

TOWN COUNCIL — AGENDA REQUEST FORM THIS FORM WILL BECOME PART OF THE BACKGROUND INFORMATION USED BY THE COUNCIL AND PUBLIC

Please submit Agenda Request Form, including back up information, 8 days prior to the requested meeting date. Public Hearing requests must be submitted 20

days prior to the requested meeting date to meet publication deadlines (exceptions may be authorized by the Town Manager, Chairman/Vice Chair).

MEETING INFORMATION												
Date Submitted: May 18, 2022			Date of Meeting: May 26, 2022									
Submitted by: Ky	le Fox		Time Required: 30 N	linutes								
Department: Public Works			Background Info. Supplied: Yes 🖂 No 🗌									
Speakers: Kyle Fo	X											
CATEGORY OF BUSINESS (PLEASE PLACE AN "X" IN THE APPROPRIATE BOX)												
Appointment:			Recognition/Resignat	tion/Retirement:								
Public Hearing:			Old Business:									
New Business:			Consent Agenda:									
Nonpublic:			Other:									
terio Pile		TI	TLE OF ITEM	DATE OF								
Request to withdraw from Road Infrastructure Capital Reserve Fund / Consideration of combining the Wire Road intersection project with the US 3 bridge project												
		DESCR	RIPTION OF ITEM	THE PERSON	100							
The Town of Merrimack has been offered the opportunity to combine two capital projects along the US Route 3 corridor into one project. The projects are in the NHDOT Ten Year Transportation Plan for construction two years apart (2025, 2027). The combination project proposes to construct the adjacent projects together in 2025.												
REFERENCE (IF KNOWN)												
RSA:			Warrant Article:									
Charter Article:	Charter Article:			Town Meeting:								
Other:		N/A: XX										
	EQUIPMENT REQUI	IRED (P	LEASE PLACE AN "X" IN THE	APPROPRIATE BOX)								
Projector:	\geq		Grant Requirements:									
Easel:	Easel:		Joint Meeting:									
Special Seating:		Other:										
Laptop:	aptop: Nor											
CONTACT INFORMATION												
Name: Kyle Fox			Address:	6 Baboosic Lake	Road							
Phone Number:	603-424-5137		Email Address: kfox@merrimacknh									
			.gov									



TOWN OF MERRIMACK INTER-DEPARTMENT COMMUNICATION

DATE: May 18, 2022

AT (OFFICE): Department of Public Works

FROM: Kyle Fox

Public Works Director

SUBJECT: US 3 Capital Project Update

TO: Paul Micali

Town Manager

The Town of Merrimack has two capital projects along the US Route 3 corridor in the NHDOT Ten Year Plan (TYP) – the US 3 over Baboosic Brook bridge replacement project (bridge) and the Wire Road/US 3 intersection safety improvement project (intersection). The bridge project is currently in the design phase and is scheduled in the TYP for construction in 2025. The intersection project has not commenced but is scheduled in the TYP for construction in 2027.

The design of the bridge project has progressed sufficiently to demonstrate the length of impact to the road approaches to the bridge, which extend into the Wire Road/US 3 intersection on the south end. Following lengthy discussions with our project manager at NHDOT for the two projects, we now have support to design and construct the two projects as one. The suggested procedure to combine the projects is to contract with a road/traffic engineering consultant that would work as a subconsultant to Quantum Construction Consultants (QCC), our current bridge design consultant. The goal of the combination project is to accelerate the intersection project design to match the milestones of the bridge project, culminating in a combined National Environmental Policy Act (NEPA) submittal in February, 2023. I have attached a proposed scope of work for the intersection project from the Beta Group, who would act as the subconsultant to QCC. The intersection project will study the current intersection which is problematic due to its geometry, develop alternatives for solving the issues, and design and construct the preferred alternative. The project will include sidewalks to the south of Wire Road along DW Highway, connecting to the existing sidewalk in front of the library, and may result in sidewalks being extended from the bridge project north to Twin Bridge Road. It will also investigate the benefits to creating a fourth leg of the intersection into the MYA facility to improve ingress/egress over the current entrance.

