	0	• Bid schedule developed to reduce quantity risks?			Unlikely	Negligible	0
AS-4	0	• Bid schedule developed to reduce quantity risks?			Unlikely	Negligible	0
AS-5	0				Unlikely	Negligible	0
AS-6	0				Unlikely	Negligible	0
AS-7	0				Unlikely	Negligible	0
AS-8	0				Unlikely	Negligible	0
AS-9	0				Unlikely	Negligible	0

AS-10	0				Unlikely	Negligible	0
AS-11	0				Unlikely	Negligible	0
AS-12	Remaining Construction Items			N/A	Unlikely	Negligible	0
AS-13	Planning, Engineering, & Design			N/A	Unlikely	Negligible	0
AS-14	Construction Management			N/A	Unlikely	Negligible	0

Construction Elements

					Max Potential Cost Growth		25%
CE-1	Sitework	• Potential for construction modification and claims?	• Accelerated schedule or harsh weather schedule? • Potential for construction modification and claims?	Possible contaminated soil issue	Likely	Significant	3
CE-2	Sheetpiling & Bulkhead	• Potential for construction modification and claims?	• Accelerated schedule or harsh weather schedule? • High risk or complex construction elements, site access, in-water? • Potential for construction modification and claims?	In water site access. Construction around the screen house might require special attention. Harsh weather could impact concrete curing.	Likely	Significant	3
CE-3	0				Unlikely	Negligible	0
CE-4	0				Unlikely	Negligible	0
CE-5	0				Unlikely	Negligible	0
CE-6	0				Unlikely	Negligible	0
CE-7	0				Unlikely	Negligible	0
CE-8	0				Unlikely	Negligible	0
CE-9	0				Unlikely	Negligible	0

CE-10	0				Unlikely	Negligible	0
CE-11	0				Unlikely	Negligible	0
CE-12	Remaining Construction Items			N/A	Unlikely	Negligible	0
CE-13	Planning, Engineering, & Design	• Potential for construction modification and claims?	• Potential for construction modification and claims?	Possible risk involved design required if there is a change. Based on previous work in this area and on other contracts has resulted in a significant amount of mods and claims on the work.	Likely	Significant	3
CE-14	Construction Management	• Potential for construction modification and claims?	• Potential for construction modification and claims?	Increase in construction mod would increase construction duration and construction management.	Likely	Marginal	2

Quantities for Current Scope

					Max Potential Cost Growth		20%
Q-1	Sitework	• Sufficient investigations to develop quantities?		Sufficient investigations to develop quantities to increase but might reduce. HTRW	Possible	Marginal	1
Q-2	Sheetpiling & Bulkhead			N/A	Unlikely	Negligible	0
Q-3	0				Unlikely	Negligible	0
Q-4	0				Unlikely	Negligible	0
Q-5	0				Unlikely	Negligible	0
Q-6	0				Unlikely	Negligible	0
Q-7	0				Unlikely	Negligible	0
Q-8	0				Unlikely	Negligible	0
Q-9	0				Unlikely	Negligible	0
Q-10	0				Unlikely	Negligible	0
Q-11	0				Unlikely	Negligible	0
Q-12	Remaining Construction Items			N/A	Unlikely	Negligible	0

Q-13	Planning, Engineering, & Design			No further than anticipated	Unlikely	Negligible	0
Q-14	Construction Management			No further than anticipated	Unlikely	Negligible	0

Specialty Fabrication or Equipment

							Max Potential Cost Growth	75%
FE-1	Sitework			None	Unlikely	Negligible		0
FE-2	Sheetpiling & Bulkhead	• Unusual parts, material or equipment manufactured or installed?	• Unusual parts, material or equipment manufactured or installed?	Custom made tie-back and sheetpiles but we are confident to get the supplier and reasonable quotes. However the cost is dependent on this risk and can have a significant impact.	Possible	Marginal		1
FE-3	0				Unlikely	Negligible		0
FE-4	0				Unlikely	Negligible		0
FE-5	0				Unlikely	Negligible		0
FE-6	0				Unlikely	Negligible		0
FE-7	0				Unlikely	Negligible		0
FE-8	0				Unlikely	Negligible		0
FE-9	0				Unlikely	Negligible		0
FE-10	0				Unlikely	Negligible		0
FE-11	0				Unlikely	Negligible		0
FE-12	Remaining Construction Items			N/A	Unlikely	Negligible		0

FE-13	Planning, Engineering, & Design			N/A	Unlikely	Negligible	0
FE-14	Construction Management			N/A	Unlikely	Negligible	0

Cost Estimate Assumptions

						Max Potential Cost Growth	35%
CT-1	Sitework	• Lack confidence on critical cost items?	• Reliability and number of key quotes? • Overuse of Cost Book, lump sum, allowances?	Heavily use of cost book.	Possible	Marginal	1
CT-2	Sheetpiling & Bulkhead	• Overuse of Cost Book, lump sum, allowances?	• Reliability and number of key quotes? • Overuse of Cost Book, lump sum, allowances?	Heavily use of cost book.	Possible	Marginal	1
CT-3	0				Unlikely	Negligible	0
CT-4	0				Unlikely	Negligible	0
CT-5	0				Unlikely	Negligible	0
CT-6	0				Unlikely	Negligible	0
CT-7	0				Unlikely	Negligible	0
CT-8	0				Unlikely	Negligible	0
CT-9	0				Unlikely	Negligible	0
CT-10	0				Unlikely	Negligible	0
CT-11	0				Unlikely	Negligible	0

CT-12	Remaining Construction Items	• Reliability and number of key quotes?			Unlikely	Negligible	0
CT-13	Planning, Engineering, & Design	• Reliability and number of key quotes?		N/A	Unlikely	Negligible	0
CT-14	Construction Management	• Reliability and number of key quotes?		N/A	Unlikely	Negligible	0

External Project Risks

						Max Potential Cost Growth	40%
EX-1	Sitework	• Potential for severe adverse weather?	• Potential for severe adverse weather? • Political influences, lack of support, obstacles? • Unanticipated inflations in fuel, key materials?	Project might not get implemented due to uncertainty in future funding and lack of priority benefits. Potential for severe weather in Jersey is always common.	Likely	Significant	3
EX-2	Sheetpiling & Bulkhead	• Unanticipated inflations in fuel, key materials?	• Potential for severe adverse weather? • Political influences, lack of support, obstacles? • Unanticipated inflations in fuel, key materials?	Project might not get implemented due to uncertainty in future funding and lack of priority benefits. Potential for severe weather in Jersey is always common. Steel and sheetpilings can be impacted heavily by unanticipated inflation.	Likely	Significant	3
EX-3	0				Unlikely	Negligible	0
EX-4	0				Unlikely	Negligible	0
EX-5	0				Unlikely	Negligible	0
EX-6	0				Unlikely	Negligible	0
EX-7	0				Unlikely	Negligible	0
EX-8	0				Unlikely	Negligible	0
EX-9	0				Unlikely	Negligible	0
EX-10	0				Unlikely	Negligible	0
EX-11	0				Unlikely	Negligible	0
EX-12	Remaining Construction Items	• Unanticipated inflations in fuel, key materials?	• Unanticipated inflations in fuel, key materials?	Unanticipated inflations in fuel can increase equipment mob/demob cost	Likely	Negligible	1
EX-13	Planning, Engineering, & Design	• Political influences, lack of support, obstacles?	• Potential for severe adverse weather? • Political influences, lack of support, obstacles?	Any delays can result in necessaries for futher redesign.	Likely	Marginal	2
EX-14	Construction Management	• Political influences, lack of support, obstacles?	• Political influences, lack of support, obstacles?	If the project stays in the shelve, then the cost will increase.	Possible	Significant	2

