Appendix K

Conceptual Cost Estimate

DPW New Fuel System / Existing Fuel System Removal

9/15/2016

Design & Bidding		
A&E Design	$	110,000
OPM	$	11,000
Owner Contingency	$	10,000
TOTAL	**$**	**131,000**

Construction		
Construction	$	1,250,000
A&E CA	$	47,000
OPM	$	20,000
TOTAL	$	1,317,000
SAY	**$**	**1,320,000**

Seasonal Storage Building (RTS)

Design & Bidding		
A&E Design	$	330,000
Review & Confirmation	$	30,000
Traffic Study	$	20,000
OPM	$	35,000
TOTAL	**$**	**415,000**

Construction		
Construction	$	4,200,000
A&E CA	$	110,000
Soft Costs	$	473,464
OPM	$	75,000
TOTAL	$	4,858,464
SAY	**$**	**4,860,000**

Material Storage & Processing Area (RTS)

Design & Bidding		
A&E Design	$	120,000
OPM	$	15,000
TOTAL	**$**	**135,000**

Construction		
Construction	$	1,250,000
A&E CA	$	30,000
Soft Costs	$	126,280
OPM	$	40,000
TOTAL	$	1,446,280
SAY	**$**	**1,450,000**

New Public Works Facility (Dedham Ave Site)

Design & Bidding		
A&E Design	$	2,670,000
Traffic Study	$	20,000
OPM	$	267,000
TOTAL	$	2,957,000
SAY	**$**	**2,950,000**

Construction		
Construction	$	29,800,000
A&E CA	$	900,000
Soft Costs	$	2,368,181
Owner Contingency	$	1,490,000
OPM	$	450,000
TOTAL	$	35,008,181
SAY	**$**	**35,000,000**

Needham MA - DPW New Fuel System / Existing Fuel System and UST Removal
September 2016
Preliminary Cost Estimate

Rev.: 9/6/2016

Item		Quantity		Unit Cost			Item Total
Site Work							
1	Site Development	1	ls	$ 283,049	/	ea	$ 283,049
2	UST/Piping Removal	1	ls	$ 47,659	/	ea	$ 47,659
3	Site Restoration	1	ls	$ 20,000	/	ea	$ 20,000
4	Dewatering Allowance	1	ls	$ 10,000	/	ea	$ 10,000
5	Demo Salt Shed	1	ls	$ 40,000	/	ea	$ 40,000
Fuel System Estimate							
1	Fuel System Equipment	1	ls	$ 247,000.00	/	ls	$ 247,000
2	Freight Misc. Accessories	1	ls	$ 2,900.00	/	ea	$ 2,900
3	Misc. Fuel Fittings	1	ls	$ 4,500.00	/	ls	$ 4,500
4	SS Island Form	1	ls	$ 15,000.00	/	ls	$ 15,000
5	Fueling Pad	1	ls	$ 79,000.00	/	ea	$ 79,000
6	Island Form/ Tank Pad	1	ls	$ 62,000.00	/	ea	$ 62,000
7	Fuel system bollards	21	ea	$ 500.00	/	ea	$ 10,500
8	U bollards	2	ea	$ 1,000.00	/	ea	$ 2,000
9	Tank/System Testing	1	ls	$ 3,500.00	/	ea	$ 3,500
10	Tank setting and crane	1	ls	$ 10,500.00	/	ea	$ 10,500
11	Canopy Delivery and Install	1	ls	$ 67,500.00	/	ea	deleted
12	Canopy Foundations	1	ls	$ 26,000.00	/	ea	deleted
13	Fire Suppression	1	ls	$ 32,000.00	/	ea	deleted
14	Permits	1	ls	$ 1,500.00	/	ea	$ 1,500
15	Start up and close out	1	ls	$ 2,400.00	/	ea	$ 2,400
ELECTRICAL							
1	Misc. Electrical wiring, lights,TV Equipment, ETC.	1	ls	$ 50,000.00	/	ls	$ 50,000
	Subtotal						$ 891,508
	General Conditions (8%):						$ 71,321
	Overhead & Profit (3.5%):						$ 33,699
	Insurance & Bonds (1.5%):						$ 14,948
	Design and Pricing Contingency (8%)						$ 80,918
	Subtotal Construction Costs						**$ 1,092,394**
	Owners Contingency Allowance						$ 10,000
	Construction Contingency (8%)						$ 87,392
	Construction Escalation (5% - Summer 2017)						$ 59,489
	TOTAL CONSTRUCTION COST:						**$ 1,249,275**
	ENGINEERING & OPM FEES						
	Task 1: Fuel System Design						$ 81,500
	Task 2: Fuel System Site Improvements Design						$ 12,500
	Task 3: Wetland Flagging and RDA (No NOI)						$ 6,500
	Task 4: Fuel System Site Plan Approval						$ 5,000
	Task 5: Fuel System Bidding Phase Services						$ 4,500
	OPM Design / Bidding Phase Fees						$ 11,000
	Owner Contingency						$ 10,000
	SUBTOTAL DESIGN & BIDDING:						**$ 131,000**
	Task 6: Fuel System Construction Phase services						$ 38,500
	Task 7: Site Improvements Construction Phase Services						$ 8,500
	OPM Construction Phase Fees						$ 20,000
	SUBTOTAL CONSTRUCTION PHASE SERVICES:						**$ 67,000**
	ENGINEERING & OPM TOTAL						**$ 198,000**

