Approved _____ Mayor

Veto _____

Override _____

Agenda Item No. 8(O)(1)(B)

06-26-07

OFFICIAL FILE COPY
CLERK OF THE BOARD
OF COUNTY COMMISSIONERS
MIAMI-DADE COUNTY, FLORIDA

RESOLUTION NO. R-762-07

RESOLUTION AUTHORIZING EXECUTION OF AN AGREEMENT WITH REPUBLIC ELECTRIC TO OBTAIN AN LED TRAFFIC SIGNAL HEAD RETROFIT PROJECT FOR THE NORTH ZONE OF THE COUNTY; AUTHORIZING THE REJECTION OF ALL PROPOSALS RECEIVED FOR REQUEST FOR PROPOSALS NO. 524 FOR LED TRAFFIC SIGNAL HEAD RETROFIT PROJECT FOR THE SOUTH ZONE OF THE COUNTY; WAIVING FORMAL BID PROCEDURES AND AUTHORIZING EXECUTION OF AN AGREEMENT WITH REPUBLIC ELECTRIC TO OBTAIN AN LED TRAFFIC SIGNAL RETROFIT PROJECT FOR THE SOUTH ZONE OF THE COUNTY; AUTHORIZING THE COUNTY MAYOR OR HIS DESIGNEE TO EXECUTE THE AGREEMENTS FOR AND ON BEHALF OF MIAMI-DADE COUNTY AND TO EXERCISE ANY CANCELLATION AND RENEWAL PROVISIONS; AND TO EXERCISE ALL OTHER RIGHTS CONTAINED THEREIN CONTRACT NOS. 524A AND 524B

WHEREAS, this Board desired to accomplish the purposed outlined in the accompanying memorandum, a copy of which is incorporated herein by reference; and

WHEREAS, it has been established that specified items and services which cannot be purchased under normal bid procedures,

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF MIAMI-DADE COUNTY, FLORIDA, that this Board approves the selection of Republic Electric in substantially the form attached hereto and made a part hereof, and authorizes the County Mayor or his designee to execute same for and on behalf of Miami-Dade County and to exercise any cancellation and renewal provisions and any other rights contained therein, and that this Board finds it is in the best interest of Miami-Dade County to waive formal bid procedures and empower the County Mayor or his designee to award contracts, therefore, competitive bidding is waived in this instance pursuant to Section 5.03 (D) of the Home Rule Charter by a two-third (2/3) vote of the Board members present.

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The foregoing resolution was offered by Commissioner Natacha Seijas who moved its adoption. The motion was seconded by Commissioner Rebeca Sosa and upon being put to a vote, the vote was as follows:

Bruno A. Barreiro, Chairman aye
Barbara J. Jordan, Vice-Chairwoman aye

Jose "Pepe" Diaz	aye	Audrey M. Edmonson	absent
Carlos A. Gimenez	aye	Sally A. Heyman	aye
Joe A. Martinez	absent	Dennis C. Moss	aye
Dorrin D. Rolle	aye	Natacha Seijas	aye
Katy Sorenson	aye	Rebeca Sosa	aye
Sen. Javier D. Souto	absent		

The Chairperson thereupon declared the resolution duly passed and adopted this 26th day of June, 2007. This resolution shall become effective ten (10) days after the date of its adoption unless vetoed by the Mayor, and if vetoed, shall become effective only upon an override by this Board.

MIAMI-DADE COUNTY, FLORIDA
BY ITS BOARD OF COUNTY COMMISSIONERS

HARVEY RUVIN, CLERK

Approved by County Attorney as to form and legal sufficiency.

Hugo Benitez

By: KAY SULLIVAN
Deputy Clerk

Memorandum

MIAMI-DADE COUNTY

Date: June 26, 2007

To: Honorable Chairman Bruno A. Barreiro
and Members, Board of County Commissioners

Agenda Item No. 8(O)(1)(B)

From: George M. Burgess
County Manager

Subject: Recommendation for Approval to Award Contract No. 524A, LED Traffic Signal Head Retrofit Project (North Zone), and Recommendation to Reject all Proposals for RFP No. 524, LED Traffic Signal Head Retrofit Project (South Zone), and to Waive Competitive Bidding and Approve Award of Contract No. 524B for the South Zone

RECOMMENDATION

It is recommended that the Board of County Commissioners approve the above-captioned award to procure a Light Emitting Diode (LED) traffic signal head retrofit project for the North Zone of the County (north of NW 25th Street). It is further recommended that the Board of County Commissioners reject all proposals received for Request for Proposals (RFP) No. 524 for the LED traffic signal head retrofit project for the South Zone of the County (south of NW 25th Street), waive competitive bidding procedures to approve a contract to procure the project for the South Zone as follows:

CONTRACT NOS:	524A and 524B
CONTRACT TITLE:	LED Traffic Signal Head Retrofit Project
DESCRIPTION:	To obtain an LED traffic signal module retrofit project for the North and South Zones of the County. The project's objective is the timely conversion of the County's 12-inch standard traffic signal heads from the conventional incandescent lamps (135 watts per indication) to more efficient LED signal heads (typically 6 to 25 watts per indication). The primary benefit of this project is the reduction in monthly electric costs for traffic signalization of about 90%.
PROJECT MANAGER:	Robert Janosi, Public Works Department
APPROVAL TO ADVERTISE:	June 6, 2006
TERM:	Through project completion, including completion of installation (approximately one year) and warranty, management, and maintenance services for five years thereafter.
CONTRACT AMOUNT:	Estimated to be $8,025,356 in the aggregate. The actual amount of the project will depend on the number of modules installed and the cost savings for materials that can be recycled.
FUNDING SOURCE:	General Fund

METHOD OF AWARD:	An open, competitive RFP process was used for award of the North Zone (Contract No. 524A). A waiver of competitive bidding procedures based on the results of an RFP process was used for the South Zone (Contract No. 524B).
VENDOR(S) RECOMMENDED FOR AWARD:	North and South Zones Republic Electric (Non-Local) 2725 114th Street Grand Prairie, Texas 75050 Principal: Wade L. White
VENDOR(S) NOT RECOMMENDED FOR AWARD:	North and South Zones Johnson Controls, Inc. (Local) 3300 Corporate Avenue, Suite 100 Weston, Florida 33331 Siemens Building Technologies (Local) 10111 Business Drive Miramar, Florida 33025
USING/MANAGING AGENCY:	Public Works Department
CONTRACT MEASURES:	The Review Committee of April 5, 2006, recommended a Community Small Business Enterprise (CSBE) 10% subcontractor goal for this RFP.
LIVING WAGE:	The services being provided are not covered under the Living Wage Ordinance.
USER ACCESS PROGRAM:	The contract includes the 2% User Access Program provision. The program discount will be collected.
LOCAL PREFERENCE:	Applied in accordance with applicable ordinances, but did not affect the outcome.
ESTIMATED CONTRACT COMMENCEMENT DATE:	Ten days after date adopted by the Board of County Commissioners, unless vetoed by the Mayor.

BACKGROUND

The Public Works Department (PWD) has been testing LED traffic signal modules of various manufacturers over the past fifteen years. Modules tested over the past five years have performed much better in the South Florida climate than modules available in earlier years. Florida Department of Transportation and the PWD have begun installing LED modules (predominately red balls and arrows) on new signal installations. The purpose of this project is to deploy LED traffic signal modules, in all three signal indication colors, throughout the County.

The County currently pays about $0.11 per kilowatt-hour for power. This equates to approximately $2.7 million annually for traffic control equipment power consumption. Of that amount, about $2.4 million is spent to power 12-inch traffic signal heads. Converting 12-inch modules for standard traffic signal heads, and the programmable visibility modules for optically programmed traffic signal heads could result in annual savings of approximately $2 million. Projected savings would allow the County to pay for a county-wide conversion within five years.

RFP No. 524 was issued requesting proposals for this project for two geographical zones of the County: North and South. The RFP required a proposer to be awarded only one zone in order to allow participation from multiple firms on this project. Three proposals were received and evaluated. Republic Electric was the highest ranked proposer for each of the two zones. Republic Electric identified the North Zone as preferred. Consistent with the method of award in the solicitation, County staff entered into negotiations with this proposer for the North Zone. The resultant contract is recommended for award through the competitive process.

Following the method of award established in the solicitation, staff entered into negotiations for the South Zone with the second highest ranked proposer, Johnson Controls, Inc. While negotiations resulted in a reduction in the pricing offered by Johnson Controls, Inc., this price is over $2 million higher than the highest ranked proposer's price in the South Zone for the same manufactured parts. After continued negotiations over a two week period, the County terminated negotiations with Johnson Controls, Inc. for the South Zone. The third highest ranked proposer is also not recommended due to a low technical score and the types of products offered (the yellow lights did not meet the County requirements).

In considering the options for awarding the South Zone, it was determined to be in the County's best interest to continue moving forward with the proposals received in order to start the North and South Zone deployments at the same time. However, since the highest ranked proposer, Republic Electric, is being recommended for award, as part of the competitive process, of the North Zone, and as the method of award in the RFP allowed a proposer to only be recommended for one zone, Republic Electric could not also be recommended for award of the South Zone.

It is therefore recommended that all proposals be rejected for the South Zone and a waiver of the competitive bidding process be approved to award the South Zone to Republic Electric, as well. This recommendation will allow the County to take advantage of significantly lower pricing offered by this proposer for the South Zone, and immediately start implementation throughout the County simultaneously. Additionally, during the course of negotiations, this proposer offered to further reduce its pricing by another $100,000, if awarded both zones. This reduction is noted in the pricing structure in the contracts executed by Republic Electric.

Assistant County Manager

MEMORANDUM

(Revised)

TO: Honorable Chairman Bruno A. Barreiro and Members, Board of County Commissioners

DATE: June 26, 2007

FROM: Murray A. Greenberg, County Attorney

SUBJECT: Agenda Item No. 8(O)(1)(B)

Please note any items checked.

_____	**"4-Day Rule" ("3-Day Rule" for committees) applicable if raised**
_____	**6 weeks required between first reading and public hearing**
_____	**4 weeks notification to municipal officials required prior to public hearing**
_____	**Decreases revenues or increases expenditures without balancing budget**
_____	**Budget required**
_____	**Statement of fiscal impact required**
✓	**Bid waiver requiring County Manager's written recommendation**
_____	**Ordinance creating a new board requires detailed County Manager's report for public hearing**
_____	**Housekeeping item (no policy decision required)**
✓	**No committee review**

LED TRAFFIC SIGNAL HEAD RETROFIT PROJECT (NORTH ZONE)

Contract No. 524a

THIS AGREEMENT made and entered into as of this _____ day of _____ by and between Republic Electric, a corporation organized and existing under the laws of the State of California, having its an office at 2725 114th Street, Grand Prairie, TX 75050 (hereinafter referred to as the "Contractor"), and Miami-Dade County, a political subdivision of the State of Florida, having its principal office at 111 N.W. 1st Street, Miami, Florida 33128 (hereinafter referred to as the "County"),

WITNESSETH:

WHEREAS, the Contractor has offered to provide LED traffic signal module retrofit for the North Zone of Miami-Dade County (see Figure 1), that shall conform to the Scope of Services (Appendix A); Miami-Dade County's Request for Proposals (RFP) No. 524 and all associated addenda and attachments, incorporated herein by reference; and the requirements of this Agreement; and,

WHEREAS, the Contractor has submitted a written proposal dated July 13, 2006, hereinafter referred to as the "Contractor's Proposal" which is incorporated by reference herein; and,

WHEREAS, the County desires to procure from the Contractor such services for the County, in accordance with the terms and conditions of this Agreement;

NOW, THEREFORE, in consideration of the mutual covenants and agreements herein contained, the parties hereto agree as follows:

ARTICLE 1. DEFINITIONS

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

a) The words "Contract" or "Contract Documents" or "Agreement" to mean collectively these terms and conditions, the Scope of Services (Appendix A), RFP No. 524 and all associated addenda and attachments, the Contractor's Proposal, and all other attachments hereto and all amendments issued hereto.

b) The words "Contract Date" to mean the date on which this Agreement is effective.

c) The words "Contract Manager" to mean Miami-Dade County's Director, Department of Procurement Management, or the duly authorized representative.

d) The word "Contractor" to mean Republic Electric and its permitted successors and assigns.

e) The word "Days" to mean Calendar Days.

f) The word "Deliverables" to mean all documentation and any items of any nature submitted by the Contractor to the County's Project Manager for review and approval pursuant to the terms of this Agreement.

g) 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.

h) The words "Change Order" or "Extra Work" or "Additional Work" resulting in additions or deletions or modifications to the amount, type or value of the Work and Services as required in this Contract, as directed and/or approved by the County.

i) The words "Project Manager" to mean the County Manager or the duly authorized representative designated to manage the Contract.

k) The words "Scope of Services" to mean the document appended hereto as Appendix A, which details the work to be performed by the Contractor.

l) The word "subcontractor" or "subcontractor" to mean any person, entity, firm or corporation, other than the employees of the Contractor, who furnishes labor and/or materials, in connection with the Work, whether directly or indirectly, on behalf and/or under the direction of the Contractor and whether or not in privity of Contract with the Contractor.

m) The words "Work", "Services" "Program", or "Project" to mean all matters and things required to be done by the Contractor in accordance with the provisions of this Contract.

ARTICLE 2. ORDER OF PRECEDENCE

If there is a conflict between or among the provisions of this Agreement, the order of precedence is as follows: 1) these terms and conditions, 2) the Scope of Services (Appendix A), 3) the Miami-Dade County's RFP No. 524 and any associated addenda and attachments thereof, and 4) the Contractor's Proposal.

ARTICLE 3. RULES OF INTERPRETATION

a) References to a specified Article, section or schedule shall be construed as reference to that specified Article, or section of, or schedule to this Agreement unless otherwise indicated.

b) Reference to any agreement or other instrument shall be deemed to include such agreement or other instrument as such agreement or other instrument may, from time to time, be modified, amended, supplemented, or restated in accordance with its terms.

c) The terms "hereof", "herein", "hereinafter", "hereby", "herewith", "hereto", and "hereunder" shall be deemed to refer to this Agreement.

d) The titles, headings, captions and arrangements used in these Terms and Conditions are for convenience only and shall not be deemed to limit, amplify or modify the terms of this Contract, nor affect the meaning thereof.

ARTICLE 4. NATURE OF THE AGREEMENT

a) The Contractor shall provide the services set forth in the Scope of Services, and render full and prompt cooperation with the County in all aspects of the Services performed hereunder.

b) The Contractor acknowledges that this Agreement requires the performance of all things necessary for or incidental to the effective and complete performance of all Work and Services under this Contract. All things not expressly mentioned in this Agreement but necessary to carrying out its intent are required by this Agreement, and the Contractor shall perform the same as though they were specifically mentioned, described and delineated.

c) The Contractor shall furnish all labor, materials, tools, supplies, and other items required to perform the Work and Services that are necessary for the completion of this Contract. All Work and Services shall be accomplished at the direction of and to the satisfaction of the County's Project Manager.

d) The Contractor acknowledges that the County shall be responsible for making all policy decisions regarding the Scope of Services. The Contractor agrees to provide input on policy issues in the form of recommendations. The Contractor agrees to implement any and all changes in providing Services hereunder as a result of a policy change implemented by the County. The Contractor agrees to act in an expeditious and fiscally sound manner in providing the County with input regarding the time and cost to implement said changes and in executing the activities required to implement said changes.

ARTICLE 5. CONTRACT TERM

The Contract shall become effective on the date shown on the first page and shall continue until project completion (as defined in Appendix A, Scope of Services). The County reserves the right to exercise its option to extend this Contract for up to one hundred-eighty (180) calendar days beyond the current Contract period and will notify the Contractor in writing of the extension. This Contract may be extended beyond the initial one hundred-eighty (180) calendar day extension period by mutual agreement between the County and the Contractor, upon approval by the Board of County Commissioners.

ARTICLE 6. NOTICE REQUIREMENTS

All notices required or permitted under this Agreement shall be in writing and shall be deemed sufficiently served if delivered by Registered or Certified Mail, with return receipt requested; or delivered personally; or delivered via fax or e-mail (if provided below) and followed with delivery of hard copy; and in any case addressed as follows:

(1) **to the County**

a) to the Project Manager:

Miami-Dade County
Public Works Department
Traffic Signals & Signs Office
7100 NW 36 Street
Miami, Florida 33166-6805
Attention: Robert Williams
Phone: (305) 592-8925 Ext: 247
Fax: (305) 594-0364

and,

b) to the Contract Manager:

Miami-Dade County
Department of Procurement Management
111 N.W. 1st Street, Suite 1375
Miami, FL 33128-1974
Attention: Director
Phone: (305) 375-5548
Fax: (305) 375-2316

(2) **To the Contractor**

Republic Electric
2725 114th Street, Grand Prairie, TX 75050
Attention: Katie Gough, Business Development
Phone: (817) 633-5300
Fax: (817) 633-5350
E-mail: Kgough@republicelectric.com

Either party may at any time designate a different address and/or contact person by

giving notice as provided above to the other party. Such notices shall be deemed given upon receipt by the addressee.

ARTICLE 7. PAYMENT FOR SERVICES/AMOUNT OBLIGATED

The Contractor warrants that it has reviewed the County's requirements and has asked such questions and conducted such other inquiries as the Contractor deemed necessary in order to determine the price the Contractor will charge to provide the Work and Services to be performed under this Contract. The compensation for all Work and Services performed under this Contract, including all costs associated with such Work and Services, shall be as stated in Appendix B Price Schedule. The County shall have no obligation to pay the Contractor any additional sum in excess of this amount, except for a change and/or modification to the Contract, which is approved and executed in writing by the County and the Contractor.

All Services undertaken by the Contractor before County's approval of this Contract shall be at the Contractor's risk and expense.

ARTICLE 8. PERFORMANCE AND PAYMENT BOND AND MAINTENANCE BOND

The Contractor shall duly execute and deliver to the County a Performance and Payment Bond and a Maintenance Bond in the amount of one hundred percent (100%) of the value of the contract. The Payment and Performance Bond shall cover only the installation period (up to the last issued Final Acceptance, anticipated by the Contractor to be 350 days or as amended), and shall be released, in accordance with Florida Statute 255.05, and replaced by the Maintenance Bond(s), for five years total (allowed to be issued with an initial term of two years, then replaced with a bond for another two years, then replaced by a bond for one year) beginning with the date of the County's last issued Final Acceptance. The responsibility for procurement and delivery to County of the Maintenance Bond(s) required under this Contract beyond the initial two year term provided herein shall be the sole obligation of the Contractor. The Surety having provided the Performance and Payment bonds covering the installation period and the Maintenance Bond for the initial two year term shall assume no liability to Contractor, the County or any third parties, should Contractor fail, for any reason, to deliver acceptable Maintenance Bond(s) as required by terms of this Contract beyond the first two years of the Maintenance period. The Maintenance Bond(s) will be provided on a standard Maintenance Bond form and shall remain in effect throughout the warranty period as identified in "Appendix A: Scope of Services", Section 1.B.i, Long-term Warranty. The Contractor shall execute a Maintenance Bond for an initial period of two years and issue new bonds in such manner that coverage shall be continuous and in effect throughout the Long-term Warranty period.

