

City Council Agenda Summary Sheet (Non Purchases)

Agenda No: 2004-0123
Date: March 8, 2004
Prepared By: Paul M. Davis, P.E., City Engineer
City File No: E03-007

Meeting Date: March 31, 2004 Work Session

PURPOSE:

The Road Commission for Oakland County is proceeding with the construction of the Crooks Road Boulevard Project from Square Lake Road to M-59. They are approaching the design phase for the implementation of street lighting along the boulevard section in the City of Troy. The City of Rochester Hills needs to determine what, if any, type of street lighting will be installed as part of this project. This will enable the City to design the street lighting in conjunction with the design south of South Boulevard, should the decision be made to include street lighting with this project.

DISCUSSION:

Several options are presented for Council's consideration for street lighting along this corridor. **Option one (1)** is to install a typical Detroit Edison double mast arm cobra street lighting similar to those currently existing along Crooks Road, south of Square Lake Road; **Option two (2)** is to install twin tear drop luminaire street lighting; **Option three (3)** is to install single acorn luminaire lighting; **Option four (4)** is to not install street lighting along this corridor at all.

Options **two (2)** and **three (3)** provide street lighting that is more conducive to a residential or business streetscape type setting and is suggested for the segment of Crooks Road from South Boulevard to Auburn. The double mast arm option is suggested for the segment of Crooks Road from Auburn Road to M-59 due to its commercial and industrial nature.

FISCAL INFORMATION:

The costs for street lighting for this will project are non-participatory and will be 100% City share. The costs and design parameters associated with the various options of street lighting are as follows:

Design: The estimated cost for street lighting design would be in the \$20,000 to \$25,000 range. This range applies to all the street lighting options.

Construction & Maintenance:

Option 1

- 250 watt high pressure sodium luminaries
- Mounting height = 40'
- Pole spacing down median = 160'
- Poles/mile = 33

- Construction cost/mile = \$160,000
- Total construction cost = **\$224,000**
- Electrical cost = \$5,500/year/mile * 1.4 miles = **\$7,700/year**
- Edison maintenance cost = \$7,500/year/mile * 1.4 miles = **\$10,500/year**

Option 2 – Twin Tear Drop Luminaires

- 250 watt high pressure sodium luminaries
- Mounting height = 30'
- Pole spacing down median = 120'
- Poles/mile = 44
- Construction cost/mile = \$200,000
- Total construction cost = **\$280,000**
- Electrical cost = \$4,500/year/mile * 1.4 miles = **\$6,300/year**
- Edison maintenance cost = \$12,000/year/mile * 1.4 miles = **\$16,800/year**

Option 3 – Single Acorn Luminaire

- 100 watt high pressure sodium luminaries
- Mounting height = 15'
- Poles spacing on outsides back of curb = 100'
- Poles/mile = 100
- Construction cost/mile = \$350,000
- Total construction cost = **\$490,000**
- Electrical cost = \$2,100/year/mile * 1.4 miles = **\$2,940/year**
- Edison yearly maintenance cost = \$7,000/year/mile * 1.4 miles = **\$9,800/year**

Maintenance Items Include:

1. Pole knockdowns. Often times, these costs can typically be recovered via auto insurance company.
2. Cleaning and re-lamping. The high-pressure sodium lamps have life of 24,000 hours. With an average burning life of 4,200 hours per year would mean a 5-year replacement cycle.

RECOMMENDATION:

The Department of Public Service recommends that City Council decide on whether or not street lighting will be included with the Crooks Road Boulevard Project and what style of lighting should be installed.

ATTACHMENTS:

Example of Double Mast Arm Cobra Lighting
 Examples of Twin Tear Drop style lighting
 Examples of Acorn style lighting

Reviewed by:

Fiscal: *Jean Farris*

Clerks: *Susan Koliba-Galeczka*

Approved by: *Pat Somerville*

NEXT AGENDA ITEM

RETURN TO AGENDA