

RED BANK SMART LIGHTING PROJECT
Request For Proposal

June 21, 2016



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Table of Contents

Table of Contents

1. Introduction	4
1.1 Red Bank Smart Lighting Project Objectives	4
1.2 PROJECT Benefits	5
1.3 RFP Submission Requirements	5
1.4 RFP Submissions, Questions, and Comments	6
2. Red Bank Outdoor Lighting Context.....	7
2.1 Red Bank Street Light Inventory	7
2.2 Red Bank Lighting Infrastructure History	7
2.3 Red Bank Park District Outdoor Lighting Inventory.....	8
3. Red Bank Smart Lighting Project Overview	8
3.1 Goals and Parameters	8
3.2 Scopes of Work.....	9
3.3 RFP Objectives, Requirements, and Assumptions	12
3.4 Funding Options.....	13
4. RFP Submission Conditions	14
4.1 Inquiry Only – No Contract.....	14
4.2 Changes to This RFP	14
4.3 Information Preparation Costs.....	14
4.4 Submittal of Confidential Information.....	15
4.5 Ownership of Submitted Materials.....	15
4.6 Rights of the City.....	15
4.7 No Personal Liability	16
APPENDIX “A” - RFP SUBMISSION GUIDELINES	17
1. PROJECT Overview – Executive Summary	17

2.	Company Information and Past Experience	17
3.	Approach	17
4.	Economics.....	19
5.	Financing	20
6.	Risk Transfer, Guarantees, Life Span Expectancies	20
7.	Ancillary Benefits	20
8.	Lessons Learned / Next Steps	10
	APPENDIX “B” – CITY OF RED BANK LIGHTING INVENTORY.....	21
	APPENDIX “C” –KWH usage with energy savings table	22
	APPENDIX-“D” – Bid Price List	23

1. Introduction

1.1 Red Bank Smart Lighting Project Objectives

The City of Red Bank invites interested parties to respond to this Request for Proposal (“RFP”) regarding Red Bank’s LED Smart Lighting Project, (“PROJECT”); a comprehensive streetlight modernization initiative intended to:

- a) Deliver energy efficient street lighting with a cloud based wireless lighting control network to the City under a design, build, and finance framework, and
- b) Potentially utilize the City’s existing outdoor lighting infrastructure for other services that enhance safety and quality of life, such as Gunshot, Weather Alert, Drug Detection Sensors, and
- c) Potentially utilize Red Bank’s lighting infrastructure to expand the City’s Wireless outdoor Wi-Fi network allowing for the modernization of streetlight controls and the expansion of other City of Red Bank Smart City digital technologies.

The City recognizes that advances in lighting, and smart city, and the Internet of things (IOT) digital technologies have created fiscally prudent opportunities for local governments to improve public services, reduce long-term utility obligations, and advance sustainability goals through street lighting modernization projects. The primary PROJECT goal is to convert the City’s existing outdoor lights to Light Emitting Diode (LED) equivalents to achieve improved safety performance, while creating energy and maintenance cost savings. The City also wishes to explore and evaluate cost-effective opportunities for creating a centralized lighting management system, which would improve asset management and provide better customer service. Thirdly, there is a desire to expand the City’s Outdoor Wireless network to advance communications services and offerings. Lastly, the City is interested in understanding possibilities for leveraging the streetlight network as a platform for additional services. Investments of this nature would ideally not only improve the condition and management of lighting assets citywide but also create new revenue and service opportunities that provide value to both the PROJECT and the public.

Like other municipal and local government entities throughout the country, the City is under fiscal constraints that limit our ability to fund substantial infrastructure projects with taxpayer dollars. These challenges, however, provide the public sector with unique opportunities for partnering with private sector funders and businesses to develop and deliver upgraded infrastructure projects that not only improve services, but reduce costs, and generate new revenue. This PROJECT is intended to be self-funding, i.e. all costs will be repaid over time through savings and/or new sources of revenue. The City is not capable to incur any additional debt obligations to support the PROJECT. The PROJECT is intended to be a privatization of the City operations and maintenance of the lighting systems.

