

Belmont Light Project Costs - Material and Equipment

Belmont Middle and High School

Summary as of July 29, 2021

Labor and Material Costs:	\$472,477.78	
Vehicle Cost:	\$41,685.34	
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Belmont Light Cost:		\$514,163.12
Conduit Cost (less):	\$389,470.52	
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Total Cost to BMHS Project:		<u><u>\$124,692.60</u></u>

Belmont Light Labor and Material Cost Estimate for BMHS as of 07-29-21
 Uses 1/0 Cable for estimate

Materials Associated with Phase-1 Temp Power

NOTE: This is the for the temporary padmount opposite Goden Street

Qty	Description	Cost/Unit	Total Cost
330 ft	1/0 CU 15kV tape shield cable	\$14.86	\$4,903.80
130 ft	1/0 CU 15kV tape shield cable	\$14.86	\$1,931.80
130 ft	1/0 CU 600V neutral cable	\$1.69	\$219.70
6	Mechanical "Y" splice	\$354.84	\$2,129.04
18	Mechanical Adapter	\$10.76	\$193.68
18	Mechanical Lug	\$9.68	\$174.24
18	Mechanical Ring	\$13.98	\$251.64
6	Mechanical "I" splice	\$295.70	\$1,774.20
12	Mechanical Adapter	\$10.76	\$129.12
12	Mechanical Lug	\$9.68	\$116.16
12	Mechanical Ring	\$13.98	\$167.76
6	1/0 200A elbows	\$24.55	\$147.30
1	2,000kVA, 277/480V xfmr	\$35,806.00	\$35,806.00
Subtotal of material for Temp Transformer Pad:			\$47,944.44

Materials Associated with Permanent Power

Qty	Description	Cost/Unit	Total Cost
700 ft	1/0 CU 15kV tape shield cable	\$14.86	\$10,402.00
700 ft	1/0 CU 600V neutral cable	\$1.69	\$1,183.00
580 ft	1/0 CU 15kV tape shield cable	\$14.86	\$8,618.80
580 ft	1/0 CU 600V neutral cable	\$1.69	\$980.20
780 ft	1/0 CU 15kV tape shield cable	\$14.86	\$11,590.80
780 ft	1/0 CU 600V neutral cable	\$1.69	\$1,318.20
680 ft	1/0 CU 15kV tape shield cable	\$14.86	\$10,104.80
680 ft	1/0 CU 600V neutral cable	\$1.69	\$1,149.20
1	Various cable parallel charges	\$380.00	\$380.00
2	2,000kVA, 277/480V xfmr	\$35,806.00	\$71,612.00
12	Mechanical "Y" splice	\$391.85	\$4,702.20
60	Mechanical Adapter	\$14.20	\$852.00
60	Mechanical Lug	\$10.45	\$627.00
60	Mechanical Ring	\$12.60	\$756.00
6	Cold Shrink Straight Splice	\$212.00	\$1,272.00
18	Mechanical "I" splice	\$180.00	\$3,240.00
9	CTs (3 spare)	\$721.34	\$6,492.06
12	1/0 200A elbows	\$26.00	\$312.00
Subtotal of material for Phase 1 Power:			\$135,592.26

Materials Associated with Phase-2 Temp Power

NOTE: Cost estimate doesn't include the switchgear

NOTE: Cost estimate only includes 1 cable to the temporary transformer

NOTE: Cost estimate shows 1/0 cable, where 500 was actually installed

Qty	Description	Cost/Unit	Total Cost
140 ft	1/0 CU 15kV tape shield cable	\$14.86	\$2,080.40
140 ft	1/0 CU 600V neutral cable	\$1.69	\$236.60
140 ft	1/0 CU 15kV tape shield cable	\$14.86	\$2,080.40
140 ft	1/0 CU 600V neutral cable	\$1.69	\$236.60
425 ft	1/0 CU 15kV tape shield cable	\$14.86	\$6,315.50
425 ft	1/0 CU 600V neutral cable	\$1.69	\$718.25
30 ft	1/0 CU 15kV tape shield cable	\$14.86	\$445.80
30 ft	1/0 CU 600V neutral cable	\$1.69	\$50.70
9	Cold Shrink Straight Splice	\$212.00	\$1,908.00
3	Mechanical "Y" splice	\$391.85	\$1,175.55
9	Mechanical Adapter	\$14.20	\$127.80
9	Mechanical Lug	\$10.45	\$94.05
9	Mechanical Ring	\$12.60	\$113.40
3	1/0 200A elbows	\$26.00	\$78.00
Subtotal of material for Phase 2 Temp Power:			\$15,661.05

Material Ordered and not yet installed

Qty	Description	Cost/Unit	Total Cost
1	Switchgear (IFB 4001)	\$127,948.00	\$127,948.00
Subtotal of materials ordered, not yet installed:			\$127,948.00

Labor/Payroll paid for 2019, 2020, and 2021 until 06-17-21

1	Belmont Light Payroll - 2019		\$11,061.91
1	Belmont Light Payroll - 2020		\$16,144.98
1	Belmont Light Payroll - 2021		\$79,402.75
Subtotal for 2019, 2020, and 2021 Payroll:			\$106,609.64

Switchgear Programming and Settings Costs

1	Settings/Coordination Study (PO#210006)		\$12,800.00
1	Program and Test Switchgear (Quote)		\$7,040.00
Subtotal for Switchgear Programming and Settings:			\$19,840.00

