

## SCOPE AND FEE PROPOSAL

**Project:** Jones Bridge Road Widening  
*From Sargent Road to McGinnis Ferry Road*

**Client:** City of Johns Creek – Department of Public Works

**Date:** February 2<sup>nd</sup>, 2016

Lowe Engineers, LLC (*Consultant*) agrees to provide professional engineering services to the City of John's Creek (*Client*) for the design of improvements to Jones Bridge Road from Sargent Road to McGinnis Ferry Road. Tasks are also included within this scope of services for a traffic analysis of the weaving segment along southbound Jones Bridge Rd. between Douglas Rd. and Sargent Rd.

All design improvements will be designed to follow the applicable standards for the Georgia Department of Transportation (GDOT) Guidelines, Specifications and Standards, Manual of Uniform Traffic Control Devices (MUTCD), AASHTO "Green Book", AASHTO Roadside Design Guidelines, GDOT Drainage Manual, applicable City of Johns Creek Details and Specifications, and the Georgia Manual for Erosion and Sedimentation Control.

### PROJECT CORRIDOR

- The total project length is approximately 1.5 miles.
- Existing Jones Bridge Rd., throughout this corridor is two-lane collector, except for the three-lane section between Sargent and Douglas. The posted speed limit is 45 mph and the average daily traffic is approximately 10,500 vehicles.
- The development along the corridor is mostly residential with a short stretch of commercial development along the south end.
- The major sidestreets within the project limits are Sargent Rd., Douglas Rd., and McGinnis Ferry Rd. which are all signalized. There are also two subdivision entrances – Woodrun Ln. and Kensington Blvd.
- There are no bridges or major culverts along the project corridor.

### SCOPE OF SERVICES

The scope of services will include performing design improvements to widen Jones Bridge Rd. to four lanes with a median between Sargent Rd. and McGinnis Ferry Rd. This scope of services is based on the previously approved concept completed for the City of Johns Creek. As discussed during the previous project phase, different median widths and types will be evaluated to reduce property impacts as needed. Shoulder improvements on the west side of the road will include curb and gutter and a 10-ft multi-use trail. On the east side, both an urban and rural/flush shoulder will be evaluated based on drainage considerations. Drainage improvements would consist of closed system drainage with the potential for special ditches as well where flush shoulders are utilized. The roadway will retain its

approximate horizontal and vertical alignment, although slight grade changes may be evaluated as needed to minimize tie-slope impacts. Several retaining walls will be also be utilized as needed. These walls will include GDOT standard gravity walls and Type P cantilever walls, although special design walls such as mechanically stabilized earth (MSE) walls will also be evaluated if the City prefers. Traffic signal modifications will be necessary at Douglas Rd. and McGinnis Ferry Rd. Tie slopes for the proposed widening will extend beyond the existing right of way so required right of way and easements are anticipated. Any environmental, structural, or geotechnical tasks would be handled through the City's on-call contractors.

## **SCOPE TASKS**

The project scope will consist of the following items:

### **Task 1 – Public Involvement**

This task would involve the consultant's participation in one public meeting to share the project concept and take comment from citizens. The consultant's scope would include providing supporting documentation such as fact sheets, comment forms, and concept displays for the public meeting as well as having up to three qualified project engineers attend the meeting to answer questions. The consultant will also be available to assist the City in evaluating any comments received. Administrative details such as scheduling, location, and use of court reporter are excluded from the consultant's scope. A brief "dry run" meeting will be held to prepare for the public meeting.

### **Task 2 – Traffic Analysis**

A traffic analysis will be performed for the offset three-leg intersections of Jones Bridge Road/ Sargent Road and Jones Bridge Road/ Douglas Road. The goals of the analysis will be to analyze the current weave problem created by motorists making a right turn, weaving across traffic, followed by a left turn between the two routes. The analysis will analyze the performance of the existing conditions where minor improvements have been implemented by the City to mitigate the problem. The analysis will also evaluate the effects of the ultimate typical section, with two thru lanes in both the northbound and southbound directions, for Jones Bridge Road.

