

Feasibility Study

Terex Road / Barlow Road / Industrial Parkway - Feasibility Study – Hudson Ohio

City of Hudson, Summit County, Ohio

Prepared For:



City of Hudson

February 2023

Prepared By:

A handwritten signature in blue ink, appearing to read "Eric William Smith", written over a horizontal line.

Eric William Smith, PE, PTOE
Registration No. 58426



Certific



Phase 2 – Summary of Findings

PRIME AE Group (PRIME) was retained by the City of Hudson to perform a Feasibility Study at the intersection of Terex Road, Barlow Road, and Industrial Parkway. This study is intended to further investigate the findings contained in the Safety Study completed by TMS Engineers on October 8th, 2020, as well as to develop feasible alternatives which meet the defined project goals, ending ultimately with the selection of a preferred alternative. That Safety Study was initiated by the City after a fatal crash occurred at the intersection on July 22nd, 2020. The fatality along with the unorthodox intersection geometry are the primary drivers behind these efforts. PRIME and the City have defined the project goal statement as follows: ***Build upon the previously completed Safety Study by developing alternatives and ultimately selecting a preferred alternative which enhances intersection safety without compromising accessibility or capacity and minimizes impacts to private property.*** The intent of Phase 2 is to build upon the Phase 1 submittal by providing a more detailed conceptual layout and plan view and provide an estimated cost breakdown for each of the three alternatives that were selected to move forward from the Alternative's Matrix provided in the Phase 1: Summary of Findings Report. Prime AE Presented the Phase 1 Study findings to Hudson City Council in February 2022. The Phase 1 study can also be found in **Appendix E**. Based upon the Phase 1 evaluation the alternatives that were selected for the purposes of this study are Alternative 2C, 4A, and 4B. This document along with the attached alternatives displays and supporting documentation are intended to serve as the 100% Final submittal.

PRIME developed a detailed layout of the three alternatives selected by the City of Hudson (City). The alternative concepts include one roundabout design, requiring the realignment of Barlow Road to create a more traditional 4 leg intersection approach and allow for the roundabout to be properly utilized. The remaining two alternative designs include the realignment of either Barlow Road or Industrial Parkway to create a more traditional four leg intersection. Utilizing existing survey data and spot elevations, PRIME was able to begin conceptual layout of the three alternatives with preliminary drainage structures and pipe networks. In addition to the drainage improvements, PRIME was able to begin establishing the project/construction limits and start finalizing where potential right-of-way impacts would be that would require right-of-way acquisition. Plan view exhibits detailing proposed alternatives can be found in **Appendix A**.

As part of the Phase 2: Summary of Findings, cost estimates were established detailing the current construction costs, as well as future construction costs for the years 2025 and 2027. The Ohio Department of Transportation (ODOT) provides estimating guidance for major projects which can be found in the "Procedures for Estimating Worksheet", last revised in May of 2013. As part of the guidance, ODOT recommends a contingency value that ranges between 24% and 35% for preliminary design cost estimates. For the purposes of these estimates, a 30% contingency was included into the Construction Cost Estimate to cover unforeseen costs that may arise during the design process. The Construction Cost Estimates for the year 2022 can be found in **Appendix B**.

In addition to the Construction Cost Estimates which evaluates the costs associated with today's construction costs, inflation-based cost estimates were provided with guidance from ODOT's Office of Estimating. All three alternatives were projected at the future funding dates of 2025 and 2027, which was indicated by the City, when funding for the project may occur. The spreadsheets are available in **Appendix C**.

As requested by the City, supplemental costs for the design fee, geotechnical engineering services fee, wetland permitting fees, and construction management fees were also evaluated based on the 2022 Construction Cost Estimates. It is generally accepted during the preliminary engineering phase that these costs can be calculated as a percentage of the construction cost. In addition, right of way costs were estimated using the Summit County Auditor's land appraisals for partial right of way acquisitions and Zillow's fair market value for full right of way acquisitions. Right of way engineering costs were estimated at \$5,000 for each alternative and added to the cost of the acquisition shown in **Table 1**. In **Table 1** on the following page, the different supplemental fees are listed with their representative values as it pertains to each alternative. This information was able to provide a grand total that could be expected should the project be funded this year.

