

Appendix G – Cost Estimates

ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

Greater Buffalo-Niagara Regional Transportation Council
Goodell Street Corridor Study
Buffalo, NY

Goodell St Alternate 2

Description	Total
Rehabilitated Roadway Pavement	\$ 1,014,463.76
Reconstructed Roadway Drainage	\$ 197,308.20
New/Reconstructed Sidewalk and Snow Storage	\$ 627,983.06
Pedestrian crossing Items	\$ 46,958.33
New Signal Detection/ Modify Signal heads	\$ 140,000.00
New Traffic Signal at Goodell Street / Elm Street	\$ 131,790.00
Pavement Markings	\$ 64,071.00
Planting strips and trees	\$ 54,663.33
Work Zone Traffic Control (Assume 8%)	\$ 182,179.01
Survey Operations (Assume 3%)	\$ 73,782.50
Mobilization (Assume 4%)	\$ 101,327.97
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Subtotal Construction Cost	\$ 2,634,527.16
Contingency (Planning stage 30%)	\$ 790,358.15
Total Construction Cost (2023 Dollars)	\$ 3,424,885.31



Project: Goodell St Corridor Sheet: _____
Alternate 2 File: Goodell
 Prepared by: _____ Date: _____
 Checked by: _____ Date: _____

		Total Roadway	\$	1,014,463.76
Existing Pavement Removal			\$	132,700.15
Area	61216 SF			
Depth	2 FT			
Volume	4534.52 CY			
Cost per CY	\$ 20.00	Unclassified Excavation and Disposal (Item 203.02)		
Area	10502.44 SY			
Cost per SY	\$2.00	Milling (Item 490.10)		\$21,004.89
Assumed Roadway Section			\$	307,288.06
Subbase			\$	28,723.78
Area	13606 SF			
Depth	1 FT			
Volume	503.93 CY			
Cost Per CY	\$ 57.00	Subbase (Full Depth areas)(Item 304.12)		
Base Course			\$	61,227.00
Area	13606 SF			
Depth	0.667 FT			
Volume	9070.67 CF			
Ton	680.3 TON			
Cost per ton	\$ 90.00	Base Course (Full Depth Areas)(Item 402.376903)		
Binder Course			\$	120,022.08
Area	108128 SF			
Depth	0.17 FT			
Volume	18021.33 CF			
Ton	1333.58 TON			
Cost per ton	\$ 90.00	Binder Course (Full Depth Areas) (Item 402.196904)		
Top Course			\$	97,315.20
Area	108128 SF			
Depth	0.125 FT			
Volume	13516 CF			
Ton	973.152 TON			
Cost per ton	\$ 100.00	Top Course (Item 402.096204)		
Miscellaneous items			\$	574,475.56
Curb			\$	510,225.00
Length	6803 LF			
Cost per ft	\$ 75.00	Stone curb (ITEM 609.0212)		
Underdrain			\$	34,015.00
Length	6803 LF			
Cost per ft	\$ 5.00	Perforated underdrain (Item 605.1501)		
Underdrain Filter			\$	30,235.56
Length	6803 LF			
Width	1 LF			
Depth	3 LF			
Volume	755.89 CY			
Cost per CY	\$40.00	Underdrain Filter (Item 605.1001)		



Project: Goodell St Corridor Sheet: _____
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 Prepared by: _____ Date: _____
 Checked by: _____ Date: _____

	Drainage	\$	197,308.20
Drainage Pipes		\$	46,000.00
Pipes		\$	34,500.00
Length	345 LF		
Cost per Length	\$100.00 SICPP 24" Dia (603.9824)		
Excavation		\$	4,600.00
Length	345 FT		
Width	6 FT		
Depth	2 FT		
Volume	153.3333 CY		
Cost per CY	\$30.00 Trench and Culvert (Item 206.0201)		
Backfill		\$	6,900.00
Length	345 FT		
Width	6 FT		
Depth	2 FT		
Volume	153.3333 CY		
Cost Per CY	\$45.00 Select Granular Fill (Item 203.07)		
Drainage Structures		\$	151,308.20
NYS DOT Structure			
Depth	115 LF	\$	103,500.00
Cost per LF	\$900.00 Type T (Item 604.302016)		
Grate	23 EA	\$	29,900.00
Cost per EA	\$1,300.00 Item 655.1116		
Excavation		\$	8,457.75
Sq Ft	66		
Depth	115		
Volume	282 CY		
Cost per CY	\$30.00 Trench and Culvert (Item 206.0201)		
Backfill		\$	9,450.44
Sq Ft	49 FT		
Depth	115 FT		
Volume	210 CY		
Cost Per CY	\$45.00 Select Granular Fill (Item 203.07)		
City of Buffalo Structure			
2X2 Catch Basin		\$	-
Cost per EA	\$5,000.00 COB Structure with Curb Box (ITEM 664.505220ER)		



Project: Goodell St Corridor Sheet: _____
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 Checked by: _____ Date: _____

		Sidewalk	\$	627,983.06
Sidewalk Removal				
Area	37805 SF		\$	28,003.70
Depth	1 LF			
Volume	1400.185 CY			
Cost per CY	\$ 20.00 Unclassified Excavation and Disposal (Item 203.02)			
Sidewalk Installation			\$	599,979.35
Subbase			\$	39,905.28
Area	37805 SF			
Depth	0.5 FT			
Volume	700.0926 CY			
Cost Per CY	\$ 57.00 Subbase (Item 304.12)			
Concrete			\$	560,074.07
Area	37805 SF			
Depth	0.5 FT			
Volume	700.0926 CY			
Cost Per CY	\$800.00 Concrete for Sidewalks and Driveways (Item 608.0101)			



Project: Goodell St Corridor Sheet: _____
Alternate 2 File: Goodell
 Prepared by: _____ Date: _____
 Checked by: _____ Date: _____

				Pedestrian crossings	\$	46,958.33
Curb						
Length	315	LF			\$	23,625.00
Cost per LF	\$ 75.00	Stone curb (ITEM 609.0212)				
				Embedded Detectable Warning units	\$	23,333.33
Area	46.66667	SY				
Cost Per SY	\$500	Embedded Detectable Warning units (Item 608.21000003)				
				Pedestrian Signal	\$	-
				Cost		
LED Signal Head	EA	(ITEM 680.813105)	\$300.00	\$		-
LED Countdown	EA	(ITEM 680.81500010)	\$275.00	\$		-
Section	EA	(Item 680.813106)	\$250.00	\$		-
Push Button	EA	(Item 680.81330010)	\$1,100.00	\$		-
Push Button and Pole	EA	(Item 680.81340010)	\$2,500.00	\$		-
Bracket Mount	EA	(Item 680.8141)	\$500.00	\$		-
Post Mount	EA	(Item 680.8142)	\$325.00	\$		-
Post	EA	(Item 680.6710)	\$1,750.00	\$		-
Foundation	CY	(Item 680.5001)	\$2,000.00	\$		-
Wire (button)	LF	(Item 680.730314)	\$4.50	\$		-
Wire (Ped Signal)	LF	(Item 680.730514)	\$5.00	\$		-



Project: Goodell St Corridor Sheet: _____
Alternate 2 File: Goodell
 Prepared by: _____ Date: _____
 Checked by: _____ Date: _____

				Signal	\$131,790.00
				Signal	\$131,790.00
				Cost	
Controller	1 EA	(Item 680.80149305)	\$18,000.00	\$18,000.00	
Controller Base	1 EA	(Item 680.80324708)	\$1,500.00	\$1,500.00	
Controller concrete Base	1 EA	(Item 680.5002)	\$5,000.00	\$5,000.00	
Meter Pedestal	1 EA	(Item 690.)	\$10,000.00	\$10,000.00	
Signal Pole w/ dual mast arm	1 EA	(Item 680.651836)	\$25,000.00	\$25,000.00	
Signal Pole w/ mast arm and light	EA	(Item 680.641836)	\$18,000.00	\$0.00	
Signal Heads	18 EA	(Item 680.8101XX)	\$130.00	\$2,340.00	
Signal Head Section	18 EA	(Item 680.810107)	\$225.00	\$4,050.00	
LED ped Signal Head	4 EA	(ITEM 680.813105)	\$300.00	\$1,200.00	
LED Countdown Section	4 EA	(ITEM 680.81500010)	\$275.00	\$1,100.00	
Push Button	8 EA	(Item 680.815106)	\$250.00	\$2,000.00	
Push Button and Pole Bracket Mount	4 EA	(Item 680.81330010)	\$1,100.00	\$4,400.00	
Post Mount	EA	(Item 680.81340010)	\$2,500.00	\$0.00	
Post	EA	(Item 680.8141)	\$500.00	\$0.00	
Foundation	4 EA	(Item 680.8142)	\$325.00	\$1,300.00	
Wire (button)	4 EA	(Item 680.6710)	\$1,750.00	\$7,000.00	
Wire (Ped Signal)	7 CY	(Item 680.5001)	\$2,000.00	\$14,000.00	
Wire (Signal)	400 LF	(Item 680.730314)	\$4.50	\$1,800.00	
Pull boxes	400 LF	(Item 680.730514)	\$5.00	\$2,000.00	
Conduit	200 LF	(Item 680.730714)	\$5.50	\$1,100.00	
MioVision	4 EA	(Item 680.510301)	\$2,000.00	\$8,000.00	
	200 EA	(Item 680.520508)	\$20.00	\$4,000.00	
	1 EA	(Item 680.05010007)	\$18,000.00	\$18,000.00	



Project: Goodell St Corridor Sheet: _____
Alternate 2 File: Goodell
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Checked by: _____ Date: _____

Signal \$140,000.00

Signal

			Cost	<u>\$140,000.00</u>
MioVision	5 EA	(Item 680.05010007)	\$18,000.00	\$90,000.00
Modify Signals	5 EA	(Item 680.77000105)	\$10,000.00	\$50,000.00



Project: Goodell St Corridor Sheet: _____
Alternate 2 File: Goodell
 Prepared by: _____ Date: _____
 Checked by: _____ Date: _____

				Pavement Markings	\$	64,071.00
Markings						
White 4"				Cost		
Length	20409 LF	(Item 685.11)		\$ 2.00	\$	40,818.00
Yellow 4"						
Length	0 LF	(Item 685.12)		\$ 2.00	\$	-
Symbols	15 EA	(Item 685.14)		\$ 275.00	\$	4,125.00
X-Walk L	686 LF					
Payment Factor	8232	(Item 685.11)		\$ 2.00	\$	16,464.00
Stop Bar	296 LF					
Payment Factor	1332 LF	(Item 685.11)		\$ 2.00	\$	2,664.00
Yellow 4" FBL						
Length	0 LF					
Payment Factor	0 LF	(Item 685.12)		\$ 2.00	\$	-



Project: Goodell St Corridor Sheet: _____
Alternate 2 File: Goodell
 Prepared by: _____ Date: _____
 Checked by: _____ Date: _____

