

DELAWARE DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL ESTIMATE

Pennsylvania Ave (SR 52) @ Union Street (SR 2) Signal Improvements

CONTRACT #: T202004001
F.A.P. #: ESTP-2019(16)
PROJECT: Pennsylvania Ave (SR 52) @ Union Street (SR 2) Signal Improvements

INTERSECTION # 1: SR 52 (Pennsylvania Avenue) at SR 2 (Union Street South)						UNIT COST		TOTAL COST
LINE	#	ITEM #	QTY	UOM	DESCRIPTION - (TYP. TAP PROJECT CONTRACTOR ITEMS) --- TRAFFIC-ONLY ASSUMED	BYERS	BYERS	
1	240	702000	800	SF	Triangular Channelizing Islands	65.00		52,000.00
2	250	705002	270	SF	Portland Cement Concrete Sidewalk, 6"	28.00		7,560.00
3	255	705007	110	SF	Sidewalk Surface Detectable Warning System	57.00		6,270.00
4	265	705009	505	SF	Curb Ramp, Type 2, 3 and/or 4	33.00		16,665.00
5	275	211001	30	SY	Removal of Existing Portland Cement Concrete Pavement, Curb, Sidewalk, Etc.	110.00		3,300.00
6	305	831545	10	LF	Furnish and Install 4" HDPE SDR-13.5 Conduit (Bore)	29.00		290.00
7	330	831502	10	LF	Furnish and Install 3" Schedule 80 PVC Conduit (Open Cut)	105.00		1,050.00
8	335	831501	80	LF	Furnish and Install 4" Schedule 80 PVC Conduit (Open Cut)	105.00		8,400.00
9	355	831514	25	LF	Furnish and Install 2-1/2" Schedule 80 PVC Conduit (Trench)	11.50		287.50
10	365	831516	85	LF	Furnish and Install 4" Schedule 80 PVC Conduit (Trench)	13.50		1,147.50
11	410	831533	10	LF	Furnish and Install 2" Galvanized Steel Conduit (Open Cut)	110.00		1,100.00
12	440	831523	30	LF	Furnish and Install 2" Galvanized Steel Conduit (Trench)	18.50		555.00
13	545	831574	40	LF	Furnish and Install Second and Subsequent Additional 4" PVC Conduits in Trench or Open Cut	5.50		220.00
14	650	830001	4	EA	Conduit Junction Well, Type 1, 20"x20" Precast Concrete	1100.00		4,400.00
15	655	830002	1	EA	Conduit Junction Well, Type 4, 20"x42.5" Precast Concrete	1400.00		1,400.00
16	840	834003	1	EA	Pole Base Type 3B	4900.00		4,900.00
17	850	834005	3	EA	Pole Base Type 4A	900.00		2,700.00
18	1240	834501	1	CY	Removal of Concrete Pole Bases and Cabinet Foundations	900.00		900.00
19	1415	817002	500	SF	Permanent Pavement Striping, Symbol/Legend Alkyd-Thermoplastic	12.00		6,000.00
20	1430	817005	70	LF	Permanent Pavement Striping, Alkyd-Thermoplastic, 5"	3.00		210.00
21	1435	817006	80	LF	Permanent Pavement Striping, Alkyd-Thermoplastic, 12"	6.00		480.00
22	1470	817013	2500	LF	Epoxy Resin Paint Pavement Striping, 5" White or Yellow	2.00		5,000.00
23	1535	817031	700	SF	Removal of Pavement Striping	7.00		4,900.00
24	1545	817571	2	EA	Retroreflective Thermoplastic Markings, Bike Symbol, Poured in Place Using Template	600.00		1,200.00
TOTAL PROJECT CONTRACTOR ITEMS						→		130,935.00

