

**ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST
ROUTE 6 SEWER AND WATER EXTENSIONS
TOWN OF WESTPORT, MA**

8-Mar-24

Base Bid			
Item	Total Cost	Sewer Cost	Water Cost
Total Construction Cost	\$ 6,634,950	\$ 6,510,412	\$ 124,538
Construction Contingency (10% of Total Construction Cost)	\$ 663,495	\$ 651,041	\$ 12,454
Engineering Services During Construction (12% of Total Construction Cost)	\$ 796,194	\$ 781,249	\$ 14,945
Police Detail Cost	\$ 109,000	\$ 106,954	\$ 2,046
Total Project Cost	\$ 8,203,639	\$ 8,049,657	\$ 153,982
Bid Alt A			
Item	Total Cost	Sewer Cost	Water Cost
Total Construction Cost	\$ 11,469,350	\$ 8,883,371	\$ 2,585,979
Engineering and Construction Contingency (10% of Total Construction Cost)	\$ 1,146,935	\$ 888,337	\$ 258,598
Engineering Services During Construction (12% of Total Construction Cost)	\$ 1,376,322	\$ 1,066,005	\$ 310,317
Police Detail Cost	\$ 266,000	\$ 206,025	\$ 59,975
Total Project Cost	\$ 14,258,607	\$ 11,043,738	\$ 3,214,869
Bid Alt B			
Item	Total Cost	Sewer Cost	Water Cost
Total Construction Cost	\$ 9,375,300	\$ 5,744,510	\$ 3,630,790
Engineering and Construction Contingency (10% of Total Construction Cost)	\$ 937,530	\$ 574,451	\$ 363,079
Engineering Services During Construction (12% of Total Construction Cost)	\$ 1,125,036	\$ 689,341	\$ 435,695
Police Detail Cost	\$ 194,000	\$ 118,869	\$ 75,131
Total Project Cost	\$ 11,631,866	\$ 7,127,171	\$ 4,504,695
Total Project (Base Bid + Bid Alt A + Bid Alt B)			
Item	Total Cost	Sewer Cost	Water Cost
Total Construction Cost	\$ 27,479,600	\$ 21,138,293	\$ 6,341,307
Engineering and Construction Contingency (10% of Total Construction Cost)	\$ 2,747,960	\$ 2,113,829	\$ 634,131
Engineering Services During Construction (12% of Total Construction Cost)	\$ 3,297,552	\$ 2,536,595	\$ 760,957
Police Detail Cost	\$ 569,000	\$ 431,849	\$ 137,151
Total Project Cost	\$ 34,094,112	\$ 26,220,566	\$ 7,873,546