	Planting & Trees	\$	54,663.33
Existing Material Removal			\$ -
Area	SF		
Depth	1 LF		
Volume	0 CY		
Cost per CY	\$20.00 Unclassified Excavation and Disposal (Item 203.02)		
Topsoil			\$ 44,083.33
Area	47610 SF		
Depth	0.333333 LF		
Volume	587.7778 CY		
Cost per CY	\$75.00 Topsoil (Item 610.1402)		
Seed			\$ 10,580.00
Area	47610 SF		
Area	5290 SY		
Cost per SY	\$2.00 Turf (Item 610.1602)		
Trees			\$ -
Cost per EA	EA	\$700.00 (Item 611.0291)	

ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

Greater Buffalo-Niagara Regional Transportation Council
Goodell Street Corridor Study
Buffalo, NY

Tupper St Alternate 2

Description	Total
Rehabilitated Roadway Pavement	
Reconstructed Roadway Drainage	
New/Reconstructed Sidewalk and Snow Storage	
Pedestrian crossing Items	\$ 60,500.00
New Signal Detection/ Modify Signal heads	\$ 140,000.00
Pavement Markings	\$ 18,061.00
Work Zone Traffic Control (Assume 8%)	\$ 17,484.88
Survey Operations (Assume 3%)	\$ 7,081.38
Mobilization (Assume 4%)	\$ 9,725.09
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Subtotal Construction Cost	\$ 252,852.35
Contingency (Planning stage 30%)	\$ 75,855.70
Total Construction Cost (2023 Dollars)	\$ 328,708.05



Project: Goodell St Corridor Sheet: _____
Alternate 2 File: Tupper St
 Prepared by: _____ Date: _____
 Checked by: _____ Date: _____

	Total Roadway	\$436,182
Existing Pavement Removal		\$41,030
Area	7045 SF	
Depth	2 FT	
Volume	522 CY	
Cost per CY	\$20.00 Unclassified Excavation and Disposal (Item 203.02)	
Area	68834 SF	
Cost per SY	\$2.00 Milling (Item 490.10)	\$15,296
Assumed Roadway Section		\$145,450
Subbase		\$14,873
Area	7045 SF	
Depth	1 FT	
Volume	260.93 CY	
Cost Per CY	\$57.00 Subbase (Full Depth areas)(Item 304.12)	
Base Course		\$31,703
Area	7045 SF	
Depth	0.667 FT	
Volume	4696.667 CF	
Ton	352 TON	
Cost per ton	\$90.00 Base Course (Full Depth Areas)(Item 402.376903)	
Binder Course		\$7,820
Area	7045 SF	
Depth	0.167 FT	
Volume	1174.167 CF	
Ton	87 TON	
Cost per ton	\$ 90.00 Binder Course (Full Depth Areas) (Item 402.196904)	
Top Course		\$91,055
Area	75879 SF	
Depth	0.167 FT	
Volume	12646.5 CF	
Ton	910.548 TON	
Cost per ton	\$ 100.00 Top Course (Item 402.096204)	
Miscellaneous items		\$249,702
Curb (NOT INCLUDING RAMPS AREAS)		\$221,775
Length	2957 LF	
Cost per ft	\$ 75.00 Stone curb (ITEM 609.0212)	
Underdrain		\$14,785
Length	2957 LF	
Cost per ft	\$ 5.00 Perforated underdrain (Item 605.1501)	
Underdrain Filter		\$13,142
Length	2957 LF	
Width	1 LF	
Depth	3 LF	
Volume	328.56 CY	
Cost per CY	\$40.00 Underdrain Filter (Item 605.1001)	



Project:	Goodell St Corridor	Sheet:	
	Alternate 2	File:	Tupper St
Prepared by:		Date:	
Checked by:		Date:	

		Drainage	\$99,000
Drainage Pipes		\$24,000	
Pipes		\$18,000	
Length	180 LF		
Cost per Length	\$100.00 SICPP 24" Dia (603.9824)		
Excavation		\$2,400	
Length	180 FT		
Width	6 FT		
Depth	2 FT		
Volume	80 CY		
Cost per CY	\$30.00 Trench and Culvert (Item 206.0201)		
Backfill		\$3,600	
Length	180 FT		
Width	6 FT		
Depth	2 FT		
Volume	80 CY		
Cost Per CY	\$45.00 Select Granular Fill (Item 203.07)		
Drainage Structures		\$75,000	
NYSDOT Structure			
Depth	LF	\$0	
Cost per LF	\$900.00 Type T (Item 604.302016)		
Grate			
Cost per EA	\$1,300.00 Item 655.1116	\$0	
Excavation		\$0	
Sq Ft			
Depth			
Volume	0 CY		
Cost per CY	\$30.00 Trench and Culvert (Item 206.0201)		
Backfill		\$0	
Sq Ft	FT		
Depth	2 FT		
Volume	0 CY		
Cost Per CY	\$45.00 Select Granular Fill (Item 203.07)		
City of Buffalo Structure			
2X2 Catch Basin	9	\$75,000	
Cost per EA	\$5,000.00 COB Structure with Curb Box (ITEM 664.505220ER)		
	3		
Cost per EA	\$10,000.00 COB Structure TYPE 1 SIDE INLET (ITEM 664.505200ER)		



Project: Goodell St Corridor Sheet: _____
Alternate 2 File: Tupper St
 Prepared by: _____ Date: _____
 Checked by: _____ Date: _____

		Sidewalk	\$548,981
Sidewalk Removal			
Area	33049 SF	\$	24,481
Depth	1 LF		
Volume	1224.04 CY		
Cost per CY	\$ 20.00 Unclassified Excavation and Disposal (Item 203.02)		
		\$	524,500
Sidewalk Installation			
Subbase		\$	34,885.06
Area	33049 SF		
Depth	0.5 FT		
Volume	612.0185 CY		
Cost Per CY	\$ 57.00 Subbase (Item 304.12)		
Concrete		\$	489,615
Area	33049 SF		
Depth	0.5 FT		
Volume	612.0185 CY		
Cost Per CY	\$800.00 Concrete for Sidewalks and Driveways (Item 608.0101)		



Project: Goodell St Corridor Sheet: _____
Alternate 2 File: Tupper St
 Prepared by: _____ Date: _____
 Checked by: _____ Date: _____

			Pedestrian crossings	\$60,500
Curb	(AT RAMPS)			
Length		540 LF		\$ 40,500
Cost per LF	\$ 75.00	Stone curb (ITEM 609.0212)		
Embedded Detectable Warning units				\$ 20,000
Area		40.00 SY		
Cost Per SY	\$500	Embedded Detectable Warning units (Item 608.21000003)		
Pedestrian Signal				\$ -
			Cost	
LED Signal Head	EA	(ITEM 680.813105)	\$300.00	\$ -
LED Countdown	EA	(ITEM 680.81500010)	\$275.00	\$ -
Section	EA	(Item 680.813106)	\$250.00	\$ -
Push Button	EA	(Item 680.81330010)	\$1,100.00	\$ -
Push Button and Pole	EA	(Item 680.81340010)	\$2,500.00	\$ -
Bracket Mount	EA	(Item 680.8141)	\$500.00	\$ -
Post Mount	EA	(Item 680.8142)	\$325.00	\$ -
Post	EA	(Item 680.6710)	\$1,750.00	\$ -
Foundation	CY	(Item 680.5001)	\$2,000.00	\$ -
Wire (button)	LF	(Item 680.730314)	\$4.50	\$ -
Wire (Ped Signal)	LF	(Item 680.730514)	\$5.00	\$ -



Project: Goodell St Corridor Sheet: _____
Alternate 2 File: Tupper St
Prepared by: _____ Date: _____
Checked by: _____ Date: _____

			Signal	\$140,000.00
			Cost	\$140,000.00
MioVision	5 EA	(Item 680.05010007)	\$18,000.00	\$90,000.00
Modify Signals	5 EA	(Item 680.77000105)	\$10,000.00	\$50,000.00



Project: Goodell St Corridor Sheet:
Alternate 2 File: Tupper St
 Prepared by: Date:
 Checked by: Date:

Pavement Markings \$ 18,061

Markings

			Cost	
White 4"				
Length	342.5 LF	(Item 685.11)	\$ 2.00	\$ 685
Yellow 4"				
Length	LF	(Item 685.12)	\$ 2.00	\$ -
Symbols	14 EA	(Item 685.14)	\$ 275.00	\$3,850
X-Walk L	410 LF			
Payment Factor	4920	(Item 685.11)	\$ 2.00	\$ 9,840
Stop Bar	150 LF			
Payment Factor	675 LF	(Item 685.11)	\$ 2.00	\$ 1,350
Yellow 4" FBL				
Length	1168 LF			
Payment Factor	2 LF	(Item 685.12)	\$ 2.00	\$ 2,336



Project: Goodell St Corridor Sheet: _____
 Alternate 2 File: Tupper St
 Prepared by: _____ Date: _____
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		Planting & Trees	\$ -
Existing Material Removal		\$ -	
Area	SF		
Depth	1 LF		
Volume	0 CY		
Cost per CY	\$20.00	Unclassified Excavation and Disposal (Item 203.02)	
Topsoil		\$ -	
Area	0 SF		
Depth	0.333333 LF		
Volume	0 CY		
Cost per CY	\$75.00	Topsoil (Item 610.1402)	
Seed		\$ -	
Area	0 SF		
Area	0 SY		
Cost per SY	\$2.00	Turf (Item 610.1602)	
Trees		\$ -	
Cost per EA	\$700.00	(Item 611.0291)	



Project: Goodell St Corridor Sheet: _____
Alternate 2 File: Goodell
Prepared by: _____ Date: _____
Checked by: _____ Date: _____

Pavement

- Full Depth Pavement will occur at drainage replacement locations and along proposed curb
- All other areas will receive a one course mill and overlay

Drainage

- All structures are type T along Goodell and are assumed to be replaced in similar locations
- All other structures are assumed to be COB 2' x 2' structures
- Select Granular Fill is assumed for back fill of pipe and NYSDOT structures (COB are all inclusive items)

Sidewalks

- Sidewalk is calculated for the street indicated unless other work is not being done on the side street then it is included in the main street

Pedestrian Crossings

- All markings are included in the marking estimate
- Costs are associated with the street crossing unless there is no other work on the side street then all crossings at an intersection are included

Striping and Markings

- Type L crosswalks are assumed for signalized intersections and LS for non-signalized intersections per City of Buffalo Standard
- Stop bars are assumed to be standard 18"
- Parking Lanes assumes Parking spaces of 18' length

Planting Strips and Trees

- Planting is calculated based on the green strips on the plans, widths greater than 5' include trees pits

Signals

- Updated detection (Miovision will be required at all signals impacted.
- Assumed mast arms can accommodate shifting signal heads
- Elm and Goodell will have a new signal

ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

Greater Buffalo-Niagara Regional Transportation Council
Goodell Street Corridor Study
Buffalo, NY