Table 1: Supplemental Fee Estimates

Item	Alt 2C Roundabout with Realignment (\$1,793,343.16) ** \$2,138,951.89 [#]	Alt 4A Realignment of Barlow Rd. with Hudson Industrial Parkway (\$1,154,911.00) \$1,377,482.63 [#]	Alt 4B Realignment of Both Barlow Rd. and Hudson Industrial Parkway (\$1,426,970.90) \$1,701,973.26 [#]
Design Fee (10%)	\$179,334.32	\$115,491.10	\$142,697.09
Geotech (4-6%)	\$89,667.16 (5%)	\$57,745.55 (5%)	\$71,348.55 (5%)
Wetland Permitting (2-3%)	\$44,833.58 (2.5%)	\$28,872.78 (2.5%)	\$35,674.27 (2.5%)
Construction Management (10%)	\$179,334.32	\$115,491.10	\$142,697.09
Number of Parcels Impacted	3	2	2
Number of Parcels Requiring Full Property Acquisition	0	1	0
Right of Way (Engineering and Acquisition)	\$28,500.00	\$390,000.00	\$20,800.00
Grand Total (In 2022 Dollars)	\$2,315,012.53 \$2,761,156.11 [#]	\$1,862,511.53 \$2,221,450.21 [#]	\$1,840,187.90 \$2,194,824.43 [#]

** Recommended Alternative

[#] = ESTIMATES UPDATED TO CONTRUCTION YEAR 2027 BASED UPON ODOT INFLATION FORECASTS.

Traffic Signal Warrant Analysis

The City collected speed data and traffic count volumes for the intersection and requested that this new data be compared to the data found in the previous Intersection Safety Study completed by TMS Engineers in October of 2020 and analyzed for the warranting of a new traffic signal at the intersection. Initially, PRIME analyzed the peak hour data for Tuesday 7/5/2022. Upon analyzing the speed data, it was found that the 85th percentile speed for Terex Road did exceed the 40-mph limit detailed in the OMUTCD Section 4C.03. However, by comparing the traffic volumes, using Figure 4C-4 – Warrant 3 Peak Hour (70%), the warrant was not met as shown in **Table 3**. Due to the Peak Hour Warrant not being met, it is reasonable to use engineering judgement that Warrant 2-Four Hour Vehicular Volume will also not be met. The speed data and traffic volume counts that were collected by the City can be found in **Appendix D**. In addition, **Table 2** below compares the traffic volume data from the existing Intersection Safety Study (data collected Tuesday, 8/12/2020) to the traffic count volumes collected from the City. For the purposes of this comparison, weekday data that was averaged included volume count data from Tuesday, Wednesday, and Thursday from 7 AM-10 AM, 11 AM-2 PM, and 3 PM-5 PM.

Table 2: Traffic Volume Count Comparison

Count Station	TMS Study Traffic Volume Count	City of Hudson Traffic Count Volume (Avg. Weekday Volume)	Net Difference (2020 to 2022)
Barlow Road (From North)	654	825	171 (26.15%)
Terex Road Westbound (From East)	1,981	1,777	-204 (-10.30%)
Terex Road Eastbound (From West)	1,721	1,755	34 (1.98%)

Table 3: Traffic Signal Warrant Review

Traffic Signal Warrant	Result
Warrant 3 Peak Hour (70%)	Does Not Meet

The intent of the Phase 2: Summary of Findings report is to further elaborate on the top three alternative selections from Phase 1 of the study to aid the City in the selection of a final, preferred alternative and also determine if a signal is now warranted with updated traffic volume counts. PRIME established a current day estimate of probable cost to each of the three preliminary alternative designs which was accomplished by implementing more design features such as storm sewer networks, refining pavement limits, and identifying areas where right-of-way acquisition would be necessary. In addition to the current-day costs, inflationary rates were used to calculate estimated costs in future years when funding would be available for the project. Additional fees were also calculated based on current-day costs which enabled a total estimate of probable cost to be established for each of the three alternatives. In addition, it was concluded that a new traffic signal is not warranted at this time but can continue to be studied for future improvements to the intersection. Due to the traffic signal not being warranted at this time, it is recommended that Alternative 2C be chosen to move forward with further development. Supporting documentation can be found in the following Appendices.