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TOWN OF WESTPORT, MA**

Date: 8-Mar-24

BASE BID						
Item No.	Description	Unit Cost	Quantities	Units	Cost	Comments
1	Mobilization (up to 5% of bid)	\$ 321,100	1	LS	\$ 321,100	(5% of All Other Items)
2a	Pump Station and Flow Meter Vault - 35 State Road	\$ 1,070,500	1	LS	\$ 1,070,500	see pump stations tab
2b	Pump Station - 287-291 State Road	\$ 750,000	1	LS	\$ 750,000	see pump stations tab
3a	8" PVC Sanitary Sewer Gravity Pipe	\$ 200	2480	LF	\$ 496,000	quantity from drawings
3b	12" PVC Sanitary Sewer Gravity Pipe	\$ 250	130	LF	\$ 32,500	quantity from drawings
3c	15" PVC Sanitary Sewer Gravity Pipe	\$ 270	930	LF	\$ 251,100	quantity from drawings
3d	18" PVC Sanitary Sewer Gravity Pipe	\$ 300	1680	LF	\$ 504,000	quantity from drawings
4a	4-Foot Diameter Sanitary Sewer Manholes	\$ 700	160	VF	\$ 112,000	quantity from drawings
4b	6-Foot Diameter Sanitary Sewer Manholes	\$ 850	20	VF	\$ 17,000	quantity from drawings
5a	4" and 12" PVC Sanitary Sewer Force Main (Shared Trench)	\$ 300	2580	LF	\$ 774,000	quantity from drawings
5b	6" PVC Sanitary Sewer Force Main	\$ 200	90	LF	\$ 18,000	estimate distance from PS property line to existing
6	PVC Sanitary Sewer Service	\$ 175	1420	LF	\$ 248,500	see base side streets and services tab
7	Utility Support and Coordination	\$ 75,000	1	LS	\$ 75,000	water, gas, drain, telecom, traffic crossings
8	Exploratory Investigations	\$ 20	850	CY	\$ 17,000	assume 1 pit every 300 lf of mainline sewer; each pit 50 cy
9	Rock Excavation	\$ 150	250	CY	\$ 37,500	assume quantity, based on subsurface investigations
10	Excavation and Disposal of Unsuitable Material Below Grade	\$ 50	100	CY	\$ 5,000	
11	Removal and Disposal of PCCP Water Aqueduct Short Sections	\$ 10,000	1	LS	\$ 10,000	one location by Meatworks
12	Misc. Concrete	\$ 170	100	CY	\$ 17,000	
13a	Temporary Pavement (3")	\$ 200	1490	TON	\$ 298,000	assuming pavement unit weight of 148 lb/cf, 3" depth, 10' width for mainlines to replace concrete slab,
13b	Permanent Pavement on State Roads (7")	\$ 200	3470	TON	\$ 694,000	assuming pavement unit weight of 148 lb/cf, 7" depth, 10' width for mainlines to replace concrete slab, 7' width for sewer side streets/services, 6' width for water services
13c	Mill and Overlay Pavement on State Roads (2")	\$ 200	990	TON	\$ 198,000	assuming pavement unit weight of 148 lb/cf, 2" depth, 10' width for mainlines to replace concrete slab, 7' width for sewer side streets/services, 6' width for water services. Includes labor, materials, tools, equipment, and traffic control devices.
13d	Permanent Pavement on Town Roads (4")	\$ 200	60	TON	\$ 12,000	paving on side streets
14	Roadway Concrete Slab Removal	\$ 150	1960	CY	\$ 294,000	assuming mainline pipe length in travel lane, times 10' width, times 8" thickness, converted to cubic yards, for services and side streets assume 20 foot length removed for each, 7' width for sewer side streets/services, 6' width for water services
15	Police Details	\$ 109,000	1	AL	\$ 109,000	assuming \$70/hour, \$560 for 8 hour day, \$1,120/day for two details, assume pipe and service installation averages about 100 feet per day
16	Unforeseen Conditions	\$ 50,000	1	AL	\$ 50,000	potential relocation, reconfiguration or crossing through existing 60" RCP drain, potential encasing of sewer, addition of new drain structures
17	Traffic Management	\$ 100,000	1	LS	\$ 100,000	Includes furnishing, installing, updating, maintaining, and storing safety signage for construction.
18	100-lb bags of Calcium Chloride	\$ 10	100	EA	\$ 1,000	Water used by contractor is considered incidental
19	Hydrant Relocation	\$ 10,000	1	LS	\$ 10,000	new tapping sleeve and valve near Old Bedford Road
20	Water Services	\$ 175	410	LF	\$ 71,750	corp stops incidental
21	Reconfigure Hebert Terrace Drain Culvert Crossing	\$ 150,000	1	LS	\$ 150,000	proposed 18" and 24" pipe and demo of existing pipe (~50 LF), two proposed manholes, temporary construction easement for excavation, including concrete road removal and disposal

