

**DEPARTMENTAL INPUT**  
**CONTRACT/PROJECT MEASURE ANALYSIS AND RECOMMENDATION**

☒ New    ☐ OTR    ☐ Sole Source    ☐ Bid Waiver    ☐ Emergency    Previous Contract/Project No. N/A  
Contract  
☐ Re-Bid    ☐ Other    LIVING WAGE APPLIES: ☐ YES    ☒ NO  
Requisition No./Project No.: RFP-0499    TERM OF CONTRACT 15 YEAR(S) WITH 0 YEAR(S) OTR

Requisition /Project Title: LED Smart Lighting and Smart County Systems

Description:

RFP process to secure a firm to replace approximately 27,000 high pressure sodium street light fixtures with LED fixtures. Smart County technology will be utilized, i.e. video camera detection, meters, and bluetooth.

Issuing Department: DTPW    Contact Person: Frank Aira    Phone: 786-469-5328  
Estimate Cost: 105,000,000  
Funding Source: GENERAL    FEDERAL    OTHER  
MDT-Op

**ANALYSIS**

<b><u>Commodity Codes:</u></b>	<u>285-76</u>	<u>968-76</u>			
Contract/Project History of previous purchases three (3) years Check here <input checked="" type="checkbox"/> if this is a new contract/purchase with no previous history.					
	<b><u>EXISTING</u></b>	<b><u>2<sup>ND</sup> YEAR</u></b>	<b><u>3<sup>RD</sup> YEAR</u></b>		
<b>Contractor:</b>					
<b>Small Business Enterprise:</b>					
<b>Contract Value:</b>	\$	\$	\$		
<b>Comments:</b>					

Continued on another page (s):    ☐ YES    ☒ NO

**RECOMMENDATIONS**

	Set-aside	Sub-contractor goal	Bid preference	Selection factor
<b>SBE</b>				
<b>Basis of recommendation:</b> <div style="border: 1px solid black; height: 30px; width: 100%;"></div>				
Signed: <u>Brian Webster</u>		Date sent to SBD: <u>05/23/2019</u>		
		Date returned to DPM: <div style="border: 1px solid black; width: 150px; height: 20px;"></div>		



**REQUEST FOR PROPOSALS (RFP) No. 00499  
for  
LED SMART LIGHTING AND SMART COUNTY SYSTEMS**

**ISSUED BY MIAMI-DADE COUNTY:**

Internal Services Department, Strategic Procurement Division  
for  
The Department of Transportation and Public Works  
Traffic Signals and Signs

**MIAMI-DADE COUNTY CONTACT FOR THIS SOLICITATION:**

Brian Webster, Procurement Contracting Officer  
111 NW 1<sup>st</sup> Street, Suite 1300, Miami, Florida 33128  
Telephone: (305) 375-2676  
E-mail: [brian.webster@miamidade.gov](mailto:brian.webster@miamidade.gov)

**PROPOSALS DUE:**

On the date and at the time specified in BidSync. Check BidSync for potential updates.

**IT IS THE POLICY OF MIAMI-DADE COUNTY (COUNTY) THAT ALL ELECTED AND APPOINTED COUNTY OFFICIALS AND COUNTY EMPLOYEES SHALL ADHERE TO THE PUBLIC SERVICE HONOR CODE (HONOR CODE). THE HONOR CODE CONSISTS OF MINIMUM STANDARDS REGARDING THE RESPONSIBILITIES OF ALL PUBLIC SERVANTS IN THE COUNTY. VIOLATION OF ANY OF THE MANDATORY STANDARDS MAY RESULT IN ENFORCEMENT ACTION.**

**(SEE IMPLEMENTING ORDER 7-7)**

**Electronic proposal responses to this RFP are to be submitted through a secure mailbox at BidSync until the date and time as indicated in this document.** It is the sole responsibility of the Proposer to ensure its proposal reaches BidSync before the Solicitation closing date and time. There is no cost to the Proposer to submit a proposal in response to a Miami-Dade County solicitation via BidSync. Electronic proposal submissions may require the uploading of electronic attachments. The submission of attachments containing embedded documents or proprietary file extensions is prohibited. All documents should be attached as separate files. All proposals received and time stamped through the County's third party partner, BidSync, prior to the proposal submittal deadline shall be accepted as timely submitted. The circumstances surrounding all proposals received and time stamped after the proposal submittal deadline will be evaluated by the procuring department in consultation with the County Attorney's Office to determine whether the proposal will be accepted as timely. Proposals will be opened promptly at the time and date specified. The responsibility for submitting a proposal on or before the stated time and date is solely and strictly the responsibility of the Proposer. The County will in no way be responsible for delays caused by technical difficulty or caused by any other occurrence. All expenses involved with the preparation and submission of proposals to the County, or any work performed in connection therewith, shall be borne by the Proposer(s).

A Proposer may submit a modified proposal to replace all or any portion of a previously submitted proposal up until the proposal due date. The County will only consider the latest version of the proposal. For competitive proposing opportunities available, please visit the County's Internal Services Department website at: <http://www.miamidade.gov/procurement/>.

Requests for additional information or inquiries must be made in writing and submitted using the question/answer feature provided by BidSync at [www.proposedsync.com](http://www.proposedsync.com). The County will issue responses to inquiries and any changes to this Solicitation it deems necessary in written addenda issued prior to the proposal due date (**see addendum section of BidSync Site**). Proposers who obtain copies of this Solicitation from sources other than through BidSync risk the possibility of not receiving addenda and are solely responsible for those risks.

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## 1.0 PROJECT OVERVIEW AND GENERAL TERMS AND CONDITIONS

### 1.1 Introduction

Miami-Dade County, hereinafter referred to as the County, as represented by the Miami-Dade County Department of Transportation and Public Works (DTPW), is soliciting proposals for performance of the Scope of Work (Attachment B and its corresponding Exhibits) which requires the replacement of all existing street lights with a Smart Lighting and Smart County Program. The County seeks to partner with a firm to provide a fully integrated suite of streetlights, sensors, networks, and data / analytics platforms that will result in the County becoming the first true Smart County in the world. This solicitation will leverage the existing roadway lighting infrastructure to provide for new and emerging Smart County technology to improve mobility, accessibility, and safety. Respondents may form partnerships to provide fully integrated proposals for the technology and financing of this project.

The County anticipates awarding a contract for a fifteen (15) year period.

#### **The anticipated schedule for this Solicitation is as follows:**

Solicitation Issued:	Thursday, May XX, 2019
Pre-Proposal Conference:	Not scheduled for this solicitation
Deadline for Receipt of Questions:	See BidSync for the scheduled date and time
Proposal Due Date:	See front cover for date and time.
Evaluation Process:	Third quarter of 2019
Projected Award Date:	First quarter of 2020

### 1.2 Definitions

The following words and expressions used in this Solicitation shall be construed as follows, except when it is clear from the context that another meaning is intended:

1. The word "County" to mean Miami-Dade County, a political subdivision of the State of Florida.
2. The word "Proposal" to mean the properly signed and completed written good faith commitment by the Proposer submission in response to this Solicitation by a Proposer for the Services, and as amended or modified through negotiations.
3. The word "Proposer" to mean the person, firm, entity or organization, as stated on the Proposal Submittal Form, submitting a proposal to this Solicitation. "Proposer" shall also refer collectively to firms and individuals proposed to perform the Work.
4. The word "Successful Proposer" to mean the Proposer, including its subcontractor and subconsultants that receives any award of a contract from the County as a result of this Solicitation.
5. The word "Solicitation" to mean this Request for Proposals (RFP) or Request for Qualifications (RFQ) document, and all associated addenda and attachments.
6. The words "Work", "Services", "Project", or "the work" to mean all matters and things that will be required to be done by the Successful Proposer in accordance with the Scope of Work, and the terms and conditions of this Solicitation.
9. The words "Contract", "Contract Document", or "Agreement" to mean collectively this Request for Proposal, all other appendices and attachments hereto, all addenda issued hereto, and the Successful Proposer's Proposal.

10. The words "Contract Manager" to mean Miami-Dade County's Director, Internal Services Department, or the duly authorized representative designated to manage the Contract.
11. The word "Days" to mean Calendar Days.
12. The word "Deliverables" to mean all documentation and any items of any nature submitted by the Successful Proposer to the County's Project Manager for review and approval pursuant to the terms of this Agreement.
13. The words "directed", "required", "permitted", "ordered", "designated", "selected", "prescribed" or words of like import to mean respectively, the direction, requirement, permission, order, designation, selection or prescription of the County's Project Manager; and similarly the words "approved", "acceptable", "satisfactory", "equal", "necessary", or words of like import to mean respectively, approved by, or acceptable or satisfactory to, equal or necessary in the opinion of the County's Project Manager.
14. The words "Extra Work" or "Additional Work" to mean additions or deletions or modifications to the Services as required in this Contract, as directed and/or approved by the County.
15. The words "County Project Manager" to mean the County Mayor or the primary authorized representative designated to manage the Project.
16. The words "Sections" to means a numbered prime division of these documents, or a subset of a corridor or grid in which a series of traffic signals are coordinated to provide uninterrupted flow for a platoon of vehicles.
17. The word "subcontractor" or "subconsultant" to mean any person, entity, firm or corporation, other than the employees of the Successful Proposer, who furnishes labor and/or materials, in connection with the Work, whether directly or indirectly, on behalf and/or under the direction of the Successful Proposer and whether or not in privity of Contract with the Successful Proposer.
18. The words "Letter of Credit" to mean an irrevocable, transferable, standby letter of credit, issued by a major U.S. commercial bank or a U.S. branch office of a foreign bank, in either case, with a Credit Rating of at least (a) "A-" by S&P and "A3" by Moody's, if such entity is rated by both S&P and Moody's or (b) "A-" by S&P or "A3" by Moody's, if such entity is rated by either S&P or Moody's, but not both, substantially in the form set forth in Schedule 1 attached hereto, with such changes to the terms in such form as the issuing bank may require and as may be acceptable to the beneficiary thereof.

### **1.3 General Proposal Information**

- A. The County may, at its sole and absolute discretion, reject any and all or parts of any or all proposals; accept parts of any and all proposals; further negotiate project scope and fees; postpone or cancel at any time this Solicitation process; or waive any irregularities in this Solicitation or in the proposals received as a result of this process. In the event that a Proposer wishes to take an exception to any of the terms of this Solicitation, the Proposer shall clearly indicate the exception in its proposal. No exception shall be taken where the Solicitation specifically states that exceptions may not be taken. Further, no exception shall be allowed that, in the County's sole discretion, constitutes a material deviation from the requirements of the Solicitation. Proposals taking such exceptions may, in the County's sole discretion, be deemed nonresponsive. The County reserves the right to request and evaluate additional information from any Proposer regarding Proposer's responsibility after the submission deadline as the County deems necessary.

- B. The Proposer's proposal will be considered a good faith commitment by the Proposer to negotiate a contract with the County, in substantially similar terms to the proposal offered and, if successful in the process set forth in this Solicitation and subject to its conditions, to enter into a contract substantially in the terms herein. Proposer's proposal shall be irrevocable until contract award unless the proposal is withdrawn. A proposal may be withdrawn in writing only, addressed to the County contact person for this Solicitation, prior to the proposal due date and time, or upon the expiration of 180 calendar days after the opening of proposals.
- C. As further detailed in the Proposal Submittal Form, Proposers are hereby notified that all information submitted as part of, or in support of proposals will be available for public inspection after opening of proposals, in compliance with Chapter 119, Florida Statutes, popularly known as the "Public Record Law."
- D. Any Proposer who, at the time of proposal submission, is involved in an ongoing bankruptcy as a debtor, or in a reorganization, liquidation, or dissolution proceeding, or if a trustee or receiver has been appointed over all or a substantial portion of the property of the Proposer under federal bankruptcy law or any state insolvency law, may be found non-responsible.
- E. To request a copy of any code section, resolution and/or administrative/implementing order cited in this Solicitation, the Proposer must contact the Clerk of the Board at (305) 375-5126, Monday- Friday, 8:00 a.m. – 4:30 p.m.

#### 1.4 Aspirational Policy Regarding Diversity

Pursuant to Resolution No. R-1106-15, Miami-Dade County Successful Proposers are encouraged to utilize a diverse workforce that is reflective of the racial, gender and ethnic diversity of Miami-Dade County and employ locally-based small firms and employees from the communities where work is being performed in their performance of work for the County. This policy shall not be a condition of contracting with the County, nor will it be a factor in the evaluation of solicitations unless permitted by law.

#### 1.5 Cone of Silence

- A. Pursuant to Section 2-11.1(t) of the Code of Miami-Dade County, as amended, a "Cone of Silence" is imposed upon each RFP or RFQ after advertisement and terminates at the time a written recommendation is issued. The Cone of Silence prohibits any communication regarding RFPs or RFQs between, among others:
  - potential Proposers, service providers, lobbyists or consultants **and** the County's professional staff including, but not limited to, the County Mayor and the County Mayor's staff, County Commissioners or their respective staffs;
  - the County Commissioners or their respective staffs **and** the County's professional staff including, but not limited to, the County Mayor and the County Mayor's staff; or
  - potential Proposers, service providers, lobbyists or consultants, any member of the County's professional staff, the Mayor, County Commissioners or their respective staffs **and** any member of the respective Competitive Selection Committee.
- B. The provisions do not apply to, among other communications:
  - oral communications with the staff of the Vendor Services Section, the responsible Procurement Contracting Officer, provided the communication is limited strictly to matters of process or procedure already contained in the Solicitation document;
  - oral communications at pre-proposal conferences and oral presentations before Competitive Selection Committees during any duly noticed public meeting, public presentations made to the Board of County Commissioners during any duly noticed public meeting;
  - recorded contract negotiations and contract negotiation strategy sessions; or



- communications in writing at any time with any County employee, official or member of the Board of County Commissioners unless specifically prohibited by the applicable RFP or RFQ documents.
- C. When the Cone of Silence is in effect, all potential Successful Proposers, service providers, proposers, lobbyists and consultants shall file a copy of any written correspondence concerning the particular RFP or RFQ with the Clerk of the Board, which shall be made available to any person upon request. The County shall respond in writing (if County deems a response is necessary) and file a copy with the Clerk of the Board, which shall be made available to any person upon request. Written communications may be in the form of e-mail, with a copy to the Clerk of the Board at [clerkbcc@miamidade.gov](mailto:clerkbcc@miamidade.gov).
- D. All requirements of the Cone of Silence policies are applicable to this Solicitation and must be adhered to. Any and all written communications regarding the Solicitation are to be submitted only to the Procurement Contracting Officer with a copy to the Clerk of the Board. The Proposer shall file a copy of any written communication with the Clerk of the Board. The Clerk of the Board shall make copies available to any person upon request.

## **1.6 Communication with Competitive Selection Committee Members**

Proposers are hereby notified that direct communication, written or otherwise, to Competitive Selection Committee members or the Competitive Selection Committee as a whole are expressly prohibited. Any oral communications with Competitive Selection Committee members other than as provided in Section 2-11.1 of the Code of Miami-Dade County are prohibited.

## **1.7 Public Entity Crimes**

Pursuant to Paragraph 2(a) of Section 287.133 of the Florida Statutes, a person or affiliate who has been placed on the convicted Successful Proposer list following a conviction for a public entity crime may not submit a proposal for a contract to provide any goods or services to a public entity; may not submit a proposal on a contract with a public entity for the construction or repair of a public building or public work; may not submit proposals on leases of real property to a public entity; may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity; and, may not transact business with any public entity in excess of the threshold amount provided in Section 287.017 of the Florida Statutes for Category Two for a period of thirty-six (36) months from the date of being placed on the convicted Successful Proposer list.

## **1.8 Lobbyist Contingency Fees**

- A. In accordance with Section 2-11.1(s) of the Code of Miami-Dade County, after May, 16, 2003, no person may, in whole or in part, pay, give or agree to pay or give a contingency fee to another person. No person may, in whole or in part, receive or agree to receive a contingency fee.
- B. A contingency fee is a fee, bonus, commission or non-monetary benefit as compensation which is dependent on or in any way contingent upon the passage, defeat, or modification of: 1) any ordinance, resolution, action or decision of the County Commission; 2) any action, decision or recommendation of the County Mayor or any County board or committee; or 3) any action, decision or recommendation of any County personnel during the time period of the entire decision-making process regarding such action, decision or recommendation which foreseeably will be heard or reviewed by the County Commission or a County board or committee.

## **1.9 Collusion**

In accordance with Section 2-8.1.1 of the Code of Miami-Dade County, where two (2) or more related parties, as defined herein, each submit a proposal for any contract, such proposals shall be presumed to be collusive. The foregoing presumption may be rebutted by the presentation of evidence as to the extent of ownership, control and management of such related parties in preparation and submittal of such proposals. Related parties shall mean

Proposer, the principals, corporate officers, and managers of the Proposer; or the spouse, domestic partner, parents, stepparents, siblings, children or stepchildren of a Proposer or the principals, corporate officers and managers thereof which have a direct or indirect ownership interest in another Proposer for the same contract or in which a parent company or the principals thereof of one Proposer have a direct or indirect ownership in another Proposer for the same contract. Proposals found to be collusive shall be rejected. Proposers who have been found to have engaged in collusion may be considered non-responsible, and may be suspended or debarred, and any contract resulting from collusive proposing may be terminated for default.

#### **1.10 DBE Goal**

In keeping with 49 Code of Federal Regulations (CFR) Part 26.21, - the County recommends a race-neutral DBE goal. Furthermore, this project presents a premium opportunity for certified DBE firm(s) who by reason of their certification are ready, willing, and able to provide and assist with the services delineated in the scope of work. It is also recommended that all Prospective Proposers assemble and incorporate into their proposal submittals, their preselected DBE teams.

Bidders should make full use of the certified DBE firms listed in the Unified Certification Program (UCP) website:

[\(https://fdotxwp02.dot.state.fl.us/EqualOpportunityOfficeBusinessDirectory/\)](https://fdotxwp02.dot.state.fl.us/EqualOpportunityOfficeBusinessDirectory/)

See Attachment H "DBE Participation Clauses" for the complete requirements for DBE program compliance. Proposer shall submit with its proposal the documents contained therein.

## 2.0 QUALIFICATIONS AND REQUIREMENTS

### 2.1 Background

Successful Proposer shall perform the Work described in the Scope of Work (Attachment B) pursuant to the requirements of the Contract Documents.

### 2.2 Order of Precedence

If there is a conflict between or among the provisions of the Contract, the order of precedence is as follows: 1) the Form of Agreement; 2) agreed upon Scope of Work (as may be negotiated); 3) addenda to the RFP; 4) attachments and exhibits to the Request for Proposal; 4) the Request for Proposal; and 5) the Successful Proposer's Proposal.

### 2.3 Term of Contract

This contract shall commence on the first calendar day of the month succeeding approval of the contract by the Board of County Commissioners, or designee, unless otherwise stipulated in the Blanket Purchase Order issued by the Internal Services Department, Strategic Procurement Division. The contract shall expire on the last day of the fifteenth (15<sup>th</sup>) year.

Notwithstanding the defined contract term, the period for expressed and/or implied warranty periods shall remain in full force and effect for the term of those agreements. DTPW will issue a Notice to Proceed (NTP) to the Successful Proposer.

### 2.4 Performance of Work

- A. Successful Proposer shall perform all Work in a skillful and workmanlike manner. All workers shall have sufficient skill and experience to perform the Work assigned to them.
- B. The Successful Proposer shall coordinate the Work performed by its Subcontractors and Suppliers, and be fully responsible to the County for all acts and omissions of Subcontractors, Suppliers and their employees. Any provision of the Contract referring to the acts or omissions of the Successful Proposer shall also refer to and include the acts and omissions of all Subcontractors and Suppliers.
- C. If any portion of the subcontracted Work is not performed in accordance with the Contract, or if a Subcontractor or Supplier commits or omits any act that would constitute a breach of the Contract, the Successful Proposer shall cure the breach, and at the direction of the Project Manager, shall replace the Subcontractor or Supplier. The Subcontractor or Supplier shall not be employed again on the Work.

### 2.5 Successful Proposer's Representative

Successful Proposer shall have a Representative (or Project Manager) with full authority to represent and act for the Successful Proposer. Prior to the County's issuance of a Notice to Proceed (NTP), Successful Proposer shall submit (for the County's review and acceptance) the name, qualifications and experience of its proposed Successful Proposer's Representative.

Successful Proposer's Representative shall act for the Successful Proposer in all matters concerning the Work, and, subject to all requirements of this Contract, shall have the following authority and obligations:

- A. Ability to so organize the Work, and the Work of its Subcontractors, to complete the Work in accordance with the Contract and the Successful Proposer's bar chart, as accepted by DTPW.
- B. Ability to delegate defined authority to other Successful Proposer personnel (who thus also become Successful Proposer's Representatives, as provided in this Contract, to the extent specified), subject to written notice to, and approval by, the Project Manager.
- C. During performance of the Work, Successful Proposer's Representative shall be present at the Worksite(s), or have its fully-empowered delegate present at the Worksite, at all times that any Work is in progress or at any time any employee or Subcontractor of the Successful Proposer is present at the Worksite.

## 2.6 Authority and Responsibility of the County's Project Manager

- A. The County's Project Manager has the authority and responsibility to exercise all powers, rights, and/or privileges that have been lawfully delegated to the Project Manager by the County in all matters relating to or affecting the Work and this Contract. Except as expressly specified in this Contract, the Project Manager may delegate, in writing, specifically described authority and responsibility within the scope of its authority and responsibility to Authorized Representatives.
- B. The County's Project Manager is the County's primary Authorized Representative, and is the only person authorized to delegate authority to any other Authorized Representative(s).
- C. The County's Project Manager's delegation of responsibility and authority to other Authorized Representative(s) shall be limited to specifically-defined authority and responsibilities. The authority, responsibilities and limitations of any Authorized Representative shall be described in the Project Manager's notice to the Successful Proposer designating the Authorized Representative.
- D. Nothing in this Contract shall be construed to bind the County for acts of any the County employee or any other person, or for the acts of the County's Project Manager or any other Authorized Representative, including its Contract Manager, that exceed the authority delegated to them herein or in any other written delegation.

## 2.7 Method of Payment

- A. Payment for Power, Operations, and Maintenance:

The County shall provide fixed quarterly payments to Successful Proposer for performing the Work, for the term of the contract. The County will pay to the Successful Proposer, the amount of \$00,000.00, as the current amount paid for the Florida Power and Light Company ("FPL") tariff rate for electric consumption. As additional compensation to the Successful Proposer, the Successful Proposer will receive the amount of \$00,000.00 as compensation for its operation and maintenance of the system, in accordance with Paragraph XX "Operations and Maintenance of Equipment", of Attachment B "Scope of Work". In exchange for the County providing such compensation, the Successful Proposer shall assume responsibility for paying the metered rates for contract equipment, in accordance with Paragraph XX "Operations and Maintenance of Equipment", of Attachment B "Scope of Work".

The aforementioned amounts the County will pay will escalate at the rate of 3% per year, commencing on the anniversary of the Award Date and continuing for the full term of the contract, as it may be extended. To the extent set forth in this paragraph, Successful Proposer agrees that Successful Proposer shall be solely responsible and liable for any and all costs incurred by Successful Proposer. The County shall have no liability or responsibility for any of Proposer's costs or expenses in excess of the payment provisions contained herein.

- B. The County encourages the Successful Proposers to expedite the completion of work and to maximize the number of smart technology devices to be incorporated into the Successful Proposer's project plan, in accordance with Appendix G of the Scope of Work.

As consideration for this effort, the County shall pay to the Successful Proposer the lump sum amount of \$20,000,000, to be paid at the completion of the following milestones:

Milestone 1: XXXX

Milestone 2: XXXX

Milestone 3: XXXX

Milestone 4: XXXX

Milestone 5: XXXX

- C. In order for the County to provide payment, Successful Proposer shall submit a fully documented invoice that provides the basic information set forth below. The invoice shall be submitted to DTPW thirty (30) calendar days after the service has been rendered. It shall be understood that such invoices shall not be submitted for payment until such time as the service has been completed and a County representative has reviewed and approved the service.

All invoices shall contain the following basic information:

1. Successful Proposer Information:

- The name of the business organization as specified on the contract between the County and Successful Proposer
- Date of invoice
- Invoice number
- Vendor's Federal Identification Number on file with the County
- Fixed amount due for payment, as adjusted annually in accordance with the provisions of this paragraph

2. County Information:

- Miami-Dade County Release Purchase Order or Small Purchase Order Number

3. Delivery Information:

- Identification of the pay item as s set forth in the Agreement and within the Miami-Dade County Release Purchase Order

Failure to submit invoices in the prescribed manner will delay payment.