Pearl St Alternate 2

Description	Total
Rehabilitated Roadway Pavement	\$ 217,218.28
Reconstructed Roadway Drainage	\$ 31,666.67
New/Reconstructed Sidewalk and Snow Storage	\$ 204,250.22
Pedestrian crossing Items	\$ 3,361.11
New Signal Detection/ Modify Signal heads	\$ 28,000.00
Pavement Markings	\$ 7,719.00
Planting strips and trees	\$ 13,986.07
Work Zone Traffic Control (Assume 8%)	\$ 40,496.11
Survey Operations (Assume 3%)	\$ 16,400.92
Mobilization (Assume 4%)	\$ 22,523.94
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Subtotal Construction Cost	\$ 585,622.32
Contingency (Planning stage 30%)	\$ 175,686.70
Total Construction Cost (2023 Dollars)	\$ 761,309.02



Project: Goodell St Corridor Sheet: _____
Alternate 2 File: Pearl St
 Prepared by: _____ Date: _____
 Checked by: _____ Date: _____

		Total Roadway	\$217,218
Existing Pavement Removal		\$18,315	
Area	8766 SF		
Depth	2 FT		
Volume	649 CY		
Cost per CY	\$20.00 Unclassified Excavation and Disposal (Item 203.02)		
Area	11988 SF		
Cost per SY	\$2.00 Milling (Item 490.10)	\$2,664	
Assumed Roadway Section		\$92,588	
Subbase		\$18,506	
Area	8766 SF		
Depth	1 FT		
Volume	324.67 CY		
Cost Per CY	\$57.00 Subbase (Full Depth areas)(Item 304.12)		
Base Course		\$39,447	
Area	8766 SF		
Depth	0.667 FT		
Volume	5844.000 CF		
Ton	438 TON		
Cost per ton	\$90.00 Base Course (Full Depth Areas)(Item 402.376903)		
Binder Course		\$9,730	
Area	8766 SF		
Depth	0.167 FT		
Volume	1461.000 CF		
Ton	108 TON		
Cost per ton	\$ 90.00 Binder Course (Full Depth Areas) (Item 402.196904)		
Top Course		\$24,905	
Area	20754 SF		
Depth	0.167 FT		
Volume	3459 CF		
Ton	249.048 TON		
Cost per ton	\$ 100.00 Top Course (Item 402.096204)		
Miscellaneous items		\$106,316	
Curb (NOT INCLUDING RAMPS AREAS)		\$94,425	
Length	1259 LF		
Cost per ft	\$ 75.00 Stone curb (ITEM 609.0212)		
Underdrain		\$6,295	
Length	1259 LF		
Cost per ft	\$ 5.00 Perforated underdrain (Item 605.1501)		
Underdrain Filter		\$5,596	
Length	1259 LF		
Width	1 LF		
Depth	3 LF		
Volume	139.89 CY		
Cost per CY	\$40.00 Underdrain Filter (Item 605.1001)		



Project: Goodell St Corridor Sheet: _____
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 Checked by: _____ Date: _____

		Drainage	\$31,667
Drainage Pipes		\$6,667	
Pipes		\$5,000	
Length	50 LF		
Cost per Length	\$100.00 SICPP 24" Dia (603.9824)		
Excavation		\$667	
Length	50 FT		
Width	6 FT		
Depth	2 FT		
Volume	22.22222 CY		
Cost per CY	\$30.00 Trench and Culvert (Item 206.0201)		
Backfill		\$1,000	
Length	50 FT		
Width	6 FT		
Depth	2 FT		
Volume	22.22222 CY		
Cost Per CY	\$45.00 Select Granular Fill (Item 203.07)		
Drainage Stuctures		\$25,000	
NYS DOT Structure			
Depth	LF		\$0
Cost per LF	\$900.00 Type T (Item 604.302016)		
Grate			\$0
Cost per EA	\$1,300.00 Item 655.1116		
Excavation			\$0
Sq Ft			
Depth			
Volume	0 CY		
Cost per CY	\$30.00 Trench and Culvert (Item 206.0201)		
Backfill			\$0
Sq Ft	FT		
Depth	2 FT		
Volume	0 CY		
Cost Per CY	\$45.00 Select Granular Fill (Item 203.07)		
City of Buffalo Structure			
2X2 Catch Basin	5		\$25,000
Cost per EA	\$5,000.00 COB Structure with Curb Box (ITEM 664.505220ER)		



Project:	<u>Goodell St Corridor</u>	Sheet:	<u> </u>
	<u>Alternate 2</u>	File:	<u>Pearl St</u>
Prepared by:	<u> </u>	Date:	<u> </u>
Checked by:	<u> </u>	Date:	<u> </u>

		Sidewalk	\$204,250
Sidewalk Removal			
Area	12296 SF	\$	9,108
Depth	1 LF		
Volume	455.41 CY		
Cost per CY	\$ 20.00 Unclassified Excavation and Disposal (Item 203.02)		
		\$	195,142
Sidewalk Installation			
Subbase		\$	12,979.11
Area	12296 SF		
Depth	0.5 FT		
Volume	227.7037 CY		
Cost Per CY	\$ 57.00 Subbase (Item 304.12)		
Concrete		\$	182,163
Area	12296 SF		
Depth	0.5 FT		
Volume	227.7037 CY		
Cost Per CY	\$800.00 Concrete for Sidewalks and Driveways (Item 608.0101)		



Project: Goodell St Corridor Sheet: _____
Alternate 2 File: Pearl St
 Prepared by: _____ Date: _____
 Checked by: _____ Date: _____

				Pedestrian crossings	\$3,361
Curb	(AT RAMPS)				
Length		30 LF		\$	2,250
Cost per LF	\$	75.00	Stone curb (ITEM 609.0212)		
Embedded Detectable Warning units				\$	1,111
Area	2.22	SY			
Cost Per SY	\$500	Embedded Detectable Warning units (Item 608.21000003)			
Pedestrian Signal				\$	-
			Cost		
LED Signal Head	EA	(ITEM 680.813105)	\$300.00	\$	-
LED Countdown	EA	(ITEM 680.81500010)	\$275.00	\$	-
Section	EA	(Item 680.813106)	\$250.00	\$	-
Push Button	EA	(Item 680.81330010)	\$1,100.00	\$	-
Push Button and Pole	EA	(Item 680.81340010)	\$2,500.00	\$	-
Bracket Mount	EA	(Item 680.8141)	\$500.00	\$	-
Post Mount	EA	(Item 680.8142)	\$325.00	\$	-
Post	EA	(Item 680.6710)	\$1,750.00	\$	-
Foundation	CY	(Item 680.5001)	\$2,000.00	\$	-
Wire (button)	LF	(Item 680.730314)	\$4.50	\$	-
Wire (Ped Signal)	LF	(Item 680.730514)	\$5.00	\$	-



Project: Goodell St Corridor Sheet: _____
Alternate 2 File: Pearl St
Prepared by: _____ Date: _____
Checked by: _____ Date: _____

				Signal	\$28,000.00
				Cost	\$28,000.00
MioVision	1 EA	(Item 680.05010007)	\$18,000.00	\$18,000.00	
Modify Signals	1 EA	(Item 680.77000105)	\$10,000.00	\$10,000.00	



Project: Goodell St Corridor Sheet:
Alternate 2 File: Pearl St
 Prepared by: Date:
 Checked by: Date:

			Pavement Markings		\$ 7,719
Markings					
White 4"			Cost		
Length	107.5 LF	(Item 685.11)	\$ 2.00	\$	215
Yellow 4"					
Length	LF	(Item 685.12)	\$ 2.00	\$	-
Symbols	5 EA	(Item 685.14)	\$ 275.00	\$	1,375
X-Walk L	79 LF				
Payment Factor	948	(Item 685.11)	\$ 2.00	\$	1,896
Stop Bar	61 LF				
Payment Factor	274.5 LF	(Item 685.11)	\$ 2.00	\$	549
Yellow 4" FBL					
Length	921 LF				
Payment Factor	2 LF	(Item 685.12)	\$ 2.00	\$	3,684



Project: Goodell St Corridor Sheet: _____
Alternate 2 File: Pearl St
 Prepared by: _____ Date: _____
 Checked by: _____ Date: _____

		Planting & Trees	\$ 13,986
Existing Material Removal			\$ 5,410
Area	7304 SF		
Depth	1 LF		
Volume	270.5185 CY		
Cost per CY	\$20.00 Unclassified Excavation and Disposal (Item 203.02)		
Topsoil			\$ 6,763
Area	7304 SF		
Depth	0.333333 LF		
Volume	90.17284 CY		
Cost per CY	\$75.00 Topsoil (Item 610.1402)		
Seed			\$ 1,623
Area	7304 SF		
Area	811.5556 SY		
Cost per SY	\$2.00 Turf (Item 610.1602)		
Trees			\$ 5,600
	8 EA		
Cost per EA	\$700.00 (Item 611.0291)		

ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

Greater Buffalo-Niagara Regional Transportation Council
Goodell Street Corridor Study
Buffalo, NY

Goodell St Alternate 3

Description	Total
Rehabilitated Roadway Pavement	\$ 851,885.69
Reconstructed Roadway Drainage	\$ 197,308.20
New/Reconstructed Sidewalk and Snow Storage	\$ 567,121.96
Pedestrian crossing Items	\$ 46,958.33
New Signal Detection/ Modify Signal heads	\$ 140,000.00
New Traffic Signal at Goodell Street / Elm Street	\$ 131,790.00
Pavement Markings	\$ 64,071.00
Planting strips and trees	\$ 37,286.11
Work Zone Traffic Control (Assume 8%)	\$ 162,913.70
Survey Operations (Assume 3%)	\$ 65,980.05
Mobilization (Assume 4%)	\$ 90,612.60
<hr/>	
Subtotal Construction Cost	\$ 2,355,927.66
Contingency (Planning stage 30%)	\$ 706,778.30
Total Construction Cost (2023 Dollars)	\$ 3,062,705.95



Project: Goodell St Corridor Sheet: _____
Alternate 3 File: _____
 Prepared by: _____ Date: _____
 Checked by: _____ Date: _____

		Total Roadway	\$	8
Existing Pavement Removal			\$	
Area	13288 SF			
Depth	2 FT			
Volume	984.30 CY			
Cost per CY	\$ 20.00	Unclassified Excavation and Disposal (Item 203.02)		
Area	7088.89 SY			
Cost per SY	\$2.00	Milling (Item 490.10)	\$14,1	
Assumed Roadway Section			\$	2
Subbase			\$	
Area	13288 SF			
Depth	1 FT			
Volume	492.15 CY			
Cost Per CY	\$ 57.00	Subbase (Full Depth areas)(Item 304.12)		
Base Course			\$	
Area	13288 SF			
Depth	0.667 FT			
Volume	8858.67 CF			
Ton	664.4 TON			
Cost per ton	\$ 90.00	Base Course (Full Depth Areas)(Item 402.376903)		
Binder Course			\$	
Area	77088 SF			
Depth	0.17 FT			
Volume	12848.00 CF			
Ton	950.75 TON			
Cost per ton	\$ 90.00	Binder Course (Full Depth Areas) (Item 402.196904)		
Top Course			\$	
Area	77088 SF			
Depth	0.125 FT			
Volume	9636 CF			
Ton	693.792 TON			
Cost per ton	\$ 100.00	Top Course (Item 402.096204)		
Miscellaneous items			\$	5
Curb			\$	4
Length	6644 LF			
Cost per ft	\$ 75.00	Stone curb (ITEM 609.0212)		
Underdrain			\$	
Length	6644 LF			
Cost per ft	\$ 5.00	Perforated underdrain (Item 605.1501)		
Underdrain Filter			\$	
Length	6644 LF			
Width	1 LF			
Depth	3 LF			
Volume	738.22 CY			
Cost per CY	\$40.00	Underdrain Filter (Item 605.1001)		