The tasks for the Traffic Analysis phase will include the following:

1. Gather updated AM and PM Peak Hour turning movement counts for the intersections of Jones Bridge Road at Sargent Road and Jones Bridge Road at Douglas Road.
2. Gather specific counts in the AM and PM Peak Hours of vehicles performing the following movements:
  - a. Douglas Road SB right and subsequently a left turn to Sargent Road.
  - b. Sargent Road NB right and subsequently a left turn to Douglas Road.
3. Update Traffic Volume Projections for the intersections of Jones Bridge Road at Sargent Road and Jones Bridge Road at Douglas Road for the Build Year and Design Year.
4. Perform Intersection Capacity Analysis for the AM and PM Peak hours for the intersections of Jones Bridge Road at Sargent Road and Jones Bridge Road at Douglas Road for the Existing, Build, and No-Build Conditions for the Existing (2016), Build Year, and Design Year.

5. Perform a weave analysis for both the Southbound and Northbound segment of Jones Bridge Road between Sargent Road and Douglas Road for the Existing, Build, and No-Build Conditions for the Existing (2016), Build Year, and Design Year.
6. Prepare a Traffic Analysis Report summarizing the methodologies, results, and recommendations of the above analysis for submittal to the City.

### **Task 3 – Preliminary Plans Development**

The Survey Database and Concept phases of the project have been completed under a previously authorized task order. The consultant could conceivably begin work on the Preliminary Plans immediately at the execution of this task order and while the traffic analysis between Sargent Rd. and Douglas Rd. is completed. Any slight revisions to the concept as a result of this traffic analysis or recently discussed comments from the City will be incorporated into the design during this phase.

The priority during this phase will be to establish the project footprint by determining all construction limits and impacts with detailed survey data so that Right-of-Way plans can be developed. We will begin by finalizing the proposed typical section and fine-tuning the concept alignments of the proposed roadway from which cross sections will be developed. Any reconstructed driveways will be profiled. A preliminary signalization plan will be prepared for the Jones Bridge Rd. intersections at Douglas Rd. and McGinnis Ferry Rd. to determine the required upgrades and modifications to the existing signal layout and design.

A drainage map will be produced and the pre-project and post-project hydraulics will be analyzed. If any significant increases in runoff are shown, we will develop the necessary measures needed to mitigate this increase. During the design of the drainage system, we will pay close attention to all underground utilities in an attempt to minimize and eliminate conflicts and impacts. A copy of the preliminary design will be sent to the utility companies for verification of existing facilities.

As the development of the project proceeds, the consultant will assess the constructability of the project, making refinements as necessary to ensure the project can be constructed while maintaining traffic. A Staging Plan for the project will be developed. Because of the nature of this corridor, the flow of traffic must be maintained throughout the construction process.

Other design tasks that will be completed during Preliminary Plans include development of retaining wall envelopes to establish limits of any needed walls. The fee is based on the three walls identified during the Concept phase which are listed below.

Wall No.	Type	Cut/Fill	Begin Sta.	End Sta.	Lt./Rt.	Length	Avg. Height	Max. Height
#1	GDOT Type P Cantilever	Fill	137+00	138+75	Lt.	175'	5.6'	6.5'
#2	GDOT Type P Cantilever	Fill	144+50	149+00	Rt.	450'	9.2'	14.0'
#3	Gravity	Cut	167+50	173+50	Lt.	600'	5.0'	9.5'

An appropriate pavement section will be designed based loosely on GDOT criteria but also incorporating the City's preferences. The preliminary configuration of the project erosion control BMP's will be developed for costing purposes.

All of the above items will be compiled into a set of Preliminary Construction Plans. After completing an in house quality control review, the consultant will prepare a preliminary cost estimate and will submit the Preliminary Construction Plans to the City for their review. We will coordinate with the City on their preference for the Preliminary Field Plan Review process – whether a formal meeting will be held or if an “email” review would be sufficient.