## 2.8 Insurance

Successful Proposer shall indemnify and hold harmless the County and its officers, employees, agents and instrumentalities from any and all liability, losses or damages, including attorneys' fees and costs of defense, which the County or its officers, employees, agents or instrumentalities may incur as a result of claims, demands, suits, causes of actions or proceedings of any kind or nature arising out of, relating to or resulting from the performance of this Agreement by the Successful Proposer or its employees, agents, servants, partners principals or subcontractors. Successful Proposer shall pay all claims and losses in connection therewith and shall investigate and defend all claims, suits or actions of any kind or nature in the name of the County, where applicable, including appellate proceedings, and shall pay all costs, judgments, and attorney's fees which may issue thereon. Successful Proposer expressly understands and agrees that any insurance protection required by this Agreement or otherwise provided by Successful

Proposer shall in no way limit the responsibility to indemnify, keep and save harmless and defend the County or its officers, employees, agents and instrumentalities as herein provided.

The Successful Proposer shall furnish to Internal Services Department, Strategic Procurement Division, 111 NW 1<sup>st</sup> Street, Miami, FL 33128, Certificate(s) of Insurance which indicate that insurance coverage has been obtained which meets the requirements as outlined below:

- A. Worker's Compensation Insurance for all employees of the Successful Proposer as required by Florida Statute 440, including Employers Liability in an amount not less than \$1,000,000.
- B. Commercial General Liability Insurance on a comprehensive basis in an amount not less than \$5,000,000 per occurrence. **Miami-Dade County must be shown as an additional insured with respect to this coverage.**
- C. Automobile Liability Insurance covering all owned, non-owned and hired vehicles used in connection with the work, in an amount not less than \$1,000,000 combined single limit per occurrence for bodily injury and property damage.
- D. Professional Liability Insurance in an amount not less than \$1,000,000 per claim.

All insurance policies required above shall be issued by companies authorized to do business under the laws of the State of Florida, with the following qualifications:

The company must be rated no less than "A-" as to management, and no less than "Class VII" as to financial strength by Best's Insurance Guide, published by A.M. Best Company, Oldwick, New Jersey, or its equivalent, subject to the approval of the County Risk Management Division.

or

The company must hold a valid Florida Certificate of Authority as shown in the latest "List of All Insurance Companies Authorized or Approved to Do Business in Florida" issued by the State of Florida Department of Financial Services.

**CERTIFICATE HOLDER MUST READ:**

**MIAMI-DADE COUNTY  
111 NW 1<sup>st</sup> STREET  
SUITE 2340  
MIAMI, FL 33128**

## **2.9 Proposal Guarantee**

The Proposer must submit a Proposal Guarantee in the amount of Twenty Thousand Dollars (\$20,000) **as part of its Proposal submission**. The Solicitation number must be referenced on the Proposal Guarantee. A **copy** of the proposal guarantee must accompany the Proposal submitted electronically through the BidSync proposal submission system. The Proposal Guarantee (original document) must be received by the Miami-Dade County Clerk of the Board, at 111 NW 1st Street, 17th Floor, Suite 202, Miami, Florida 33128-1983, within 48 hours of the Proposal response due date on the cover. Proposal Guarantees not received within 48 hours by the Clerk may render the Proposal non-responsive. Proposal Guarantees must be in the form of a certified check, cashier's check, an Irrevocable Letter of Credit, see Paragraph 2.11 below, or a surety bond. See Paragraph 2.10 below for bonding requirements, payable to Miami-Dade County. Proposal Guarantees will be returned after a contract is executed, unless returned earlier, at the County's discretion.

## **2.10 Performance and Payment Bond**

A minimum of ten (10) days' before Successful Proposer commences any construction work or any materials are purchased from a supplier, Successful Proposer shall execute, deliver to the County and record in the public records of the County, a payment and performance bond equal to the total cost of construction to take place on County-owned property. Each payment and performance bond shall be in compliance with all applicable laws including the terms and requirements of Florida Statutes, Section 255.05, including Sections 255.05(1)(a) and (c), 255.05(3), and 255.05(6), and shall name the County and the Successful Proposer beneficiaries thereof, as joint obligees.

Alternatively to the payment and performance bond described above, the Successful Proposer may provide County with an alternate form of security ("**Alternative Security**") which fully complies with Section 255.05 of the Florida State Statutes and meets the following specifications:

- A. The Successful Proposer shall provide to County either a certified check that the County may deposit in a County-controlled bank account or an Irrevocable Letter of Credit, in accordance with Paragraph 2.11 "Irrevocable Letter of Credit", either of which shall be in a form and for an amount that is acceptable to the County and which shall remain in place until evidence reasonably satisfactory to the County is submitted to demonstrate that all contractors performing work and/or making improvements on County-owned property and all suppliers of materials have been paid and the Successful Proposer has obtained Completion of Construction; and
- B. Require that each prime contractor hired by the Successful Proposer to perform work and/or make improvements on County-owned property shall provide a Performance Bond with a surety insurer authorized to do business in the State of Florida as a surety in an amount not less than 100% of his/her/its respective contract in a form acceptable to the County to insure that his/her construction work shall be completed by the contractor or, on its default his/her surety, and shall name the County as an additional obligee; and
- C. Require that each prime contractor hired by the Successful Proposer to perform work and/or make improvements on County-owned property shall provide a Payment Bond with a surety insurer authorized to do business in the State of Florida as a surety in an amount not less than 100% of his/her/its respective contract in a form acceptable to the County to secure the completion of the development free from all liens and claims of sub-contractors, mechanics, laborers and material men and shall name the County as an additional obligee and payee.

If the Successful Proposer provides the Alternative Security, the Successful Proposer shall also comply with the following obligations:

- A. The Successful Proposer shall obtain a Conditional Release of Lien from each of its prime contractor(s) at the time each progress payment is made; and
- B. The Successful Proposer shall obtain an Unconditional Release of Lien from each of its prime contractor(s) within five (5) business days after payment is made.

In the event the Successful Proposer's contractor(s) claim non-payment(s), and/or, fail to timely provide Unconditional Releases of Lien within the timeframe stipulated under these terms, the Successful Proposer reserves the right but not the obligation to:

- A. Reduce the amount(s) in question from the cash deposit(s) or security posted until the claim(s) is/are liquidated; or
- B. Appropriate funds for such payment(s) from any cash deposit(s) or security posted and make payment(s) directly to the claimant(s).

In either case, the Successful Proposer shall within ten (10) business days of the County's notification deposit an amount equal to the reduced/disbursed amount in the County's escrow account or increase the irrevocable letter of

credit so as to replenish the original amount of the cash deposit(s) or security posted.

All bonds provided by the Successful Proposer or its prime contractor(s) must meet the following requirements:

- A. Be obtained from guarantee or surety companies acceptable to the U.S. Government and authorized to do business in the state where the work is to be performed. U.S. Treasury Circular Number 570, published annually in the Federal Register, lists companies approved to act as sureties on bonds securing Government contracts, the maximum underwriting limits on each contract bonded, and the States in which the company is licensed to do business. Use of a company listed in this circular is mandatory. Free copies of the circular may be obtained by writing directly to: U.S. Department of Treasury, Financial Management Service, Surety Bond Branch, 401 14<sup>th</sup> Street, SW, 2<sup>nd</sup> Floor, West Wing, Washington, D.C. 20226.
- B. Clearly state the rate of premium and the total amount of premium charged. The current power of attorney for the person who signs for the surety company must be attached to the bond. The effective date of the power of attorney shall not precede the date of the bond. The effective date of the bond(s) shall be prior to the issuance of the NTP. The County may negotiate the amount of the bond(s) depending on the phase of the Project.

Failure by the Successful Proposer to provide the required performance and payment bond(s) or Alternative Security in the manner and within the time specified, or within such extended period as the County may grant based upon reasons determined adequate by the County, shall render the Proposer ineligible for award and the County may retain the ineligible Proposer's bid security.

## **2.11 Irrevocable Letter of Credit**

- A. An Irrevocable Letter of Credit (LOC) will be accepted as a substitution of security for the performance of work, in lieu of providing Payment and Performance Bonds. The Successful Proposer shall, within ten (10) business days after contract award and before the County issues the Notice to Proceed, provide to the County a LOC in the amount of 100% of the estimated value of construction. The LOC shall be accessible such that the County may, at its convenience, withdraw funds from the LOC in the event the Successful Proposer fails to execute its payment and performance obligations in a timely manner. The LOC shall be refreshed within five (5) days if drawdowns are made by the County, such that the amount of the LOC is continual at the amount equal to 100% of the cost of construction. The LOC shall remain in full force for the contract term that terminates upon Final Completion of construction, as the term may be extended by the County. On the first anniversary of the effective date and each anniversary date thereafter contained in the Notice to Proceed, the Successful Proposer may cause the amount of the LOC to decrease to reflect 100% of the outstanding amount for construction.
- B. The LOC shall be in an acceptable form to the County, and shall be issued by a major U.S. commercial bank or a U.S. branch office of a foreign bank, in either case, with a Credit Rating of at least (a) "A-" by S&P and "A3" by Moody's, if such entity is rated by both S&P and Moody's or (b) "A-" by S&P or "A3" by Moody's, if such entity is rated by either S&P or Moody's, but not both. Provisions of the LOC shall not limit, in any way, any liability of the Successful Proposer to the County. The LOC shall be drawn on a financial institution which is federally insured and authorized to do business and with offices in the State of Florida.

## **2.12 Project Schedule**

The Successful Proposer shall submit an updated Critical Path Gantt Chart project schedule to DTPW for review and acceptance within fifteen (15) working days after issuance of the NTP. The project schedule shall include all work specified in the Scope of Work (Attachment B) including, but not limited to, mobilization, lead times, fabrication, inspections, installation, testing, system cutover, training, turnover of required documentation, and all expected activities of subcontractors, Successful Proposers, suppliers and all other parties associated with the project. See Paragraph 2.07 (F) of the Scope of Work (Attachment B) for specific requirements.



## 2.13 Liquidated Damages

- A. Time is of the essence. The Successful Proposer is firmly obligated to meet the stipulated completion date(s), except as any such date(s) may be extended. Inasmuch as the damage and loss to the County which will result from the failure of the Successful Proposer to meet such date(s), as extended, will include items of loss or damage which are not susceptible to accurate estimation. The damages for delay in the case of such failure on the part of the Successful Proposer shall be liquidated in the amounts identified below, for each calendar day of unexcused delay in meeting the completion date(s), for each individual item as herein identified. The amount of Liquidated Damages set forth represents a good faith estimate as to the actual potential damages the County would incur as a result of the delay in completion of the work or elements thereof.

Liquidated Damages will apply to the identified tasks, based on the amounts set forth below:

Project Substantial Completion, equal to \$X,XXX per day

- B. Upon Substantial Completion of the Work as determined by the County Project Manager, the Successful Proposer shall be issued a Certificate of Substantial Completion and Liquidated Damages shall cease to accrue. After Substantial Completion the Successful Proposer shall be liable for any and all actual damages incurred by the County as a result of the Successful Proposer's failure to complete all Work (including Punchlist Work), by the Contract completion date including any extensions of time. Actual damages shall include, but shall not be limited to, engineering and consulting fees incurred as a result of the Successful Proposer's failure to complete all Work by the Contract completion date.
- C. The County shall have the right to deduct such Liquidated and Actual Damages from any monies due or which may thereafter become due to the Successful Proposer under this Contract or any other sums due or which become due to the Successful Proposer under other contracts with the County. If the amount which may become due hereunder shall be less than the amount of Liquidated Damages due to the County, the Successful Proposer shall pay the difference immediately upon demand by the County.
- D. Additional Provisions
1. County Project Manager will count default days in calendar days.
  2. County has the right to apply, as payment on such liquidated damages, any money the County owes Successful Proposer.
  3. County does not waive its right to liquidated damages due under the Contract by allowing Successful Proposer to continue and to finish the work, or any part of it, after the expiration of the Contract, including granted time extensions.
  4. The requirements of this Section may not be waived, compromised or settled without the express written consent of the Board of County Commissioners.

## 2.14 Excusable Delay

- A. Upon providing the County notice and reasonably full particulars of an event of force majeure (as described below) in writing, within a reasonable time after the occurrence of such event of force majeure, the Successful Proposer shall not be liable for any delay or failure to perform to the extent caused by fire, flood, severe weather conditions, explosion, labor disputes, strike, shortage of utilities, compliance with any laws, regulations, orders, acts or requirements from the government, civil authorities, government-mandated facility shutdowns or limitations, acts of God or the public enemy, or any other act or event of any nature reasonably beyond the Successful Proposer's control. In such circumstances, the County may, at its option, elect to cancel or reschedule the portion of any order subject to such delay by providing to the Successful Proposer prompt written notice of its election, provided that,

such cancellation or rescheduling shall apply only to that portion of the order affected by the foregoing circumstances and the balance of the order shall continue in full force and effect.

- B. The Successful proposer is expected to request its permits with the permitting agency within a timeframe that will allow the permitting agency its normal processing time to review a permit request. A schedule delay due to the processing time of a permitting agency would only be deemed excusable if the Successful Proposer demonstrated to the satisfaction of the County, through documented evidence, the permitting agency exceeded its standard time to review such permit.

## 2.15 Work Day

- a. Unless explicitly specified otherwise herein, a **Standard Work Day is defined as Monday through Friday, 7:00 AM to 5:00 PM**, excluding holidays.
- b. Any provisions applicable to a **Standard Work Day**, set forth in the Contract Documents, will apply to this paragraph and is hereby incorporated by reference.

### County Holidays are:

New Year's Day  
Martin Luther King, Jr. Day  
President's Day  
Memorial Day  
Independence Day  
Labor Day  
Columbus Day  
Veterans Day  
Thanksgiving  
Day after Thanksgiving  
Christmas Day

## 2.16 Sequence of Operations

The Successful Proposer must propose a sequence of operations that best suits the proposed Project plan and Schedule. The proposed sequence of operations can be further enhanced if agreed by both the Successful Proposer's Project Manager and the County Project Manager.

## 2.17 Errors, Omissions, Interpretations

Successful Proposer shall carefully and continuously study and compare all Contract Documents; and verify all stated requirements in the Contract Documents before commencing Work.

Request for Information, Notification, and Successful Proposer Performance:

- A. Should it appear that the Work to be done, or any of the matters relative thereto, is not sufficiently detailed or explained in any the County-furnished Contract Documents, Successful Proposer shall submit a Request for Information (RFI), in writing to the County's Project Manager, asking for such further written explanations as may be necessary. Successful Proposer shall conform to the explanation provided.
- B. Successful Proposer shall promptly notify the County of all deficiencies (including inaccuracies and inconsistencies) it may discover in the County-furnished Contract Documents, and obtain specific instructions in writing regarding any such Deficiency, before proceeding with the Work affected thereby.

- C. Omission of any technical provisions in the Contract Documents, or the misdescription of details of Work which are necessary to carry out the intent of the County-furnished Contract Documents, or which are customarily performed, shall not relieve Successful Proposer from performing such omitted Work (no matter how extensive) or misdescribed details of the Work. Any such omitted or misdescribed Work shall be performed as if fully and correctly set forth and described in the technical provisions of the Contract Documents, without entitlement to a Contract Modification hereunder.

## **2.18 Alternative Codes and Standards**

Codes and Standards not in accordance with those contained in the Contract shall not be used unless accepted by the County's Project Manager in writing. If the Successful Proposer wishes to utilize codes or standards not specified in the Contract, Successful Proposer shall submit for acceptance, sufficient information for the County's Project Manager to determine Equivalency. Information shall include, but not be limited to, detailed comparison of the substitute standard/code, the rationale for Substitution, and whether it meets or exceeds the existing standard/code specified in the Contract.

## **2.19 Successful Proposer Notices to the County**

All Notices to the County under this Contract shall be in writing to the County's Project Manager for the subject matter of the Notice, with a copy to the Contracting Officer. No notice shall be effective unless it was delivered to the Project Manager and to the Contracting Officer as provided in this Contract.

## **2.20 Overview of Successful Proposer's Responsibilities**

- A. Successful Proposer shall complete the Project as specified in a timely manner, in accordance with all industry practices generally accepted as standards of the industry in the State of Florida, in a good and workmanlike manner, free from defects, and in accordance with Section 3.
- B. Compliance with Requirements – The Successful Proposer shall provide all materials and undertake all efforts necessary or appropriate (excluding only those materials, services and efforts that the Contract Documents specify will be furnished by the County or other persons) to complete the Project in accordance with the requirements of the Contract Documents, the Schedule, all applicable Laws, all Governmental Approvals, the County-Approved Quality Assurance & Quality Control Plans, Successful Proposer's approved Safety Program (if applicable), and all other applicable safety, environmental and other requirements, taking into account Right-of-Way constraints, if applicable, and other physical limits resulting from constraints affecting the Project, so as to achieve Substantial Completion and Final Completion and to perform all required tests by the deadlines specified herein, and otherwise to do everything required by and in accordance with the Contract Documents.
- C. Professional Qualifications – Successful Proposer shall perform the Work under the supervision of persons licensed to practice the applicable function/profession in the State of Florida (if applicable), by personnel who are careful, skilled, experienced and competent in their respective trades or professions, who are professionally qualified to perform the Work in accordance with the Contract, and who shall assume professional responsibility for the accuracy and completeness of the Work prepared or checked by them.
- D. Governing Dimensions – Before commencing any contracted work, Successful Proposer shall verify all governing dimensions at the Worksite, examine all adjoining work and activities that may have an impact on Work, and ensure that the Contract Documents (and any other documents related to the Work) accurately depict all governing and adjoining dimensions.
- E. Means and Methods – Successful Proposer shall be solely responsible for the performance of its Work in accordance with its own means, methods, sequences, and procedures, and for coordination of all portions of its Work in compliance with the Contract.

- F. Performance During Disputes – At all times during the term hereof, including during any Dispute, Successful Proposer shall perform as directed by the County, and shall comply with all provisions of the Contract.
- G. Subcontractors & Suppliers – Successful Proposer shall be responsible for the acts and omissions of its Subcontractors and Suppliers.
- H. Assistance to the County – Successful Proposer shall provide such assistance as is reasonably requested by the County in prosecuting and defending Environmental lawsuits in any and all matters relating to the Work, which is caused by the Successful Proposer's negligent acts/omissions. Such assistance may include providing information and reports regarding the Work, as well as executing declarations and attending meetings and hearings. In no event shall the Successful Proposer be required to provide legal services.
- I. Cooperation – Cooperate with the County and its Authorized Representatives, in their review(s) and/or inspection(s) of any portion or phase of the Work, and other matters relating to the Work.
- J. Mitigation – Mitigate Delay in all circumstances, to the extent reasonably possible, including the re-sequencing, reallocating or redeploying of its forces to other work, as appropriate.

## **2.21 Successful Proposer's Representations, Warranties and Covenants**

Successful Proposer represents, warrants and covenants for the benefit of the County that:

- A. Status – If it is a corporation, limited partnership, general partnership, and/or joint venture, it is duly organized, validly existing and in good standing under the Laws of its jurisdiction of formation, and has full power and authority to own and operate its business and properties and perform the Work within the State of Florida.
- B. Review of Information and Inspection of the Worksite(s) – It has, in accordance with prudent and generally accepted engineering and industry practices:
  - 1. Reviewed all of the information provided in the Contract (including reports provided by the County);
  - 2. Inspected and evaluated the Worksite(s) and surrounding locations to the extent the Successful Proposer deems necessary or advisable for performing all portions/phases of the Work under the Contract. These inspections and evaluations include without limitation:
    - a. The character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the Worksite(s), including review of the Contract Documents provided by the County.
    - b. Conditions bearing upon transportation, disposal, handling, and storage of materials, goods, and equipment;
    - c. The availability of labor, water, electric power, and roads;
    - d. Uncertainties of weather, or physical conditions at the site;
    - e. The conformation and conditions of the ground;
    - f. The character of equipment and facilities needed preliminary to and during Work performance; and
    - g. Conditions bearing upon security and protection of material, Goods, Equipment, and Work in progress.
- C. Physical Requirements – As a result of its inspection and examination of the Worksite(s), and other related and surrounding sites and conditions, it is familiar with and accepts the physical requirements of the Work.
- D. Feasibility – As a result of its review of all the information and its inspection and examination of the Worksite(s), it has evaluated the feasibility of performing the Contract within the Contract Time and for the Total Contract Price, and has reasonable grounds for believing and does believe that such performance, including achievement of

Substantial Completion of the Project within the Contract Time, for the Total Contract Price is feasible and practicable.

- E. Permits and Governmental Approvals – Based upon its review of the Contract Documents, it shall be able to obtain and keep in effect throughout the Contract Time all permits and other Governmental Approvals the Successful Proposer is obligated to obtain in accordance with the Contract.
- F. Difficulty and Cost of Work – It has estimated the difficulty and cost of successfully performing the Work, and based upon that estimate has concluded that it can successfully perform the Work at the Total Contract Price.

## **2.22 Storm or Disaster Services**

- A. Successful Proposer, by accepting the award of this Contract, recognizes and agrees that should a storm or other severe and catastrophic natural disaster affect the Miami-Dade-County area during the performance of the work, Successful Proposer shall provide services contracted for during the contract period, at the Contract unit prices and at the same or different locations from those covered by this Contract.
- B. For emergency services and conditions not addressed by this Contract, Successful Proposer agrees to negotiate reasonable prices and terms with the County for any disaster-relief work required by the County. In all instances, Successful Proposer agrees to negotiate reasonable time extensions for performance of disaster-relief work.

## **2.23 Emergencies**

In case of an Emergency or hazard to health or safety requiring immediate curative action, the County will notify Successful Proposer, and Successful Proposer shall immediately take such action(s) as it deems necessary, notifying the Project Manager of the action(s) taken as soon as possible but no later than **one (1) working day** thereafter. If Successful Proposer does not undertake immediate curative action, the County may without prior notice undertake such action as is necessary to correct the hazard or deal with the Emergency, and the cost thereof shall be borne by the Successful Proposer.

## **2.24 Cooperation and Coordination with Other Successful Proposers and/or County Operations**

- A. The County reserves the right and may undertake or award other contracts for additional Work on or near the Worksite(s). Successful Proposer warrants that it has carefully reviewed the Contract Documents and all other pertinent information made available by the County that relate to the nature and scheduling of other contracts that may be awarded, and to constraints related to the County operations, and in submitting its proposed/proposal and executing this Contract, has taken into account the need to coordinate its Work with that of other Successful Proposers and/or the County Operations. It is the express obligation and duty of the Successful Proposer under the Contract to coordinate its Work with the work of others.
- B. The following shall apply:
  - 1. Successful Proposer shall not have exclusive access to or use of Work areas or the Worksite(s). The County may require that Successful Proposer use certain facilities and areas concurrently with others.
  - 2. The County will endeavor to advise the Successful Proposer of the other known parties, including the County Operations.
  - 3. Successful Proposer shall cooperate and communicate with any other Successful Proposer performing Work that may connect, complement, and/or interfere with the Successful Proposer's Work, and resolve any disputes or coordination problems with such Successful Proposer.

**2.25 Coordination Meetings**

Successful Proposer's Project Manager or designated representative shall attend such meetings and conferences, including a pre-work meeting, arranged by the County for the purpose of coordinating the Work. Attendance to such meetings and conferences by Successful Proposer's Project Manager or designated representative is considered a basic part of the Work, and thus Successful Proposer shall not be entitled to any additional compensation from the County for such attendance.

**2.26 Clean Up**

- A. Throughout all phases of contracted work, and until Final Completion of the Work, Successful Proposer shall keep the Worksite, including storage and public areas used by Successful Proposer, clean and free from rubbish and debris.
- B. Before completing the Work, Successful Proposer shall remove from the Worksite any rubbish, tools, and equipment that are not the property of the County.

**2.27 Disposal of Waste**

Unless otherwise specified in the Contract, Successful Proposer shall make its own arrangements for disposing of waste and excess substances generated from Successful Proposer's performance of the Work at a legal disposal site outside the Worksite(s), and shall pay all associated costs and obtain necessary permits, if any.

Successful Proposer agrees to indemnify and hold harmless the County from any dumping duty, loss or expense, including, but not limited to, reasonable attorney fees which the County may incur arising from any claim or demand alleging that the sale of the apparatus covered by this contract at the price therefor stated herein violates the U.S. Antidumping Act, Title 19 U.S. Code Annotated, Section 160 et. seq.

**2.28 Laws and Permits**

- A. The Successful Proposer shall comply with all provisions of federal, state, and local laws, ordinances, rules, regulations and orders which would affect the Work as if it were being performed for a private corporation, except where different requirements are specifically set forth in the Contract.
- B. If the Work requires the Successful Proposer to open, alter, remove, damage or otherwise affect property owned by a federal, state, or local government, the Successful Proposer shall obtain in its own name any permit or license required to allow such property to be so affected. However, the Successful Proposer shall not apply for any permit or license in the name of, or on behalf of, the County or take any other actions which would subject the County to any laws, ordinances, rules, regulations and orders from which it is exempt.