The Performance and Payment Bond shall be delivered to the County within twenty (20) calendar days after the Contract Date. If the Contractor fails to deliver the required bonds with in the specified time, including granted extensions, if any, the County may declare the Contractor in default of the contractual terms and conditions may not accept any proposal from the Proposer for a twelve (12) month period following such default.

The following specifications shall apply to the bond required above:

1. All bonds shall apply be written through surety insurers authorized to do business in

the State of Florida as surety, with the following qualifications as to management and financial strength according to the latest edition of Best's Insurance Guide, published by A.M. Best Company, Oldwick, New Jersey:

Bond Amount	Best Ratings	
$500,001 to $1,500,000	B	V
$1,500,001 to $2,500,000	A	VI
$2,500,001 to $5,000,000	A	VII
$5,000,001 to $10,000,000	A	VIII
$Over $10,000,000	A	IX

2. On contract amounts of $500,000 or less, the bond provisions of Section 287.0935, Florida Status (1985) shall be in effect and surety companies not otherwise qualified with this paragraph may optionally qualify by:

   a. Providing evidence that the surety has twice the minimum surplus and capital required by the Florida Insurance Code at the time the Request for Proposals is issued;

   b. Certify that the surety is otherwise in compliance with the Florida Insurance Code; and

   c. Providing a copy of the currently valid Certificate of Authority issued by the United States Department of the Treasury under ss. 31 U.S. C. 9404-9308.

   Surety insures shall be listed in the latest Circular 570 of the U.S. Department of the Treasury entitled "Surety Companies Acceptable on Federal Bonds," published annually. The bond amount shall not exceed the underwriting limitations as shown in this circular.

3. For contracts in excess of $500,000 the provisions of Section B will be adhered to plus the company must have been listed for at least three consecutive years, or holding a valid Certificate of Authority of at least 1.5 million dollars and on the Treasury List.

4. Surety Bonds guaranteed through the U.S. Government Small Business Administration or Contractors Training and Development, Inc., will also be accepted.

5. The attorney-in-fact or other officer who signs a contract bond for a surety company must file with such bond a certified copy of his/her power of attorney authorizing him/her to do so. The contract bond must be countersigned by the surety's resident Florida agent.

ARTICLE 9. PRICING

Prices shall remain firm and fixed for the term of the Contract, including any option or extension periods; however, the Contractor may offer incentive discounts to the County at any time during the Contract term, including any renewal or extension thereof.

ARTICLE 10. METHOD AND TIMES OF PAYMENT

The Contractor agrees that under the provisions of this Agreement, as reimbursement for those actual, reasonable and necessary costs incurred by the Contractor, which are directly attributable or properly allocable to the Services, the Contractor may bill the County once per month, upon invoices certified by the Contractor pursuant to Appendix B – Price Schedule. All invoices shall be taken from the books of account kept by the Contractor, shall be supported by copies of payroll distribution, receipt bills or other documents reasonably required by the County, shall show the County's contract number, and shall have a unique invoice number assigned by the Contractor. It is the policy of Miami-Dade County that payment for all purchases by County agencies and the Public Health Trust shall be made in a timely manner and that interest payments be made on late payments. In accordance with Florida Statutes, Section 218.74 and Section 2-8.1.4 of the Miami-Dade County Code, the time at which payment shall be due from the County or the Public Health Trust shall be forty-five days from receipt of a proper invoice. The time at which payment shall be due to small businesses shall be thirty (30) days from receipt of a proper invoice. All payments due from the County or the Public Health Trust, and not made within the time specified by this section shall bear interest from thirty (30) days after the due date at the rate of one percent (1%) per month on the unpaid balance. Further, proceedings to resolve disputes for payment of obligations shall be concluded by final written decision of the County Manager, or his or her designee(s), not later that sixty (60) days after the date on which the proper invoice was received by the County or the Public Health Trust.

Invoices and associated back-up documentation shall be submitted in duplicate by the Contractor to the County as follows:

Miami-Dade County
Public Works Department
Traffic Signals & Signs Office
7100 NW 36 Street
Miami, Florida 33166-6805
Attention: Robert Williams
Phone: (305) 592-8925 Ext: 247
Fax: (305) 594-0364

The County may at any time designate a different address and/or contact person by giving written notice to the other party.

ARTICLE 11. INDEMNIFICATION AND INSURANCE

The Contractor 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 Contractor or its employees, agents, servants, partners principals or subcontractors. The Contractor 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. The Contractor expressly understands and agrees that any insurance protection required by this Agreement or otherwise provided by the

Contractor 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.

Upon County's notification, the Contractor shall, furnish to Miami-Dade County, Department of Procurement Management, RFP Section, 111 N.W. 1st Street, Suite 1375, Miami, Florida 33128-1974, Certificates of Insurance that indicate that insurance coverage has been obtained, which meets the requirements as outlined below:

1. Worker's Compensation Insurance for all employees of the Contractor as required by Florida Statute 440.

2. Public Liability Insurance on a comprehensive basis in an amount not less than $500,000 combined single limit per occurrence for bodily injury and property damage. **Miami-Dade County must be shown as an additional insured with respect to this coverage. The mailing address of the Department of Procurement Management, as the certificate holder, must appear on the certificate of insurance.**

3. Automobile Liability Insurance covering all owned, non-owned, and hired vehicles used in connection with the Services, in an amount not less than $500,000 combined single limit per occurrence for bodily injury and property damage.

4. Professional Liability Insurance in an amount not less than $500,000 with a deductible per claim not to exceed ten percent (10%) of the limit of liability.

5. Owner's Protective Liability Insurance issued in the name of Miami-Dade County as the sole named insured, in an amount not less than $500,000 combined single limit per occurrence for bodily injury and property damage.

The insurance coverage required shall include those classifications, as listed in standard liability insurance manuals, which most nearly reflect the operation of the Contractor. 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 "B" as to management, and no less than "Class V" as to financial strength, according to the latest edition of 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 Insurance and are members of the Florida Guaranty Fund.

Certificates of Insurance must indicate that for any cancellation of coverage before the expiration date, the issuing insurance carrier will endeavor to mail thirty (30) day written advance notice to the certificate holder. In addition, the Contractor hereby agrees not to modify the insurance coverage without thirty (30) days written advance notice to the County.

NOTE: MIAMI-DADE COUNTY CONTRACT NUMBER AND TITLE MUST APPEAR ON EACH CERTIFICATE OF INSURANCE.

Compliance with the foregoing requirements shall not relieve the Contractor of this liability and obligation under this section or under any other section in this Agreement.

Award of this Contract is contingent upon the receipt of the insurance documents, as required, within fifteen (15) calendar days after County notification to Contractor to comply before the award is made. If the insurance certificate is received within the specified time frame but not in the manner prescribed in this Agreement, the Contractor shall be verbally notified of such deficiency and shall have an additional five (5) calendar days to submit a corrected certificate to the County. If the Contractor fails to submit the required insurance documents in the manner prescribed in this Agreement within twenty (20) calendar days after County notification to comply, the Contractor shall be in default of the contractual terms and conditions and award of the Contract will be rescinded, unless such time frame for submission has been extended by the County.

The Contractor shall be responsible for assuring that the insurance certificates required in conjunction with this Section remain in force for the duration of the contractual period of the Contract, including any and all option years or extension periods that may be granted by the County. If insurance certificates are scheduled to expire during the contractual period, the Contractor shall be responsible for submitting new or renewed insurance certificates to the County at a minimum of thirty (30) calendar days in advance of such expiration. In the event that expired certificates are not replaced with new or renewed certificates which cover the contractual period, the County shall suspend the Contract until such time as the new or renewed certificates are received by the County in the manner prescribed herein; provided, however, that this suspended period does not exceed thirty (30) calendar days. Thereafter, the County may, at its sole discretion, terminate this contract.

ARTICLE 12. MANNER OF PERFORMANCE

a) The Contractor shall provide the Services described herein in a competent and professional manner satisfactory to the County in accordance with the terms and conditions of this Agreement. The County shall be entitled to a satisfactory performance of all Services described herein and to full and prompt cooperation by the Contractor in all aspects of the Services. At the request of the County the Contractor shall promptly remove from the project any Contractor's employee, subcontractor, or any other person performing Services hereunder. The Contractor agrees that such removal of any of its employees does not require the termination or demotion of any employee by the Contractor.

b) The Contractor agrees to defend, hold harmless and indemnify the County and

shall be liable and responsible for any and all claims, suits, actions, damages and costs (including attorney's fees and court costs) made against the County, occurring on account of, arising from or in connection with the removal and replacement of any Contractor's personnel performing services hereunder at the behest of the County. Removal and replacement of any Contractor's personnel as used in this Article shall not require the termination and or demotion of such Contractor's personnel.

c) The Contractor agrees that at all times it will employ, maintain and assign to the performance of the Services a sufficient number of competent and qualified professionals and other personnel to meet the requirements to which reference is hereinafter made. The Contractor agrees to adjust its personnel staffing levels or to replace any its personnel if so directed upon reasonable request from the County, should the County make a determination, in its sole discretion that said personnel staffing is inappropriate or that any individual is not performing in a manner consistent with the requirements for such a position.

d) The Contractor warrants and represents that its personnel have the proper skill, training, background, knowledge, experience, rights, authorizations, integrity, character and licenses as necessary to perform the Services described herein, in a competent and professional manner.

e) The Contractor shall at all times cooperate with the County and coordinate its respective work efforts to most effectively and efficiently maintain the progress in performing the Services.

f) The Contractor shall comply with all provisions of all federal, state and local laws, statutes, ordinances, and regulations that are applicable to the performance of this Agreement.

ARTICLE 13. EMPLOYEES ARE THE RESPONSIBILITY OF THE CONTRACTOR

All employees of the Contractor shall be considered to be, at all times, employees of the Contractor under its sole direction and not employees or agents of the County. The Contractor shall supply competent employees. Miami-Dade County may require the Contractor to remove an employee it deems careless, incompetent, insubordinate or otherwise objectionable and whose continued employment on County property is not in the best interest of the County. Each employee shall have and wear proper identification.

ARTICLE 14. INDEPENDENT CONTRACTOR RELATIONSHIP

The Contractor is, and shall be, in the performance of all work services and activities under this Agreement, an independent Contractor, and not an employee, agent or servant of the County. All persons engaged in any of the work or services performed pursuant to this Agreement shall at all times, and in all places, be subject to the Contractor's sole direction, supervision and control. The Contractor shall exercise control over the means and manner in which it and its employees perform the work, and in all respects the Contractor's relationship and the relationship of its employees to the County shall be that of an independent Contractor and not as employees and agents of the County.

The Contractor does not have the power or authority to bind the County in any promise, agreement or representation other than specifically provided for in this Agreement.

ARTICLE 15. AUTHORITY OF THE COUNTY'S PROJECT MANAGER

a) The Contractor hereby acknowledges that the County's Project Manager will determine in the first instance all questions of any nature whatsoever arising out of, under, or in connection with, or in any way related to or on account of, this Agreement including without limitations: questions as to the value, acceptability and fitness of the Services; questions as to either party's fulfillment of its obligations under the Contract; negligence, fraud or misrepresentation before or subsequent to acceptance of the Proposal; questions as to the interpretation of the Scope of Services; and claims for damages, compensation and losses.

b) The Contractor shall be bound by all determinations or orders and shall promptly obey and follow every order of the Project Manager, including the withdrawal or modification of any previous order and regardless of whether the Contractor agrees with the Project Manager's determination or order. Where orders are given orally, they will be issued in writing by the Project Manager as soon thereafter as is practicable.

c) The Contractor must, in the final instance, seek to resolve every difference concerning the Agreement with the Project Manager. In the event that the Contractor and the Project Manager are unable to resolve their difference, the Contractor may initiate a dispute in accordance with the procedures set forth in this Article. Exhaustion of these procedures shall be a condition precedent to any lawsuit permitted hereunder.

d) In the event of such dispute, the parties to this Agreement authorize the County Manager or designee, who may not be the Project Manager or anyone associated with this Project, acting personally, to decide all questions arising out of, under, or in connection with, or in any way related to or on account of the Agreement (including but not limited to claims in the nature of breach of contract, fraud or misrepresentation arising either before or subsequent to execution hereof) and the decision of each with respect to matters within the County Manager's purview as set forth above shall be conclusive, final and binding on parties. Any such dispute shall be brought, if at all, before the County Manager within 10 days of the occurrence, event or act out of which the dispute arises.

e) The County Manager may base this decision on such assistance as may be desirable, including advice of experts, but in any event shall base the decision on an independent and objective determination of whether Contractor's performance or any Deliverable meets the requirements of this Agreement and any specifications with respect thereto set forth herein. The effect of any decision shall not be impaired or waived by any negotiations or settlements or offers made in connection with the dispute, whether or not the County Manager participated therein, or by any prior decision of others, which prior decision shall be deemed subject to review, or by any termination or cancellation of the Agreement. All

such disputes shall be submitted in writing by the Contractor to the County Manager for a decision, together with all evidence and other pertinent information in regard to such questions, in order that a fair and impartial decision may be made. Whenever the County Manager is entitled to exercise discretion or judgement or to make a determination or form an opinion pursuant to the provisions of this Article, such action shall be fair and impartial when exercised or taken. The County Manager, as appropriate, shall render a decision in writing and deliver a copy of the same to the Contractor. Except as such remedies may be limited or waived elsewhere in the Agreement, Contractor reserves the right to pursue any remedies available under law after exhausting the provisions of this Article.

ARTICLE 16. MUTUAL OBLIGATIONS

a) This Agreement, including attachments and appendixes to the Agreement, shall constitute the entire Agreement between the parties with respect hereto and supersedes all previous communications and representations or agreements, whether written or oral, with respect to the subject matter hereto unless acknowledged in writing by the duly authorized representatives of both parties.

b) Nothing in this Agreement shall be construed for the benefit, intended or otherwise, of any third party that is not a parent or subsidiary of a party or otherwise related (by virtue of ownership control or statutory control) to a party.

c) In those situations where this Agreement imposes an indemnity obligation on the Contractor, the County may, at its expense, elect to participate in the defense if the County should so choose. Furthermore, the County may at its own expense defend or settle any such claims if the Contractor fails to diligently defend such claims, and thereafter seek indemnity for costs from the Contractor.

ARTICLE 17. QUALITY ASSURANCE/QUALITY ASSURANCE RECORD KEEPING

The Contractor shall maintain, and shall require that its subcontractor and suppliers maintain, complete and accurate records to substantiate compliance with the requirements set forth in the Scope Of Services. The Contractor and its subcontractors and suppliers, shall retain such records, and all other documents relevant to the Services furnished under this Agreement for a period of three (3) years from the expiration date of this Agreement and any extension thereof.

ARTICLE 18. AUDITS

The Contractor agrees that the County or its duly authorized representatives or governmental agencies shall, until the expiration of three (3) years after the expiration of this Agreement and any extension thereof, have access to and the right to examine and reproduce any of the Contractor's books, documents, papers and records and of its subcontractors and suppliers which apply to all matters of the County. Such records shall subsequently conform to Generally Accepted Accounting Principles requirements, and shall only address those transactions related to this Agreement.

The Contractor agrees to maintain an accounting system that provides accounting records that are supported with adequate documentation, and adequate procedures for determining the allowability and allocability of costs.

ARTICLE 19. SUBSTITUTION OF PERSONNEL

In the event the Contractor wishes to substitute personnel for the key personnel identified by the Contractor's Proposal, the Contractor must notify the County in writing and request written approval for the substitution at least ten (10) business days prior to effecting such substitution.

ARTICLE 20. CONSENT OF THE COUNTY REQUIRED FOR ASSIGNMENT

The Contractor shall not assign, transfer, convey or otherwise dispose of this Agreement, including its rights, title or interest in or to the same or any part thereof without the prior written consent of the County.

ARTICLE 21. SUBCONTRACTUAL RELATIONS

a) If the Contractor will cause any part of this Agreement to be performed by a Subcontractor, the provisions of this Contract will apply to such Subcontractor and its officers, agents and employees in all respects as if it and they were employees of the Contractor; and the Contractor will not be in any manner thereby discharged from its obligations and liabilities hereunder, but will be liable hereunder for all acts and negligence of the Subcontractor, its officers, agents, and employees, as if they were employees of the Contractor. The services performed by the Subcontractor will be subject to the provisions hereof as if performed directly by the Contractor.

b) The Contractor, before making any subcontract for any portion of the services, will state in writing to the County the name of the proposed Subcontractor, the portion of the Services which the Subcontractor is to do, the place of business of such Subcontractor, and such other information as the County may require. The County will have the right to require the Contractor not to award any subcontract to a person, firm or corporation disapproved by the County.

c) Before entering into any subcontract hereunder, the Contractor will inform the Subcontractor fully and completely of all provisions and requirements of this Agreement relating either directly or indirectly to the Services to be performed. Such Services performed by such Subcontractor will strictly comply with the requirements of this Contract.

d) In order to qualify as a Subcontractor satisfactory to the County, in addition to the other requirements herein provided, the Subcontractor must be prepared to prove to the satisfaction of the County that it has the necessary facilities, skill and experience, and ample financial resources to perform the Services in a satisfactory manner. To be considered skilled and experienced, the Subcontractor must show to the satisfaction of the County that it has satisfactorily performed services of the same general type which is required to be performed under this Agreement.

e) The County shall have the right to withdraw its consent to a subcontract if it appears to the County that the subcontract will delay, prevent, or otherwise impair the performance of the Contractor's obligations under this Agreement. All Subcontractors are required to protect the confidentiality of the County's and County's proprietary and confidential information. Contractor shall furnish to the County copies of all subcontracts between Provider and Subcontractors and suppliers hereunder. Within each such subcontract, there shall be a clause for the benefit of the County permitting the County to request completion of performance by the Subcontractor of its obligations under the subcontract, in the event the County finds the Contractor in breach of its obligations, the option to pay the Subcontractor directly for the performance by such subcontractor. Notwithstanding, the foregoing shall neither convey nor imply any obligation or liability on the part of the County to any subcontractor hereunder as more fully described herein.

ARTICLE 22. ASSUMPTION, PARAMETERS, PROJECTIONS, ESTIMATES AND EXPLANATIONS

The Contractor understands and agrees that any assumptions, parameters, projections, estimates and explanations presented by the County were provided to the Contractor for evaluation purposes only. However, since these assumptions, parameters, projections, estimates and explanations represent predictions of future events the County makes no representations or guarantees; and the County shall not be responsible for the accuracy of the assumptions presented; and the County shall not be responsible for conclusions to be drawn therefrom; and any assumptions, parameters, projections, estimates and explanations shall not form the basis of any claim by the Contractor. The Contractor accepts all risk associated with using this information.

ARTICLE 23. SEVERABILITY

If this Agreement contains any provision found to be unlawful, the same shall be deemed to be of no effect and shall be deemed stricken from this Agreement without affecting the binding force of this Agreement as it shall remain after omitting such provision.

