

Capital Project Appropriation Request

6/20/2024

FY 23/24			Oracle Date	
			Commitments	
Project:	001356	TRANSFER STATION – CANAL WALL REPLACEMENT	Obligations	
Agency:	0214	Operations: Solid Waste	YTD Balance	
			Amount Available	
			Unfunded	

Total Request: \$12,685,000.00

Part A - Description of Request

This project is for the long term repair of the existing bulkhead wall based on the 2019 condition assessment which determined the bulkhead was in poor condition. The long term repair includes for a new steel sheet pile bulkhead in front of the existing bulkhead.

The City Grants Department intends to submit a grant application to the Department of Economic Development (EDA) for this project.

If the application is successful, EDA will fund 80% of the eligible project costs. EDA indicated that the city share needs to be authorized prior to submitting the grant application. The city cost share is 20%.

Based on the inspection report and the Steel Sheet Pile Bulkhead - Alternatives Evaluation dated January 16, 2024 as prepared by Tighe & Bond, concept engineering alternatives and budget-level cost estimate has been completed to support a grant application.

The amount requested is for design, permitting, and construction.

Part B - Appropriation Request Detail

Fund Source	FY 23/24	Capital Forecast						Total
	Amount	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	
Federal Grant	10,148,000.00	0	0	0	0	0	0	10,148,000.00
Bond (City)	2,537,000.00	0	0	0	0	0	0	2,537,000.00
Total	\$12,685,000.00	\$0	\$0	\$0	\$0	\$0	\$0	\$12,685,000.00

Part C - Project History

Part D - Approvals

Preparer <i>OPM Dept</i>	Date 06/20/24	OPM Director/OPM Asst Director	Date
Department Head	Date	Director of Administration	Date
Director	Date	Mayor	Date

Table A-2
Budget-Level Cost Estimate for Alternative No. 2 - Long-Term Alternative
Steel Sheet Pile Bulkhead - Stamford WPCA
City of Stamford