The City is seeking the input of experienced and knowledgeable industry leaders to help envision, formulate, and assess strategies for achieving the various PROJECT goals. This RFP is strictly an inquiry. This RFP response will initiate a formal procurement and a public private partnership agreement may be entered into as a result of this formal bidding process.

The winning bidder of this RFP will be required to acknowledge and agree that the City, its departments, agencies, or entities, and other governmental entities and agencies in the State of Tennessee permitted to do so by TCA Section 12-3-1004, may purchase additional or new equipment from the seller, on the same final terms and condition options that will be provided in the agreement that is to come.

1.2 PROJECT Benefits

The development of an energy efficient, enhanced lighting system, and outdoor network hosting platform will create significant benefits for the City of Red Bank by:

- Creating local jobs;
- Advancing City's sustainability goals;
- Reducing City's energy consumption and operations costs;
- Improving public safety;
- Improving the appearance of City Streets;
- Enhancing public goods and services;
- Enhancing public safety;
- Improving transportation, mobile energy, and connectivity options;
- Supporting future economic growth in the City of Red Bank; and
- Providing the Citizens with advanced communications technology if not for free, at a much reduced price.

1.3 RFP Submission Requirements

The City welcomes responses to this RFP from Manufacturing, Sales Organizations, Contractors, Electrical Supply Companies, technology companies, individually or as partnered teams, meeting any or all of the following eligibility criteria ("Qualifying Organizations"):

- a) Leading street lighting infrastructure contractors and major systems integrators with past project experience of similar scale and complexity;
- b) Streetlight technology suppliers with manufacturing experience and capabilities relevant to the PROJECT;
- c) Suppliers of distributed communication network technologies or services that use streetlight grids as network hosting platforms;
- d) Software suppliers with experience and capabilities relevant to the PROJECT;

RFP Response submissions are required to:

- a) Provide a price and proposal based on the City's inventory of outdoor lighting. Appendix A.
- b) Provide the estimated energy savings Appendix B.
- c) Provide a spread sheet with different component pricing that can be mixed or matched according to the application. Appendix C.
- d) Provide detailed specification sheets for each product to be submitted with RFP response. Spec sheet should include total system wattage, Lumen Output, input voltage requirements, and safety and testing certifications.
- e) Provide a detailed warranty statement for each product, and provide with the RFP response.
- f) Provide multiple purchase, leasing, and monthly service charge options.
- g) Provide any calculations on additional revenue to be generated from the networking platform.
- h) Provide the Pricing information supporting your proposed approach in a Microsoft Excel format.

1.4 RFP Submissions, Questions, and Comments

RFP Respondents are requested to submit one (1) print and one (1) digital copy of the requested information to: Randall G. Smith, City Manager, Rsmith@RedBankTN.gov

The name of your organization and the words "Red Bank Smart Lighting RFP" should be on the submission cover page of the print copy and the e-mail subjectline.

The City will accept the printed "hard print copy" RFP responses at:

RED BANK CITY HALL

ATTENTION: City Manager

3117 Dayton Blvd.

Red Bank, TN 37415

Submissions must be delivered and received no later than 4:30 p.m. EST on **July 07, 2016**. Late submissions will not be considered.

All questions concerning this RFP should be directed to: Rsmith@RedBankTN.gov

2. Red Bank Outdoor Lighting Context

2.1 Red Bank Street Light Inventory

The City operates and maintains a network of approximately 838 outdoor lights including: street, alley, viaduct, pathway, and park lights. The local utility owns and operates 563 various wattage size Cobra head style lights. The City of Red Bank owns and operates approximately 275 Post Top Acorn Lights.