ARTICLE 24. TERMINATION FOR CONVENIENCE AND SUSPENSION OF WORK

a) The County may terminate this Agreement if an individual or corporation or other entity attempts to meet its contractual obligation with the County through fraud, misrepresentation or material misstatement.

b) The County may, as a further sanction, terminate or cancel any other contract(s) that such individual or corporation or other entity has with the County and that such individual, corporation or other entity shall be responsible for all direct and indirect costs associated with such termination or cancellation, including attorney's fees.

c) The foregoing notwithstanding, any individual, corporation or other entity which attempts to meet its contractual obligations with the County through fraud, misrepresentation or material misstatement may be debarred from County contracting for up to five (5) years in accordance with the County debarment procedures. The Contractor may be subject to debarment for failure to perform

and all other reasons set forth in Section 10-38 of the County Code.

In addition to cancellation or termination as otherwise provided in this Agreement, the County may at any time, in its sole discretion, with or without cause, terminate this Agreement by written notice to the Contractor and in such event:

d) The Contractor shall, upon receipt of such notice, unless otherwise directed by the County:

i. stop work on the date specified in the notice ("the Effective Termination Date");

ii. take such action as may be necessary for the protection and preservation of the County's materials and property;

iii. cancel orders;

iv. assign to the County and deliver to any location designated by the County any noncancelable orders for Deliverables that are not capable of use except in the performance of this Agreement and has been specifically developed for the sole purpose of this Agreement and not incorporated in the Services:

v. take no action which will increase the amounts payable by the County under this Agreement; and

e) In the event that the County exercises its right to terminate this Agreement pursuant to this Article the Contractor will be compensated as stated in the payment Articles, herein, for the:

i. portion of the Services completed in accordance with the Agreement and the Work Order up to the Effective Termination Date; and

ii. noncancelable Deliverables that are not capable of use except in the performance of this Agreement and Work Order and has been specifically developed for the sole purpose of this Agreement Work Order but not incorporated in the Services.

f) All compensation pursuant to this Article are subject to audit.

ARTICLE 25. EVENT OF DEFAULT

a) An Event of Default shall mean a breach of this Agreement by the Contractor. Without limiting the generality of the foregoing and in addition to those instances referred to herein as a breach, an Event of Default, shall include the following:

i. the Contractor has not delivered Deliverables on a timely basis.

ii. the Contractor has refused or failed, except in case for which an extension of time is provided, to supply enough properly skilled Staff Personnel;

iii. the Contractor has failed to make prompt payment to subcontractors or suppliers for any Services;

iv. the Contractor has become insolvent (other than as interdicted by the bankruptcy laws), or has assigned the proceeds received for the benefit of the Contractor's creditors, or the Contractor has taken advantage of any insolvency statute or debtor/creditor law or if the Contractor's affairs have been put in the hands of a receiver;

v. the Contractor has failed to obtain the approval of the County where required by this Agreement;

vi. the Contractor has failed to provide "adequate assurances" as required under subsection "b" below;

vii. the Contractor has failed in the representation of any warranties stated herein.

b) When, in the opinion of the County, reasonable grounds for uncertainty exist with respect to the Contractor's ability to perform the Services or any portion thereof, the County may request that the Contractor, within the time frame set forth in the County's request, provide adequate assurances to the County, in writing, of the Contractor's ability to perform in accordance with terms of this Agreement. Until the County receives such assurances the County may request an adjustment to the compensation received by the Contractor for portions of the Services which the Contractor has not performed. In the event that the Contractor fails to provide to the County the requested assurances within the prescribed time frame, the County may:

i. treat such failure as a repudiation of this Agreement;

ii. resort to any remedy for breach provided herein or at law, including but not limited to, taking over the performance of the Services or any part thereof either by itself or through others.

c) In the event the County shall terminate this Agreement for default, the County or its designated representatives, may immediately take possession of all applicable equipment, materials, products, documentation, reports and data.

ARTICLE 26. NOTICE OF DEFAULT - OPPORTUNITY TO CURE /TERMINATION

If an Event of Default occurs, in the determination of the County, the County may so notify the Contractor ("Default Notice"), specifying the basis for such default, and advising the Contractor that such default must be cured immediately or this Agreement with the County may be terminated. Notwithstanding, the County may, in its sole discretion, allow the Contractor to rectify the default to the County's reasonable satisfaction within a thirty (30) day period. The County may grant an additional period of such duration as the County shall deem appropriate without waiver of any of the County's rights hereunder, so long as the Contractor has commenced curing such default and is effectuating a cure with diligence and continuity during such thirty (30) day period or any other period which the County prescribes. The default notice shall

specify the date the Contractor shall discontinue the Services upon the Termination Date.

ARTICLE 27. REMEDIES IN THE EVENT OF DEFAULT

If an Event of Default occurs, the Contractor shall be liable for all damages resulting from the default, including but not limited to:

a) lost revenues;

b) the difference between the cost associated with procuring Services hereunder and the amount actually expended by the County for reprocurement of Services, including procurement and administrative costs; and,

c) such other direct damages.

The Contractor shall also remain liable for any liabilities and claims related to the Contractor's default.

The County may also bring any suit or proceeding for specific performance or for an injunction.

ARTICLE 28. PATENT AND COPYRIGHT INDEMNIFICATION

a) The Contractor warrants that all Deliverables furnished hereunder, including but not limited to: equipment programs, documentation, software, analyses, applications, methods, ways, processes, and the like, do not infringe upon or violate any patent, copyrights, service marks, trade secret, or any other third party proprietary rights.

b) The Contractor shall be liable and responsible for any and all claims made against the County for infringement of patents, copyrights, service marks, trade secrets or any other third party proprietary rights, by the use or supplying of any programs, documentation, software, analyses, applications, methods, ways, processes, and the like, in the course of performance or completion of, or in any way connected with, the Work, or the County's continued use of the Deliverables furnished hereunder. Accordingly, the Contractor at its own expense, including the payment of attorney's fees, shall indemnify, and hold harmless the County and defend any action brought against the County with respect to any claim, demand, cause of action, debt, or liability.

c) In the event any Deliverable or anything provided to the County hereunder, or portion thereof is held to constitute an infringement and its use is or may be enjoined, the Contractor shall have the obligation to, at the County's option to (i) modify, or require that the applicable sub subcontractor or supplier modify, the alleged infringing item(s) at its own expense, without impairing in any respect the functionality or performance of the item(s), or (ii) procure for the County, at the Contractor's expense, the rights provided under this Agreement to use the item(s).

d) The Contractor shall be solely responsible for determining and informing the County whether a prospective supplier or subcontractor is a party to any litigation involving patent or copyright infringement, service mark, trademark, violation, or proprietary rights claims or is subject to any injunction which may prohibit it from providing any Deliverable hereunder. The Contractor shall enter into agreements with all suppliers and subcontractors at the Contractor's own risk. The County may reject any Deliverable that it believes to be the subject of any such litigation or injunction, or if, in the County's judgment, use thereof would delay the Work or be unlawful.

e) The Contractor shall not infringe any copyright, trademark, service mark, trade secrets, patent rights, or other intellectual property rights in the performance of the Work.

ARTICLE 29. CONFIDENTIALITY

a) All Developed Works and other materials, data, transactions of all forms, financial information, documentation, inventions, designs and methods obtained from the County in connection with the Services performed under this Agreement, made or developed by the Contractor or its subcontractors in the course of the performance of such Services, or the results of such Services, or which the County holds the proprietary rights, constitute Confidential Information and may not, without the prior written consent of the County, be used by the Contractor or its employees, agents, subcontractors or suppliers for any purpose other than for the benefit of the County, unless required by law. In addition to the foregoing, all County employee information and County financial information shall be considered confidential information and shall be subject to all the requirements stated herein. Neither the Contractor nor its employees, agents, subcontractors or suppliers may sell, transfer, publish, disclose, display, license or otherwise make available to others any part of such Confidential Information without the prior written consent of the County. Additionally, the Contractor expressly agrees to be bound by and to defend, indemnify and hold harmless the County, and their officers and employees from the breach of any federal, state or local law in regard to the privacy of individuals.

b) The Contractor shall advise each of its employees, agents, subcontractors and suppliers who may be exposed to such Confidential Information of their obligation to keep such information confidential and shall promptly advise the County in writing if it learns of any unauthorized use or disclosure of the Confidential Information by any of its employees or agents, or subcontractor's or supplier's employees, present or former. In addition, theContractor agrees to cooperate fully and provide any assistance necessary to ensure the confidentiality of the Confidential Information.

c) It is understood and agreed that in the event of a breach of this Article damages may not be an adequate remedy and the County shall be entitled to injunctive relief to restrain any such breach or threatened breach. Unless otherwise requested by the County, upon the completion of the Services performed

hereunder, theContractor shall immediately turn over to the County all such Confidential Information existing in tangible form, and no copies thereof shall be retained by the Contractor or its employees, agents, subcontractors or suppliers without the prior written consent of the County. A certificate evidencing compliance with this provision and signed by an officer of the Contractor shall accompany such materials.

ARTICLE 30. PROPRIETARY INFORMATION

As a political subdivision of the State of Florida, Miami-Dade County is subject to the stipulations of Florida's Public Records Law.

The Contractor acknowledge that all computer software in the County's possession may constitute or contain information or materials which the County has agreed to protect as proprietary information from disclosure or unauthorized use and may also constitute or contain information or materials which the County has developed at its own expense, the disclosure of which could harm the County's proprietary interest therein.

During the term of the contract, the Contractors will not use directly or indirectly for itself or for others, or publish or disclose to any third party, or remove from the County's property, any computer programs, data compilations, or other software which the County has developed, has used or is using, is holding for use, or which are otherwise in the possession of the County (hereinafter "Computer Software"). All third-party license agreements must also be honored by the Contractors and their employees, except as authorized by the County and, if the Computer Software has been leased or purchased by the County, all hired party license agreements must also be honored by the Contractors' employees with the approval of the lessor or Contractors thereof. This includes mainframe, minis, telecommunications, personal computers and any and all information technology software.

The Contractor will report to the County any information discovered or which is disclosed to the Contractor which may relate to the improper use, publication, disclosure or removal from the County's property of any information technology software and hardware and will take such steps as are within the Contractor's authority to prevent improper use, disclosure or removal.

ARTICLE 31. PROPRIETARY RIGHTS

a) The Contractor hereby acknowledges and agrees that the County retains all rights, title and interests in and to all materials, data, documentation and copies thereof furnished by the County to the Contractor hereunder or furnished by the Contractor to the County and/or created by the Contractor for delivery to the County, even if unfinished or in process, as a result of the Services the Contractor performs in connection with this Agreement, including all copyright and other proprietary rights therein, which the Contractor as well as its employees, agents, subcontractors and suppliers may use only in connection of

the performance of Services under this Agreement. The Contractor shall not, without the prior written consent of the County, use such documentation on any other project in which the Contractor or its employees, agents, subcontractors or suppliers are or may become engaged. Submission or distribution by the Contractor to meet official regulatory requirements or for other purposes in connection with the performance of Services under this Agreement shall not be construed as publication in derogation of the County's copyrights or other proprietary rights.

b) All rights, title and interest in and to certain inventions, ideas, designs and methods, specifications and other documentation related thereto developed by the Contractor and its subcontractors specifically for the County, hereinafter referred to as "Developed Works" shall become the property of the County.

c) Accordingly, neither the Contractor nor its employees, agents, subcontractors or suppliers shall have any proprietary interest in such Developed Works. The Developed Works may not be utilized, reproduced or distributed by or on behalf of the Contractor, or any employee, agent, subcontractor or supplier thereof, without the prior written consent of the County, except as required for the Contractor's performance hereunder.

d) Except as otherwise provided in subsections a, b, and c above, or elsewhere herein, the Contractor and its subcontractors and suppliers hereunder shall retain all proprietary rights in and to all Licensed Software provided hereunder, that have not been customized to satisfy the performance criteria set forth in the Scope of Services. Notwithstanding the foregoing, the Contractor hereby grants, and shall require that its subcontractors and suppliers grant, if the County so desires, a perpetual, irrevocable and unrestricted right and license to use, duplicate, disclose and/or permit any other person(s) or entity(ies) to use all such Licensed Software and the associated specifications, technical data and other Documentation for the operations of the County or entities controlling, controlled by, under common control with, or affiliated with the County, or organizations which may hereafter be formed by or become affiliated with the County. Such license specifically includes, but is not limited to, the right of the County to use and/or disclose, in whole or in part, the technical documentation and Licensed Software, including source code provided hereunder, to any person or entity outside the County for such person's or entity's use in furnishing any and/or all of the Deliverables provided hereunder exclusively for the County or entities controlling, controlled by, under common control with, or affiliated with the County, or organizations which may hereafter be formed by or become affiliated with the County. No such License Software, specifications, data, documentation or related information shall be deemed to have been given in confidence and any statement or legend to the contrary shall be void and of no effect.

ARTICLE 32. BUSINESS APPLICATION AND FORMS

Business Application The Contractor shall be a registered vendor with the County –

Department of Procurement Management, for the duration of this Agreement. It is the responsibility of the Contractor to file the appropriate Vendor Application and to update the Application file for any changes for the duration of this Agreement, including any option years.

Section 2-11.1(d) of Miami-Dade County Code as amended by Ordinance 00-1, requires any county employee or any member of the employee's immediate family who has a controlling financial interest, direct or indirect, with Miami-Dade County or any person or agency acting for Miami-Dade County from competing or applying for any such contract as it pertains to this solicitation, must first request a conflict of interest opinion from the County's Ethic Commission prior to their or their immediate family member's entering into any contract or transacting any business through a firm, corporation, partnership or business entity in which the employee or any member of the employee's immediate family has a controlling financial interest, direct or indirect, with Miami-Dade County or any person or agency acting for Miami-Dade County and that any such contract, agreement or business engagement entered in violation of this subsection, as amended, shall render this Agreement voidable. For additional information, please contact the Ethics Commission hotline at (305) 579-2593.

ARTICLE 33. INSPECTOR GENERAL REVIEWS

Independent Private Sector Inspector General Reviews

Pursuant to Miami-Dade County Administrative Order 3-20, the County has the right to retain the services of an Independent Private Sector Inspector General (hereinafter "IPSIG"), whenever the County deems it appropriate to do so. Upon written notice from the County, the Contractor shall make available to the IPSIG retained by the County, all requested records and documentation pertaining to this Agreement for inspection and reproduction. The County shall be responsible for the payment of these IPSIG services, and under no circumstance shall the Contractor's prices and any changes thereto approved by the County, be inclusive of any charges relating to these IPSIG services. The terms of this provision herein, apply to the Contractor, its officers, agents, employees, subcontractors and assignees. Nothing contained in this provision shall impair any independent right of the County to conduct an audit or investigate the operations, activities and performance of the Contractor in connection with this Agreement. The terms of this Article shall not impose any liability on the County by the Contractor or any third party.

Miami-Dade County Inspector General Review

According to Section 2-1076 of the Code of Miami-Dade County, as amended by Ordinance No. 99-63, Miami-Dade County has established the Office of the Inspector General which may, on a random basis, perform audits on all County contracts, throughout the duration of said contracts, except as otherwise provided below. The cost of the audit for this Contract shall be one quarter (1/4) of one (1) percent of the total contract amount which cost shall be included in the total contract amount. The audit cost will be deducted by the County from progress payments to the Contractor. The audit cost shall also be included in all change orders and all contract renewals and extensions.

Exception: The above application of one quarter (1/4) of one percent fee assessment shall not apply to the following contracts: (a) IPSIG contracts; (b) contracts for legal services; (c) contracts for financial advisory services; (d) auditing contracts; (e) facility rentals and lease agreements; (f) concessions and other rental agreements; (g) insurance contracts; (h) revenue-generating contracts; (I) contracts where an IPSIG is assigned at the time the contract is approved by the Commission; (j) professional service agreements under $1,000; (k) management agreements; (l) small purchase orders as defined in Miami-Dade County Administrative Order 3-2; (m) federal, state and local government-funded grants; and (n) interlocal agreements. ***Notwithstanding the foregoing, the Miami-Dade County Board of County Commissioners may authorize the inclusion of the fee assessment of one quarter (1/4) of one percent in any exempted contract at the time of award***

Nothing contained above shall in any way limit the powers of the Inspector General to perform audits on all County contracts including, but not limited to, those contracts specifically exempted above. The Miami-Dade County Inspector General is authorized and empowered to review past, present and proposed County and Public Health Trust contracts, transactions, accounts, records and programs. In addition, the Inspector General has the power to subpoena witnesses, administer oaths, require the production of records and monitor existing projects and programs. Monitoring of an existing project or program may include a report concerning whether the project is on time, within budget and in conformance with plans, specifications and applicable law. The Inspector General is empowered to analyze the necessity of and reasonableness of proposed change orders to the Contract. The Inspector General is empowered to retain the services of independent private sector inspectors general (IPSIG) to audit, investigate, monitor, oversee, inspect and review operations, activities, performance and procurement process, including but not limited to project design, specifications, proposal submittals, activities of the Contractor, its officers, agents and employees, lobbyists, County staff and elected officials to ensure compliance with contract specifications and to detect fraud and corruption.

Upon written notice to the Contractor from the Inspector General or IPSIG retained by the Inspector General, the Contractor shall make all requested records and documents available to the Inspector General or IPSIG for inspection and copying. The Inspector General and IPSIG shall have the right to inspect and copy all documents and records in the Contractor's possession, custody or control which, in the Inspector General's or IPSIG's sole judgment, pertain to performance of the contract, including, but not limited to original estimate files, change order estimate files, worksheets, proposals and agreements form and which successful and unsuccessful subcontractors and suppliers, all project-related correspondence, memoranda, instructions, financial documents, construction documents, proposal and contract documents, back-charge documents, all documents and records which involve cash, trade or volume discounts, insurance proceeds, rebates, or dividends received, payroll and personnel records, and supporting documentation for the aforesaid documents and records.

ARTICLE 34. LOCAL, STATE, AND FEDERAL COMPLIANCE REQUIREMENTS

Contractor agrees to comply, subject to applicable professional standards, with the provisions of any and all applicable Federal, State and the County orders, statutes, ordinances, rules and regulations which may pertain to the Services required under this Agreement, including but not limited to:

a) Equal Employment Opportunity (EEO), in compliance with Executive Order 11246 as amended and applicable to this Contract.

b) Miami-Dade County Florida, Department of Business Development Participation Provisions, as applicable to this Contract.

c) Environmental Protection Agency (EPA), as applicable to this Contract.

d) Miami-Dade County Code, Chapter 11A, Article 3. All Contractors and subcontractors performing work in connection with this Contract shall provide equal opportunity for employment because of race, religion, color, age, sex, national origin, sexual preference, disability or marital status. The aforesaid provision shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous place available for employees and applicants for employment, such notices as may be required by the Dade County Fair Housing and Employment Commission, or other authority having jurisdiction over the work setting forth the provisions of the nondiscrimination law.

e) "Conflicts of Interest" Section 2-11 of the County Code, and Ordinance 01-199.

f) Miami-Dade County Code Section 10-38 "Debarment".

g) Miami-Dade County Ordinance 99-5, codified at 11A-60 et. seq. of Miami-Dade Code pertaining to complying with the County's Domestic Leave Ordinance.

h) Miami-Dade County Ordinance 99-152, prohibiting the presentation, maintenance, or prosecution of false or fraudulent claims against Miami-Dade County.