#### **Task 4 – Right of Way Plans Development**

Upon approval of the Preliminary Plan, the consultant will begin development of the Final Right-of Way Plans, incorporating any comments received during the preliminary review. Stand-alone Right-of-Way Plans will not be created. Instead, the information needed to depict the required right-of-way and easements will be shown on the construction plan sheets. Additional plan sheets will be added to display the data tables. Upon completion, the plans will be submitted to the City for their review. All comments will be addressed and Final Right-of Way Plans will be submitted for approval. Legal description files generated by Inroads will be provided to the City upon request.

#### **Task 5 – Final Plans Development**

After the preliminary field plan review, the consultant will begin the development of the Final Construction Plans. All changes made to the plans or changes in the design standards since the approval of the preliminary plans will be incorporated into the Final Construction Plans. In addition, throughout the final plan phase, we will update the construction plans to reflect any changes that come as a result of right-of-way negotiations. The final plans phase will finalize any structural wall design. Any proposed utility relocations will be coordinated with the utility companies by submitting the completed Preliminary Plans to the utility owners for them to review and mark-up their relocated facilities; this process is commonly referred to as the Second Utility Submission.

Finally, for each stage of construction of the project, the consultant will prepare an Erosion, Sediment and Pollution Control Plan using the current guidelines and BMP's in the Georgia Soil and Erosion Control manual. Under current guidelines, a NPDES permit and comprehensive monitoring plan will be required for this project since there will be a disturbance of more than 1 acre

Quantities for each pay item for the project will be computed. These quantities will be summarized on the plan in a Summary of Quantities. A final cost estimate will be prepared and submitted to the City along with all quantity calculations for their review and records. We will submit the Final Construction Plans to the City for a Final Field Plan Review (FFPR). All comments from the FFPR will be addressed and incorporated into the Final Construction Plans. The plans will be resubmitted for final approval and for bidding of the construction.

The Final Construction Plans will loosely follow the GDOT plan sequence to include the following components:

- a) *Cover Sheet*
- b) *Index Sheet*
- c) *Revision Sheet*
- d) *General Notes Sheet*
- e) *Typical Roadway Sections*
- f) *Summary of Quantity Sheets*

- g) *Roadway Plans and Profiles*, including the layout of all geometric and drainage improvements and depiction of all proposed rights-of-way and easements.
- h) *Staging Plans*
  - i. *Staging plans will be for a recommended staging plan to ensure the project is feasible considering the construction along an existing roadway under traffic. The staging plans are not a required mean or method. The contractor is allowed the flexibility to change the staging plan to another plan approved by the City.*
- i) *Driveway Profiles*
- j) *Drainage Profiles*
- k) *Final Roadway Cross Sections*
- l) *Final Striping, Signing and Marking Plans*
- m) *Traffic Signal Plans (as necessary)*
- n) *Final Utility Plans*
- o) *Retaining Wall plans/ envelopes*
- p) *Final Erosion and Sedimentation Control Plans (with required checklist for permit requirements)*
- q) *Any required special details – GDOT Standards and Details will be referenced in the plans but not included in the plan set*

#### **Task 6 – Value Engineering for Potential Grade Changes**

This task would include evaluating vertical profile adjustments to Jones Bridge Rd. to minimize slope tie-ins and property impacts. A benefit-cost analysis would then be undertaken to determine if the savings from the reduced footprint would exceed the cost for additional construction items and costs. The listed fee is based on the assumption this task would be completed prior to the development of any plan development contained within the base scope of services. Adjustments to the horizontal alignment are excluded from this fee.

#### **Task 7 – Concept Design - New Access to Jones Bridge Road from Seven Oaks Subdivision**

This task includes analyzation for up to three locations for a new access point to the Seven Oaks subdivision on the east side of Jones Bridge Rd. The analysis would mimic a small-scale concept development process and would include “concept-level” horizontal, vertical, and cross section design, typical section, determination of construction limits, and development of cost estimate for each location. Small-size (11x17) concept drawings on aerials will be provided for each location.

Once an acceptable concept has been approved by the City, the consultant would incorporate the concept into the construction plans. Scope for this effort involves fine tuning of the concept alignments, cross sections, and limits as well as drainage design, signing and marking, utility coordination, right of way design, and other needed design elements.