Subtotal \$ 6,743,950

Subtotal excluding Police Detail Cost \$ 6,634,950

Subtotal excluding Water Work and Police Detail Cost \$ 6,553,200

Subtotal of Water Items Only \$ 81,750

**ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST
ROUTE 6 SEWER AND WATER EXTENSIONS
TOWN OF WESTPORT, MA**

Date: 8-Mar-24

ALTERNATE BID A

Item No.	Description	Unit Cost	Quantities	Units	Cost	Comments
A-1	Mobilization (5% of All Other Items)	\$ 558,800	1	LS	\$ 558,800	
A-2	Pump Station - 833 State Road	\$ 1,200,000	1	LS	\$ 1,200,000	see pump stations tab
A-3a	8" PVC Sanitary Sewer Gravity Pipe (< 12' Deep)	\$ 200	5,550	LF	\$ 1,110,000	quantity from drawings
A-3b	8" PVC Sanitary Sewer Gravity Pipe (> 12' Deep)	\$ 250	490	LF	\$ 122,500	quantity from drawings
A-3c	12" PVC Sanitary Sewer Gravity Pipe	\$ 250	800	LF	\$ 200,000	quantity from drawings
A-3d	15" PVC Sanitary Sewer Gravity Pipe	\$ 270	430	LF	\$ 116,100	quantity from drawings
A-3e	Sanitary Sewer Gravity Chimneys	\$ 200	10	EA	\$ 2,000	quantity from drawings
A-4a	4-Foot Diameter Sanitary Sewer Manholes	\$ 700	240	VF	\$ 168,000	quantity from drawings
A-4b	5-Foot Diameter Sanitary Sewer Manholes	\$ 800	50	VF	\$ 40,000	quantity from drawings
A-5a	12" PVC Sanitary Sewer Force Main	\$ 250	10,920	LF	\$ 2,730,000	quantity from drawings
A-5b	Force Main Air Release Valve Manhole	\$ 15,000	4	EA	\$ 60,000	quantity from drawings
A-6	PVC Sanitary Sewer Service	\$ 175	2,930	LF	\$ 512,750	quantity from drawings
A-7	Utility Support and Coordination	\$ 100,000	1	LS	\$ 100,000	Estimate based on number of crossings
A-8	Exploratory Investigations	\$ 20	1,950	CY	\$ 39,000	1 pit every 300 lf of sewer length including force main; each pit 50 cy
A-9	Rock Excavation	\$ 150	910	CY	\$ 136,500	Assume about 500 LF of rock excavation around Davis and Gifford intersection, average excavation depth of 7 feet
A-10	Excavation and Disposal of Unsuitable Material Below Grade	\$ 50	100	CY	\$ 5,000	
A-11a	Removal and Disposal of PCCP Water Aqueduct Short Sections	\$ 200,000	1	LS	\$ 200,000	spot removal for proposed sewer services and sewer and water main side street connections
A-11b	Removal and Disposal of PCCP Water Aqueduct Long Sections	\$ 100	2300	LF	\$ 230,000	
A-12	Misc. Concrete	\$ 170	100	CY	\$ 17,000	
A-13a	Temporary Pavement (3")	\$ 200	1,870	TON	\$ 374,000	assuming pavement unit weight of 148 lb/cf, 3" depth, 10' width for mainlines to replace concrete slab, 7' width for sewer side streets/services, 6' width for water side streets/services