Combining the project will result in cost savings, reduced aggravation for users of the corridor, and a better designed project than if it were two separate projects. The cost savings to be realized include not having to reconstruct areas previously constructed by the bridge project, avoiding two years of inflation by constructing earlier, an economy of scale savings by having a bigger single project with one mobilization from a single contract. The aggravation to users of the corridor

would be significant should the projects not be combined, as the intersection project would begin shortly after the bridge project finished, increasing the amount of time that the corridor is under construction.

The anticipated cost for the design of the combined projects is \$950,000. \$300,000 was previously approved by the Town Council and the voters through the FY 2017/18 budget. Therefore, I will be requesting that the Town Council authorize a withdrawal \$650,000 from the Road Infrastructure Capital Reserve Fund to support the design phase of the combined US 3 over Baboosic Brook bridge/Wire Road US 3 intersection project.

I look forward to discussing this opportunity with you in greater detail. Please let me know if you have any questions.

CC: Dawn Tuomala, Town Engineer



TOWN OF MERRIMACK, NH

6 BABOOSIC LAKE ROAD . MERRIMACK, NH 03054 . WWW.MERRIMACKNH.GOV

October 17, 2019

Governor's Advisory Commission on Intermodal Transportation (GACIT)
Executive Councilor Theodore Gatsas
107 North Main Street
State House, Room 207
Concord, NH 03301

Dear Councilor Gatsas:

Thank you for providing this opportunity for the Town of Merrimack to provide comments to the Governor's Council on Intermodal Transportation as you work through the creation and adoption of the 2021 – 2030 Ten Year Transportation Improvement Plan. The Town of Merrimack, and the surrounding region, has experienced tremendous growth and economic development in the last few years, and with that growth comes the need for transportation improvements in Merrimack. I offer the following comments for the Commission's consideration:

- Following the success of the opening of the airport access road and Exit 13 in Bedford in November, 2011, traffic along the northern part of US Route 3 (Daniel Webster Highway) has increased by 25% to 30% over the past six years. The Town would like to request that a project be implemented to study this corridor and to give serious consideration to completing the northern connections of the Bedford Road/Exit 12 interchange with the F.E. Everett Tumpike. Additional information on this topic is provided as attachments to this letter.
- Merrimack has one Transportation Alternatives Program (TAP) project in the draft Ten Year Plan (#40300). This project will provide connectivity to a number of Merrimack's trail systems, thereby connecting schools, residences, businesses, and recreation areas. The project is near the final design stage with an expected advertisement date of March, 2019 but has been listed in the draft Ten Year Plan with a construction date of 2024. The Town requests that this project be allowed to advertise for construction as previously scheduled (FY 2019/2020).
- The Route 101A improvements in Merrimack (#10136D) should remain with
 construction years of 2021/2022 as is scheduled in both the current Transportation
 Improvement Plan (TIP) and the draft Ten Year Plan. The improvements in this project
 are necessary for the major east-west corridor in the region as it will provide increased
 safety and reduce traffic congestion.

 Assessing
 Community Development
 Finance
 Human Resources
 Media Services

 P: 603-424-5136
 P: 603-424-3531
 P: 603-424-7075
 P: 603-424-2331
 P: 603-423-8561

 F: 603-424-0461
 F: 603-424-1408
 F: 603-423-8539
 F: 603-424-0461
 F: 603-424-0461

 Public Assistance
 Public Works Administration
 Town Council
 Town Manager

 P: 603-423-8535
 P: 603-424-5137
 P: 603-424-2331
 P: 603-424-2331

 F: 603-423-8539
 F: 603-424-3890
 F: 603-424-0461
 F: 603-424-0461

- The US 3 over Baboosic Brook bridge project (#29174) will replace a red-list bridge and
 provide safer travel for pedestrians and cyclists over the bridge. It is important that this
 project remain as scheduled in the draft Ten Year Plan and not be pushed any further.
 The project is currently scheduled in the TIP for construction in FY2023 and has been
 proposed for construction in FY2024/25.
- Safety and capacity improvement of the DW Highway / Wire Road intersection are part of project #41588. These much needed improvements continue to be proposed for