Goodell

51,885.69
48,041.48

77.78
42,795.32
28,052.44

59,796.00

85,567.68

69,379.20

61,048.89
98,300.00

33,220.00

29,528.89



Project: Goodell St Corridor Sheet: _____
Alternate 3 File: Goodell
 Prepared by: _____ Date: _____
 Checked by: _____ Date: _____

	Drainage	\$	197,308.20
Drainage Pipes		\$	46,000.00
Pipes		\$	34,500.00
Length	345 LF		
Cost per Length	\$100.00 SICPP 24" Dia (603.9824)		
Excavation		\$	4,600.00
Length	345 FT		
Width	6 FT		
Depth	2 FT		
Volume	153.3333 CY		
Cost per CY	\$30.00 Trench and Culvert (Item 206.0201)		
Backfill		\$	6,900.00
Length	345 FT		
Width	6 FT		
Depth	2 FT		
Volume	153.3333 CY		
Cost Per CY	\$45.00 Select Granular Fill (Item 203.07)		
Drainage Structures		\$	151,308.20
NYS DOT Structure			
Depth	115 LF	\$	103,500.00
Cost per LF	\$900.00 Type T (Item 604.302016)		
Grate	23 EA	\$	29,900.00
Cost per EA	\$1,300.00 Item 655.1116		
Excavation		\$	8,457.75
Sq Ft	66		
Depth	115		
Volume	282 CY		
Cost per CY	\$30.00 Trench and Culvert (Item 206.0201)		
Backfill		\$	9,450.44
Sq Ft	49 FT		
Depth	115 FT		
Volume	210 CY		
Cost Per CY	\$45.00 Select Granular Fill (Item 203.07)		
City of Buffalo Structure			
2X2 Catch Basin		\$	-
Cost per EA	\$5,000.00 COB Structure with Curb Box (ITEM 664.505220ER)		



Project: Goodell St Corridor Sheet: _____
Alternate 3 File: Goodell
Prepared by: _____ Date: _____
Checked by: _____ Date: _____

		Sidewalk	\$	567,121.96
Sidewalk Removal				
Area	24695 SF		\$	18,292.59
Depth	1 LF			
Volume	914.6296 CY			
Cost per CY	\$ 20.00	Unclassified Excavation and Disposal (Item 203.02)		
Sidewalk Installation			\$	391,918.80
Subbase			\$	26,066.94
Area	24695 SF			
Depth	0.5 FT			
Volume	457.3148 CY			
Cost Per CY	\$ 57.00	Subbase (Item 304.12)		
Concrete			\$	365,851.85
Area	24695 SF			
Depth	0.5 FT			
Volume	457.3148 CY			
Cost Per CY	\$800.00	Concrete for Sidewalks and Driveways (Item 608.0101)		
Bike Path Removal				
Area	21343 SF		\$	15,809.63
Depth	1 LF			
Volume	790.48 CY			
Cost per CY	\$ 20.00	Unclassified Excavation and Disposal (Item 203.02)		
Bike Path Installation			\$	141,100.94
Subbase			\$	22,528.72
Area	21343 SF			
Depth	0.5 FT			
Volume	395.2407 CY			
Cost Per CY	\$ 57.00	Subbase (Item 304.12)		
Asphalt			\$	118,572.22
Area	21343 SF			
Depth	0.5 FT			
Volume	395.2407 CY			
Ton	28.45733 TON			
Cost Per TON	\$300.00	Asphalt Sidewalks, Driveways & Bike Paths (Item 608.020102)		



Project: Goodell St Corridor Sheet: _____
Alternate 3 File: Goodell
 Prepared by: _____ Date: _____
 Checked by: _____ Date: _____

			Pedestrian crossings	\$	46,958.33
Curb					
Length	315 LF			\$	23,625.00
Cost per LF	\$ 75.00	Stone curb (ITEM 609.0212)			
Embedded Detectable Warning units				\$	23,333.33
Area	46.66667 SY				
Cost Per SY	\$500	Embedded Detectable Warning units (Item 608.21000003)			
Pedestrian Signal				\$	-
			Cost		
LED Signal Head	EA	(ITEM 680.813105)	\$300.00	\$	-
LED Countdown Section	EA	(ITEM 680.81500010)	\$275.00	\$	-
Push Button	EA	(Item 680.813106)	\$250.00	\$	-
Push Button and Pole	EA	(Item 680.81330010)	\$1,100.00	\$	-
Bracket Mount	EA	(Item 680.81340010)	\$2,500.00	\$	-
Post Mount	EA	(Item 680.8141)	\$500.00	\$	-
Post	EA	(Item 680.8142)	\$325.00	\$	-
Foundation	EA	(Item 680.6710)	\$1,750.00	\$	-
Wire (button)	CY	(Item 680.5001)	\$2,000.00	\$	-
Wire (pedal)	LF	(Item 680.730314)	\$4.50	\$	-
Wire (Ped Signal)	LF	(Item 680.730514)	\$5.00	\$	-



Project: Goodell St Corridor Sheet: _____
Alternate 3 File: Goodell
 Prepared by: _____ Date: _____
 Checked by: _____ Date: _____

				Signal	\$131,790.00
				Signal	\$131,790.00
				Cost	
Controller	1 EA	(Item 680.80149305)	\$18,000.00	\$18,000.00	
Controller Base	1 EA	(Item 680.80324708)	\$1,500.00	\$1,500.00	
Controller concrete Base	1 EA	(Item 680.5002)	\$5,000.00	\$5,000.00	
Meter Pedestal	1 EA	(Item 690.)	\$10,000.00	\$10,000.00	
Signal Pole w/ dual mast arm	1 EA	(Item 680.651836)	\$25,000.00	\$25,000.00	
Signal Pole w/ mast arm and light	EA	(Item 680.641836)	\$18,000.00	\$0.00	
Signal Heads	18 EA	(Item 680.8101XX)	\$130.00	\$2,340.00	
Signal Head Section	18 EA	(Item 680.810107)	\$225.00	\$4,050.00	
LED ped Signal Head	4 EA	(ITEM 680.813105)	\$300.00	\$1,200.00	
LED Countdown Section	4 EA	(ITEM 680.81500010)	\$275.00	\$1,100.00	
Push Button	8 EA	(Item 680.815106)	\$250.00	\$2,000.00	
Push Button and Pole Bracket Mount	4 EA	(Item 680.81330010)	\$1,100.00	\$4,400.00	
Post Mount	EA	(Item 680.81340010)	\$2,500.00	\$0.00	
Post	EA	(Item 680.8141)	\$500.00	\$0.00	
Foundation	4 EA	(Item 680.8142)	\$325.00	\$1,300.00	
Wire (button)	4 EA	(Item 680.6710)	\$1,750.00	\$7,000.00	
Wire (Ped Signal)	7 CY	(Item 680.5001)	\$2,000.00	\$14,000.00	
Wire (Signal)	400 LF	(Item 680.730314)	\$4.50	\$1,800.00	
Pull boxes	400 LF	(Item 680.730514)	\$5.00	\$2,000.00	
Conduit	200 LF	(Item 680.730714)	\$5.50	\$1,100.00	
MioVision	4 EA	(Item 680.510301)	\$2,000.00	\$8,000.00	
	200 EA	(Item 680.520508)	\$20.00	\$4,000.00	
	1 EA	(Item 680.05010007)	\$18,000.00	\$18,000.00	



Project: Goodell St Corridor Sheet: _____
Alternate 3 File: Goodell
Prepared by: _____ Date: _____
Checked by: _____ Date: _____

Signal \$140,000.00

Signal

			Cost	<u>\$140,000.00</u>
MioVision	5 EA	(Item 680.05010007)	\$18,000.00	\$90,000.00
Modify Signals	5 EA	(Item 680.77000105)	\$10,000.00	\$50,000.00



Project: Goodell St Corridor Sheet: _____
 Alternate 3 File: Goodell
 Prepared by: _____ Date: _____
 Checked by: _____ Date: _____

			Pavement Markings	\$	64,071.00
Markings					
White 4"			Cost		
Length	20409 LF	(Item 685.11)	\$ 2.00	\$	40,818.00
Yellow 4"					
Length	0 LF	(Item 685.12)	\$ 2.00	\$	-
Symbols	15 EA	(Item 685.14)	\$ 275.00	\$	4,125.00
X-Walk L	686 LF				
Payment Factor	8232	(Item 685.11)	\$ 2.00	\$	16,464.00
Stop Bar	296 LF				
Payment Factor	1332 LF	(Item 685.11)	\$ 2.00	\$	2,664.00
Yellow 4" FBL					
Length	0 LF				
Payment Factor	0 LF	(Item 685.12)	\$ 2.00	\$	-



Project: Goodell St Corridor Sheet:
Alternate 3 File: Goodell
 Prepared by: _____ Date: _____
 Checked by: _____ Date: _____

	Planting & Trees	\$	37,286.11
Existing Material Removal		\$	24,055.56
Area	32475 SF		
Depth	1 LF		
Volume	1202.778 CY		
Cost per CY	\$20.00		Unclassified Excavation and Disposal (Item 203.02)
Topsoil		\$	30,069.44
Area	32475 SF		
Depth	0.333333 LF		
Volume	400.9259 CY		
Cost per CY	\$75.00		Topsoil (Item 610.1402)
Seed		\$	7,216.67
Area	32475 SF		
Area	3608.333 SY		
Cost per SY	\$2.00		Turf (Item 610.1602)
Trees	EA	\$	-
Cost per EA	\$700.00		(Item 611.0291)



Project: Goodell St Corridor Sheet: _____
Alternate 3 File: Goodell
Prepared by: _____ Date: _____
Checked by: _____ Date: _____

Pavement

- Full Depth Pavement will occur at drainage replacement locations and along proposed curb
- All other areas will receive a one course mill and overlay

Drainage

- All structures are type T along Goodell and are assumed to be replaced in similar locations
- All other structures are assumed to be COB 2' x 2' structures
- Select Granular Fill is assumed for back fill of pipe and NYSDOT structures (COB are all inclusive items)