Notwithstanding any other provision of this Agreement, Contractor shall not be required pursuant to this Agreement to take any action or abstain from taking any action if such action or abstention would, in the good faith determination of the Contractor, constitute a violation of any law or regulation to which Contractor is subject, including but not limited to laws and regulations requiring that Contractor conduct its operations in a safe and sound manner.

ARTICLE 35. NONDISCRIMINATION

During the performance of this Contract, Contractor agrees to: not discriminate against any employee or applicant for employment because of race, religion, color, sex, handicap, marital status, age or national origin, and will take affirmative action to ensure that they are afforded equal employment opportunities without discrimination. Such action shall be taken with reference to, but not limited to: recruitment, employment, termination, rates of pay or other forms of compensation, and selection for training or retraining, including apprenticeship and on the job training.

By entering into this Contract with the County, the Contractor attests that it is not in violation of the Americans with Disabilities Act of 1990 (and related Acts) or Miami-Dade County Resolution No. R-385-95. If the Contractor or any owner, subsidiary or other firm affiliated with or related to the Contractor is found by the responsible

enforcement agency or the County to be in violation of the Act or the Resolution, such violation shall render this Contract void. This Contract shall be void if the Contractor submits a false affidavit pursuant to this Resolution or the Contractor violates the Act or the Resolution during the term of this Contract, even if the Contractor was not in violation at the time it submitted its affidavit.

ARTICLE 36. CONFLICT OF INTEREST

The Contractor represents that:

a) No officer, director, employee, agent, or other Contractor of the County or a member of the immediate family or household of the aforesaid has directly or indirectly received or been promised any form of benefit, payment or compensation, whether tangible or intangible, in connection with the grant of this Agreement.

b) There are no undisclosed persons or entities interested with the Contractor in this Agreement. This Agreement is entered into by the Contractor without any connection with any other entity or person making a proposal for the same purpose, and without collusion, fraud or conflict of interest. No elected or appointed officer or official, director, employee, agent or other Contractor of the County, or of the State of Florida (including elected and appointed members of the legislative and executive branches of government), or a member of the immediate family or household of any of the aforesaid:

   i) is interested on behalf of or through the Contractor directly or indirectly in any manner whatsoever in the execution or the performance of this Agreement, or in the services, supplies or work, to which this Agreement relates or in any portion of the revenues; or

   ii) is an employee, agent, advisor, or Contractor to the Contractor or to the best of the Contractor's knowledge any subcontractor or supplier to the Contractor.

c) Neither the Contractor nor any officer, director, employee, agency, parent, subsidiary, or affiliate of the Contractor shall have an interest which is in conflict with the Contractor's faithful performance of its obligation under this Agreement; provided that the County, in its sole discretion, may consent in writing to such a relationship, provided the Contractor provides the County with a written notice, in advance, which identifies all the individuals and entities involved and sets forth in detail the nature of the relationship and why it is in the County's best interest to consent to such relationship.

d) The provisions of this Article are supplemental to, not in lieu of, all applicable laws with respect to conflict of interest. In the event there is a difference between the standards applicable under this Agreement and those provided by statute, the stricter standard shall apply.

e) In the event Contractor has no prior knowledge of a conflict of interest as set forth above and acquires information which may indicate that there may be an actual or apparent violation of any of the above, Contractor shall promptly bring such information to the attention of the County's Project Manager. Contractor shall thereafter cooperate with the County's review and investigation of such information, and comply with the instructions Contractor receives from the Project

Manager in regard to remedying the situation.

ARTICLE 37. PRESS RELEASE OR OTHER PUBLIC COMMUNICATION

Under no circumstances shall the Contractor without the express written consent of the County:

a) Issue or permit to be issued any press release, advertisement or literature of any kind which refers to the County, or the Work being performed hereunder, unless the Contractor first obtains the written approval of the County. Such approval may be withheld if for any reason the County believes that the publication of such information would be harmful to the public interest or is in any way undesirable; and

b) Communicate in any way with any Contractor, department, board, agency, commission or other organization or any person whether governmental or private in connection with the Services to be performed hereunder except upon prior written approval and instruction of the County; and

c) Except as may be required by law, the Contractor and its employees, agents, subcontractors and suppliers will not represent, directly or indirectly, that any product or service provided by the Contractor or such parties has been approved or endorsed by the County.

ARTICLE 38. BANKRUPTCY

The County reserves the right to terminate this contract, if, during the term of any contract the Contractor has with the County, the Contractor becomes involved as a debtor in a bankruptcy proceeding, or becomes involved in a reorganization, dissolution, or liquidation proceeding, or if a trustee or receiver is appointed over all or a substantial portion of the property of the Contractor under federal bankruptcy law or any state insolvency law.

ARTICLE 39. GOVERNING LAW

This Contract, including appendices, and all matters relating to this Contract (whether in contract, statute, tort (such as negligence), or otherwise) shall be governed by, and construed in accordance with, the laws of the State of Florida.

ARTICLE 40. COUNTY USER ACCESS PROGRAM (UAP)

a) User Access Fee

Pursuant to Miami-Dade County Budget Ordinance No. 03-192, this Contract is subject to a user access fee under the County User Access Program (UAP) in the amount of two percent (2%). All sales resulting from this Contract, or any contract resulting from this solicitation and the utilization of the County contract price and the terms and conditions identified herein, are subject to the two percent (2%) UAP. This fee applies to all contract usage whether by County Departments or by any other governmental, quasi-governmental or not-for-profit entity.

The Contractor providing goods or services under this Contract shall invoice the contract price and shall accept as payment thereof the contract price less the 2% UAP as full and complete payment for the goods and/or services specified on the invoice. The County shall retain the 2% UAP for use by the County to help defray the cost of the procurement program. Vendor participation in this invoice reduction portion of the UAP is mandatory.

b) Joint Purcha se

Only those entities that have been approved by the County for participation in the County's Joint Purchase and Entity Revenue Sharing Agreement are eligible to utilize or receive County contract pricing and terms and conditions. The County will provide to approved entities a UAP Participant Validation Number. The Contractor must obtain the participation number from the entity prior to filling any order placed pursuant to this section. Contractor participation in this joint purchase portion of the UAP, however, is voluntary. The Contractor shall notify the ordering entity, in writing, within 3 work days of receipt of an order, of a decision to decline the order.

For all ordering entities located outside the geographical boundaries of Miami-Dade County, the Contractor shall be entitled to ship goods on an "FOB Destination, Prepaid and Charged Back" basis. This allowance shall only be made when expressly authorized by a representative of the ordering entity prior to shipping the goods.

The County shall have no liability to the Contractor for the cost of any purchase made by an ordering entity under the UAP and shall not be deemed to be a party thereto. All orders shall be placed directly by the ordering entity with the Contractor and shall be paid by the ordering entity less the 2% UAP.

c) Contractor Compliance

If a Contractor fails to comply with this Article, that Contractor may be considered in default by the County in accordance with Article 24 of this Contract.

ARTICLE 41. SURVIVAL

The parties acknowledge that any of the obligations in this Agreement will survive the term, termination and cancellation hereof. Accordingly, the respective obligations of the Contractor and the County under this Agreement, which by nature would continue beyond the termination, cancellation or expiration thereof, shall survive termination, cancellation or expiration hereof.

ARTICLE 42. FORCE MAJEURE.

Except as otherwise expressly provided herein, neither party hereto shall be considered in default in the performance of its obligations hereunder to the extent that such performance is prevented or delayed by any cause, existing or future, which is not within the reasonable control of such party including, but not limited to, acts of God or

the public enemy, fires, explosions, riots, strikes (not including strikes of the Contractor's Staff Personnel), or war. Notwithstanding the foregoing, the failures of any of the Contractor's suppliers, subcontractors, or the like shall not excuse the Contractor's performance except to the extent that such failures are due to any cause without the fault and reasonable control of such suppliers, subcontractors, or the like including, but not limited to, acts of God or the Public enemy, fires, explosion, riots, strikes (not including strikes of personnel of the Contractor's suppliers or subcontractors), or war.

IN WITNESS WHEREOF, the parties have executed this Agreement effective as of the contract date herein above set forth.

Contractor	Miami-Dade County
By: _____	By: _____
Name: WADE WHITE	Name: _____
Title: PRESIDENT	Title: _____
Date: 3-26-07	Date: _____
Attest: _____ Corporate Secretary	Attest: _____ Clerk of the Board
Corporate Seal	Approved as to form and legal sufficiency
	_____ Assistant County Attorney

NATRICIA COMPANEY
Commission # 1621454
Notary Public - California
Marin County
My Comm. Expires Nov 14, 2009

Natricia Companey

APPENDIX A

SCOPE OF SERVICES

1. INTRODUCTION

North Zone

A. Objective

Miami-Dade County, hereinafter referred to as the "County," is contracting for a Light Emitting Diode (LED) Traffic Signal Head Retrofit Project (the "Project") for the County and related services. The purpose of the Project is to retrofit all traffic lights in the County with LED lights.

2. DEFINITIONS

1) "Conditional Acceptance" to mean an electronic inventory of the quantity and type of signal heads installed by the Contractor per location on a weekly basis.

2) The term "Final Acceptance" to mean the 1st of the month after 30 days after the date of Conditional Acceptance for the location.

3) The project shall be considered complete upon installation and Final Acceptance at all locations and expiration of the five year maintenance warranty period on the last issued Final Acceptance location.

3. REQUIREMENTS AND SERVICES TO BE PROVIDED

A. GENERAL OBJECTIVES

The Contractor shall:

1) Manage the Project from the start to finish. This includes managing any problems that arise during the five-year warranty period

2) Purchase, store, and distribute the LED modules and related equipment.

3) Provide installation and required field work of LED and PV modules (to be performed by one or more qualified signal contractors).

4) Perform appropriate construction engineering and inspection (CEI) services including final acceptance.

5) Keep the County advised of the status of the project

6) Guarantee the quality of the workmanship for one year and the performance of the LED modules for a minimum of five years

B. TECHNICAL REQUIREMENTS

1. **Equipment and Material Requirements** -- All equipment and materials furnished by the Contractor shall be in full compliance with all applicable Miami-Dade Public Works Department (MDPWD), Florida Department of Transportation (FDOT), Manual on Uniform Traffic Control Devices (MUTCD) and Institute of Transportation Engineers (ITE) standards as of the RFP proposal due date. The MDPWD technical specification (Appendices C and D) shall take precedence. All LED and Programmable Visibility (PV) modules shall be on the FDOT Approved Products List (APL). All 12-inch LED traffic signal module retrofit products and PV Modules shall be approved by the Florida Department of Transportation (FDOT) for installation in the State per Florida State Statues and shall meet Miami-Dade County's Technical Specifications for Expanded View LED Traffic Signal Modules (Appendix C) and LED PV Signal Modules (Appendix D).

   All miscellaneous equipment and materials that may be required to complete tasks under Section 2.0 shall meet applicable requirements in the County's document titled "Traffic Control Equipment Specifications and Standards" (TCESS) 2000 version which can be obtained from the address shown below. Cost of the document is $26.25 plus tax and shipping. Information on shipping may be obtained by contacting (305) 375-2690 or by visiting MDPWD Reproduction Services, 111 NW 1 Street, 16th Floor, Miami, Florida 33128.

   (a) **Work Performance Requirements** -- All labor, installation, and maintenance activities shall meet applicable requirements of the State of Florida, County, and OHSA regulations for all work to be performed. All Maintenance of Traffic (MOT) shall be in full accordance with FDOT document titled "Design Standards" January 2006, 600 series Indexes or latest revision thereof. The Design Standards may be downloaded from the www.MyFlorida.com website.

   (b) **Licensing Requirements** -- All Contractor and any subcontractor employees on this Project shall carry proof of all required licenses/certification(s) as established by MDPWD Traffic Signal Contractor requirements as specified in Appendix C, and to present such upon request to any MDPWD or FDOT Inspector.

   (c) **Work Hour Requirements** -- The Contractor shall perform signal modification work at the two-hundred (200) busiest intersections in the applicable zone of the County, per a list to be provided by MDPWD, during late night hours to minimize disruptions to the motoring public. These hours are defined as the weeknight hours of 10 PM to 6 AM or the weekend hours of 10 PM to 8 AM. The remainder of the locations, those with the lightest traffic volumes, may be worked on during any period except the weekday peak hours of 7 AM – 9 AM and 4 PM – 6 PM. Weekdays are defined as Monday through Friday excluding Miami-Dade County holidays.

   (d) **Signal Head Removals** -- On approaches where the number of existing traffic signal heads exceeds County standards as per guidelines to be provided by the County, the extra heads shall be removed instead of having their bulbs replaced with LED modules. The Contractor shall

identify such locations, obtaining the County's concurrence. The Contractor shall determine if any repositioning of the remaining signal heads is required, obtain the County's concurrence.

(e) **Spare Modules** – As the Final Acceptances of each location occurs and maintenance is transferred back to the County, the Contractor shall furnish spare modules of each type to the County. One percent of the quantity of each type of LED module installed shall be provided to the County by the Contractor during the installation process, ensuring that at the end of the installation process the County has a one percent supply. In the event of a total replacement of all LED modules, the Contractor shall also be responsible for the total replacement of said modules held in the maintenance inventory.

(f) **Project Time Frame** -- The Contractor shall complete all installation within 350 days or less of the issuance of a Notice to Proceed, or within such extra time as the County may have granted. If the Contractor fails to do so, then the Contractor shall pay to the County, not as a penalty but as liquidated damages in an amount calculated in accordance with Florida Department of Transportation *Standard Specification for Road and Bridge Construction (2004)*.

(g) **Recycling** -- The Contractor shall dispose of the removed materials (lamps, glass lens, reflector, ring, and socket) in a cost-beneficial and environmentally friendly manner as approved by the County. Items that may be recycled must be recycled. The savings as a result of the recycling may be returned to the County or utilized to offset the cost of the Project to the County.

(h) **Short-term Warranty** – The Contractor shall fully warrant (Parts and labor) the LED modules at each completed location during the period from the time the modules are installed until the Final Acceptance.

(i) **Long-term Warranty** -- For the five-year period after the County's Final Acceptance at each location, the Contractor shall guarantee furnishing, including shipping, a replacement LED module for any module which fails. "Fail" means "cease to perform per specifications before the warranty is over". As long as fewer than 3% of the modules fail in any 12-month period, the County will ship at its expense any failed module to manufacturer. The Contractor shall ensure that the County receives the replacement module to be provided within 4 weeks after receipt of the failed module.

If more than 3% of the modules fail in any 12-month period during the Long-term Warranty, the Contractor shall become responsible for the labor aspect of future required replacements for the remainder of the Long-term Warranty period and shall retain a contractor, approved by the County, for that purpose

If more than 15% of any of the nine (9) different types of modules installed (12-inch R, Y, or G balls; 12-inch R, Y, or G arrows; R,Y, or G PV's) fabricated by any one Manufacturer fail during the Long-term

Warranty period, the Contractor shall replace all existing LED modules of the failed type [by that Manufacturer(s)] with a verifiably more reliable model(s) from a Manufacturer approved by FDOT and the County. In this event, the previous Short-term and Long-term Warranties shall cease and the newly installed modules shall have new Short-term and Long-term Warranty periods starting with their installation.

4. GENERAL PROCESS FOR COMPLETING WORK

a) The County will provide the Contractor with a list of all locations in the awarded zone and an indication of the number of modules at each location that need to be replaced. The Contractor shall perform a site survey at each location to confirm the exact number of modules that need to be replaced. The Contractor shall take a digital photograph (minimum 3-megapixels) from the approximate center of each approach showing all heads facing that approach as well as the approach lane lines. The Contractor shall document the modules on each approach that have already been converted to LED to assure that the Contractor won't later be reimbursed for replacing them. The Contractor shall name each picture per Traffic Control Center Standards and provide the pictures to the County in JPEG format for their storage and future use. The Contractor shall also use the pictures to determine, subject to the County's approval, the locations where heads can be removed and/or repositioned.

b) The County will provide the Contractor with appropriate records of other signal projects underway at the start of the LED project and which begin during the LED project. The Contractor shall coordinate with the Project Managers for those projects to ensure all necessary work for the completion of the services identified herein are completed and do not damage any work previously completed or duplicated.

c) The Contractor shall provide electronic records in a mutually agreeable format to the County, daily between 7 & 9 AM, listing locations (incl. MDPWD ID Nos.) where the Contractor is expected to be working in the upcoming 24-hour period. Upon receipt of such notice, the County will reassign related maintenance responsibility for the signal heads to the Contractor. Contractor responsibilities shall only be for traffic signal heads and any signal operation problems caused by the Contractor's work. All other signal maintenance responsibilities will remain with the original responsible party, typically the County's Traffic Signal & Signs Division.

d) At each assigned location, the responsible Contractor shall replace all 12-inch traffic signal head incandescent lamps and optically programmed traffic signal head PAR lamps with the appropriate LED modules. Any PAR lamps shall be immediately programmed per guidelines to be provided by the MDPWD's Project Manager. The Contractor shall not replace any existing LED signal modules in any traffic signal head that have been previously replaced with LED modules. The Contractor shall document the above cases and shall include in the documentation to the County: the Manufacturer, Model Numbers, and signal heads found.

e) All work at each signalization shall be completed within twenty-four (24) clock

hours of when the Contractor begins work at the intersection, including any load switch replacements required and any head removals and/or relocations required. Any extenuating circumstances that prevent this from happening shall be brought to the County's Project Manager's attention for approval.

f) If the "new" LED modules are found to be incompatible with any load switch(es), the load switch(es) shall be immediately upgraded and replaced by the Contractor, at no additional costs, to the County. The Contractor shall return all removed load switches to the County. Any intersection where load switch(es) where removed and replaced due to incompatibility the Contractor shall document, for the County, the intersection location and controller cabinet's load switch number(s). All materials to be returned to the County shall be sent to Traffic Signal & Signs Division Yard located 7100 NW 36 Street, Miami Fl Attention: Warehouse Storekeeper.

g) The Contractor shall serve as Construction Engineering Inspector (CEI), inspecting all installations and issuing the Conditional Acceptance.

h) Once per week, the Contractor shall provide to the County electronic records of each completed location. The record shall include an inventory of the quantity and type of signal heads on each approach, any changes to those quantities as a result of head removals, head relocations required, load switches required, and the quantity of each LED module type which was installed at each location. The record shall be in an MS Excel spreadsheet or other mutually agreeable electronic format.

i) On approximately the last day of each month, the County will distribute to Contractors a list of signalizations for which Final Acceptance is issued Such lists will include records of the maintenance responsibilities incurred by this project, noting that the extent of the maintenance responsibilities is limited to signal heads.

j) The five (5) year material warranty shall begin on the day of Final Acceptance, by the County, at each location.