FY2027. Ideally, this project would move ahead in the draft Ten Year Plan to construct in FY 2024/25 as it directly abuts the US 3 bridge project noted above. Doing so would provide an economy of scale in both the design and construction of both projects.

Thank you for your consideration.

Sincerely,

Eileen Cabanel, Town Manager

CC: Councilor Debora Pignatelli Merrimack Town Council

Scope of Work

Project Background

NH Route 3 serves as a vital North-South corridor through the Town of Merrimack and is a major commuter road for the community. The objective of the Wire Road & US Route 3 Intersection and Safety Improvements Project is to improve safety and traffic operations for all users. This project will be incorporated as part of an ongoing bridge replacement project, located at NH Route 3 over the Baboosic Brook, which is currently under design by Quantum Construction Consultants (QCC). BETA Group, Inc. (BETA) will be a sub consultant to QCC.

The project limits as depicted In Figure 1 extends from the intersection of Baboosic Lake Road and Route 3, through the Wire Rd and Route 3 intersection, to the southerly limit of Baboosic bridge reconstruction project, about 100 feet south of the proposed bridge. The overall project scope will include intersection design at Wire Road and Route 3, relocation of the Merrimack Youth Association driveway, ADA pedestrian ramps, and curb and sidewalks from the intersection of Baboosic Lake Road and Route 3 to the northerly project limit. Improvements will include drainage relocation/improvements, potential new signal installation at Wire Road and Route 3, box widening, pavement milling and overlay including guardrail installation. The project also consist of signal coordination between the potential new signal at Wire Road and three existing signals along the Route 3 corridor. The three intersections are CVS at Route 3, Baboosic Lake Rd at Route 3, and Front St at Route 3.

The project will consist of four phases including planning through construction award. This anticipated scope of services will include engineering study, preliminary design, final design and bid phase effort.

Scope of Services

The work will be performed in conformance with the New Hampshire Department of Transportation – Bureau of Community Assistance's Local Public Agency (LPA) Manual for the Development of Projects. The scope of services for planning, design, and implementation will follow the tasks as outlined in the LPA process. Our service approach to be provided will be as follows:

1.0 Engineering Study

- 1.1 BETA will attend an initial meeting with the Town officials and QCC to initiate the project and identify and coordinate any key issues/concerns or special parameters for the project. Overall project schedule will be discussed and confirmed at this meeting. BETA will provide meeting minutes.
- 1.2 BETA will develop a formal project schedule to submit to the Town and QCC.

1.3 Data Collection:

 It is anticipated that traffic counts may be performed by the Nashua Regional Planning Commission. Traffic volume data will be collected at the intersections listed below. The intersection turning movement count duration for each of the intersections is identified below and shall include truck, pedestrian, and bicycle volumes. Peak hour turning movement counts into and out of the Merrimack Youth



Association (MYA) driveway counts should be obtained during the facility peak event periods to be verified with MYA.