Sidewalks

- Sidewalk is calculated for the street indicated unless other work is not being done on the side street then it is included in the main street

Pedestrian Crossings

- All markings are included in the marking estimate
- Costs are associated with the street crossing unless there is no other work on the side street then all crossings at an intersection are included

Striping and Markings

- Type L crosswalks are assumed for signalized intersections and LS for non-signalized intersections per City of Buffalo Standard
- Stop bars are assumed to be standard 18"
- Parking Lanes assumes Parking spaces of 18' length

Planting Strips and Trees

- Planting is calculated based on the green strips on the plans, widths greater than 5' include trees pits

Signals

- Updated detection (Miovision will be required at all signals impacted.
- Assumed mast arms can accommodate shifting signal heads
- Elm and Goodell will have a new signal

ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

Greater Buffalo-Niagara Regional Transportation Council
Goodell Street Corridor Study
Buffalo, NY

Tupper St Alternate 3

Description	Total
Rehabilitated Roadway Pavement	
Reconstructed Roadway Drainage	
New/Reconstructed Sidewalk and Snow Storage	
Pedestrian crossing Items	\$ 60,500.00
New Signal Detection/ Modify Signal heads	\$ 140,000.00
Pavement Markings	\$ 18,061.00
Work Zone Traffic Control (Assume 8%)	\$ 17,484.88
Survey Operations (Assume 3%)	\$ 7,081.38
Mobilization (Assume 4%)	\$ 9,725.09
<hr/>	
Subtotal Construction Cost	\$ 252,852.35
Contingency (Planning stage 30%)	\$ 75,855.70
Total Construction Cost (2023 Dollars)	\$ 328,708.05



Project: Goodell St Corridor Sheet: _____
Alternate 3 File: Tupper St
 Prepared by: _____ Date: _____
 Checked by: _____ Date: _____

		Total Roadway	\$435,935
Existing Pavement Removal		\$40,951	
Area	7054 SF		
Depth	2 FT		
Volume	523 CY		
Cost per CY	\$20.00 Unclassified Excavation and Disposal (Item 203.02)		
Area	68627 SF		
Cost per SY	\$2.00 Milling (Item 490.10)	\$15,250	
Assumed Roadway Section		\$145,282	
Subbase		\$14,892	
Area	7054 SF		
Depth	1 FT		
Volume	261.26 CY		
Cost Per CY	\$57.00 Subbase (Full Depth areas)(Item 304.12)		
Base Course		\$31,743	
Area	7054 SF		
Depth	0.667 FT		
Volume	4702.667 CF		
Ton	353 TON		
Cost per ton	\$90.00 Base Course (Full Depth Areas)(Item 402.376903)		
Binder Course		\$7,830	
Area	7054 SF		
Depth	0.167 FT		
Volume	1175.667 CF		
Ton	87 TON		
Cost per ton	\$ 90.00 Binder Course (Full Depth Areas) (Item 402.196904)		
Top Course		\$90,817	
Area	75681 SF		
Depth	0.167 FT		
Volume	12613.5 CF		
Ton	908.172 TON		
Cost per ton	\$ 100.00 Top Course (Item 402.096204)		
Miscellaneous items		\$249,702	
Curb (NOT INCLUDING RAMPS AREAS)		\$221,775	
Length	2957 LF		
Cost per ft	\$ 75.00 Stone curb (ITEM 609.0212)		
Underdrain		\$14,785	
Length	2957 LF		
Cost per ft	\$ 5.00 Perforated underdrain (Item 605.1501)		
Underdrain Filter		\$13,142	
Length	2957 LF		
Width	1 LF		
Depth	3 LF		
Volume	328.56 CY		
Cost per CY	\$40.00 Underdrain Filter (Item 605.1001)		



Project: Goodell St Corridor Sheet: _____
Alternate 3 File: Tupper St
Prepared by: _____ Date: _____
Checked by: _____ Date: _____

				Signal	\$140,000.00
				Cost	\$140,000.00
MioVision	5 EA	(Item 680.05010007)	\$18,000.00	\$90,000.00	
Modify Signals	5 EA	(Item 680.77000105)	\$10,000.00	\$50,000.00	



Project: Goodell St Corridor Sheet: _____
Alternate 3 File: Tupper St
Prepared by: _____ Date: _____
Checked by: _____ Date: _____

Pavement

- Full Depth Pavement will occur at drainage replacement locations and along proposed curb
- All other areas will receive a one course mill and overlay

Drainage

- All structures are type T along Goodell and are assumed to be replaced in similar locations
- All other structures are assumed to be COB 2' x 2' structures
- Select Granular Fill is assumed for back fill of pipe and NYSDOT structures (COB are all inclusive items)

Sidewalks

- Sidewalk is calculated for the street indicated unless other work is not being done on the side street then it is included in the main street

Pedestrian Crossings

- All markings are included in the marking estimate
- Costs are associated with the street crossing unless there is no other work on the side street then all crossings at an intersection are included

Striping and Markings

- Type L crosswalks are assumed for signalized intersections and LS for non-signalized intersections per City of Buffalo Standard
- Stop bars are assumed to be standard 18"
- Parking Lanes assumes Parking spaces of 18' length

Planting Strips and Trees

No plantings planned

Signals

- Updated detection (Miovision will be required at all signals impacted.
- Assumed mast arms can accommodate shifting signal heads
- Edward and Peral will have a new signal

ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

Greater Buffalo-Niagara Regional Transportation Council
Goodell Street Corridor Study
Buffalo, NY

Pearl St Alternate 3

Description	Total
Rehabilitated Roadway Pavement	\$ 218,713.00
Reconstructed Roadway Drainage	\$ 31,666.67
New/Reconstructed Sidewalk and Snow Storage	\$ 178,464.85
Pedestrian crossing Items	\$ 3,361.11
New Signal Detection/ Modify Signal heads	\$ 28,000.00
Pavement Markings	\$ 7,715.00
Planting strips and trees	\$ 14,300.67
Work Zone Traffic Control (Assume 8%)	\$ 38,577.70
Survey Operations (Assume 3%)	\$ 15,623.97
Mobilization (Assume 4%)	\$ 21,456.92
<hr/>	
Subtotal Construction Cost	\$ 557,879.89
Contingency (Planning stage 30%)	\$ 167,363.97
Total Construction Cost (2023 Dollars)	\$ 725,243.86



Project: Goodell St Corridor Sheet: _____
Alternate 3 File: Pearl St
 Prepared by: _____ Date: _____
 Checked by: _____ Date: _____

		Total Roadway	\$218,713
Existing Pavement Removal		\$18,531	
Area	8907 SF		
Depth	2 FT		
Volume	660 CY		
Cost per CY	\$20.00 Unclassified Excavation and Disposal (Item 203.02)		
Area	12005 SF		
Cost per SY	\$2.00 Milling (Item 490.10)	\$2,668	
Assumed Roadway Section		\$93,866	
Subbase		\$18,804	
Area	8907 SF		
Depth	1 FT		
Volume	329.89 CY		
Cost Per CY	\$57.00 Subbase (Full Depth areas)(Item 304.12)		
Base Course		\$40,082	
Area	8907 SF		
Depth	0.667 FT		
Volume	5938.000 CF		
Ton	445 TON		
Cost per ton	\$90.00 Base Course (Full Depth Areas)(Item 402.376903)		
Binder Course		\$9,887	
Area	8907 SF		
Depth	0.167 FT		
Volume	1484.500 CF		
Ton	110 TON		
Cost per ton	\$ 90.00 Binder Course (Full Depth Areas) (Item 402.196904)		
Top Course		\$25,094	
Area	20912 SF		
Depth	0.167 FT		
Volume	3485.333 CF		
Ton	250.944 TON		
Cost per ton	\$ 100.00 Top Course (Item 402.096204)		
Miscellaneous items		\$106,316	
Curb (NOT INCLUDING RAMPS AREAS)		\$94,425	
Length	1259 LF		
Cost per ft	\$ 75.00 Stone curb (ITEM 609.0212)		
Underdrain		\$6,295	
Length	1259 LF		
Cost per ft	\$ 5.00 Perforated underdrain (Item 605.1501)		
Underdrain Filter		\$5,596	
Length	1259 LF		
Width	1 LF		
Depth	3 LF		
Volume	139.89 CY		
Cost per CY	\$40.00 Underdrain Filter (Item 605.1001)		



Project: Goodell St Corridor Sheet: _____
Alternate 3 File: Pearl St
 Prepared by: _____ Date: _____
 Checked by: _____ Date: _____

		Sidewalk	\$178,465
Sidewalk Removal			
Area	9138 SF	\$	6,769
Depth	1 LF		
Volume	338.44 CY		
Cost per CY	\$ 20.00 Unclassified Excavation and Disposal (Item 203.02)		
		\$	145,023
Sidewalk Installation			
Subase		\$	9,645.67
Area	9138 SF		
Depth	0.5 FT		
Volume	169.2222 CY		
Cost Per CY	\$ 57.00 Subbase (Item 304.12)		
Concrete		\$	135,378
Area	9138 SF		
Depth	0.5 FT		
Volume	169.2222 CY		
Cost Per CY	\$800.00 Concrete for Sidewalks and Driveways (Item 608.0101)		
Bike Path Removal			
Area	3628 SF	\$	2,687
Depth	1 LF		
Volume	134.37 CY		
Cost per CY	\$ 20.00 Unclassified Excavation and Disposal (Item 203.02)		
		\$	23,985
Bike Path Installation			
Subase		\$	3,829.56
Area	3628 SF		
Depth	0.5 FT		
Volume	67.18519 CY		
Cost Per CY	\$ 57.00 Subbase (Item 304.12)		
Asphalt		\$	20,156
Area	3628 SF		
Depth	0.5 FT		
Volume	67.18519 CY		
Ton	4.837333 TON		
Cost Per TON	\$300.00 Asphalt Sidewalks, Driveways & Bike Paths (Item 608.020102)		



Project: Goodell St Corridor Sheet: _____
Alternate 3 File: Pearl St
 Prepared by: _____ Date: _____
 Checked by: _____ Date: _____

				Pedestrian crossings	\$3,361
Curb	(AT RAMPS)				
Length		30 LF		\$	2,250
Cost per LF	\$	75.00	Stone curb (ITEM 609.0212)		
Embedded Detectable Warning units				\$	1,111
Area	2.22	SY			
Cost Per SY	\$500	Embedded Detectable Warning units (Item 608.21000003)			
Pedestrian Signal				\$	-
			Cost		
LED Signal Head	EA	(ITEM 680.813105)	\$300.00	\$	-
LED Countdown	EA	(ITEM 680.81500010)	\$275.00	\$	-
Section	EA	(Item 680.813106)	\$250.00	\$	-
Push Button	EA	(Item 680.81330010)	\$1,100.00	\$	-
Push Button and Pole	EA	(Item 680.81340010)	\$2,500.00	\$	-
Bracket Mount	EA	(Item 680.8141)	\$500.00	\$	-
Post Mount	EA	(Item 680.8142)	\$325.00	\$	-
Post	EA	(Item 680.6710)	\$1,750.00	\$	-
Foundation	CY	(Item 680.5001)	\$2,000.00	\$	-
Wire (button)	LF	(Item 680.730314)	\$4.50	\$	-
Wire (Ped Signal)	LF	(Item 680.730514)	\$5.00	\$	-