Red Bank TN, Street Light Count			
Bulb type	Lamp Type	Wattage	Count
MV	Cobra	175	8
HPS	Cobra	100	191
MV	Cobra	400	18
HPS	Cobra	200	227
HPS	Cobra	250	4
MH	Cobra	400	67
HPS	Cobra	400	48
MH	Acorn	150	275
Total Count			838

The City's light fixture count is accurate as of February 2016, when the Red Bank Department of Public Works completed a full inventory of all City streetlights. Some residential street lighting is not listed in the City's inventory, and are paid for separately by the home owners near the location of the light. These lights will not be included in this RFP, but may be subject to replacement using the pricing offered in the bid RFP. Traffic signal lights are not included in this PROJECT. An estimated summary of the City's outdoor lighting inventory is attached herein as Appendix B.

The City owns the majority of the post top Acorn style streetlights, poles, and bases. The exception is the City's Cobra fixtures which are affixed to utility poles owned and maintained by the local utility and are subject to a negotiated stranded asset and ongoing facility charge(s). These charges, if incurred, will be paid for by the City separately.

2.2 Red Bank Lighting Infrastructure History

In the 1950's the Utility Company installed utility light poles and Mercury Vapor lighting fixtures. In the 1970's and 1980's the Utility replaced just the Street Light fixtures with a newer, and more expensive HPS (High Pressured Sodium) light. Since the 1990's the HPS lights have been repaired or replaced by the Utility Company. In some cases, there might be a stranded asset to be paid, if the HPS light's manufacturing date can be established when the lights are replaced. The stranded asset fee if

determined, will be paid for by the City, using the negotiated terms between the city and the Utility Company. The age of the light and the consideration of depreciation already paid, will be considered before the amount to be paid is assessed.

The Utility Company also currently has fiber optic cable strategically placed throughout sections of the city both on the utility lighting poles and underground. This fiber optics is primarily for the purpose of managing the power grid. The utility owned fiber optic is also used to provide a competitive internet and cable TV service to residences, schools, commercial businesses, retail businesses, and communications systems which is integral to the City's functioning. The City currently does not own or operate any wireless mesh data networks, but does have a paid for access to the fiber optics installed on the poles and running through the City street.

2.3 Red Bank Outdoor Street Lighting Inventory

The City maintains lighting for sidewalks and pathways, the parks, and City owned parking lots. The parks' lighting scope will include approximately 100 additional fixtures. The athletic field lighting is excluded from this PROJECT'S scope; although new remote monitoring and control capabilities for lights serving recreational and outdoor program spaces could potentially be included. No comprehensive inventory of parks' lighting has been completed to date.

3. Red Bank Smart Lighting Project Overview

3.1 Goals and Parameters to be Achieved with this Request for Proposal

The principal PROJECT goal is to convert as much of the City's lighting to LED and modernize as much of the lighting grid infrastructure as possible without the use of public capital; the City is interested in a bid price that includes a Public/Private partnership that will cover all PROJECT costs and is funded from utility savings, new sources of revenue, available rebates and grants, and/or other cost savings. It will be incumbent upon the public/private partnership to generate the additional revenue above the energy savings.

The City's exterior lighting grid may offer a unique opportunity to add features that enhance the quality of urban life. The City is interested in learning more about new applications that could utilize the existing pole, mast arm, electrical power, or other streetlight components. For example, a Central Management System ("CMS") could provide energy cost reductions and operational efficiencies through lighting controls software, remote monitoring, and integrated work order creation. The City is also interested in cost-effective ways to expand the City's third party leased, fiber optic cable network.

The Red Bank Smart Lighting Project scope will likely be completed in phases, and include the selection, procurement, and financing of the design and installation of some, or all, of the following:

- a. Energy efficient lighting upgrades for the City's current utility owned Inventory. These fixtures are well suited for conversion to LED equivalents with wireless lighting controls to assist in the management of a minimum of a 50% reduction in energy

usage.