Item	Description	Unit of Payment	Estimated Quantity	Unit Price	Extended Total	Comments
1	General Requirements					
1A	Basic General Requirements					
	Performance and Payment Bonds	LS	1	\$149,613.43	\$149,613.43	Estimated @ 2.0% of Construction
	Survey Control/Survey Verification	CREW HR	80	\$280.00	\$22,400.00	Estimator's Judgement
	Temporary Work Platform Submittals	LS	1	\$20,000.00	\$20,000.00	Estimator's Judgement, PE Stamp Required
	Sheet Pile Submittals	LS	1	\$13,000.00	\$13,000.00	Estimator's Judgement
	Drilled and Grouted Tieback Submittals	LS	1	\$6,500.00	\$6,500.00	Estimator's Judgement
	Reinforcing Steel Submittals	LS	1	\$3,250.00	\$3,250.00	Estimator's Judgement
	Concrete Submittals	LS	1	\$3,250.00	\$3,250.00	Estimator's Judgement
	Water Control Plan	LS	1	\$5,000.00	\$5,000.00	Estimator's Judgement, PE Stamp Required
	Misc. Metals Submittals	LS	1	\$6,500.00	\$6,500.00	Estimator's Judgement
	Safety Activity Plan	LS	1	\$6,500.00	\$6,500.00	Estimator's Judgement
	Quality Control Plan	LS	1	\$5,000.00	\$5,000.00	Estimator's Judgement
	Schedules	LS	1	\$26,000.00	\$26,000.00	Estimator's Judgement
	Temporary Security Fencing	LF	800	\$13.00	\$10,400.00	Estimator's Judgement
	Meetings	EA	19	\$650.00	\$12,350.00	Say 1 Initial and 18 Progress Meetings (Bi-Weekly)
	Closeout Related Submittals	LS	1	\$32,500.00	\$32,500.00	Estimator's Judgement
					\$322,263.43	
	Calculate Bid Unit Cost	LS	1		\$322,263.43	
1B	As-Built Drawings					
	As-Built Drawings	LS	1	\$30,000.00	\$30,000.00	Estimator's Judgement, Allowance Item
	Calculate Bid Unit Cost	LS	1		\$30,000.00	
2	Mobilization					
	Mob. and Set up Trailer	LS	1	\$2,000.00	\$2,000.00	Estimator's Judgement
	Block and Strap Down	LS	1	\$2,000.00	\$2,000.00	Estimator's Judgement
	Monthly Rental of Trailer	MONTH	18	\$650.00	\$11,700.00	Estimator's Judgement
	Trailer Steps	MONTH	18	\$65.00	\$1,170.00	Estimator's Judgement
	Unblocking Trailer	LS	1	\$2,000.00	\$2,000.00	Estimator's Judgement
	Demob. Trailer	LS	1	\$2,000.00	\$2,000.00	Estimator's Judgement
	Project Sign	EA	1	\$2,000.00	\$2,000.00	Estimator's Judgement
	Electrical Hookup to Trailer	LS	1	\$2,000.00	\$2,000.00	Estimator's Judgement
	Phone/Internet Service	MONTH	18	\$400.00	\$7,200.00	Estimator's Judgement
	Bottled Water Service	MONTH	18	\$40.00	\$720.00	Estimator's Judgement
	Fax Machine	MONTH	18	\$260.00	\$4,680.00	Estimator's Judgement
	Copier	MONTH	18	\$450.00	\$8,100.00	Estimator's Judgement
	Camera	MONTH	18	\$65.00	\$1,170.00	Estimator's Judgement
	Cellular Phone/Two-Way Radios	MONTH	18	\$200.00	\$3,600.00	Estimator's Judgement
	Misc. Office Furniture	LS	1	\$10,000.00	\$10,000.00	Estimator's Judgement
	Portable Toilets	MONTH	18	\$130.00	\$2,340.00	Estimator's Judgement
	Leased Pickup Truck for Super.	MONTH	18	\$450.00	\$8,100.00	Estimator's Judgement
	Home Office Admin. Prior/During Mob.	HR	40	\$130.00	\$5,200.00	Construction Supervisor Coord. from Office
	Mob. Materials and Equipment to Site	LS	1	\$65,000.00	\$65,000.00	Estimator's Judgement
	Full-Time Field Supervision During Construct.	MONTH	18	\$23,100.00	\$415,800.00	Assume \$135/HR Labor & \$75/DAY Per Diem
					\$556,780.00	
	Calculate Bid Unit Cost	LS	1		\$556,780.00	
3	Quality Control					
3A	Grain Size Through No. 200 Sieve	EA	20	\$150.00	\$3,000.00	Estimator's Judgement
3B	Moisture Density Relationship	EA	20	\$300.00	\$6,000.00	Estimator's Judgement
3C	Dry Density and As-Placed Moisture	1/2 DAY	20	\$500.00	\$10,000.00	Estimator's Judgement
3D	Collect and Test Concrete Cylinders	EA	100	\$200.00	\$20,000.00	Estimator's Judgement, Cast-in-Place Concrete Only
	Total of all Bid Items				\$39,000.00	

Table A-2
Budget-Level Cost Estimate for Alternative No. 2 - Long-Term Alternative
Steel Sheet Pile Bulkhead - Stamford WPCA
City of Stamford

