

**BOARD OF SUPERVISORS
FINANCE/GOVERNMENT OPERATIONS AND
ECONOMIC DEVELOPMENT COMMITTEE
ACTION ITEM**

SUBJECT: **CONTRACT AWARD/Construction of Traffic Signals at Belmont Ridge Road and Croson Lane Intersection and Tall Cedars Parkway and Poland Road Intersection**

ELECTION DISTRICT: Dulles, Blue Ridge, Broad Run

CRITICAL ACTION DATE: April 12, 2016

STAFF CONTACTS: Joe Kroboth, Transportation and Capital Infrastructure
Melissa Tello, Transportation and Capital Infrastructure
Mike Angel, Finance and Procurement

PURPOSE: To award a contract for the Construction of Traffic Signals at Belmont Ridge Road and Croson Lane intersection and Tall Cedars Parkway and Poland Road intersection

RECOMMENDATION: Staff recommends that the Finance/Government Operations and Economic Development Committee (FGOEDC) recommend to the Board of Supervisors (Board) that the Purchasing Agent be authorized to award the contract for the Construction of Traffic Signals at Belmont Ridge Road and Croson Lane intersection and Tall Cedars Parkway and Poland Road intersection to Ardent Company, LLC in the amount of \$655,500. Staff further recommends the FGOEDC recommend that the Board amend the FY 2016 Capital Improvement Program (CIP) and budget by appropriating \$65,000 in cash proffers from ZMAP 2005-0003, Sequence Number 99066970 in the Public Facilities Fund and transfer that amount through the Transportation District Fund to the Capital Fund to fund the construction of a traffic signal at the intersection of Tall Cedars Parkway and Poland Road.

BACKGROUND: The design of the Traffic Signal at Belmont Ridge Road and Croson Lane intersection began in October 2014 with the design of the larger Belmont Ridge Road (Truro Parish to Croson Lane) roadway design project. The signal plan was approved by the Virginia Department of Transportation (VDOT) in August 2015 following the completion of 30% design for the roadway project. No easements or Right of Way (ROW) acquisition were required for the signal. The design incorporated both the existing and proposed intersection layouts so that only modifications to the signal heads will be required when the road widening is complete.

In February 2010, a Warrant Study was performed for the Tall Cedars Parkway and Poland Road intersection by Atapco and, in March 2010, an all-way stop configuration was installed by VDOT for this intersection. In October 2012, the Board of Supervisors approved funding for the engineering design and construction of a traffic signal. Signal design commenced in November 2012 with signal plan approval from VDOT in February 2014. The Construction Plans and Profiles (CPAP) for the project were approved by the Department of Building & Development (B&D) in April 2014. Final plats for required easements including coordination of a replacement for an open space easement were submitted to B&D in April 2014 and approved by the property owners in August – September 2015 following negotiations. The signal plan was re-approved in May 2015 and has been submitted for re-approval for construction.

In Fall 2015 and based on the approval of both traffic signal designs, staff began the development of the Invitation for Bid (IFB) to group the two signals together. The IFB was issued on February 4, 2016. On March 8, 2016, staff received bids for Construction of Traffic Signals at Belmont Ridge Road and Croson Lane intersection and Tall Cedars Parkway and Poland Road intersection. Two (2) lump sum bids were received as follows:

1. Ardent Company, LLC in the amount of \$655,500
2. B&B Signal Company, LCC in the amount of \$836,834

The scope of work includes the construction and installation of traffic signals, pavement markings, signage, and pedestrian facilities at two (2) intersections in Loudoun County: Signal #1 at Belmont Ridge Road (Route 659) and Croson Lane (Route 645); and Signal #2 at Tall Cedars Parkway (Route 2200) and Poland Road (Route 742). Both signals and associated improvements are per the approved plans and per Virginia Department of Transportation (VDOT) standards. Upon completion, the signals will be accepted by VDOT and incorporated into the VDOT maintained system.

Ardent Company, LLC is the low bidder for the contract with a total lump sum amount of \$655,500: \$180,974.43 for the Belmont Ridge Road and Croson Lane Traffic Signal; and \$474,525.57 for the Tall Cedars Parkway and Poland Road Traffic Signal.

ISSUES: The Belmont Ridge Road and Croson Lane Traffic Signal project has been merged with the Belmont Ridge Road (Truro Parish to Croson Lane) project in the Capital Fund. Therefore, all project related costs for the installation of the traffic signal at this intersection will be incurred in the Belmont Ridge Road (Truro Parish to Croson Lane) project. The signal construction has been accelerated in the overall project's delivery timeline.