- b. Energy efficient lighting upgrades for the City owned streetscape Post Top Acorn lights and city parks' Inventory. These fixtures are well suited for conversion to equivalents with wireless lighting controls to assist in the management of a minimum of 50% reduction in energy usage.
- c. Other technologies and services that either use streetlights as a platform or enhance their utility. These efforts will enhance the delivery of public services, create new revenue opportunities, and/or offer additional collateral department cost savings. Such technologies and services should include but not be limited to wireless lighting controls including scheduled on/off switching, dimming, emergency flash, and residential grade metering. The light must be upgradeable to become a network hosting platform for wireless public Wi-Fi services, HD Video Cameras, Gunshot Sensors, Chemical Sensors, and Weather Sensors.

Because of the scale and complexity of the PROJECT, the concern for compatibility, and performance liabilities the City will not accept partial proposals from multiple respondents. Respondents must submit a proposal and prices that address all of the above topics. The respondents may however, choose to collaborate with other respondents to offer a single proposal and price option under one response.

3.2 Scopes of Work to be Quoted

Energy Efficient Lighting

The primary PROJECT scope includes energy efficient upgrades to existing Red Bank lighting components – lamps, ballasts, controllers, and/or fixtures, and management systems. Given recent advances and price decreases in LED technology, the City is interested in understanding the current estimated bulk purchase costs, installation costs, expected energy savings, and longevity of all energy efficient lighting components for each of the lighting types outlined in Appendices A and B. Please include expected product lifetimes and warranties, as the City is interested in exploring the implications of different contract lengths and gaining a clear understanding of total lifecycle economics.

Lighting Grid Infrastructure

The City welcomes suggestions for redesigned pole types and pole spacing in order to: increase energy efficiency and reduce light pollution without negatively impacting public safety and/or enhance the ability to mount security cameras and other peripherals.

Platform Technologies and Additional Services

While the City is interested in learning about any light grid technologies that benefit the public, of particular interest are those that reduce costs and/or offer financially self-sufficient revenue streams. Through this RFP, the City is seeking the private sector's assessment of the financial viability and cost-effectiveness of these functionalities within the overall PROJECT framework.

Respondents are requested to provide pricing information on any technologies where streetlights might serve as a platform to provide additional services to residents, businesses, and the City. Some examples are:

Enhanced Lighting Controls impacting light: quality, intensity, maintenance, longevity, energy savings monitoring, programmable to work with other sensors and devices, etc.

Communications and Connectivity

- WiFi or other Internet services for businesses and residents
- Wireless network expansion in areas (for both high and/or low bandwidth data coming from streetlights and platform technologies)
- Connecting streetlights and platform technologies through an existing or new third party wireless network, and/or connectivity infrastructure
- Central Management System for remote control and system monitoring
- Cellular data, cell phone towers, or signal amplifiers from streetlights and platform technologies
- Vehicle-to-Infrastructure (V2I) or Vehicle-to-Vehicle (V2V) connections
- Bluetooth / near-field-communications
- Music and/or emergency broadcasting speakers

Monitoring and Sensing

- Motion or noise
- Cameras – video, photography
- Energy usage
- Transportation metrics - vehicle / pedestrian / bicycle counting
- Parking space monitoring
- Climate: temperature, snow and ice, rain or flooding, humidity, air quality, etc.
- Environment: methane / natural gas leakage, seismic vibrations, etc.
- Illegal Drugs Sensing

Applications and Software

- Automated power meter reading
- Smart parking
- Traffic monitoring, management and/or signal timing adaptive to public safety
- Advanced vehicle location (AVL) software that enhances GPS accuracy
- Navigation systems: open, public, or subscription

- Flashing Light or color changes to provide advance safety warnings of storms, etc.
- Buttons linked to a response (e.g., blue button security system)
- Artistic illumination of sidewalks or crosswalks with colors and/or shapes making it easier and safer for pedestrians

Energy Generation and Storage

- Solar PV
- Wind
- Batteries
- EV charging stations
- Device charging stations
- Home energy management communications

Other applications not listed above

3.3 RFP Objectives, Requirements, and Assumptions

A primary outcome of this RFP process will be the City receiving current, well-informed, well thought-out, and clearly communicated PROJECT scenarios with detailed pricing options. Qualified RFP responses will be thoroughly reviewed, analyzed, and used as a basis for recommending optimal scopes of lighting upgrade work along with a corresponding mix of platform technologies and services according to their proven cost-effectiveness.