Item	Description	Unit of Payment	Estimated Quantity	Unit Price	Extended Total	Comments
4	Erosion and Sediment Controls Silt Fence and Baled Hay Erosion Check Floating Turbidity Barrier Deploy and Redeploy Barrier	LF LF EA	800 100 7	\$15.00 \$55.00 \$2,000.00	\$12,000.00 \$5,500.00 \$14,000.00 \$31,500.00	Estimator's Judgement Estimator's Judgement Assume 1/2 Day for Work Boat, Operator, and 2 Man Crew
5	Calculate Bid Unit Cost Demolition & Removal Remove and Stockpile Existing Chainlink Fence Fabric Remove and Stockpile Existing Timber Sound Barrier Paneling Clear and Remove Existing Vegetation Pre-Excavate and Remove Soil/Stone Behind Existing Bulkheads Demolish and Remove Existing Concrete Cap Burn-Off and Remove Top of Existing Sheet Piles Demolish and Remove Existing Cleats EA Demolish and Remove Existing D Fenders Sawcut Existing Asphalt For Removal Demolish and Remove Existing Asphalt Utility Relocation Allowance Load Demolition Debris Crush and Recycle Concrete Trucking Allowance Landfill Tipping Fees	LS DAY DAY DAY CY CY DAY EA DAY DAY LF CY CY TON TON EA TON	1 2 4 1 300 45 10 3 11 425 600 1 1,800 100 113 1,800	 \$3,250.00 \$6,000.00 \$3,250.00 \$20.00 \$130.00 \$3,250.00 \$650.00 \$6,000.00 \$20.00 \$32.50 \$20.00 \$130,000.00 \$2,000.00 \$20.00 \$400.00 \$65.00	 \$6,500.00 \$24,000.00 \$3,250.00 \$6,000.00 \$5,850.00 \$32,500.00 \$1,950.00 \$66,000.00 \$9,500.00 \$19,500.00 \$130,000.00 \$36,000.00 \$2,000.00 \$45,000.00 \$117,000.00 \$504,050.00	Estimator's Judgement, Assume 2 Laborers and Equipment Estimator's Judgement, Assume Foreman, 3 Laborers, and Equipment Estimator's Judgement, Assume 2 Laborers and Equipment Estimator's Judgement Estimator's Judgement Estimator's Judgement, Assume 2 Laborers and Equipment, Assume 75 LF/DAY Estimator's Judgement Assume Work Floats, Crew, Equipment, and Materials, Assume 15 Per Day Estimator's Judgement, Assume 2 Laborers and Equipment Estimator's Judgement Estimator's Judgement Estimator's Judgement, Assumes Non-Contaminated Estimator's Judgement Estimator's Judgement Estimator's Judgement, Assumes Non-Contaminated
6	Pile Spudding Pile Spudding (to identify obstructions) Survey Crew Complete Pile Spudding	DAY DAY	4 4	\$2,400.00 \$10,000.00	\$9,600.00 \$40,000.00 \$49,600.00	Provide 2-Man Survey Crew w/ Equipment and Materials Estimator's Judgement, Assume Supt. , 3 Pile Drivers, 1 Operator, Equipment, and Materials
6B	Calculate Bid Unit Cost Remove Underwater Obstructions	DAY	4	\$10,000.00	\$40,000.00 \$40,000.00	Estimator's Judgement, Pile Spuds Recommended to Quantify
7	Calculate Bid Unit Cost Steel Sheet Pile Bulkhead	DAY	4	\$10,000.00	\$40,000.00	
7A	Temporary Personnel Access Platform Furnish HP12x63 Piles (16 EA x 35-foot-long) Furnish W12x87 Cap Beams (50 LF x 2 Rows) Furnish HP12x53 Stringers (8 EA x 12-foot-long) Furnish End Plates and Misc. Connections Furnish L4x4x1/2 Cross Bracing Furnish Timber Crane Mats (12" x 12", 4-foot-wide by 20-foot-long) Install HP12 x 63 Piles Install End Plates and Misc. Connections Install W12x87 Cap Beams Install HP12x53 Stringers Install L4x4 Cross Bracing Break Down and "Leap Frog" 50-foot-long sections at a time	LF LF LF LS LF EA LF DAY DAY DAY DAY EA	560 100 96 1 200 9 560 2 2 2 2 8	\$56.00 \$80.00 \$46.00 \$20,000.00 \$13.00 \$2,000.00 \$65.00 \$10,000.00 \$10,000.00 \$10,000.00 \$10,000.00 \$26,000.00	\$31,360.00 \$8,000.00 \$4,416.00 \$20,000.00 \$2,600.00 \$18,000.00 \$36,400.00 \$20,000.00 \$20,000.00 \$20,000.00 \$20,000.00 \$208,000.00 \$408,776.00	Estimator's Judgement Estimator's Judgement Estimator's Judgement Estimator's Judgement Estimator's Judgement Estimator's Judgement Estimate Work Barge, Crew, Equipment, and Materials Assume Work Barge, Crew, Equipment, and Materials Assume Work Barge, Crew, Equipment, and Materials Assume Work Barge, Crew, Equipment, and Materials Estimator's Judgement

Table A-2
Budget-Level Cost Estimate for Alternative No. 2 - Long-Term Alternative
Steel Sheet Pile Bulkhead - Stamford WPCA
City of Stamford