- 1. Wire Road at Route 3 (weekday 7AM to 6PM; Sat 11AM to 2AM)
- 2. Merrimack Youth Association Driveway (facility event peak periods)
- 3. Baboosic Lake Rd at Route3 (Weekday 7AM to 9AM; 4PM to 6PM; Sat 11AM to 2PM)
- 4. CVS at Route 3 (Weekday 7AM to 9AM; 4PM to 6PM; Sat 11AM to 2PM)
- 5. Front Street at Route3. (Weekday 7AM to 9AM; 4PM to 6PM; Sat 11AM to 2PM)
- Observe the existing signal operations and inventory signal timing, phasing, and
 equipment at CVS/Route 3, Baboosic Lake Rd/Route 3 and Front St/Route 3. Signal
 inventory will consist of evaluating and identifying types of equipment and note any
 equipment deficiencies. Line of sight for proposed wireless communication
 between the four intersection locations will be investigated.
- Collect historical collision data from the Town Police Department/NHDOT for the Wire Rd/Route 3 intersection. It is anticipated that detailed crash data will be provided for the most recent 3-year period. Data will be evaluated to identify apparent contributing roadway and/or intersection deficiencies.
- Town to provide available previous studies/analysis, sign plans, as-builts, electronic files, existing public utilities and other pertinent information to assist in the design process.
- 1.4 A project wide topographical survey will be conducted by others to develop the base plan including right of way, property information and underground utility information. A request for survey will be provided to QCC for their survey subconsultant to perform. BETA will field verify the final survey for completeness. Existing survey from QCC's Route 3 Bridge Replacement project will be provided for reference and integrated with the additional survey. It is assumed the bridge replacement project survey is compatible, current, and complete.
- 1.5 A project wide wetland delineation will be performed by a New Hampshire licensed wetland professional who will be a separate subconsultant to QCC. A separate request will be provided to QCC for their wetland professional sub consultant to perform this work.
- 1.6 BETA will retain the services of a geotechnical/material testing sub consultant to perform three pavement cores and subbase sieve analysis to verify existing pavement and base material conditions and make recommendations for pavement structure.
- 1.7 BETA will attend and present at a local concerns meeting which will be conducted to gather input from the general public as to their concerns regarding the intersection and safety upgrades. Public input will be incorporated accordingly in the development of the proposed design options. BETA will provide meeting minutes only on the roadway/intersection project.



- 1.8 BETA will compare the new traffic data with the 2013 data utilized in the VHB traffic study. The comparison will verify if traffic volume has increased since 2013. Any significant traffic volume increase (5 % or more), the analysis will be updated accordingly. The traffic signal warrant analysis will also be updated to validate the need for a traffic signal system at the intersection of Wire Road and Route 3.
- 1.9 BETA will perform Level of Service (LOS) analysis for the four intersections using new traffic count information. If needed, new traffic volume data will be adjusted to reflect the COVID pandemic condition using historical data within the project area. The analysis will include a projection of future traffic and incorporate planned developments identified by the Town that would likely contribute traffic volume to the study locations. The need for signal coordination for the intersection of Front Street and Route 3 will be determined based on the analysis.
- 1.10 BETA will develop signal layout for the Wire Road and Route 3 intersection in accordance with the current edition of the Manual on Uniform Traffic Control Devices. Signal phasing will be determined, and preliminary timing calculations made. Pavement markings and signing will be laid out to support the new traffic signal installation.
- 1.11 For the Wire Road and Route 3 intersection, BETA will develop three intersection/roadway concept plans based on the alternatives in the traffic analysis. A stop-controlled option, a signalized option, and a roundabout option. All the options will include a re-aligned intersection and relocated MYA driveway. It is assumed that there is only one design for the sidewalk extension improvement portion of the project, where new sidewalk will be installed along the existing roadway edge of pavement.
- 1.12 BETA will identify properties where likely permanent and/or temporary easements and takings are required and depict them on the concept plans.
- 1.13 BETA will identify potential private and public utility impacts and relocations and depict them on the concept plans.
- 1.14 BETA will review Town and State permitting related requirements for stormwater management, BMP's and drainage design and depict potential improvements on the concept plans. It is assumed that there is one design point for peak flow mitigation and one BMP.
- 1.15 BETA will develop a draft engineering report for the project outlining the proposed work and potential utility, drainage and ROW impacts, concept plans and budgetary estimate for one submission to the Town to review. Report to include final traffic analysis.
- 1.16 BETA will attend one meeting with the Town and QCC to review the recommended alternatives. BETA will provide meeting minutes. BETA will incorporate the Town's comments into the final engineering report.

