

DG 18-094
Northern Utilities Inc.
Phase 1 Cost Variance Analysis
December 7, 2020

Category	Estimate	Actual	Variance	Variance Analysis
Labor (Internal)	47,616.00	888.56	46,727.44	Internal inspectors not assigned to this project.
Main Installation	354,227.91	316,937.70	37,290.21	Original estimate was for the installation of 22,377 lf of 8" main and actual installation was 21,356 because phase 1 construction stopped at Route 125.
Restoration (PV Finish)	25,200.00	2,910.10	22,289.90	Paving restoration was reduced because the Department of Transportation's line assignment for the new main was moved from road shoulder to the edge of the right-of-way.
Restoration (Binder)	91,440.00	58,043.65	33,396.35	Paving restoration was reduced because the Department of Transportation's line assignment for the new main was moved from road shoulder to the edge of the right-of-way.
Restoration (Grind & Inlay)	112,608.00	36,485.82	76,122.18	Paving restoration was reduced because the Department of Transportation's line assignment for the new main was moved from road shoulder to the edge of the right-of-way.
Restoration (Loam & seed)	23,460.00	20,023.32	3,436.68	
Crew Time	72,138.00	296,250.59	(224,112.59)	Additional crew time was required because of the slope conditions associated with the line assignment as well as the additional time with the culvert crossings.
Sand	7,992.00	4,254.82	3,737.18	
Gravel	52,375.00	22,614.82	29,760.18	Gravel requirements were reduced due to the DOT's line assignment.
Ledge Removal	155,554.14	-	155,554.14	No ledge encountered on the project.
Traffic Control	180,000.00	280,362.50	(100,362.50)	Traffic conditions resulted required in additional police and flaggers for safety reasons.
Directional Drills	126,000.00	186,300.00	(60,300.00)	River drill \$40k higher than estimate and additional drill under the rail trail not in the original estimate. Partially offset by open cut of the culvert crossings.
Materials (Direct Order)	315,897.00	343,202.01	(27,305.01)	
Environmental/Engineering/Permits	35,000.00	107,878.00	(72,878.00)	DOT's line assignment placed the main within wetland areas, which required permits and erosion control. Epping also required bonding for the project.
Extra Depth	-	19,783.64	(19,783.64)	Extra depth required for several culvert crossings.
Shoring	-	1,241.24	(1,241.24)	Trench shoring required for culvert crossings.
Shallow Main Plates	-	1,637.04	(1,637.04)	Shallow cover protection
Spoil Removal	-	32,222.85	(32,222.85)	100% haul away of spoils in certain sections due to unsuitable soil conditions.
Welder	-	10,028.73	(10,028.73)	Welding for steel casings for drills.
Saw Cutter	-	291.36	(291.36)	Additional saw cutting required because of the undermining of paving.
Backhoe (Rubber Tire)	-	10,290.75	(10,290.75)	Additional equipment for slope work.
Excavator (Large)	-	58,389.20	(58,389.20)	Additional equipment for slope work.
Excavator (Med Size)	-	4,239.15	(4,239.15)	Additional equipment for slope work.
Dewatering Equipment	-	25,718.94	(25,718.94)	Dewatering conditions for a high water table.
Crane Truck	-	1,075.20	(1,075.20)	Required for steel casing
Steel Plates	-	9,303.91	(9,303.91)	Road and driveway crossings
Misc	-	7,798.54	(7,798.54)	Compressor, Air dryer and nitrogen, utility repairs
M&S Stock Room	-	2,155.80	(2,155.80)	Misc materials from the stockroom.
Total Base cost	1,599,508.05	1,860,328.24	(260,820.19)	
Overheads	891,264.19	1,057,073.78	(165,809.59)	
Total Cost	2,490,772.24	2,917,402.02	(426,629.78)	