Item	Description	Unit of Payment	Estimated Quantity	Unit Price	Extended Total	Comments	
							Unit Price
7B	New Steel Sheet Pile Bulkhead						
	Furnish AZ-26-700 Steel Sheet Piles (50-foot-long)	LB	1,113,700	\$1.00	\$1,113,700.00	Estimator's Judgement	
	Steel Price Volatility Factor	LB	1,113,700	\$0.05	\$55,685.00	Allowance Item, Assume 5% of Quoted Price	
	Coat Sheet Piles	SF	74,000	\$7.00	\$518,000.00	Estimator's Judgement	
	Additional Transportation to/from Coating Facility	TON	557	\$60.00	\$33,411.00	Estimator's Judgement	
	Install Sheet Piles	DAY	19	\$10,000.00	\$190,000.00	Crew Rate & Production Rate Per Previous Projects (40 LF/DAY)	
	Furnish Double Channel Steel Wale	LB	60,828	\$1.15	\$69,952.20	Assume 740 LF x 82.2 LB/LF	
	Coat Double Channel Steel Wale	LF	740	\$30.00	\$22,200.00	Estimator's Judgement	
	Additional Transportation to/from Coating Facility	TON	30	\$60.00	\$1,824.84	Estimator's Judgement	
	Furnish and Install Wale Chairs	EA	37	\$500.00	\$18,500.00	Estimator's Judgement	
	Furnish Bolts, Nuts, Plates	LS	1	\$100,000.00	\$100,000.00	Estimator's Judgement	
	Install Steel Wale, Including Bolts, Nuts, Plates	LB	60,828	\$1.40	\$85,159.20	Estimator's Judgement	
	End Seals	EA	2	\$16,250.00	\$32,500.00	Estimator's Judgement	
	Cut-Off Excess AZ-26-700 Sheet Piles	DAY	10	\$3,250.00	\$32,500.00	Assume 2 Laborers and Equipment, Assume 75 LF/DAY	
Video Dive Inspection of Installed Steel Sheet Piles	DAY	1.0	\$6,500.00	\$6,500.00	Assume 3-Man Dive Crew, Work Barge, and Equipment		
					\$2,271,807.24		
	Calculate Bid Unit Cost	LF	740		\$3,070.01		
7C	Drilled and Grouted Permanent Tiebacks						
	Mobilization	LS	1	\$75,000.00	\$75,000.00	Estimator's Judgement	
	Furnish, Install, Test, and Lock-Off Permanent Tie Back Anchors	EA	42	\$27,000.00	\$1,134,000.00	Estimator's Judgement	
	Obstruction Allowance (e.g., Piles, Utilities, Foundations, Misc.)	LS	1	\$226,800.00	\$226,800.00	Assume Allowance at 20%, to be quantified during design	
						\$1,435,800.00	
	Calculate Bid Unit Cost	EA	42		\$34,185.71		
7D	New Steel Sheet Pile Anchor Wall						
	Furnish AZ-26-700 Steel Sheet Piles (13.5-foot-long on average)	LB	148,318	\$1.00	\$148,318.00	Estimator's Judgement	
	Steel Price Volatility Factor	LB	148,318	\$0.05	\$7,415.90	Allowance Item, Assume 5% of Quoted Price	
	Coat Sheet Piles	SF	9,860	\$7.00	\$69,020.00	Estimator's Judgement	
	Additional Transportation to/from Coating Facility	TON	74	\$60.00	\$4,449.54	Estimator's Judgement	
	Pre-Excavate Along Anchor Wall Alignment	CY	3,000	\$20.00	\$60,000.00	Estimator's Judgement	
	Dewatering and Sedimentation Controls	DAY	30	\$650.00	\$19,500.00	Estimator's Judgement	
	Install Sheet Piles	DAY	6	\$7,500.00	\$45,000.00	Crew Rate & Production Rate Per Previous Projects (60 LF/DAY)	
	Furnish Double Channel Steel Wale	LB	30,000	\$1.15	\$34,500.00	Assume 365 LF x 82.2 LB/LF	
	Coat Double Channel Steel Wale	LF	365	\$30.00	\$10,950.00	Estimator's Judgement	
	Additional Transportation to/from Coating Facility	TON	15	\$60.00	\$900.00	Estimator's Judgement	
	Furnish and Install Wale Chairs	EA	19	\$500.00	\$9,500.00	Estimator's Judgement	
	Install Double Channel Steel Wale	LB	30,000	\$1.40	\$42,000.00	Estimator's Judgement	
		Calculate Bid Unit Cost	LF	365		\$451,553.44	
					\$1,237.13		
7E	Tie Rods						
	Excavate Trenches For Tie Rods	CY	5,550	\$20.00	\$111,000.00	Assume 2.2 CY/LF x 60 LF on Average x 41 Locations	
	Dewatering and Sedimentation Controls	DAY	14	\$850.00	\$11,900.00	Estimator's Judgement, Assume 3 per Day	
	Stockpile Excavated Material Immediately Adjacent to Trenches	CY	5,550	\$1.60	\$8,880.00	Estimator's Judgement	
	Selectively Cut and Remove Portions of Existing Anchor Wall	DAY	2	\$3,250.00	\$6,500.00	Assume Super., 2 Laborers, and Equipment	
	Furnish No. 20 Galvanized Tie Rods	EA	41	\$1,300.00	\$53,300.00	Estimator's Judgement	
	Install Tie Rods	DAY	14	\$6,000.00	\$82,000.00	Assume Super., 4 laborers, and Equipment, Assume 3 per Day	
	Backfill and Compact Excavated Material Around Tie Rods	CY	7,215	\$10.00	\$72,150.00	Estimator's Judgement, Includes 1.3 Swell Factor	
						\$345,730.00	
		Calculate Bid Unit Cost	EA	41		\$8,432.44	