Project: Goodell St Corridor Sheet: _____
Alternate 3 File: Pearl St
Prepared by: _____ Date: _____
Checked by: _____ Date: _____

				Signal	\$28,000.00
				Cost	\$28,000.00
MioVision	1 EA	(Item 680.05010007)	\$18,000.00	\$18,000.00	
Modify Signals	1 EA	(Item 680.77000105)	\$10,000.00	\$10,000.00	



Project: Goodell St Corridor Sheet: _____
Alternate 3 File: Pearl St
Prepared by: _____ Date: _____
Checked by: _____ Date: _____

Pavement

- Full Depth Pavement will occur at drainage replacement locations and along proposed curb
- All other areas will receive a one course mill and overlay

Drainage

- All structures are type T along Goodell and are assumed to be replaced in similar locations
- All other structures are assumed to be COB 2' x 2' structures
- Select Granular Fill is assumed for back fill of pipe and NYSDOT structures (COB are all inclusive items)

Sidewalks

- Sidewalk is calculated for the street indicated unless other work is not being done on the side street then it is included in the main street

Pedestrian Crossings

- All markings are included in the marking estimate
- Costs are associated with the street crossing unless there is no other work on the side street then all crossings at an intersection are included

Striping and Markings

- Type L crosswalks are assumed for signalized intersections and LS for non-signalized intersections per City of Buffalo Standard
- Stop bars are assumed to be standard 18"
- Parking Lanes assumes Parking spaces of 18' length

Planting Strips and Trees

- Planting is calculated based on the green strips on the plans, widths greater than 5' include trees pits

Signals

- Updated detection (Miovision will be required at all signals impacted.
- Assumed mast arms can accommodate shifting signal heads
- Edward and Peral will have a new signal

ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

Greater Buffalo-Niagara Regional Transportation Council
Goodell Street Corridor Study
Buffalo, NY

Goodell St Alternate 4

Description	Total
Rehabilitated Roadway Pavement	\$ 895,644.50
Reconstructed Roadway Drainage	\$ 197,308.20
New/Reconstructed Sidewalk and Snow Storage	\$ 606,687.61
Pedestrian crossing Items	\$ 46,958.33
New Signal Detection/ Modify Signal heads	\$ 140,000.00
New Traffic Signal at Goodell Street / Elm Street	\$ 131,790.00
Pavement Markings	\$ 69,051.00
Planting strips and trees	\$ 35,949.67
Work Zone Traffic Control (Assume 8%)	\$ 169,871.14
Survey Operations (Assume 3%)	\$ 68,797.81
Mobilization (Assume 4%)	\$ 94,482.33
<hr/>	
Subtotal Construction Cost	\$ 2,456,540.59
Contingency (Planning stage 30%)	\$ 736,962.18
Total Construction Cost (2023 Dollars)	\$ 3,193,502.77



Project: Goodell St Corridor Sheet: _____
Alternate 4 File: Goodell
 Prepared by: _____ Date: _____
 Checked by: _____ Date: _____

		Total Roadway	\$	895,644.50
Existing Pavement Removal			\$	55,664.74
Area	13292 SF			
Depth	2 FT			
Volume	984.59 CY			
Cost per CY	\$ 20.00	Unclassified Excavation and Disposal (Item 203.02)		
Area	8993.22 SY			
Cost per SY	\$2.00	Milling (Item 490.10)		\$17,986.44
Assumed Roadway Section			\$	277,279.20
Subbase			\$	28,060.89
Area	13292 SF			
Depth	1 FT			
Volume	492.30 CY			
Cost Per CY	\$ 57.00	Subbase (Full Depth areas)(Item 304.12)		
Base Course			\$	59,814.00
Area	13292 SF			
Depth	0.667 FT			
Volume	8861.33 CF			
Ton	664.6 TON			
Cost per ton	\$ 90.00	Base Course (Full Depth Areas)(Item 402.376903)		
Binder Course			\$	104,596.41
Area	94231 SF			
Depth	0.17 FT			
Volume	15705.17 CF			
Ton	1162.18 TON			
Cost per ton	\$ 90.00	Binder Course (Full Depth Areas) (Item 402.196904)		
Top Course			\$	84,807.90
Area	94231 SF			
Depth	0.125 FT			
Volume	11778.875 CF			
Ton	848.079 TON			
Cost per ton	\$ 100.00	Top Course (Item 402.096204)		
Miscellaneous items			\$	562,700.56
Curb			\$	498,450.00
Length	6646 LF			
Cost per ft	\$ 75.00	Stone curb (ITEM 609.0212)		
Underdrain			\$	34,015.00
Length	6803 LF			
Cost per ft	\$ 5.00	Perforated underdrain (Item 605.1501)		
Underdrain Filter			\$	30,235.56
Length	6803 LF			
Width	1 LF			
Depth	3 LF			
Volume	755.89 CY			
Cost per CY	\$40.00	Underdrain Filter (Item 605.1001)		



Project: Goodell St Corridor Sheet: _____
Alternate 4 File: Goodell
 Prepared by: _____ Date: _____
 Checked by: _____ Date: _____

	Drainage	\$	197,308.20
Drainage Pipes		\$	46,000.00
Pipes		\$	34,500.00
Length	345 LF		
Cost per Length	\$100.00 SICPP 24" Dia (603.9824)		
Excavation		\$	4,600.00
Length	345 FT		
Width	6 FT		
Depth	2 FT		
Volume	153.3333 CY		
Cost per CY	\$30.00 Trench and Culvert (Item 206.0201)		
Backfill		\$	6,900.00
Length	345 FT		
Width	6 FT		
Depth	2 FT		
Volume	153.3333 CY		
Cost Per CY	\$45.00 Select Granular Fill (Item 203.07)		
Drainage Structures		\$	151,308.20
NYS DOT Structure			
Depth	115 LF	\$	103,500.00
Cost per LF	\$900.00 Type T (Item 604.302016)		
Grate	23 EA	\$	29,900.00
Cost per EA	\$1,300.00 Item 655.1116		
Excavation		\$	8,457.75
Sq Ft	66		
Depth	115		
Volume	282 CY		
Cost per CY	\$30.00 Trench and Culvert (Item 206.0201)		
Backfill		\$	9,450.44
Sq Ft	49 FT		
Depth	115 FT		
Volume	210 CY		
Cost Per CY	\$45.00 Select Granular Fill (Item 203.07)		
City of Buffalo Structure			
2X2 Catch Basin		\$	-
Cost per EA	\$5,000.00 COB Structure with Curb Box (ITEM 664.505220ER)		



Project: Goodell St Corridor Sheet: _____
Alternate 4 File: Goodell
 Prepared by: _____ Date: _____
 Checked by: _____ Date: _____

		Sidewalk	\$	606,687.61
Sidewalk Removal				
Area	36523 SF		\$	27,054.07
Depth	1 LF			
Volume	1352.704 CY			
Cost per CY	\$ 20.00 Unclassified Excavation and Disposal (Item 203.02)			
Sidewalk Installation			\$	579,633.54
Subbase			\$	38,552.06
Area	36523 SF			
Depth	0.5 FT			
Volume	676.3519 CY			
Cost Per CY	\$ 57.00 Subbase (Item 304.12)			
Concrete			\$	541,081.48
Area	36523 SF			
Depth	0.5 FT			
Volume	676.3519 CY			
Cost Per CY	\$800.00 Concrete for Sidewalks and Driveways (Item 608.0101)			



Project: Goodell St Corridor Sheet: _____
Alternate 4 File: Goodell
 Prepared by: _____ Date: _____
 Checked by: _____ Date: _____

			Pedestrian crossings	\$	46,958.33
Curb					
Length	315 LF			\$	23,625.00
Cost per LF	\$ 75.00	Stone curb (ITEM 609.0212)			
Embedded Detectable Warning units				\$	23,333.33
Area	46.66667 SY				
Cost Per SY	\$500	Embedded Detectable Warning units (Item 608.21000003)			
Pedestrian Signal				\$	-
			Cost		
LED Signal Head	EA	(ITEM 680.813105)	\$300.00	\$	-
LED Countdown	EA	(ITEM 680.81500010)	\$275.00	\$	-
Section	EA	(Item 680.813106)	\$250.00	\$	-
Push Button	EA	(Item 680.81330010)	\$1,100.00	\$	-
Push Button and Pole	EA	(Item 680.81340010)	\$2,500.00	\$	-
Bracket Mount	EA	(Item 680.8141)	\$500.00	\$	-
Post Mount	EA	(Item 680.8142)	\$325.00	\$	-
Post	EA	(Item 680.6710)	\$1,750.00	\$	-
Foundation	CY	(Item 680.5001)	\$2,000.00	\$	-
Wire (button)	LF	(Item 680.730314)	\$4.50	\$	-
Wire (Ped Signal)	LF	(Item 680.730514)	\$5.00	\$	-



Project: Goodell St Corridor Sheet: _____
Alternate 4 File: Goodell
 Prepared by: _____ Date: _____
 Checked by: _____ Date: _____

				Signal	\$131,790.00
				Signal	\$131,790.00
				Cost	
Controller	1 EA	(Item 680.80149305)	\$18,000.00	\$18,000.00	
Controller Base	1 EA	(Item 680.80324708)	\$1,500.00	\$1,500.00	
Controller concrete Base	1 EA	(Item 680.5002)	\$5,000.00	\$5,000.00	
Meter Pedestal	1 EA	(Item 690.)	\$10,000.00	\$10,000.00	
Signal Pole w/ dual mast arm	1 EA	(Item 680.651836)	\$25,000.00	\$25,000.00	
Signal Pole w/ mast arm and light	EA	(Item 680.641836)	\$18,000.00	\$0.00	
Signal Heads	18 EA	(Item 680.8101XX)	\$130.00	\$2,340.00	
Signal Head Section	18 EA	(Item 680.810107)	\$225.00	\$4,050.00	
LED ped Signal Head	4 EA	(ITEM 680.813105)	\$300.00	\$1,200.00	
LED Countdown Section	4 EA	(ITEM 680.81500010)	\$275.00	\$1,100.00	
Push Button	8 EA	(Item 680.815106)	\$250.00	\$2,000.00	
Push Button and Pole Bracket Mount	4 EA	(Item 680.81330010)	\$1,100.00	\$4,400.00	
Post Mount	EA	(Item 680.81340010)	\$2,500.00	\$0.00	
Post	EA	(Item 680.8141)	\$500.00	\$0.00	
Foundation	4 EA	(Item 680.8142)	\$325.00	\$1,300.00	
Wire (button)	4 EA	(Item 680.6710)	\$1,750.00	\$7,000.00	
Wire (Ped Signal)	7 CY	(Item 680.5001)	\$2,000.00	\$14,000.00	
Wire (Signal)	400 LF	(Item 680.730314)	\$4.50	\$1,800.00	
Pull boxes	400 LF	(Item 680.730514)	\$5.00	\$2,000.00	
Conduit	200 LF	(Item 680.730714)	\$5.50	\$1,100.00	
MioVision	4 EA	(Item 680.510301)	\$2,000.00	\$8,000.00	
	200 EA	(Item 680.520508)	\$20.00	\$4,000.00	
	1 EA	(Item 680.05010007)	\$18,000.00	\$18,000.00	