5. REIMBURSEMENT TO THE CONTRACTOR

At the start of each month, the Contractor shall submit a detailed invoice to the County's Project Manager covering the previous month's charges. Each invoice should be divided into agreed upon charges analogous to Sections 1 – 3 of Appendix B (attached) and to an agreed-upon percentage of the Section 4 Project Management Fee. The Project Manager must approve each monthly invoice.

APPENDIX B
North Zone

PRICE SCHEDULE

Contractor's price for providing services as stated in Appendix A, Scope of Services and applicable attachments thereto are fixed as determined below.

Table B-1: Price Proposal Schedule					
	Column A	Column B	Column C	Column D	Column E
	Pay Item	Unit Cost	Estimated Quantities	Subtotal Costs (Columns B X C)	Totals
Section 1 — Consultant Cost to Furnish LED Modules including 1% Spares					
1	standard red balls	$50.22	10,352	$519,877	
2	standard red arrows	$43 20	404	$17,453	
3	standard green balls	$83.16	10,302	$856,714	
4	standard green arrows	$64 80	1,667	$108,022	
5	standard yellow balls	$95 58	11,160	$1,066,673	
6	standard yellow arrows	$59.40	1,465	$87,021	
7	programmed reds	$72.36	121	$8,756	
8	programmed greens	$108.00	142	$15,336	
9	programmed yellows	$72 36	141	$10,203	
10	Total of Material Costs (Lines 1 – 9):				$2,690,055
Section 2 — Cost of Contractor Labor					
11	One (1) standard signal section converted (incandescent lamp to LED module)	$36.92	35,000	$1,292,200	
12	One (1) optically programmed signal section converted PAR lamp to PV LED module)	$36.92	400	$14,768	
13	Remove and return one 3-section head	$70.19	200	$14,038	
14	Reposition one existing overhead signal head by several feet on its existing support system.	$130.39	300	$39,117	
15	Sub-Total of Labor Costs (Lines 11 – 14):				$1,360,123
Section 3 — Costs (Savings) of Recycling					
16	Credit for recycling/ dispose of lamp, glass lense, reflector, ring, & socket from each standard signal head section	($2.50)	35,000		($87,500)
Section 4 — Total Project Management Fee					

APPENDIX B
North Zone

17	Lump Sum Fee:	$50,000
	Section 5 — Total	
18	Total Project Cost without interest (Lines 10 + 15 + 16 + 17):	$4,012,678

Notes on Appendix B

1 Estimated quantities and the resulting cost estimates were for proposal comparison purposes only. Actual quantities will vary. Actual reimbursements to the Consultant will be based on actual quantities.

2. Round off data in Columns D & E to the nearest dollar and show as such with no decimal point or cents

3. In Section 1, LED module costs shall be from the supplier(s) without mark-up Any cost reductions for these items attained from supplier(s) after the submission of the proposal shall be passed along to the County.

4 The Total Project Management Fee is contingent upon award of both Zones. Otherwise the fee is $100,000.

APPENDIX C

TECHNICAL SPECIFICATION
12-INCH EXPANDED VIEW LIGHT EMITTING DIODE (LED) TRAFFIC SIGNAL MODULES

Miami-Dade County Public Works Department
Traffic Signals & Signs Division

January 2006

APPENDIX C

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12-INCH EXPANDED VIEW LIGHT EMITTING DIODE (LED) TRAFFIC SIGNAL MODULES

1.0 PURPOSE

This specification is to describe the minimum acceptable design and operating requirements for 12-inch (300 mm) Light Emitting Diode (LED) vehicle signal modules. The specific items covered under this specification include the red ball, the yellow ball, the green ball, the red arrow, the yellow arrow, and the green arrow.

2.0 GENERAL DESCRIPTION

2.01 This specification covers "red ball", "yellow ball", "green ball", "red arrow", "yellow arrow,", and "green arrow" LED modules to be used in place of the incandescent lamp, reflector, socket, gasket and lens assembly of the vehicle signal sections. Each LED module shall consist of an assembly that utilizes LEDs as the light source in lieu of an incandescent lamp for use in vehicle signal sections.

2.02 All vehicle signal LED modules shall be engineered to fit into all Institute of Transportation Engineers (ITE) compliant conventional vehicle traffic control signal housings and shall be on the Florida Department of Transportation (FDOT) Approved Products List (APL).

2.03 LED signal modules shall utilize the same mounting hardware used to secure a standard incandescent lens and gasket assembly, and shall only require a screwdriver or basic installation tools to complete the mounting.

2.04 The LEDs utilized in the modules shall be AlInGaP technology for red and yellow indications and InGaN for green indications. The LEDs shall be the ultra bright type with sufficient lifetime rating to support system operation at 40°F to +165°F (-40°C to + 74°C). For ball modules, the LED light engine shall be a centralized light source.

2.05 Each LED module shall be rated for a minimum useful life of sixty (60) months. All LED modules shall meet all parameters of this specification during this period.

2.06 Each individual Arrow LED module shall be wired such that the failure of one (1) LED will result in the loss of not more than five percent (5%) of the signal module light output.

2.07 All Red, Amber and Green LED Modules shall be in full compliance with the latest revised version of ITE VTCSH - LED Circular Signal Supplement

and All Arrows shall meet the Latest Released Version of the ITE VTCSH Part 3 LED Vehicle Arrow Traffic Signal Module Specification, with the exception that the Turn-off Voltage shall be in compliance with Section 5.2.4 of the ITE VTCSH – LED Circular Signal Supplement (dated June 27, 2005).

2.08 The advertising date of the Contract associated with this specification shall be used to determine the date of the applicable standards.

3.0 ELECTRICAL REQUIREMENTS

3.01 Power Consumption

3.01.1 The maximum power consumption requirements measured in watts at 120 VAC and at 77°F (25°C) for each module shall be as follows:

MODULE	MAXIMUM WATTAGE
Red ball	12 W
Yellow ball	30 W
Green ball	15 W
Red arrow	9 W
Yellow arrow	15 W
Green arrow	9 W

3.01.2 All LED modules except yellow modules shall be compliant with U.S. Environmental Protection Agency (EPA) Energy Star wattages. Power consumption of these LED modules shall not exceed the maximum allowed by the EPA.

3.02 Operating Voltage:

3.02.1 Each module shall operate from a 60Hz +/-3Hz AC line over a voltage ranging from 80 volts to 135 volts. Fluctuations of line voltage shall have no visible effect upon the luminous intensity of the indications.

3.02.2 The operating voltage of the modules shall be 120 Volts AC. All operating parameters shall be measured at this voltage.

3.02.3 LED circuitry shall prevent perceptible flicker to the unaided eye over the 80 to 135 voltage range.

3.03 The LED module shall have a power factor of 0.90 or greater at a nominal rated voltage at 77°F (25°C) over the sixty (60) minutes of operation.

3.04 Total Harmonic Distortion (THD) induced into an AC power line by an LED signal shall be less than twenty percent (20%) at the rated voltage at 77°F (25°C).

3.05 The signal module on-board circuitry shall include voltage surge protection to withstand high-repetition and low repetition high energy noise transients as stated in Section 2.1.6 and Section 2.1.8 of the National Electrical Manufacturers Association (NEMA) Standard TS-2 dated 2003. The module shall include fusing with a rating of 2 amps or less to protect against sustained over-currents. In addition, the following transient requirements shall be met:

3.05.1 IEC 1000-4-5 Standard Test at 3KV with 2 Ohm source impedance and no additional resistance.

3.05.2 ANSI/IEEE C62, 41-2002 or IEC 61000-4-12 standard test at 6KV, 200A 100 KHz ring wave.

3.06 Each LED module and associated on-board circuitry shall be in compliance with Federal Communications Commission (FCC) noise regulations and must meet FCC Title 47, Subpart B, Section 15 class A regulations concerning the emission of electronic noise.

3.07 All wiring and terminal blocks must meet the requirements of Section 13.02 of the ITE Publication: Equipment and Material Standards, Chapter 2, Vehicular Traffic Control Signal Heads.

3.08 Each LED module shall be operationally compatible with controller assemblies and all peripheral equipment including but not limited to, electro-mechanical relays, solid state load switches, flashers, and conflict-voltage monitors currently used in the Miami-Dade County, Florida. Current Department controller specifications are available for review at the specific request of the Manufacturer, Contractor or Proposer.

3.09 Voltage turn off shall be per NEMA TS-2 Standard. There shall be no visible illumination from the module when the applied voltage is less than 35 VAC rms.

3.10 Each module shall reach ninety percent (90%) of its full illumination within 75 milliseconds of the application of the nominal operating voltage. The modules shall not have any visible illumination after 75 milliseconds of the removal of the nominal operating voltage.

3.11 Two (2) secured, color coded, 600 V, anti-capillary 18 AWG minimum jacketed wires conforming to the National Electrical Code (NEC), rated for service at 221°F (105°C), are to be provided for electrical connections for

each LED signal module. The two (2) wire leads shall be separate at the point at which they leave the LED module and ensure there is no moisture path to the inside of the LED module. Refer to Section 5.05 of this specification for specified color coding requirements.

4.0 ENVIRONMENTAL REQUIREMENTS

4.01 Each LED module shall be rated for use in operating temperatures in the range of -40°F to +165°F (-40°C to +74°C) and shall be tested after the module has been operated under the test conditions for a minimum of sixty (60) minutes. Yellow modules shall be tested at a 12.5% duty cycle (5 seconds ON and 35 seconds OFF). Readings shall be taken at the end of the 5-second ON interval, or as close to the end of the ON interval as possible.

4.02 Moisture resistance testing shall be performed per MIL-STD-810F, Test Method 506.4, Procedure I, Rain and Blowing Rain. The test shall be conducted on stand-alone modules, without a protective housing. The rainfall rate shall be 4 in/hr (1.7 mm/min) and droplet size shall predominantly be between 0.02 to 0.18 in (0.5 mm and 4.5 mm). The modules shall be vertically oriented, such that the lens is directed towards the wind source when at a zero (0) rotation angle. The module shall be rotated at a rate of 4 degrees (4°) per minute along the vertical axis, from an orientation of -60 to +60 degrees during the test. The duration of the test shall be thirty (30) minutes. The modules shall be energized throughout the test. The water shall be at 77° ± 9°F (25° ± 5°C). The wind velocity shall be 50 mph (80 km/hr). If the module is equipped with a remote power supply unit, then the test shall be conducted with the remote power supply unit attached to the clamping device holding the module to the test apparatus.

5.0 CONSTRUCTION

5.01 Each LED module shall be a single, self-contained sealed unit, not requiring on-site assembly for installation into existing traffic signal housings.

5.02 The power supply for the LED module shall be integral to the unit and shall be conformally coated or shall conform to Salt Fog ASTM B117-03 testing for forty-eight (48) hours at five percent (5%) concentration with no traces of corrosion.

5.03 The circuit board and the power supply shall be contained inside the module.

5.04 Each LED module shall incorporate printed circuit boards containing required LEDs and circuit components. The LEDs in ball modules shall be mounted as per LED Manufacturer assembly recommendation for the Ball modules.

5.05 Each LED module shall feature two (2) 39-inch long 18 AWG minimum anti-capillary wire leads with strain relief and quick connect terminals with spade adapters for connection to the terminal block of the signal head. The two (2) wire leads shall be separate at the point at which they leave the LED module and ensure there is no moisture path to the inside of the module. One (1) of the conductors shall contain white insulation to signify neutral. The color of the other conductor shall be different and shall be used to differentiate between red ball, yellow ball, green ball, red arrow, yellow arrow, and green arrow LED modules. The following Miami-Dade County Wire Lead Color Code Standard for vehicular traffic signal head LED modules shall be followed. The Manufacturer shall supply all modules, including sample modules for evaluation, to Miami-Dade County, wired per the following Chart:

CHART I
Wire Lead Color Code Standard *

BALL INDICATIONS		ARROW INDICATIONS	
Red:	Red & White	Red:	Red w/Black tracer & White
Yellow:	Yellow & White	Yellow:	Yellow w/Black tracer & White
Green:	Green & White	Green:	Green w/Black tracer & White

* Proposed FDOT Statewide uniform wire color code standard.

5.06 Each LED module shall feature a rigid housing for protection in shipping, handling, and installation, and a one-piece gasket installed on the outer mounting flange. Screw-in type products shall be prohibited for LED modules.

5.07 The assembly and manufacturing process for the LED signal assembly shall be designed to ensure that all internal components are adequately supported to withstand mechanical shock and vibration from high winds and other sources.

5.08 Each LED module shall be watertight when properly installed in the traffic signal housing. Each LED module shall utilize the same mounting hardware used to secure the incandescent lens and gasket assembly, and shall only require a screwdriver to complete the mounting. See section 4.2 for test methodology.

5.09 Each LED module maximum weight shall be four (4) lbs. (1.8 kg).

5.10 Each LED module shall be designed for installation in the doorframe of standard traffic signal housings. Each LED module shall be capable of being sealed in the doorframe with a one-piece EPDM (ethylene, propylene rubber), Vyran, or equal gasket.

5.11 Each LED module shall be totally weatherproof after proper installation and connection.

6.0 MATERIALS

6.01 Materials used for the lens and the exposed signal module when installed shall conform to the appropriate ASTM specifications for the materials.

6.02 Enclosures containing either the power supply or electronic components of the signal module shall be made of UL94 flame retardant materials. The module lens does not need to conform to this requirement.

6.03 The lens of the LED module shall be integral to the unit; the outer shell shall be convex or slanted downward. Slanted lens shall not exceed 2-3/8 inches at the top and 1-1/4 inches at the bottom when measured from the face side of the gasket. The outer surface of the lens shall be smooth and made of ultraviolet stabilized polycarbonate material.

6.04 Each LED module outer shell shall be capable of withstanding ultraviolet (direct sunlight) exposure for a minimum period of five (5) years without exhibiting any evidence of deterioration.

6.05 A surface coating, chemical surface treatment or protective covers shall be applied to each outer polymeric lens to provide front surface abrasion resistance during shipping and storage. In addition, each module shall be delivered from the Manufacturer in a protective sleeve or box to provide added protection during shipping and storage.

6.06 Each LED "ball" module shall incorporate a single circular inner Fresnel lens in the lamp housing to collimate the light emitted by the LED engine. The single inner Fresnel lens shall span the full diameter of the interior of the signal light. An outer spreading lens shall distribute this collimated light, in order to meet the intensity requirements of this specification.

6.07 Each LED "ball" module shall almost perfectly approximate to the motorist the appearance of a 12-inch standard incandescent signal indication. The surface of the LED "ball" module shall appear to the motorist to be nearly totally uniform in illumination, and eliminate the visibility of individual LEDs to the observer. The LED "ball" module shall have a wide viewing angle (Expanded View) making it suitable for installation on any span wire installations, thus eliminating the ON/OFF effect caused by normal swaying.

6.08 The outer shell surface for all LED modules shall be smooth with no raised surfaces so as to minimize the collection of dirt, debris, and other particulate contaminants, which may impact luminous intensity, and to facilitate periodic cleaning. External lens facets are prohibited.

6.09 The lens for the red ball and the red arrow shall be tinted red with similar characteristics to enhance ON/OFF contrasts.

6.10 The lens for the yellow ball and the yellow arrow shall be tinted yellow with similar characteristics to enhance ON/OFF contrasts.

6.11 The lens for the green ball and the green arrow shall be tinted green with similar characteristics to enhance ON/OFF contrasts.

6.12 The use of tinting to enhance ON/OFF contrasts shall not affect chromaticity and shall be uniform across the face of the lens.

7.0 MODULE IDENTIFICATION

7.01 Each LED Module shall have the manufacturers name, trademark, model number, serial number, date of manufacture (month and year) and lot number as identification permanently marked on the back of the module. This identification is required and is in addition to any other identification that may be required in contract special provisions by the County. The serial number and model number shall be etched, stamped, molded, or attached using metallic, polyester, or vinyl self-adhesive labels. The use of adhesive backed paper labels shall not be acceptable.

7.02 Rated voltage and rated power in Watts and Volt-Amperes shall also be permanently marked on the back of each LED module.

7.03 Each LED module shall have prominent and permanent markings for correct indexing and orientation within signal head housing by providing of an up arrow "↑", or the word "UP" or "TOP".

7.04 As detailed in 5.05 of this specification, conductors connecting the LED module to the signal head terminal block shall be color coded to differentiate between red ball, red arrow, yellow ball, yellow arrow, green ball, and green arrow LED modules.

7.05 All LED modules shall be individually barcoded with sufficient information to uniquely identify the unit. The barcode shall provide the LED module part number and serial number. The barcode will be on the device itself and on the outer shipping box. The successful bidder shall provide to the County's Public Works Department, Traffic Signals & Signs Division, a total of four (4) workstations, which shall include each of the following: barcode scanner and software for use on a Windows XP personal computer that may be used to collect this data. Portable Technology Solutions Kit # SYM-8800-OP-CRTP or approved equal shall be provided and include the scanner, PPT 8800 windows Mobile 2003 Bar code Terminal, Tracer Plus for Windows Mobile and Pocket PC Software License, PPT8800 Cradle, Power Supply and Line Cord, Lithium Ion Battery, Stylus. The software shall list the following information which shall be downloaded in Excel Format.

7.05.1 The software shall list the following information:

7.05.1.1 Serial Number
7.05.1.2 Manufacturer Name
7.05.1.3 Part Number
7.05.1.4 Part Type (i.e. Arrow, 12-inch Ball, etc...)
7.05.1.5 Color
7.05.1.6 Date of Manufacture

The Manufacturer shall maintain records for a period of seven (7) years that would identify from a serial number that a module was shipped to Miami-Dade County, when it was shipped, and the production test data for luminous intensity, power, power factor, and THD (Total Harmonic Distortion).

8.0 PHOTOMETRIC REQUIREMENTS

8.01 The minimum luminous intensity, chromaticity, and uniformity of the red, yellow and green LED BALL modules shall meet the Institute of Transportation Engineers Performance Specification: Vehicular Traffic Control Signal Heads – Light Emitting Diode (LED) Circular Signal Supplement (Dated June 27, 2005).

8.02 The minimum luminous intensity, chromaticity, and Uniformity of the red, yellow and green LED ARROW modules shall meet the requirements as

specified in the latest release version of the ITE VTCSH Part 3 LED Vehicle Arrow Traffic Signal Module Specification.

8.03 The minimum luminous intensity, chromaticity, and Uniformity of the red, yellow and green LED BALL modules shall meet the requirements in TABLE I per the testing methodology from the ITE Vehicular Traffic Control Signal Heads – Light Emitting Diode (LED) Circular Signal Supplement (Dated June 27, 2005).

8.04 The minimum luminous intensity, chromaticity, and Uniformity of the red, yellow and green LED Arrow modules shall meet the requirements in TABLE II per the latest released version of the ITE VTCSH Part 3 LED Vehicle Arrow Traffic Signal Module Specification.

8.05 Test data to verify compliance of all applicable LED modules with this standard shall be provided from the following laboratory chosen by the County:

ETL Testing Laboratories
3933 U.S. Route 11
Cortland, New York 13045-0950

8.05.1 In addition, all modules shall meet minimum FDOT specification requirements. Additional laboratory compliance certificates, when applicable if required, must meet all FDOT certification requirements and shall be furnished to the County prior to product acceptance.