A new section of Tall Cedars Parkway extending from Planting Field Drive to Route 50 was constructed and opened for public use in 2009. Between September 29, 2009 and January 27, 2010, a total of 11 angle accidents were reported at the intersection of Tall Cedars Parkway and

Poland Road. Given the traffic patterns in the area, crash data, and impending growth of traffic volumes in the Tall Cedars Parkway corridor, the signal is required.

The lowest bid for the Tall Cedars Parkway and Poland Road Traffic Signal was higher than original estimates for the project. When factoring in contingency and third party costs the total estimated amount is \$598,525. Staff researched available cash proffers for supplemental funding and identified ZMAP 2005-0003, Sequence Number 99066970 as a potential funding source. On March 23, 2016, a determination (ZCOR-2016-0037) was issued that the use of proffers funds from ZMAP 2005-0003, Sequence Number 99066970 to fund the construction of a traffic signal at the intersection of Tall Cedars Parkway and Poland Road was appropriate (Attachment 1).

While issued under one contract, the two signals will be managed within their respective projects from an administrative and cost standpoint. The signals will be constructed concurrently and the contract duration is planned for 180 days. The signals are planned to be operational by the end of 2016.

Traffic Signal Project Process and Schedule: Traffic signal projects may seem to be a small small scope projects which should be completed in a relatively short timeframe. However, the process to complete studies, establish a funding source, prepare a design for regulatory agency review/approval, acquire right of way and construct can be lengthy. Attachment 1 provides a summary of the process for completion of a traffic signal project.

FISCAL IMPACT: Sufficient funding exists in the Belmont Ridge Road (Truro Parish to Croson Lane) project in the Capital Fund to award the construction contract. The Tall Cedars Parkway and Poland Road Intersection project needs additional funding to award the construction contract due to bids coming in higher than originally estimated. The identified \$65,000 in cash proffers will eliminate the funding deficit.

The current total project budgets and available balances after factoring in current project expenditures and encumbrances are outlined in the tables below. As shown in the tables below, the current available balance for the Belmont Ridge Road (Truro Parish to Croson Lane) project is \$20,761,324 (Table 1) and the available balance for the Tall Cedars Parkway and Poland Road Intersection project is \$537,480 (Table 2). Table 3 shows what the budget and available balance of the Tall Cedars and Poland Road Intersection project would be if the proposed supplemental proffer funding is approved.

After the award of the construction contract for signal installation, and if the cash proffer from ZMAP 2005-0003, Sequence Number 9906970 is transferred to the Tall Cedars Parkway and Poland Road Intersection project, then approximately \$20,580,350 will remain in the Belmont Ridge Road (Truro Parish to Croson Lane) project and \$4,225 will remain in the Tall Cedars Parkway and Poland Road Intersection project.

Table 1. Belmont Ridge Road (Truro Parish to Croson Lane)

Funding Source	Appropriation	Expenditures / Encumbrance	Remaining Balance
Local Tax Funding	\$1,000,000	\$1,000,000	\$0
Cash Proffers	\$1,283,000	\$21,676	\$1,261,324
NVTA 70% Regional	\$19,500,000	\$0	\$19,500,000
Debt	\$1,080,000	\$1,080,000	\$0
Total	\$22,863,000	\$2,101,676	\$20,761,324

Table 2. Tall Cedars Parkway and Poland Road Intersection

Funding Source	Appropriation	Expenditures / Encumbrance	Remaining Balance
Cash Proffers	\$625,000	\$87,520	\$537,480
Total	\$625,000	\$87,520	\$537,480

Table 3. Tall Cedars Parkway and Poland Road Intersection with Proposed Additional Proffer Funding

Funding Source	Appropriation	Expenditures / Encumbrance	Remaining Balance
Cash Proffers	\$690,000	\$87,520	\$602,750
Total	\$690,000	\$87,520	\$602,750

Currently, ZMAP 2005-0003, Sequence Number 99066970 (cash proffer) contains a balance of \$98,606.20. If the FGOEDC recommends and the Board approves the recommended use of this cash proffer to supplement the funding for the Intersection, an available balance of \$33,606.20 will remain in ZMAP 2005-0003, Sequence Number 99066970.