The final decision to purchase will not be solely based on the lowest price offered. Other considerations such as, energy savings, expandable Smart City Management Technologies with collateral features, and cost savings to other departmental objectives will receive equal consideration.

RFP responses are expected to identify and quantify cost savings and/or additional revenue sources needed to fully design, implement, and finance the RFP in respondents proposed PROJECT scope.

The RFP respondent should be acceptable to a public/private partnership that will stay with the city well beyond the current and future political administrations.

Each qualified RFP submission will be considered as a stand-alone project proposal. Additionally, each proposed technology or deal structure's cost-effectiveness will be assessed at various scales of implementation; e.g. city wide vs. select areas, and at different times over the period of the contract agreement.

This RFP process is an integral part of the planning and design of an economically optimal, phased approach to this PROJECT.

The City anticipates PROJECT oversight responsibilities will be shared by both public and private partners and stakeholders. The City will consider all options that will affect the success and cost of the PROJECT.

The City is interested in a Public/Private partnership that:

- Allows for a long term Public/Private partnership based on capital investments, warranty terms, and ongoing operating costs;
- Allows appropriate risk sharing – the City is aware that delivery of a new Smart Lighting and other advanced technology devices will involve managing financial risks that may be more efficiently managed by a Private Partner;
- Allows for more favorable payment terms for the City;
- Allows for the City to consider technology expansions with limited risks for financial investments and failure;
- Allow the City to only pay for the new technology after it has been deployed and working properly; and
- Allows for the partner to generate reoccurring income from ongoing services and return a percentage of the revenue back to the City by way of a franchise agreement.

3.4 Funding

All PROJECT costs are to be fully funded from energy and operational savings as well as generated revenue. Risk associated with generating revenue or savings should be borne by the providing entity or otherwise guaranteed.

Financing terms should assume full responsibility for the full function of the lighting equipment, and other attached devices. If the light does not work, the city should not be billed for the loss of light.

The City will not issue general obligation debt to finance the PROJECT.

The City is willing to enter into a long term Public/Private partnership with automatic renewal, based on minimum performance criteria's and terms and conditions to be established prior to the signing of the agreement. The City is willing to consider paying a monthly service charge for the service it is requesting.

For Example, Street Lighting will be charged as a street light only and include maintenance and energy management services. Other sensors and security cameras, will be separately charged based on the cost of the equipment and the monitoring services that is required, and internet connectivity charges.

Unless otherwise proposed, the City will be responsible for the payment of the energy costs and any energy cost increases during the course of the Public/Private partnership.

Although the City is requesting a purchase price option in this RFP, the price options should include the public / private partner being responsible for all project funding generated from investment, or debt. The City prefers not to incur any debt and will prefer to pay a competitive monthly service charge for the service(s) that it has requested to be provided.

4. RFP Submission Conditions

4.1 Changes to This RFP

At any time, at its sole discretion, the City may, by written addenda to this RFP, modify, amend, cancel, and/or reissue this RFP.

If your organization wishes to be notified of any RFP changes or future addendum please send a primary point of contact's: name, email address, and phone number to: rsmith@redbanktn.gov with the words "RFP Smart Lighting Contact" in the email subject line.

If an addendum is issued prior to the date information is due, it will be made available on the following website: www.redbanktn.gov . If an addendum is issued after information has been received, it may, at the City's discretion, be provided only to those proposers whose submissions may be impacted by such change/addendum.

4.2 Information Preparation Costs

The City shall not be liable for any costs incurred by the Respondent in the preparation, submission, presentation, or revision of its information, or in any other aspect of the Respondent's pre-information submission activity. No Respondent is entitled to any compensation except under an agreement for performance of services signed by a City-authorized representative and the Respondent.