Abbreviated Risk Analysis

Project (less than $40M): **Contract 3B, 4B, Streambank Stabilization, Wetlant - J**
Project Development Stage: **Feasibility (Recommended Plan)**
Risk Category: **Moderate Risk: Typical Project or Possible Life Safety**

Total Construction Contract Cost = $ 17,930,989

	CWWBS	Feature of Work	Contract Cost		% Contingency	$ Contingency	Total
	01 LANDS AND DAMAGES	Real Estate	$ 7,201,752		20.00%	$ 1,440,350	$ 8,642,102.00
1	06 FISH AND WILDLIFE FACILITIES	Environmental	$ 679,259		36.44%	$ 247,497	$ 926,756.25
2	10 BREAKWATERS AND SEAWALLS	Sitework	$ 1,902,172		38.24%	$ 727,349	$ 2,629,521.19
3	10 BREAKWATERS AND SEAWALLS	Sheetpiling & Bulkhead	$ 11,124,789		45.84%	$ 5,099,148	$ 16,223,936.79
4	16 BANK STABILIZATION	Bank Stabilization - Sitework	$ 4,224,769		24.90%	$ 1,052,030	$ 5,276,799.07
5					0.00%	$ -	$ -
6					0.00%	$ -	$ -
7					0.00%	$ -	$ -
8					0.00%	$ -	$ -
9					0.00%	$ -	$ -
10					0.00%	$ -	$ -
11					0.00%	$ -	$ -
12		Remaining Construction Items	$ -	*0.0%*	0.00%	$ -	$ -
13	30 PLANNING, ENGINEERING, AND DESIGN	Planning, Engineering, & Design	$ 2,959,000		18.64%	$ 551,662	$ 3,510,662.27
14	31 CONSTRUCTION MANAGEMENT	Construction Management	$ 1,446,570		15.37%	$ 222,320	$ 1,668,890.27

Totals					
Real Estate	$ 7,201,752	20.00%	$ 1,440,350	$ 8,642,102.00
Total Construction Estimate	$ 17,930,989	39.74%	$ 7,126,024	$ 25,057,013
Total Planning, Engineering & Design	$ 2,959,000	18.64%	$ 551,662	$ 3,510,662
Total Construction Management	$ 1,446,570	15.37%	$ 222,320	$ 1,668,890
Total	$ 29,538,311		$ 9,340,357	$ 38,878,668

Contract 3B, 4B, Streambank Stabilization, Wetlant - Joseph G. Minish Passaic River Waterfront Park and Histroic Area - Phase 1 (Contract B)
Feasibility (Recommended Plan)
Abbreviated Risk Analysis

Meeting Date: 1-Oct-13

Risk Level

	Negligible	Marginal	Significant	Critical	Crisis
Very Likely	2	3	4	5	5
Likely	1	2	3	4	5
Possible	0	1	2	3	4
Unlikely	0	0	1	2	3

Risk Element	Feature of Work	Concerns Pull Down Tab (ENABLE MACROS THRU TRUST CENTER) (Choose ALL that apply)	Concerns	PDT Discussions & Conclusions (Include logic & justification for choice of Likelihood & Impact)	Likelihood	Impact	Risk Level
Project Scope Growth							
						Max Potential Cost Growth	**75%**
PS-1	Environmental	• Investigations sufficient to support design assumptions?	• Potential for scope growth, added features and quantities? • Investigations sufficient to support design assumptions?	Need to find mitigation site of the proper acreage required. Specific site information would be required.	Likely	Significant	3
PS-2	Sitework	• Project accomplish intent?	• Potential for scope growth, added features and quantities? • Project accomplish intent?	Potential for scope growth due to input from local sponsor.	Likely	Significant	3
PS-3	Sheetpiling & Bulkhead	• Potential for scope growth, added features and quantities?	• Potential for scope growth, added features and quantities?	Potential for scope growth due to input from local sponsor.	Likely	Marginal	2
PS-4	Bank Stabilization - Sitework	• Potential for scope growth, added features and quantities?	• Potential for scope growth, added features and quantities?	No issue	Possible	Negligible	0
PS-5	0				Unlikely	Negligible	0
PS-6	0				Unlikely	Negligible	0
PS-7	0				Unlikely	Negligible	0
PS-8	0				Unlikely	Negligible	0

PS-9	0				Unlikely	Negligible	0
PS-10	0				Unlikely	Negligible	0
PS-11	0				Unlikely	Negligible	0
PS-12	Remaining Construction Items	• Potential for scope growth, added features and quantities?	• Potential for scope growth, added features and quantities?	Potential for scope growth due to input from local sponsor.	Likely	Negligible	1
PS-13	Planning, Engineering, & Design	• Potential for scope growth, added features and quantities?	• Potential for scope growth, added features and quantities?	Potential for scope growth due to input from local sponsor would require futher design.	Possible	Marginal	1
PS-14	Construction Management	• Potential for scope growth, added features and quantities?	• Potential for scope growth, added features and quantities?	Any increase scope can impact construction duration and therefore impact our construction amagement account.	Likely	Negligible	1

Acquisition Strategy

					Max Potential Cost Growth		30%
AS-1	Environmental	• Contracting plan firmly established?	• Requirement for subcontracting? • Contracting plan firmly established?	Firm specializing in wetland construction. Ensure that the plan is aware that the wetland mitigation is needed.	Possible	Negligible	0
AS-2	Sitework	• Bid schedule developed to reduce quantity risks?	• Contracting plan firmly established? • Limited bid competition anticipated? • Bid schedule developed to reduce quantity risks?	Possible invitation for bid base on construction cost. Limited bid compeition is a concern but negated because new york/new jersey is flooded with contractor to do the work. The bid schedule will be developed in standard practice.	Unlikely	Negligible	0
AS-3	Sheetpiling & Bulkhead	• Bid schedule developed to reduce quantity risks?	• Contracting plan firmly established? • Limited bid competition anticipated? • Bid schedule developed to reduce quantity risks?	Possible invitation for bid base on construction cost. Limited bid compeition is a concern but negated because new york/new jersey is flooded with contractor to do the work. The bid schedule will be developed in standard practice.	Possible	Marginal	1
AS-4	Bank Stabilization - Sitework	• Bid schedule developed to reduce quantity risks?	• Contracting plan firmly established? • Limited bid competition anticipated? • Bid schedule developed to reduce quantity risks?	Possible invitation for bid base on construction cost. Limited bid compeition is a concern but negated because new york/new jersey is flooded with contractor to do the work. The bid schedule will be developed in standard practice.	Unlikely	Negligible	0
AS-5	0				Unlikely	Negligible	0
AS-6	0				Unlikely	Negligible	0
AS-7	0				Unlikely	Negligible	0
AS-8	0				Unlikely	Negligible	0
AS-9	0				Unlikely	Negligible	0

AS-10	0				Unlikely	Negligible	0
AS-11	0				Unlikely	Negligible	0
AS-12	Remaining Construction Items			N/A	Unlikely	Negligible	0
AS-13	Planning, Engineering, & Design			N/A	Unlikely	Negligible	0
AS-14	Construction Management			N/A	Unlikely	Negligible	0

Construction Elements

					Max Potential Cost Growth		25%
CE-1	Sitework	• Potential for construction modification and claims?	• Accelerated schedule or harsh weather schedule? • Potential for construction modification and claims?	Possible contaminated soil issue	Likely	Significant	3
CE-2	Sheetpiling & Bulkhead	• Potential for construction modification and claims?	• Accelerated schedule or harsh weather schedule? • High risk or complex construction elements, site access, in-water? • Potential for construction modification and claims?	In water site access. Construction around the screen house might require special attention. Harsh weather could impact concrete curing.	Likely	Significant	3
CE-3	0				Unlikely	Negligible	0
CE-4	0				Unlikely	Negligible	0
CE-5	0				Unlikely	Negligible	0
CE-6	0				Unlikely	Negligible	0
CE-7	0				Unlikely	Negligible	0
CE-8	0				Unlikely	Negligible	0
CE-9	0				Unlikely	Negligible	0