Appendix A: Alternative Design Plan Views

Appendix B: Construction Cost Estimates

Appendix C: 2025 & 2027 Inflation-Based Construction Cost Estimates

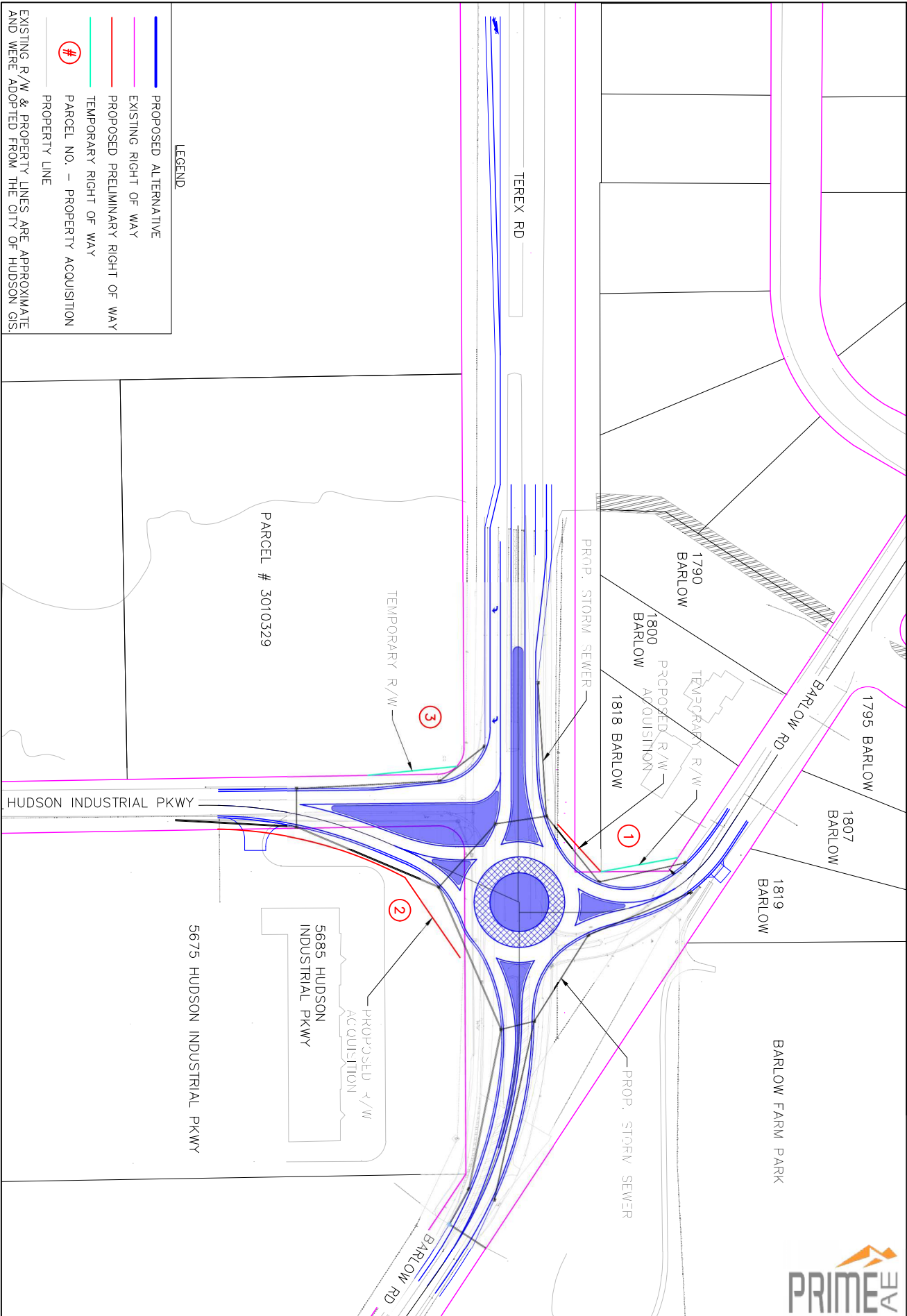
Appendix D: Updated Traffic Signal Warrant Data

