

MEMORANDUM

TO: City Council

FROM: David J. Deutsch, City Manager

RE: Street Lights

July 8, 2010

Attached is a report that responds to questions Council raised last month. This report, coupled with the previously provided report of January, 2010, provides a comprehensive overview of the street light program in Bowie.

Public Works staff will be at the Worksession to address any further questions you may have.

DJD:paf

MEMORANDUM

To: David J. Deutsch, City Manager

From: R. James Henrikson, Public Works Director

Subject: Street Light Maintenance Overview

Date: July 7, 2010

At a recent meeting, Council requested that an overview of the City's street light maintenance program be provided. Attached for reference is the January 19, 2010 memo that Council received earlier this year. This may help to provide some background and a refresher on our program.

The street light maintenance program is administered within the Public Works Department. The lead person for that program is Jackie Tayman, Contract/Street Light Specialist. Ms. Tayman spends close to half her time addressing street light issues. Most of the rest of her time is spent assisting in the administration of contracts, such as the nine million dollar ENR improvement at the wastewater treatment plant and purchases of almost all City vehicles and equipment.

We go out to public bid for maintenance of City-owned street light poles, fixtures and cable every four years. Since 1994, American Lighting and Signalization (ALS) has been the most responsive and lowest bidder. BGE maintains a relatively small number of street light poles and fixtures and an extensive network of underground street light cable in the non-Levitt sections. Bowie purchased the Levitt street light cable from BGE in 1989 out of concern for the then protracted BGE repair times and the relatively high cost that BGE passed on to the City for that marginal repair service.

Street Light Maintenance Bid

On May 26, 2010, we opened bids for street light maintenance. We tried to cajole as many contractors as possible to bid in order for us to achieve a healthy competition. We even asked BGE for their list of bidders but they felt that information was proprietary. In the end, after many expressions of interest from contractors all over the area, we had

three bids. All quantities were estimated, of course, and there were several contingent items, but the basic cost of each bid came in as follows:

| | |
|-------------------------------------|-----------|
| American Lighting and Signalization | \$269,510 |
| Lighting Maintenance | \$305,018 |
| CMI | \$500,626 |

But the bids were judged and the award was recommended based on a more complicated analysis of past performance and references as follows:

- 15% - Responsiveness: A responsive bid is one that meets all the terms, conditions and specifications of the bid. The bid must comply with the content requirements of the bidding documents.
- 15% - Responsible: A responsible bid is one where the bidder has the overall capability to satisfactorily perform the contract.
- 35% - Bid Costs: The total cost based on the unit quantities.
- 20% - Project Reference Verifications: The City may contact the listed references and may contact other potential references deemed appropriate.
- 15% - Safety Performance: Based upon the EMR, which is the Experience Modification Ratio. This measures how safely a company works and is issued by the contractor's insurance company. A score of less than one (1) is preferable – the lower the better.

Most of the contract prices are required to be kept the same for the entire five year contract period. In FY10, we budgeted \$300,000 and ended up expending about \$270,000. With a new four year contract proposed to be bid in FY11, we increased this estimated budget cost to \$330,000. Obviously, we were pleased when the above prices came in under budget. ALS ended up actually bidding less than they had bid in 2006. They admitted that the prospect of so much competition caused them to “sharpen their pencils”.

How Other Area Jurisdictions Approach Street Light Maintenance

City of Gaithersburg: They have a public bid and Council award. They email reports of outages to their contractor on a weekly basis. Their contractor makes the repairs and reports back to Gaithersburg through email;

City of Rockville: They have a public bid and Council award. They have daily email communication. They aren't responsible for underground cable as it belongs to Pepco.

Montgomery County: They operate similar to Rockville, except their contractor is primarily responsible for emergency repairs.

Prince George's County: All lights are maintained by the power company – BGE or Pepco.

Note that street lights attached to traffic signals on state highways are maintained by SHA. All street lights attached to wooden poles in Bowie are maintained by BGE and their maintenance is charged to the City.