**2.29 Extra Work**

- A. The County reserves the right to order changes which may result in additions to or reductions from the amount, type or value of the Work shown in the Contract and which are within the general scope of the Contract in accordance with this Article. Any such changes which result in additions to the Work will be known as "Extra Work."
- B. No Extra Work shall be performed except pursuant to a written Change Order issued by the Contract Manager expressly authorizing the performance of such Work and explicitly declaring the intention of the County to treat the Work described therein as Extra Work. In the absence of such a Change Order, if the County Project Manager shall direct, order or require any work, whether orally or in writing, which the Successful Proposer deems to be Extra Work, the Successful Proposer shall nevertheless comply therewith, but shall within five (5) days of the County Project Manager's order or directive give written notice to the County Project Manager stating why the

Successful Proposer deems it to be Extra Work. Such notice is required to afford an opportunity to the County to (1) cancel promptly such order, direction or requirement; (2) keep an accurate record of the materials, labor and other items involved; and (3) take such action as may be deemed advisable in light of the Successful Proposer's claim. The failure of the Successful Proposer to give written notice within the time limit stated therefor shall be deemed a conclusive and binding acceptance on the Successful Proposer's part that the direction, order or requirement of the County Project Manager does not involve the performance of Extra Work.

- C. Within thirty (30) days of the Successful Proposer's submission of written notice that an order, direction or requirement of the County Project Manager is deemed by the Successful Proposer to involve Extra Work, the Successful Proposer and each Subcontractor shall submit in a form satisfactory to the County a detailed proposal ("Change Order Proposal") (including the elements of cost identified in Article 35, "CHANGE ORDER BASIS FOR PAYMENT," Paragraphs A., B., C., D, and E.) of the Agreement, which shall include adjustments to the Contract price, to the extent permitted under Article 35 to the delivery schedule, or to any other provisions of the Contract necessary to accomplish the Extra Work. Upon written request of the Successful Proposer, within the thirty (30) day period set forth above, for good cause shown, the Contract Manager may grant the Successful Proposer additional time in which to submit a Change Order Proposal. The failure of the Successful Proposer to submit a detailed proposal within the time limit stated therefor, or within such additional time as is granted by the Contract Manager at its sole discretion, shall be deemed a waiver of any claim for compensation that the Successful Proposer may have with respect to the claimed Extra Work.
- D. The provisions of the Contract relating to the Work and its performance shall apply without exception to Extra Work and the performance thereof, except as otherwise provided in a written Change Order between the Successful Proposer and the County.
- E. The Successful Proposer must utilize the most recent updated CPM or bar chart as required by the Contract to establish the price and schedule modifications. Successful Proposer's Change Order Proposal must include a schedule subnet and an explanation of the cost and schedule impact of the claimed Extra Work on the Contract. The Successful Proposer must demonstrate clearly how it proposes to incorporate the Extra Work into the schedule. If Successful Proposer fails to notify the County Project Manager of the schedule changes associated with a Change Order Proposal by submitting a revised schedule, it will be deemed to be an acknowledgment by Successful Proposer that the proposed Extra Work will not have any scheduling consequences.

## **2.30 Change Order Basis for Payment**

If Extra Work requires the provision of items of Work or material of the same type as those for which unit prices are quoted in the Proposal, compensation for such Extra Work shall be computed on the basis of the unit price in the Successful Proposer's Proposal for such items.

If Extra Work requires the provision of items of Work or material for which compensation cannot be computed on the basis of unit prices quoted in the Successful Proposer's Proposal and the scope and extent of the Extra Work can be determined before the Extra Work is performed, the County will perform a cost analysis of the Successful Proposer's proposal and negotiate a lump sum amount with the Successful Proposer as compensation for such Work. The County Project Manager may in such case direct the Successful Proposer to proceed with the Extra Work pending performance of the cost analysis and negotiation of the amount of compensation for such Extra Work.

If it is not possible beforehand to estimate the extent and duration of the Extra Work or to estimate costs with any degree of certainty, such Extra Work shall be compensated on a time and material basis, limited to the following amounts only:

- A. The sum of plant, field and engineering labor hours performed by the Successful Proposer's or Subcontractor's own employees, and deemed by the County Project Manager to be reasonably required for such Extra Work, plus 21% for overhead, administrative expenses, and profit, plus actual increase in insurance premiums, not included

above, for insurances required by the Contract. Where Extra Work is performed on overtime or premium basis the 21% additive shall not apply to the premium portion of such costs.

- B. The actual reasonable cost of materials, together with the actual reasonable cost of the rental of equipment or use of Successful Proposer or Subcontractor owned equipment, required by the Successful Proposer or Subcontractor for performance of such Extra Work, plus material handling costs (inclusive of general and administrative expenses) of 10% of the cost of the material actually incorporated into the Extra Work.
- C. The actual reasonable cost of permitted Subcontract Work, as enumerated above, incorporated in such Extra Work, plus an amount for the Successful Proposer's own administration, overhead and supervision, of 10% of the cost of such permitted Subcontract Work. A single allowance of 5% will be allowed notwithstanding that more than one tier of Subcontractors is employed with respect to such subcontract Work.
- D. For any machinery or special equipment (other than small tools), including fuel and lubricant, the Successful Proposer will receive 100% of the "Rental Rate Blue Book" for the actual time that such equipment is in operation on the work, and 50% of the "Rental Rate Blue Book" for the time the equipment is directed to standby and remain on the project site, to be calculated as indicated below. The equipment rates will be based on the latest edition (as of the date the work to be performed begins) of the "Rental Rate Blue Book for Construction Equipment" or the "Rental Rate Blue Book for Older Construction Equipment," whichever is applicable, as published by Machinery Information Division of PRIMEDIA Information, Inc. (version current at the time of bid), using all instructions and adjustments contained therein and as modified below. On all projects, the County Project Manager will adjust the rates using regional adjustments and Rate Adjustment Tables according to the instructions in the Blue Book.

Allowable Equipment Rates will be established as set out below:

- a. Allowable Hourly Equipment Rate =  $\text{Monthly Rate} / 176 \times \text{Adjustment Factors} \times 100\%$ .
- b. Allowable Hourly Operating Cost =  $\text{Hourly Operating Cost} \times 100\%$ .
- c. Allowable Rate Per Hour = Allowable Hourly Equipment Rate + Allowable Hourly Operating Cost.
- d. Standby Rate = Allowable Hourly Equipment Rate  $\times 50\%$ .

The Monthly Rate is The Basic Machine Rate Plus Any Attachments. Standby rates will apply when equipment is not in operation and is directed by the County Project Manager to standby at the project site when needed again to complete work and the cost of moving the equipment will exceed the accumulated standby cost. Standby rates will not apply on any day the equipment operates for eight or more hours. Standby payment will be limited to only that number of hours which, when added to the operating time for that day equals eight hours. Standby payment will not be made on days that are not normally considered work days on the project.

- E. Fees or other costs for required Bonds, and increases thereto, are deemed to be included in the overhead rates enumerated above, and in no event shall additional sums be allowed for such costs in connection with Extra Work under this Contract.

The County will allow for the cost of transporting the equipment to and from the location at which it will be used. If the equipment requires assembly or disassembly for transport, the Department will pay for the time to perform this work at the rate for standby equipment. Equipment may include vehicles utilized only by Labor, as defined above.

For all Work or materials required to be done or furnished under the provisions of this Article, the Successful Proposer shall furnish to the County upon request such documentation as the County may require for substantiating all costs of the Extra Work.

## **2.31 Notice of Discovery of Differing Site Conditions**



Successful Proposer shall, before any of the existing conditions are disturbed, provide immediate oral and/or electronic mail notice of the discovery of such conditions to the County's Authorized Representative, followed by written notice to the County's Project Manager of the discovery within forty-eight (48) hours thereafter, of any of the following subsurface conditions:

- A. Type 1 Condition: Subsurface or latent physical conditions at the Worksite differing materially from those indicated in the Contract;
- B. Type 2 Condition: Unknown physical conditions at the Worksite of any unusual nature that differ materially from those ordinarily encountered in and generally recognized as inherent in Work of the character provided for in the Contract.
- C. Type 3 Condition: Substances that Successful Proposer believes may be Hazardous Substances that are required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of Law.

If Successful Proposer encounters substances or conditions during performance of the Work that it reasonably believes to be a Type 1 Condition or Type 2 Condition, Successful Proposer shall not disturb the condition or interfere with the County's right or ability to investigate, but may continue Work in the area. The Successful Proposer shall document and submit such conditions in a written field report (including photographs) within five (5) Days of the initial notice to the County, and include a recommendation how to safely proceed with Work at the area.

If Successful Proposer encounters substances during performance of the Work that it reasonably believes to be a Hazardous Substance, a Type 3 Condition, Successful Proposer shall not disturb the condition and shall suspend Work in the immediate area of the suspected Hazardous Substances until the County authorizes it to resume. The Successful Proposer shall document and submit such conditions in a written field report (including photographs) within five (5) Days of the initial notice to the County, and include a recommendation how to safely proceed Work at the area.

The County will promptly investigate the conditions, and if it finds the conditions do materially differ, or do involve previously unknown Hazardous Substances. The County may make an adjustment in Contract Time and/or Total Contract Price as agreed upon.

## **2.32 Claims Regarding Differing Site Conditions**

Successful Proposer shall not be entitled to any remedy for an asserted Differing Site Condition if it does not give the County both:

- A. Timely notice of the asserted Differing Site Condition, as required in this paragraph; and
- B. Submit a written field report (including photographs) within five (5) Days of the initial notice to the County as required in Paragraph 2.30 of this document; and
- C. An opportunity to investigate prior to the asserted Differing Site Condition being disturbed.

## **2.33 Proceed with Work**

If a Dispute arises related to a claim of a Differing Site Condition, Successful Proposer shall proceed with all Work to be performed under the Contract and shall not be excused from any provision of the Contract, including without limitation, the Scheduled Completion Date.

## **2.34 Access to the Worksite**

- A. The County will, at all times during the term of the contract, have access to the Work at all Worksites, and all documents on which the Work is based.
- B. At any time during the term of the contract, upon reasonable notice, the County may review the documents on which the Work is based, inspect the Worksite, and review, inspect and test all Work, equipment, software, and all other materials wherever located (collectively "Inspect" or "Inspection").

## **2.35 Work Performed without Inspection**

- A. At all times before Final Acceptance at each intersection, Successful Proposer shall remove or uncover such portions of the finished contracted Work as directed by the County. After examination by the County, Successful Proposer shall restore the Work to the standard required by the Contract Documents. If the Work exposed or examined is not in conformance with the requirements of the Contract Documents, then uncovering, removing and restoring the Work, and recovery of any delay to any Critical Path occasioned thereby, shall be at Successful Proposer's cost, and Successful Proposer shall not be entitled to any time extension.
- B. Any Work done or materials used without adequate notice to and opportunity for prior inspection by the County, may be ordered uncovered, removed or restored at Successful Proposer's cost and without a time extension, even if the Work proves acceptable after uncovering.
- C. If Work exposed or examined under this paragraph is in conformance with the requirements of the Contract Documents, then any delay in any Critical Path from uncovering, removing and restoring Work shall be considered a delay caused by the County, and Successful Proposer shall be entitled to a Change Order for the cost of such efforts and recovery of any delay to the schedule occasioned thereby.

## **2.36 Substantial Completion**

- A. The Work shall be deemed Substantially Complete when, in the opinion of the County Project Manager, there are no material and substantial variations from the Contract and the Work is fit for its intended purpose. Upon Substantial Completion the County Project Manager shall issue a Letter/Certificate of Substantial Completion. The issuance of this Letter/Certificate shall not relieve the Successful Proposer from its obligation hereunder to complete the Work. Substantial Completion must be achieved sixty (60) days prior to Final Completion.
- B. When the Successful Proposer is of the opinion that the Work is Substantially Complete, Successful Proposer may submit to the County Project Manager a written request that the County Project Manager inspect the Work so as to determine whether Substantial Completion has been achieved. Upon such request, the County must respond within twenty-five (25) days of its receipt with either (i) a Letter/Certificate of Substantial Completion or (ii) an explanation of the reasons why the Work is not Substantially Complete, including a list of open items necessary to achieve Substantial Completion. Nothing in this paragraph precludes the County Project Manager from making a determination of Substantial Completion in the absence of a request therefor by the Successful Proposer.
- C. If the County, having substantiated cause, elects not to take possession of the Work upon Substantial Completion, the Risk of Loss remains on the Successful Proposer until the County takes possession of the Work.
- D. The Work remaining after Substantial Completion shall be known as "Punchlist Work." The Punchlist Work shall be limited to minor omissions and defects except the County Project Manager may in his sole discretion, include Work which cannot be done until the County or third persons perform other work which is not the Successful Proposer's responsibility under the Contract. The County Project Manager shall issue a Punchlist with the Letter/Certificate of Substantial Completion.

- E. Upon Substantial Completion, the Successful Proposer shall remove its tools, materials and equipment from the Work Site, except for the tools, materials and equipment needed to complete the Punchlist Work, or unless otherwise authorized in writing by the County Project Manager.

## **2.37 Final Completion**

- A. Within ten (10) Days after the Successful Proposer determines that all Work as required in the Contract, System Acceptance of all systems required by the contract, is fully completed, and all required submissions and deliveries to the County specified in the Contract have been made. System acceptance is defined by the Scope of Work, Paragraph 2.05(6). Successful Proposer shall give the County Project Manager a written Request for Final Completion specifying that the Work is completed, the date on which it was completed and stating:
  - 1. All of the Successful Proposer's and Subcontractors' personnel, supplies, equipment, waste materials, rubbish and temporary facilities have been removed from the Worksite;
  - 2. Successful Proposer has complied with all requirements associated with closeout of the Contract; and
  - 3. Successful Proposer has delivered to the County Project Manager a Notice of Completion for the Work in recordable form.
- B. The County Project Manager shall advise the Successful Proposer of the time reasonably required to complete all the Punchlist Work. The time set by the County Project Manager to complete Punchlist Work shall be no more than sixty (60) days from the issuance of the Letter/Certificate of Substantial Completion. When in the opinion of the County Project Manager the Punchlist Work is properly completed, the County Project Manager shall issue a Letter/Certificate of Final Completion.
- C. In the event of an emergency or if the Successful Proposer fails to diligently perform the Punchlist Work, the County may complete the Punchlist Work, either by its own forces or by other Successful Proposers. The County's costs thereof will be deducted from the payment due to the Successful Proposer, except that if the County completes the Punchlist Work because of an emergency, then the amount deducted from the payment shall be based on the Successful Proposer's costs for completing the Punchlist Work. If such costs exceed the amount due the Successful Proposer, the Successful Proposer shall immediately upon demand pay such excess to the County.
- D. Acceptance of all Work by the County shall occur when in the opinion of the County Project Manager, the Work is complete in all respects including any outstanding items contained in the Punchlist provided with the Letter/Certificate of Substantial Completion. Upon Acceptance the Successful Proposer shall be given a Letter/Certificate of Final Completion.

## **2.38 Responsibility for Maintenance, Loss and Damage**

- A. Upon the County's Final Acceptance of each intersection, consisting of the controller and applicable vehicle detections systems, the County will be responsible for the operation and maintenance of installed equipment. It is the Successful Proposer's responsibility to maintain each intersection prior to the Final Acceptance. The County is responsible for the operation and maintenance of intersections after Final Acceptance, based on the installation plan.
- B. Upon the County Project Manager's issuance of a Letter/Certificate of Final Completion, the County, shall be responsible for the maintenance, loss, or damage to the Work or any element thereof, except as follows:
  - 1. The County Project Manager's issuance of a Letter/Certificate of Final Completion will not relieve the Successful Proposer of its obligations to complete the Work or any element thereof, the non-completion of

which was not disclosed to the County (regardless of whether such nondisclosures were fraudulent, negligent, or otherwise); or

2. The Successful Proposer's action, negligence or breach of this Contract or the warranty causes loss or damage to the Work or any element thereof.

## 2.39 Responsibility to Complete the Work

Notwithstanding any other provision of this Contract that could be interpreted to the contrary (including in Contract Documents of higher precedence), it shall be the Successful Proposer's continuing responsibility to complete and deliver every element, and the integrated whole, of the Work in accordance with all of the requirements of the Contract. The issuance of a Letter/Certificate of Substantial Completion by the County Project Manager for any element, or for the whole of the Work, shall not be construed to relieve the Successful Proposer of this responsibility, or any part thereof. If, after the issuance of a Letter/Certificate of Substantial Completion, the County discovers any Deficiency, or item not completed or otherwise requiring correction or remedial action, whether or not the item appears on any Punch List or other list of clean up items, the Successful Proposer shall correct the Deficiency, complete the item or otherwise remedy the condition to bring it in to full compliance with the Contract.

## 2.40 Warranty

- A. Successful Proposer warrants that the Work shall be free of defects in design, material, and workmanship, and shall be fit for use for the intended function, remain in good working order, and shall meet all of the requirements of the Contract.
- B. Without in any way limiting Successful Proposer's Warranties with respect to the Work, Successful Proposer shall obtain from all Subcontractors, manufacturers and Suppliers, and assign and deliver to the County all Warranties, including extended Warranties, if applicable, provided by such Subcontractors, manufacturers and Suppliers and from all other persons extending Warranties.
- C. All such Warranties shall: a) Survive Substantial Completion, and all the County and Successful Proposer inspections, tests and acceptances, and; b) Shall run directly to and be enforceable by the Successful Proposer and the County.
- D. Upon receipt from the County of notice of a failure of any of the Work to satisfy any Subcontractor or Supplier Warranty or other obligation, Successful Proposer shall enforce or perform any such Warranty or other obligation as a part of Successful Proposer's other Warranty obligations hereunder. The County's rights under this paragraph shall continue until the expiration of the later of the Successful Proposer's Warranty (including extensions for rework) or Subcontractor's or Supplier's Warranty or extended warranty. Until such expiration, the cost of any Work (including re-engineering, if applicable) or Equipment (including taxes and shipping) shall be at the sole cost and expense of the Successful Proposer.
- E. See Paragraph 2.7(O) of the Scope of Work for additional requirements.

## 2.41 Commencement and Duration

Warranties shall commence upon the County Project Manager's issuance of a **Letter/Certificate of Final Completion ("Warranty Commencement Date")** and shall remain in effect until **one (1) year** after the Warranty Commencement Date or such longer period as may be specified in the Contract ("**Warranty Period**"). Subcontractor's, manufacturer's or Supplier's Warranty Periods shall be for the longer of the above stated Warranty Period or the Warranty Period specified in the particular Warranty.

## 2.42 Warranty Claims

If the County determines that any of the Work contains a defect any time within the Warranty Period, the County will claim and Successful Proposer shall correct, repair or replace such Work at its sole expense. Successful Proposer shall respond to the County's Warranty claim within one (1) working day, and shall repair the Deficiency within five (5) Days thereafter. If the Deficiency cannot be repaired within said five (5) Days, Successful Proposer, within that five (5) Days, shall submit a schedule for completion of repairs, subject to the acceptance of the County Project Manager, and shall diligently proceed to complete the repairs within the approved schedule. If any defect affects operation of the Work, or any essential element thereof, the County may, in its sole discretion, require Successful Proposer to complete repairs in less than five (5) Days.

#### **2.43 Warranty on Corrected Deficiencies**

Successful Proposer's Warranty shall continue, as to each corrected Deficiency, until the later of:

- A. The remainder of the Warranty Period; or
- B. One (1) year after Acceptance by the County of any corrected Work.

#### **2.44 The County Right to Correct Deficiencies**

If Successful Proposer fails to remedy Deficiencies or otherwise comply with this Warranty or any other Warranty in this Contract, or fails to propose a timely and adequate remedy, the County, after notice to Successful Proposer, may perform or have performed by Third Parties the necessary remedy, and the costs thereof shall be borne by Successful Proposer.

#### **2.45 Acceptance of Non-Conforming Work**

If the County Project Manager accepts any nonconforming Work without requiring it to be fully corrected, Successful Proposer shall reimburse the County a portion of the Total Contract Price in an amount equal to the greater of:

- A. The difference in the value of the Work, plus the present value of additional operating costs, if any, caused by such nonconforming Work; or
- B. Successful Proposer's cost savings in not correcting the Work. In either case above, Successful Proposer shall, in addition, reimburse the County's costs to make the determination, including but not limited to staff costs, experts, tests and other actions necessary to make a determination. Such reimbursements shall be payable to the County within ten (10) Days after the Successful Proposer's receipt of the County's demand for payment.

#### **2.46 Other Remedies**

The Warranties herein are in addition to all rights and remedies available under the Contract or applicable Law, and shall not limit Successful Proposer's liability or responsibility imposed by the Contract or applicable Law with respect to the Work, including liability for design defects, latent defects, strict liability, negligence or fraud. To the extent that any Warranty from any person other than the Successful Proposer would be voided in whole or part by reason of any act or omission of the Successful Proposer, Successful Proposer shall be fully liable to the extent of said Warranty.

#### **2.47 Spare Parts**

The County's spare parts, if applicable, shall not be used to repair warrantable failures and defects. The security, control, shipping, and disposition of Successful Proposer owned parts shall be the responsibility of Successful Proposer. Damage to the County's property caused by the Successful Proposer shall be the sole responsibility of the Successful Proposer and shall be corrected at Successful Proposer's expense.

**2.48 Repair and Replacement**

Unless otherwise provided, Successful Proposer shall repair or replace all Existing Improvements damaged or removed by Successful Proposer. Repairs and replacements shall be at least equal to Existing Improvements and shall match them in finish and dimension.

**2.49 Manuals**

- A. The Successful Proposer shall prepare manuals for all equipment, systems, materials and finishes furnished as part of the Work. Operating and maintenance instruction manuals, and renewal parts list manuals, including all manufacturer's data, bound in fiberboard covers, shall be prepared for Successful Proposer-supplied apparatus and forwarded as soon as possible, but in no event delivered later than ninety (90) days before project completion. A draft copy of the entire manual shall be sent to the County Project Manager for review and approval at least thirty (30) calendar days prior to delivery.
- B. Failure to submit such manuals within the time prescribed may result in the delay of progress payment for such equipment, system, material or finish. The instruction manuals shall provide an overall description of the item or system being furnished (complete with reduced size drawings), including its operating theory or principals, a detailed description of each sub-item or subsystem any required assembly instructions, detailed start up, operating, trouble shooting, and maintenance procedures. The renewal parts list manuals shall fully identify all parts of the apparatus furnished by the Successful Proposer, whether manufactured or purchased by him. The renewal parts shall be identified not only with part numbers assigned by the Successful Proposer but also with the identification or part number assigned by the original equipment manufacturer of each purchased part.
- C. All manuals furnished shall be non-proprietary or shall be licensed for the County use by copyright owners. When copyrighted material is used, source credit shall be provided by footnote.

### 3.0 RESPONSE REQUIREMENTS

#### 3.1 Submittal Requirements

In response to this Solicitation, Proposer should **complete and return the entire Proposal Submission Package**. Proposers should carefully follow the format and instructions outlined therein. All documents and information must be fully completed and signed as required and submitted in the manner described.

**The proposal shall be written in sufficient detail to permit the County to conduct a meaningful evaluation of the proposed services, in accordance with the requirements of the Proposer Information Document (Attachment A).**

## 4.0 EVALUATION PROCESS

### 4.1. Review of Proposals for Responsiveness

Each proposal will be reviewed to determine if the proposal is responsive to the submission requirements outlined in this Solicitation. A responsive proposal is one which follows the requirements of this Solicitation, includes all documentation, is submitted in the format outlined in this Solicitation, is of timely submission, and has the appropriate signatures as required on each document. Failure to comply with these requirements may result in the proposal being deemed non-responsive.

### 4.2. Evaluation Criteria

Proposals will be evaluated by a Competitive Selection Committee which will evaluate and rank proposals on criteria listed below. The Competitive Selection Committee will be comprised of appropriate County personnel and members of the community, as deemed necessary, with the appropriate experience and/or knowledge, striving to ensure that the Competitive Selection Committee is balanced with regard to both ethnicity and gender. The criteria are itemized with their respective weights for a maximum total of one twenty-five (125) points per Competitive Selection Committee member.

<u>Technical Criteria</u>		<u>Points</u>
A.	<u>Proposer's Corporate Experience and Past Performance</u> Proposer's relevant experience, qualifications, and past performance with related Work, installing at the worksite specified equipment and technology.	10
B.	<u>Proposer's Staff Experience and Past Performance</u> Relevant experience and qualifications of key personnel, including key personnel of subcontractors that will be assigned to perform the Work, and experience and qualifications of subcontractors.	10
C.	<u>Project Plan/Technical Approach</u> Plan to execute the County's Scope of Work, which includes; new system installation and maintenance.	25
D.	<u>Presentation of Innovative Concepts</u> Value-added, presentation of innovative concepts and deployment of 5G across Priority Corridors in Appendix B and C.	30
E.	<u>Investment and Financial Plan</u> Provide a competitive fixed cost inclusive of all proposed services and technical solutions contained in the proposer's proposal by completing Attachment C "Proposal Price Schedule". Price evaluation and scoring shall be in accordance with Paragraph 4.4 below.	25
<b>Total:</b>		<b>100</b>

### 4.3. Oral Presentations

Upon evaluation of the Technical Criteria indicated above, rating and ranking, the Competitive Selection Committee may choose to conduct an oral presentation with the Proposer(s) which the Competitive Selection Committee deems to warrant further consideration based on, among other considerations, scores in clusters and/or maintaining competition. (See Affidavit – "Lobbyist Registration for Oral Presentation" regarding registering speakers in the proposal for oral presentations.) Upon completion of the oral presentation(s), the Competitive Selection Committee will re-evaluate the Technical Criteria, re-rate and re-rank the proposals remaining in consideration based upon the written documents combined with the oral presentation, in accordance with Paragraph 4.4 below.