4.3 Submittal of Confidential Information

Information submitted to the City, in response to this RFP or otherwise, may be subject to the Tennessee Open Records Act ("TORA").

However, Respondents may designate as confidential those portions of their Submissions that contain trade secrets or other proprietary data, which may be exempt from disclosure under TORA. The City will make the final determination as to whether information, even if marked "Confidential," will be disclosed pursuant to a request under TORA, valid subpoena, or other legal requirement.

To designate portions of the Submission as confidential, Respondents must mark their Submissions, and any other information submitted, as follows:

1. Mark the cover page as follows: "This Submission includes trade secrets or other proprietary data." Include contact information for the person to be notified in the event of a TORA request or subpoena relating to the submission.

2. Mark each page to be restricted with the following legend: "Confidential: Use or disclosure of information or data contained on this sheet is subject to the restriction on the title page of this Submission."

Indiscriminate labeling of material as "Confidential" may be grounds for leaving a Submission unread or otherwise disregarding the information therein.

In the event that the City receives, pursuant to TORA or a subpoena, a request for information that has been marked as "Confidential," the City will provide the impacted Respondent with written notification of such requests to the address identified in the Submission. The City will then work with the impacted Respondent so that the impacted Respondent may assist the City in making the best case for non-disclosure. If these efforts are not successful and disclosure is required, the City will coordinate such disclosure with the impacted Respondent. If this procedure is followed, Respondent agrees not to pursue any cause of action against the City with regard to disclosure of information released pursuant to Tennessee Open Records Act requests, valid subpoenas, or other legally required disclosures.

4.4 Ownership of Submitted Materials

All materials submitted in response to or in connection with this RFP shall become the property of the City. However, proprietary information marked as such will be protected as described in the City's Contracting Document.

4.5 Rights of the City

The City reserves all rights at law and equity with respect to this RFP including, but not limited to, the unqualified right, at any time and in its sole discretion, to change or modify this RFP, to reject any and all information, to waive defects or irregularities in information received, to seek clarification of information, to request additional information, to request any or all Respondents to make a presentation, to undertake discussions and modifications with one or more Respondents, who, at any time, subsequent to the deadline for submissions of this RFP, may express an interest in the subject matter hereof.

No Respondent shall have any rights against the City arising from the contents of this RFP, the receipt of information, or the incorporation in or rejection of information contained in any response or in any other document. The City makes no representations, warranties, or guarantees that the information contained herein, or in any addenda hereto, is accurate, complete, or timely or that such information accurately represents the conditions that would be encountered during the performance of any subsequent contract issued from a separate RFQ or RFP. The furnishing of such information by the City shall not create or be deemed to create any obligation or liability upon it for any reason whatsoever; and each Respondent, by submitting its information, expressly agrees that it has not relied upon the foregoing information, and that it shall not hold the City liable or responsible therefore in any manner whatsoever.

4.6 No Personal Liability

No City officer, agent or employee shall be charged personally with any liability by a Respondent or another or held liable to a Respondent or another under any term or provision of this RFP or any statements made herein or because of the submission or attempted submission of information or other response hereto or otherwise.

APPENDIX “A” - RFP SUBMISSION GUIDELINES

All Red Bank Smart Lighting Project RFP Respondents are asked to submit their firm’s proposed PROJECT approach and their organizational information in the format outlined below. It is worth reiterating that this RFP is a formal procurement; therefore, responses will be carefully reviewed and evaluated.

Respondents are encouraged to respond to every applicable section as completely as possible. With multiple proposals and pricing options. Total response page count should not exceed 50 pages.

1. PROJECT Overview – Executive Summary

Please provide a brief narrative summary overview of your understanding of the PROJECT, and the highlights of your approach. Summary should clearly delineate which PROJECT scopes of work (*refer to Section 3.2*) your responses are referencing and a brief explanation of each proposed product or service’s attributes, capabilities and prices along with a summary description of unique characteristics of your approach. A brief summary of the proposed PROJECT economics should also be included.