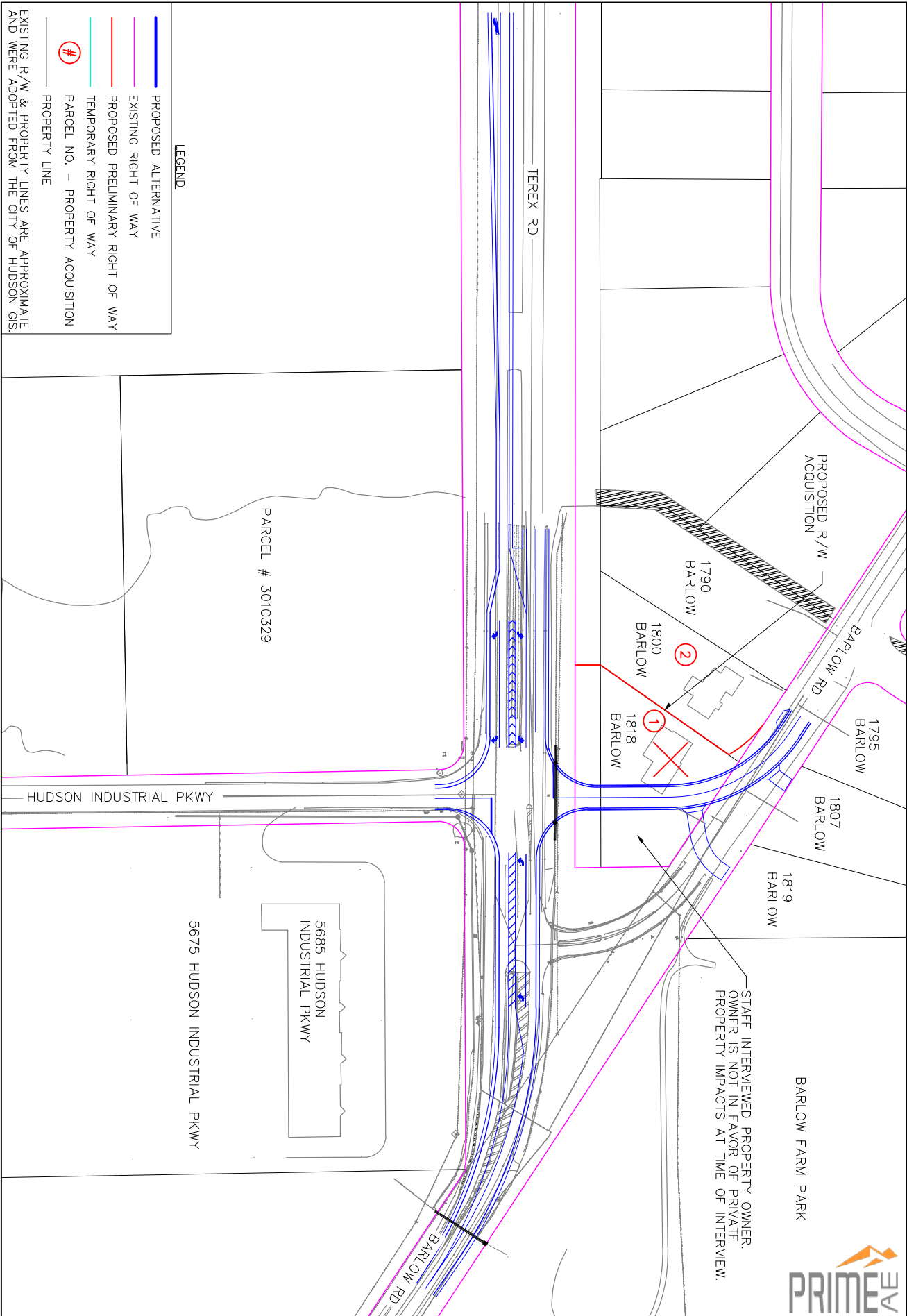
Appendix E: Phase 1 Study

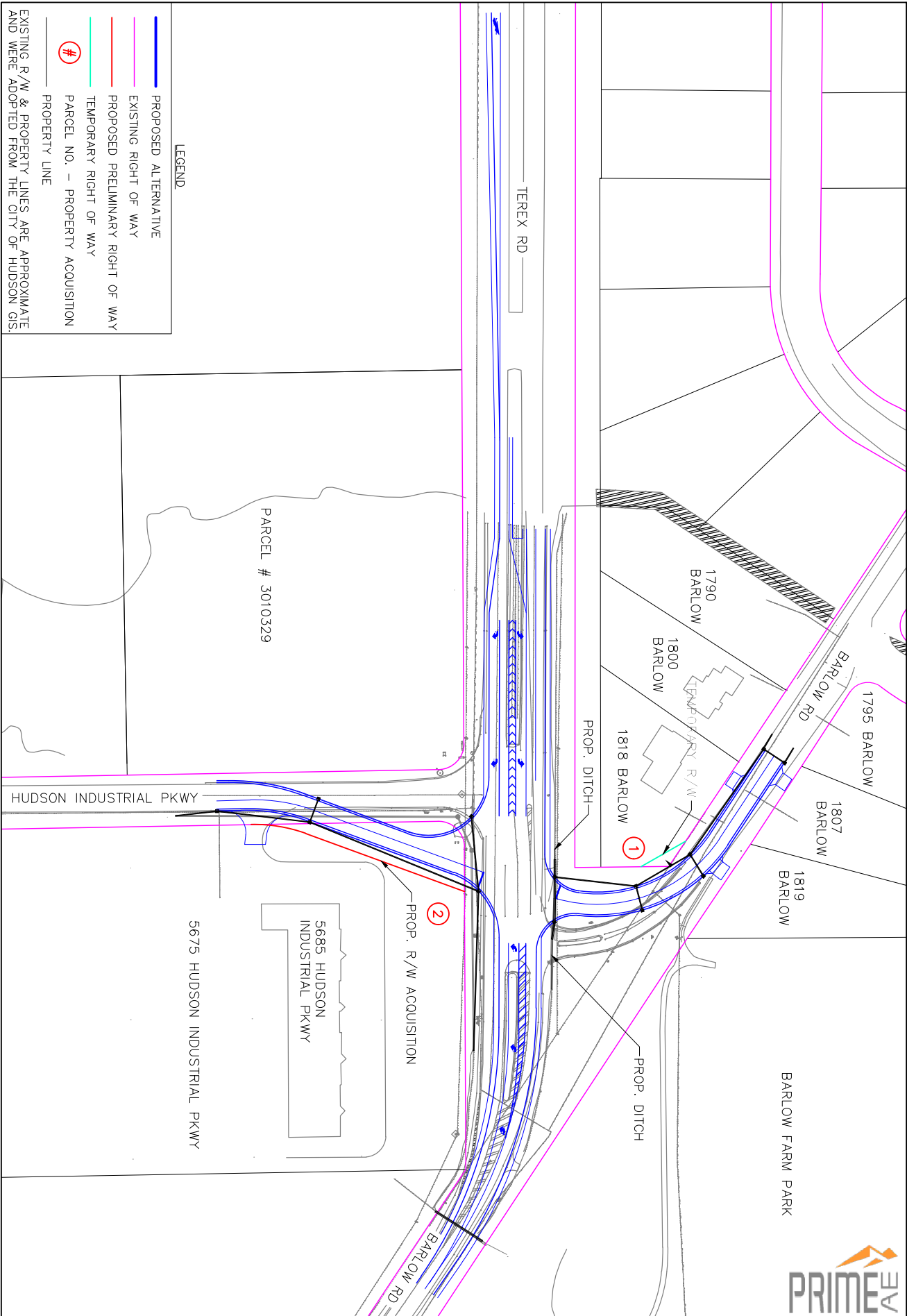
Appendix F: Previous Traffic Studies

Appendix A:

Alternative Design Plan Views







Appendix B:

Construction Cost Estimates

Estimate Alt_2C

Estimated Cost:\$1,379,494.74

Contingency: 30.00%

Estimated Total: \$1,793,343.16

TEREX/BARLOW ROAD PRELIMINARY ESTIMATE

Base Date: 04/27/22

Spec Year: 19

Unit System: E

Work Type:

Highway Type:

Urban/Rural Type: URBAN CLASS

Season:

County: SUMMIT

Latitude of Midpoint: 411313

Longitude of Midpoint: -812525

District: 04

Federal/State Project Number:

Prepared by PRIME AE GROUP

<u>Line #</u>	<u>Item Number</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
<u>Description</u>					
<u>Supplemental Description</u>					

Group 0001: Roadway

0040	201E11000 CLEARING AND GRUBBING	1.000	LS	\$10,000.00000	\$10,000.00
0046	202E23000 PAVEMENT REMOVED Mainline	5,000.000	SY	\$9.36097	\$46,804.85
0048	202E32500 CURB AND GUTTER REMOVED	1,275.000	FT	\$3.50000	\$4,462.50
0050	202E20010 HEADWALL REMOVED	4.000	EACH	\$524.12074	\$2,096.48
0051	202E58100 CATCH BASIN REMOVED	2.000	EACH	\$468.92507	\$937.85
0052	202E35100 PIPE REMOVED, 24" AND UNDER	711.000	FT	\$18.31488	\$13,021.88
0053	202E58000 MANHOLE REMOVED	1.000	EACH	\$585.91821	\$585.92
0054	203E10000 EXCAVATION	2,000.000	CY	\$15.63894	\$31,277.88
0055	203E20000 EMBANKMENT	2,500.000	CY	\$11.75335	\$29,383.38
0056	204E10000 SUBGRADE COMPACTION	6,000.000	SY	\$1.10680	\$6,640.80
0057	206E10500 CEMENT	160.000	TON	\$163.07994	\$26,092.79
0058	206E15010 CEMENT STABILIZED SUBGRADE, 12 INCHES DEEP	6,000.000	SY	\$2.48839	\$14,930.34