### 4.4. Price Evaluation and Scoring

After the evaluation of the technical proposal, in light of the oral presentation(s) if necessary, the County will evaluate the Proposal Price Schedule (Attachment C) of those Proposers remaining in consideration. The evaluation of the schedules



is used as part of the evaluation process to determine the highest ranked Proposer. The County reserves the right to negotiate the final terms, conditions and pricing of the contract as may be in the best interest of the County.

The Price Criteria will be evaluated in accordance with the following calculations:

A. Criteria F – Proposal Price Schedule

The County will score each Proposal Price Schedule, Attachment C, using the following formula:  $(A/B)*C$ , where:

- 1) A is Total Price of the lowest priced Proposal
- 2) B is Total Price of the Proposal being scored
- 3) C is Price points available

(Example:  $A=\$1,000,000$ ,  $B=\$1,100,000$ ,  $C=25$ ;  $(\$1,000,000/\$1,100,000)*25=22.7$  points)

The Proposer with the lowest total proposed cost will receive a perfected score equal to the total number of points. Proposals with higher proposed total price will receive proportionally lower scores. The Proposal Price Schedule is due at the time the Technical Proposal is due.

B. Criteria G – Proposal Revenue Schedule

The County will score the MAG in the Proposal Revenue Schedule, Attachment D, using the following formula:  $(B/A)*C$ , where:

- 1) A is Revenue Points of the Revenue Schedule with the highest prices proposed
- 2) B is Revenue Points of the Revenue Schedule being scored
- 3) C is Revenue points available

(Example:  $A=\$1,100,000$ ,  $B=\$1,000,000$ ,  $C=25$ ;  $(\$1,000,000/\$1,100,000)*25=22.72$  points)

The Proposer with the highest total proposed MAG will receive a perfected score, equal to the total number of evaluation points. Proposals with lower proposed total MAG will receive proportionally lower cost scores.

#### 4.5. Selection Factor

A Selection Factor is not applicable to this Solicitation.

#### 4.6. Negotiations

The Competitive Selection Committee will evaluate, score and rank proposals, and submit the results of the evaluation to the County Mayor or designee with its recommendation. The County Mayor or designee will determine with which Proposer(s) the County shall negotiate, if any. The County Mayor or designee, at their sole discretion, may direct negotiations with the highest ranked Proposer, negotiations with multiple Proposers, and/or may request best and final offers. In any event the County engages in negotiations with a single or multiple Proposers and/or requests best and final offers, the discussions may include price and conditions attendant to price.

Notwithstanding the foregoing, if the County and said Proposer(s) cannot reach agreement on a contract, the County reserves the right to terminate negotiations and may, at the County Mayor's or designee's discretion, begin negotiations with the next highest ranked Proposer(s). This process may continue until a contract acceptable to the County has been executed or all proposals are rejected. No Proposer shall have any rights against the County arising from such negotiations or termination thereof.

Any Proposer recommended for negotiations shall complete a Collusion Affidavit, in accordance with Section 2-8.1.1 of the Code of Miami-Dade County. (If a Proposer fails to submit the required Collusion Affidavit, said Proposer shall be ineligible for award.)

Any Proposer recommended for negotiations may be required to provide to the County:

- a) Its most recent certified business financial statements as of a date not earlier than the end of the Proposer's preceding official tax accounting period, together with a statement in writing, signed by a duly authorized representative, stating that the present financial condition is materially the same as that shown on the balance sheet and income statement submitted, or with an explanation for a material change in the financial condition. A copy of the most recent business income tax return will be accepted if certified financial statements are unavailable.
- b) Information concerning any prior or pending litigation, either civil or criminal, involving a governmental agency or which may affect the performance of the services to be rendered herein, in which the Proposer, any of its employees or subcontractors is or has been involved within the last three years.

#### **4.7. Contract Award**

Any proposed contract, resulting from this Solicitation, will be submitted to the County Mayor or designee. All Proposers will be notified in writing of the decision of the County Mayor or designee with respect to contract award. The Contract award, if any, shall be made to the Proposer whose proposal shall be deemed by the County to be in the best interest of the County. Notwithstanding the rights of protest listed below, the County's decision of whether to make the award and to which Proposer shall be final. Negotiated terms for the performance of the Work will be incorporated into the Form of Agreement, see Attachment D.

#### **4.8. Rights of Protest**

A recommendation for contract award or rejection of all proposals may be protested by a Proposer in accordance with the procedures contained in Sections 2-8.3 and 2-8.4 of the Code of Miami-Dade County, as amended, and as established in Implementing Order No. 3-21.

### **5.0 TERMS AND CONDITIONS**

#### **5.1. Additional Terms and Conditions**

The County's anticipated form of agreement is attached. The terms and conditions summarized below are of special note and can be found in their entirety in the agreement:

##### **A. Vendor Registration**

Prior to being recommended for award, the Proposer shall complete a Miami-Dade County Vendor Registration Package. For online Successful Proposer registration, visit the Vendor Portal: [http://www.miamidade.gov/procurement/Successful\\_Proposer-registration.asp](http://www.miamidade.gov/procurement/Successful_Proposer-registration.asp).

##### **B. Insurance Requirements**

The Successful Proposer shall furnish to the County, Internal Services Department, Strategic Procurement Division, prior to the commencement of any work under any agreement, Certificates of Insurance which indicate insurance coverage has been obtained that meets the stated requirements.

##### **C. Inspector General Reviews**

In accordance with Section 2-1076 of the Code of Miami-Dade County, the Office of the Inspector General may, on a random basis, perform audits on all County contracts, throughout the duration of said contracts, except as otherwise indicated.

## **6.0 ATTACHMENTS AND EXHIBITS**

### **6.1. Attachments to the RFP**

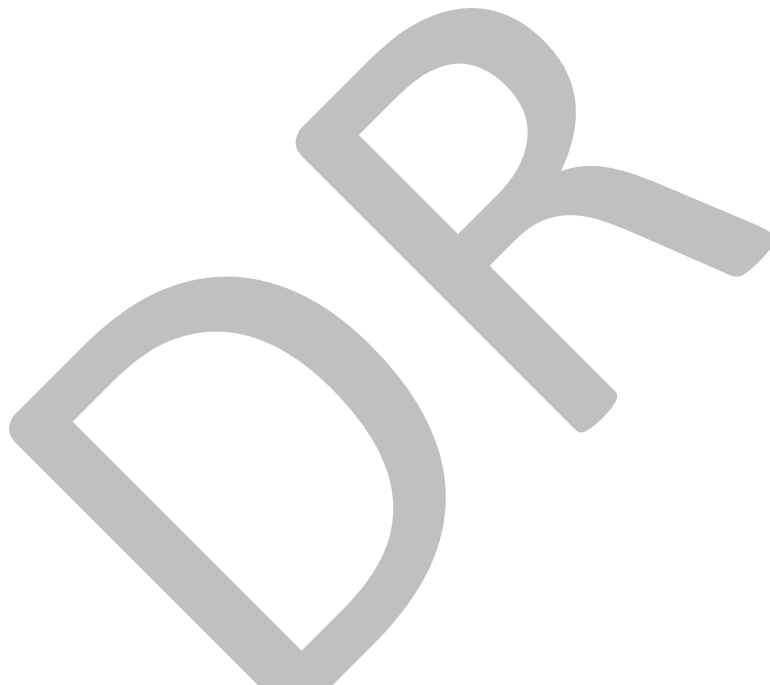
### **6.2. Exhibits to the RFP**



**RFP-00499**

**SMART LED LIGHTING AND SMART COUNTY SYSTEMS**

**SCOPE OF WORK**



**ISSUED BY MIAMI-DADE COUNTY:**  
The Department of Transportation and Public Works  
Traffic Signals and Signs

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## 1. Project Objectives

- A. County seeks to convert the existing street lights to Smart LED Lights and expand current “smart city” successes, and add new capabilities, to become the Smartest County in North America within three years and remain among the leaders for Smart County efforts around the world. The County's high-level Smart County objectives are improving mobility, accessibility, safety, and the quality of life for our residents and visitors.
- B. Key objectives of this project are as follows:
1. Conversion and asset management of approximately 26,000 (13,000 County owned and operated / 13,000 Florida Department of Transportation owned and operated by DTPW) existing High Pressure Sodium (HPS) streetlight luminaires to energy efficient Light Emitting Diode (LED) throughout the County.
  2. Improve consistency of lighting for vehicular and pedestrian safety.
  3. Maintain and improve the safety of the electrical infrastructure.
  4. Provide a revenue generating business model that produces a net positive cash flow allowing for reduced energy consumption of lighting infrastructure to support the deployment of 5G cellular or other technologies.
  5. Access to the latest available smart technology, with room for modification or growth.
  6. Maintain security and privacy for the residents of Miami-Dade County. The County is committed to ensuring transparency and clarity of the practices on how data is being both protected and utilized by the Successful Proposer and its vendors. A proposed project or revenue model may not be approved for implementation if it does not adequately accord with the County's data privacy practices.
  7. Improve County operational and policy decision-making through data and analytics, through a data analytics platform.
  8. Upgrade and expand the County's connectivity infrastructure that will support the improvement and expansion of the initiatives described in this Scope of Work, such as the priority corridors identified in Appendix A Transit Development Plan, Appendix B Smart Plan, Appendix C Traffic Signals and Signs Congestion Management Plan Priority Corridors, and lighting upgrades that will improve mobility.
  9. The Successful Proposer shall utilize neutral host carrier technologies and hardware.
  10. Access to latest available technology (hardware and software).
  11. The contract should be, at a minimum, cost-neutral over the contract term and pay for itself with documented energy and cost savings.
  12. Conversion of all street light to Smart LED Lights and technology within 3 years of the Notice to Proceed (NTP).

## 2. Background Information

- A. Miami-Dade County is a county located in the southeastern part of the United States of America in the State of Florida. According to the United States Census Bureau, the County's population is estimated at 2,751,796 people (US Census July, 2017 Estimates) making it the most populous in the state and is the largest in size with a total of 1,898 square miles ([www.usa.com](http://www.usa.com)).
- B. Miami-Dade County consists of areas that are Unincorporated and 35 Incorporated Municipalities. The northern, central and eastern portions of the county are heavily urbanized with many high rises along the coastline including the County's central business district, Downtown Miami. Southern Miami-Dade County includes the Redlands, Homestead, and Florida City; which make up the agricultural economy of the County. The western portion of the county extends into the Everglades National Park and is populated only by the Miccosukee Tribal Village. East of the mainland in Biscayne Bay, Biscayne National Park and the Biscayne Bay Aquatic Preserves can be found.
- C. Miami-Dade County Department of Transportation and Public Works (DTPW) operates and maintains an estimated 26,000 roadway lights on over 900 circuits throughout Miami-Dade County (Appendix E). Of these 26,000 roadway
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lights; the County owns 13,000 lights and the Florida Department of Transportation (FDOT) owns 13,000 lights which are operated and maintained under FDOT Lighting Agreement APF89. The lighting systems installed range from recently built to areas where the existing systems (lighting assemblies) have become obsolete.

- D. Intended benefits of this contract is to upgrade, and consolidate the technologies and fixtures used across the enterprise along with an asset management plan to maintain the smart lighting infrastructure.

### 3. Transit Development Plan and Priority Corridors

- A. In accordance with Florida Administrative Code (FAC) Rule 14-73.001 the Miami-Dade County Department of Transportation and Public Works (DTPW) has developed a Transit Development Plan (TDP) commonly referred to as "MDT10Ahead" pursuant to Section 341.052 as a strategic planning and guidance tool. MDT10Ahead presents both funded and unfunded transit needs in order to create a framework for transit improvements that can be implemented within a 10-year planning horizon.
- B. The plan serves as the agency's strategic guide for public transportation in Miami-Dade County over the course of the next ten years. The 2014 Major Update, MDT10Ahead, was adopted by the Board of County Commissioners, pursuant to resolution R-1036-14. The last annual update, the 2017 Annual Update, was approved by FDOT District Six on September 20, 2017.
- C. MDT10Ahead includes a summary of DTPW's facilities and services in Chapter 2; describes the past year's civic engagement efforts in Chapter 3; assesses the agency's performance in 2017 in Chapter 4; identifies DTPW's 2018 implementation plan in Chapter 5; explores short-term plans (2019-2028) in Chapter 6 and longer-term plans (2029 and Beyond) in Chapter 7; and Chapter 8 explores the Transit agency's finances.
- D. Overall, MDT10Ahead presents the operational and capital improvements needed to ensure DTPW is able to provide quality transit services to the County's residents and visitors for years to come. The Successful Proposer shall install perform installations in accordance with the priorities listed in the Appendix B and C.

### 4. Hours and Location of Work

- A. The Successful Proposer is expected to successfully complete the work in a timely fashion. The Successful Proposer will be expected to attend meetings with various County entities and stakeholder groups on an as-needed basis and regularly be available to meet/connect with the designated County Project Manager(s) via phone, e-mail, or in person.
- B. The Successful Proposer shall provide a minimum of two (2) local representative's onsite for the duration of the contract. The support personnel shall work onsite at County facilities. The County reserves the rights to request for a replacement of onsite support personnel at no additional cost to the County. In addition, the Contractor's project manager shall work onsite full-time at County facilities from 30 days after Notice to Proceed (NTP) through the duration of the contract.
- C. Traffic in Miami-Dade County is a key factor with roadwork, and this type of work will require major coordination with officials from the FDOT, County, and other municipalities affected within the County Limits. The work is to be performed at specific times where traffic is least affected (preferably evenings), and will require Maintenance of Traffic (MOT) per the latest version of the FDOT Design Standards and the Miami-Dade County Public Works Manual for both rolling and fixed MOT's. As part of the MOT, the Successful Proposer will need to coordinate with State, County, and/or Municipal Police Forces for their presence in work zones.

- D. The Successful Proposer and its team shall update a County ESRI GIS layer that can be easily accessed by residents in the County website for the tracking of the projects progress as well as areas to be affected in the following phases of construction.

## 5. Reporting

Given the importance for transparency and proper governance, the successful proposer shall report to the County on a monthly basis and in the format agreed to in the final executed documents, regarding the status of the project, updated project plan, updated scope changes (if directed by the County) and its progress in providing the contracted services and/or products. The Successful Proposer shall generate a submittal of all the work to be performed and schedule every two weeks for the County's review and approval. The Successful Proposer shall furnish meeting minutes no later than 3 calendar days following every meeting. At a minimum, the Successful Proposer shall submit a monthly financial statement that exhibits the goals/tasks accomplished, and the associated costs and revenue.

## 6. Alignment with IoT Guidelines

Proposers should align their proposals with the IoT Guidelines described in Appendix J. These were developed by NYC and have been adopted by 35 additional cities, including County. The guidelines provide a framework to help government and its private partners responsibly deploy connected devices and IoT technologies in a coordinated and consistent manner. The guidelines are structured around the following five areas: privacy and transparency, data management, infrastructure, security, operations, and sustainability.

## 7. Data Ownership, Use and Management

- A. **Data Ownership:** The County owns all data collected via the systems proposed to be built, installed, modified or created under this contract and awarded under any subsequently contract. Upon system/network initiation, the County will grant to the awardee/contractor/supplier a license to use the data collected from any and all sensors; including but not limited to items found in Appendix G: light poles, vehicles, mobile devices, databases, data sources not yet created or conceived of, and other sources of data collected, generated, identified, or transmitted that traverses the network. That license is granted with the intention of the County providing the supplier with a resource from which to create revenue as a payback for any costs associated with this project. The County will bear no liability or responsibility for the supplier's willful or non-willful security breach of such data, regardless of the circumstances of such breach.

The rights to data granted the awardee/contractor/supplier are limited, and are only granted to the awardee/contractor/supplier at the time of the contract award. Those rights will extend only for the term of the signed contract, unless both parties revisit and agree on an extension or modified basis for licensing consideration. Further use or dissemination of the data to other users by the awardee/contractor/supplier must be approved by the County prior to that action taking place as must any subsequent changes that occur in the ownership of any lower-tier supplier previously granted such usage rights.

- B. **Data Use:** Proposers should provide a plan outlining their understanding of the use of data collected, generated, identified, or transmitted in connection with the Smart County Expansion. This includes data monetization, sale, and/or sharing. Proposers should also detail how they plan to address and limit bias in their analytics and algorithms. Data collected from sensors, once anonymized and aggregated at the block level, shall become intellectual property of the County. It may be stored in cloud entities identified and managed by the Successful Proposer.
- C. **Data Management:** Proposers will create a data management plan that will describe how data will be collected, managed, integrated, and disseminated before, during, and after the Smart County Expansion. The plan will include privacy provisions which will document how the County and the Successful Proposer will collect, store, strip, suppress,



and disseminate information internally and externally. The plan will consider all aspects of Personally Identifiable Information (PII) and Sensitive information.

The County has created a Data Management Reference Architecture (DMRA) as a data management approach and schemata. Proposers should incorporate this data management approach into their proposals. To manage data effectively, it is important to understand the scope of the Smart County system to identify all points where data flows in and out, procedures for how to handle different types of data, and where those data are stored for long-term use. The DMRA schematic consists of systems, infrastructure, and applications and governance policies that are part of efforts underway through key initiatives supported by the County. The DMRA schematic represents an evolution of the work underway and how new efforts will weave into that fabric securely and effectively. The schematic maps out the different layers of data collection, communication, storage, analysis, and provisioning. A foundational data management approach will ensure flexibility to collect and safely transmit data, secure sensitive and potentially private data, conduct analyses at the local site and more centrally, and seamlessly use archived data in future analyses. The effort of building a Smart County requires a broad set of guiding principles that adapt and evolve over time in adherence to federal government standards around data management. See Appendix H.

## 8. Training & Skills Transfer

- A. The Successful Proposer shall provide a program to educate, train, and teach County personnel in all details of the equipment and the System that shall enable the personnel to monitor the System. Training shall include course development, providing instructors, supplying handouts, manuals, classroom aids, and all other items required to train the County staff. Hands-on classes shall be included in the training program.
- B. Training curriculum shall be approved by the County and shall include but not limited to:
  - Demonstrate access to lighting management system
  - Ability to access and generate reporting
  - Demonstrate integration and access to County's 3rd party applications
  - Troubleshooting
  - Alert notification system
  - How to implement/change the Scheduling features in management system.

## 9. Lane Closure Notification

- A. The County participates in the WAZE Connected Citizens Program (CCP) to notify the community of when services affect vehicular and pedestrian travel. The selected Successful Proposer shall integrate with the County API's to enable real-time notifications of lane closures while performing work required herein. The work is to be performed at specific times where traffic is least affected (preferably evenings), and will require Maintenance of Traffic (MOT) per the latest version of the FDOT Design Standards and the Miami-Dade County Public Works Manual for both rolling and fixed MOT's. As part of the MOT, the Successful Proposer will need to coordinate with State, County, and/or Municipal Police Forces for their presence in the work zones.
- B. The Successful Proposer and its team shall update a County ESRI GIS layer that can be easily accessed by residents in the County website for the tracking of the projects progress as well as areas to be affected in the next phases of construction.

## 10. Smart Mobility Platform

- A. The Successful Proposer shall furnish, configure, install, test, implement and maintain a County owned/licensed Smart Mobility Platform that shall enable County Management Centers to monitor: traffic, transit, etc. The platform shall offer a consolidated and integrated view of all County operations. The integrated operations platform is expected to enable

transformation of the County operations by enhancing situational awareness and providing the County data to make informed operational decisions.

- B. The platform shall be able to integrate a multitude of Mobility services, devices and subsystems; at a minimum, the Transportation's Computer Aided Dispatching/Automated Vehicle Locating (CAD/AVL) System, Special Transportation Services (STS) Vehicle Locating System, various Advanced Traffic Management Systems, Street lights and other IoT applications and devices.
- C. The platform shall:
- Integrate devices using their API's in to this platform
  - Enables the County and its partners to define a standard data model for each operational service (such as but not limited to: Parking, lighting, etc.)
  - Multitenant County operations dashboards
  - Ability to customize dashboard as per the user and Departmental preferences
  - Have API Management capabilities like API Security, API Metering, API Monetization
  - Be able to provide API access based on roles and access control policies defined for each user and the key issued to that user
  - Enable departments to take actions on configurable conditions, which are guided through workflows
  - Be able to configure, manage, and monitor any distributed IoT modules from any operation center
  - Allow for event handling and data handling
  - Provide ways to define policies that make applications or things respond to external environments
  - Shall have integrations with the network layer to proactively monitor any incidents on the network for active troubleshooting and triaging
  - Shall be able to alert any incidents in the network proactively on command and control
  - Shall allow users to invoke web conferencing sessions directly from the platform.
  - Shall integrate with County ESRI GIS Layer and street network map services with ability to show status of resources
  - Shall provide operators and managers with a management dashboard that provides a real time status and is automatically updated when certain actions, incidents and resources have been assigned, pending, acknowledged, dispatched, implemented, and completed
  - Shall provide complete view of sensors, facilities, video streams and alarms in an easy-to-use and intuitive GIS-enabled graphical interface with configurable workflow and business logic
  - Shall integrate with existing ActiVu video wall installations
  - Shall have a visualization platform to view historic analytics and predictive models
  - Shall be able to perform analytics, predictions across all County operations
  - Shall have an easy to use interface with drag and drop facilities to build reports and analytics
  - Shall have ability to connect to multiple data sources, REST/SOAP API's in real-time
  - Shall be able to consume social media data streams for predictions

## 11. Open Data

- A. The County's web page must make data available to citizens and visitors in order to maintain transparency and foster continued public involvement in Smart County initiatives. In addition to depicting street congestion, the web site must illustrate real-time information for the Transportation Vehicles and identify open on-street parking so people can better plan their journeys downtown regardless of their intent. The system shall be configurable and include an open data platform using Application Programming Interface (API) technologies that enable bi-directional data sharing in order to update the County's web page in real-time.

- B. This functionality enhances the integration capabilities to leverage system data for other applications, and facilitate various integration with other systems.
- C. All application data shall be made accessible via the open API.
- D. The County will own all data collected via the systems proposed to be built, installed, modified or created under this contract, and awarded under any subsequent contract. Upon system/network initiation, the County will grant to the awardee/contractor/supplier a license to use the data collected from any and all sensors, light poles, vehicles, mobile devices, databases, data sources not yet created or conceived of, and other sources of data collected, generated, identified, or transmitted that traverses the network.
- E. That license is granted with the intention that the County is providing the supplier with a resource from which to create revenue as a payback for any costs associated with this project. The County will bear no liability or responsibility for the supplier's willful or non-willful security breach of such data, regardless of the circumstances of such breach.
- F. Successful Proposer shall provide a plan outlining their understanding of the use of data collected, generated, identified, or transmitted in connection with the System. This includes data monetization, sale, and/or sharing. Data collected from sensors, once anonymized and aggregated at the block level, shall become intellectual property of the County. It may be stored in cloud entities identified and managed by the Successful Proposer.
- G. The Successful Proposer shall include detail infrastructure and data flow diagrams for all major use cases.

## 12. Street Lighting Inventory

- A. The Successful Proposer will maintain the inventory of all assets. The Successful Proposer shall clearly identify the resources including the techniques and practices to perform this task. The selected Successful Proposer shall maintain the existing ESRI GIS Layer Appendix E. For the GIS locations, the coordinates are to be in accordance with the Global Positioning System (GPS) Standard Positioning Service (SPS) Performance Standard Accuracy to be within the global average User Range Error (URE) of  $\leq 0.715$  m (2.3 ft.).
- B. The selected Successful Proposer shall ensure the inventory includes updates to the following attributes:

Field Name	Description
Object ID or Miami-Dade ID	
PointX Coordinate	
PointY Coordinate	
Owned by	FPL, FDOT or DPTW
System Description	
Condition	
Pole Type	
Pole Height	
Arm Length	

Bulb Type	
Circuit Number	
Circuit Type	
Voltage	
Service Point Information	
Electric Meter at the Service Point	
Compatibility of the existing luminaire arm with the proposed Smart LED Light	
Compatibility of recently installed LED Lights with a Smart LED Lighting System (by placement of node, sensor, or transmitter)	
Commentary (Condition of system, noted issues such as utility interference, etc.)	

~~C. C.~~ The County may add additional fields for data collection of the existing street lights in order to create an information database for the future use by staff. The Successful Proposer shall inventory currently stockpiled at the DTPW Traffic Signals and Signs in order to account for the entire County inventory. Appendix K itemizes the existing inventory.

~~C.D.~~ The Successful Proposer shall relocate the current inventory to their respective facility.

### 13. Street Lighting

A. The Successful Proposer is to include Engineering Services for the duration of the contract for required photometric analysis, designs, calculations, permitting, shop drawings, construction administration, as-built's, certifying of work performed, etc. Engineering Services shall consist of professional engineers with an approved State of Florida Professional Engineering Seal to address all items that are required to be signed/sealed, for example: plans, calculations, shop drawings, as-built's, etc. The Successful Proposer will indicate the different roles of all involved in the project to include County staff and their proposed tasks.