- 1.17 BETA will attend and present at one public meeting to present the proposed plan of action and gather final input. BETA will prepare graphics (an aerial plan) as needed to depict the preferred design alternative. BETA will provide meeting minutes only on the roadway/intersection project. BETA will incorporate the public's comments into the final engineering report.
- 1.18 BETA will provide a final engineering report summarizing our findings to include: purpose and need statement, a description of existing conditions, outline of design criteria, discussion of the alternative analysis and selection of the preferred design, and a budgetary construction cost estimate.
- 1.19 BETA will submit the final engineering report, traffic analysis files, and concept plans to the Town and QCC for submission to NHDOT. BETA will address NHDOT comments to the extent practicable and provide a Final Engineering Report for re-submission.

2.0 Preliminary Design

- 2.1 BETA will attend one NHDOT Natural Resource Meeting and one Cultural Resource Meeting with QCC. BETA to provide meeting minutes only on the roadway/intersection portion of the project.
- 2.2 BETA to provide the required information to QCC for their completion of the NHDOT Traffic Control Committee Memo and provide a traffic management plan for the proposed work as it relates to the Wire Rd intersection. BETA will attend one Traffic Control Committee meeting with QCC and address comments to the traffic management plan. BETA to provide meeting minutes only on the roadway/intersection project.
- 2.3 BETA will attend one meeting with the Town and QCC to address and coordinate additional comments/concerns from the Town. BETA will provide meeting minutes.
- 2.4 BETA will advance the design to prepare the preliminary plans. 20 scale plans shall include:
 - Title Sheet
 - Legend
 - Notes and Typical Sections
 - General Plan and Profile
 - Grading Plan
 - Drainage and Utility Plan
 - Right of Way Plans (11x17" plans)
 - Details
 - Traffic Signal layout/Phasing/Timing/Coordination Plans
 - Lane Assignment
 - Striping and Signage Plan
 - Cross Sections
 - Curb and Layout Plan



- 2.5 Perform itemized quantity take off and prepare an estimate of probable construction cost. Engineer's cost estimates will be based on recent available weighted average bid prices.
- 2.6 BETA will provide QCC with a description summarizing the impacts to utilities (public and private) based on the preliminary plans. QCC to coordinate and meet with utility companies and provide feedback to BETA for incorporation into the design plans. BETA will attend one utility field meeting.
- 2.7 BETA will provide assistance to QCC regarding identification of project specific information required to complete the categorical exclusion, requests for reviews, and state permits (wetland, AOT and shoreland as required). QCC will be responsible for completing, compiling, and reviewing all local, state and federal forms, plans, documentation, and correspondence as it relates to environmental, cultural and historical review/approval process. BETA's scope for the permitting process is limited to a support role to QCC.
- 2.8 BETA will prepare the preliminary design and traffic analysis files to the Town and QCC for review. BETA will incorporate comments and resubmit to the Town and QCC for submission to NHDOT.

3.0 Final Design/Plans, Specifications and Engineer's Estimate

- 3.1 BETA will address and incorporate comments from the NHDOT preliminary design review to the extent practicable and finalize the design. BETA will finalize roadway design including intersection geometry, sidewalks, horizontal alignment, profile, drainage, cross-sections, wheelchair ramp design and layout. BETA will finalize sideline grading and required transitional work on private property in order to define the limits of right of way impacts. BETA will update traffic signal design and finalize layout, sequence and timing chart, major items list, detector layout, signing, pavement markings and traffic management plan using standard overall phasing guidelines for construction implementation.
- 3.2 BETA will prepare and provide to QCC the necessary special provisions/specifications related to the traffic and highway work in the project area in accordance with NHDOT's Standard Specifications. All bid and contract documents to be provided by QCC.
- 3.3 Update Itemized quantity take off and prepare estimate of probable construction cost. engineer's cost estimates will be based on recent available weighted average bid prices.
- 3.4 BETA will submit the final/PS&E design to the Town and QCC for review and submission to NHDOT.
- 3.5 BETA will incorporate additional comments from NHDOT to the extent practicable.