Total for Group 0001:\$186,234.67

Group 0002: Erosion Control

0060	659E00300 TOPSOIL	500.000	CY	\$40.84543	\$20,422.72
0061	832E15000 STORM WATER POLLUTION PREVENTION PLAN SWPPP Inspection, SWPPP Inspection software, and SWPPP	1.000	LS	\$10,000.00000	\$10,000.00
0062	659E10000 SEEDING AND MULCHING	3,000.000	SY	\$1.98759	\$5,962.77
0063	832E30000 EROSION CONTROL	65,000.000	EACH	\$1.00000	\$65,000.00

Total for Group 0002:\$101,385.49

Group 0003: Pavement

0005	301E46000 ASPHALT CONCRETE BASE, PG64-22	1,000.000	CY	\$135.08672	\$135,086.72
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<u>Line #</u>	<u>Item Number</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
<u>Description</u> <u>Supplemental Description</u>					
0006	441E50300 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)	250.000	CY	\$173.65332	\$43,413.33
0007	441E50000 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	250.000	CY	\$179.49800	\$44,874.50
0009	304E20000 AGGREGATE BASE	1,020.000	CY	\$39.93271	\$40,731.36
0023	407E10000 TACK COAT	840.000	GAL	\$2.16064	\$1,814.94
0024	609E26000 CURB, TYPE 6	4,400.000	FT	\$19.53221	\$85,941.72
0064	609E18000 COMBINATION CURB AND GUTTER, TYPE 3	325.000	FT	\$30.06000	\$9,769.50
0065	441E50500 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), (DRIVEWAYS)	15.000	CY	\$350.00000	\$5,250.00
0066	304E20000 AGGREGATE BASE	10.000	CY	\$39.93271	\$399.33
0067	441E50400 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS)	10.000	CY	\$406.61237	\$4,066.12
0068	452E13060 9.5" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P	2,600.000	SY	\$69.50000	\$180,700.00