B. The Lighting Master Plan shall include the following:

#### 1. Lighting Analysis

Provide a detailed narrative that describes how a Lighting Analysis will be conducted and clearly identify the following:

- A baseline photometric analysis for each corridor and/or remaining areas
- A lighting enhancement analysis for public and traffic safety
- **Update County's Street Light ESRI Map layer**

- The existing light or luminaire styles placed throughout Miami-Dade County consist of the following: Tear Drop, GranVille II, Utility Postop, Cobra Head, Mongoose, Shoebox, and Wallpack. The proposed Smart LED Light or Luminaire shall replace the existing light or luminaire style, and be compatible to the existing luminaire arm or post.
- Compatibility of recently installed LED Lights with a Smart LED Lighting System (by placement of node, sensor, or transmitter)

## 2. Maintenance Plan

A Maintenance Plan that demonstrates requirements that meets or exceeds the County's expectation of the following:

- A general overview of a Maintenance Plan for the Project in accordance with the Miami-Dade County Roadway Lighting Manual Specification 715 and Appendix C. The Maintenance Plan shall include repairs as required per the quarterly inspection reports provided by the Florida Department of Transportation for their Maintenance Rating Program (FDOT MRP). (See Appendix L for a portion of the FDOT MRP Handbook)
- In accordance with Appendix N: Florida Department of Transportation Maintenance Contract:
  - In maintaining the Facilities, the Successful Proposer shall perform all activities necessary to keep the Facilities fully operating, properly functioning, with a minimum of 95% of the lights burning for any lighting type (ex. high mast, standard, underdeck, sign) or roadway system at all times for their normal expected useful life in accordance with the original design thereof, whether necessitated by normal wear and tear, accidental or intentional damage, or acts of nature. Said maintenance shall include, but shall not be limited to, providing electrical power and paying all charges associated therewith, routine inspection and testing, preventative maintenance, emergency maintenance, replacement of any component parts of the Facilities (including the poles and any and all other component parts Installed as part of the Facilities) and locating (both vertically and horizontally) the Facilities, as may be necessary.
  - In the event of a declaration of an emergency the Successful Proposer is not responsible for the restoration of lights on state roads in accordance with Appendix: O. Florida Department of Transportation State Road Map. The Successful Proposer is responsible for restoration of lights on County owned roads, the County will reimburse the Successful Proposer upon furnishing the complete and detailed damaged repair information as required by the Federal agencies for reimbursement.
  - The resources, including equipment, facilities, materials and staffing requirements
  - Procedures specific to the different tasks, including innovative techniques and practices
  - Ability to meet or exceed all key performance indicators
  - Description of the preventative maintenance tasks and schedule

## 3. Upgrade Plan

Provide a detailed narrative that describes the approach to address under-lit and over-lit areas, as well as, the approach to improve the County's lighting quality. The Successful Proposer's Upgrade Plan must provide at a minimum:

- A plan to optimize energy conservation
- Engineering Plans and/or shop drawings of Smart LED light upgrades
- Engineering Specifications
- Engineering Calculations for the planned illumination system improvements that are indicated in this Scope of Work.
- Maintenance of Traffic (MOT) **Plans** and **Permitting** as required for the project and its work zones for all State, County, and Municipal Permits as required.
- Update project schedule indicating the various task and goals
- The Successful Proposer will need to evaluate each existing street light as some may be obsolete due to their age, are unable to be retrofitted, and/or the possibility that portions of the existing light assembly are no longer manufactured. Proposed upgrades are not only for the Smart LED Lights, but could also consist of other necessary items for the functioning of the street lights: wiring, pull boxes, conduit, light post, etc. The Successful Proposer will need to coordinate these issues with County staff.
- As part of the Upgrade Plan, placement of a Smart Node/Transmitter at each light will be required. Metering is a key component with the success of the upgrade, and placement of meters at each existing service point is required, unless FPL and other power suppliers in the area accept the Smart Nodes/Transmitter and Software Monitoring for monitoring and billing.
- The Upgrade Plan shall also include the conversion of continuous power in the street lighting system, which is currently 480 V to Ground and controlled by a Photocell Sensor System at the existing load center. Other power combinations existing within the lighting grid for example: 240/480 V, 120/240 V, 240 V, 120/480 V, and 120 V.
- The Successful Proposer will be required to produce an updated plan on how salvaged and/or demolished materials are to be: reused, recycled, hauled and stockpiled; and identify any comments to implement environmentally sustainable practices.
- The Successful Proposer recommended system upgrades/improvements indicated in this Scope of Work are required to meet all of the corresponding codes and regulations outlined in the latest versions of the following: the National Electric Code, Florida Department of Transportation Road and Bridge Construction **Design Standards** and Specifications (for example: **Design Standards 17500**, Specification 715 & 992), Florida Department of Transportation Design Manual (for example: Section 231 Lighting), Florida Department of Transportation Structures Manual, and the Miami-Dade County Public Works Manual and Roadway Lighting Manual/Specifications.

#### 4. Street Lighting Construction Plan

The Successful Proposer's Engineering Team shall provide for the Smart LED Light Replacement Project to the County for review, the following: detailed narrative, project schedules, charts, tables, photometric analysis, specifications, shop drawings, **Construction Documents, MOT Plans, and** permitting. The light "only" replacement portion of this project is similar to a maintenance or repair contract, and all replacements will need to be accounted for as the work is performed. The Successful Proposer during the evaluation process shall verify that the proposed Smart LED Light can be retrofitted to the existing luminaire arm. Any arms that cannot be retrofitted will need to be removed and replaced with a compatible luminaire arm. The Successful Proposer when choosing an LED Light replacement or new Light Assembly will need to limit the amount of light brands and/or models indicated in the Approved Product List (per FDOT and/or DTPW) to avoid inventory/stock pile issues in the future as well as the roads aesthetics.

Proposed system upgrades, light assembly replacements, complete assembly replacements including foundation, Smart Pole Installation, attachments to the pole, and/or any modifications outside of the light replacement scope of work will require the Successful Proposer's Engineering Team to submit for review Roadway Street Lighting Construction Plans consisting of: detailed narrative, project schedules, charts, tables, photometric analysis, Engineering Plans and Calculations, specifications, shop drawings, permitting, and MOT Plans .

Items (sensors, cameras, etc.) to be attached to the existing or new street light poles will need to meet or exceed the latest version of the Florida Department of Transportation Structures Manual for the wind analysis. New light pole and Smart Pole assemblies will also need to meet or exceed the latest version of the Florida Department of Transportation Structures Manual for the wind analysis.

The Successful Proposer's Engineering Team proposed system upgrades/improvements identified by this Scope of Work are required to meet all of the corresponding codes and regulations outlined in the latest versions of the following: the National Electric Code, Florida Department of Transportation Road and Bridge Construction Details/Specifications (for example, Specification 715 and 992), Florida Department of Transportation Design Manual (for example: Section 231 Lighting), Florida Department of Transportation Structures Manual, and the Miami-Dade County Public Works Manual and Roadway Lighting Manual/Specifications.

- The narrative to be provided shall include a description of the methods by which the Successful Proposer's team will manage the street lighting system(s) including: implementation of strategies or techniques to employ in carrying out all of the required tasks for the replacement of the existing luminaires to Smart LED Lights, architectural lighting installation, civil work, LED and remote management system installation, Computer Maintenance Management/Monitoring Systems implementation, and systems analytics and network implementation
- The Successful Proposer's team shall provide a project schedule, identifying key tasks and deliverables to be performed, durations for each task, and overall time of completion. The project schedule will be updated accordingly and submitted to the County on a monthly basis for review
- The Successful Proposer shall indicate e-a material management plan to include the procurement, supply chain, storage, and stockpile inventory
- The proposed Smart LED Lights should have a management and metering system by circuit. The information fed from the sensors to an approved software management system by Florida Power and Light or other utility company, should be able to give real time energy consumption, which in turn can be used for billing purposes. Also, the software should display information pertaining to the lights location, status, condition, and health. The software shall be accessible by the Smart Mobility Platform, web, desktop and mobile devices (phone, tablets, laptops, etc.)



- The Successful Proposer will need to take into account that both the Florida Department of Transportation and Miami-Dade **County Department of** Transportation and Public Works have an approved product list for materials to be used within the Right-of-Way (for example: Smart LED Lights, pull box, conduit, etc.). See Appendix J. for the FDOT's Approved Product List for Conventional LED Lights and Underdeck LED Lights. **Though a list of approved items exist, MDC-DTPW request from the Successful Proposer to select the Smart LED Light and Node/Transmitter from one manufacturer to maintain road aesthetics, and avoid issues with future inventory and maintenance.**
- The Successful Proposer's Engineering Team will need to evaluate the existing lighting systems located in coastal areas where ordinances have been set in place by the Florida Fish and Wildlife Conservation Commission, County, and/or municipalities located within the County limits for the protection of marine turtles. Known municipalities with these ordinances are the following: Golden Beach, Miami Beach, Sunny Isles Beach, and the Village of Key Biscayne. The Successful Proposer will need to verify that any new Smart LED Light upgrades will meet the requirements set forth by the Florida Fish and Wildlife Conservation Commission and/or municipality.

#### 5. Closing Documents

- Field inspections are to occur by the Successful Proposer's Engineering Team upon completion of the circuit or corridor for certification of the work. The certification of the circuit or corridor shall occur after a seven (7) day burn in period has occurred to insure full operation of the recently installed lamp and/or node and full communication with the monitoring software. MDC staff will inspect field work as necessary.
- As work zones are completed and approved, the Successful Proposer's Engineering Team shall provide as-built information of the work performed at the specific zone (completed replacement, light replacement, conduit placement, wiring, structural work, etc.) in signed sealed hard copy and digital format to be approved by the County.
- Provide warranty, service/maintenance, and repair manuals for all installed and modified systems, particularly the Smart LED Light Assemblies with internal electronics (sensors, cameras, Cell Signal Boosters, etc.).

#### 14. Architectural Lighting

- A. Provide a detailed narrative that describes Proposer's approach to re-imagining and enhancing existing elements of the County's infrastructure, architecture, landscape, and iconic elements to broaden the appeal of the County as a tourist destination. See Appendix M: for the requirements of the Architectural Lighting, and the County infrastructure requirements for Architectural Lighting can be found in the Device Table, Appendix G. The Architectural Lighting Plan included in the Solicitation Response shall, at a minimum, include:
- Overview of Proposer's design approach and philosophy as it relates to its preliminary design
  - Four (4) Renderings of the proposed architectural lighting elements
  - Facilitate dynamic configurable lighting
  - Appropriate maps, preliminary technical specifications, and a plan for coordination with government agencies and other key stakeholders.



- B. Proposers shall provide ~~options for~~ architectural lighting technology. The County may elect to add additional sites, which may be accepted or rejected at the sole discretion of the County. The following structures but not limited to shall be included in the proposal and deployed in order of priority below:

- Stephen P. Clark Center  
111 NW First Street  
Miami, Florida 33128  
After the installation and acceptance of the lighting system, the Internal Services Department (ISD) will assume responsibility of Operations and Maintenance. The manufacturer's warranty shall be transferable to the responsible department.
- Rickenbacker Bridge  
After the installation and acceptance of the lighting system, the Department of Transportation and Public Works (DTPW) will assume responsibility of Operations and Maintenance. The manufacturer's warranty shall be transferable to the responsible department.
- MetroMover Bridge over the Miami River  
After the installation and acceptance of the lighting system, the Department of Transportation and Public Works (DTPW) will assume responsibility of Operations and Maintenance. The manufacturer's warranty shall be transferable to the responsible department.
- MetroRail Bridge over the Miami River  
After the installation and acceptance of the lighting system, the Department of Transportation and Public Works (DTPW) will assume responsibility of Operations and Maintenance. The manufacturer's warranty shall be transferable to the responsible department.

- C. The Selected Proposer Team shall include a Maintenance Plan, Construction Plan, Closing Documents, etc. Refer to the Street Lighting Section of this RFP for more information on processes and procedures.

## 15. Cyber Security

- A. Propose a minimum specification, full technical solution, or other means of definition for the security all aspects of the streetlights, including but not limited to the following:
- Streetlight communications shall authenticate all inbound requests via a County approved encryption.
  - Streetlight communications shall be capable of providing configurable authentication on all outbound requests, for instance to recipient notification endpoints.
  - Streetlights will encrypt all communications across this network at AES256 or better.
  - Streetlight enclosures and fixtures will be physically secure and fortified, including access to any physical diagnostics connection port.
  - Streetlight physical diagnostic connection ports will use the same encryption and authentication protocols as remote network connections.
  - All proposed security configuration shall be approved by the County's Enterprise Security Office (ESO)
  - The plan shall include:
    - a) The Proposers cybersecurity approach.
    - b) Description on detail how data privacy is maintained, particularly individual citizen data.

- c) Description of what protocols will be established for dealing with unauthorized access to or disclosure of confidential data.
- d) Describe how the solution tracks changes to records and how the system audits edits.
- e) Describe the extent to which the solution has been designed to comply with laws and regulations governing the storage and use of protected user data.

## 16. Control, Monitor and Sensing

The system shall monitor, diagnose and control all of the following aspects of luminaire function, and any others pertinent to the operation of the luminaires in Appendix G:

- The monitoring system shall be installed and tested prior to street light conversions.
- Monitor individual luminaire operational status (e.g. incorrectly off, incorrectly dimmed) in real time.
- Check individual luminaires' operational status (e.g. off, dimmed, unresponsive).
- Check individual luminaires' operational history.
- Check individual luminaires' precise location.
- Check individual luminaires' energy usage
- Monitor inventory of all assets listed in Appendix G.: luminaire, pole, small cell and any devices installed through the resultant contract.
- Control the state of individual luminaires between on, off, and dimmed.
- Control the state of individual luminaires as in previous item via onboard software not dependent upon communication with the control network.
- Control the state of individual luminaires as in previous item via onboard hardware.
- Facilitate configurable alerts by County defined roles.
- Monitor device warranty, system failures/outages, and response times.

## 17. DTPW Cellular Service Requirement

The proposed business model shall incur all cellular service fees for unlimited data for the DTPW network devices:

- ~~2800 Signalized Intersections~~
- 150 Traffic Monitoring Cameras

## 18. Mobile Device Application

Provide a mobile friendly iOS and Android application that will enable County staff to remotely access the system to streamline the management, monitoring and maintenance of streetlights and communications infrastructure.

## 19. Technology Refresh

The solution shall include a technology refresh and upgrade for software and hardware to avoid obsolescence. Technology refresh shall occur no later than every 5 years.

## 20. System Integration with ActiVu and SunGuide

- The Selected Proposer Team shall propose a software integration system which is expandable for future systems and able to operate with the current County's video management system.
- Currently the county utilizes GeneTech. The proposed solution shall include video feed integration with the County's SunGuide System, running on and ActiVu version 6.2.0.
- ~~The proposed solution shall include video feed integration with the County's ActiVu Video wall running on version 5.3~~

## 21. Implementation and Transition Plan

The implementation plan shall include all aspects of the project from Notice to Proceed (NTP) through the Final Acceptance. The plan shall be submitted the County for approval. The Successful Proposer shall clearly demonstrate an efficient and effective implementation and transition plan that minimizes impact.

- The implementation and transition plan shall include all prioritized corridors listed in Appendix C.
- The plan shall include details of tasks by corridors and by technology subsystems. It shall provide, at a minimum, the following information for each phase:
  - a) Site preparation for System hardware and software, electrical, etc.
  - b) Schedule for the phased-in approach, including required tasks and activities.
  - c) Descriptions and drawings of any intermediate or temporary configurations required, per phase, which differ from final configuration.
  - d) County support personnel required to support the project.
  - e) Transit operations impact or outages along with expected durations and contingency plans.
- The County reserves the right to reject any document, without review, that is not in English and that is not readily understandable due to lack of proper grammar, spelling, sentence structure, or punctuation. The County is under no obligation to expend extraordinary effort to interpret poorly written or translated documents.
- The Successful Proposer shall submit in hardcopy format a bound original, complete package. Fifteen (15) printed copies of the complete package, and fifteen (15) universal serial bus (USB) flash drive (thumb drive) of the complete package, for a total of thirty (30) packages. All electronic copies of documents shall be in native AutoCAD, Word, Excel, or Visio formats and allow copy to clipboard permissions.

## 22. Small Cellular Colocation Management

The Successful Proposer shall manage all colocation application and requests for small cell equipment installation or relocation onto any lighting assets contained in this Scope of Work. This includes the review of permit applications in accordance local, state and national requirements. The Successful Proposer shall submit a recommendation to the County for final permit issuance. The Successful Proposer shall perform the final inspection with a Professional Engineer licensed in the State of Florida and provide the County the final inspection approval.

**Appendix A: 2018 Transit Development Plan - draft**

<https://www.miamidade.gov/transit/mdt-10-ahead.asp>

**Appendix B: Smart Plan**

<http://www.miamidadetpo.org/>

Priority	CORRIDORS LISTED IN ALPHABETICAL ORDER	FROM	TO
	Beach Corridor	Midtown Miami	Miami Beach Convention Center
	East-West Corridor	Miami Intermodal Center	Florida International University
	Kendall Corridor	Dadeland area Metrorail Stations	Krome Avenue
	North Corridor	Martin L. King, Jr. Metrorail Station	NW 215 <sup>th</sup> Street
	Northeast Corridor	Downtown Miami	City of Aventura
	South Dade Transit Way	Dadeland South Metrorail Station	SW 344th Street Transit Terminal (Florida City)

Priority	BERTS LISTED IN ALPHABETICAL ORDER	DESCRIPTION
	Beach Express	<ul style="list-style-type: none"> <li>North – Miami Beach Convention Center to Golden Glades via I-95</li> <li>Central – Miami Beach Convention Center to Civic Center via Julia Tuttle Causeway</li> <li>South – Miami Beach Convention Center to Downtown Miami via MacArthur Causeway</li> </ul>
	Flagler Corridor (PD&E)	Downtown Miami to West Dade via Flagler Street
	Florida's Turnpike Express	<ul style="list-style-type: none"> <li>North – Dolphin Station to North Miami-Dade via the HEFT</li> <li>South – Dolphin Station to SW 344th Street via the HEFT</li> </ul>

	<b>Northwest Miami-Dade Express</b>	Palmetto Metrorail Station to Miami Gardens Drive Park-n-Ride via Palmetto Expressway and I-75
	<b>South Miami-Dade Express</b>	Dadeland North Metrorail Station to southern Miami-Dade County via SR-878, SR-874, and Florida's Turnpike
	<b>Southwest Miami-Dade Express</b>	Dadeland North Metrorail Station to Miami Executive Airport via SR-878 and SR-874

### Appendix C: Traffic Signals and Signs Congestion Management Plan Priority Corridors

#### County Congestion Management Plan Corridors Phase 1 Twelve (12) Corridors

Priority	Corridor	A Cross Street	Z Cross Street	Included Number of Traffic Controller Cabinet Terminations	Number of Customer Fibers	Total Route Miles	County Facility Tie-In
	Miami Gardens Dr	SR-821(Florida Turnpike Ext)	W Dixie Highway	33	4	18.40	North Dade Justice Center – 15555 Biscayne Boulevard, N. Miami Beach, FL 33160
	163 <sup>rd</sup> / 167 <sup>th</sup> Street	US-1	NW 2 Ave	14	4	11.74	North Dade Justice Center – 15555 Biscayne Boulevard, N. Miami Beach, FL 33160
	Harding Ave/Abbott Ave/Indian Creek Dr	81 St	63 St	12	4	5.46	North Dade Justice Center – 15555 Biscayne Boulevard, N. Miami Beach, FL 33160

	NW 36 <sup>th</sup> Street	Le Jeune Rd (NW 42 Ave)	SR-821 (Florida Turnpike Ext)	26	4	20.28	Miami-Dade County Traffic Signals & Signs Division – 7100 NW 36 Street, Miami, FL 33166
	Flagler Street	W 27 Ave	W 118 Ave	29	4	15.78	Miami-Dade County Water & Sewer Department – 3071 SW 38th Ave, Miami, FL 33146
	SW 8 <sup>th</sup> Street	Brickell Ave (US-1)	SW 177 <sup>th</sup> Ave (Krome Ave)	53	4	29.25	Stephen P. Clark Government Center – 111 NW 1 Street, Miami, FL 33128
	Le Jeune Rd	US-1	Okeechobee Rd	23	4	13.52	Miami-Dade County Water & Sewer Department – 3071 SW 38th Ave, Miami, FL 33146
	Unity Blvd	SR-821 (Florida Turnpike Ext)	US-1	53	4	46.48	Martin Luther King Office – 2525 NW 62nd Street, Miami, FL 33147
	North Biscayne Blvd	NE 213 St	NE 3 <sup>rd</sup> St	70	4	19.45	North Dade Justice Center – 15555 Biscayne Boulevard, N. Miami Beach, FL 33160
	US 1 North Sector	SE 5th St	SW 98th St	39	4	13.03	Miami-Dade County Water & Sewer Department – 3071 SW 38th Ave, Miami, FL 33146

	US 1 South Sector	SW 104th St	SW 344th St (Palm Dr)	44	4	23.85	South Dade Government Center – 10710 SW 211th Street, Miami, FL 33189
	SW 88 <sup>th</sup> (Kendall Drive)	US-1	Krome Ave	36	4	13.50	Miami-Dade County Information Technology Department – 5680 SW 87 Avenue, Miami, FL 33173
	<b>Total</b>			<b>432</b>		<b>230.74</b>	

## County Congestion Management Plan Corridors Phase 2 Thirty-Three (33) Corridors

Priority	Corridor	A Cross Street	Z Cross Street	Included Number of Traffic Controller Cabinet Terminations	Number of Customer Fibers	Total Route Miles
	McArthur Causeway/5 St – US -1 to Ocean Dr	McArthur Causeway/5 St – US -1	Ocean Dr	11	4	4.22
	Bird Rd (SW 40 St)/SW 42 St – SW 157 Ave to US-1	Bird Rd (SW 40 St)/SW 42 St – SW 157 Ave	US-1	45	4	22.75
	SW/NW 8 Ave – SW 8 St to NW 5 St	SW/NW 8 Ave – SW 8 St	to NW 5 St	7	4	3.50
	NW 7 Ave – NW 5 St to NW 159 St	NW 7 Ave – NW 5 St	NW 159 St	37	4	20.61
	Red Rd (NW 57 Ave) – Okeechobee Rd to NW 202 St	Red Rd (NW 57 Ave) – Okeechobee Rd	NW 202 St	35	4	16.76
	Red Rd (SW/NW 57 Ave) – US-1 to Perimeter Rd	Red Rd (SW/NW 57 Ave) – US-1	Perimeter Rd	17	4	11.62
	SW 137 Ave – US-1 to SW 8 St	SW 137 Ave – US-1	SW 8 St	29	4	30.95
	SW/NW 107 Ave – SW 104 St to NW 36 St	SW/NW 107 Ave – SW 104 St	NW 36 St	31	4	14.76

	Sunset Dr (SW 72 St) – SW 157 Ave to US-1	Sunset Dr (SW 72 St) – SW 157 Ave	US-1	23	4	41.27
	NW 54 St (Hialeah Dr) – Okeechobee Rd to Biscayne Blvd	NW 54 St (Hialeah Dr) – Okeechobee Rd	Biscayne Blvd	22	4	11.49
	SW 112 Ave (S Allapattah Rd) – SR-821 (Florida Turnpike Ext) to US-1	SW 112 Ave (S Allapattah Rd) – SR-821 (Florida Turnpike Ext)	US-1	9	4	5.32
	SW/NW 87 Ave – US-1 to NW 58 St	SW/NW 87 Ave – US-1	NW 58 St	30	4	23.50
	NW/NE 125/123 St – SR-7 (NW 7 Ave) to N Bayshore Drive	NW/NE 125/123 St – SR-7 (NW 7 Ave)	N Bayshore Drive	17	4	9.63
	NW/NE 103 St – Okeechobee Rd to NE 6 Ave	NW/NE 103 St – Okeechobee Rd	NE 6 Ave	38	4	19.56
	Okeechobee Rd – N Krome Ave to NW 95 St	Okeechobee Rd – N Krome Ave	NW 95 St	14	4	13.29
	Okeechobee Rd – NW 95 St to LeJeune Rd (NW 42 Ave)	Okeechobee Rd – NW 95 St	LeJeune Rd (NW 42 Ave)	11	4	18.04
	SW 11 St – SW 107 Ave to E Campus Circle inside FIU Campus, continue around E Campus Circle until back to SW 11 St	SW 11 St – SW 107 Ave	E Campus Circle inside FIU Campus, continue around E Campus Circle until	2	4	3.39
	NW 12 St – NW 127 Ave to NW 87 Ave	NW 12 St – NW 127 Ave	NW 87 Ave	12	4	7.93
	NW 25 St – SR-821 (Florida Turnpike Ext) to NW 72 Ave	NW 25 St – SR-821 (Florida Turnpike Ext)	NW 72 Ave	11	4	4.43
	SW/NW 97 Ave – Coral Way to NW 41 St	SW/NW 97 Ave – Coral Way	NW 41 St	11	4	14.45
	SW 117 Ave – Coral Way to US-41 (SW 8 St)	SW 117 Ave – Coral Way	US-41 (SW 8 St)	3	4	5.46
	Quail Roost Dr - Krome Ave to US-1	Quail Roost Dr - Krome Ave	US-1	14	4	10.97
	SW 152 Ave/Campbell Dr/NE 10 Ct - E Palm Dr to US-1	SW 152 Ave/Campbell Dr/NE 10 Ct - E Palm Dr	US-1	6	4	12.36



	SW 157 Ave – SW 184 St to US-41 (SW 8 St)	SW 157 Ave – SW 184 St	US-41 (SW 8 St)	15	4	14.30
	SW 152 St - US-1 to Krome Ave	SW 152 St - US-1	Krome Ave	17	4	9.70
	SW 104 St - US-1 to SW 157 Ave	SW 104 St - US-1	SW 157 Ave	20	4	12.45
	SW 56 St - Red Rd (SW 57 Ave) to SW 157 Ave	SW 56 St - Red Rd (SW 57 Ave)	SW 157 Ave	23	4	16.16
	Coral Way/SW 3 Ave - US-1 to SR-821 (Florida Turnpike Ext)	Coral Way/SW 3 Ave - US-1	SR-821 (Florida Turnpike Ext)	52	4	14.79
	Le Jeune Rd (E 8 Ave) - Okeechobee Rd to Opa Locka Blvd (NW 135 St)	Le Jeune Rd (E 8 Ave) - Okeechobee Rd	Opa Locka Blvd (NW 135 St)	19	4	13.07
	Biscayne Blvd/NE 6 Ave – NE 79 St to 183 St	Biscayne Blvd/NE 6 Ave – NE 79 St	NE 183 St	18	4	12.11
	NE/NW 79 St/E 25 St/E 4 Ave/E 21 St (Hialeah Expressway)/NW 74 St - US-1 to SR-821 (Florida Turnpike Ext)	NE/NW 79 St/E 25 St/E 4 Ave/E 21 St (Hialeah Expressway)/NW 74 St - US-1	SR-821 (Florida Turnpike Ext)	41	4	22.24
	SR-916 Opa Locka Blvd/NE 135 St/NW 135 St/W 84 St/Gratigny Parkway - Biscayne Blvd to SR-826 (Palmetto Expressway)	SR-916 Opa Locka Blvd/NE 135 St/NW 135 St/W 84 St/Gratigny Parkway - Biscayne Blvd	SR-826 (Palmetto Expressway)	35	4	15.58
	S Miami-Dade Busway - Dadeland Blvd/SW 72 Ct to W Palm Dr	S Miami-Dade Busway - Dadeland Blvd/SW 72 Ct	W Palm Dr	44	4	23.86
	<b>Total</b>			<b>719</b>		<b>480.52</b>

#### Appendix D: Smart County Internet of Things (IoT) Guidelines

The Successful Proposer shall adhere to the Smart County IoT guidelines as described below:

The IoT guidelines can be found at: <https://iot.countyofnewyork.us/>

For reference, the Guidelines are as follows, covering five categories, Privacy and Transparency, Data Management, Infrastructure, Security, and Operations and Sustainability.