8.06 Red ball, red arrow, yellow ball and yellow arrow LED modules shall utilize AlInGaP technology exclusively, either AS (Absorbing Substrate) or TS (Transparent Substrate), and shall not exhibit degradation of more than thirty percent (30%) of the initial light intensity following accelerated life testing operating at 185°F (85°C) and eighty-five percent (85%) humidity for one thousand (1000) hours]. AlGaAs technology shall not be acceptable.

8.07 Green ball and green arrow LED modules shall utilize Indium Gallium Nitride (InGaN) technology.

8.08 The measured chromaticity coordinates of the LED modules shall conform to the following chromaticity requirements:

RED:	$y = 0.308$;
	$y = 0.953 - 0.947x$;
	$y = 0.290$
YELLOW:	$y = 0.151+0.556x$
	$y = 0.972–0.976x$;

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GREEN: $y = 0.235 + 0.300x$
$y = 0.655-0.831x$
$x = 0.150;$
$y = 0.422 - 0.278x:$

8.08.1 Chromaticity requirements shall pertain to both ball and arrow type LED modules.

8.09 Red arrow, yellow arrow, and green arrow LED modules shall contain either three (3) rows of LEDs or shall have a uniform/full profile look forming the shape of the arrow, thus appearing the same as a standard incandescent arrow indication.

8.09.1 Each LED arrow module shall meet the specifications stated in Section 9.01 of the ITE Publication Equipment and Materials Standards, Chapter 2 Vehicular Traffic Control Signal Heads.

8.09.2 LEDs shall be spread and arranged evenly across the illuminated portion of the arrow area.

Table I

Minimum Luminous Intensity for LED Ball Type Signal Modules
(Expanded Viewing)

GRID SPECIFICATION FOR 12-INCH RED BALL SIGNALS (cd)

	-27.5	-22.5	-17.5	-12.5	-7.5	-2.5	+2.5	+7.5	+12.5	+17.5	+22.5	+27.5
12.5U					29	37	37	29				
7.5U				40	55	69	69	55	40			
2.5U		26	47	84	124	150	150	124	84	47	26	
2.5D	33	62	117	201	292	358	358	292	201	117	62	33
7.5D	26	47	91	157	234	281	281	234	157	91	47	26
12.5D	11	18	37	62	88	110	110	88	62	37	18	11
17.5D		7	15	29	40	51	51	40	29	15	7	
22.5D			11	22	29	37	37	29	22	11		
27.5D					18	26	26	18				

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GRID SPECIFICATION FOR 12-INCH GREEN BALL SIGNALS (cd)

	-27.5	-22.5	-17.5	-12.5	-7.5	-2.5	+2.5	+7.5	+12.5	+17.5	+22.5	+27.5
12.5U					38	48	48	38				
7.5U				52	71	90	90	71	52			
2.5U		33	62	109	162	195	195	162	109	62	33	
2.5D	43	81	152	261	380	466	466	380	261	152	81	43
7.5D	33	62	119	204	304	366	366	304	204	119	62	33
12.5D	14	24	48	81	114	143	143	114	81	48	24	14
17.5D		10	19	38	52	67	67	52	38	19	10	
22.5D			14	29	38	48	48	38	29	14		
27.5D					24	33	33	24				

GRID SPECIFICATION FOR 12-INCH YELLOW BALL SIGNALS (cd)

	-27.5	-22.5	-17.5	-12.5	-7.5	-2.5	+2.5	+7.5	+12.5	+17.5	+22.5	+27.5
12.5U					73	91	91	73				
7.5U				100	137	173	173	137	100			
2.5U		64	118	209	309	373	373	309	209	118	64	
2.5D	82	155	291	501	728	892	892	728	501	291	155	82
7.5D	64	118	228	391	582	701	701	582	391	228	118	64
12.5D	27	46	91	155	218	273	273	218	155	91	46	27
17.5D		18	36	73	100	127	127	100	73	36	18	
22.5D			27	55	73	91	91	73	55	27		
27.5D					46	64	64	46				

Note 1: Luminous intensity values for equivalent left and right horizontal angles are the same.

Note 2: Tabulated values of luminous intensity are rounded to the nearest whole value.

Note 3: Maximum permissible for RED is 1095cd, GREEN is 1425cd, YELLOW is 2730cd.

APPENDIX C

Table II

Minimum Luminous Intensity for LED Arrow Type Signal Modules

GRID SPECIFICATION FOR 12-INCH RED ARROW SIGNALS (cd)

	-27.5	-22.5	-17.5	-12.5	-7.5	-2.5	+2.5	+7.5	+12.5	+17.5	+22.5	+27.5
2.5D			21	29	40	54	54	40	29	21		
7.5D	9	12	17	23	32	44	44	32	23	17	12	9
12.5D	4	5	7	9	12	17	17	12	9	7	5	4
17.5D	1	2	2	3	5	6	6	5	3	2	2	1

GRID SPECIFICATION FOR 12-INCH GREEN ARROW SIGNALS (cd)

	-27.5	-22.5	-17.5	-12.5	-7.5	-2.5	+2.5	+7.5	+12.5	+17.5	+22.5	+27.5
2.5D			27	38	51	70	70	51	38	27		
7.5D	12	16	22	30	42	57	57	42	30	22	16	12
12.5D	5	6	9	12	16	22	22	16	12	9	6	5
17.5D	2	2	3	4	6	8	8	6	4	3	2	2

GRID SPECIFICATION FOR 12-INCH YELLOW ARROW SIGNALS (cd)

	-27.5	-22.5	-17.5	-12.5	-7.5	-2.5	+2.5	+7.5	+12.5	+17.5	+22.5	+27.5
2.5D			53	72	99	135	135	99	72	53		
7.5D	23	31	43	59	80	109	109	80	59	43	31	23
12.5D	9	12	17	23	31	43	43	31	23	17	12	9
17.5D	3	5	6	9	12	16	16	12	9	6	5	3

Note 1: Luminous intensity values for equivalent left and right horizontal angles are the same.

Note 2: Tabulated values of luminous intensity are rounded to the nearest whole value.

Note 3: Maximum permissible for RED is 162cd, GREEN is 210cd, YELLOW is 405cd.

9.0 QUALITY ASSURANCE

9.01 The modules shall be manufactured in accordance with a manufacturer quality assurance (QA) program. The QA program shall include two (2) types of quality assurance: 1) design a quality assurance and 2) production quality assurance. The production quality assurance shall include statistically controlled routine tests to ensure minimum performance levels of the modules built to meet this specification, and a documented process of how problems are to be resolved.

9.02 QA process and test results documentation shall be kept on file for a minimum period of seven (7) years.

9.03 LED signal module designs not satisfying design qualification testing and the production quality assurance testing performance requirements described below shall not be labeled, advertised, or sold as conforming to this specification.

9.04 Design Qualification Testing

9.04.1 Design Qualification Test Requirements: Design qualification testing shall be performed on new module designs, when a major design change has been implemented on an existing design, or after every five (5) years that a design is in service. Modules used in design qualification testing shall be representative of the manufacturer's proposed normal production. If modules are provided with both clear and tinted lenses, the tests for Temperature Cycling (9.04.3.2), Moisture Resistance (9.04.3.3), Luminous Intensity (9.04.4.1), Luminance Uniformity (9.04.4.5), Chromaticity (9.04.4.6), Color Uniformity (9.04.4.7), and Lens Abrasion (9.04.5.2) shall be conducted for all lens types. The certification of UV Stabilization (9.04.5.2) shall be provided for all materials used in or on the emitting lenses.

9.04.1.1 Test data shall be retained by the manufacturer for a minimum period of seven (7) years.

9.04.1.2 Six (6) modules shall be used in Design Qualification Testing. All six (6) modules shall be subjected to conditioning (9.04.2), followed by the Environmental Tests (9.04.3). Following the Environmental Tests, three modules shall undergo Photometric & Colorimetric Tests (9.04.4), followed by the Lens Tests (9.04.5). The remaining three modules shall undergo the Electrical Tests (9.04.6), the Controller Assembly Compatibility Tests (9.04.7), and the Failed State Impedance Test (9.04.8). Tests shall be conducted in

the order described herein, unless otherwise specified. Figure 2 provides a flow chart for the Design Qualification Testing.

9.04.1.3 In order for a module design to be considered acceptable for marking with the label, all tested modules must comply with the acceptance/rejection criteria for the Environmental Tests (9.04.3), Photometric & Colorimetric Tests (9.04.4), Lens Tests (9.04.5), Electrical Tests (9.04.6), Controller Assembly Compatibility Tests (9.04.7), and the Failed State Impedance Test (9.04.8).

9.04.2 Conditioning: Modules shall be energized for a minimum of twenty-four (24) hours, at one hundred percent (100%) duty cycle, in an ambient temperature of +140°F (+60°C).

9.04.3 Environmental Tests:

9.04.3.1 Mechanical Vibration: Mechanical vibration testing shall be performed per MIL-STD-883, Test Method 2007, using three (3) 4-minute cycles along each x, y, and z axis, at a force of 2.5 Gs, with a frequency sweep from 2 Hz to 120 Hz.

9.04.3.2 Temperature Cycling: Temperature cycling shall be performed per MIL-STD-883, Test method 1010. The temperature range shall include the full ambient operating temperature range -40°F to +165°F (-40°C to +74°C). A minimum of twenty (20) cycles shall be performed with a thirty (30) minute transfer time between temperature extremes and a thirty (30) minute dwell time at each extreme temperature. Signals under test shall be non-operating.

9.04.3.3 Moisture Resistance: Moisture resistance testing shall be performed per MIL-STD-810F, Test Method 506.4, Procedure I, Rain and Blowing Rain. The test shall be conducted on stand-alone modules, without a protective housing. The rainfall rate shall be 4 in/hr (1.7 mm/min) and droplet size shall predominantly be between 0.02 to 0.18 in (0.5 mm and 4.5 mm). The modules shall be vertically oriented, such that the lens is directed towards the wind source when at a zero (0) rotation angle. The module shall be rotated at a rate of four degrees (4°) per minute along the vertical axis, from an orientation of -60 to +60 degrees during the test. The duration of the test shall be thirty (30) minutes. The

modules shall be energized throughout the test. The water shall be at 77° ± 9°F (25° ± 5°C). The wind velocity shall be 50 mph (80 km/hr).

9.04.3.4 Environmental Tests Evaluation: At the conclusion of the Environmental Tests, all the modules will be visual inspected for damage and energized to insure proper operation.

9.04.3.5 Acceptance/Rejection Criteria: The loosening of the lens, or any internal components, or evidence of other physical damage, such as cracking of the module lens or housing, or presence of internal moisture, or failure to operate correctly after testing shall be considered a failure of the design.

9.04.4 Photometric & Colorimetric Tests: Three (3) of the modules that were subjected to the Environmental Tests shall undergo Photometric & Colorimetric Tests. Unless otherwise specified, these tests shall be performed with the modules energized at nominal operating voltage.

9.04.4.1 Luminous intensity at standard temperature: The modules shall be tested for compliance with the requirements for minimum maintained luminous intensity at a temperature of 77°F (25°C). Measurements shall be made for all angular combinations specified in Table 1, or at other angles, as specified by the purchaser.

9.04.4.1.1 Luminous intensity measurements for red and green signal modules shall be made after the signal module has been operated under the test conditions for a minimum of sixty (60) minutes at a one hundred percent (100%) duty cycle.

9.04.4.1.2 Luminous intensity measurements for yellow signal modules shall be made after the module has been operated under the test conditions for a minimum of sixty (60) minutes at a 12.5% duty cycle (5 seconds ON and 35 seconds OFF). Readings shall be taken at the end of the 5 second ON interval, or as close to the end of the ON interval as possible.

9.04.4.2 Luminous intensity at low voltage: The modules shall be tested for compliance with the requirements for minimum maintained luminous intensity when operated at 80 VAC

at a temperature of 77°F (25°C). A single-point correlation measurement of the luminous intensity, in the region from 0 to 7.5 degrees down, and from 7.5 degrees left to 7.5 degrees right shall be recorded. The single-point measurement shall be correlated to the measurement made in the same direction under Section 9.04.4.1 to generate a full range of luminous intensity values at reduced voltage. The luminous intensity measurement at reduced voltage shall be made immediately following measurements for luminous intensity at standard temperature (9.04.4.1), and following the same procedures as in 9.04.4.1.1 and 9.04.4.1.2.

9.04.4.3 Luminous intensity at elevated voltage: The modules shall be tested for compliance with the requirements for minimum maintained luminous intensity when operated at 135 VAC at a temperature of 77°F (25°C). A single-point correlation measurement of the luminous intensity, in the region from 0 to 7.5 degrees down, and from 7.5 degrees left to 7.5 degrees right shall be recorded. The single-point measurement shall be correlated to the measurement made in the same direction under Section 9.04.4.1 to generate a full range of luminous intensity values at elevated voltage. The luminous intensity measurement at elevated voltage shall be made immediately following measurements for luminous intensity at reduced voltage (9.04.4.2) and following the same procedures as in 9.04.4.1.1 and 9.04.4.1.2.

9.04.4.4 Luminous intensity at high temperature: The modules shall be tested for compliance with the requirements for minimum maintained luminous intensity at a temperature of 165°F (74°C). The modules shall be mounted in a temperature chamber so that the lens is outside the chamber and all portions behind the lens are within the chamber at a temperature of 165°F (74°C). The air temperature in front of the lens shall be maintained at a minimum of 120°F (49°C) during all tests. A single-point correlation measurement of the luminous intensity, in the region from 0 to 7.5 degrees down, and from 7.5 degrees left to 7.5 degrees right shall be recorded. The single-point measurement shall be correlated to the 77°F (25°C) measurement made in the same direction under Section 9.04.4.1 to generate a full range of luminous intensity values at high temperature.

9.04.4.4.1 Luminous intensity measurements for red and green signal modules shall be made after the module has been operated under the test conditions for a minimum of sixty (60) minutes at a one hundred percent (100%) duty cycle.

9.04.4.4.2 Luminous intensity measurements for yellow signal modules shall be made after the module has been operated under the test conditions for a minimum of sixty (60) minutes at a 12.5% duty cycle (5 seconds ON and 35 seconds OFF). Readings shall be taken at the end of the 5-second ON interval, or as close to the end of the ON interval as possible.

9.04.4.5 Luminance uniformity: The modules shall be tested for compliance with the requirements for luminance uniformity at a temperature of 77°F (25°C). Measurements shall be made using a luminance meter located on the physical axis of the module lens at a distance such that the selected aperture samples a spot size of 1-inch (25mm) at the lens surface. The position of the luminance meter shall be translated from side to side and up and down, so as to sample the entire emitting surface of the module. The highest and these measurements may be made immediately lowest values of luminance shall be recorded. following measurements for luminous intensity at standard temperature and elevated voltage (9.04.4.3), after returning the voltage to the nominal operating voltage (120VAC).

9.04.4.5.1 Luminance uniformity measurements for the green and red signals must be made with the signal module operating at a one hundred percent (100%) duty cycle. Therefore, it is necessary for the signal module under test to reach thermal equilibrium, and for the output to be stable prior to taking measurements.

9.04.4.5.2 Measurements for yellow signal modules shall be made after the module has been operated under the test conditions for a minimum of sixty (60) minutes at a 12.5% duty cycle (5 seconds ON and 35 seconds OFF). Readings shall be taken at the end of

the 5-second ON interval, or as close to the end of the ON interval as possible.

9.04.4.6 Chromaticity. The chromaticity of the emitted light from modules shall be measured at a temperature of 77°F (25°C). A spectro-radiometer with a maximum bandwidth of 4nm, or a colorimeter that has a measurement uncertainty of less than 2.5% over the emission spectra of the module, shall be used for this measurement. The spectro-radiometer or colorimeter shall be located on the physical axis of the module lens at a distance such that the selected aperture samples a spot size of 1-inch (25mm) at the lens surface. The meter shall be translated from side to side and up and down, so as to sample a minimum of nine (9) equally distributed positions about the emitting surface of the module. The colorimetric values of the emitted light at each of the nine (9) positions shall be recorded, and an average value calculated, based on the CIE Standard 2° Observer. These measurements may be made immediately following measurements for luminance uniformity (9.04.4.5).

9.04.4.6.1 Chromaticity measurements for the green and red signals must be made with the signal module operating at a one hundred percent (100%) duty cycle. Therefore, it is necessary for the signal module under test to reach thermal equilibrium, and for the output to be stable prior to taking measurements.

9.04.4.6.2 Measurements for yellow signal modules shall be made after the module has been operated under the test conditions for a minimum of sixty (60) minutes at a 12.5% duty cycle (5 seconds ON and 35 seconds OFF). Readings shall be taken at the end of the 5-second ON interval, or as close to the end of the ON interval as possible. If necessary, the ON interval may be extended to 10 seconds to permit completion of a measurement. The duty cycle between individual measurements, however, shall remain 12.5%, with a 5 second ON interval.

9.04.4.7 Color uniformity. The average and nine (9) individual sets of chromaticity values of each module under evaluation shall be plotted on the CIE 1931 Chromaticity Diagram.

9.04.4.8 Photometric & Colorimetric Tests Evaluation: At the conclusion of the Photometric & Colorimetric Tests, the measurement data shall be compared to the applicable requirements of Sections 8.01 and 8.07.

9.04.4.9 Acceptance/Rejection Criteria: The failure of any module to meet the requirements for minimum maintained luminous intensity or maximum permissible luminous intensity under standard and high temperatures, and/or the appropriate requirement for chromaticity shall be considered a failure of the proposed design.

9.04.5 Lens Tests: Following the Photometric & Colorimetric Tests, the three (3) modules shall be subjected to the following tests of the acceptability of the lens construction.

9.04.5.1 UV Stabilization: Documentation shall be provided that UV Stabilized material is used. Documentation shall be provided for hard-coat film (if used), tinting film or material (if used) and lens material.

9.04.5.2 Lens Abrasion Test: Abrasion resistance testing of the module lens shall be performed as follows:

a) A lens shall be mounted in the abrasion test fixture with the lens facing upwards.

b) An abrading pad meeting the requirements in paragraphs c) through f) below shall be cycled back and forth one (1) cycle for twelve (12) cycles at 10cm ± 2cm per second over the whole surface of the lens.

c) The abrading pad shall be not less than 2.5cm ± 0.1cm square, constructed of 0000 steel wool and rubber, cemented to a rigid base shaped to the same contour as the lens. The "grain" of the pad shall be perpendicular to the direction of motion.

d) The abrading pad support shall be equal in size to the pad and the center of the support surface shall be within ± 2mm of parallel to the lens surface.

e) The density of the abrading pad shall be such that when the pad is mounted to its support and is resting unweighted on the lens, the base of the pad shall be no closer than 3.2mm to the lens at its closest point.

f) When mounted on its support and resting on the lens, the abrading pad shall be weighted such that a pad pressure of 14 kPa ± 1kPa exists at the center and perpendicular to the face of the lens.

g) A pivot shall be used if required to follow the contour of the lens.

h) Unused steel wool shall be used for each test.