INTERSECTION # 1: SR 52 (Pennsylvania Avenue) at SR 2 (Union Street South)						UNIT COST		TOTAL COST
LINE	#	ITEM #	QTY	UOM	DESCRIPTION - (TRAFFIC CONTRACTOR ITEMS)	BYERS	BYERS	
1	65	832008	265	LF	Furnish & Install 1-conductor #6 AWG Stranded Copper	2.30		609.50
2	90	832027	90	LF	Furnish & Install 2-conductor #14 AWG Aluminum Shielded Cable	2.50		225.00
3	95	832029	75	LF	Furnish & Install #8/2 wire UF W/ground	4.55		341.25
4	105	832032	300	LF	Furnish & Install 14/4 Traffic Control Cable	2.50		750.00
5	110	832037	530	LF	Furnish & Install 14/5 Traffic Control Cable	2.65		1,404.50
6	115	832033	100	LF	Furnish & Install 14/9 Traffic Control Cable	3.20		320.00
7	120	832034	15	LF	Furnish & Install 14/16 Traffic Control Cable	4.25		63.75
8	135	846001	140	LF	Furnish & Install Loop Wire 1-conductor #14 AWG encased in 1/4" Flexible Tubing in a Loop Sawcut	15.00		2,100.00
9	140	846002	15	LF	Furnish & Install a 1-1/2 inch Galvanized Rigid Metal Conduit Detector Sleeve with Loop Wire	15.00		225.00
10	155	832502	1	EA	Triplex Splice	200.00		200.00
11	710	802003	20	EA-DY	Arrow Panels, Type C	45.00		900.00
12	715	803001	28	EA-DY	Furnish & Maintain Portable Changeable Message Board	145.00		4,060.00
13	720	804001	20	EA-DY	Furnish & Maintain Portable Light Assembly (Flood Lights)	225.00		4,500.00
14	725	805001	600	EA-DY	Plastic Drums	4.00		2,400.00
15	730	806001	16	HR	Traffic Officers	75.00		1,200.00
16	745	810001	160	EA-DY	Temporary Warning Signs and Plaques	18.00		2,880.00
17	750	811001	100	HR	Flagger, New Castle County, State	84.00		8,400.00
18	765	811013	20	HR	Flagger, New Castle County, State, Overtime	122.00		2,440.00
19	780	813001	300	LF-DY	Temporary Barricades, Type III	6.00		1,800.00
20	885	836502	3	EA	Furnish & Install Pedestal Pole - Black Powder Coated	1350.00		4,050.00
21	895	836500	1	EA	Installation of Steel Mast Arm Pole with Single Mast Arm Greater than 70'	4500.00		4,500.00
22	970	837002	14	EA	Furnish & Install 12" LED Signal Head Section Rigid Mount	340.00		4,760.00
23	985	837007	4	EA	Furnish & Install Signal Head Backplate	325.00		1,300.00
24	1000	837008	4	EA	Furnish & Install 16" LED Countdown Pedestrian Signal	650.00		2,600.00
25	1010	837010	4	EA	Furnish & Install Pedestrian Pushbutton with Sign	250.00		1,000.00
26	1135	822500	2	EA	Install Overhead Sign	300.00		600.00
TOTAL TRAFFIC CONTRACTOR ITEMS						→		53,629.00

INTERSECTION # 1: SR 52 (Pennsylvania Avenue) at SR 2 (Union Street South)						UNIT COST		TOTAL COST
LINE	#	ITEM #	QTY	UOM	DESCRIPTION - (TRAFFIC SUPPLY ITEMS)	BYERS	BYERS	
1	2180	999490	1	EA	Steel Round Mast Arm Pole, TYPE C (70' - 90' Arm Length) - Black Powder Coated	10885.68		10,885.68
2	2250	999504	1	EA	90' (27.4m) Steel Round Mast Arm - Black Powder Coated	19848.40		19,848.40
3	2435	999601	4	EA	Rouleau Sign Brackets (2 per average sign, 3 per longer sign)	115.00		460.00
TOTAL TRAFFIC SUPPLY ITEMS						→		31,194.08

TOTAL PROJECT CONTRACTOR ITEMS	→	→	130,935.00
TOTAL TRAFFIC CONTRACTOR ITEMS	→	→	53,629.00
TOTAL TRAFFIC SUPPLY ITEMS	→	→	31,194.08
CONTINGENCIES	→	→	21,575.81
TOTAL CONSTRUCTION COST (DelDOT Traffic Funding)	→	→	237,333.89
WRA Design Fee (CoW Task)	→	→	25,000.00