Switchgear Installation Cost Estimate - Work still to be completed

Qty	Description	Cost/Unit	Total Cost
65 ft	1/0 "Circuit #1" primary cables	\$14.86	\$965.90
65 ft	1/0 "Circuit #1" neutral cable	\$1.69	\$109.85
65 ft	1/0 "Circuit #2" primary cables	\$14.86	\$965.90
65 ft	1/0 "Circuit #2" neutral cable	\$1.69	\$109.85
65 ft	1/0 "Fuse #1" primary cables	\$14.86	\$965.90
65 ft	1/0 "Fuse #1" neutral cable	\$1.69	\$109.85

65 ft	1/0 "Fuse #2" primary cables	\$14.86	\$965.90
65 ft	1/0 "Fuse #2" neutral cable	\$1.69	\$109.85
12	Deadbreak 600A elbows	\$48.00	\$576.00
12	Mechanical Lug	\$10.45	\$125.40
12	Mechanical Ring	\$12.60	\$151.20
12	Loadtap Reducers	\$36.00	\$432.00
	Lead Line Worker		
8 hours	(Pulling Cable)	\$53.10	\$424.80
	First Class Line Worker		
12 hours	(Pulling Cable)	\$50.54	\$606.48
	Lead Line Worker		
20 hours	(Splicing Cable)	\$53.10	\$1,062.00
	First Class Line Worker		
40 hours	(Splicing Cable)	\$50.54	\$2,021.60
	Lead Line Worker		
2 hours	(Setting/Delivery Switchgear)	\$53.10	\$106.20
	First Class Line Worker		
6 hours	(Setting/Delivery Switchgear)	\$50.54	\$303.24
8 hours	Line Superintendant	\$56.00	\$448.00
40 hours	Engineering	\$62.00	\$2,480.00

Subtotal for Switchgear Installation (to be completed): \$13,039.92

Removal of Existing/Old School Elec. Utility Facilities - Work still to be completed

Qty	Description	Cost/Unit	Total Cost
24 hours	Lead Line Worker	\$53.10	\$1,274.40
36 hours	First Class Line Worker	\$50.54	\$1,819.44
4 hours	Line Superintendant	\$56.00	\$224.00
4 hours	Engineering	\$62.00	\$248.00

Subtotal for Removal of Existing Elec. Utility Facilities: \$3,565.84

Install traffic signals on Concord Ave at Orchard and at Goden - Work still to be completed

Qty	Description	Cost/Unit	Total Cost
185 feet	W3 - 1/0 STR, 600V, XLP, 3 cond	\$5.07	\$937.95
1	Paralleling Charge	\$95.00	\$95.00
12	Lead Line Worker	\$53.10	\$637.20
12	First Class Line Worker	\$50.54	\$606.48

Subtotal for Traffic Signal Work: \$2,276.63

Total Cost Estimate to Date (07-29-21): \$472,477.78

NOTE:

Manhole and conduit route from MH-6 to MH-10 isn't yet complete.

Belmont Light Vehicle Cost Estimate for BMHS as of 07-29-21

Total Labor Hours By Year	
Year	Hours
2019	212
2020	282
2021	1492
Total:	1986

Total Labor Hours By Category	
Total Engineering / Supervisor Hours:	643
Total Linecrew Hours:	1343
Total Labor Hours:	1986

Estimated Linecrew Work By Category		
	Percentage	Hours
Cable Pulling / Removal	0.35	470.05
Cable Splicing	0.35	470.05
Other (Fire Alarm, Water Issues, Equipment Deliveries, etc...)	0.30	402.9
Total:	1	1343

Estimated Vehicle Cost for Cable Pulling / Removal			
NOTE: Estimated 5 person crew for each hour of cable pulling/removal			
Total crew hours for cable pulling / removal:	94.01		
	Hours	\$ / Hour	Total Cost
Digger Truck (Assumes 100% of crew hours)	94.01	\$110.36	\$10,374.94
Equipment Trailer (Assumes 100% of crew hours)	94.01	\$16.71	\$1,570.91
Dump Truck (Assumes 50% of crew hours)	47.005	\$57.70	\$2,712.19
Total:			\$14,658.04

Estimated Vehicle Cost for Cable Splicing			
NOTE: Estimated 2 person crew for each hour of cable splicing			
Total crew hours for cable splicing:	235.025		
	Hours	\$ / Hour	Total Cost
Bucket Truck (Used 50% of crew hours)	117.5125	\$74.72	\$8,780.53

Estimated Vehicle Cost for Other Work			
NOTE: Includes work for fire alarm, traffic signals, water/flooding issues, street lights, etc...			
NOTE: Estimated 2 person crew for each hour of other work:			
Total crew hours for Other work:	201.45		
	Hours	\$ / Hour	Total Cost
Bucket Truck (Used 100% of crew hours)	201.45	\$74.72	\$15,052.34

Estimated Vehicle Cost for Supervising and Engineering			
NOTE: Includes engineering and line supervision			
Total hours for engineering and supervision:	643		
	Hours	\$ / Hour	Total Cost
Pickup Truck (assumes 20% of hours)	128.6	\$24.84	\$3,194.42

Total Vehicle Cost:	\$41,685.34
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