Total for Group 0003:\$552,047.52

Group 0005: Drainage Items

0011	602E20000 CONCRETE MASONRY	0.920	CY	\$2,446.13284	\$2,250.44
0014	611E04400 12" CONDUIT, TYPE B	1,350.000	FT	\$83.90898	\$113,277.12
0020	611E07400 18" CONDUIT, TYPE B	800.000	FT	\$84.41789	\$67,534.31
0021	611E98150 CATCH BASIN, NO. 3	1.000	EACH	\$3,334.24489	\$3,334.24
0022	611E98180 CATCH BASIN, NO. 3A	16.000	EACH	\$2,684.29652	\$42,948.74
0071	895E10020 MANUFACTURED WATER QUALITY STRUCTURE, TYPE 2	1.000	EACH	\$19,576.41000	\$19,576.41

Total for Group 0005:\$248,921.26

Group 0006: MOT

0069	614E12420 DETOUR SIGNING	1.000	LS	\$12,000.00000	\$12,000.00
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Total for Group 0006:\$12,000.00

Group 0007:

<u>Line #</u>	<u>Item Number</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
<u>Description</u>					
<u>Supplemental Description</u>					

0073	625E98100	1,600.000	FT	\$100.00000	\$160,000.00
LIGHTING, MISC.: Continuous Roadway, regular lighting per foot of road					

Total for Group 0007:\$160,000.00

Group 0008: Pavement Markings

0072	640E99000	1.000	LS	\$15,000.00000	\$15,000.00
SPECIAL - PAVEMENT MARKING includes edge line, lane line, channelizing line, and lane arrows					

Total for Group 0008:\$15,000.00

Group 0009: Incidentals

0028	614E11000	1.000	LS	\$20,000.00000	\$20,000.00
MAINTAINING TRAFFIC MOT					
0029	624E10000	1.000	LS	\$40,000.00000	\$40,000.00
MOBILIZATION Mobilization					
0030	623E10000	1.000	LS	\$20,000.00000	\$20,000.00
CONSTRUCTION LAYOUT STAKES AND SURVEYING					
0031	103E99010	1.000	LS	\$20,000.00000	\$20,000.00
SPECIAL - PREMIUM FOR CONTRACT PERFORMANCE BOND AND FOR PAYMENT BOND					

0070	619E16000	3.000	MNTH	\$1,301.93469	\$3,905.80
FIELD OFFICE, TYPE A					

Total for Group 0009:\$103,905.80

Estimate Alt_4A

Estimated Cost:\$888,393.08

Contingency: 30.00%

Estimated Total: \$1,154,911.00

TEREX/BARLOW ROAD PRELIMINARY ESTIMATE

Base Date: 04/27/22

Spec Year: 19

Unit System: E

Work Type:

Highway Type:

Urban/Rural Type: URBAN CLASS

Season:

County: SUMMIT

Latitude of Midpoint: 411313

Longitude of Midpoint: -812525

District: 04

Federal/State Project Number:

Prepared by PRIME AE GROUP

<u>Line #</u>	<u>Item Number</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
<u>Description</u>					
<u>Supplemental Description</u>					

Group 0001: Roadway

0040	201E11000 CLEARING AND GRUBBING	1.000	LS	\$10,000.00000	\$10,000.00
0046	202E23000 PAVEMENT REMOVED Mainline	1,450.000	SY	\$13.13812	\$19,050.27
0048	202E32500 CURB AND GUTTER REMOVED	1,275.000	FT	\$3.50000	\$4,462.50
0050	202E20010 HEADWALL REMOVED	5.000	EACH	\$562.33998	\$2,811.70
0051	202E58100 CATCH BASIN REMOVED	2.000	EACH	\$468.92507	\$937.85
0052	202E35100 PIPE REMOVED, 24" AND UNDER	129.000	FT	\$22.72380	\$2,931.37
0054	203E10000 EXCAVATION	1,000.000	CY	\$17.69346	\$17,693.46
0055	203E20000 EMBANKMENT	1,500.000	CY	\$13.05574	\$19,583.61
0056	204E10000 SUBGRADE COMPACTION	1,250.000	SY	\$1.70587	\$2,132.34
0057	206E10500 CEMENT	40.000	TON	\$175.56638	\$7,022.66
0058	206E15010 CEMENT STABILIZED SUBGRADE, 12 INCHES DEEP	1,250.000	SY	\$2.48000	\$3,100.00
0073	202E56100 BUILDING DEMOLISHED	1.000	EACH	\$12,000.00000	\$12,000.00