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"Phase 1" Improvements - Traffic Signal Only

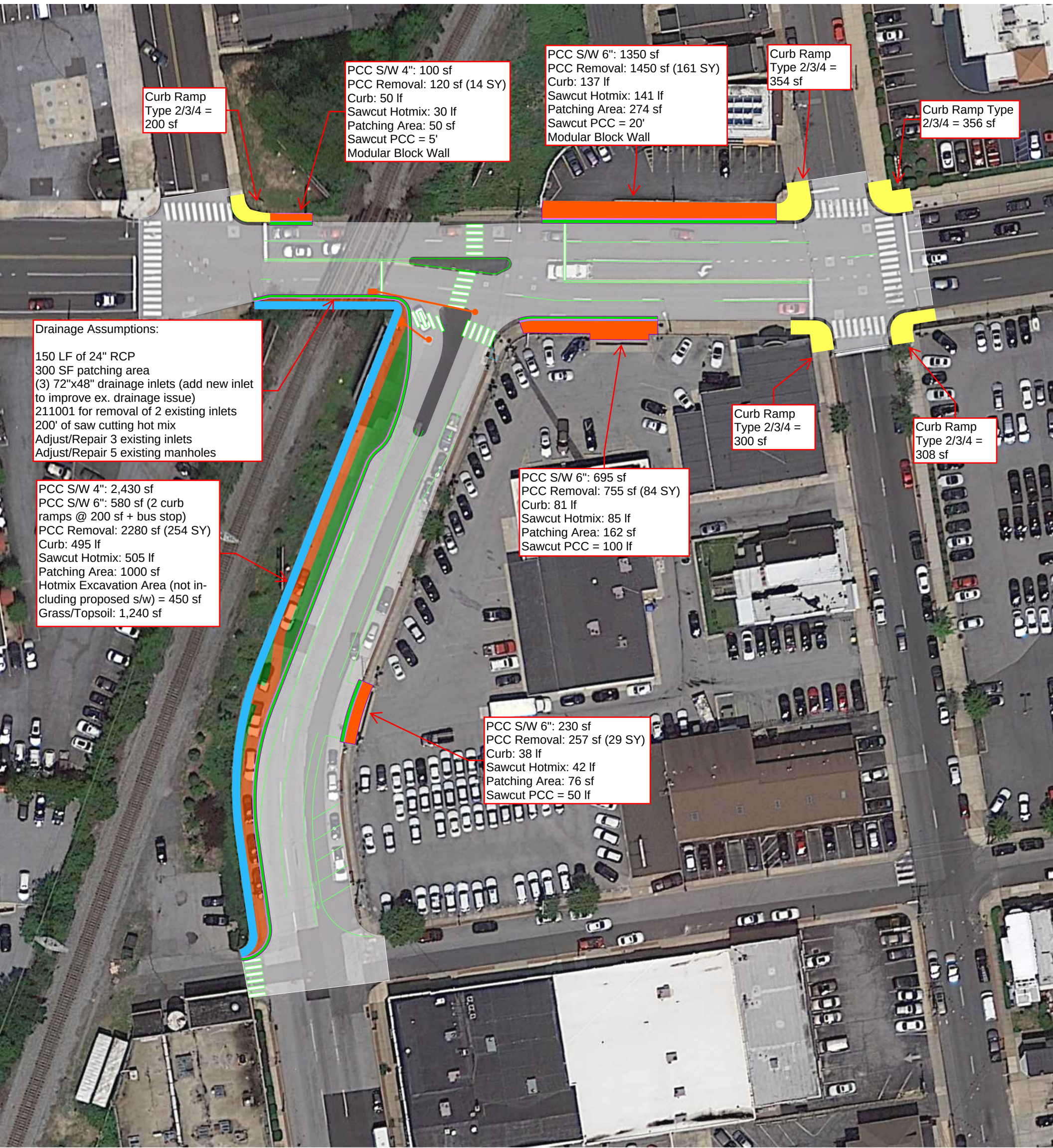
**Pennsylvania Ave / Union St Intersection Improvements
Concept Cost Estimate - Phase 2 ADA Improvements**