CE-10	0				Unlikely	Negligible	0
CE-11	0				Unlikely	Negligible	0
CE-12	Remaining Construction Items			N/A	Unlikely	Negligible	0
CE-13	Planning, Engineering, & Design	• Potential for construction modification and claims?	• Potential for construction modification and claims?	Possible risk involved design required if there is a change. Based on previous work in this area and on other contracts has resulted in a significant amount of mods and claims on the work.	Likely	Significant	3
CE-14	Construction Management	• Potential for construction modification and claims?	• Potential for construction modification and claims?	Increase in construction mod would increase construction duration and construction management.	Likely	Marginal	2

Quantities for Current Scope

					Max Potential Cost Growth		20%
Q-1	Sitework	• Sufficient investigations to develop quantities?		Sufficient investigations to develop quantities to increase but might reduce. HTRW	Possible	Marginal	1
Q-2	Sheetpiling & Bulkhead			N/A	Unlikely	Negligible	0
Q-3	0				Unlikely	Negligible	0
Q-4	0				Unlikely	Negligible	0
Q-5	0				Unlikely	Negligible	0
Q-6	0				Unlikely	Negligible	0
Q-7	0				Unlikely	Negligible	0
Q-8	0				Unlikely	Negligible	0
Q-9	0				Unlikely	Negligible	0
Q-10	0				Unlikely	Negligible	0
Q-11	0				Unlikely	Negligible	0
Q-12	Remaining Construction Items			N/A	Unlikely	Negligible	0

Q-13	Planning, Engineering, & Design			No further than anticipated	Unlikely	Negligible	0
Q-14	Construction Management			No further than anticipated	Unlikely	Negligible	0

Specialty Fabrication or Equipment

							Max Potential Cost Growth	75%
FE-1	Sitework			None	Unlikely	Negligible		0
FE-2	Sheetpiling & Bulkhead	• Unusual parts, material or equipment manufactured or installed?	• Unusual parts, material or equipment manufactured or installed?	Custom made tie-back and sheetpiles but we are confident to get the supplier and reasonable quotes. However the cost is dependent on this risk and can have a significant impact.	Possible	Marginal		1
FE-3	0				Unlikely	Negligible		0
FE-4	0				Unlikely	Negligible		0
FE-5	0				Unlikely	Negligible		0
FE-6	0				Unlikely	Negligible		0
FE-7	0				Unlikely	Negligible		0
FE-8	0				Unlikely	Negligible		0
FE-9	0				Unlikely	Negligible		0
FE-10	0				Unlikely	Negligible		0
FE-11	0				Unlikely	Negligible		0
FE-12	Remaining Construction Items			N/A	Unlikely	Negligible		0

FE-13	Planning, Engineering, & Design			N/A	Unlikely	Negligible	0
FE-14	Construction Management			N/A	Unlikely	Negligible	0

Cost Estimate Assumptions

							Max Potential Cost Growth	35%
CT-1	Environmental	• Lack confidence on critical cost items?	• Reliability and number of key quotes? • Site accessibility, transport delays, congestion? • Lack confidence on critical cost items?	Estimate base on historical data due to no site have been destinated.	Likely	Significant		3
CT-2	Sitework	• Overuse of Cost Book, lump sum, allowances?	• Reliability and number of key quotes? • Overuse of Cost Book, lump sum, allowances?	Heavily use of cost book.	Possible	Marginal		1
CT-3	Sheetpiling & Bulkhead	• Overuse of Cost Book, lump sum, allowances?	• Reliability and number of key quotes? • Overuse of Cost Book, lump sum, allowances?	Heavily use of cost book	Possible	Marginal		1
CT-4	Bank Stabilization - Sitework	• Overuse of Cost Book, lump sum, allowances?	• Reliability and number of key quotes? • Overuse of Cost Book, lump sum, allowances?	Heavily use of cost book.	Possible	Marginal		1
CT-5	0				Unlikely	Negligible		0
CT-6	0				Unlikely	Negligible		0
CT-7	0				Unlikely	Negligible		0
CT-8	0				Unlikely	Negligible		0
CT-9	0				Unlikely	Negligible		0
CT-10	0				Unlikely	Negligible		0
CT-11	0				Unlikely	Negligible		0

CT-12	Remaining Construction Items	• Reliability and number of key quotes?			Unlikely	Negligible	0
CT-13	Planning, Engineering, & Design	• Reliability and number of key quotes?		N/A	Unlikely	Negligible	0
CT-14	Construction Management	• Reliability and number of key quotes?		N/A	Unlikely	Negligible	0

External Project Risks

						Max Potential Cost Growth	40%
EX-1	Sitework	• Potential for severe adverse weather?	• Potential for severe adverse weather? • Political influences, lack of support, obstacles? • Unanticipated inflations in fuel, key materials?	Project might not get implemented due to uncertainty in future funding and lack of priority benefits. Potential for severe weather in Jersey is always common.	Likely	Significant	3
EX-2	Sheetpiling & Bulkhead	• Unanticipated inflations in fuel, key materials?	• Potential for severe adverse weather? • Political influences, lack of support, obstacles? • Unanticipated inflations in fuel, key materials?	Project might not get implemented due to uncertainty in future funding and lack of priority benefits. Potential for severe weather in Jersey is always common. Steel and sheetpilings can be impacted heavily by unanticipated inflation.	Likely	Significant	3
EX-3	0				Unlikely	Negligible	0
EX-4	0				Unlikely	Negligible	0
EX-5	0				Unlikely	Negligible	0
EX-6	0				Unlikely	Negligible	0
EX-7	0				Unlikely	Negligible	0
EX-8	0				Unlikely	Negligible	0
EX-9	0				Unlikely	Negligible	0
EX-10	0				Unlikely	Negligible	0
EX-11	0				Unlikely	Negligible	0
EX-12	Remaining Construction Items	• Unanticipated inflations in fuel, key materials?	• Unanticipated inflations in fuel, key materials?	Unanticipated inflations in fuel can increase equipment mob/demob cost	Likely	Negligible	1
EX-13	Planning, Engineering, & Design	• Political influences, lack of support, obstacles?	• Potential for severe adverse weather? • Political influences, lack of support, obstacles?	Any delays can result in necessaries for futher redesign.	Likely	Marginal	2
EX-14	Construction Management	• Political influences, lack of support, obstacles?	• Political influences, lack of support, obstacles?	If the project stays in the shelve, then the cost will increase.	Possible	Significant	2

DQC Comments

Public / SBU / FOUO

Comment Report: User's Comments (Submitted/Impacted) by Cynthia Zhang
Project: Minish LRR **Review**: LRR Draft Cost Appendix DQC Review (*00001*)
(sorted by Discipline , ID)

Displaying 26 comments for the criteria specified in this report.

Id	Discipline	Section/Figure	Page Number	Line Number
5449808	Cost Engineering	n/a	n/a	n/a

Comment Classification: **Sensitive But Unclassified (SBU)**

Cost Appendix - HSRR is now known as a HSLRR.

Submitted By: Anthony schiano (917-790-8347). Submitted On: Dec 09 2013

1-0	Evaluation **Concurred** HSRR has been changed to HSLRR in the cost appendix Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Dec 13 2013
1-1	Backcheck Recommendation **Close Comment** Closed without comment. Submitted By: Anthony schiano (917-790-8347) Submitted On: Dec 16 2013.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5449810	Cost Engineering	n/a	n/a	n/a

Comment Classification: **Sensitive But Unclassified (SBU)**

Cost appendix - No need for the second page if it has no info on it. Please delete.