Project: Goodell St Corridor Sheet: _____
Alternate 4 File: Goodell
Prepared by: _____ Date: _____
Checked by: _____ Date: _____

Signal \$140,000.00

Signal

			Cost	<u>\$140,000.00</u>
MioVision	5 EA	(Item 680.05010007)	\$18,000.00	\$90,000.00
Modify Signals	5 EA	(Item 680.77000105)	\$10,000.00	\$50,000.00



Project: Goodell St Corridor Sheet: _____
Alternate 4 File: Goodell
 Prepared by: _____ Date: _____
 Checked by: _____ Date: _____

				Pavement Markings	\$	69,051.00
Markings						
White 4"				Cost		
Length	20409 LF	(Item 685.11)		\$ 2.00	\$	40,818.00
Yellow 4"						
Length	0 LF	(Item 685.12)		\$ 2.00	\$	-
Symbols	15 EA	(Item 685.14)		\$ 275.00	\$	4,125.00
X-Walk L	686 LF					
Payment Factor	8232	(Item 685.11)		\$ 2.00	\$	16,464.00
Stop Bar	296 LF					
Payment Factor	1332 LF	(Item 685.11)		\$ 2.00	\$	2,664.00
Yellow 4" FBL						
Length	1245 LF					
Payment Factor	2 LF	(Item 685.12)		\$ 2.00	\$	4,980.00



Project: Goodell St Corridor Sheet: _____
Alternate 4 File: Goodell
 Prepared by: _____ Date: _____
 Checked by: _____ Date: _____

		Planting & Trees	\$	35,949.67
Existing Material Removal			\$	23,193.33
Area	31311 SF			
Depth	1 LF			
Volume	1159.667 CY			
Cost per CY	\$20.00 Unclassified Excavation and Disposal (Item 203.02)			
Topsoil			\$	28,991.67
Area	31311 SF			
Depth	0.333333 LF			
Volume	386.5556 CY			
Cost per CY	\$75.00 Topsoil (Item 610.1402)			
Seed			\$	6,958.00
Area	31311 SF			
Area	3479 SY			
Cost per SY	\$2.00 Turf (Item 610.1602)			
Trees		EA	\$	-
Cost per EA	\$700.00 (Item 611.0291)			



Project: Goodell St Corridor Sheet: _____
Alternate 4 File: Goodell
Prepared by: _____ Date: _____
Checked by: _____ Date: _____

Pavement

- Full Depth Pavement will occur at drainage replacement locations and along proposed curb
- All other areas will receive a one course mill and overlay

Drainage

- All structures are type T along Goodell and are assumed to be replaced in similar locations
- All other structures are assumed to be COB 2' x 2' structures
- Select Granular Fill is assumed for back fill of pipe and NYSDOT structures (COB are all inclusive items)

Sidewalks

- Sidewalk is calculated for the street indicated unless other work is not being done on the side street then it is included in the main street

Pedestrian Crossings

- All markings are included in the marking estimate
- Costs are associated with the street crossing unless there is no other work on the side street then all crossings at an intersection are included

Striping and Markings

- Type L crosswalks are assumed for signalized intersections and LS for non-signalized intersections per City of Buffalo Standard
- Stop bars are assumed to be standard 18"
- Parking Lanes assumes Parking spaces of 18' length

Planting Strips and Trees

- Planting is calculated based on the green strips on the plans, widths greater than 5' include trees pits

Signals

- Updated detection (Miovision will be required at all signals impacted.
- Assumed mast arms can accommodate shifting signal heads
- Elm and Goodell will have a new signal

ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

Greater Buffalo-Niagara Regional Transportation Council
Goodell Street Corridor Study
Buffalo, NY

Tupper St Alternate 4

Description	Total
Rehabilitated Roadway Pavement	\$ 436,182.18
Reconstructed Roadway Drainage	\$ 99,000.00
New/Reconstructed Sidewalk and Snow Storage	\$ 548,980.61
Pedestrian crossing Items	\$ 60,500.00
New Signal Detection/ Modify Signal heads	\$ 140,000.00
Pavement Markings	\$ 18,061.00
Work Zone Traffic Control (Assume 8%)	\$ 104,217.90
Survey Operations (Assume 3%)	\$ 42,208.25
Mobilization (Assume 4%)	\$ 57,966.00
Subtotal Construction Cost	\$ 1,507,115.94
Contingency (Planning stage 30%)	\$ 452,134.78
Total Construction Cost (2023 Dollars)	\$ 1,959,250.72



Project: Goodell St Corridor Sheet: _____
Alternate 4 File: Tupper St
 Prepared by: _____ Date: _____
 Checked by: _____ Date: _____

		Total Roadway	\$436,182
Existing Pavement Removal		\$41,030	
Area	7045 SF		
Depth	2 FT		
Volume	522 CY		
Cost per CY	\$20.00	Unclassified Excavation and Disposal (Item 203.02)	
Area	68834 SF		
Cost per SY	\$2.00	Milling (Item 490.10)	\$15,296
Assumed Roadway Section		\$145,450	
Subbase		\$14,873	
Area	7045 SF		
Depth	1 FT		
Volume	260.93 CY		
Cost Per CY	\$57.00	Subbase (Full Depth areas)(Item 304.12)	
Base Course		\$31,703	
Area	7045 SF		
Depth	0.667 FT		
Volume	4696.667 CF		
Ton	352 TON		
Cost per ton	\$90.00	Base Course (Full Depth Areas)(Item 402.376903)	
Binder Course		\$7,820	
Area	7045 SF		
Depth	0.167 FT		
Volume	1174.167 CF		
Ton	87 TON		
Cost per ton	\$ 90.00	Binder Course (Full Depth Areas) (Item 402.196904)	
Top Course		\$91,055	
Area	75879 SF		
Depth	0.167 FT		
Volume	12646.5 CF		
Ton	910.548 TON		
Cost per ton	\$ 100.00	Top Course (Item 402.096204)	
Miscellaneous items		\$249,702	
Curb (NOT INCLUDING RAMPS AREAS)		\$221,775	
Length	2957 LF		
Cost per ft	\$ 75.00	Stone curb (ITEM 609.0212)	
Underdrain		\$14,785	
Length	2957 LF		
Cost per ft	\$ 5.00	Perforated underdrain (Item 605.1501)	
Underdrain Filter		\$13,142	
Length	2957 LF		
Width	1 LF		
Depth	3 LF		
Volume	328.56 CY		
Cost per CY	\$40.00	Underdrain Filter (Item 605.1001)	



Project: Goodell St Corridor Sheet:
Alternate 4 File: Tupper St
 Prepared by: Date:
 Checked by: Date:

		Drainage	\$99,000
Drainage Pipes		\$24,000	
Pipes		\$18,000	
Length	180 LF		
Cost per Length	\$100.00 SICPP 24" Dia (603.9824)		
Excavation		\$2,400	
Length	180 FT		
Width	6 FT		
Depth	2 FT		
Volume	80 CY		
Cost per CY	\$30.00 Trench and Culvert (Item 206.0201)		
Backfill		\$3,600	
Length	180 FT		
Width	6 FT		
Depth	2 FT		
Volume	80 CY		
Cost Per CY	\$45.00 Select Granular Fill (Item 203.07)		
Drainage Structures		\$75,000	
NYS DOT Structure			
Depth	LF		\$0
Cost per LF	\$900.00 Type T (Item 604.302016)		
Grate			\$0
Cost per EA	\$1,300.00 Item 655.1116		
Excavation			\$0
Sq Ft			
Depth			
Volume	0 CY		
Cost per CY	\$30.00 Trench and Culvert (Item 206.0201)		
Backfill			\$0
Sq Ft	FT		
Depth	2 FT		
Volume	0 CY		
Cost Per CY	\$45.00 Select Granular Fill (Item 203.07)		
City of Buffalo Structure			
2X2 Catch Basin	9		\$75,000
Cost per EA	\$5,000.00 COB Structure with Curb Box (ITEM 664.505220ER)		
	3		
Cost per EA	\$10,000.00 COB Structure TYPE 1 SIDE INLET (ITEM 664.505200ER)		



Project: Goodell St Corridor Sheet:
Alternate 4 File: Tupper St
 Prepared by: Date:
 Checked by: Date:

		Sidewalk	\$548,981
Sidewalk Removal			
Area	33049 SF	\$	24,481
Depth	1 LF		
Volume	1224.04 CY		
Cost per CY	\$ 20.00 Unclassified Excavation and Disposal (Item 203.02)		
		\$	524,500
Sidewalk Installation			
Subbase		\$	34,885.06
Area	33049 SF		
Depth	0.5 FT		
Volume	612.0185 CY		
Cost Per CY	\$ 57.00 Subbase (Item 304.12)		
		\$	489,615
Concrete			
Area	33049 SF		
Depth	0.5 FT		
Volume	612.0185 CY		
Cost Per CY	\$800.00 Concrete for Sidewalks and Driveways (Item 608.0101)		



Project: Goodell St Corridor Sheet:
Alternate 4 File: Tupper St
 Prepared by: Date:
 Checked by: Date:

				Pedestrian crossings	\$60,500
Curb	(AT RAMPS)				
Length		540 LF		\$	40,500
Cost per LF	\$	75.00	Stone curb (ITEM 609.0212)		
Embedded Detectable Warning units				\$	20,000
Area	40.00	SY			
Cost Per SY	\$500	Embedded Detectable Warning units (Item 608.21000003)			
Pedestrian Signal				\$	-
			Cost		
LED Signal Head	EA	(ITEM 680.813105)	\$300.00	\$	-
LED Countdown	EA	(ITEM 680.81500010)	\$275.00	\$	-
Section	EA	(Item 680.813106)	\$250.00	\$	-
Push Button	EA	(Item 680.81330010)	\$1,100.00	\$	-
Push Button and Pole	EA	(Item 680.81340010)	\$2,500.00	\$	-
Bracket Mount	EA	(Item 680.8141)	\$500.00	\$	-
Post Mount	EA	(Item 680.8142)	\$325.00	\$	-
Post	EA	(Item 680.6710)	\$1,750.00	\$	-
Foundation	CY	(Item 680.5001)	\$2,000.00	\$	-
Wire (button)	LF	(Item 680.730314)	\$4.50	\$	-
Wire (Ped Signal)	LF	(Item 680.730514)	\$5.00	\$	-