Total for Group 0001:\$101,725.76

Group 0002: Erosion Control

0060	659E00300 TOPSOIL	250.000	CY	\$50.23517	\$12,558.79
0061	832E15000 STORM WATER POLLUTION PREVENTION PLAN SWPPP Inspection, SWPPP Inspection software, and SWPPP	1.000	LS	\$10,000.00000	\$10,000.00
0062	659E10000 SEEDING AND MULCHING	3,000.000	SY	\$1.98759	\$5,962.77
0063	832E30000 EROSION CONTROL	60,000.000	EACH	\$1.00000	\$60,000.00

Total for Group 0002:\$88,521.56

Group 0003: Pavement

0005	301E46000 ASPHALT CONCRETE BASE, PG64-22	1,450.000	CY	\$126.06513	\$182,794.44
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<u>Line #</u>	<u>Item Number</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
<u>Description</u>					
<u>Supplemental Description</u>					
0006	441E50300	375.000	CY	\$186.56326	\$69,961.22
ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)					
0007	441E50000	375.000	CY	\$171.73873	\$64,402.02
ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22					
0009	304E20000	1,500.000	CY	\$38.10871	\$57,163.07
AGGREGATE BASE					
0023	407E10000	1,000.000	GAL	\$2.15986	\$2,159.86
TACK COAT					
0064	609E12000	725.000	FT	\$29.08292	\$21,085.12
COMBINATION CURB AND GUTTER, TYPE 2					
0065	441E50500	15.000	CY	\$350.00000	\$5,250.00
ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), (DRIVEWAYS)					
0067	441E50400	15.000	CY	\$376.22148	\$5,643.32
ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS)					

Total for Group 0003:\$408,459.05

Group 0005: Drainage Items

0020	611E10400	180.000	FT	\$166.91878	\$30,045.38
24" CONDUIT, TYPE B					
0021	611E98150	1.000	EACH	\$3,334.24489	\$3,334.24
CATCH BASIN, NO. 3					
0022	611E98180	2.000	EACH	\$2,684.29652	\$5,368.59
CATCH BASIN, NO. 3A					
0026	602E20000	1.290	CY	\$2,253.95483	\$2,907.60
CONCRETE MASONRY					
0071	653E10000	40.000	CY	\$60.20048	\$2,408.02
TOPSOIL FURNISHED AND PLACED					
Vegetated Ditch BMP					
0076	670E00500	300.000	SY	\$2.39025	\$717.08
SLOPE EROSION PROTECTION					
Vegetated Ditch BMP					

Total for Group 0005:\$44,780.91

Group 0006: MOT

0069	614E12420	1.000	LS	\$12,000.00000	\$12,000.00
DETOUR SIGNING					

Total for Group 0006:\$12,000.00

Group 0007: Signing and Pavement Markings

0074	640E99000	1.000	LS	\$9,000.00000	\$9,000.00
SPECIAL - PAVEMENT MARKING					
includes edge line, lane line, channelizing line, and lane arrows					

Total for Group 0007:\$9,000.00

Group 0008: Traffic Signal

<u>Line #</u>	<u>Item Number</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
<u>Description</u>					
<u>Supplemental Description</u>					

0075	632E99000	1.000	LS	\$140,000.00000	\$140,000.00
	SPECIAL - TRAFFIC SIGNALS				

Total for Group 0008:\$140,000.00

Group 0009: Incidentals

0028	614E11000	1.000	LS	\$20,000.00000	\$20,000.00
	MAINTAINING TRAFFIC MOT				

0029	624E10000	1.000	LS	\$30,000.00000	\$30,000.00
	MOBILIZATION Mobilization				

0030	623E10000	1.000	LS	\$15,000.00000	\$15,000.00
	CONSTRUCTION LAYOUT STAKES AND SURVEYING				

0031	103E99010	1.000	LS	\$15,000.00000	\$15,000.00
	SPECIAL - PREMIUM FOR CONTRACT PERFORMANCE BOND AND FOR PAYM ENT BOND				

0070	619E16000	3.000	MNTH	\$1,301.93469	\$3,905.80
	FIELD OFFICE, TYPE A				

Total for Group 0009:\$83,905.80

Estimate Alt_4B

Estimated Cost:\$1,097,669.92

Contingency: 30.00%

Estimated Total: \$1,426,970.90

TEREX/BARLOW ROAD PRELIMINARY ESTIMATE

Base Date: 04/27/22

Spec Year: 19

Unit System: E

Work Type:

Highway Type:

Urban/Rural Type: URBAN CLASS

Season:

County: SUMMIT

Latitude of Midpoint: 411313

Longitude of Midpoint: -812525

District: 04

Federal/State Project Number:

Prepared by PRIME AE GROUP

<u>Line #</u>	<u>Item Number</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
<u>Description</u>					
<u>Supplemental Description</u>					

Group 0001: Roadway

0040	201E11000 CLEARING AND GRUBBING	1.000	LS	\$10,000.00000	\$10,000.00
0046	202E23000 PAVEMENT REMOVED Mainline	7,400.000	SY	\$8.40810	\$62,219.94
0048	202E32500 CURB AND GUTTER REMOVED	475.000	FT	\$3.50000	\$1,662.50
0050	202E20010 HEADWALL REMOVED	5.000	EACH	\$562.33998	\$2,811.70
0052	202E35100 PIPE REMOVED, 24" AND UNDER	775.000	FT	\$18.11648	\$14,040.27
0053	202E58000 MANHOLE REMOVED	1.000	EACH	\$585.91821	\$585.92
0054	202E58100 CATCH BASIN REMOVED	2.000	EACH	\$468.92507	\$937.85
0055	203E10000 EXCAVATION	1,500.000	CY	\$16.46098	\$24,691.47
0056	203E20000 EMBANKMENT	1,750.000	CY	\$12.64821	\$22,134.37
0057	204E10000 SUBGRADE COMPACTION	8,800.000	SY	\$0.99586	\$8,763.57
0058	206E10500 CEMENT	80.000	TON	\$169.20802	\$13,536.64
0059	206E15010 CEMENT STABILIZED SUBGRADE, 12 INCHES DEEP	2,500.000	SY	\$2.48000	\$6,200.00

Total for Group 0001:\$167,584.23

Group 0002: Erosion Control

0060	659E00300 TOPSOIL	750.000	CY	\$36.18896	\$27,141.72
0061	832E15000 STORM WATER POLLUTION PREVENTION PLAN SWPPP Inspection, SWPPP Inspection software, and SWPPP	1.000	LS	\$10,000.00000	\$10,000.00
0062	659E10000 SEEDING AND MULCHING	3,300.000	SY	\$1.89547	\$6,255.05
0063	832E30000 EROSION CONTROL	60,000.000	EACH	\$1.00000	\$60,000.00

Total for Group 0002:\$103,396.77

Group 0003: Pavement

0005	301E46000 ASPHALT CONCRETE BASE, PG64-22	1,500.000	CY	\$125.27262	\$187,908.93
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<u>Line #</u>	<u>Item Number</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
<u>Description</u> <u>Supplemental Description</u>					
0006	441E50300 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)	375.000	CY	\$186.56326	\$69,961.22
0007	441E50000 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	375.000	CY	\$171.73873	\$64,402.02
0009	304E20000 AGGREGATE BASE	1,500.000	CY	\$38.03044	\$57,045.66
0023	407E10000 TACK COAT	1,100.000	GAL	\$2.15943	\$2,375.37
0064	609E18000 COMBINATION CURB AND GUTTER, TYPE 3	1,350.000	FT	\$30.06000	\$40,581.00
0065	304E20000 AGGREGATE BASE Driveway	25.000	CY	\$38.03044	\$950.76
0066	441E50500 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), (DRIVEWAYS)	15.000	CY	\$350.00000	\$5,250.00
0067	441E50400 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS)	15.000	CY	\$376.22148	\$5,643.32
Total for Group 0003:					\$434,118.28

Group 0005: Drainage Items

0020	611E10400 24" CONDUIT, TYPE B	160.000	FT	\$166.91878	\$26,707.00
0021	611E04400 12" CONDUIT, TYPE B	980.000	FT	\$83.90898	\$82,230.80
0022	611E98180 CATCH BASIN, NO. 3A	12.000	EACH	\$2,684.29652	\$32,211.56
0026	602E20000 CONCRETE MASONRY	1.720	CY	\$2,102.33813	\$3,616.02
0071	653E10000 TOPSOIL FURNISHED AND PLACED	35.000	CY	\$62.35380	\$2,182.38
0073	670E00500 SLOPE EROSION PROTECTION	300.000	SY	\$2.39025	\$717.08
Total for Group 0005:					\$147,664.84

Group 0006: MOT

0069	614E12420 DETOUR SIGNING	1.000	LS	\$12,000.00000	\$12,000.00
Total for Group 0006:					\$12,000.00

Group 0007: Signing and Pavement Markings

0074	640E99000 SPECIAL - PAVEMENT MARKING includes edge line, lane line, channelizing line, and lane arrows	1.000	LS	\$9,000.00000	\$9,000.00
Total for Group 0007:					\$9,000.00