Submitted By: Anthony schiano (917-790-8347). Submitted On: Dec 09 2013

1-0	Evaluation **Concurred** The second page has been deleted Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Dec 13 2013
1-1	Backcheck Recommendation **Close Comment** Closed without comment. Submitted By: Anthony schiano (917-790-8347) Submitted On: Dec 16 2013.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5449811	Cost Engineering	n/a	n/a	n/a

Comment Classification: **Sensitive But Unclassified (SBU)**

Cost appendix - Table C-4 should be replaced by a first cost table. Please refer to L:\20 CIVILWORKS - NAN\cBNO\Seabright Deal Reach, NJ\20 HSLRR\20 - Cost Appendix as an example.

Submitted By: Anthony schiano (917-790-8347). Submitted On: Dec 09 2013

1-0	Evaluation **Concurred** This has been adjusted. Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Dec 13 2013
1-1	Backcheck Recommendation **Close Comment** Closed without comment. Submitted By: Anthony schiano (917-790-8347) Submitted On: Dec 16 2013.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5449812	Cost Engineering	n/a	n/a	n/a

Comment Classification: **Sensitive But Unclassified (SBU)**

Cost appendix - No need to put an appendix with in an appendix. Therefore delete the appendix 1 page and place the DQC comments with response and closed out responses at the end.

Submitted By: Anthony schiano (917-790-8347). Submitted On: Dec 09 2013

1-0	Evaluation **Concurred** This has been adjusted Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Dec 13 2013
1-1	Backcheck Recommendation **Close Comment** Closed without comment. Submitted By: Anthony schiano (917-790-8347) Submitted On: Dec 16 2013.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5449813	Cost Engineering	n/a	n/a	n/a

Comment Classification: **Sensitive But Unclassified (SBU)**

Cost appendix - Delete the MII estimate from your Cost Appendix. We only show first costs and there is no need to show a detailed estimate from MII.

Submitted By: Anthony schiano (917-790-8347). Submitted On: Dec 09 2013

1-0	Evaluation **Concurred** The MII estimate has been deleted in the Cost Appendix Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Dec 13 2013

1-1	Backcheck Recommendation **Close Comment** Closed without comment. Submitted By: Anthony schiano (917-790-8347) Submitted On: Dec 16 2013.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5449815	Cost Engineering	n/a	n/a	n/a

Comment Classification: **Sensitive But Unclassified (SBU)**

Cost appendix - You just need the front page of the ARA where the contingencies and main utilized contingency are found.

Submitted By: Anthony schiano (917-790-8347). Submitted On: Dec 09 2013

1-0	Evaluation **Concurred** This has been corrected Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Dec 13 2013

1-1	Backcheck Recommendation **Close Comment** Closed without comment. Submitted By: Anthony schiano (917-790-8347) Submitted On: Dec 16 2013.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5449818	Cost Engineering	n/a	n/a	n/a

Comment Classification: **Sensitive But Unclassified (SBU)**

Cost appendix - You are missing O&M/annualized cost and the cost appropriations tables. Please refer L:\20 CIVILWORKS - NAN\cBNO\Seabright Deal Reach, NJ\20 HSLRR\20 - Cost Appendix.

Submitted By: Anthony schiano (917-790-8347). Submitted On: Dec 09 2013

1-0	Evaluation **Concurred** This has been incorporated Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Dec 13 2013

1-1	Backcheck Recommendation **Close Comment** Closed without comment. Submitted By: Anthony schiano (917-790-8347) Submitted On: Dec 18 2013.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number

5449820	Cost Engineering	n/a	n/a	n/a

Comment Classification: **Sensitive But Unclassified (SBU)**

Cost appendix - You show two first cost tables, however you only have one TPCS table. Either add another TPCS table, or make sure that the TPCS tables add up to both contracts. If the report is to authorize both contracts as one, then one total TPCS method should be utilized.

Submitted By: Anthony schiano (917-790-8347). Submitted On: Dec 09 2013

1-0	Evaluation **Concurred** This will be adjusted Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Dec 13 2013

1-1	Backcheck Recommendation **Close Comment** Closed without comment. Submitted By: Anthony schiano (917-790-8347) Submitted On: Dec 16 2013.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5449823	Cost Engineering	n/a	n/a	n/a

Comment Classification: **Sensitive But Unclassified (SBU)**

Cost appendix - Where is your construction schedule? This should be added to the cost appendix and include the duration for each contract.

Submitted By: Anthony schiano (917-790-8347). Submitted On: Dec 09 2013

1-0	Evaluation **Concurred** Construction schedule will be incorporated into the cost appendix Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Dec 18 2013

1-1	Backcheck Recommendation **Close Comment** Closed without comment. Submitted By: Anthony schiano (917-790-8347) Submitted On: Dec 18 2013.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5449824	Cost Engineering	n/a	n/a	n/a

Comment Classification: **Sensitive But Unclassified (SBU)**

Cost appendix - Please explain your basis of cost a little more. Discuss the features and how they were developed. Please refer to L:\20 CIVILWORKS - NAN\cBNO\Seabright Deal Reach, NJ\20 HSLRR\20 - Cost Appendix.

Submitted By: Anthony schiano (917-790-8347). Submitted On: Dec 09 2013

1-0	Evaluation **Concurred** This will be updated in the following submission. Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Dec 13 2013
1-1	Backcheck Recommendation **Close Comment** Closed without comment. Submitted By: Anthony schiano (917-790-8347) Submitted On: Dec 16 2013.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5449825	Cost Engineering	n/a	n/a	n/a

Comment Classification: **Sensitive But Unclassified (SBU)**

Cost appendix - Change your table of contents to include your tables and not the breakout of the project background and description. Please refer to L:\20 CIVILWORKS - NAN\cBNO\Seabright Deal Reach, NJ\20 HSLRR\20 - Cost Appendix

Submitted By: Anthony schiano (917-790-8347). Submitted On: Dec 09 2013

1-0	Evaluation **Concurred** The table of contents will be changed. Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Dec 13 2013
1-1	Backcheck Recommendation **Close Comment** Closed without comment. Submitted By: Anthony schiano (917-790-8347) Submitted On: Dec 16 2013.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5449827	Cost Engineering	n/a	n/a	n/a

Comment Classification: **Sensitive But Unclassified (SBU)**

TPCS - The midpoint of construction quarters should be as follows:
- Land & damages and 30 account should have the same quarter date and this should be the anticipated date of award.
- Construction and 31 account should have the same quarter date and this should be the midpoint of construction from the award date. (For example If award is Jan 2014 and construction duration is 1 year. Then the midpoint of construction would be June 2014. (quarter 3)

Submitted By: Anthony schiano (917-790-8347). Submitted On: Dec 09 2013

1-0	Evaluation **Concurred** This will be ajusted Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Dec 13 2013
1-1	

	Backcheck Recommendation **Close Comment** Closed without comment. Submitted By: Anthony schiano (917-790-8347) Submitted On: Dec 18 2013.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5449828	Cost Engineering	n/a	n/a	n/a

Comment Classification: **Sensitive But Unclassified (SBU)**

TPCS - Where is your SIOH calculator in order to determine the 31 account percentage?

Submitted By: Anthony schiano (917-790-8347). Submitted On: Dec 09 2013

1-0	Evaluation **For Information Only** The forumula for the SIOH calculator is incorporated within the cell of 31 account to automatircally calculate and determine its contract cost. The formula will be layout in the following submission. Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Dec 13 2013
1-1	Backcheck Recommendation **Close Comment** Closed without comment. Submitted By: Anthony schiano (917-790-8347) Submitted On: Dec 16 2013.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5449829	Cost Engineering	n/a	n/a	n/a

Comment Classification: **Sensitive But Unclassified (SBU)**

TPCS - What is the "input & results" tab utilized for?