9.04.5.3 Acceptance/Rejection Criteria: The photometric performance of a module following the lens abrasion test shall be ninety percent (90%) or more of the photometric performance of the same module measured prior to the lens abrasion test. A single point correlation as described in paragraph 9.04.4.4 may be used to determine the change in photometric performance. Failure of any module to meet the requirement for photometric performance following the lens abrasion test shall be considered a failure of the proposed design.

9.04.6 Electrical Tests: Three (3) of the modules that were subjected to the Environmental Tests shall undergo Electrical Tests. These tests shall be performed with the modules energized at nominal operating voltage and at a standard temperature of 77°F (25°C), unless specified otherwise.

9.04.6.1 Current Consumption: The current flow, in Amperes, shall be measured at various ambient temperatures across the span of the operating temperature range specified in -40°F to +165°F (-40°C to +74°C). The manufacturer shall provide information (charts, tables and/or graphs) on the variation in current through sixty (60) months of service, or greater as specified by the manufacturer, within the operating temperature range of -40°F to +165°F (-40°C to +74°C). In addition, the current consumption at start-up shall be measured at 77°F (25°C) to establish the reference value used for Production Quality Assurance (9. 3.4).

9.04.6.2 Low-Voltage Turn-OFF: The modules shall be connected to a variable power supply, and energized at nominal operating voltage. The applied voltage shall be reduced to a point where there is no visible illumination from the module when the background is at an average luminance of 0.01 ft-cd (0.1 cd/m^2).

9.04.6.3 Turn-ON/Turn-OFF Times: Using a two-channel oscilloscope, the time delay between application of nominal operating voltage and the module reaching ninety percent (90%) of full light output, and the time delay between de-energizing the module and the light output dropping to zero percent (0%) of full output, shall be measured.

9.04.6.4 Transient Voltage Immunity: The modules shall be tested for transient immunity using the procedure described in Section 2.1.8, NEMA Standard TS 2-2003.

9.04.6.5 Electronic Noise: The modules shall be tested for conformance with the requirements of a Class A digital device, as specified in FCC Title 47, Subpart B, Section 15.109(b).

9.04.6.6 Power Factor: The power factor for the modules shall be measured and recorded. A commercially available power factor meter may be used to perform this measurement.

9.04.6.7 Total Harmonic Distortion (THD): The THD induced into an AC power line by the modules shall be measured and recorded. A commercially available total harmonic distortion meter may be used to perform this measurement.

9.04.6.8 Electrical Tests Evaluation: At the conclusion of the Electrical Tests, the measurement data shall be compared to the requirements.

9.04.6.9 Acceptance/Rejection Criteria: The failure of any module to meet the requirements for low-voltage turn-OFF (5.2.4) turn-ON/turn-OFF times, transient voltage immunity), emission of electronic noise, minimum power factor, and/or maximum total harmonic distortion shall be considered a failure of the proposed design.

9.04.7 Controller Assembly Compatibility Tests: Following the Electrical Tests, three modules shall be tested for compatibility with load current switches and conflict monitors presently in service. The manufacturer shall test the design for the specific type signal control unit with which the design is intended to be compatible.

9.04.7.1 Load Switch Compatibility: The modules shall be tested for compatibility and proper operation with load current switches. Each module shall be connected to a variable AC voltage supply. The AC line current into the module shall be monitored for sufficient current draw to ensure proper load switch operation while the voltage is varied from 80 to 135 VAC.

9.04.7.2 Off State Voltage Decay Test: Each module shall be operated from a 135 VAC voltage supply. A 19.5 kΩ resistor shall be wired in series in the hot line between the module and the AC power supply. A single-pole-single-throw switch shall be wired in parallel with the 19.5 kΩ resistor. A 220 kΩ shunt resistor shall be wired between the hot line connection and the neutral line connection on the module. Conflict monitor Off state impedance compatibility shall be tested by measuring the

voltage decay across the 220 kΩ shunt resistor as follows: The single-pole-single-throw switch shall be closed, bypassing the 19.5 kΩ resistor and allowing the AC power supply to energize the module. Next, the switch shall be opened and the voltage across the 220 kΩ shunt resistor shall be measured for decay to a value equal to or less than 10 VAC RMS. The test shall be repeated ten (10) times, with the longest decay time recorded as the final test value.

9.04.7.3 Controller Assembly Compatibility Tests Evaluation: At the conclusion of the Controller Assembly Compatibility Tests, the measurement data shall be compared to the requirements.

9.04.7.4 Acceptance/Rejection Criteria: Failure of the module to draw sufficient current to ensure compatibility with the load current switches in the appropriate Controller Assembly and/or failure of the circuit voltage to decay to a value equal to or less than 10 VAC RMS within a time period equal to or less than 100 milliseconds shall be considered a failure of the proposed design.

9.04.8 Failed State Impedance Test: The modules shall be tested for compliance with the requirement for provision of a failed-state impedance. The test is conducted in two (2) parts: first the module is energized with the LED load disconnected from the power supply to establish the failed-state impedance. Next, the requirement for the failed state impedance is tested. The module shall be operated from a 120 VAC voltage supply.

a) Wire a 50 kΩ resistor in series with the hot line between the module and the AC power supply. A 100 kΩ shunt resistor shall be wired between the hot line connection and the neutral line connection on the module. A single-pole-single-throw switch shall be wired in parallel with the 50 kΩ resistor. With the switch in the closed position and the LED load disconnected from the module power supply, energize the module for 300 ms to establish the failed state impedance.

b) The second part of the failed state impedance test is conducted to insure that the appropriate failed state impedance is established. The switch is opened and the circuit is energized by the 120 VAC voltage supply. The voltage across the 100 kΩ shunt resistor shall be continuously monitored. The voltage shall decay to a value equal to or greater than 70 VAC RMS. For the continuous interval of 500 ms through 1500 ms, after energizing the circuit with an open switch, the measured voltage shall be 70 VAC RMS or greater. The second part of the test shall be repeated ten (10) times, with the minimum voltage recorded during the continuous interval of 500 ms through 1500 ms, after energizing the circuit with an open switch, recorded as the final test value.

9.04.8.1 Failed State Impedance Test Evaluation: At the conclusion of the Failed State Impedance Test, the measurement data shall be compared to the requirement of this Section.

9.04.8.2 Acceptance/Rejection Criteria: Failure of the voltage across the 100 kΩ shunt resistor to remain at a value equal to or greater than 70 VAC RMS for the continuous time interval of 500 ms through 1500 ms, after energizing the circuit with an open switch, shall be considered a failure of the proposed design.

9.05 Production Quality Control Testing

9.05.1 The following Production Quality Assurance tests shall be performed on each new module prior to shipment. Failure to meet requirements of any of these tests shall be cause for rejection. Test results shall be retained by the manufacturer for seven (7) years.

9.5.2??

9.05.3 Each module shall be tested for rated initial intensity.

9.05.3.1 A single point measurement, with a correlation to the intensity requirements see Section 8.0, may be used.

9.05.3.2 The ambient temperature for this measurement shall be 77°F (25°C).

9.05.3.3 Each LED Module failing to meet minimum luminous intensity requirements specified in 8.01 of these specifications shall be cause for rejection.

9.05.4 Each module shall be tested for required power factor.

9.05.5 Each module shall be measured for current flow in amperes. The measured current values shall be compared against rated values resulting from design qualification measurements under "Design Qualification Testing". The current flow shall not exceed +/- 20% of the rated value.

9.05.6 Each module shall be visually inspected for any exterior physical damage or assembly anomalies. Careful attention shall be paid to the surface of the lens to ensure there are no scratches (abrasions), cracks, chips, discoloration, or other defects. Any such defect shall be cause for rejection.

9.06 The Manufacturer shall be required to undertake Design Qualification and Production Quality Control testing as specified in 9.04 and 9.05 of this specification and report all results to the County. Procurement and

installation of LED modules prior to the receipt and acceptance of test results by the County shall be done at the Contractor's risk.

9.07 Conflicts with testing procedures/certification.

9.07.1 In the event this specification has conflict(s) between County testing procedures/certification and the FDOT testing procedure/certification, the County procedures shall apply.

10.0 WARRANTY

Manufacturers shall provide a written warranty issued by their factory located in the NAFTA Country of module origin with the following minimum provisions:

10.01 The manufacturer shall provide a written warranty against defects in materials and workmanship for a minimum period of sixty (60) months.

10.02 The warranty period shall begin on the date the LED module is energized and placed into service at the intersection, or ninety (90) days after delivery of the module to the Department's Traffic Signal & Signs Division Warehouse (or any other receiving facility if specified in the Contract Documents), whichever occurs first.

10.03 Replacement LED modules shall be provided on a one-for-one basis after receipt of the LED modules that no longer conform to this specification and shall be replaced within forty-five (45) calendar days after the Manufacturer has receipt of the modules. Replacement modules shall be repaired or replaced at no additional cost to the County, with the exception, the County shall pay for the one-way shipping of the modules to the Manufacturer.

10.04 All warranty documentation shall be submitted to the County prior to random sample testing.

10.05 Red ball and green ball LED modules shall be warranted to be in compliance with the Minimum Luminous Intensity requirements provided in Table 1 and referenced in 8.01 for a period of sixty (60) months, consistent with the provisions of 10.02.

10.06 Yellow ball LED modules shall be warranted to be in compliance with Minimum Luminous Intensity requirements referenced in Table 1 and per FDOT specifications for a period of sixty (60) months, consistent with the provisions of 10.02.

10.07 LED signal modules, as specified in 8.01, which exhibit luminous intensities less than the minimum values within the first sixty (60) months

installation of LED modules prior to the receipt and acceptance of test results by the County shall be done at the Contractor's risk.

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9.07.1 In the event this specification has conflict(s) between County testing procedures/certification and the FDOT testing procedure/certification, the County procedures shall apply.

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10.03 Replacement LED modules shall be provided on a one-for-one basis after receipt of the LED modules that no longer conform to this specification and shall be replaced within forty-five (45) calendar days after the Manufacturer has receipt of the modules. Replacement modules shall be repaired or replaced at no additional cost to the County, with the exception, the County shall pay for the one-way shipping of the modules to the Manufacturer.

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10.05 Red ball and green ball LED modules shall be warranted to be in compliance with the Minimum Luminous Intensity requirements provided in Table 1 and referenced in 8.01 for a period of sixty (60) months, consistent with the provisions of 10.02.

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10.07 LED signal modules, as specified in 8.01, which exhibit luminous intensities less than the minimum values within the first sixty (60) months

9.04.8.1 Failed State Impedance Test Evaluation: At the conclusion of the Failed State Impedance Test, the measurement data shall be compared to the requirement of this Section.

9.04.8.2 Acceptance/Rejection Criteria: Failure of the voltage across the 100 kΩ shunt resistor to remain at a value equal to or greater than 70 VAC RMS for the continuous time interval of 500 ms through 1500 ms, after energizing the circuit with an open switch, shall be considered a failure of the proposed design.

9.05 Production Quality Control Testing

9.05.1 The following Production Quality Assurance tests shall be performed on each new module prior to shipment. Failure to meet requirements of any of these tests shall be cause for rejection. Test results shall be retained by the manufacturer for seven (7) years.

9.5.2??

9.05.3 Each module shall be tested for rated initial intensity.

9.05.3.1 A single point measurement, with a correlation to the intensity requirements see Section 8.0, may be used.

9.05.3.2 The ambient temperature for this measurement shall be 77°F (25°C).

9.05.3.3 Each LED Module failing to meet minimum luminous intensity requirements specified in 8.01 of these specifications shall be cause for rejection.

9.05.4 Each module shall be tested for required power factor.

9.05.5 Each module shall be measured for current flow in amperes. The measured current values shall be compared against rated values resulting from design qualification measurements under "Design Qualification Testing". The current flow shall not exceed +/- 20% of the rated value.

9.05.6 Each module shall be visually inspected for any exterior physical damage or assembly anomalies. Careful attention shall be paid to the surface of the lens to ensure there are no scratches (abrasions), cracks, chips, discoloration, or other defects. Any such defect shall be cause for rejection.

9.06 The Manufacturer shall be required to undertake Design Qualification and Production Quality Control testing as specified in 9.04 and 9.05 of this specification and report all results to the County. Procurement and

the module is placed into service at the intersection, or ninety (90) days from the date of delivery, whichever comes first, shall be replaced or repaired, at no additional cost to the County.

10.08 The County reserves the right to randomly select and not to exceed one-quarter percent (1/4%) of the LED modules, procured and installed by an LED ITB, RFQ and/or RFP contract; or per County Purchase Order (P.O.), for testing to conformance to this specification. Said testing shall be conducted once per year, during the first sixty (60) months of the warranted life of the modules. The Manufacturer shall conduct said tests and reports for the County, at no additional cost.

10.09 The County, at anytime during the sixty (60) month warranty period, at its discretion, may have randomly selected modules, Independent Lab tests conducted for conformance to the specification. Independent Lab testing shall be conducted at the County's expense; however, in the event of "failure" (any non-conformance to the specification), the Manufacturer shall be required to reimburse the County for said testing.

10.10 Upon request, the LED module Manufacturer shall provide written documentation of its ability to satisfy a worst-case, catastrophic warranty claim.

10.10.1 The documentation shall clearly show that the manufacturer and/or its parent corporation possess a minimum of 10 million dollars [$10,000,000 (US dollars)] in net worth, within the United States, Canada, and/or England.

10.10.2 A current corporate annual report duly-certified by an independent auditing firm, containing a balance sheet illustrating such net worth, is an example of suitable documentation.

10.10.3 The documentation shall clearly disclose:

a) The Country in which the factory of module origin is located.

b) The name of the company or organization that owns the factory of module origin including any and all of its parent companies and/or organizations, and their respective Country of corporate citizenship.

10.10.4 For firms with business and/or corporate citizenship in the United States of less than seven (7) years, the process by which the end-users/owners of the modules will be able to obtain worst-case, catastrophic warranty service in the event of bankruptcy or

cessation-of-operations by the firm supplying the modules within North America, or in the event of bankruptcy or cessation-of-operations by the owner of the factory of origin, shall be clearly disclosed.

10.11 The LED module manufacturer shall provide references relevant to installations of at least five-thousand (5,000) 12-inch LED traffic signal modules per installation, in six (6) distinct and unrelated governmental jurisdictions within the United States, which have been installed for at least two (2) years.

11.0 CONFLICTS AND WAIVERS

11.01 The technical and warranty requirements of this document shall prevail over any other specification or standards for the installation of Light Emitting Diode (LED) Traffic Signal Modules in Miami-Dade County, Florida, unless amended by additional requirements and/or testing described RFP No. 524 titled: "LED Traffic Signal Module Retrofit Project". This specification supersedes all previous specifications.

11.02 In the event of conflicts within this specification between technical, certification, and/or testing minimum or compliant standards/requirements, between County and FDOT as stated in Section 9.0 QUALITY ASSURANCE Article 9.07.1, or as referenced elsewhere throughout this specification, County requirements shall prevail in all cases.

11.03 The Department reserves the right to waive in writing any portion or portions of this specification. The following Sub-sections 11.04 and 11.05, of this specification, shall however be excluded from waiver by the County.

11.04 This technical specification shall be for LED module retro-fit of new "standard" die-cast aluminum traffic signal heads by the manufacturer/suppliers of vehicular traffic signal heads procured by: County, State, Municipal or Private Developer for the installation and operation of vehicular traffic control signals installed within the jurisdictional boundaries of Miami-Dade County, Florida which are maintained by Miami-Dade County Public Works Department.

11.05 This technical specification shall be for LED module retro-fit of existing "standard" die-cast aluminum vehicular traffic signal heads, as stated in RFP No. 524 titled: "LED Traffic Signal Module Retrofit Project" for the conversion of all existing vehicular traffic signal heads within the jurisdictional boundaries of Miami-Dade County, Florida which are maintained by Miami-Dade County Public Works Department.

APPENDIX C

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APPENDIX C

APPENDIX D

LED Programmable Visibility Signal Modules Specification

Miami-Dade County Public Works Department
Traffic Signals & Signs Division

January 2006

APPENDIX D

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1. Purpose

This purpose of this specification is to provide the minimum performance requirements for LED Programmable Visibility (PV) modules designed to replace the 150 Watt Par lamps used in PV traffic signal heads

2. Definitions

2.1 Chromaticity. The color of the light emitted by the module, specified as x-y chromaticity coordinates on the chromaticity diagram according to the 1931 Commission Internationale d'Eclairage (CIE) standard observer and coordinate system.

2.2 LED Programmable Visibility Signal Module (PV Module). An array of LEDs and lens that is capable of providing light to the diffuser and optical limiter within the PV signal head The module shall be capable of replacing the incandescent lamp used in the PV signal head The terms "PV module" and "module" are used interchangeably throughout this specification

2.3 Luminous Intensity. The luminous flux per unit solid angle in a given direction, expressed in Candelas (Cd)

2.4 Nominal Operating Voltage. The Voltage, 120 VAC RMS, at which photometric and electrical performance requirements are specified.

2.5 Power Consumption. The electrical power in Watts consumed by the module when operated at nominal operating voltage and ambient operating temperature range

2.6 Power Factor (PF). PF equals Watts divided by Volt-Ampere (VA) or the ratio of power consumption in Watts to Volt-Amperes

2.7 Programmable Visibility (PV) Signal Head. A traffic signal head designed to allow viewing from only certain preprogrammed vantage points The programming is achieved via masking of the optical limiter within the PV signal Head

2.8 Total Harmonic Distortion (THD). THD is the ratio of the root-mean-square (RMS) value of the harmonics to the amplitude of the fundamental component of the ac waveform.

2.9 Turn-Off Time. The amount of time required after removal of the nominal operating voltage for the module to show no visible illumination.

2.10 Turn-Off Voltage. The voltage below which there is no visible illumination from the PV module.

2.11 Turn-On Time. The amount of time required for the PV module to reach 90% of its full illumination.

2.12 Volt-Amperes. The product of root-mean-square (RMS) line voltage and RMS line current measured with true RMS meter

3. General Requirements

3.1 The PV module shall be a self contained device designed to mount in the standard three prong Par lamp socket used in current production McCain and 3M PV signal heads.

3.2 The module shall be a sealed unit containing all components necessary for operation. The power supply for the module shall be contained inside the module housing

3.3 The housing of the module shall be made of UL94 flame retardant materials.

3.4 The module shall be designed to assure all internal LED and electronic components are adequately supported to withstand mechanical shock and vibration due to high winds and other sources.

3.5 There shall be three flat metal contacts, each protruding 0.5" from the rear of the PV module to ensure proper electrical and mechanical connection between the module and the lamp socket in the PV signal head

3.6 The module shall utilize a clear non-removable polycarbonate lens and a closed-cell foam gasket seal between the module housing and module lens in order to ensure a permanent moisture resistant seal and a tight compression fit when installed under the lamp retaining clip in the PV signal head.

3.7 No special tools will be required for installation of the LED PV module into the lamp socket within the PV signal head.

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3.8 The dimming circuitry within the PV signal head shall be disabled prior to installing the PV module to avoid damage to the module.

