



TOWN OF PLYMOUTH
DEPARTMENT OF PUBLIC WORKS

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Plymouth, Massachusetts 02360

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MEMO

Date: February 10, 2017

To: Melissa Arrighi, Town Manager

cc: Board of Selectmen
Derek Brindisi, Asst. Town Manager
Rich Tierney, Water Supt.

From: Jonathan Beder,  Director of Public Works

**Re: Taylor Avenue, Water Main Replacement
Special Town Meeting-Article 4, \$2.2M**

The DPW is requesting \$2.2M to replace the existing 1933 8-inch cast iron water main within Taylor Avenue prior to the full road reconstruction project now scheduled for the Fall of 2017. This request is being made through the Special Town Meeting in order to access funding now as opposed to July 1st. Our objective is to start the main replacement as soon as the weather turns to ensure completion by the Fall and to accelerate as much of the work before the busy summer season.

We are concerned with the current age and material type of the main and its ability to hold up during construction and sustain area water supply into the future. The proposed work will replace the 8-inch cast iron with a 12-inch ductile iron main, including new services, hydrants, and gate valves, from White Horse Road to Manomet Point Road, a distance of 5,500 feet.

This new water main layout has been coordinated with the new roadway design and is currently at 75% design. We have attached a copy of the engineers cost estimate which is at \$1.9M. Our request has been reduced from the original CIC request of \$2.8M but we are slightly higher than the latest engineers cost estimate to account for any changes in final design.

We respectfully request that Board of Selectmen acting in their capacity as Water Commissioners support this \$2.2M Article 9 request.



Taylor Avenue Water Main Replacement - 75% Submission (includes Engineering Services During Construction)

No.	Unit	Description	Estimated Quantity	Unit Price	Estimated Total Cost
1	LF	12-inch DI Water Main	5,517	\$ 110.00	\$ 606,870.00
2	LF	8-inch DI Water Main	820	\$ 90.00	\$ 73,800.00
3	LF	6-inch DI Water Main	215	\$ 80.00	\$ 17,200.00
4	EA	12" Insertion Valve	1	\$ 20,000.00	\$ 20,000.00
5	EA	8" Insertion Valve	3	\$ 12,000.00	\$ 36,000.00
6	EA	12-inch Gate Valve & Valve Box	31	\$ 2,000.00	\$ 62,000.00
7	EA	8-inch Gate Valve & Valve Box	12	\$ 1,500.00	\$ 18,000.00
8	EA	6-inch Gate Valve & Valve Box	10	\$ 1,200.00	\$ 12,000.00
9	LF	Polyethylene Pipe Encasement	6,500	\$ 3.00	\$ 19,500.00
10	EA	New Hydrants	10	\$ 4,000.00	\$ 40,000.00
11	EA	2" Corporation Stops	5	\$ 300.00	\$ 1,500.00
12	EA	1 1/2" Corporation Stops	-	\$ 250.00	\$ -
13	EA	1" Corporation Stops	138	\$ 200.00	\$ 27,600.00
14	EA	2" Curb Stops and Boxes	5	\$ 300.00	\$ 1,500.00
15	EA	1 1/2" Curb Stops and Boxes	-	\$ 250.00	\$ -
16	EA	1" Curb Stops and Boxes	138	\$ 200.00	\$ 27,600.00
17	LF	2" PE Service Pipe	100	\$ 30.00	\$ 3,000.00
18	LF	1 1/2" PE Service Pipe	-	\$ 25.00	\$ -
19	LF	1" PE Service Pipe	3,010	\$ 20.00	\$ 60,200.00
20	EA	Exercise Curb Stops	143	\$ 50.00	\$ 7,150.00
21	CY	Miscellaneous Concrete	200	\$ 100.00	\$ 20,000.00
22	CY	Boulder Excavation	100	\$ 175.00	\$ 17,500.00
23	CY	Rock Excavation	100	\$ 350.00	\$ 35,000.00
24	CY	Sand Borrow	1,074	\$ 25.00	\$ 26,838.89
25	CY	Crushed Stone	200	\$ 25.00	\$ 5,000.00
26	CY	Gravel Borrow	1,074	\$ 30.00	\$ 32,206.67
27	LF	Gravel Base for Pavement	4,831	\$ 8.00	\$ 38,648.00
28	CY	Ordinary Borrow	20	\$ 22.00	\$ 440.00
29	CY	Excavation of Unsuitable Materials	50	\$ 15.00	\$ 750.00
30	CY	Exploratory Excavation	200	\$ 50.00	\$ 10,000.00
31	LBS	Calcium Chloride	1,000	\$ 5.00	\$ 5,000.00
32	SY	Temporary Trench Pavement (2")	3,221	\$ 8.00	\$ 25,765.33
33	SY	Semi-Permanent Trench Pavement (3")	3,221	\$ 10.00	\$ 32,206.67
34	SY	Permanent Trench Pavement (5 1/2")	-	\$ 14.00	\$ -
35	SY	Mill by Cold Plane (1 1/2")	-	\$ 5.00	\$ -
36	SY	Overlay (1 1/2")	-	\$ 9.00	\$ -
37	SY	Repair Cem Conc. Sidewalk @ Hyd & Services	204	\$ 40.00	\$ 8,160.00
38	LF	Repair/Replace Granite Curb	459	\$ 20.00	\$ 9,180.00
39	SY	Restoration of Growth	1,250	\$ 20.00	\$ 25,000.00
40	LF	Straw Wattles and Silt Fence	2,000	\$ 9.00	\$ 18,000.00
41	LS	Miscellaneous Work and Clean Up	1	\$ 5,000.00	\$ 5,000.00
42	HR	Police Services	2,097	\$ 55.00	\$ 115,315.20
43	WEEKS	Portable Message Sign	8	\$ 700.00	\$ 5,600.00
44	LS	Mobilization/Demobilization	1	\$ 73,476.54	\$ 73,476.54

ESTIMATED CONSTRUCTION COST \$ 1,543,007.29

CONTINGENCY - 15% \$ 231,451.09

TOTAL \$ 1,774,458.39

SAY \$ 1,770,000.00

Engineering Services During Construction \$ 46,800.00

Resident Inspection (assumes 6 months) \$ 122,000.00

TOTAL \$ 168,800.00

Total Construction & Engineering \$ 1,938,800.00