Submitted By: Anthony schiano (917-790-8347). Submitted On: Dec 09 2013

1-0	Evaluation **Concurred** The "input & results" tab is pull directly from the ARA study. It is utilzied as a contingency reference and to mitigate its rounding errors. Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Dec 13 2013
1-1	Backcheck Recommendation **Close Comment** Closed without comment. Submitted By: Anthony schiano (917-790-8347) Submitted On: Dec 16 2013.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5449830	Cost Engineering	n/a	n/a	n/a

Comment Classification: **Sensitive But Unclassified (SBU)**

TPCS - The contingency from the ARA should be utilized for each construction element and not vary per account. This contingency can be found on Row 28 Column F.

Submitted By: Anthony schiano (917-790-8347). Submitted On: Dec 09 2013

1-0	Evaluation **For Information Only** The contingency from the ARA (found under the ARA folder, Row 28, Column F) is been utilized for each construction element and did not vary per account. Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Dec 13 2013
1-1	Backcheck Recommendation **Close Comment** Closed without comment. Submitted By: Anthony schiano (917-790-8347) Submitted On: Dec 16 2013.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5449831	Cost Engineering	n/a	n/a	n/a

Comment Classification: **Sensitive But Unclassified (SBU)**

TPCS - The contingencies for the 30 account seem high. Revisit your ARA and make sure the risk are reasonable for this account.

Submitted By: Anthony schiano (917-790-8347). Submitted On: Dec 09 2013

1-0	Evaluation **For Information Only** The contingencies for the 30 account matches the contingencies shown in the ARA (located under the ARA folder). Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Dec 13 2013
1-1	Backcheck Recommendation **Close Comment** Closed without comment. Submitted By: Anthony schiano (917-790-8347) Submitted On: Dec 18 2013.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5449832	Cost Engineering	n/a	n/a	n/a

Comment Classification: **Sensitive But Unclassified (SBU)**

TPCS - Where are the Land & Damages costs? They are also responsible for their contingency. They typically use 20%.

Submitted By: Anthony schiano (917-790-8347). Submitted On: Dec 09 2013

1-0	Evaluation **For Information Only** According to the TM, the real estate shall provide this cost after the growth apprasial is completed. Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Dec 13 2013
1-1	Backcheck Recommendation **Close Comment** Closed without comment. Submitted By: Anthony schiano (917-790-8347) Submitted On: Dec 18 2013.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5449833	Cost Engineering	n/a	n/a	n/a

Comment Classification: **Sensitive But Unclassified (SBU)**

TPCS - TPCS file has "input & results" tab and I am not sure why it is there. You have ARA info in the TCPS file. Delete this if it is not applicable.

Submitted By: Anthony schiano (917-790-8347). Submitted On: Dec 09 2013

1-0	Evaluation **Concurred** This has been deleted. Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Dec 13 2013
1-1	Backcheck Recommendation **Close Comment** Closed without comment. Submitted By: Anthony schiano (917-790-8347) Submitted On: Dec 16 2013.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5449834	Cost Engineering	n/a	n/a	n/a

Comment Classification: **Sensitive But Unclassified (SBU)**

TPCS - Your first cost table does not reflect the first cost. Please refer to L:\20 CIVILWORKS - NAN\cBNO\Seabright Deal Reach, NJ\20 HSLRR\20 - Cost Appendix

Submitted By: Anthony schiano (917-790-8347). Submitted On: Dec 09 2013

1-0	Evaluation **Concurred** The first cost table will be adjusted to reflect the first cost. Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Dec 13 2013
1-1	Backcheck Recommendation **Close Comment** Closed without comment. Submitted By: Anthony schiano (917-790-8347) Submitted On: Dec 16 2013.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5449835	Cost Engineering	n/a	n/a	n/a

Comment Classification: **Sensitive But Unclassified (SBU)**

MII - Contractor's Markups – Prime contractor's bond seems high at 2%. 1% is more of a reasonable cost for bond for the magnitude of work associated with this job.

Submitted By: Anthony schiano (917-790-8347). Submitted On: Dec 09 2013

1-0	Evaluation **Concurred** This has been changed. Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Dec 13 2013
1-1	Backcheck Recommendation **Close Comment** Closed without comment. Submitted By: Anthony schiano (917-790-8347) Submitted On: Dec 16 2013.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5449837	Cost Engineering	n/a	n/a	n/a

Comment Classification: **Sensitive But Unclassified (SBU)**

MII - Contract 3A - Mob/demob percentage seems low. I would use about 3-5% for a project under $20mil.

Submitted By: Anthony schiano (917-790-8347). Submitted On: Dec 09 2013

1-0	Evaluation **Concurred** This has been changed. Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Dec 13 2013
1-1	Backcheck Recommendation **Close Comment** Closed without comment. Submitted By: Anthony schiano (917-790-8347) Submitted On: Dec 16 2013.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5449840	Cost Engineering	n/a	n/a	n/a

Comment Classification: **Sensitive But Unclassified (SBU)**

MII - Contract 3B - Mob/demob percentage seems low. I would use about 3-5% for a project under $20mil. Also the placement of the folder is under bank stabilization and I believe it should be under the contract folder if the mob/demob is for the entire project cost.

Submitted By: Anthony schiano (917-790-8347). Submitted On: Dec 09 2013

1-0	Evaluation **Concurred** This has been changed. Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Dec 13 2013
1-1	Backcheck Recommendation **Close Comment** Closed without comment. Submitted By: Anthony schiano (917-790-8347) Submitted On: Dec 16 2013.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5449841	Cost Engineering	n/a	n/a	n/a

Comment Classification: **Sensitive But Unclassified (SBU)**

TPCS - Project Properties – General – Budget year says 2013. Should it be 2014?

Submitted By: Anthony schiano (917-790-8347). Submitted On: Dec 09 2013

1-0	Evaluation **Concurred** Yes, this has been corrected. Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Dec 13 2013
1-1	Backcheck Recommendation **Close Comment** Closed without comment. Submitted By: Anthony schiano (917-790-8347) Submitted On: Dec 16 2013.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5449842	Cost Engineering	n/a	n/a	n/a

Comment Classification: **Sensitive But Unclassified (SBU)**

TPCS - Project Properties – Cost Book – 2010 is being utilized where 2012 is now available.

Submitted By: Anthony schiano (917-790-8347). Submitted On: Dec 09 2013

1-0	Evaluation **For Information Only** This will be updated in the following submission. However the material cost in the estimate are base on the 2013, quarter 3 market level. Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Dec 13 2013
1-1	Backcheck Recommendation **Close Comment** Closed without comment.

	Submitted By: Anthony schiano (917-790-8347) Submitted On: Dec 16 2013.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5449844	Cost Engineering	n/a	n/a	n/a

Comment Classification: **Sensitive But Unclassified (SBU)**

TPCS - Project Properties – Labor – States "Seattle 2010", which should be deleted. You have in your notes that the latest Davis Bacon rates have been utilized.

Submitted By: Anthony schiano (917-790-8347). Submitted On: Dec 09 2013

1-0	Evaluation **Concurred** This will be deleted Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Dec 13 2013
1-1	Backcheck Recommendation **Close Comment** Closed without comment. Submitted By: Anthony schiano (917-790-8347) Submitted On: Dec 16 2013.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5449847	Cost Engineering	n/a	n/a	n/a

Comment Classification: **Sensitive But Unclassified (SBU)**

TPCS - Concrete pricing for 4,000psi states $380 a cy. This seems extremely high. Please adjust accordingly.