June 2019

Item No.	Item Description	Quantity	Units	Unit Price	Total Cost
Division 200 - Earthwork					\$39,500.00
201000	Clearing and Grubbing	1	LS	\$5,000.00	\$5,000.00
202000	Excavation and Embankment	300	CY	\$40.00	\$12,000.00
209006	Borrow, Type F	100	CY	\$40.00	\$4,000.00
211000	Removal of Structures and Obstructions	1	LS	\$5,000.00	\$5,000.00
211001	Removal Of Portland Cement Concrete Pavement, Curb And Sidewalk	540	SY	\$25.00	\$13,500.00
Division 300 - Bases					\$5,000.00
301002	Graded Aggregate Base Course, Type B, Patching	50	CY	\$100.00	\$5,000.00
Division 400 - Bituminous Materials					\$140,910.00
401005	Superpave Type C, PG 64-22 (Carbonate Stone)	581	TON	\$210.00	\$122,010.00
401030	Superpave Type B, PG 64-22, Patching	39	TON	\$210.00	\$8,190.00
401031	Superpave Type BCBC, PG64-22, Patching	51	TON	\$210.00	\$10,710.00
Division 600 - Structures					\$83,500.00
601035	Reinforced Concrete Pipe, 24", Class IV	150	LF	\$150.00	\$22,500.00
602009	Drainage Inlet, 72"x24"	3	EA	\$5,000.00	\$15,000.00
602130	Adjusting and Repairing Existing Drainage Inlet	3	EA	\$1,500.00	\$4,500.00
602132	Adjusting and Repairing Existing Manhole	5	EA	\$1,500.00	\$7,500.00
602502	Convert Existing Catch Basin to Manhole	1	EA	\$2,000.00	\$2,000.00
607010	Modular Block Retaining Walls	200	SF	\$160.00	\$32,000.00
Division 700 - Miscellaneous Construction					\$288,120.00
701012	P.C.C. Curb 1-6	850	LF	\$32.00	\$27,200.00
705001	P.C.C. Sidewalk, 4"	2,530	SF	\$10.00	\$25,300.00
705002	P.C.C. Sidewalk, 6"	2,855	SF	\$14.00	\$39,970.00
705009	Pedestrian Connection	1,518	SF	\$35.00	\$53,130.00
760010	Pavement Milling, Bituminous Concrete Pavement	10000	SY-IN	\$3.00	\$30,000.00
762000	Saw Cutting, Bituminous Concrete	1100	LF	\$4.00	\$4,400.00
762001	Saw Cutting, Concrete, Full Depth	140	LF	\$8.00	\$1,120.00
763000	Initial Expense/De-Mobilization	1	LS	\$60,000.00	\$60,000.00
763501	Construction Engineering	1	LS	\$15,000.00	\$15,000.00
763597	Utility Construction Engineering	40	HR	\$175.00	\$7,000.00
	Adjust Existing Utilities	1	EA	\$25,000.00	\$25,000.00
Division 800 - Traffic					\$221,000.00
801000	Maintenance of Traffic	1	LS	\$160,000.00	\$160,000.00
851000	Relocate Existing Light Standard	4	EA	\$4,000.00	\$16,000.00
	Embedded sidewalk lighting	1	LS	\$30,000.00	\$30,000.00
	Signing and Marking	1	LS	\$15,000.00	\$15,000.00
Division 900 - Erosion, Sediment, and Stormwater Measures					\$10,000.00
908004	Topsoil, 6" Depth	140	SY	\$10.00	\$1,400.00
908016	Permanent Grass Seeding, Subdivision	140	SY	\$2.00	\$280.00
911000	Plantings	1	LS	\$10,000.00	\$10,000.00
SUB-TOTAL (CONSTRUCTION)					\$788,030.00
	Engineering/Survey/Design Services				\$150,000.00
	Construction contingency (30%)		30%		\$236,000.00
TOTAL					\$1,174,030.00

Penn Ave/Union Street Phase 2 ADA Improvements - Quantity Calcs

See 32160-00/CADD/Highway/Working/wk_Alt 1 quantities_Phase 2_KOC.dgn



January 2019