Street Light Repair Performance

The completion times in the contract were referenced in the January 19th memo and are as follows:

| | |
|---------------------------|-----------------|
| Overhead repairs | two work days |
| Underground cable repairs | seven work days |
| Pole knockdowns | five work days |

The actual completion times for ALS have been traditionally within their contract ranges with exceptions for wet or snowy weather and after they receive a backlog of complaints in October and November of each year. That is when the Code Compliance Officers who work evenings provide Public Works with a citywide inspection of all outages. Code Compliance Officers are also directed to survey specific locations throughout the year. We also get an increased reporting of outages shortly after the Daylight Savings Time switch each fall as residents are more likely to first notice outages at that time. It is a staff goal to increase the number of City employees reporting street light outages.

BGE repair records aren't fully accessible to us but in 2009, they completed 39 out of 56 underground fault repairs within their timetable of 21 days. Repairs made beyond 21 days are due to weather, backlog or upgrades to cable replacement.

Trends

Following are the total service calls received over the last four years. Although the trend would appear to support future reductions in cost, the main reason that there were more repairs in prior years related to the extensive damage that the FIOS cable replacement did to our street light cable. Staff has secured reimbursement from Verizon for costs caused by their work.

Service Calls:

FY10 – 1,555

FY09 – 1,695

FY08 – 1,728

FY07 – 2,125

Underground Street Light Cable

Although repairs to underground cable have decreased noticeably since Verizon finished most of their underground FIOS work in the Levitt section, we still have a system that is basically served with 45-year-old aluminum wire cable. The worst areas are where there is high groundwater, such as Meadowbrook and Chapel Forge. We don't recommend a significant replacement program at this time though since the faults are not that extensive. We consistently have about 300 cable faults per year. However, in the newly awarded bid, we added an item for pole-to-pole cable replacement. This gives us an option to replace all the cable from pole to pole if we believe, based on repair records, that we can expect further repairs to be needed. We estimated 7,500 feet of pole-to-pole cable repair. This represents over \$70,000 of the new contract, including the cost of boring under driveways.

How can/should citizens report lights out?

Contact Public Works at 301-809-2332

Email Jackie Tayman at jtayman@cityofbowie.org

GovQA on the City's website (link below)

<http://mygovhelpadmin.com/bowiemd/cs/RequestSelect.aspx?sSessionID=>

Providing the nearest address and/or pole identification number improves response time.



City of Bowie

2614 Kenhill Drive
Bowie, Maryland 20715

MEMORANDUM

To: David J. Deutsch, City Manager

From: R. James Henrikson, Public Works Director

Subject: Street Lights

Date: January 19, 2010

We previously had an objective to evaluate the creation of a pilot street light partnership program where communities can approach the City because of public safety issues to work jointly to have street lights installed. In addition, we were requested to review our current contract for street light maintenance with American Lighting and Signalization (ALS).

Background on Street Light Partnerships

This objective was initiated in relation to a 2008 request by the Woodland Lakes community for two new street lights to improve security. At the time, we reviewed the proposed locations and determined that the new lights were not needed to provide street lighting. As indicated by the HOA and management company, they were desired to be installed to light up a private parking area next to some woods and to light up an area near dumpsters. Their request was admittedly for security purposes unrelated to normal roadway lighting.

The City of Bowie has a responsibility to provide street lights along City rights-of-way for vehicular traffic. For HOA communities, the City provides lighting for vehicle travel lanes and not the associated private perpendicular parking areas. These communities are served with ornamental street lights. In most cases, Bowie has accepted these travel lanes for maintenance, at the request of the HOAs, several years after they were originally constructed as private streets. However, we believe they were built to generally accepted standards and Public Works staff usually had either permitting or review authority when they were originally constructed.

Typically, the ornamental street lights in these communities were built to City standards using 100-watt high pressure sodium fixtures on 14-foot high poles at spacings between 100 and 110 feet.

There are obviously areas beyond the roadway, throughout the City limits, where residents have security concerns. But we simply couldn't provide security lighting for the whole City. Although this request was just for two lights, we didn't want to set a precedent and we declined the request.