GRAND TOTAL **$ 1,447,275**

Notes:

- Unit costs are based on competitively bid projects, indep. cost estimates, and on estimates received from vendors
- Costs are preliminary only for initial planning purposes
- Allowances are used for certain line items for initial budgeting purposes.
- Assumes soil contamination is not present
- Assumes that sufficient power for the fuel island is available overhead from nearby DPW facility

Town of Needham
Seasonal Storage Building & New Material Storage & Processing Area @ RTS
Budget Total Project Cost

9/15/2016

SEASONAL STORAGE BUILDING			
New Construction - Seasonal Storage Building		**2016 Cost/SF**	
Area	**Size (SF)**	**(w/ markups)**	**Cost**
New Construction - Off-Site Seasonal			
Seasonal Storage Garage (Temp Apparatus Storage)	7,000	$ 214	$ 1,498,000
Canopy	7,050	$ 82	$ 578,100
Specialty Foundations / Ground Improvements	14,050	$ 22	$ 309,100
Renovation Subtotal:	**14,050**		**$ 2,385,200**
Building Cost per SF:	170		
		Place a "x" here if included	
Industrial Equipment - Storage Shelving / Benches / Racks	$ 45,000	x	$ 45,000
Industrial Equipment Subtotal:			**$ 45,000**
Building & Equipment Total:			**$ 2,430,200**
Site Development - Seasonal Storage Building Site (See Detailed Backup)	1	$ 990,000	$ 990,000
		Subtotal Bldg, Equip, & Site:	$ 3,420,200
		Market Adjustment (2%):	$ 68,404
		Design Contingency (10%):	$ 348,860
		Escalation - 2017 (5% per year):	$ 191,873
		Escalation - 2018 (5% per year):	$ 201,467
		Total Construction (2018):	**$ 4,230,805**

Owner's Soft Costs			
A&E Fees (design, bid, const.)	$ 440,000		
		$ 310,000	Design
		$ 20,000	Bidding
		$ 110,000	Const. Admin
A&E Review & Confirmation of Fleet for Temp Ops	$ 30,000	allowance	
OPM Design Fees - Seasonal	$ 35,000	allowance	
OPM CA Fees	$ 75,000	allowance	
Traffic Study	$ 20,000	allowance	
Furnishings (FFE)	$ 30,000	allowance	
Communic. / Low Voltage System	$ 50,000	allowance	
Printing Cost - Advertisement	$ 5,000	allowance	
Legal Costs	$ 20,000	allowance	
Chapter 17 Test & Inspections	$ 20,000	allowance	
Moving Costs	$ 10,000	allowance	
Construction Contingency (8%)	$ 338,464	allowance	
		Total Soft Costs: (current dollars)	**$ 1,073,464**
TOTAL PROJECT COST SEASONAL STORAGE BUILDING			**$ 5,304,269**

Town of Needham
Seasonal Storage Building & New Material Storage & Processing Area @ RTS
Budget Total Project Cost