4.0 Bidding

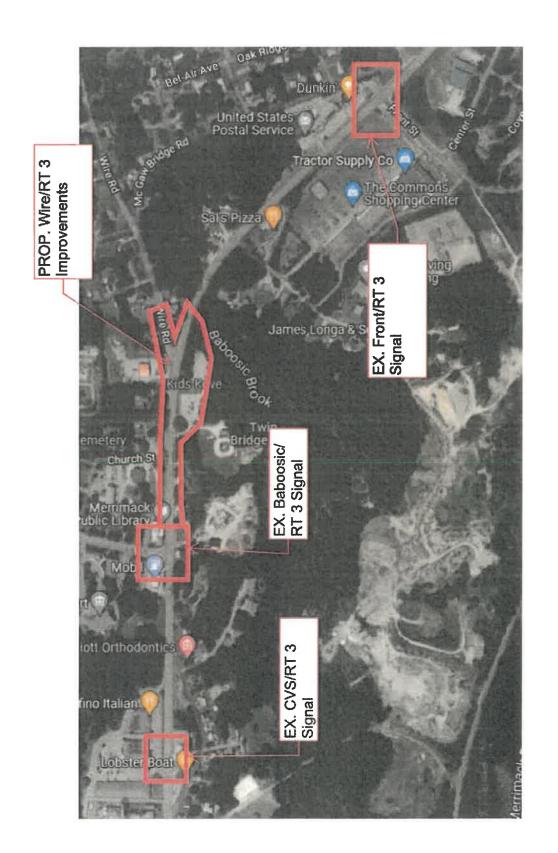
- 4.1 BETA will assist the Town and QCC in the bidding process including: issuance of project specific addendums and addressing questions.
- 4.2 BETA will assist in review contractor bid items related to roadway/intersection work.

 Review of overall bid and recommendation for award is by QCC

Assumptions

Listed below are assumptions that were made in development of the scope of work and accompanying fee for this project:

- 1. A public hearing for the purpose of eminent domain will not be required.
- 2. The Town will obtain all necessary right-of-way utilizing the ROW plans prepared by BETA as a basis for negotiations. The ROW plans will consist of individual 11x17" plans for each impacted property that will show the property, easement type and dimensions (northing and eastings and bearings), work to be performed on the property and area of easement. All tasks related to the ROW acquisition process shall be performed by QCC and the Town.
- 3. BETA will provide QCC with ROW plans as outlined above. QCC will obtain ROW and Utility Certificates for the Town and provide all associated ROW costs to the Town and NHDOT.
- 4. Drainage and utility relocations/alterations will be limited to the requirements of the proposed intersection and roadway/safety improvements. Piping design is anticipated limited to additional drainage structures and lateral piping and trunk line design is not required.
- 5. It is anticipated that design exceptions will not be required.
- 6. No hazardous materials investigations are included.
- 7. Structural design for walls is not required.
- 8. Borings and foundation shop drawings for mast arm foundations shall be completed by the contractor. BETA shall review the boring information and mast arm foundation design. Foundation design for signal installations will follow NHDOT Standard Plans.
- 9. All meetings are assumed to be In person, however BETA can attend virtual meetings.
- Police detail needed for field work or data collection will be provided by and paid for directly by the Town.