A-13b	Permanent Pavement on State Roads (7")	\$ 200	4,350	TON	\$ 870,000	assuming pavement unit weight of 148 lb/cf, 7" depth, 10' width for mainlines to replace concrete slab, 7' width for sewer side streets/services, 6' width for water side streets/services
A-13c	Mill and Overlay Pavement on State Roads (2")	\$ 200	1,220	TON	\$ 244,000	assuming pavement unit weight of 148 lb/cf, 2" depth, 10' width for mainlines to replace concrete slab, 7' width for sewer side streets/services, 6' width for water side streets/services
A-13d	Permanent Pavement on Town Roads (4")	\$ 200	250	TON	\$ 50,000	paving on side streets
A-14	Roadway Concrete Slab Removal	\$ 150	2400	CY	\$ 360,000	assuming mainline pipe length in travel lane, times 10' width, times 8" thickness, converted to cubic yards, for services and side streets assume 20 foot length removed for each, 7' width for sewer side streets/services, 6' width for water services
A-15	Police Details	\$ 266,000	1	AL	\$ 266,000	assuming \$70/hour, \$560 for 8 hour day, \$1,120/day for two details, assume pipe and service installation averages about 100 feet per day
A-16	Unforeseen Conditions	\$ 50,000	1	AL	\$ 50,000	
A-17	Traffic Management	\$ 150,000	1	LS	\$ 150,000	Includes furnishing, installing, updating, maintaining, and storing safety signage for construction.
A-18	100-lb bags of Calcium Chloride	\$ 10	100	EA	\$ 1,000	Water used by contractor is considered incidental
A-19	Hydrants	\$ 6,000	6	EA	\$ 36,000	quantity from drawings
A-20	Water Services	\$ 100	2,550	LF	\$ 255,000	quantity from drawings
A-21a	6" DI Water Main	\$ 150	450	LF	\$ 67,500	quantity from drawings
A-21b	8" DI Water Main	\$ 200	520	LF	\$ 104,000	quantity from drawings
A-21c	12" DI Water Main	\$ 260	3,670	LF	\$ 954,200	quantity from drawings
A-22a	Fittings, Couplings	\$ 5	20,000	LB	\$ 100,000	quantity from drawings
A-22b	Restraints	\$ 100	240	EA	\$ 24,000	quantity from drawings
A-23a	6" Gate Valve and Gate Box	\$ 6,000	12	EA	\$ 72,000	quantity from drawings
A-23b	8" Gate Valve and Gate Box	\$ 7,000	8	EA	\$ 56,000	quantity from drawings
A-23c	12" Gate Valve and Gate Box	\$ 8,000	9	EA	\$ 72,000	quantity from drawings
A-24	Water Main Manual Air Release Valve	\$ 2,000	1	EA	\$ 2,000	quantity from drawings
A-25	Water Main Blow Off Connection	\$ 5,000	1	EA	\$ 5,000	quantity from drawings
A-26	Pressure Reducing Valves and Access Vault	\$ 75,000	1	LS	\$ 75,000	quantity from drawings