9/15/2016

MATERIAL STORAGE & PROCESSING AREA				
New Construction - Material Storage & Processing Area				
Site Development - Storage & Processing Area (See Detailed Backup)	1	$ 1,016,000	**$**	**1,016,000**
		Market Adjustment (2%):	$	20,320
		Design Contingency (10%):	$	103,632
		Escalation - 2017 (5% per year):	$	56,998
		Escalation - 2018 (5% per year):	$	59,847
		Total Construction (2018):	**$**	**1,256,797**

Owner's Soft Costs - Material Storage & Processing Area				
A&E Fees (design, bid, const.) - Material Storage & Processing	$ 150,000			
		$ 115,000	Design	
		$ 5,000	Bidding	
		$ 30,000	Const. Admin	
OPM Design Fees	$ 15,000	allowance		
OPM CA Fees	$ 40,000	allowance		
Printing Cost - Advertisement	$ 5,000	allowance		
Legal Costs	$ 20,000	allowance		
Chapter 17 Test & Inspections	$ 20,000	allowance		
Construction Contingency (8%)	$ 81,280	allowance		
		Total Soft Costs: (current dollars)	**$**	**331,280**
TOTAL PROJECT COST MATEIAL STORAGE & PROCESSING AREA			**$**	**1,588,077**

TOTAL SEASONAL STORAGE & PROCESSING AREA	**$**	**6,892,346**

Town of Needham, Massachusetts
New Public Works Facility
Material Storage & Processing Area - Cost Estimate

9/15/16

Description	Unit	2016 Cost	Quantity	Total
DIVISION 2 - SITE WORK				
GENERAL SITE WORK				
Clear and Grub Site	ACRE	$12,106.80	0.8	$9,685.44
Field Engineering (1 day per 2 months of Construction)	Day	$1,944.00	3	$5,832.00
Site Contractor Supervision	Mo	$8,100.00	4	$32,400.00
Mobilization	LS	$7,020.00	1	$7,020.00
Construction Entrance	LS	$5,400.00	1	$5,400.00
Curb Removed and Stacked	LF	$5.94	40	$237.60
Strip & Stockpile Topsoil - 6"	CY	$6.54	620	$4,052.61
Screen Topsoil	CY	$4.59	620	$2,847.58
Truck Topsoil on Site for Use By Town	CY	$5.00	620	$3,100.00
Ledge Removal	CY	$120.00	3,000	$360,000.00
Import Fill	CY	$32.40	3,300	$106,920.00
Place Fill	CY	$11.00	3,960	$43,560.00
Tree Removal	AL	$25,000.00	1	$25,000.00
Stump Removal	AL	$15,120.00	1	$15,120.00
Finish Grading	SY	$1.19	3,100	$3,682.80
Concrete Block Material Storage Bins	SF	$30.24	2,800	$84,672.00
Loam	CY	$45.14	100	$4,514.40
Seed	SF	$0.16	5,000	$810.00
HMA Berm	LF	$16.20	550	$8,910.00
Gravel Pavement Subbase (8")	CY	$27.00	700	$18,900.00
Bituminous Concrete (Hot Mix Asphalt)	SY	$28.62	3,100	$88,722.00
Drainage System - Manhole	EA	$4,536.00	2	$9,072.00
Drainage System - Catchbasin	EA	$4,320.00	4	$17,280.00
OCS	EA	$7,020.00	2	$14,040.00
SWTU	EA	$8,100.00	2	$16,200.00
Precast Flared End and Riprap Level Spreader	EA	$3,024.00	2	$6,048.00
Drainage System - 12" HDPE	LF	$47.52	380	$18,057.60
Drainage System - 18" HDPE	LF	$83.16	100	$8,316.00
Drainage System - Detention Basin	LS	$11,880.00	2	$23,760.00
Retaining Walls	SF	$26.00	1,100	$28,600.00
Sedimentation Control	LF	$16.20	700	$11,340.00
Chain Link Fence	LF	$37.80	50	$1,890.00
Chain Link Fence Gate	LS	$9,180.00	1	$9,180.00
Pavement Markings	LS	$3,240.00	1	$3,240.00
Traffic Signage	EA	$194.40	2	$388.80
Site Lighting	EA	$4,320.00	3	$12,960.00
Light Pole Bases	EA	$432.00	3	$1,296.00
E&B Site Lighting Conduit	LF	$10.80	250	$2,700.00
				$1,015,755