**PRIVACY + TRANSPARENCY**

County IoT deployments must protect and respect the privacy of residents and visitors. The County is committed to being open and transparent about the “who, what, where, when, why and how” of data collection, transmission, processing and use.

**1.1: The County should make processes and policies** related to IoT and IoT-related data publicly available in an up-to-date, clear and comprehensive manner. IoT principles, guidelines, operational policies and responsibilities should be transparent and made public via a County government website.

**1.2: IoT data should only be collected, transmitted, processed and used** for specified, explicit and legitimate purposes. The purpose of data collection (e.g., a use case such as monitoring air quality), what data is collected (e.g., particulates in the air) and how data is being collected (e.g., pollution sensor on a light pole) should be transparent and made public via a County government website or other public notice.

**1.3: Data and information collected by IoT devices** should be classified and treated accordingly, per the County of New York’s Data Classification Policy, as Public, Sensitive, Private or Confidential. All personally identifiable information (PII) should be classified at a minimum as private. All data that is classified as being confidential, or personally identifiable, should be protected from unauthorized use and disclosure.

**1.4: PII should by default be anonymized before being shared** in any way that could make the information publicly searchable or discoverable. Any copies and reproductions must have the same or higher level of classification as the original.

**1.5: PII data types should have a clearly associated retention policy and disposal procedure.** Sensitive, private or confidential data should be kept for no longer than is operationally necessary or required for the specified, explicit and legitimate purposes.

**1.6: Before any sensitive, private, or confidential data is shared** outside the originating County agency, the agency should ensure that the need cannot be met by using anonymized or aggregated data and that the appropriate protections are in place to preserve the confidentiality of the data.

**1.7: All public data sets are subject to relevant County policy and as such should** be freely accessible via the County’s Open Data portal found here: <https://data.kcmo.org/>

**DATA MANAGEMENT**

County IoT deployments must protect and respect the privacy of residents and visitors. The County is committed to being open and transparent about the “who, what, where, when, why and how” of data collection, transmission, processing and use.

**2.1: IoT systems** (e.g. how data is collected, analyzed and used) should be designed with the use case in mind (e.g. predicting demand for trash pick-up based on data on trash volume, weather and events) to maximize the benefits that can be derived data collection (e.g. routing garbage trucks more efficiently). Where useful, relevant business and historical data from the County or its partners should be made available and utilized by applications.

**2.2: The desired measurement from any IoT system** (e.g. pedestrian counts) should be collected and categorized as efficiently as possible, using as few steps and/or manipulations as necessary.

**2.3: IoT data should be collected and stored** according to open standards, contain relevant contextual metadata, be exposed through open, standards-based application program interfaces (API’s), and be provided with software development kits (SDKs) where applicable so it can be easily shared or combined with other data sets.

**2.4: IoT data should be archived in a federated way** and made accessible throughout the County through a central portal (e.g. the County's open data portal) or a catalogue of documented open API's unless restricted by existing laws or regulations and/or doing so would compromise privacy or public safety. Data from other systems not operated by the County, such as from a private sector partner or from crowdsourcing, that could provide public benefit can also be provided in this form with the source documented accordingly.

**2.5: The County recognizes the use of distinct** and sometimes conflicting non-proprietary international, national, or industry standards for data and technology interfaces. In cases where standards conflict, the one that most closely aligns to the use case will be selected.

**2.6: Each IoT device data set** (e.g. temperature) should be validated and verified (e.g. through redundancy in data collection and/or historical data) and the resulting master copy clearly labeled before it is used, aggregated and/or released. Data should be versioned so that any updated data can be distinguished from the original and/or master copy. The retention and disposal policies for the master copy should be explicitly defined.

**2.7: IoT data should be both audited** and continuously monitored for accuracy and validity. This process should be automated where possible.

**2.8: All data sets** (e.g. 311 service requests) should be checked for geographic, social or system-driven bias (e.g. geographic differences in civic engagement) and other quality problems. Any biasing factors should be recorded and provided with the data set and corrected where possible.

## **INFRASTRUCTURE**

IoT devices, networks and infrastructure shall be deployed, used, maintained and disposed of in an efficient, responsible and secure manner to maximize public benefit.

**3.1: To support countywide coordination** of IoT deployments, County agencies should maintain an inventory of IoT devices that they deploy using a standardized format. County agencies should also maintain an inventory of the public or private assets on which devices are installed and the networks used by these IoT devices including details on the network type (e.g. LTE), security protocol (e.g. WPA), location, service level agreements, and contact information for the network and system operator.

**3.2: The County should accumulate and publish**, via a County government website, public information on IoT systems including but not limited to examples of deployed IoT devices (e.g. air quality sensors) and the different types of public assets (e.g. light poles) on which they are deployed.

**3.3: The County should make public**, via a County government website, a standardized protocol, including points of contact, for requesting access to, and approving use of, County assets for IoT deployments. Where appropriate, the County will detail restrictions on particular types of public assets and/or siting restrictions (e.g. rules for landmark or historic districts).

**3.4: IoT deployments shall, where possible, leverage or repurpose** existing conduit and public assets, maximize energy efficiency, and adhere to sustainable device disposal procedures.

**3.5: The County should leverage existing wireless and fixed networks** where possible and appropriate. Networks for IoT deployments should be selected to best support the specific use case. This should include but is not limited to ensuring appropriate security protocols, bandwidth, pricing models, and service level agreements (SLAs).

**3.6: All IoT devices and network equipment installed by the County**, on the County's behalf, or on County property should have clear site license agreements and established terms of service governing who is responsible for ongoing operations,

maintenance, and the secure disposal of equipment. IoT devices and network equipment should be labeled clearly with the name and contact information for the responsible party.

**3.7: Public assets should be instrumented in an orderly manner** that minimizes clutter and allows for ease of access for replacement, repair and addition of new equipment or devices. If new conduit is being installed using public assets (e.g. to access rooftop of public buildings) or using public right-of-way (e.g. in County streets), location details must be filed with the responsible agency and use of the conduit should not be restricted to one party.

**3.8: IoT systems should be designed to maximize resiliency** in the event of a natural disaster (e.g. severe flooding) or other emergencies (e.g. electrical outages). Critical systems should have established emergency response plans to ensure the appropriate continuity of service.

## **SECURITY**

IoT systems should be designed and operated with security in mind to protect of the public, ensure the integrity of services, and be resilient to attacks.

**4.1: IoT systems should be designed with an explicit focus** on minimizing security risks (e.g. unauthorized operation or hacking, system faults, tampering, and environmental risks), limiting the potential impact from a security breach (e.g. the release of personally identifiable information), and ensuring that any compromises can be quickly detected and managed.

**4.2: IoT systems should utilize established security frameworks**, where possible, and ensure communication between components is tightly constrained.

**4.3: Identity and access management controls should be in place** to ensure that the right people have access to systems, networks, and data at the right time. Users with access to IoT systems should be identified and authenticated. Identification should be to the individual and not to the role.

**4.4: All data should be protected in transit and at rest**, and systems should be secured against unauthorized access or operation. Data storage mechanisms must not be easily removed from devices and systems must not have vulnerable external interfaces (e.g. unsecured USB ports).

**4.5: All partners utilizing public assets and/or networks** for IoT deployments should adhere to the principles and guidelines set by the County. The County has the right to restrict or revoke access to assets, devices, and public networks to protect the public interest and public safety.

**4.6: The County and its partners should engage** in both audit-based and continuous monitoring to ensure that systems are working and that devices have not been compromised.

**4.7: Responsibilities related to security monitoring and the protection** of IoT systems should be clearly defined. In the event of a breach, public and private sector entities will be required to comply with the County's breach disclosure and notification requirements.

## **OPERATIONS + SUSTAINABILITY**

All IoT deployments should be structured to maximize public benefit and ensure financial, operational, and environmental sustainability.

**5.1: Demonstrated need, business case, and public benefit** (e.g. economic, social, and environmental outcomes) should be required prior to deployment of any new IoT devices or solutions. In addition, proof of concept should be required prior to countywide deployments.

**5.2: Prior to deployment, the County and its partners shall identify** all stakeholder and user groups (e.g. community residents and county employees) that will be impacted by the IoT solution and establish feedback mechanisms and methods of engagement for these groups. Before and during deployment, the County and its partners should also check for and address biases in the IoT solution (e.g. information asymmetries) that may result in unintended consequences (e.g. inequitable service delivery).

**5.3: The County shall prioritize access to its assets and public networks** for IoT device deployments that are distributed in an equitable manner and have the greatest public benefit. Public-private partnerships and business models that offset costs or generate revenue in ways aligned with greatest public benefit are encouraged but must be closely evaluated for risk.

**5.4: All projects and associated contracts or agreements** should outline the “who, what, where, when, why and how” of the implementation, operations, risk management, knowledge transfer, and maintenance of IoT systems. This should include clear definitions related to system and data ownership and responsibilities.

**5.5: Solutions shall be designed to be flexible and responsive** to evolving needs. Agreements should enable the addition of new functions and update of components over the life of the agreement at a fair and transparent cost.

**5.6: Performance metrics should be maintained for solutions.** Agreements should specify intended outcomes of a solution and levels of service and provide for penalties, modifications, or terminations of the agreement in the event that the solution does not perform.

**5.7: The County and its partners should reuse infrastructures and components** where possible, leverage countywide contracts or agreements, and develop solutions collaboratively among agencies to avoid duplicating existing solutions or functions and extract the greatest value from investments.

**5.8: All components of a solution should be implemented** in a modular manner, prioritizing open standards where possible, to ensure interoperability and prevent dependency on a single vendor.

#### Appendix E: MDC Street Light Inventory

<http://mdc.maps.arcgis.com/apps/webappviewer/index.html?id=e020fb2ef4734a759fb9f88163480d2b>

#### Appendix F: MDC Roadway Lighting Manual

#### Appendix G: Minimum Device Requirement Table

Item	Description	Total
Video Cameras	4k Video with configurable framerate cameras to count Vehicle, Bicycle and pedestrians for Arterial Traffic Management	500
Meter	FPL Approved Meters	923
Streetlight LED	LED Conversion	All
Architectural Lighting	<u>Stephen P. Clark Center (To be completed by July 2020)</u> <u>111 NW First Street Miami, Florida 33128</u>  Rickenbacker Bridge MetroMover Bridge over the Miami River MetroRail Bridge over the Miami River	4

	Stephen P. Clark Center 111 NW First Street Miami, Florida 33128	
Comprehensive IoT <del>Multit</del> -sensor (such as <u>Bluetooth</u> and a Co2 Sensor)	Per KPMG 1 Sensor Per 30 Poles (inclusive of all 26000)	900

#### Appendix H: Data Management Reference Architecture

**INSERT NEW Diagram** (Data Management Reference Architecture)

#### Appendix I: Maintenance and Support Table

Severity Level	Definition	Availability (Live Support)	Response (Goal)	Resolution Time (Goal)	Status Frequency Updates	Escalation
1	A reported problem in the software, or one of its necessary components, has caused the software to cease functioning or has caused a complete system shutdown.	24 hours a day, seven days per week	Immediately	Continuous work until workaround found or resolved	One Hour	1,3,4,5

2	A reported problem in the software or one of its necessary components has caused a serious disruption of a major business function and cannot be temporarily solved by an alternative method or workaround.	8:30 am to 5:00 pm EST Monday to Friday (business day)	Within 2 hour	Continuous work until workaround found or resolved	Two Hours	1,3,4
3	A reported problem in the software or one of its necessary components for which a temporary workaround is readily known and available.	8:30 am to 5:00 pm EST Monday to Friday (business day)	Within 1 business day	Next SW Update	Weekly	1,3,4
4	A reported problem, question or request that is not included in the definitions of Priority 1, 2, or 3 and demands less immediate attention than said priorities	8:30 am to 5:00 pm EST Monday to Friday (business day)	Within 1 business day	Future SW Update, if applicable	Bi-Weekly	1,3

#### Appendix J: FDOT's Approved Product List for Conventional LED Lights and Underdeck LED Lights

- <https://fdotws1.dot.state.fl.us/ApprovedProductList/ProductTypes/Index/611>
- <https://fdotws1.dot.state.fl.us/ApprovedProductList/ProductTypes/Index/614>

#### Appendix K: DTPW Lighting Inventory

- Insert Table from PWS

**Appendix L: Florida Department of Transportation Maintenance Rating Program**

- Maintenance Rating Program Handbook

**Appendix M: Architectural Lighting**

- Insert Requirements and References

**Appendix N: Florida Department of Transportation Maintenance Contract**

- Insert Requirements and References

**Appendix O: Florida Department of Transportation State Road Map**

- Insert map link

**Appendix P: Draft Utility Accommodation & Appurtenance Specifications For Public Rights of Ways  
Second Edition which Supersedes UAM First Edition Recorded May 21st, 2009**

- Insert link
- 

DR





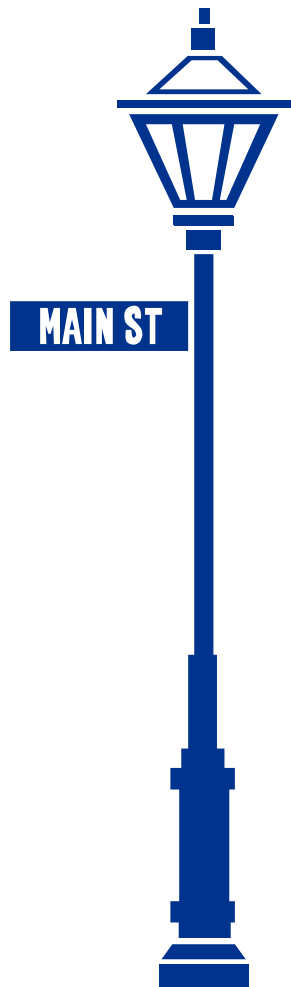
# Miami-Dade County Lighting Project

Phase I

October 11, 2018



# Table of Contents



- Executive summary
- Project background
- Financial analysis
- Feedback from market sounding
- Commercial structuring: recommendations and considerations
- Potential transaction structure
- Next steps
- Appendix



# Executive summary

## Executive Summary (1 of 3)

- Miami-Dade County (the “County”) seeks to undertake a project (the “Project”) for the conversion and asset management of approximately 26,000 street lights (approximately 50% County and 50% Florida Department of Transportation (“FDOT”) lights) High Pressure Sodium (“HPS”) to energy efficient Light Emitting Diodes (“LED”) to enable energy consumption and cost savings, improve service levels, improve security and safety of citizens, and facilitate smart technology enablement.
- KPMG LLP (“KPMG”) was tasked with developing a high-level cost outline for the core lighting elements, conduct financial analysis, evaluate feasible transaction structures and related commercial terms, and conduct a market sounding to evaluate market appetite for the Project, receive input on commercial structuring options and provide input to the County on procurement strategy.
- Exclusion of FDOT’s lighting assets as part of the Project will result in a material increase in Project costs due a loss of efficiencies from economies of scale. For the purpose of the cost outline and financial analysis, FDOT lights were assumed to be included as part of the Project.
- Key findings are summarized below:
  - a) **Financial analysis summary:** The purpose of the financial analysis is to estimate the potential funding gap or surplus range for the Project. For this analysis, the transaction structure as described in b) was assumed.
    - i) Cash outlays for the core street lighting Project<sup>1</sup> include LED upgrade costs and costs for conversion to metering.
    - ii) The upfront capital a potential developer could raise for the Project is calculated by present valuing the overall benefits of the Project including savings from reduced energy consumption and O&M efficiencies, and revenues from small cell attachments.
    - iii) Please refer to the next slide for a table that provides a summary of the upfront costs, present values of potential benefits / savings and the funding gap / surplus of the Project.

<sup>1</sup> Excluding any smart city technology related costs.

## Executive Summary (2 of 3)

### a) Financial analysis summary (continued from previous slide):

The savings from reduced energy consumption and O&M efficiencies, as well as revenue potential from small cell attachments have the potential to fund the upfront Project cost related to the core lighting project. Additional contributions from the County may be required to cover the smart city technology related upfront costs.

Item	Cost	
	Low	High
<b>Cash outlay for the core lighting project</b>		
<i>LED upgrade</i>	(\$18,584,850)	(\$28,366,350)
<i>Conversion to metering</i>	(\$1,956,300) <sup>1</sup>	(\$7,825,200) <sup>2</sup>
<b>Total cash outlay for the core lighting project (excluding any smart city technology related costs) – (“A”)</b>	<b>(\$20,541,150)</b>	<b>(\$36,191,550)</b>
<b>Upfront capital that could be raised by the Developer</b>		
Present value of reduced energy consumption cost savings and O&M efficiencies, excluding small cell attachment revenues (“B1”)	\$20,687,290	\$26,451,605
Present value of reduced energy consumption cost savings and O&M efficiencies, including small cell attachment revenues (“B2”)	\$27,624,343	\$36,154,798
<b>Project surplus / (gap) without incorporating smart city technology related costs</b>		
Project surplus / (gap), excluding small cell attachment revenues (A + B1)	<b>\$146,140</b>	<b>(\$9,739,945)</b>
Project surplus / (gap), including small cell attachment revenues and costs (A + B2)	<b>\$7,843,197</b>	<b>(\$36,752)</b>

<sup>1</sup> Based on a sampling approach whereby only ¼ of the lighting system is upgraded to metering at a cost of \$9,000 per service point. Metering the entire lighting system identified in the Project would cost \$7,825,200 (high estimate in the table). To implement this, FDOT has to conduct negotiations with FPL.

<sup>2</sup> Based on upgrading metering for the entire lighting system at a cost of \$9,000 per 30 lighting assets.

## Executive Summary (3 of 3)

### b) Transaction structure:

- Based on market sounding feedback and key commercial considerations, the following is recommended:
  - Project term of approximately 15 years.
  - The Developer guarantees energy consumption (kWh) for the upgraded system; the County retains energy pricing risk
  - The Developer retains performance risk during the operating period of the Project.
  - The County retains revenue and the related risks from small cell attachments.
  - The County retains ownership of data as well as the potential revenue from data monetization.
- The Developer will finance the upfront costs through annual payments it will receive from the County. These annual payments will be budgeted (not to exceed) at the County's current O&M and energy consumption costs, and estimated revenue potential from small cell attachments.
- The present value of the benefits of the Project, including savings from reduced energy consumption, O&M efficiencies and revenues from small cell attachments reflects the financing potential for the Project.

### c) Next steps – procurement considerations:

- The County should consider the following in defining its procurement approach:
  - i) A clearly defined scope in terms of core lighting, smart city technologies and fiber will drive value for the County.
  - ii) Early engagement with stakeholders and key partners: engage FDOT towards incorporating its lights and related terms, and work with FPL to define a basis for measuring energy consumption after the upgrade to LED.
  - iii) Completion of an inventory assessment and asset condition assessment report will assist the private sector to more efficiently price bids.
  - iv) In evaluating a procurement model (PDA vs. competitive procurement) the County should assess the level of Project design, state of asset inventory and condition assessment, phasing contemplated.
  - v) Evaluation approach to be defined consistent with Project objectives including funding and risk transfer.



# Project background

## Project overview

- Miami-Dade County (the “County”) seeks to undertake a project (the “Project”) for the conversion and asset management of approximately 26,000 street lights (County and Florida Department of Transportation (“FDOT”) lights) High Pressure Sodium (“HPS”) to energy efficient Light Emitting Diodes (“LED”).
- The County is considering integrating FDOT lights as part of the Project to achieve broader benefits and efficiencies. Based on conversations with the County, this analysis assumes the inclusion of FDOT lighting assets as part of the Project.
- In addition to conversion of the street lights to LED, the County is considering leveraging the lighting infrastructure to advance and provide for emerging “smart city” technologies that go towards meeting the County’s service needs.
- The County is contemplating the following scope for the Project:
  - 1) Upgrade phase**
    - a) Converting the existing lighting assets to LED technology (~1.5-2.0 year replacement program).
    - b) Incorporating selected smart city technologies as part of the Project.
    - c) Potentially integrating fiber as part of the Project to create a backhaul system for connectivity.
  - 2) Operations phase**
    - a) The private sector partner will operate and maintain the lighting assets per performance specifications and terms defined in the agreement governing the Project.
    - b) Potential to include operation and maintenance of smart city elements and fiber installation.