However, we did find a way to help the community achieve their goal of getting these two lights installed at a reasonable expense to them. The City agreed to pay the extra BGE electric expense (approximately \$250 annually for the two lights) if the HOA would pay BGE to install the lights. This compromise was of moderate cost to the City, but it saved the HOA considerable expense from having BGE extend separate lighting circuits to serve those two lights. The HOA was very appreciative.

Proposed Approach for Future Similar Partnerships

Attached is a list of the different communities in Bowie, similar to Woodland Lakes (see Attachment 1). Check marks indicate that the street lights and/or the underground street light cable is maintained by the City. In all but four communities, we own and maintain the street lights, but the cable is owned and maintained by BGE, who charges us a monthly cable rental fee.

In the future, when we get requests for additional lighting outside the travel lanes from Bowie communities, we recommend that we adopt the same successful partnership approach that we used with the Woodland Lakes community. Basically, for lights outside the travel lanes, the HOA would provide funds for the light installation and the City of Bowie would provide for the subsequent maintenance cost of the new street light and underground cable as well as the additional electricity cost associated with that light. We would let them know that this program is limited in funding but that we are partnering with their community in the interest of public safety.

In addition, the Bowie Police Department has agreed to identify areas where they believe additional lighting may help to reduce crime and improve public safety for that community. As an example, based on firsthand information regarding burglaries or assaults or gang activities, the Bowie Police could recommend that a street light be installed at the dead-end of street "A". Public Works could then work with that community to see how they could assist them in getting the light installed, similar to the arrangement that was made at Woodland Lakes.

Status of Current Street Light Maintenance Contract

The City of Bowie held a public bid for street light maintenance in 2006 and the contract was awarded to ALS in June of that year. Our contract with them is for four years, but gave the City of Bowie the right to cancel for budget reasons after giving them notice. Attached are the contract prices (see Attachment 2). Almost all unit prices were bid flat over the four-year term of the contract. For example, most of the work that ALS does for the City is billed as a single service call at \$35.25 each. Then, whatever they have to

replace, whether it is a lamp, photocell, fuse, refractor etc. is charged at a flat rate throughout the four-year period. An exception is the pole knockdown cost which increases incrementally with each contract year and where the cost of the pole is billed at their material cost plus 15%.

Following are our expenses for the ALS contract:

FY07 - \$221,679

FY08 - \$345,087

FY09 - \$302,607

FY10 – PO amount - \$300,000 and \$139,138 spent through December 2009

Since the contract expires on June 10, 2010, Public Works will be meeting with the City Attorney for bid document review within the next two weeks.

Response Times for ALS Contract and for BGE

ALS completion times:

Overhead: 2 work days

Faults: 7 work days

Knockdowns: 5 work days

BGE completion times:

Overhead, not including duplex work (from feed to pole): 48-72 hours (a little off this right now due to low manpower)

Underground faults - 14-21 business days, weather permitting

Cable replacements: 4-8 weeks, weather permitting

Overhead duplex (from feed to pole): 14-21 business days, weather permitting

The actual completion times for ALS have been traditionally within their contract ranges with exceptions for wet or snowy weather and after they receive a backlog of complaints in October and November of each year. That is when the night Code Officers provide Public Works with a Citywide inspection of all outages. We also get an increased reporting of outages shortly after the Daylight Savings Time switch each fall as residents are more likely to first notice outages at that time.

BGE repair records aren't fully accessible to us but over the last 12 months, they have completed 39 out of 56 underground fault repairs within their timetable of 21 days. Note that they recently indicated that they are cutting their service technicians from 13 to 7, which is likely to negatively affect their future performance.

General Reference

Number of Lights

The City is currently responsible for 5,419 street lights. Most of the lights are the typical

Levitt fixtures and poles with most of the newer developments having ornamental fixtures and poles. There are 109 lights on existing wood poles throughout the City; many in Old Bowie. Along State routes, we maintain 68 lights on the new section of Annapolis Road (Route 450) and 14 are on the abandoned section of Route 450, which is now used as a hiker/biker trail. We don't maintain any lights on County roads.