#### **Task 8 – Additional Services**

At the City’s request, an Additional Services task has been included in this proposal. This task will include any additional services that may be required and arise unexpectedly or are otherwise not currently included in this proposal.

## **DELIVERABLES**

1. Traffic Analysis Report
  - a. (2) hardcopies
  - b. (1) Electronic copy (PDF)
2. Public Involvement Deliverables
  - a. (2) Color concept maps for display
  - b. Project description / fact sheet
  - c. Comment forms
3. Value Engineering Submittal
  - a. Engineer's estimate of probable cost for any alternatives evaluated
  - b. Recommendation for preferred alternative
  - c. Drawings of any alternatives evaluated (if City requests)
4. Deliverables for new access at Seven Oaks
  - a. 11x17 (or similar small size) concept drawings of each site evaluated (3 max.)
5. Preliminary Construction Plans submittal (prior to beginning of R/W acquisition)
  - a. (1) Full size plan set
  - b. (1) Half size plan set
  - c. Electronic plan sheets
  - d. Engineers estimate of probable cost
6. Final Construction Plans submittal
  - a. (1) Full size plan set
  - b. (1) Half size plan set
  - c. Electronic plan sheets
  - d. Engineers estimate of probable cost

## **MEETINGS**

The following meetings are included as a part of the fee proposal:

1. Public Information Meeting (and dry run - if City prefers)
2. Preliminary Plans Review Meeting (if City prefers)
3. Final Plans Review Meeting
4. Right of Way Revisions Meeting
5. (2) Miscellaneous Meetings

## **ITEMS TO BE PROVIDED BY CLIENT**

1. Any known geotechnical areas unsuitable for construction, environmental contaminated areas, or structural elements to be retained or avoided.
2. Design Plans for completed or active projects in the area.
3. Any final plats for adjacent properties.
4. Any applicable existing pavement thicknesses and geotechnical data.
5. Any known locations or depths for utilities along the corridor.
6. Any needed Environmental, Structural, or Geotechnical Services.

## **SCHEDULE**

A schedule showing milestones and completion dates can be provided upon request of the City and upon notice of assumed notice to proceed date.

## **ADDITIONAL SERVICES**

The above fees do not include costs of the following items:

1. Alternative designs other than those outlined within the scope of services. Comments and revisions will be limited to minor omissions and comments consistent with the same typical section, alignment, and overall approved concept (prior Task Order). Additional design evaluations will require a fee amendment.
2. Full operational traffic analysis, capacity analysis, or other traffic related studies not specifically mentioned in this scope.
3. Any excessive and unforeseen coordination meetings not addressed above or not within the fee estimate breakdown.
4. Any right of way legal documents associated with property acquisition or negotiations.
5. Construction Inspection (including 7 day inspection and letter).
6. Development of New Specifications other than GDOT standard specifications
7. Any environmental studies, screenings or documents.
8. Geotechnical investigations such as soil borings, slope study, or foundation investigation reports.
9. Any landscape or hardscape design along the corridor.
10. Survey Staking (beyond the limits of the current concept)
11. Field Surveys
12. Public meetings or public hearings.
13. Any additional hard copy plan submittals not mentioned above.
14. Any special structural or wall design outside a standard GDOT wall designs.

If it is determined that these services are necessary for this project, or if the tasks or limits above are modified, an *Addendum* will be prepared, with the costs of these services determined and agreed upon before work on these items commences.

## **FEE SUMMARY**

The proposed fee for this contract is summarized below.

Task 1: Public Involvement	\$5,428
Task 2: Traffic Analysis	\$5,912
Task 3: Preliminary Plans Design	\$88,305
Task 4: Right of Way Plans Design	\$30,250
Task 5: Final Plans Design	\$60,500
Task 6: Value Engineering	\$5,400
Task 7: Concept for New Seven Oaks Access	\$5,380
Task 8: Additional Services	\$8,825
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<b>Total Contract Proposal</b>	<b>\$210,000</b>