Table 4. Staff Recommended Supplemental Funding for Tall Cedars Parkway and Poland Road Intersection

Transportation Cash Proffer	Available Balance	Amount Requested to be Utilized	Remaining Balance
East Gate Three Proffer ZMAP 2005-003; Sequence #99066970	\$98,606.20	\$65,000	\$33,606.20
Total	\$98,606.20	\$65,000	\$33,606.20

ALTERNATIVES:

1. Recommend to the Board of Supervisors that the Purchasing Agent be authorized to award the contract for Construction of Traffic Signals at Belmont Ridge Road and Croson Lane intersection and Tall Cedars Parkway and Poland Road intersection to Ardent Company, LLC in the total estimated amount of \$655,500.
2. Do not recommend the award authority and direct staff on how to proceed.

DRAFT MOTIONS:

1. I move that the Finance/Government Operations and Economic Development Committee recommend to the Board of Supervisors that the Purchasing Agent be authorized to award the contract for Construction of Traffic Signals at Belmont Ridge Road and Croson Lane intersection and Tall Cedars Parkway and Poland Road intersection to Ardent Company, LLC for a total estimated amount of \$655,500. I further move that the FGOEDC recommend the Board of Supervisors amend the FY 2016 Capital Improvement Program and budget and direct staff to execute a budget adjustment appropriating \$65,000 in cash proffers from ZMAP 2005-0003, Sequence Number 99066970 in the Public Facilities Fund and transfer that amount through the Transportation District Fund to the Capital Fund to fund construction of a traffic signal at the intersection of Tall Cedars Parkway and Poland Road.

OR

2. I move and alternate motion.

ATTACHMENTS:

1. FGOEDC Item 05 Traffic Signal Process Attachment 1

Traffic Signal Process

Normal and Customary Timeframe to Complete a Traffic Signal Project: Traffic signal projects are typically initiated by a District Supervisor proposing a Board Member Initiative (BMI) to direct staff to evaluate traffic operations at a particular location based on citizen complaints, high accident occurrence rates or other means. The BMI typically directs staff to seek out the funding source to complete various studies and engineering design, plats and deeds. In some instances, the Board Member or their aide assemble a meeting with County staff and VDOT to define the problem and discuss potential solutions.

The first step in the process is to complete a traffic signal warrant analysis. This analysis is defined by Federal Highway Administration (FHWA) and VDOT criteria. Upon receiving the Board's direction, Staff from the Department of Transportation and Capital Infrastructure (DTCI) develop a general scope of services and contacts one of the various on-call task order consultants to discuss the project. From the initial meeting the consultant develops a scope of services to complete the Board's direction. Often, this time period includes meetings with the District Supervisor and other entities such as the Sheriff's Office and VDOT to fully understand the perceived need and concern. Following agreement on the scope, the Consultant prepares a written price proposal consistent with the on-call contract. The timeframe to complete this portion of the work can be between two to four weeks, depending on the number of times staff needs to review and revise the proposal to accurately reflect the needed scope.

Concurrent with the proposal development, staff is researching the potential funding sources for the project. Often times, proffers are found that may qualify for use on the project, however, a determination from the Zoning Administrator is necessary before DTCI staff can propose the funding for the project. If a zoning determination is needed, a request is drafted and sent to the Zoning Administrator to render an opinion. There is a 30 day appeal period for proffer determinations that must elapse before the funds can be spent. On other occasions, it will be necessary to prepare a budget adjustment to move funding from one project to another. This requires coordination between the project manager, capital budget staff and staff from the Department of Management and Budget. In some special cases using proffers, it may be necessary to seek approval for the alternate use of cash proffer payments. If this is necessary, an advisory memorandum must be requested and obtained from Zoning Administration, and the matter must be considered at a Board of Supervisors public hearing; the process also requires written notification be issued to the party to pay the proffer contribution 30 days before the funds are spent. Depending on the source of funding proposed, and if a zoning determination is needed or not, resolving the funding source for the project could add an additional two to three months to this phase of the project.

Following agreement on the project scope and price; Staff prepares the staff report blurb, full staff report and attachments for presentation to the Finance, Government Operations and Economic Development Committee (FGOEDC). The staff report summarizes the background regarding the project initiation, summarizes the proposed funding sources, and seeks authorization from the Board for the recommended funding source. The time necessary to schedule a staff report item on the agenda, complete the draft, coordinate with County Administration to review comments and revise the draft to a final document. Following a favorable approval from the FGOEDC, staff revises the document to reflect the change in meeting type and resubmits the item for review by County

Administration for inclusion on a subsequent Board Business meeting. This portion of the process can take one to two months.