# Project Goals & Objectives

The overall Project goals were discussed with the County and include the following:

Goal / Objective		Overview
Street Lighting Assets	Reduced Energy Consumption & Operational Savings	— Reduce whole-life costs (e.g., energy consumption, O&M) by installing higher-efficiency and longer-lasting luminaires
		— Generate overall savings through economies of scale (i.e., wide-spread one-off replacement campaign)
	Improved Service Levels	— Improve service availability to 100%
		— Improve response time for outages
Smart City Elements	Security & Safety	— Increase illumination levels and quality for improved motorists visibility and safety
		— Leverage data infrastructure to support smart city initiatives and improve transportation and mobility
	Smart Technology Enablement	— Provide additional revenue opportunities
Risk Transfer & Financing	Risk Transfer	— Transfer risks to the party best-able to manage them
		— Ensure that there is mitigation strategy for all risks retained by the County
	Financing	— Leverage savings from reduced energy consumption and potential savings from O&M efficiencies to fund lighting upgrades
		— Leverage alternative revenue streams (e.g., revenue generating smart city applications)
		— Achieve budget certainty

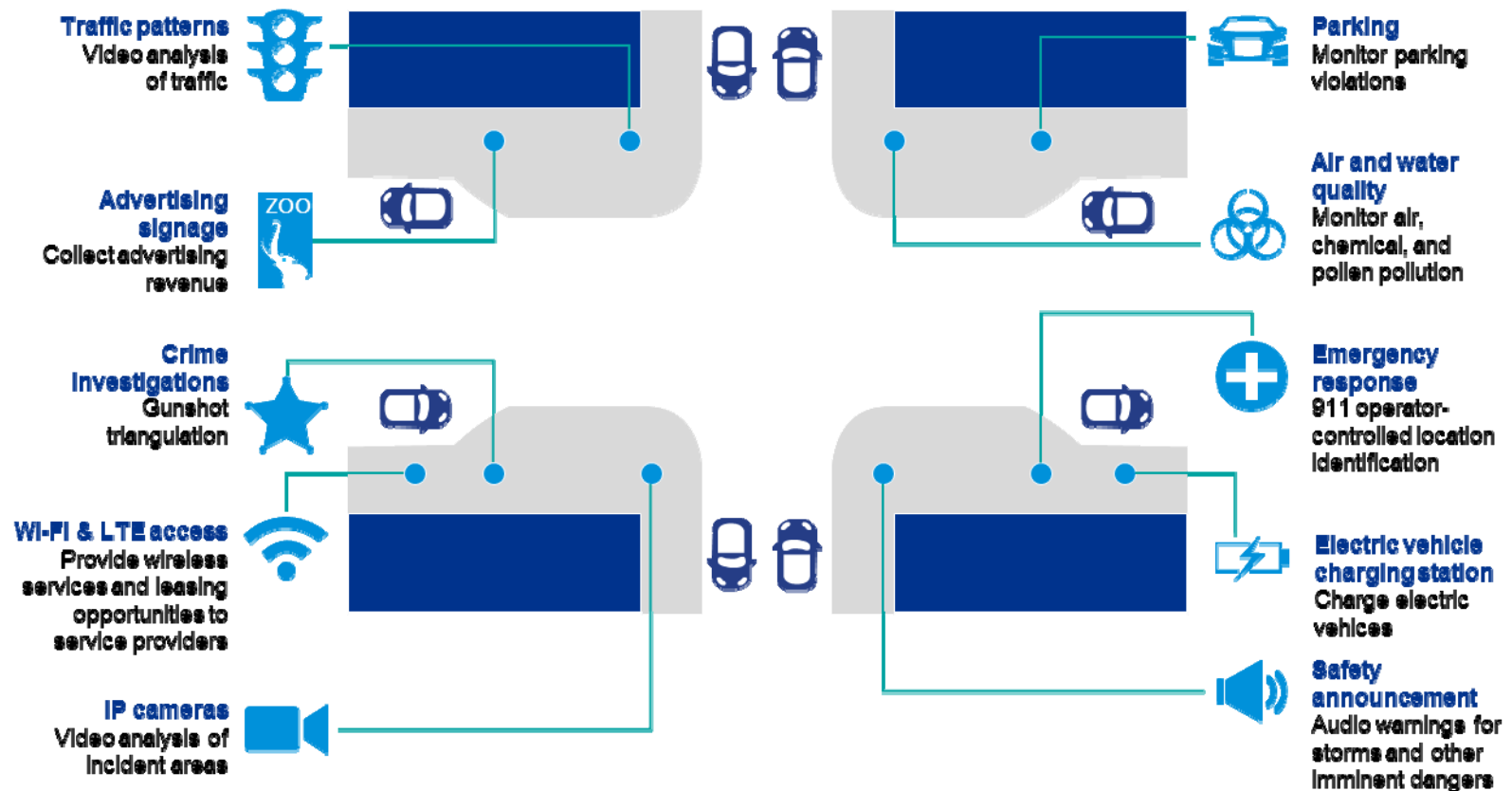
## Potential smart city technology considerations (1 of 2)

The County is seeking to leverage its street lighting infrastructure as a platform for the installation of smart technologies to meet its core service objectives while facilitating revenue enhancing opportunities.

- Smart city solutions are supported by communication networks that service the Internet of Things (“IoT”) technology, delivering machine-to-machine and machine-to-person communications. The extent of these opportunities depend on the network model and sensors implemented.
- The data provided by connected lighting and smart infrastructure as part of an integrated smart city IoT platform can support many services within the County, including law enforcement, environmental improvement, transportation and natural disaster preparedness, etc. A detailed list of typical opportunities are outlined in the next slide.
- In addition to meeting and enhancing the core service objectives of the County, the IoT platform offers long-term revenue enhancing opportunities including data monetization.
- Based on discussions with the County, the following priority areas were identified as the County focuses on developing a communications network to improve the safety of its citizens, facilitate future enablement of IoT, and optimize traffic flow:
  - 1) Communications in the form of 5G / small cell / fiber: 5G enablement remains a priority for the County and would result in improved connectivity and facilitate enablement of IoT, driving overall economic benefit to the area.
  - 2) Video cameras for law enforcement purposes: Improve overall citizen safety.
  - 3) Traffic management system: The data collected through smart city technology installed as part of the lighting infrastructure could be leveraged to perform real-time predictive analytics and travel routing to address congestion challenges and decrease overall travel times, resulting in a net benefit to the County.
- In addition, the County would also like to retain flexibility in terms of incorporating future technologies as they become available.

## Potential smart city technology considerations (2 of 2)

A broad spectrum of opportunities leveraging smart city technologies is illustrated below:





# Financial analysis

# Financial analysis overview

## **Purpose of the analysis:**

- To evaluate the economics and financial metrics of the Project, including any potential funding gap / surplus.

## **The financial analysis approach consists of two key parts:**

- Development of a cost outline that includes the estimates of the following:
  - Upfront costs, including LED upgrade and conversion to metering.
  - Energy and O&M costs.
  - Potential savings from reduced energy consumption due to LED technology, and O&M savings and private sector efficiencies.
- Smart city technology related costs including for smart sensors and ancillary revenue from small cell / wireless attachments.

## **The quantitative analysis compares the upgraded lighting system to the County's current lighting system ("Status Quo"). This analysis consists of:**

- Comparison of the Project's upfront costs to the financing potential calculated on a net present value basis of ongoing energy consumption savings, O&M costs savings and revenue potential from small cell attachments.
- Evaluation of the upfront payment gap / surplus based on a range of assumptions / scenarios.



# LED upgrade cost outline

## Approach

- The cost outline was developed based on two main data sources:
  - 1) Data provided by the County on the Status Quo as a base case for the cost outline.
  - 2) Benchmarking information based on publicly available data and precedent transactions:
    - Benchmark data for performance of lifecycle management for street lighting projects, including for major lifecycle cost categories, energy consumption and corresponding costs, current and future HPS and LED luminaire costs, operational life, maintenance costs, etc.
    - Benchmark data for minimum and maximum cost savings were used to constitute the range of savings for the Project.
- Based on the data sources above, the following key costs were determined:
  - Upfront costs, including LED upgrade and conversion to metering.
  - Ongoing energy and O&M costs.
  - Potential energy savings due to the LED technology upgrade and O&M cost savings due to private sector efficiencies.
- Details for the cost outline assumptions and resulting estimates for the key costs aforementioned are provided on the ensuing pages.
- These assumptions were further validated based on feedback from market sounding with infrastructure developers, lighting contractors and smart city solution providers.

## Upfront costs assumptions<sup>1</sup> – LED upgrade

Item	Split of Assets	Cost Estimate per Fixture	
		Low	High
LED upgrade			
Cobra head replacement cost	75%	\$150	\$250
Decorative head replacement cost	12%	\$1,200	\$2,400
Post tops / acorn head replacement cost	12%	\$1,200	\$2,400
Wall mount replacement cost	1%	\$1,200	\$2,400
LED upgrade labor cost		\$300	

<sup>1</sup> Based on data provided by the County, benchmarking information from precedent projects and market sounding.



## Upfront costs assumptions<sup>1</sup> – conversion to metering

For the County to realize savings from reduced energy consumption as a result of the lighting upgrade, the following options are available as they relate to conversion to metering:

- 1) Option #1: Conversion to metering for each lighting asset.
- 2) Options #2: Remote monitoring sensors covering each lighting asset.
- 3) Option #3: Sampling approach – the County comes to an agreement with FPL on a sampling approach to be the basis of energy consumption measurements.

Item	Cost Estimate
<b>Conversion to metering</b>	
Option #1: Metering covering every lighting pole	\$9,000 per service point (30 poles per service point)
Option #2: Remote monitoring covering every lighting pole	\$250 per pole <sup>2</sup>
Option #3: Sampling approach covering ¼ of the lighting poles	\$9,000 per service point (30 poles per service point) for a representative 6,521 poles

<sup>1</sup> Based on data provided by the County, benchmarking information from precedent projects and market sounding.

<sup>2</sup> These costs do not cover ongoing O&M costs or additional costs, e.g., additional required infrastructure, wiring, increased electricity costs, etc.

## O&M and energy costs and savings assumptions<sup>1</sup>

- The County's O&M and energy costs for the lighting system's Status Quo are based on current / historical costs provided by the County. These costs are used as a base for the analysis with annual escalation rates of 3%.
- The O&M efficiencies and energy cost savings as per the table below were based on data benchmarking exercises conducted and validated by market sounding feedback.

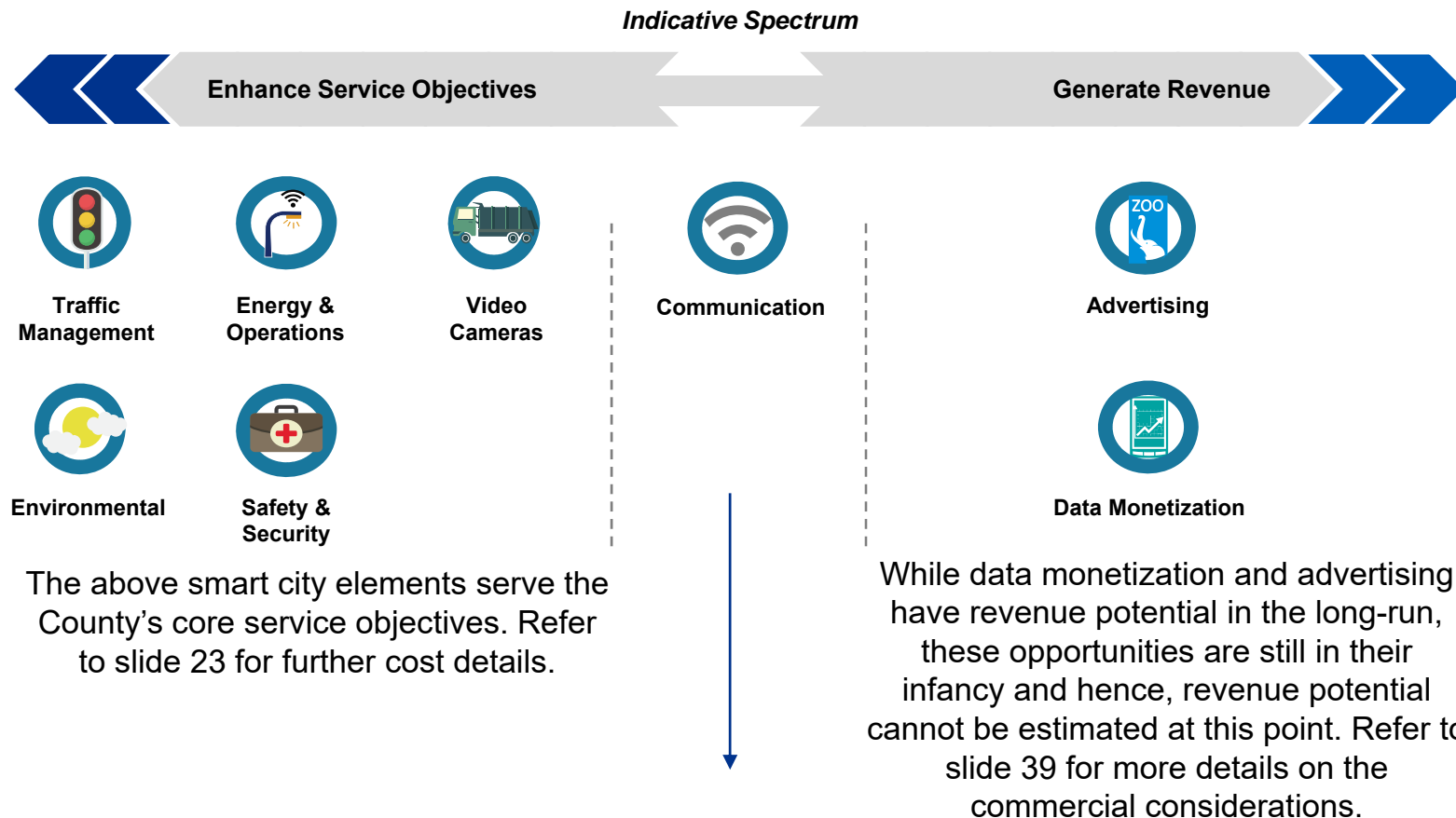
Item	Upgrade Estimate	
	Low	High
<b>O&amp;M efficiencies</b>		
O&M savings / efficiencies as a result of private sector delivery	5%	20%
<b>Energy consumption cost savings</b>		
LED upgrade energy consumption savings	40%	60%

<sup>1</sup> Based on data provided by the County, benchmarking information from precedent projects and market sounding.



# Smart city technology costs and revenue potential

## Smart city elements prioritized by the County



The County will advance this through small cell attachments that will facilitate 5G; Refer to slides 22 and 26 for assumptions and revenue potential.

## Approach (1 of 2)

- Potential revenue sources and the corresponding costs for smart city elements discussed in this section are a product of conversations with the County, implications of House Bill 687 (“HB 687”) and market sounding with infrastructure developers, lighting contractors and technology providers section *Feedback from market sounding*.
- HB 687 created the Advanced Wireless Infrastructure Deployment Act (the “Act”), which provides for the collocation of small wireless facilities on the County’s utility poles for a collocation fee that cannot exceed \$150 per year.
- Based on prior discussions with the County, three priority areas listed below were identified as the County focuses on developing a communications network to improve safety of its citizens, facilitate future enablement of IoT, and address congestion challenges to optimize flow through of traffic:
  - 1) Communications in the form of 5G / small cell / fiber
  - 2) Video cameras / video-feed system for law enforcement purposes
  - 3) Traffic management system
- As illustrated on the next slide, communication, advertising and data monetization were noted as potential revenue generating smart city elements. However, based on the market sounding, data monetization is in its nascent stage and the related revenues and relevant costs related to specific platforms and applications cannot be estimated at this time. Advertising revenues were not considered a reliable / stable revenue source.
- With respect to cost of smart sensors, the approach is potentially to incorporate a comprehensive IoT sensor that goes towards achieving the County’s current service needs but also enables a platform to incorporate future technologies / sensors. The costs of such a comprehensive sensor (“Comprehensive IoT Sensor”) is reflected on the next slide, where the frequency depends on the location. In addition, cost of the video feed is incorporated in the smart city elements cost estimate. Note that the cost estimates assume that these elements would be installed only on County-owned poles.

## Approach (2 of 2)

- With respect to communication infrastructure, the 5G enablement and wireless connectivity through small cell attachments remain a priority for the City. The potential revenue from small cell attachments was based on the following assumptions that were confirmed by the County:
  - 1) Revenue potential of \$150 per small cell attachment on each street lighting asset was based on House Bill 687.
  - 2) One attachment per pole was assumed at this time based on interference considerations stemming from multiple attachments from different wireless service providers.
  - 3) FDOT's street lighting assets were excluded.
  - 4) The adoption rate of County-owned lighting assets for small cell attachments was set to a 33% for the low case scenario in Year 1 and 50% in Year 15; for the high case scenario, the adoption rate was set to 50% in year 1 and 65% in Year 15.
  - 5) All costs associated with the small cell attachments are assumed by wireless service providers.
- As described previously, the County intends to create an infrastructure platform that provides flexibility to enable future technologies as the industry continues to evolve. To achieve this level of flexibility for future technology enablement, the County will have to install a Comprehensive IoT Sensor that allows for the additions and removal of sensors as needed.

## Smart city elements costs assumptions<sup>1</sup>

**Table 1 reflects the costs incorporated into the upfront costs for smart city elements envisioned for the Project based upon the County's prioritization as discussed previously, while Table 2 reflects costs for individual smart city elements for the County's reference.**

Table 1: Summary of smart city elements incorporated into the smart city sensor costs

Item	Cost Estimate	Frequency
Comprehensive IoT Sensor <sup>2</sup>	\$3,500 per pole	1 sensor per 4-10 poles
Video-feed system	\$1,000 per pole	1 per 10 poles

The comprehensive IoT Sensor is recommended as it includes the ability to incorporate up to 10-12 sensors including the comprehensive environmental sensor, gun shot detection sensor, remote monitoring sensor, control systems with an ability to incorporate technology/other sensors in the future.

Table 2: Summary of smart city elements for the County's reference

Item	Cost Estimate	Frequency
Comprehensive environmental sensor	\$2,500 per pole	1 sensor per 30 poles
Basic environmental sensor (NO2 and PM 2.5)	\$600 per pole	1 sensor per 30 poles
Gun shot detection sensor	\$200 per pole	1 sensor per 30 poles
Remote monitoring sensor <sup>3</sup>	\$250 per pole	Each pole
Connected intersection	\$25,000 per intersection	As needed

<sup>1</sup> Based on benchmarking and market sounding.

<sup>2</sup> In addition to these costs, Application Programming Interphase ("API") services and connectivity on an annual basis would average \$1,000 per year per node.

<sup>3</sup> This is included as one of the potential options for conversion to metering upfront costs.



# Quantitative analysis



# Cost outline for the core lighting elements<sup>1</sup>

## Status Quo System

Annual ongoing costs (un-escalated)	
Energy cost (2018 \$)	\$4,471,784
O&M cost (2019 \$)	\$3,369,361
<b>TOTAL ongoing costs</b>	<b>\$7,841,145</b>

## Upgraded System

	Low	High
<b>Upfront cost</b>		
LED upgrade cost	\$18,584,850	\$28,366,350
Conversion to metering cost	\$1,956,300 <sup>2</sup>	\$7,825,200 <sup>3</sup>
<b>TOTAL upfront cost</b>	<b>\$20,215,100</b>	<b>\$36,191,550</b>
<b>Annual cost savings (un-escalated) compared to Status Quo system</b>		
Energy consumption cost savings	\$1,788,714 (40% savings)	\$2,683,070 (60% savings)
O&M savings	\$168,468 (5% savings)	\$673,872 (20% savings)
<b>TOTAL cost savings</b>	<b>\$1,957,182</b>	<b>\$3,356,942</b>

<sup>1</sup> Based on data provided by the County, benchmarking information from precedent projects and market sounding.

<sup>2</sup> Based on a sampling approach whereby only 1/4 of the lighting system is upgraded to metering at a cost of \$9,000 per service point. Metering the entire lighting system identified in the project would cost \$7,825,200 (high estimate in the table).

<sup>3</sup> Based on upgrading the metering for the entire lighting system at a cost of \$9,000 per 30 lighting assets.

## Summary of smart city-related revenue and costs<sup>1</sup>

Annual lease revenue from small cell attachments <sup>2</sup>		
Item	Low	High
Year 2	\$667,750	\$997,713
Year 15	\$955,979	\$1,252,032

Costs: Smart city elements included in the analysis			
Item	Frequency	Price per Unit	Total Cost
Comprehensive IoT sensor <sup>3</sup>	1 per 4-10 poles	\$3,500	\$4,564,700-\$11,411,750
Video-feed system	1 per 10 poles	\$1,000	\$1,304,200

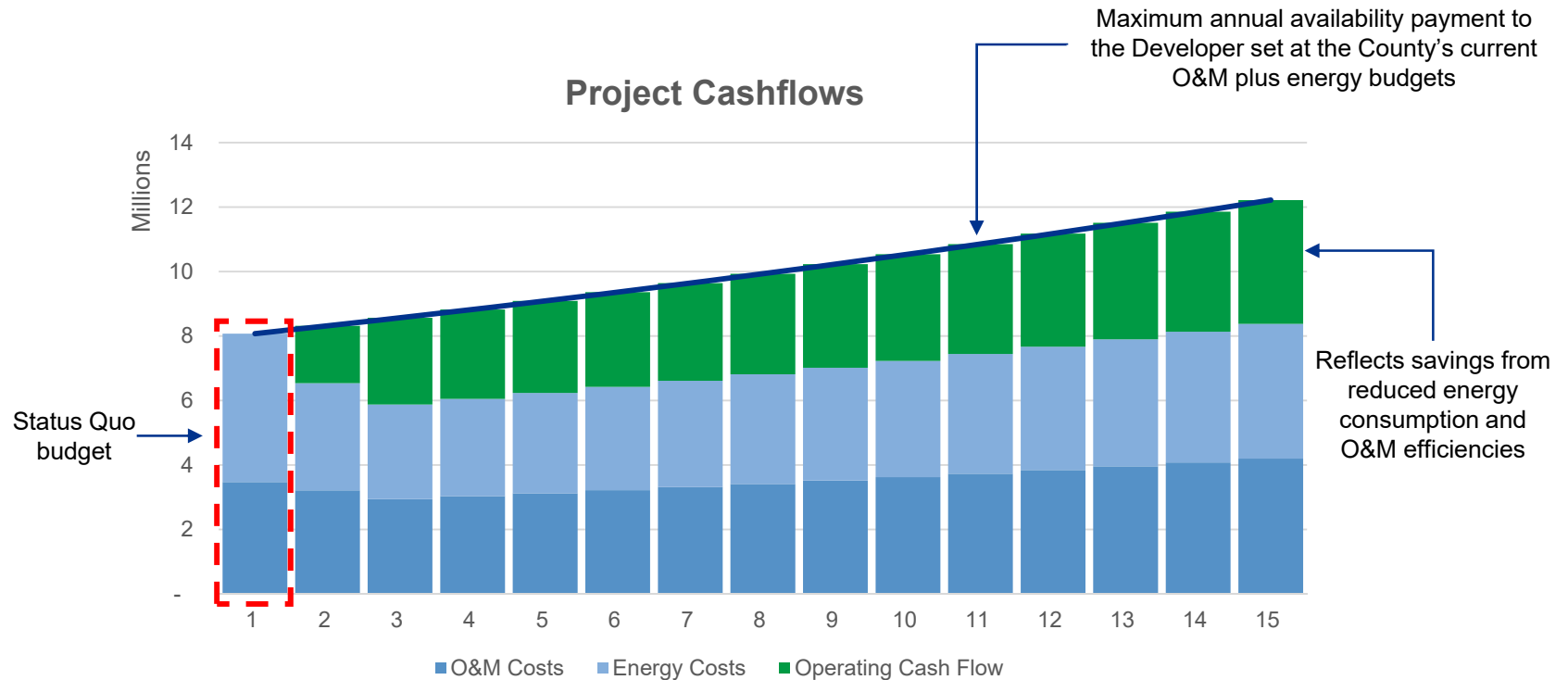
Costs: Smart city elements for the County's reference			
Item	Frequency	Price per Unit	Total Cost
Comprehensive environmental sensors	1 per 30 poles	\$2,500	\$1,086,833
Basic sensors (NO2 and PM 2.5)	1 per 100 poles	\$600	\$78,252
Gun shot detection sensor	1 per 30 poles	\$200	\$86,947
Connected intersection	Per intersection	\$25,000	N/A

<sup>1</sup> Based on benchmarking and market sounding. Total cost only includes County-owned lighting assets.

<sup>2</sup> Based on an adoption rate of small cell attachments ranging from 33% in Year 1 to 50% in Year 15 for the low 50% in Year 1 to 65% in Year 15 for the high. It was assumed that one year would be the ramp up time required, so the first year of small cell related revenues were not included.

<sup>3</sup> Application Programming Interphase ("API") services and connectivity on an annual basis would average \$1,000 per year per node.