Submitted By: Anthony schiano (917-790-8347). Submitted On: Dec 09 2013

1-0	Evaluation **Concurred** The unit cost will be adjusted accordingly. Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Dec 13 2013
1-1	Backcheck Recommendation **Close Comment** Closed without comment. Submitted By: Anthony schiano (917-790-8347) Submitted On: Dec 16 2013.
	Current Comment Status: **Comment Closed**

Report Complete

Minish CEB Internal DQC

Jan 2015

- Clean up the MII electronic files by deleting all unused zero cost folders
  Concurred. The zero cost folders have been deleted.

- Please utilize notes field to write major assumptions, quantity calculations, vendor quote information etc to convey thought process in developing the CWE
  Concurred

- Please use the most current MII equipment database
  Concurred. Equipment library updated to 2014 database.

- Please update the labor rates to current Davis Bacon Wage rates for the locatility
  Concurred. The labor rates has been updated to current Davis Bacon Wage rates for the locatility.

- Please include sales tax if applicable.
  Concurred. 7% NJ sales tax has been incorporated.

- Items such as Real Estate, E&D during construction and Construction management can be removed from MII file. They are typically included in 1st Cost Table, TPCS etc.
  Concurred. They have been removed from the MII file.

- All costs must be updated to FY15 Price Level
  Concurred. All costs have been updated to FY15 Price Level.

- Interest rate for Interest During Construction (IDC) should use FY15 interest rate @3.375%
  Concurred. IDC has been adjusted to FY15 rate at 3.375%

- Annualized cost calculation formula seems to have an error. Please use Microsoft Excel based "PMT" formula to calculate the annualized cost correctly.
  Concurred. This has been adjusted.

- Cost Appendix Table C-2: Please confirm that contingency for Account 01, Real estate is 2.44% compared to 20% in table C-1.
  FYI. This is what was provided by the Real Estate on 11/20/2014

- Please update all Cost Appendix to reflect above changes.
  Concurred. The Cost Appendix has been updated to reflect the above changes.

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Comment Report: Discipline Specific Comments
Project: Minish Park HSLRR **Review**: HSLRR ATR Review (*00002*)
(sorted by Discipline , ID)

Displaying 20 comments for the criteria specified in this report.

Id	Discipline	Section/Figure	Page Number	Line Number
5961089	Cost Engineering	n/a	n/a	n/a

Comment Classification: **For Official Use Only (FOUO)**

OBSERVATION: All required e-files received by cost ATR reviewer for completion of review including: MII cost estimate, Project Schedule, Cost & Schedule Abbreviated Risk Analysis (CSARA), Total Project Cost Summary (TPCS), District Quality Control (DQC), Draft LRR and Environmental Assessment Main Report with all Appendices including Cost Appendix, Contract Plans, and associated Quantity Takeoffs.

Submitted By: Jeremy Stevenson (304-399-6948). Submitted On: Feb 17 2015

1-0	Evaluation **Concurred** Noted. Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Feb 25 2015
1-1	Backcheck Recommendation **Close Comment** Closed without comment. Submitted By: Jeremy Stevenson (304-399-6948) Submitted On: Mar 07 2015.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5961107	Cost Engineering	n/a	n/a	n/a

Comment Classification: **For Official Use Only (FOUO)**

SIGNIFIGANCE: LOW. CONCERN: MII Main project note states 2% Bond used and actual bond applied is 1%. It also states 13.9% for JOOH used and only 10% applied in contractor markups for this indirect prime contractor cost. RESOLUTION: Update main project note to 1% for bond and 10% for 10%.

Submitted By: Jeremy Stevenson (304-399-6948). Submitted On: Feb 17 2015

1-0	Evaluation **Concurred** Recommendation noted. The note field has been updated. Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Feb 25 2015
1-1	Backcheck Recommendation **Close Comment** ATR reviewer backchecked this resolution in main project note which has been updated according to estimator evaluation response. Submitted By: Jeremy Stevenson (304-399-6948) Submitted On: Mar 14 2015.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5961110	Cost Engineering	n/a	n/a	n/a

Comment Classification: **For Official Use Only (FOUO)**

SIGNIFICANCE: LOW. CONCERN: MII – Prime contractor Job Office Overhead (JOOH) of 10% and Home Office Overhead (HOOH) of 3.9% are low for a prudent contractor to perform this work. RESOLUTION. Adjust Prime JOOH to 15% and JOOH to 6% for this cost estimate. If there are compelling drivers for lower JOOH/HOOH like extremely competitive bidding climate then document accordingly.

Submitted By: Jeremy Stevenson (304-399-6948). Submitted On: Feb 17 2015

1-0	Evaluation **For Information Only** Recommendation noted. Typically for all Civil Works projects, the New York District historically carries a 3.9% for HOOH. With the types of projects we had, we feel 10% is sufficient for the JOOH. Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Feb 25 2015
1-1	Backcheck Recommendation **Open Comment** If 10% for JOOH and 3.9% for HOOH is the historical local rates that New YOrk District has experienced from other contractors for similar work this is fine, recommend you document this historical basis for these rates in the notes of the cost estimate accordingly. "Feeling" that a rate should be a certain percentage is not a sound basis for JOOH/HOOH rates. Having a historical basis is a reasonable approach and should be documented accordingly. Note, that generally speaking, the rates used: 10%/3.9% are lower than average rates for both for most parts of the country, for most construction contractors doing this kind of work, and this was the reviewer's concern that the estimate was artificially low for these important construction contractor indirect markups. Submitted By: Jeremy Stevenson (304-399-6948) Submitted On: Apr 10 2015.
2-0	Evaluation **Concurred** The note has been incoporated into the Project Property tab in MII Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Mar 17 2015
2-1	Backcheck Recommendation **Close Comment** Understood, reviewer trusts estimator to add appropriate notes in MII Submitted By: Jeremy Stevenson (304-399-6948) Submitted On: Apr 10 2015.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5961111	Cost Engineering	n/a	n/a	n/a

Comment Classification: **For Official Use Only (FOUO)**

SIGNIFICANCE: MEDIUM. CONCERN: Inaccurate estimate for scope of project. MII & Qty. Takeoffs discrepancy – Contract 3A, Fill Material in quantity takeoffs is 8,570 CY and MII Fill Material item is only 8,523 cy. This item is currently low due to transposition error. RESOLUTION: Update MII cost estimate item to higher quantity.

Submitted By: Jeremy Stevenson (304-399-6948). Submitted On: Feb 17 2015

1-0	Evaluation **Concurred** Recommendation noted. The quantity has been updated

Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Feb 25 2015

1-1 Backcheck Recommendation **Close Comment**
Correction verified in revised MII file

Submitted By: Jeremy Stevenson (304-399-6948) Submitted On: Mar 14 2015.

Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5961112	Cost Engineering	n/a	n/a	n/a

Comment Classification: **For Official Use Only (FOUO)**

SIGNIFICANCE: MEDIUM. CONCERN: MII Contract 3A, Breakwaters & Seawalls, Sitework – Items for Pavement & Grading & Compaction do not crosswalk to Quantity Takeoff. RESOLUTION: Update quantity takeoff OR add qty. takeoff in respective item notes field in MII at the folder level.

Submitted By: Jeremy Stevenson (304-399-6948). Submitted On: Feb 17 2015

1-0 Evaluation **Concurred**
Recommendation noted. The quantities have been updated.

Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Feb 25 2015

1-1 Backcheck Recommendation **Close Comment**
Quantity updates verified for this item in MII

Submitted By: Jeremy Stevenson (304-399-6948) Submitted On: Mar 14 2015.

Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5961113	Cost Engineering	n/a	n/a	n/a

Comment Classification: **For Official Use Only (FOUO)**

SIGNIFICANCE: HIGH. CONCERN: Inaccurate estimate for scope of project. MII & Qty. takeoffs discrepancy for Contracts 3B, 4B, and Streambank Stabilization. For Example, MII estimate for Reno Mattress 6" is 547 sy versus 1167 sy in the quantity takeoff. This and other quantity discrepancies result in estimate inaccuracies. RESOLUTION: verify and check all quantities in MII file for accuracy to qty. takeoffs. If qty. has been adjusted for swell or material loss, etc. in MII from Quantity Takeoffs explain in notes field for respective item.