Upon final approval by the Board, staff processes a purchase order through the Procurement Office for the consultant to complete the traffic signal warrant analysis. Following receipt of the purchase order, a kick-off meeting is held with the consultant, DTCI and VDOT staff and other interested parties, including District Supervisors. Following this meeting, the consultant initiates the study process to prepare a Traffic Signal Warrant Analysis. This process includes the collection of traffic count data, researching the intersection accident history, and compilation of the data. The data is then reviewed and analyzed for the FHWA and VDOT required warrants. VDOT also requires each intersection to be evaluated for installation of a roundabout configuration before authorization to proceed with the traffic signal design is approved. A report is then prepared and sent to the DTCI project manager and VDOT for review and approval. This portion of the process typically takes three to five months, which includes the VDOT review, comment and approval process (and it is dependent on the quality of the report and complexity of the intersection under analysis).

Upon VDOT granting approval of the traffic signal warrant analysis, the consultant proceeds with the signal design. Designs must be completed in accordance with the VDOT procedures and format. The consultant conducts surveys, prepares the engineering plans, and coordinates with utilities to determine if any conflicts exist or will be created by the signal installation. Once the traffic signal plan is approved by VDOT, the plan is valid for a period of one-year. Projects which do not advance to construction within the one-year period must be resubmitted to VDOT prior to advertisement for construction bids to ensure the plan reflects the most up to-date signal standards. The resubmission of a traffic signal plan and subsequent VDOT approval may take one to two months to complete. Land and right-of-way boundaries are established to determine if additional easements or right-of-way is needed to install the traffic signal and its cabinet. A typical timeframe to prepare a traffic signal design and obtain VDOT's approval is four to six months (the turnaround time for VDOT to review signal plan is 45-60 days, which typically requires two plan submittals to achieve plan approval). If turn lanes must be constructed with the signal and if additional right-of-way is needed more time is necessary to prepare survey plats and deeds, and have those documents reviewed and approved by Building and Development and County Attorney Office. The right-of-way plats are not prepared until after the traffic signal plan is approved. This step also requires the County Attorney's Office to order title work. Often times, VDOT will require the construction of turn lanes as part of a traffic signal project. Should this be the case, a construction plan and profile (CPAP) will also need to be prepared. Unlike the traffic signal plans, the CPAP will require both B&D and VDOT's review and approval (the turnaround time for CPAP review is 45-60 days, which typically requires 2 plan submittals to achieve plan approval). These requirements create greater right-of-way needs and increase the project design and construction costs. The consultant prepares an opinion of the costs to construct the project.

While the consultant is developing the design, staff from DTCI continues the search for land acquisition and construction funding based on cost estimates prepared during the design phase. As indicated previously, this effort can include an extensive administrative process to use proffers, flex proffers or move funds from one account to another. If construction funding is not previously approved as part of the capital budget, staff drafts another staff report and attachments for FGOEDC to consider. Following a favorable approval from the FGOEDC, staff revises the

document to reflect the change in meeting type and resubmits the item for review by County Administration for inclusion on a subsequent Board Business meeting. This portion of the process can take one to two months. If extensive land acquisition is necessary, just a few to several months could be added to the timeframe depending on the level of cooperation with the property owners. Typically land acquisition will add six to nine months for a signal project.

At this point in the process, the project is ready for the invitation for bids (IFB) and construction documents to be compiled for advertisement. Once bids are received, they are reviewed for accuracy and discrepancies. Assuming none are found, the project is scheduled for award by the full Board if the project cost exceeds the Procurement Agent's award authority. Preparing the IFB, legal review, advertisement, review of the bids and establishment of the recommended lowest responsible and responsive bid can typically take four to six months.

Upon award of the contract by the Purchasing Agent or full Board, a purchase order is issued to the successful vendor. Following the award, contracts are executed, pre-construction submittals are requested including a project schedule and a pre-construction conference is scheduled within 30 days following execution of the contract. The actual construction then commences and is completed. A typical traffic signal construction project, depending on the number of turn lanes also associated with the signal can take between six and nine months to complete. The construction timeframe for completion is also impacted by the complexity of the traffic signal design. When large mast arm poles or other unique design features exist, VDOT may take additional time to review the contractor's submittals. In total, depending on the various issues associated with the signal warrant study, design, land acquisition, and construction the entire process can take 24 to 45 months to complete.