2. Company Information and Past Experience

Please provide the following descriptive information for the responding team and members:

- Name of company or companies
- Key principals for company or companies and contact information
- Previous experience in outdoor lighting or platform services projects

3. Approach

Please provide narrative description of your recommended approach with sufficient detail on how PROJECT goals, objectives, and obstacles will be addressed. Include a list of each proposed product or service grouped into the three Scopes of Work categories described above: 1) Energy Efficient Lighting; 2) Lighting Control Infrastructure, or 3) Network Hosting Platform Technologies and Additional Services.

If recommending a specific product or service please expound on their attributes, capabilities and unique characteristics. For lighting products provide detailed information on relevant attributes such as wattages, lumens per watt, light quality, dimming control capabilities, lifespan ratings (TM-21), manufacturer's warranties etc.

If your product or service uses the streetlight grid as a platform to provide a third-party business model in which the City is not the buyer but rather the facilitator, please describe the business model and the perceived market size for your connected technology. Estimate optimal contract length. Pricing should be included, but will not be part of the consideration for the first phase deployment of the LED Lighting and Lighting controls.

Please suggest effective pricing strategies for third-party technologies and services using the streetlight platform. Ideally providing examples of comparable and competitive pricing structures for:

- Use of distributed communication networks,
- Access to distributed power sources, and
- Leased space on distributed assets, including streetlights.

Your proposal should provide networking capabilities to support connected lights and other communications, be sure to cover the following:

- The new networking assets you would propose to put in place to support a connected Red Bank Smart Lighting Project and enhance Red Bank's outdoor wireless communications capabilities.
- The different capabilities needed to support high bandwidth data needs (e.g., voice, data, VO-Wi-Fi (Voice Over Wi-Fi) and HD video) versus low bandwidth data needs (sensor signals, lighting control).
- Opportunities to subordinate the need for further Fiber Optics deployment with wireless broadband.

Delineate the benefits as well as anticipated issues and constraints inherent to third-party constructed energy efficient lighting, streetlight infrastructure, and/or platform technologies and services.

If applicable, please provide feedback on the following:

- PROJECT Phases - optimal phasing of the scopes of work. In particular, which categories should be prioritized and which may present greater challenges and might be better suited for later installation phases.
- Responsibility Allocation – responsibility matrix for successful execution of your recommended approach.
- Innovative PROJECT Deployment - describe where do you foresee significant opportunities to apply innovative design, construction methods, operation and maintenance regimes and/or materials to acquire efficiencies in cost and schedule.

- Project Interdependencies – describe how your product or service may impact other street lighting technology categories as well as how it might best be integrated into the overall PROJECT procurement.
- Promoting Competition - considerations that would maximize competition amongst technologies or services. Please provide any procurement suggestions to maximize value to the City.

4. Economics

The proposed PROJECT economics summarized above in the Executive Summary should be supported by a detailed financial model in a Microsoft Excel format. Please include the following:

- A binding estimate of your product(s)' or service(s)' economics. The bid prices should include up-front capital costs, on-going operating and financing costs, as well as savings and revenues anticipated for each item. Please break these estimates out into separate line items to the greatest degree possible.
- A clear list of assumptions used to drive their economic model. This assumptions list should include, but not be limited to, any dependent variables, economic assumptions, and/or deviations from this RFP's direction.
- Economic models should assume a 0.075 \$/kWh as the unit cost for delivered street light electricity for City lights.
- Operating hours for City Lights = 4,380 hours per year; i.e. "dusk to dawn" averaging 12 hours per day; 365 days per year.
- Each product or service's simple payback period, if purchased.
- Clear notation of whether each product or service is "Cost Neutral" (i.e., self-funding either through cost savings or revenue generation) or "Generates Net Revenue" or a "Net Cost" (i.e., would increase City expenditures without commensurately raising revenues or savings).
- Include any costs for extended warranties, monitoring, energy management, performance guarantees or insurance.