Subtotal \$11,735,350

Subtotal excluding Police Detail Cost \$11,469,350

Subtotal excluding Water Work and Police Detail Cost \$9,912,650

Subtotal of Water Items Only \$1,822,700

**ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST
ROUTE 6 SEWER AND WATER EXTENSIONS
TOWN OF WESTPORT, MA**

Date: 8-Mar-24

ALTERNATE BID B

Item No.	Description	Unit Cost	Quantities	Units	Cost	Comments
B-1	Mobilization (5% of All Other Items)	\$ 455,700	1	LS	\$ 455,700	
B-2	Pump Station - 1115 State Road	\$ 1,104,000	1	LS	\$ 1,104,000	see pump stations tab
B-3a	8" PVC Sanitary Sewer Gravity Pipe	\$ 200	3,170	LF	\$ 634,000	quantity from drawings
B-3b	12" PVC Sanitary Sewer Gravity Pipe	\$ 250	520	LF	\$ 130,000	quantity from drawings
B-3c	15" PVC Sanitary Sewer Gravity Pipe (< 12' Deep)	\$ 270	2,660	LF	\$ 718,200	quantity from drawings
B-3d	15" PVC Sanitary Sewer Gravity Pipe (> 12' Deep)	\$ 350	1,060	LF	\$ 371,000	quantity from drawings
B-3e	Sanitary Sewer Gravity Chimneys	\$ 200	10	EA	\$ 2,000	quantity from drawings
B-4a	4-Foot Diameter Sanitary Sewer Manholes	\$ 700	220	VF	\$ 154,000	quantity from drawings
B-5a	8" PVC Sanitary Sewer Force Main	\$ 150	4,920	LF	\$ 738,000	quantity from drawings
B-5b	Force Main Air Release Manhole	\$ 15,000	1	EA	\$ 15,000	quantity from drawings
B-6	PVC Sanitary Sewer Service	\$ 200	2,510	LF	\$ 502,000	quantity from drawings
B-7	Utility Support and Coordination	\$ 75,000	1	LS	\$ 75,000	Estimate based on number of crossings
B-8	Exploratory Investigations	\$ 20	650	CY	\$ 13,000	1 pit every 300 lf of mainline sewer; each pit 50 cy
B-9	Rock Excavation	\$ 150	190	CY	\$ 28,500	Assume about 10% of gravity sewer trench excavation volume, average excavation width and depth of 7 feet
B-10	Excavation and Disposal of Unsuitable Material Below Grade	\$ 50	100	CY	\$ 5,000	
B-11a	Removal and Disposal of PCCP Water Aqueduct Short Sections	\$ 200,000	1	LS	\$ 200,000	spot removal for proposed sewer services and sewer and water main side street connections
B-11b	Removal and Disposal of PCCP Water Aqueduct Long Sections	\$ 100	2000	LF	\$ 200,000	
B-12	Misc. Concrete	\$ 170	100	CY	\$ 17,000	
B-13a	Temporary Pavement (3")	\$ 200	700	TON	\$ 140,000	assuming pavement unit weight of 148 lb/cf, 3" depth, 10' width for mainlines to replace concrete slab, 7' width for sewer side streets/services, 6' width for water services
B-13b	Permanent Pavement on State Roads (7")	\$ 200	1,620	TON	\$ 324,000	assuming pavement unit weight of 148 lb/cf, 7" depth, 10' width for mainlines to replace concrete slab, 7' width for sewer side streets/services, 6' width for water services
B-13c	Mill and Overlay Pavement on State Roads (2")	\$ 200	2,020	TON	\$ 404,000	assuming pavement unit weight of 148 lb/cf, 2" depth, 10' width for mainlines to replace concrete slab, 7' width for sewer side streets/services, 6' width for water services
B-13d	Permanent Pavement on Town Roads (4")	\$ 200	170	TON	\$ 34,000	paving on side streets
B-14	Roadway Concrete Slab Removal	\$ 150	860	CY	\$ 129,000	assuming mainline pipe length in travel lane, times 10' width, times 8" thickness, converted to cubic yards, for services and side streets assume 20 foot length removed for each, 7' width for sewer side streets/services, 6' width for water services
B-15	Police Details	\$ 194,000	1	AL	\$ 194,000	assuming \$70/hour, \$560 for 8 hour day, \$1,120/day for two details, assume pipe and service installation averages about 100 feet per day
B-16	Unforseen Conditions	\$ 50,000	1	AL	\$ 50,000	
B-17	Traffic Management	\$ 100,000	1	LS	\$ 100,000	Includes furnishing, installing, updating, maintaining, and storing safety signage for construction.
B-18	100-lb bags of Calcium Chloride	\$ 10	100	EA	\$ 1,000	Water used by contractor is considered incidental
B-19	Hydrants	\$ 6,000	14	EA	\$ 84,000	quantity from drawings
B-20	Water Services	\$ 100	2,470	LF	\$ 247,000	quantity from drawings
B-21a	6" DI Water Main	\$ 150	110	LF	\$ 16,500	quantity from drawings
B-21b	8" DI Water Main	\$ 200	830	LF	\$ 166,000	quantity from drawings
B-21c	12" DI Water Main	\$ 260	6,840	LF	\$ 1,778,400	quantity from drawings
B-22a	Fittings, Couplings	\$ 5	25,000	LB	\$ 125,000	quantity from drawings
B-22b	Restrains	\$ 100	390	EA	\$ 39,000	quantity from drawings
B-23a	6" Gate Valve and Gate Box	\$ 6,000	17	EA	\$ 102,000	quantity from drawings
B-23b	8" Gate Valve and Gate Box	\$ 7,000	12	EA	\$ 84,000	quantity from drawings
B-23c	12" Gate Valve and Gate Box	\$ 8,000	14	EA	\$ 112,000	quantity from drawings
B-24	Water Main Manual Air Release Valve	\$ 2,000	1	EA	\$ 2,000	quantity from drawings
B-25	Water Main Blow Off Connection	\$ 5,000	1	EA	\$ 5,000	quantity from drawings
B-26	Catch Basin Relocation	\$ 10,000	7	EA	\$ 70,000	quantity from drawings

Subtotal \$9,569,300
Subtotal excluding Police Detail Cost \$9,375,300
Subtotal excluding Water Work and Police Detail Cost \$6,614,400
Subtotal of Water Items Only \$2,760,900