Table A-2
Budget-Level Cost Estimate for Alternative No. 2 - Long-Term Alternative
Steel Sheet Pile Bulkhead - Stamford WPCA
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Item	Description	Unit of Payment	Estimated Quantity	Unit Price	Extended Total	Comments
7F	Backfill Between Existing & New Sheets with Crushed Stone					
	Furnish Crushed Stone	TON	3,415	\$50.00	\$170,750.00	Assume CTDOT No. 6 Stone as Provided by O&G Industries x 1.15 for Markup
	Furnish and Install Geotextile Fabric	SF	5,300	\$1.50	\$7,950.00	Estimator's Judgement, Includes 20% Overlap Factor
	Backfill Between Existing & New Sheets with Crushed Stone	TON	3,415	\$20.00	\$68,300.00	Estimator's Judgement
	Vibrate Crushed Stone during Placement (V/b. Pile 4.1' o/c)	DAY	8	\$6,000.00	\$48,000.00	Assume Work Barge and Equipment, Assume 100 LF/DAY
	Calculate Bid Unit Cost	TON	3,415	\$86.38	\$295,000.00	
7G	Utility Penetration Allowance					
	Outfall Penetrations	LS	2	\$32,500.00	\$65,000.00	Estimator's Judgement
	Main Effluent Line Penetration	LS	1	\$130,000.00	\$130,000.00	Estimator's Judgement
	Misc. Utility Penetrations	LS	1	\$32,500.00	\$32,500.00	Estimator's Judgement, Allowance Item
	Calculate Bid Unit Cost	LS	1	\$195,000.00	\$195,000.00	
8	Concrete Cap					
	Excavate along Backside of New Bulkhead	CY	0	\$20.00	\$0.00	Assume this work is covered under other Bid Items
	Prepare and Compact Subgrade	DAY	0.0	\$3,250.00	\$0.00	Assume this work is covered under other Bid Items
	Rent Sheet Pile Capping System	MONTH	3	\$10,000.00	\$30,000.00	Estimator's Judgement
	Install and Relocate Sheet Pile Capping Systems	EA	13	\$6,000.00	\$78,000.00	Assume Super, 4 laborers, and Equipment for 1 Day
	Furnish and Install Studs	EA	2,000	\$7.00	\$14,000.00	Estimator's Judgement
	Form and Pour Concrete Cap	CY	100	\$975.00	\$97,500.00	Estimator's Judgement
	Expansion Joints	EA	15	\$650.00	\$9,750.00	Estimator's Judgement for Smooth Dowels and Joint Filler
	Scouppers	EA	0	\$525.00	\$0.00	Assume Not Required
	Finish Allowance	SF	1,200	\$7.00	\$8,400.00	Estimator's Judgement, Assume Smooth Form Finish
	Calculate Bid Unit Cost	LF	740	\$321.15	\$237,650.00	
9	Mooring Cleats and Rubber D-Fenders					
	Furnish Mooring Cleats	EA	5	\$975.00	\$4,875.00	Estimator's Judgement
	Install Mooring Cleats	DAY	1	\$6,000.00	\$6,000.00	Estimator's Judgement
	Furnish Rubber D-Fenders	EA	160	\$170.00	\$27,200.00	Estimator's Judgement
	Furnish Steel Hardware for Rubber D-Fenders	LS	1	\$21,000.00	\$21,000.00	Estimator's Judgement
	Install Rubber D-Fenders and Steel Hardware	DAY	27	\$6,000.00	\$162,000.00	Assume Work Floats, Crew, Equipment, and Materials, Assumes 6 Per Day
	Calculate Bid Unit Cost	LS	1	\$221,075.00	\$221,075.00	
10	Site Restoration					
	Place and Compact Pre-Excavated Soil	CY	3,000	\$13.00	\$39,000.00	Estimator's Judgement
	Furnish and Install Asphalt Pavement	TON	1,300	\$140.00	\$182,000.00	Estimator's Judgement
	Reinstall Timber Sound Wall Paneling	DAY	4	\$6,000.00	\$24,000.00	Estimator's Judgement, Assume Foreman, 2 Laborers, and Equipment
	Reinstall Chainlink Fence	DAY	2	\$6,000.00	\$12,000.00	Estimator's Judgement, Assume Foreman, 2 Laborers, and Equipment
	Calculate Bid Unit Cost	LS	1	\$257,000.00	\$257,000.00	
11	Standby Time					
	Standby Time	DAY	2	\$10,000.00	\$20,000.00	Estimator's Judgement
	Calculate Bid Unit Cost	DAY	2	\$10,000.00	\$20,000.00	
12	Environmental Allowances					
	Absorbent Pads	EA	1,200	\$3.00	\$3,600.00	Estimator's Judgement
	Absorbent Booms	LF	1,500	\$7.00	\$10,500.00	Estimator's Judgement
	Pad/Boom Disposal	DRUM	25	\$450.00	\$11,250.00	Estimator's Judgement
	Total of all Bid Items				\$25,350.00	
13	Demobilization and Clean-up					
	Demobilization and Clean-up	LS	1	\$65,000.00	\$65,000.00	Estimator's Judgement
	Calculate Bid Unit Cost	LS	1	\$65,000.00	\$65,000.00	