Submitted By: Jeremy Stevenson (304-399-6948). Submitted On: Feb 17 2015

1-0 Evaluation **Concurred**
Recommendation noted. The quantity has been updated.

Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Feb 25 2015

1-1 Backcheck Recommendation **Close Comment**
Quantity correction verified

Submitted By: Jeremy Stevenson (304-399-6948) Submitted On: Mar 14 2015.

	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5961114	Cost Engineering	n/a	n/a	n/a

Comment Classification: **For Official Use Only (FOUO)**

SIGNIFICANCE: HIGH. CONCERN: Cost estimate is artificially low with no productivity factor considered or applied as is. Productivity factor of 100% is unrealistic for performing this work which is located in essentially downtown Newark, NJ along the Passaic River. All construction projects have their specific productivity inefficiencies. RESOLUTION: Apply appropriate construction productivity factors to this project for site/project specific inefficiencies which could include downtown/urban congestion making transport and delivery of project materials like fill, sheet pile, excavation, etc. inefficient as an example. Other factors might include general labor inefficiencies, usually 5-10% or more depending on the project and skill level of the local labor pool. Most projects only achieve 80-85% productivity from that planned due to these real factors which lower productivity and drive cost and schedule higher.

Submitted By: Jeremy Stevenson (304-399-6948). Submitted On: Feb 17 2015

1-0	Evaluation **For Information Only** Recommendation noted. The productivity assumption is in line with previous Minish Contracts that have already been constructed as part of the overall project. Additionally, during verbal discussion with the construction division, critical issues that would impact our assumptions were not brought up. PDT conducted a site visit in September 2013 and no staging area issues, site access or any other external factor issues were noted that would impact the productivity. A 1% material delivery delay and a 5% labor inefficiency has been applied in the MII estimate Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Feb 25 2015
1-1	Backcheck Recommendation **Close Comment** Reviewer verified adjustment of gross productivity rates for crews to net prodocutivities in the MII estimate which has been updated for 5% inefficiencies of general labor productivity globally throughout estimate and 1% material delivery inefficiencies. Submitted By: Jeremy Stevenson (304-399-6948) Submitted On: Mar 20 2015.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5961115	Cost Engineering	n/a	n/a	n/a

Comment Classification: **For Official Use Only (FOUO)**

SIGNIFICANCE: HIGH. CONCERN: MII cost estimate too low based upon prime indirect cost markups not applied to construction items of work. Contract 3B, 4B, S.B. Restoration contains a folder Fish & Wildlife Facilities which is currently populated with items priced per Planning input and Contractor field is "Unassigned" for this work. RESOLUTION: If these costs include prime markups this needs documented in the noted. If they do not, Prime contractor Markups need assigned and included to ensure accurate cost estimates for these items. Also, it is unclear exactly what scope of work the item called Grading, Planting, Outfalls, to include clearing & Disposal of Debris includes. Please clarify in the note. This item is nearly $600k and is potentially low and unclear on scope specifics.

Submitted By: Jeremy Stevenson (304-399-6948). Submitted On: Feb 17 2015

1-0	Evaluation **For Information Only** At this time, since the PDT has not identified a specific location(s) for mitigation, Planning Division recommended using the original wetland mitigation costs for approximately the 1.7 acres in the 2007 Cost Estimate provided by Cruz Contractors LLC for Contract W912DS-08-0006: Joseph Minish Park Contract

	4A. The cost has been escalated to FY15. Contractor assignment is not required in MII since the cost provided by Cruz Contractors LLC is the cost to the Owner. Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Feb 25 2015
1-1	Backcheck Recommendation **Open Comment** Understood, although estimator did not document this information in MII note for this item accordingly per ATR reviewer's resolution recommendation. Please update note for this item in MII and reviewer will back check and close out this comment according to your response. Documentation is important of the basis of your estimate and what is and is not included in a cost along with the basis for it from historical costs in this particular case. Submitted By: Jeremy Stevenson (304-399-6948) Submitted On: Mar 20 2015.
2-0	Evaluation **Concurred** Noted. The note has been incoporated under the "Fish & Wildlife Facilities" folder in MII. Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Mar 17 2015
2-1	Backcheck Recommendation **Close Comment** Understood, Reviewer trusts estimator to add note according to response. Submitted By: Jeremy Stevenson (304-399-6948) Submitted On: Apr 10 2015.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5961116	Cost Engineering	n/a	n/a	n/a

Comment Classification: **For Official Use Only (FOUO)**

SIGNIFICANCE: HIGH. CONCERN: MII Subcontractor assignments for specific kinds of construction items seems unrealistic. There are several items that generally are performed by subcontracting specialty contractors that are assigned to the prime contractor in this cost estimate such as paving, light poles, historic building salvage, and landscaping. With these exceptions, the remainder of the items appear to have reasonable Prime/Subcontractor markups assigned for indirects and prime/sub tiering. RESOLUTION: Reassign subcontractor markups to these construction items and consider any others that it's likely a general construction contractor may not have the expertise, equipment, or skill to perform and assign as subcontractor work.

Submitted By: Jeremy Stevenson (304-399-6948). Submitted On: Feb 17 2015

1-0	Evaluation **Concurred** Recommendtion noted. The contractor markups have been reassigned. Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Feb 25 2015
1-1	Backcheck Recommendation **Close Comment** Appropriate sub markups assignments have been made in the revised MII file and verified. Submitted By: Jeremy Stevenson (304-399-6948) Submitted On: Mar 14 2015.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5961117	Cost Engineering	n/a	n/a	n/a

Comment Classification: **For Official Use Only (FOUO)**

SIGNIFICANCE: LOW. CONCERN: MII main project note describes using equipment data base and pricing from 2011 and escalation application but 2014 equipment manual costs used per project properties for equipment. RESOLUTION: Update main project note to accurately capture equipment DB utilized.

Submitted By: Jeremy Stevenson (304-399-6948). Submitted On: Feb 17 2015

1-0	Evaluation **Concurred** Good catch! Project note updated. Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Feb 25 2015
1-1	Backcheck Recommendation **Close Comment** Updated note verified re current equipment DB Submitted By: Jeremy Stevenson (304-399-6948) Submitted On: Mar 14 2015.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5961119	Cost Engineering	n/a	n/a	n/a

Comment Classification: **For Official Use Only (FOUO)**

OBSERVATION: ARA population of construction values estimated for both contracts in MII crosswalk into the abbreviated risk analysis accurately.

Submitted By: Jeremy Stevenson (304-399-6948). Submitted On: Feb 17 2015

1-0	Evaluation **Concurred** Noted. Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Feb 25 2015
1-1	Backcheck Recommendation **Close Comment** Closed without comment. Submitted By: Jeremy Stevenson (304-399-6948) Submitted On: Mar 07 2015.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5961244	Cost Engineering	n/a	n/a	n/a

Comment Classification: **For Official Use Only (FOUO)**

SIGNIFICANCE: MEDIUM. CONCERN - ARA Input & Results WS input for 01 LANDS AND DAMAGES - Real Estate cost does not match cost data provided in Real Estate Report & Appendix D for both contracts. RESOLUTION: Verify crosswalk of 01 Feature Account costs from Real Estate Report to both contract ARA files and update for accuracy as needed.