Wire Road Intersection Improvements Merrimack, NH

Task	PIC	Project Manager	Senior Engineer	Project Engineer	Assistant Engineer/Envir onmental Coordinator	Tech/Designer	Total hours	Fee Per Task
Hourly Rate	\$83.78	\$55.98	\$86.62	\$54,58	\$40.53	\$34.30		
Task 1 - Engineering Study	- 12			***				
1.1 Kick-Off Meeting	13	59 4	54	214	178	64	582	\$85,395.7
1,2 Develop Project Schodule	1	4	4				10	
1.3 Data Collection	i	i	1	16	8	4	5 31	
1.4 Survey Verification		i	1	4	-	4	10	
1.5 Wetland Delineation Review/Request to QCC		i	1		2		4	
1.6 Existing Pavement structure review and recommendation		1	1	4	8		14	
1.7 Local Concerns Meeting, minutes	2	4		4	4		14	_
1.8 Existing Traffic Report review		2	4	8			14	
1.9 LOS Analysis		1	6	40	12	8	67	
1.10 Conceptual phasing, coordination and nignal layout		2	В	20	12	8	50	
1.11 Conceptual intersection plans		2	2	16	24	16	60	
1.12 Identify Potential Easements		2	1	2	8	4	17	
1.13 Identify Potential Utility Impacts		2	1	2	8	4	17	
1.14 Identity Potential Drainage/Stormwater Improvements		4		8	24		36	
1.15 Draft Engineering Report including final traffic analysis/report	1	4	12	48	32	4	101	
1.16 Meeting with Town for alternatives, incorporate comments	2	8		8	8	4	30	
1.17 Public meeting, graphics, minutes and incorporate comments	2	8	4	2	8	4	28	
1.18 Final engineering report	1	4	4	24	10		43	
1.19 Submit report and address DOT comments	1	4	4	- 8	10	4	31	
Task 2 - Preliminary Design	4	32	47	172	212	104	571	\$78,560.08
2.1 Cultural and Natural Resource Meeting and minutes		8	- 8				16	
2.2 TCC memo support for QCC, provide TMP, attend TCC meeting and provide minutes, incorporate comments		4	В	32			44	
2.3 Meeting with Town/QCC and provide minutes	2	4						
2.4 Prepare Preliminary Plans including ROW plans	1	8	16	100	120	80	6	
2.5 Itemized QTO and estimate		1	8	16	24	16	325 65	
2.6 Provide support to QCC for utility impacts		1	2	16	8	4	31	
2.7 Provide support to QCC for environmental coordination		2	4	4	56	-	66	
2.8 Submit preliminary design for review	1	4	1	4	4	4	18	
Task 3 – Final Design	1	19	31	118	108	20	297	\$43,424,89
3.1 Incorporate Review Comments and finalize plans		4	12	56	80	8	160	410/14/103
3.2 Prepare special provisions/specifications		8	12	32			52	
3.3 Update QTO and estimate		4	4	4	8	В	28	
3.4 Submit final plans and documents for review	1	2	i	2	4	4	14	
3.5 Address any DOT review comments		1	2	24	16		43	
Task 4 – Bidding	0	12	8	32	0	0	52	\$8,809.62
1.1 Bidding Assistance	-	8	4	16	-	-	28	20,003.02
4.2 Bid Review		4	4	16			24	
Houra Total	18	122	140	536	498	188		1502
2								
Direct Labor	\$1,508.04	\$6,829.56	\$12,126.80	\$29,254.88	\$20,183.94	\$6,448.40		
Indirect Labor (1.57)	\$2,373.81	\$10,750.41	\$19,088.80	\$46,050.11	\$31,771.54	\$10,150.43		
Profit (10%)	\$388.18	\$1,758.00	\$3,121.56	\$7,530.50	\$5,195.55	\$1,659.88		
Labor Total	\$4,270.03	\$19,337,97	\$34,337,16	\$82,835,49	\$57,151.03	\$18,258.71		\$216,190.38
Direct expenses (travelctc.)			(57)51H	70343347	\$57,131,85	310,500,71		
Reprographics								00.000,12
Geotech/Pavement Cores				_				\$1,000.00
Praffic Counts								\$8,450.00 \$1,500.00
Project Total								\$228,140,38