Street Light Costs

In FY2009 we had a fixed cost to BGE of \$325,363, which included \$220,130 for the purchase of electricity and \$105,233 for the distribution system charge. But we do use very efficient fixtures. In 1996, we replaced all our inefficient mercury vapor lights with high pressure sodium fixtures which use 30% less electricity while providing more lumens per light. We continue to monitor the LED lighting technology and will recommend a replacement program as soon as there is a reasonable cost/benefit. And note that, although we pay ALS to replace street light poles that are knocked down, about 80% of the time there is an accident report available from the police from which we obtain an insurance reimbursement.

Summary

The City of Bowie street light program represents a significant portion of the General Fund budget. We have limited control over some of the major line items in that budget, such as the electricity cost and the BGE distribution system cost, though reduced residential development will reduce further increases. We believe we provide a very efficient and complete program to illuminate City streets. And for Bowie communities with public safety concerns related to their private area lighting, we believe we can replicate the successful partnership that we achieved with the Woodland Lakes community.

JH

Attachments

| T/H Neighborhood | Light Maintenance | Cable Maintenance | Notes |
|-------------------------|--------------------------|--------------------------|--|
| Allen Pond | √ | | |
| Belair Town | √ | √ | |
| Belair Town II | √ | √ | |
| Bowie Forest | | | |
| Collington Ridge | √ | | Main road only |
| Enfield Chase | √ | | Not parking areas |
| Ensleigh | √ | √ | |
| Essington | √ | | Not parking areas |
| Evergreen Estates | √ | | Not parking areas |
| Graystone | √ | | |
| Highbridge Park | √ | | |
| Lake Village Manor | √ | | Pillar Lane – All Pr. of Wales & Princess Anne Courts - roadway entrance up to parking area ONLY |
| Northridge | √ | | |
| Oakpond | √ | | NOT North Dale Lane or Court, New Oak Lane |
| Palisades | √ | | No parking areas |
| Princeton Square | √ | | 10 lights on London Lane No parking areas |
| Ridgeview Estates | √ | | Patriot Lane ONLY |
| Ternberry | √ | | No parking areas |
| Woodland Lakes | √ | | |

**CITY OF BOWIE, MARYLAND
QUOTATIONS
SCHEDULE OF PRICES**

SERVICE REPAIR CALL (4 year cost)

| | |
|-----------|-----------------|
| Unit Cost | \$ <u>35.25</u> |
|-----------|-----------------|

MATERIAL COST ONLY (4 year cost)

LAMPS

| | |
|-------------|-----------------|
| 70 watt HPS | \$ <u>19.35</u> |
|-------------|-----------------|

| | |
|--------------|-----------------|
| 100 watt HPS | \$ <u>19.35</u> |
|--------------|-----------------|

| | |
|--------------|-----------------|
| 150 watt HPS | \$ <u>19.35</u> |
|--------------|-----------------|

| | |
|--------------|-----------------|
| 250 watt HPS | \$ <u>19.35</u> |
|--------------|-----------------|

| | |
|--------------|-----------------|
| 400 watt HPS | \$ <u>19.35</u> |
|--------------|-----------------|

| | |
|-------------|-----------------|
| PHOTO CELLS | \$ <u>12.50</u> |
|-------------|-----------------|

| | |
|--------------|-----------------|
| HPS STARTERS | \$ <u>40.00</u> |
|--------------|-----------------|

| | |
|------|----------------|
| FUSE | \$ <u>5.00</u> |
|------|----------------|

| | |
|----------|-----------------|
| FUSE KIT | \$ <u>20.00</u> |
|----------|-----------------|

| | |
|------------|-----------------|
| BASE PLATE | \$ <u>45.00</u> |
|------------|-----------------|

| | |
|------------------------|-----------------|
| REFRACTOR (Cobra Head) | \$ <u>21.00</u> |
|------------------------|-----------------|

| | |
|-----------|-----------------|
| FARGO KIT | \$ <u>21.25</u> |
|-----------|-----------------|