Notes:

- Cost should coincide with preferred PROJECT deployment methods; please clearly notate and explain those preferences.
- Payback cash flow calculations should be presented assuming 2 possible scenarios:
 - Energy utility costs do not escalate over time;
 - Energy utility costs escalate at a 2% annual rate increase.
- Please provide sufficient data to show your LED lighting product with and without wireless lighting controls is a cost-effective strategy for any of the existing lighting assets.

5. Financing

Please provide multiple financing structures in line with PROJECT parameters. Indicate pros and cons of alternative financing structures along with recommendations of those that maximize value for the City. For example, overall cost would be more competitive if the City paid for the capital equipment upfront and added the monitoring and service charges separately, rather than combining the capital debt charges to the monitoring and maintenance service fees. Show both options with details.

6. Risk Transfer, Guarantees, Life Span Expectancies

Please provide the expected product or service lifespans along with the types and lengths of available guarantees or warranties. For Example, if warranties apply to purchased equipment and guarantees apply to service agreement purchases please explain in detail, how the City will be protected.

If applicable, please provide feedback on product or technology security; i.e. susceptibility to vandalism, hacking, etc.

7. Ancillary Benefits

Please detail the non-financial and/or non-utility public benefits to the City of Red Bank and its residents, visitors, and/or businesses for each item.

Indicate where the lighting equipment is currently manufactured, assembled or otherwise produced.

Indicate if the lighting equipment can be or will be manufactured, assembled or otherwise produced within the City of Red Bank, the State of Tennessee, or the United States.

8. Lessons Learned / Next Steps

Please provide any known examples of other cities or towns where there have been problems with LED conversion projects especially with aging infrastructure.

Please provide any comments on past experience with outdoor lighting projects procurements especially key lessons learned.

APPENDIX “B” – CITY OF RED BANK LIGHTING INVENTORY

Use this inventory count to determine the type of LED replacement to be recommended.

Red Bank TN, Street Light Count					
Bulb type	Lamp Type	Wattage	Count	KWH/Month/ea.	KWH/Month/ea.
MV	Cobra	175	8	511	64
HPS	Cobra	100	191	6,972	37
MV	Cobra	400	18	2,628	146
HPS	Cobra	200	227	16,571	73
HPS	Cobra	250	4	365	91
MH	Cobra	400	67	9,782	146
HPS	Cobra	400	48	7,008	146
MH	Acorn	150	275	15,056	55
Total Count			838	58,893	70
KWH\$ Costs			0.075	\$ 4,417	\$ 5.27

APPENDIX “C” – CITY OF RED BANK LIGHTING INVENTORY KWH USAGE with Energy Savings Temple

Use this table to determine the KWH usage and cost for the replacement LED lights to determine the energy savings that will be applied to the replacement costs.

Red Bank TN, Street Light Count					
Bulb type	Lamp Type	Wattage	Count	KWH/Month/ea.	KWH/Month/ea.
MV	Cobra	175	8	511	64
HPS	Cobra	100	191	6,972	37
MV	Cobra	400	18	2,628	146
HPS	Cobra	200	227	16,571	73
HPS	Cobra	250	4	365	91
MH	Cobra	400	67	9,782	146
HPS	Cobra	400	48	7,008	146
MH	Acorn	150	275	15,056	55
Total Count			838	58,893	70
KWH\$ Costs			0.075	\$ 4,417	\$ 5.27
Reduced Energy Consumption			65%	KWH/Month/ea.	KWH/Month/ea.
Total Count					
KWH\$					
Savings			KWH/year	KWH/Month	KWH/Month/ea
					.

APPENDIX “D” – CITY OF RED BANK LIGHTING Replacement Price List.

Use this template to prepare a component price list for each item to be offered to the City of Red Bank. Also include separately all network hosting, and smart city technology upgrade costs as well as costs for deployment and installation, monitoring, management, maintenance.

Smart City Managmeent Replacement							
Product Photo	Item No.	Light Type:	System Wattage	Flat Rate Monthly KWH	LED lm	Cash Purchase Price	Monthly Service Fee