Table A-2
Budget-Level Cost Estimate for Alternative No. 2 - Long-Term Alternative
Steel Sheet Pile Bulkhead - Stamford WPCA
City of Stamford

Item	Description	Unit of Payment	Estimated Quantity	Unit Price	Extended Total	Comments
	CONSTRUCTION SUBTOTAL (2024 USD)				\$7,802,935.11	Sum of Base Bid Items 1 through 13
	SCOPE AND BUDGET CONTINGENCIES @ 20%				\$1,560,587.02	Scope and Budget Contingencies
	ESCALATION FOR FISCAL YEARS COMPLETED @ 12%				\$1,123,622.66	Assume (1.06) ² = 1.12 = 12%
	TOTAL CONSTRUCTION ESTIMATE (2026 USD)				\$10,500,000.00	Rounded to the Nearest \$100,000.00
	DESIGN AND PERMITTING					
	CTDEEP Permit Fee				\$1,000.00	Estimator's Judgement
	USACE Permit Fee				\$1,000.00	Estimator's Judgement
	Field Investigation Program @ 1.0%				\$105,000.00	Estimator's Judgement, Includes Surveys, Geophysical, and Geotechnical
	Geotechnical Data and Interpretive Reports @ 0.125%				\$13,125.00	Estimator's Judgement
	Bidding Assistance @ 0.15%				\$15,750.00	Estimator's Judgement
	Construction Phase Services @ 4.5%				\$472,500.00	Assume Full-Time Construction Observation for 18 months
	Clerk of the Works				\$100,000.00	As Recommended by City
	TOTAL PROJECT ESTIMATE (2026 USD)				\$11,300,000.00	Rounded Up to the Nearest \$100,000.00

Extra year of Escalation @ 6%

Design Fee 7%

630,000

755,000

\$12,685,000 Total Project Est.

20% City Share \$2,537,000

80% Grant \$10,148,000