Revised 4/26/06

GROUP RELAMPING (Includes washing and relamping; photo cell and refractor as determined during washing and relamping)

| YEAR 1 | YEAR 2 | YEAR 3 | YEAR 4 | TOTAL |
|----------|----------|----------|----------|----------|
| \$ 20.59 | \$ 21.23 | \$ 21.89 | \$ 22.57 | \$ 86.28 |

PLEASE PROVIDE UNIT COSTS FOR THE FOLLOWING:

Photo Cell \$ 12.50
 Refractor \$ 21.00

KNOCKDOWNS (Includes labor, truck, setting of pole)

| | YEAR 1 | YEAR 2 | YEAR 3 | YEAR 4 | TOTAL |
|-----------------------------------|-----------|-----------|-----------|-----------|-------------|
| Labor/Equipment Up to 20' Pole | \$ 227.00 | \$ 234.00 | \$ 241.00 | \$ 248.00 | \$ 950.00 |
| Labor/Equipment 25' - 30' Pole | \$ 285.00 | \$ 292.00 | \$ 300.00 | \$ 309.00 | \$ 1,186.00 |

Materials to be billed at cost plus 15%. Vendors invoice must be attached to bill.

Knockdown Make Safe (After Normal Work Hours) \$ 146.00

Revised 4/26/06

**LABOR AND EQUIPMENT HOURLY RATES
(MISCELLANEOUS RATES)**

LABOR

| CLASSIFICATION | STRAIGHT TIME TOTAL COST TO CITY OF BOWIE | OVERTIME (1.5X) TOTAL COST TO CITY OF BOWIE | OVERTIME (2X) TOTAL COST TO CITY OF BOWIE |
|----------------------------------|---|---|---|
| Foreman | \$ 51.50 | \$ 68.65 | \$ 85.65 |
| Lineman/Street Light Mechanic | \$ 41.00 | \$ 54.05 | \$ 66.99 |
| Groundman | \$ 34.00 | \$ 44.33 | \$ 54.55 |

Vehicles & Equipment (not including operator):

| | |
|---|-----------------------|
| Bucket Truck | \$ <u>18.75</u> /hour |
| Boom Truck/Polecat | \$ <u>30.00</u> /hour |
| Street Light/Fault Locating Van (Fully equipped) | \$ <u>18.00</u> /hour |
| Trencher with Trailer | \$ <u>18.00</u> /hour |
| Cable Plow | \$ <u>12.00</u> /hour |
| Air Compressor with Missile | \$ <u>13.00</u> /hour |
| Air Compressor with Hammer | \$ <u>10.00</u> /hour |
| Early Warning Arrow Board | \$ <u>6.00</u> /hour |
| Pick-Up Truck | \$ <u>10.00</u> /hour |

**CABLE
(FAULT REPAIR ONLY)**

FAULTS

Direct Buried – Labor to locate, hand dig, repair and test circuit, and restore area (max. 24" depth) Includes all repairs within 3 circuit foot (6 feet for burnback).

\$ 341.00

Direct Buried – Labor to locate, hand dig beyond 6', replace cable, splice cable, test circuit and restore area (max. 24" depth).

\$ 434.00

Direct Buried – Labor to machine trench (24" depth), replace cable, splice cable, test circuit and restore area.

\$ 285.00

Materials to be billed at cost plus 15%. Vendors invoice must be attached to bill.

MISCELLANEOUS ITEMS

Install Fuse Kit (use only with fault locate & repair)

\$ 38.00 /each

Replace Fuse Only (use only with a fault locate & repair)

\$ 10.00 /each

Reinforced Concrete Light Bases – Construct

\$ 750.00 /each

Replacement of unsuitable material with select borrow in trenches (Sand Material)

\$ 40.00 /ton

Stabilize disturbed area with seed and mulch

\$ 8.00 /sy

Stabilize disturbed area with certified sod

\$ 6.00 /sy

Top Soil

\$ 50.00 /ton