Town of Needham
New Public Works Facility
Budget Total Project Cost

9/14/2016

New Construction Area	Size (SF)	2016 Cost/SF (w/ markups)		Cost
Employee Facilities	5,400	$ 305	$	1,646,432
Shops	5,400	$ 214	$	1,156,952
Vehicle Maintenance (not including equipment)	10,300	$ 214	$	2,206,779
Wash	1,500	$ 405	$	607,730
Vehicle/Equipment Storage	44,500	$ 169	$	7,517,305
Open Canopy Storage	3,000	$ 82	$	245,700
Added Cost for Specialty Foundations (based on 1st floor area)	64,700	$ 22	$	1,413,048
		Place a "x" if applicable		
Added Cost for Elevator / Egress Stair (based on one flight):	$ 189,000	x	$	189,000
New Construction Subtotal:	**70,100**		**$**	**14,982,946**
Building Cost per SF:	214			
		Place a "x" here if included		
Industrial Equipment				
- Wash Equipment	$ 60,060	x	$	60,060
- Heavy Duty Vehicle Lift (Fixed)	$ 120,120	x	$	120,120
- Heavy Duty Vehicle Lift (Portable)	$ 87,360	x	$	87,360
- Light Duty Vehicle Lift (16,000 lb capacity minimum)	$ 27,300	x	$	27,300
- Bridge Crane	$ 109,200	x	$	109,200
- Overhead Lubrication System	$ 131,040	x	$	131,040
- Miscellaneous Shop and Support Equipment	$ 54,600	x	$	54,600
- Storage Shelving / Benches / Racks	$ 43,680	x	$	43,680
- Exhaust Removal System	$ 32,760	x	$	32,760
Industrial Equipment Subtotal:			**$**	**666,120**
Building & Equipment Total:			**$**	**15,649,066**
Mezzanines	6,399	$ 55	$	349,385
Site Development (acres) - assumes level site with no contamination, existing structures/utilities, etc.	1	$ 2,800,000	$	2,800,000
Specialty Site Work Allowance (associated with stream relocation)	1	250,000	$	250,000
		Subtotal Bldg, Equip, & Site:	$	19,048,451
		Market Adjustment (2%):	$	380,969
		Design Contingency (10%):	$	1,942,942
		Escalation - 1 Year (4% per year):	$	854,894
		Total Construction (2017):	**$**	**22,227,257**
		Escalation 2018 (5%):	$	1,111,363
		Escalation 2019 (5%):	$	1,166,931
		Escalation 2020 (5%):	$	1,225,278
		Escalation 2021 (5%):	$	1,286,541
		Escalation 2022 (5%):	$	1,350,868
		Escalation 2023 (portion @ 5%):	$	709,206
		Escalation 2024 (portion @ 5%):	$	726,936
		Escalated Construction	**$**	**29,804,380**
			$	**425**
Total Construction Cost/SF (including canopy SF):				317
Total Construction Cost/SF (NOT including canopy SF):				331

Town of Needham
New Public Works Facility
Budget Total Project Cost

9/14/2016

Owner's Soft Costs & Owner Contingencies			
Design & Bidding Fees			
- A&E Design	$ 2,670,000		
- Traffic Study	$ 20,000		
- OPM	$ 267,000		
Construction Fees			
- A&E CA	$ 900,000		
- OPM	$ 450,000		
Owner's Contingency	$ 1,490,000		
Furnishings (FFE)	$ 100,000	allowance	
Communic. / Low Voltage System	$ 75,000	allowance	
Temporary Facilities	$ 250,000	allowance	
Printing Cost - Advertisement	$ 10,000	allowance	
Legal Costs	$ 20,000	allowance	
Commissioning	$ 25,000	allowance	
Abatement	$ 50,000	allowance	
Chapter 17 Test & Inspections	$ 40,000	allowance	
Moving Costs	$ 20,000	allowance	
Construction Contingency (8%)	$ 1,778,181	allowance	
		Total Soft Costs: (current dollars)	**$ 8,165,181**
		TOTAL PROJECT COST (Average Bid Price)	**$ 37,969,560**

Note: Refer to separate estimates for Seasonal Storage Building and Fuel System costs