Submitted By: Jeremy Stevenson (304-399-6948). Submitted On: Feb 17 2015

1-0	

	Evaluation **For Information Only** Coordination with the Real Estate Division was made and the costs for the 01 account for both contracts does match with the cost show on the two(2) ARA input & Resuls WS. Also please refer to comment 5961245. Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Feb 26 2015
1-1	Backcheck Recommendation **Close Comment** ATR Reviewer can now crosswalk RE costs thru estimate, part of the confusion is that RE costs are broken down by subtotal of RE estimates for combination of contracts 3B, 4A, & SB Restoration, Wetland and they're listed separately in the RE appendix and not subtotaled according to packaging in the TPCS. In the future, estimator should consider itemizing the rollup of these somewhere in the build-up of the estimate for this feature account. Comment closed, RE costs accounted for accurately. Submitted By: Jeremy Stevenson (304-399-6948) Submitted On: Mar 20 2015.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5961245	Cost Engineering	n/a	n/a	n/a

Comment Classification: **For Official Use Only (FOUO)**

SIGNIFICANCE: HIGH. CONCERN: - ARA % contingency for 01 account on Contract B file of 2.44% seems unreasonably low. RESOLUTION: Re-work contingency value for 01 Feature Account costs for this contract or provide compelling documentation as to why this contingency should be this low.

Submitted By: Jeremy Stevenson (304-399-6948). Submitted On: Feb 17 2015

1-0	Evaluation **For Information Only** Recommendation noted. The cost and contingency for the 01 account are provided by the Real Estate. According to the Real Estate Report, the total Incidental Cost on Contract B is $424,128. The total Acquisition Cost is $3,050,000. 20% contingency were applied under the incidental cost resulted in a total of $84,826. Summing the total real estate cost (incidental + acquisition), with consideration of the 20% contingency on incidental, gives us a total of 2.44% contingency in the 01 account. Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Feb 25 2015
1-1	Backcheck Recommendation **Close Comment** Understood Submitted By: Jeremy Stevenson (304-399-6948) Submitted On: Apr 10 2015.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5961246	Cost Engineering	n/a	n/a	n/a

Comment Classification: **For Official Use Only (FOUO)**

OBSERVATION: ARA construction, E&D, and S&A contingency values appear reasonable based upon design level of project, risk register items identified and categorized for liklihood & impacts.

Submitted By: Jeremy Stevenson (304-399-6948). Submitted On: Feb 17 2015

1-0	

	Evaluation **Concurred** Noted. Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Feb 25 2015
1-1	Backcheck Recommendation **Close Comment** Closed without comment. Submitted By: Jeremy Stevenson (304-399-6948) Submitted On: Mar 07 2015.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5961247	Cost Engineering	n/a	n/a	n/a

Comment Classification: **For Official Use Only (FOUO)**

OBSERVATION: TPCS is populated and utilized correctly but will need to be updated based on MII & ARA adjustments per cost ATR comments for revised construction & contingency costs.

Submitted By: Jeremy Stevenson (304-399-6948). Submitted On: Feb 17 2015

1-0	Evaluation **Concurred** Noted. Submitted By: Cynthia Zhang (917-790-8006) Submitted On: Feb 25 2015
1-1	Backcheck Recommendation **Close Comment** Closed without comment. Submitted By: Jeremy Stevenson (304-399-6948) Submitted On: Mar 07 2015.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
6070162	Cost Engineering	n/a	n/a	n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Cost Engineering Appendix)

CONCERN: Figure C2 - First Cost Table on page C-6 includes $28M Sunk Costs (40% of base costs), but the TPCS presentation on page C-7 does not include those spent costs. Lack of the spent costs included in the benefit cost study would flaw the results. RESOLUTION: Include the spent costs in the TPCS per correct WBS feature.

Submitted By: Jim Neubauer (509-527-7332). Submitted On: May 04 2015

1-0	Evaluation **Concurred** Spent cost has been incoporated Submitted By: Cynthia Zhang (917-790-8006) Submitted On: May 28 2015
	Backcheck not conducted
	Current Comment Status: **Comment Open**

Id	Discipline	Section/Figure	Page Number	Line Number
6070167	Cost Engineering	n/a	n/a	n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Cost Engineering Appendix)

CONCERN: Total Project Cost must include ALL construction phases, regardless of design state or phase. ENSURE THAT THE TPCS PRESENTS FULL PROJECT COSTS FOR MINISH.

Submitted By: Jim Neubauer (509-527-7332). Submitted On: May 04 2015

1-0	Evaluation **Concurred** TPCS has been updated to include the full project cost. Submitted By: Cynthia Zhang (917-790-8006) Submitted On: May 28 2015
	Backcheck not conducted
	Current Comment Status: **Comment Open**

Id	Discipline	Section/Figure	Page Number	Line Number
6070173	Cost Engineering	n/a	n/a	n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Cost Engineering Appendix)

CONCERN: TPCS is showing negative escalation in the third column set. RESOLUTION: Recommend the Cost MCX be provided the working TPCS for correction, including current rescalation factors.

Submitted By: Jim Neubauer (509-527-7332). Submitted On: May 04 2015

1-0	Evaluation **Concurred** Good catch. The correction will be made in the following submission Submitted By: Cynthia Zhang (917-790-8006) Submitted On: May 14 2015
	Backcheck not conducted
	Current Comment Status: **Comment Open**

Id	Discipline	Section/Figure	Page Number	Line Number
6070193	Cost Engineering	n/a	n/a	n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Cost Engineering Appendix)

CONCERN: An abbreviated risk analysis was performed for this project. The total project cost is above $40M, suggesting need for a Crystal Ball cost and schedule risk analysis. BASIS: HQ has made clear the expectation of Crystal Ball on projects >$40M. Without the Crystal Ball risk analysis, the Cost MCX will not certify the costs, the understanding being that HQ would want the Crystal Ball. RESOLUTION: Perform a Crystal Ball CSRA or accept lack of a Cost MCX certification as the project moves forward to the MSC.

Submitted By: Jim Neubauer (509-527-7332). Submitted On: May 04 2015

1-0	Evaluation **For Information Only** The current regulation (ER1110-2-1302) states that "HQUSACE requires formal risk analysis to determine contingencies amounts for decision documents requiring congressional authorization for project exceeding $40M (TPC)". However this is a Sandy project and it has been authorized by the congress and funds have been allocated thru PL113-2. We will be in construction phase shorty. For all Sandy projects that are authorized but un-constructed, NAN is not performing CSRA. however we are performing ARA to develop contingencies thru risk analysis. NAD has concurred with this approach via email. We understand you will not be providing cost certification. Submitted By: Cynthia Zhang (917-790-8006) Submitted On: May 14 2015
1-1	Backcheck Recommendation **Close Comment** Current requirements, regardless of the outdated regulation would require a Crystal Ball risk analysis on projects >$40M. As in previous Hurricane Sandy recovery projects from NAN, a formal Cost Cert will not be issued at this time. We leave the issue between your District and Vertical Team. Submitted By: Jim Neubauer (509-527-7332) Submitted On: May 14 2015.
	Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
6070208	Cost Engineering	n/a	n/a	n/a

Comment Classification: **Unclassified\\For Official Use Only (U\\FOUO)**
(Document Reference: Cost Engineering Appendix)

CONCERN: The Cost Appendix includes parts of the abbreviated risk analysis. But the appendix does not include a risk register, so it is unclear just what those risks are. It is also unclear just what PDT members were involved in the risk discussions. SIGNIFICANCE: MODERATE TO HIGH. RESOLUTION: Provide the working risk documents for review of the risk register. Include the risk register in the cost appendix.

Submitted By: Jim Neubauer (509-527-7332). Submitted On: May 04 2015

1-0	Evaluation **Concurred** The risk register will be included in the cost appendix. Submitted By: Cynthia Zhang (917-790-8006) Submitted On: May 14 2015
	Backcheck not conducted
	Current Comment Status: **Comment Open**

Report Complete