## Financing potential (excluding small cell revenues)

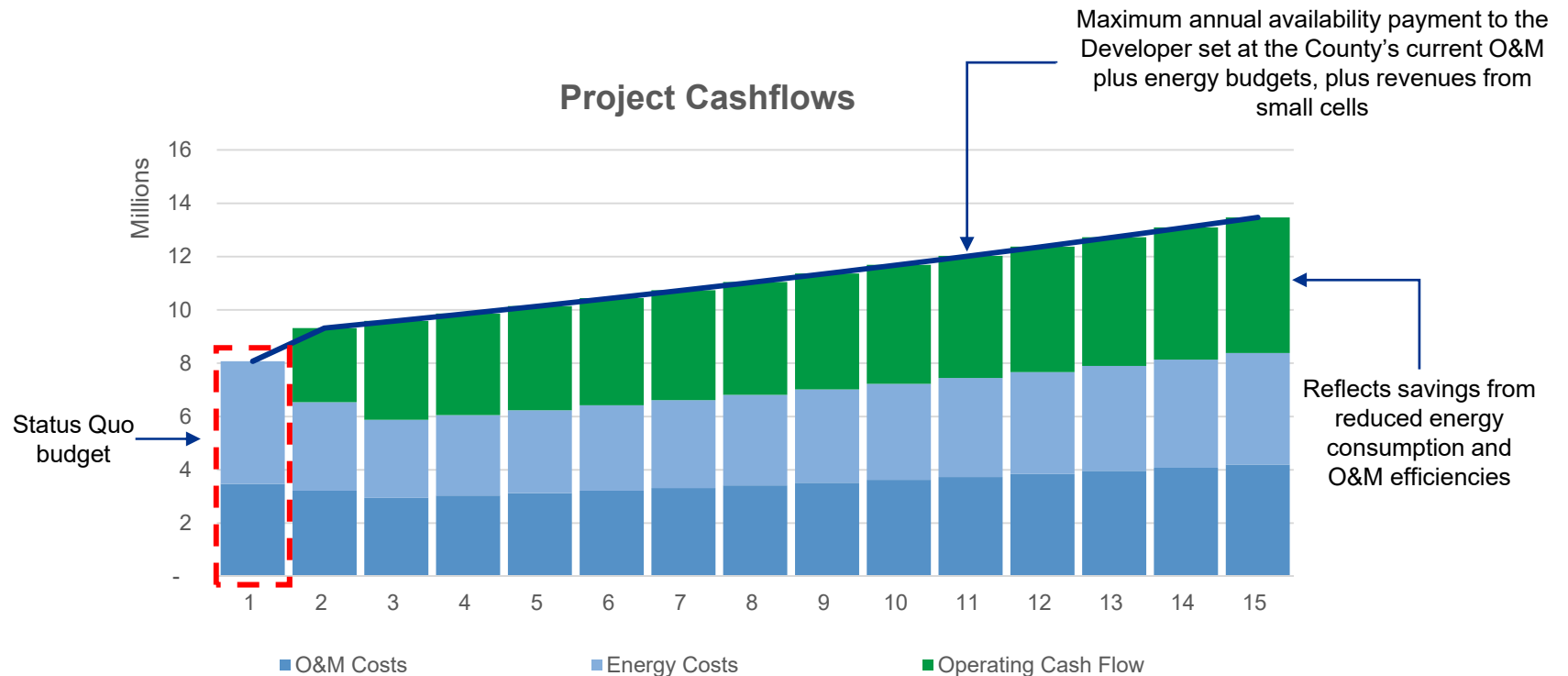


### Net present value (NPV) of Project cash flows (green area in the chart above)<sup>1</sup>

Low	High
\$20,687,290	\$26,451,605

<sup>1</sup> Assumes the Developer's weighted average cost of capital of 6.0%.

## Financing potential (including small cell revenues)



### Net present value (NPV) of Project cash flows (green area in the chart above)<sup>1</sup>

Low	High
\$27,624,343	\$36,154,798

<sup>1</sup> Assumes the Developer's weighted average cost of capital of 6.0%.

# Summary of Project costs and cash flows<sup>1</sup>

Item	Costs	
	Low	High
<b>Upfront cost</b>		
LED upgrade cost	\$18,584,850	\$28,366,350
Conversion to metering cost	\$1,956,300 <sup>2</sup>	\$7,825,200 <sup>3</sup>
<b>TOTAL upfront cost</b>	<b>\$20,541,150</b>	<b>\$36,191,550</b>
<b>Smart city related elements costs</b>		
Smart city sensor costs <sup>4</sup>	\$5,868,900	\$12,715,950
<b>NPV of cash flows</b>		
Savings from reduced energy consumption + O&M cost efficiencies	\$20,687,290	\$26,451,605
Revenue potential from small cell attachments <sup>5</sup>	\$6,937,052	\$9,703,193
<b>TOTAL NPV of energy consumption savings, O&amp;M cost efficiencies and revenue from small cell attachments</b>	<b>\$27,624,342</b>	<b>\$36,154,798</b>

<sup>1</sup> Based on data provided by the County, benchmarking information from precedent projects and market sounding.

<sup>2</sup> Based on a sampling approach whereby only ¼ of the lighting system is upgraded to metering at a cost of \$9,000 per service point (note that this would require negotiations with FPL). Metering the entire lighting system identified in the project would cost \$7,825,200 (high estimate in the table).

<sup>3</sup> Based on upgrading the metering for the entire lighting system at a cost of \$9,000 per 30 lighting assets.

<sup>4</sup> Includes comprehensive IoT sensors (1 every 4-10 poles) and video-feed systems (1 per 10 poles). These costs include only County-owned lighting assets and do not cover ongoing O&M costs or additional costs, e.g., additional required infrastructure, wiring, increased electricity costs, etc.

<sup>5</sup> Based on an adoption rate of small cell attachments ranging from 33% in Year 1 to 50% in Year 15 for the low 50% in Year 1 to 65% in Year 15 for the high. It was assumed that one year would be the ramp up time required, so the first year of small cell related revenues were not included.



# Feedback from market sounding

## Overview of market sounding

- KPMG assisted in facilitating a series of market sounding interviews to evaluate market appetite for the Project and viability of certain commercial terms and transaction structures.
- In developing a list of potential market sounding participants, KPMG worked with the County to prepare a comprehensive list, including infrastructure developers, lighting contractors and technology providers. Market sounding discussions were conducted with the following entities:
  - 1) AT&T
  - 2) Citelum S.A.
  - 3) Star America Infrastructure Partners
  - 4) Kiewit Development Company
  - 5) Meridiam Infrastructure North America
  - 6) Plenary Group
  - 7) Smart City Capital, LLC
- Each interview was conducted for a total of approximately 60 minutes that included company introductions, an overview of the Project, a discussion of key themes related to the Project, and followed by a general Q&A session.
- The market sounding was not part of a formal procurement process and is not a pre-requisite for teams to participate in a future procurement process.
- Scheduled respondents received a market sounding briefing packet<sup>1</sup> in advance of their respective market sounding calls.

<sup>1</sup> A copy of the market sounding briefing packet can be found in the Appendix.

## Market sounding feedback – delivery options

Topic	Discussion Points
Delivery options	<b>Integration of core lighting and smart city elements</b> <ol style="list-style-type: none"> <li>1) The participants did not express concerns about integration of smart city elements as part of the core lighting project.</li> <li>2) They noted efficiencies in the form of installation maintenance efficiencies resulting from economies of scale as a result of the integration.</li> <li>3) However, risks associated to the Developer due to third-party wireless providers need to be addressed in a pre-defined agreement. The County was encouraged to develop a clear framework that governs the relationship and interfaces of all parties (developer and wireless service providers). Participants expressed concern if the Developer was required to take commercial risk for the small cell technology as House Bill 687 prevents exclusivity, and suggested the County retain demand risk related to small cell attachments for more efficient pricing.</li> </ol>
	<b>Integration of fiber</b> <ol style="list-style-type: none"> <li>1) Two delivery options were discussed in relation to a fiber network expansion: (i) integration as part of this Project and; (ii) bifurcation as a separate procurement.</li> <li>2) Integrating fiber would be beneficial if the geographic coverage for the fiber expansion (congestion corridors) aligns with the street lighting system project and could potentially improve overall connectivity. However, an integrated solution would require the Developer to seek additional teaming partners due to the niche expertise required for fiber expansion. This may add complexities to the transaction and reduce overall efficiency.</li> <li>3) Key considerations for an integration of fiber expansion as part of the Project include:               <ol style="list-style-type: none"> <li>a) Defined scope of the project</li> <li>b) Existing landscape and ownership of fiber in the geographic area</li> <li>c) Commercial revenue risk - participants showed limited appetite to take on this risk</li> <li>d) Developer teaming challenges</li> </ol> </li> </ol>



## Market sounding feedback – commercial terms and risk transfer

Topic	Discussion Points
<b>Commercial terms and risk transfer</b>	<ol style="list-style-type: none"><li>1) The majority of participants expressed that the optimal contract duration ranges from 12- 20 years. The contract duration of 15 years was noted as the optimal contract term as it takes account of (i) a replacement scenario that traditional occurs in year 12, leaving additional usage years for the Project when handed back to the County; (ii) capital amortization period for the Developer; (iii) allows the County to re-establish the contract after Year 15, enabling a technology refresh and thus future-enabling the system, instead of the County being locked into a contract for a single technology as the industry continues to rapidly evolve.</li><li>2) Participants stated there is appetite for private sector to retain energy savings risk based on guaranteed energy savings in terms of volume consumption; participants expressed that they cannot take on energy price rate risk.</li><li>3) Participants suggested a payment mechanism that incorporates the payment to the developer of a revenue stream that includes current County O&amp;M and energy budget to support the developer's upfront costs for the Project following a pre-defined base-case scenario with revenue sharing potential.</li><li>4) In the event the County incorporates fiber expansion as part of the Project, participants suggested that the County specifically backstop a portion of the bandwidth related to the County's operations and minimize any commercial revenue risk related to the fiber expansion. This would require the County to provide the Developer with a fixed availability payment related to the portion of the bandwidth backstopped for the County's use.</li></ol>

## Market sounding feedback – LED conversion costs

Topic	Discussion Points
<b>LED conversion costs</b>	<ol style="list-style-type: none"><li>1) Retaining existing lighting fixture aesthetics could potentially increase Project costs due to a reduced scale for each lighting fixture type and increased labor costs due to the various fixture types to account for.</li><li>2) LED conversion costs vary based on the types of lighting fixtures:<ol style="list-style-type: none"><li>a) Cobra-heads are priced linearly based on power consumption and are competitive across manufacturers, ranging from \$150-\$250<sup>1</sup> per fixture.</li><li>b) Decorative luminaires can vary widely based on the housing style (post-top / pendant / acorns / globes, etc.), size and mounting configuration, ranging from \$1,200-\$2,400<sup>1</sup> per fixture</li><li>c) Labor and installation costs (excluding maintenance of traffic) are mainly influenced by the height of the lighting pole and the type of road the lighting asset is situated on (maintenance of traffic) approximately \$300<sup>1</sup> per fixture</li></ol></li><li>3) Participants recommended that the County conduct a complete inventory assessment to understand the condition of the portfolio of lighting assets and conduct community outreach to better inform citizen's lighting needs to ensure appropriate assumptions in order for the Develop to better approximate pricing for the Project.</li></ol>

<sup>1</sup> Estimates that require further due diligence.

## Market sounding feedback – energy usage and savings

Topic	Discussion Points
Energy usage and savings	<ol style="list-style-type: none"><li>1) For a project of this scale (including smart city platform licenses and network infrastructure), upgrade costs are estimated at approximately \$300<sup>1</sup> per node.</li><li>2) Alternatively, participants suggested that the County could utilize sensor technology to measure energy consumption without the need to upgrade the lighting assets to a metered system, at a cost of \$250 per sensor<sup>1</sup>.</li><li>3) Additionally, participants suggested the option to install metering systems to a portion of the lighting assets (25%<sup>1</sup>) to be used as a gauge for energy consumption, thus saving conversion to metering costs.</li><li>4) Participants stated that on average, energy consumption savings from LED conversion alone have the potential to finance between 40-60%<sup>1</sup> of Project costs. Leveraging smart city technology (e.g., sensors and controls), additional energy consumption savings could have the potential to finance between 10-20%<sup>1</sup> of Project costs.</li><li>5) Transferring O&amp;M risks to the private sector would lead to efficiencies that could finance approximately 5-20%<sup>1</sup> of Project costs.</li><li>6) Therefore, energy consumption savings from a DBFOM delivery leveraging smart city sensors could potentially finance 50-85%<sup>1</sup> of the lighting upgrade costs.</li></ol>

<sup>1</sup> Estimates that require further due diligence.

## Market sounding feedback – smart city technologies

Topic	Discussion Points
Smart city technologies	<p>Potential areas for revenue enhancement opportunities include aggregating and normalizing data from different sources, including traffic, anonymous citizen location data, repeat visitor, environmental data, etc. This data can be monetized in a variety of ways, including:</p> <ul style="list-style-type: none"><li>a) As an Application Programming Interfaces (“API”) to different application builders for local businesses.</li><li>b) Public Wi-Fi access as a city service in transit / tourist areas, with the option to push advertising content to the devices.</li><li>c) Kiosks, mobile beacons and mobile applications could act as data sources for a smart city platform.</li><li>d) Leasing of digital real estate to small cell service providers per House Bill 687.</li><li>e) The cost range and functionality of sensors included in hardware hubs toward smart city applications will vary according to the use cases and geographic location needs. Monitoring limited air-quality data metrics such as PM25 and NO2 only are estimated at \$600-\$1,000<sup>1</sup> per sensor, with a sensor for every 100 light poles in a community living area. To monitor multiple air-quality metrics, the cost per sensor could increase to \$2,500-\$3,500<sup>1</sup> per sensor.</li></ul>

<sup>1</sup> Estimates that require further due diligence.



# Commercial structuring: recommendations and considerations

# Commercial structuring: recommendations and considerations (1 of 5)

## 1) Comprehensive asset inventory and asset assessment

- Based on feedback from the market sounding, transfer of lifecycle risk with regard to the physical lighting infrastructure will depend on the completion of a comprehensive inventory and asset assessment. This assessment will assist the private sector to more efficiently price bids, reflecting the current condition of the lighting assets.
- Furthermore, location of the lighting assets may have changed since initial installment (e.g., redevelopment to residential zoning, etc.) and / or the County may require different service types given these changes. Hence, a comprehensive inventory assessment will assist the County better incorporate its needs during the upgrade phase of the Project.

## 2) Transfer of energy consumption risk

- Based on feedback from the market sounding and evaluation of precedent transactions, the transfer of energy consumption risk to the Developer is viable with rate/price risk retained by the County; that is, in the event that the guaranteed energy savings associated with consumption volume is not achieved, the Developer will pay the difference. Any additional savings associated with consumption above the guaranteed savings will be shared between the County and the Developer.
- The above mechanism not only transfers the risk of energy consumption savings to the Developer, but also incentivizes the Developer to seek ways to generate additional consumption efficiencies; furthermore, guaranteed energy savings on consumption provides increased budget certainty to the County.

## Commercial structuring: recommendations and considerations (2 of 5)

### 3) Commercial revenue risk

- Leveraging data: Smart city elements / sensors owned by the County can be leveraged as follows:
  - The County can collaborate with external applications developers to manage and utilize this data effectively in-house through the use of data analytics tools, etc., for the County's internal operations.
  - The County can monetize the rights to use meta data to third party vendors that could potentially generate revenue streams to the County but meet the service objectives of the County including traffic optimization and parking, among others.
- Small cell attachments: The County should retain revenues and related commercial risk as there is limited appetite for the private sector to assume demand risk related to small cell revenues.
- Based on feedback from the market sounding, to the extent fiber is incorporated as part of the transaction, the County needs to purchase portion of the bandwidth to support its operations while making the deal more bankable. There is lower appetite for taking on commercial risk with respect to fiber.

## Commercial structuring: recommendations and considerations (3 of 5)

### 4) Technology risk / flexibility for future technology enablement

- It is pertinent that the County consider the rapidly evolving technological market in structuring the transaction.
- The County should target developing a platform that is an enabler for incorporating future technology applications, thereby remaining flexible to manage technology change.
- In defining the LED and smart city sensors requirements, the County should develop a smart city technology strategy that maps out its service objective (e.g., lighting service or traffic optimization) to a technology-led solution (LED specifications and number of sensors) in the agreement with the Developer. The contract should also provide for flexibility to mutually upgrade technology-led solutions based on updated service needs of the County to mitigate technology risk.
- Furthermore, the County should integrate the smart city platform with other County infrastructure and ensure it is not locked in a standalone system and is able to incorporate new technologies / sensors at a future date.



## Commercial structuring: recommendations and considerations (4 of 5)

### 5) Term

- Based on the market sounding, the ideal contract term is around 15 years.
- In general, the LED upgrade will be refreshed in Year 12, allowing the Project to be handed-back to the County with remaining useful life and warranties.
- A 15-year contract term will allow enable the Developer to amortize the Project cost over a suitable duration to pay off the upfront financing (this will depend on the smart city elements incorporated and their corresponding costs).
- Term could potentially be adjusted depending on the capital needs of the Project that need to be financed; this would depend on the smart city technologies incorporated as part of the Project.

### 6) Payment mechanism

- The County will pay the Developer an availability payment that will be subject to availability of the asset and to performance standards during the contract term; the availability payment will be escalated per inflation assumptions.
- The Developer will retain O&M and energy consumption risk, and retain the cash flows from O&M efficiencies and energy consumption cost savings as a result of lower consumption from more efficient LED technology (the difference in energy consumption between the County's baseline electricity consumption and actual energy consumption after the LED upgrade).

## Commercial structuring: recommendations and considerations (5 of 5)

### 7) Developer financing

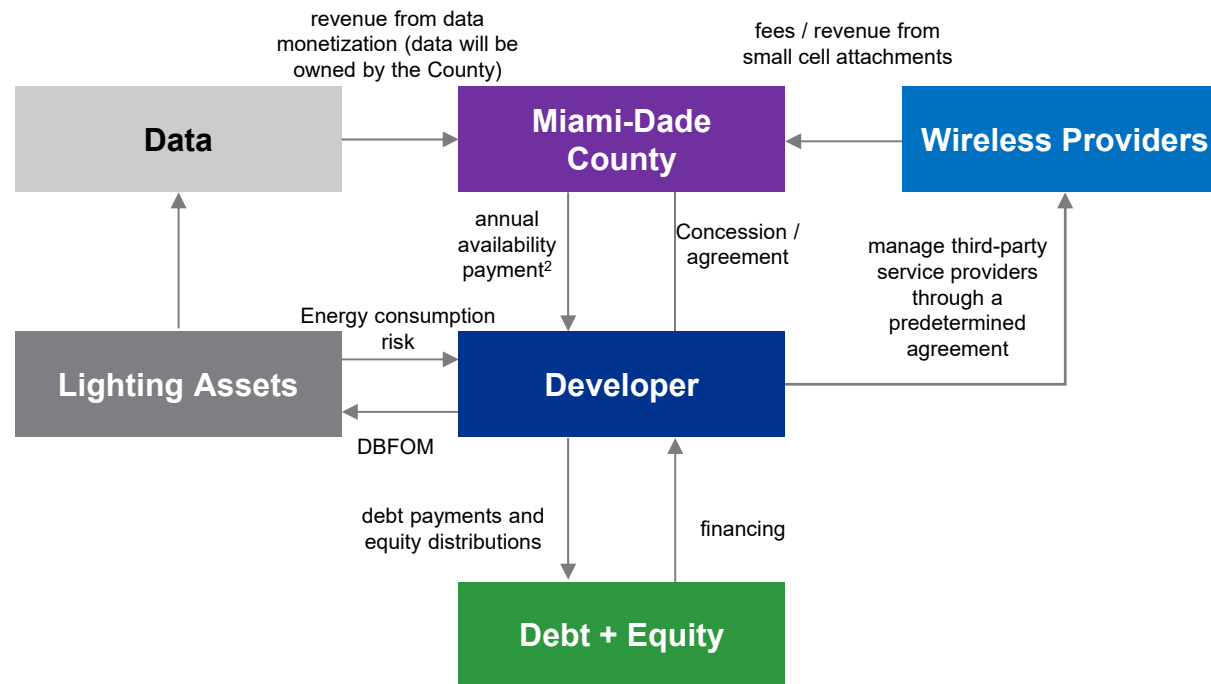
- The County should budget the following for the annual availability payments to the Developer towards financing the upfront costs of the Project:
  - The County's current O&M and energy budget
  - Estimated revenues from small cell attachments
- The present value of the benefits of the Project including savings from reduced energy consumption, O&M efficiencies and revenues from small cell attachments reflects the financing potential for the Project.
- The Developer is expected to finance the Project through debt and equity backed by the Project's cash flows. The debt could come from a variety of sources including a combination of bank, bonds, private placement and balance sheet financing, depending on the term of the Project.



# Potential transaction structure

## The Developer retains energy consumption risk and the County retains commercial revenues and related risks<sup>1</sup>

Based on market sounding discussions and the commercial considerations previous discussed, a transaction structure where by the Developer retains energy consumption risk and the County retains revenue risk is recommended.



<sup>1</sup> The County retains related risks of revenues from small cell attachments and other smart city applications including data monetization.

<sup>2</sup> Consisting of the County's O&M and energy budget and the revenue estimate from small cell attachments budgeted.

## Project responsibilities and risks

Risk & Responsibilities			
	County	Developer	Comment
O&M costs		✓	The Developer assumes O&M responsibilities throughout the contract term subject to performance deductions.
Energy savings		✓	Guaranteed energy consumptions risk will be taken by the Developer with the County taking on the rate / pricing risk. Any savings over and above the guaranteed energy consumption savings could potentially be shared with the County.
Lifecycle costs		✓	To transfer lifecycle risk with regard to the physical street lighting infrastructure, a comprehensive inventory and asset assessment is required.
Commercial Revenues			
Wireless attachments	✓		The County retains the fees / revenues from small cell attachments.
Data monetization	✓		The County could potentially own the data that can be leveraged for internal / external use.



# Next steps



# Procurement considerations

## Procurement considerations (1 of 3)

- 1) Clearly articulate procurement scope
  - Integrate LED upgrade and smart city infrastructure into a single procurement
  - To further refine the scope, conduct a comprehensive risk analysis to determine risks, responsibilities and risk mitigation for the Project
  - With respect to the asset inventory and condition assessment, assess its scope and define the responsibility matrix – including that of a potential technical advisor for the County, potential proposers bidding on the Project or the Developer. This would factor into the procurement model chosen – see item 3 on procurement model
  - Evaluate the following considerations for inclusion of fiber expansion:
    - (a) Ownership of existing fiber and scope of the expansion
    - (b) Clearly define the scope to minimize commercial risk and ensure private sector interest
    - (c) Assess if there is geographic overlap with lighting project with the targeted corridors for incorporating fiber to enhance backhaul connectivity
    - (d) Developer teaming challenges due to the highly specialized nature of fiber technology that does not lead to efficiencies for the LED upgrade
- 2) Proactive stakeholder engagement
  - With FDOT on integrating its lighting as part of the Project, on payment structuring and on approval rights to include their lighting assets
  - With FPL to determine the basis of measuring performance (conversion to metering, sensor technology, etc.) There is potential to achieve significant savings from early negotiations
  - With other utilities to ensure coordination ease (sub-ground, etc.)



## Procurement considerations (2 of 3)

### 3) Procurement model

#### a) Competitive procurement vs. Pre-Development Agreement (PDA) approach:

- If the County has a clearly defined scope including project design, geographic limits, future project expansion and related phasing, asset condition and inventory assessment, a clear basis for determining the energy costs, then a competitive procurement approach will bring the most value to the County through maximizing competitive tension.
- Alternatively, if the County is looking to work with a private partner on defining the Project design, performing an asset condition and inventory assessment, and customizing / refining the smart city plan further, then a PDA would provide a viable alternative.

#### b) Two-step procurement process:

- The traditional two-step procurement process works best under the setting of a competitive procurement. The first RFQ phase will help shortlist proposer teams that have the right qualifications and experience to execute the scope laid out by the County. The RFP phase would define an evaluation approach that best aligns with the County's objectives. At the conclusion of the RFP phase, the County will select a shortlisted proposer as a preferred bidder to negotiate and finalize the long-term contract.
- Even if the County is considering a PDA approach, a two-step procurement process would help shortlist technically qualified bidders from the larger bidder universe, given the significant market interest in the Project.

## Procurement considerations (3 of 3)

- 4) Evaluation approach and selection of private partner:
  - Procurement documents shall clearly define the evaluation methodology to streamline bidders' submissions, ensure all the goals and objectives of the Project are met, and minimize any risk for private sector participants.
  - The procurement evaluation should include the following:
    - a) Related qualifications and experience of the private partner.
    - b) For shortlisting proposers under a competitive procurement or for the selection of a Developer for a PDA, in addition to the qualification and experience, the County should consider the proposer's approach to Project development, financing plan and approach to risk mitigation, overall pricing (indicative or binding as the case may be) and revenue sharing.
- 5) Role of technical advisor
  - The County should consider retaining the services of a technical advisor to assist in developing the technical provisions and performance-based contracting terms.



# Smart city considerations

## Smart city IoT platform and strategy

**Through this Project, the County has the opportunity to develop a platform to support future smart city-related initiatives. Along with the development of this Project, the County will need to develop a comprehensive smart technology strategy and plan that includes the following critical steps that not only leverage the proposed smart city infrastructure, but covers the entire spectrum of the County's infrastructure assets and systems for IoT integration:**

- 1) Data sensing and collection, tools and infrastructure
- 2) Communication infrastructure plan to transmit data including 5G and fiber
- 3) Data platform: data storage, access, governance, aggregation and management
- 4) Integrated IoT platform that facilitates:
  - a) County core operations: The County will need to develop a strategy that leverages the data platform towards meeting its core objectives including traffic management, infrastructure management, public safety and environmental compliance among others.
    - API: The County can collaborate with external application developers to manage and utilize this data effectively in-house through the use of data analytics tools, etc., for the County's internal operations.
    - Core County Operations Control: Leverage data for advanced Information technology Services ("ITS") towards traffic optimization, public safety, environmental compliance and infrastructure management, etc., through predictive data analytics.
  - a) Data Monetization: Provide the rights to leverage metadata from the County's data platform in return for a revenue stream to the County. This could also help the County indirectly achieve its objectives (e.g., efficient parking applications), thus driving higher revenues.



# Appendix: Market sounding briefing packet



# Thank you



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