Project: Goodell St Corridor Sheet: _____
Alternate 4 File: Tupper St
Prepared by: _____ Date: _____
Checked by: _____ Date: _____

				Signal	\$140,000.00
				Cost	\$140,000.00
MioVision	5 EA	(Item 680.05010007)	\$18,000.00	\$90,000.00	
Modify Signals	5 EA	(Item 680.77000105)	\$10,000.00	\$50,000.00	



Project: Goodell St Corridor Sheet:
Alternate 4 File: Tupper St
Prepared by: Date:
Checked by: Date:

				Pavement Markings		\$ 18,061
Markings						
White 4"				Cost		
Length	342.5 LF	(Item 685.11)	\$ 2.00	\$	685	
Yellow 4"						
Length	LF	(Item 685.12)	\$ 2.00	\$	-	
Symbols	14 EA	(Item 685.14)	\$ 275.00		\$3,850	
X-Walk L	410 LF					
Payment Factor	4920	(Item 685.11)	\$ 2.00	\$	9,840	
Stop Bar	150 LF					
Payment Factor	675 LF	(Item 685.11)	\$ 2.00	\$	1,350	
Yellow 4" FBL						
Length	1168 LF					
Payment Factor	2 LF	(Item 685.12)	\$ 2.00	\$	2,336	

ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

Greater Buffalo-Niagara Regional Transportation Council
Goodell Street Corridor Study
Buffalo, NY

Tupper St Alternate 4

Description	Total
Rehabilitated Roadway Pavement	\$ 436,182.18
Reconstructed Roadway Drainage	\$ 99,000.00
New/Reconstructed Sidewalk and Snow Storage	\$ 548,980.61
Pedestrian crossing Items	\$ 60,500.00
New Signal Detection/ Modify Signal heads	\$ 140,000.00
Pavement Markings	\$ 18,061.00
Work Zone Traffic Control (Assume 8%)	\$ 104,217.90
Survey Operations (Assume 3%)	\$ 42,208.25
Mobilization (Assume 4%)	\$ 57,966.00
Subtotal Construction Cost	\$ 1,507,115.94
Contingency (Planning stage 30%)	\$ 452,134.78
Total Construction Cost (2023 Dollars)	\$ 1,959,250.72



Project: Goodell St Corridor Sheet: _____
Alternate 4 File: Tupper St
 Prepared by: _____ Date: _____
 Checked by: _____ Date: _____

	Total Roadway	\$436,182
Existing Pavement Removal		\$41,030
Area	7045 SF	
Depth	2 FT	
Volume	522 CY	
Cost per CY	\$20.00 Unclassified Excavation and Disposal (Item 203.02)	
Area	68834 SF	
Cost per SY	\$2.00 Milling (Item 490.10)	\$15,296
Assumed Roadway Section		\$145,450
Subbase		\$14,873
Area	7045 SF	
Depth	1 FT	
Volume	260.93 CY	
Cost Per CY	\$57.00 Subbase (Full Depth areas)(Item 304.12)	
Base Course		\$31,703
Area	7045 SF	
Depth	0.667 FT	
Volume	4696.667 CF	
Ton	352 TON	
Cost per ton	\$90.00 Base Course (Full Depth Areas)(Item 402.376903)	
Binder Course		\$7,820
Area	7045 SF	
Depth	0.167 FT	
Volume	1174.167 CF	
Ton	87 TON	
Cost per ton	\$ 90.00 Binder Course (Full Depth Areas) (Item 402.196904)	
Top Course		\$91,055
Area	75879 SF	
Depth	0.167 FT	
Volume	12646.5 CF	
Ton	910.548 TON	
Cost per ton	\$ 100.00 Top Course (Item 402.096204)	
Miscellaneous items		\$249,702
Curb (NOT INCLUDING RAMPS AREAS)		\$221,775
Length	2957 LF	
Cost per ft	\$ 75.00 Stone curb (ITEM 609.0212)	
Underdrain		\$14,785
Length	2957 LF	
Cost per ft	\$ 5.00 Perforated underdrain (Item 605.1501)	
Underdrain Filter		\$13,142
Length	2957 LF	
Width	1 LF	
Depth	3 LF	
Volume	328.56 CY	
Cost per CY	\$40.00 Underdrain Filter (Item 605.1001)	



Project: Goodell St Corridor Sheet:
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		Drainage	\$99,000
Drainage Pipes		\$24,000	
Pipes		\$18,000	
Length	180 LF		
Cost per Length	\$100.00 SICPP 24" Dia (603.9824)		
Excavation		\$2,400	
Length	180 FT		
Width	6 FT		
Depth	2 FT		
Volume	80 CY		
Cost per CY	\$30.00 Trench and Culvert (Item 206.0201)		
Backfill		\$3,600	
Length	180 FT		
Width	6 FT		
Depth	2 FT		
Volume	80 CY		
Cost Per CY	\$45.00 Select Granular Fill (Item 203.07)		
Drainage Structures		\$75,000	
NYS DOT Structure			
Depth	LF	\$0	
Cost per LF	\$900.00 Type T (Item 604.302016)		
Grate			
	EA	\$0	
Cost per EA	\$1,300.00 Item 655.1116		
Excavation		\$0	
Sq Ft			
Depth			
Volume	0 CY		
Cost per CY	\$30.00 Trench and Culvert (Item 206.0201)		
Backfill		\$0	
Sq Ft	FT		
Depth	2 FT		
Volume	0 CY		
Cost Per CY	\$45.00 Select Granular Fill (Item 203.07)		
City of Buffalo Structure			
2X2 Catch Basin	9	\$75,000	
Cost per EA	\$5,000.00 COB Structure with Curb Box (ITEM 664.505220ER)		
	3		
Cost per EA	\$10,000.00 COB Structure TYPE 1 SIDE INLET (ITEM 664.505200ER)		



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			Sidewalk	\$548,981
Sidewalk Removal				
Area	33049 SF		\$	24,481
Depth	1 LF			
Volume	1224.04 CY			
Cost per CY	\$ 20.00 Unclassified Excavation and Disposal (Item 203.02)			
			\$	524,500
Sidewalk Installation				
Subbase			\$	34,885.06
Area	33049 SF			
Depth	0.5 FT			
Volume	612.0185 CY			
Cost Per CY	\$ 57.00 Subbase (Item 304.12)			
			\$	489,615
Concrete				
Area	33049 SF			
Depth	0.5 FT			
Volume	612.0185 CY			
Cost Per CY	\$800.00 Concrete for Sidewalks and Driveways (Item 608.0101)			



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				Pedestrian crossings	\$60,500
Curb	(AT RAMPS)				
Length		540 LF		\$	40,500
Cost per LF	\$	75.00	Stone curb (ITEM 609.0212)		
Embedded Detectable Warning units				\$	20,000
Area		40.00	SY		
Cost Per SY		\$500	Embedded Detectable Warning units (Item 608.21000003)		
Pedestrian Signal				\$	-
			Cost		
LED Signal Head	EA	(ITEM 680.813105)	\$300.00	\$	-
LED Countdown Section	EA	(ITEM 680.81500010)	\$275.00	\$	-
Push Button	EA	(Item 680.813106)	\$250.00	\$	-
Push Button and Pole	EA	(Item 680.81330010)	\$1,100.00	\$	-
Bracket Mount	EA	(Item 680.81340010)	\$2,500.00	\$	-
Post Mount	EA	(Item 680.8141)	\$500.00	\$	-
Post	EA	(Item 680.8142)	\$325.00	\$	-
Foundation	EA	(Item 680.6710)	\$1,750.00	\$	-
Wire (button)	CY	(Item 680.5001)	\$2,000.00	\$	-
Wire (Ped Signal)	LF	(Item 680.730314)	\$4.50	\$	-
	LF	(Item 680.730514)	\$5.00	\$	-



Project: Goodell St Corridor Sheet: _____
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			Signal	\$140,000.00
			Cost	\$140,000.00
MioVision	5 EA	(Item 680.05010007)	\$18,000.00	\$90,000.00
Modify Signals	5 EA	(Item 680.77000105)	\$10,000.00	\$50,000.00



Project:	<u>Goodell St Corridor</u>	Sheet:	<u> </u>
	<u>Alternate 4</u>	File:	<u>Tupper St</u>
Prepared by:	<u> </u>	Date:	<u> </u>
Checked by:	<u> </u>	Date:	<u> </u>

Pavement Markings \$ 18,061

Markings

White 4"			Cost	
Length	342.5 LF	(Item 685.11)	\$ 2.00	\$ 685
Yellow 4"				
Length	LF	(Item 685.12)	\$ 2.00	\$ -
Symbols	14 EA	(Item 685.14)	\$ 275.00	\$3,850
X-Walk L	410 LF			
Payment Factor	4920	(Item 685.11)	\$ 2.00	\$ 9,840
Stop Bar	150 LF			
Payment Factor	675 LF	(Item 685.11)	\$ 2.00	\$ 1,350
Yellow 4" FBL				
Length	1168 LF			
Payment Factor	2 LF	(Item 685.12)	\$ 2.00	\$ 2,336



Project: Goodell St Corridor Sheet:
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		Planting & Trees	\$	-
Existing Material Removal			\$	-
Area	SF			
Depth	1 LF			
Volume	0 CY			
Cost per CY	\$20.00	Unclassified Excavation and Disposal (Item 203.02)		
Topsoil			\$	-
Area	0 SF			
Depth	0.333333 LF			
Volume	0 CY			
Cost per CY	\$75.00	Topsoil (Item 610.1402)		
Seed			\$	-
Area	0 SF			
Area	0 SY			
Cost per SY	\$2.00	Turf (Item 610.1602)		
Trees			\$	-
Cost per EA	\$700.00	(Item 611.0291)		



Project: Goodell St Corridor Sheet: _____
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Checked by: _____ Date: _____

Pavement

- Full Depth Pavement will occur at drainage replacement locations and along proposed curb
- All other areas will receive a one course mill and overlay

Drainage

- All structures are type T along Goodell and are assumed to be replaced in similar locations
- All other structures are assumed to be COB 2' x 2' structures
- Select Granular Fill is assumed for back fill of pipe and NYSDOT structures (COB are all inclusive items)

Sidewalks

- Sidewalk is calculated for the street indicated unless other work is not being done on the side street then it is included in the main street

Pedestrian Crossings

- All markings are included in the marking estimate
- Costs are associated with the street crossing unless there is no other work on the side street then all crossings at an intersection are included

Striping and Markings

- Type L crosswalks are assumed for signalized intersections and LS for non-signalized intersections per City of Buffalo Standard
- Stop bars are assumed to be standard 18"
- Parking Lanes assumes Parking spaces of 18' length

Planting Strips and Trees

- Planting is calculated based on the green strips on the plans, widths greater than 5' include trees pits

Signals

- Updated detection (Miovision will be required at all signals impacted.
- Assumed mast arms can accommodate shifting signal heads
- Edward and Peral will have a new signal