3.9 The maximum weight of the module shall be 0.75 lb. (0.34 kg)

3.10 The module shall be a CalTrans qualified product listed on the most recent version of the CalTrans Qualified Products Listing (QPL) and FDOT APL.

4. Environmental Requirements

4.1 The module shall be rated for use in the ambient operating temperature range of -40°C (-40°F) to +74°C (+165°F).

4.2 The module shall be protected against dust and moisture intrusion

5. Electrical Requirements

5.1 The LED module shall operate from a 60±3 Hz AC source over a voltage range of 80VAC to 135VAC and at a nominal voltage of 120VAC.

5.2 Fluctuations in line voltage over the range of 80VAC to 135VAC shall not affect luminous intensity by more than ±10 percent

5.3 The module circuitry shall prevent flicker of the LED output at frequencies less than 100 Hz over the voltage range specified in Section 5.1

5.4 Turn-On and Turn-Off Time. The module shall reach 90% of full illumination (Turn-On) within 75 msec of the application of the nominal operating voltage The signal shall cease emitting visible illumination (Turn-Off) within 75 msec of the removal of the nominal operating voltage.

5.5 Electronic fusing and transient suppression shall be incorporated into the module to withstand high-repetition noise transients, low-repetition, high-energy transients, and nondestruct transients, as stated in Sections 2.1.6 and 2.1.8 of NEMA Standard TS-2, 1992.

5.7 The LED module and associated onboard circuitry must meet Federal Communications Commission (FCC) Title 47, SubPart B, Section 15 regulations concerning the emission of electronic noise.

5.8 When operated at nominal operating voltage and at 25°C (77°F), the Power Factor of the module shall be greater than 0.90, and the Total Harmonic Distortion (THD) induced into an AC power line by a module shall not exceed 20%.

5.9 The power consumption of the module shall comply with the values shown in Table 1-1.

5.10 The current draw shall be sufficient to ensure compatibility, proper triggering, and operation of load current switches and conflict monitors in signal controller units.

5.11 When the module is switched from the On-State to the Off-State the terminal voltage shall decay to a value les than 10VAC RMS in less than 100 milliseconds when driven by a maximum allowed load switch leakage current of 10 milliamps peak (7.1 milliamps AC, RMS)

5.12 The power supply current to the LED board shall be adjusted via a programming resistor located on the LED board so as to ensure that the LEDs for different colored modules are always driven at the proper current level

6. Optical Requirements

6.1 The module shall comply with the intensity values given in Table 1-2 and the chromaticity values given in Table 1-3, when operated over the voltage range of 80VAC to 135VAC and at a temperature of 25°C (77°F).

6.2 Approximately 120 LEDs shall be utilized in each module. Red and Yellow modules shall utilize AlInGaP type LEDs and Green modules shall utilize InGaN type LEDs

6.3 The failure of a single LED to illuminate shall result in the loss of light output from that LED only.

7. Warranty

7.1 Manufacturers shall provide a written warranty issued by the factory located in the NAFTA country of module origin with the following minimum provisions:

7.2 Modules shall be replaced, repaired or purchase value refunded if the module fails to

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function as intended due to workmanship or material defects within the first 60 months from the date of delivery

7 3 Modules which exhibit luminous intensities less than the minimum specified values within 60 months of the date of delivery shall be replaced, repaired or purchase value refunded.

7.4 Upon request, the LED lamp module manufacturer shall provide written documentation of its ability to satisfy a worst-case, catastrophic warranty claim.

7.4.1 The documentation shall clearly show that the manufacturer and/or its parent corporation possesses a minimum of US$10 million in net worth, within the United States, Canada, and/or England

7.4.2 A current corporate annual report duly-certified by an independent auditing firm, containing a balance sheet illustrating such net worth, is an example of suitable documentation.

7.4.3 The documentation shall clearly disclose:
a) The country in which the factory of module origin is located
b) The name of the company or organization that owns the factory of module origin including any and all of its parent companies and/or organizations, and their respective country of corporate citizenship

7.4.4 For firms with business and/or corporate citizenship in the United States of less than seven years, the process by which the end-users/owners of the modules will be able to obtain worst-case, catastrophic warranty service in the event of bankruptcy or cessation-of-operations by the firm supplying the modules within North America, or in the event of bankruptcy or cessation-of-operations by the owner of the factory of origin, shall be clearly disclosed.

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8. Tables

Table 1-1 PV Module Power Consumption (in Watts @ 25°C)

	Red	Yellow	Green
Maximum Power	11	18	15

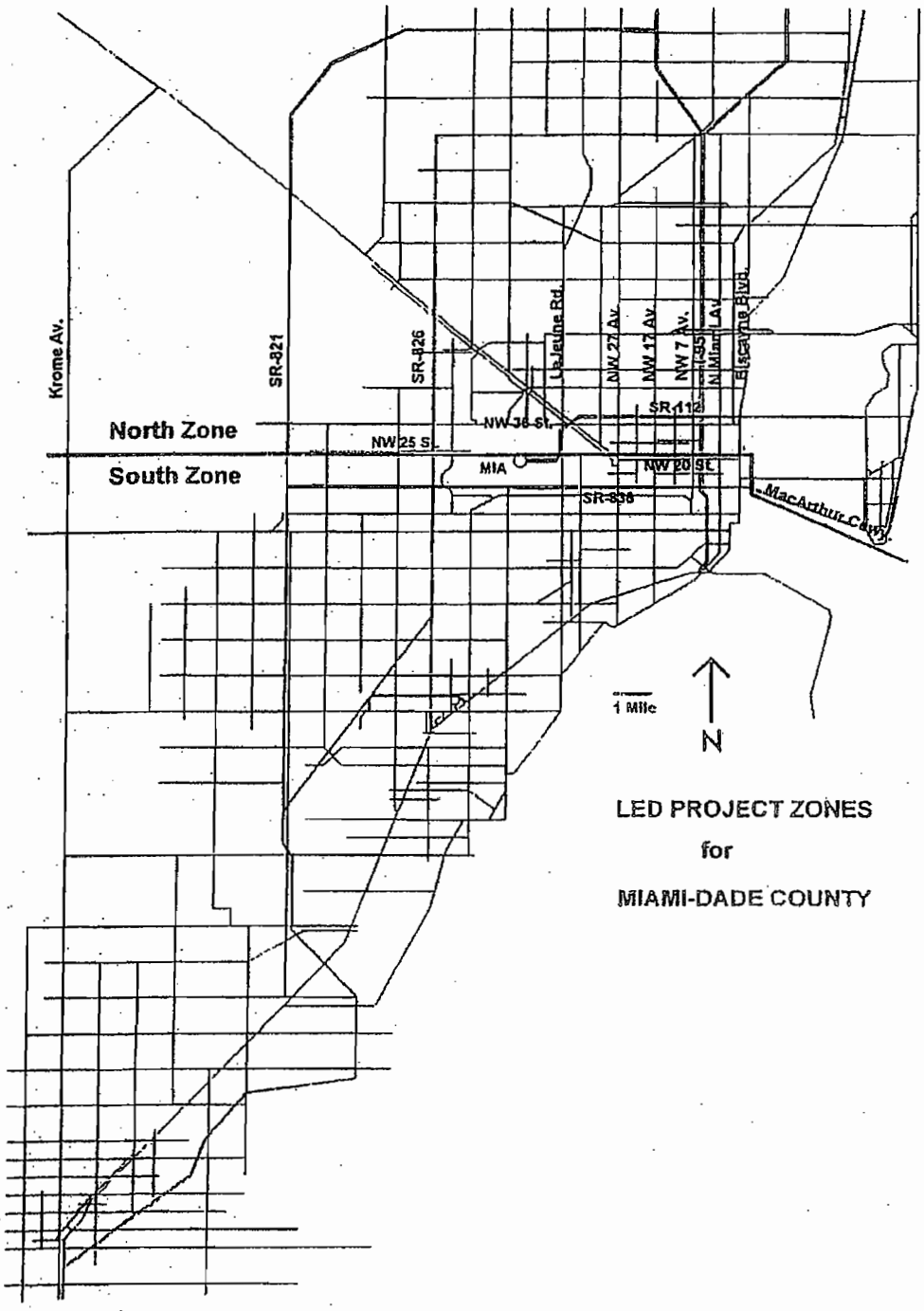
Table 1-2 PV Module Minimum Initial On-axis Luminous Intensities (in Cd @ 25°C)

	Red	Yellow	Green
PV Module Intensity	500	500	500

Table 1-3 Chromaticity Standards (CIE Chart)

Red	Y: not greater than 0.308, nor less than 0.998 -x
Yellow	Y: not less than 0 411, nor less than 0.995 –x, nor less than 0.452
Green	Y: not less than 0 506 - 519x, nor less than 0 150 + 1.068x, nor more than 0.730 - x

FIGURE 1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SR-821
SR-826
LeJeune Rd.
NW 27 Av.
NW 17 Av.
NW 7 Av.
I-395
N Miami Av.
Biscayne Blvd.
SR-112
NW 36 St.
NW 25 St.
North Zone
South Zone
MIA
NW 20 St.
SR-836
MacArthur Cswy.
1 Mile
N
LED PROJECT ZONES
for
MIAMI-DADE COUNTY

LED TRAFFIC SIGNAL HEAD RETROFIT PROJECT (SOUTH ZONE)

Contract No. 524b

THIS AGREEMENT made and entered into as of this _____ day of _____ by and between Republic Electric, a corporation organized and existing under the laws of the State of California, having its an office at 2725 114th Street, Grand Prairie, TX 75050 (hereinafter referred to as the "Contractor"), and Miami-Dade County, a political subdivision of the State of Florida, having its principal office at 111 N.W. 1st Street, Miami, Florida 33128 (hereinafter referred to as the "County"),

WITNESSETH:

WHEREAS, the Contractor has offered to provide LED traffic signal module retrofit for the South Zone of Miami-Dade County (see Figure 1), that shall conform to the Scope of Services (Appendix A); Miami-Dade County's Request for Proposals (RFP) No. 524 and all associated addenda and attachments, incorporated herein by reference; and the requirements of this Agreement; and,

WHEREAS, the Contractor has submitted a written proposal dated July 13, 2006, hereinafter referred to as the "Contractor's Proposal" which is incorporated by reference herein; and,

WHEREAS, the County desires to procure from the Contractor such services for the County, in accordance with the terms and conditions of this Agreement;

NOW, THEREFORE, in consideration of the mutual covenants and agreements herein contained, the parties hereto agree as follows:

ARTICLE 1. DEFINITIONS

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

a) The words "Contract" or "Contract Documents" or "Agreement" to mean collectively these terms and conditions, the Scope of Services (Appendix A), RFP No. 524 and all associated addenda and attachments, the Contractor's Proposal, and all other attachments hereto and all amendments issued hereto.

b) The words "Contract Date" to mean the date on which this Agreement is effective.

c) The words "Contract Manager" to mean Miami-Dade County's Director, Department of Procurement Management, or the duly authorized representative.

d) The word "Contractor" to mean Republic Electric and its permitted successors and assigns.

e) The word "Days" to mean Calendar Days.

f) The word "Deliverables" to mean all documentation and any items of any nature submitted by the Contractor to the County's Project Manager for review and approval pursuant to the terms of this Agreement.

g) 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.

h) The words "Change Order" or "Extra Work" or "Additional Work" resulting in additions or deletions or modifications to the amount, type or value of the Work and Services as required in this Contract, as directed and/or approved by the County.

i) The words "Project Manager" to mean the County Manager or the duly authorized representative designated to manage the Contract.

k) The words "Scope of Services" to mean the document appended hereto as Appendix A, which details the work to be performed by the Contractor.

l) The word "subcontractor" or "subcontractor" to mean any person, entity, firm or corporation, other than the employees of the Contractor, who furnishes labor and/or materials, in connection with the Work, whether directly or indirectly, on behalf and/or under the direction of the Contractor and whether or not in privity of Contract with the Contractor.

m) The words "Work", "Services" "Program", or "Project" to mean all matters and things required to be done by the Contractor in accordance with the provisions of this Contract.

ARTICLE 2. ORDER OF PRECEDENCE

If there is a conflict between or among the provisions of this Agreement, the order of precedence is as follows: 1) these terms and conditions, 2) the Scope of Services (Appendix A), 3) the Miami-Dade County's RFP No. 524 and any associated addenda and attachments thereof, and 4) the Contractor's Proposal.

ARTICLE 3. RULES OF INTERPRETATION

a) References to a specified Article, section or schedule shall be construed as reference to that specified Article, or section of, or schedule to this Agreement unless otherwise indicated.

b) Reference to any agreement or other instrument shall be deemed to include such agreement or other instrument as such agreement or other instrument may, from time to time, be modified, amended, supplemented, or restated in accordance with its terms.

c) The terms "hereof", "herein", "hereinafter", "hereby", "herewith", "hereto", and "hereunder" shall be deemed to refer to this Agreement.

d) The titles, headings, captions and arrangements used in these Terms and Conditions are for convenience only and shall not be deemed to limit, amplify or modify the terms of this Contract, nor affect the meaning thereof.

ARTICLE 4. NATURE OF THE AGREEMENT

a) The Contractor shall provide the services set forth in the Scope of Services, and render full and prompt cooperation with the County in all aspects of the Services performed hereunder.

b) The Contractor acknowledges that this Agreement requires the performance of all things necessary for or incidental to the effective and complete performance of all Work and Services under this Contract. All things not expressly mentioned in this Agreement but necessary to carrying out its intent are required by this Agreement, and the Contractor shall perform the same as though they were specifically mentioned, described and delineated.

c) The Contractor shall furnish all labor, materials, tools, supplies, and other items required to perform the Work and Services that are necessary for the completion of this Contract. All Work and Services shall be accomplished at the direction of and to the satisfaction of the County's Project Manager.

d) The Contractor acknowledges that the County shall be responsible for making all policy decisions regarding the Scope of Services. The Contractor agrees to provide input on policy issues in the form of recommendations. The Contractor agrees to implement any and all changes in providing Services hereunder as a result of a policy change implemented by the County. The Contractor agrees to act in an expeditious and fiscally sound manner in providing the County with input regarding the time and cost to implement said changes and in executing the activities required to implement said changes.

ARTICLE 5. CONTRACT TERM

The Contract shall become effective on the date shown on the first page and shall continue until project completion (as defined in Appendix A, Scope of Services). The County reserves the right to exercise its option to extend this Contract for up to one hundred-eighty (180) calendar days beyond the current Contract period and will notify the Contractor in writing of the extension. This Contract may be extended beyond the initial one hundred-eighty (180) calendar day extension period by mutual agreement between the County and the Contractor, upon approval by the Board of County Commissioners.

ARTICLE 6. NOTICE REQUIREMENTS

All notices required or permitted under this Agreement shall be in writing and shall be deemed sufficiently served if delivered by Registered or Certified Mail, with return receipt requested; or delivered personally; or delivered via fax or e-mail (if provided below) and followed with delivery of hard copy; and in any case addressed as follows:

(1) to the County

a) to the Project Manager:

Miami-Dade County
Public Works Department
Traffic Signals & Signs Office
7100 NW 36 Street
Miami, Florida 33166-6805
Attention: Robert Williams
Phone: (305) 592-8925 Ext: 247
Fax: (305) 594-0364

and,

b) to the Contract Manager:

Miami-Dade County
Department of Procurement Management
111 N.W. 1st Street, Suite 1375
Miami, FL 33128-1974
Attention: Director
Phone: (305) 375-5548
Fax: (305) 375-2316

(2) To the Contractor

Republic Electric
2725 114th Street, Grand Prairie, TX 75050
Attention: Katie Gough, Business Development
Phone: (817) 633-5300
Fax: (817) 633-5350
E-mail: Kgough@republicelectric.com

Either party may at any time designate a different address and/or contact person by

giving notice as provided above to the other party. Such notices shall be deemed given upon receipt by the addressee.

ARTICLE 7. PAYMENT FOR SERVICES/AMOUNT OBLIGATED

The Contractor warrants that it has reviewed the County's requirements and has asked such questions and conducted such other inquiries as the Contractor deemed necessary in order to determine the price the Contractor will charge to provide the Work and Services to be performed under this Contract. The compensation for all Work and Services performed under this Contract, including all costs associated with such Work and Services, shall be as stated in Appendix B Price Schedule. The County shall have no obligation to pay the Contractor any additional sum in excess of this amount, except for a change and/or modification to the Contract, which is approved and executed in writing by the County and the Contractor.

All Services undertaken by the Contractor before County's approval of this Contract shall be at the Contractor's risk and expense.

ARTICLE 8. PERFORMANCE AND PAYMENT BOND AND MAINTENANCE BOND

The Contractor shall duly execute and deliver to the County a Performance and Payment Bond and a Maintenance Bond in the amount of one hundred percent (100%) of the value of the contract. The Payment and Performance Bond shall cover only the installation period (up to the last issued Final Acceptance, anticipated by the Contractor to be 350 days or as amended), and shall be released, in accordance with Florida Statute 255.05, and replaced by the Maintenance Bond(s), for five years total (allowed to be issued with an initial term of two years, then replaced with a bond for another two years, then replaced by a bond for one year) beginning with the date of the County's last issued Final Acceptance. The responsibility for procurement and delivery to County of the Maintenance Bond(s) required under this Contract beyond the initial two year term provided herein shall be the sole obligation of the Contractor. The Surety having provided the Performance and Payment bonds covering the installation period and the Maintenance Bond for the initial two year term shall assume no liability to Contractor, the County or any third parties, should Contractor fail, for any reason, to deliver acceptable Maintenance Bond(s) as required by terms of this Contract beyond the first two years of the Maintenance period. The Maintenance Bond(s) will be provided on a standard Maintenance Bond form and shall remain in effect throughout the warranty period as identified in "Appendix A: Scope of Services", Section 1.B.i, Long-term Warranty. The Contractor shall execute a Maintenance Bond for an initial period of two years and issue new bonds in such manner that coverage shall be continuous and in effect throughout the Long-term Warranty period.

The Performance and Payment Bond shall be delivered to the County within twenty (20) calendar days after the Contract Date. If the Contractor fails to deliver the required bonds with in the specified time, including granted extensions, if any, the County may declare the Contractor in default of the contractual terms and conditions may not accept any proposal from the Proposer for a twelve (12) month period following such default.

The following specifications shall apply to the bond required above:

1. All bonds shall apply be written through surety insurers authorized to do business in

the State of Florida as surety, with the following qualifications as to management and financial strength according to the latest edition of Best's Insurance Guide, published by A.M. Best Company, Oldwick, New Jersey:

Bond Amount	Best Ratings	
$500,001 to $1,500,000	B	V
$1,500,001 to $2,500,000	A	VI
$2,500,001 to $5,000,000	A	VII
$5,000,001 to $10,000,000	A	VIII
$Over $10,000,000	A	IX

2. On contract amounts of $500,000 or less, the bond provisions of Section 287.0935, Florida Status (1985) shall be in effect and surety companies not otherwise qualified with this paragraph may optionally qualify by:

   a. Providing evidence that the surety has twice the minimum surplus and capital required by the Florida Insurance Code at the time the Request for Proposals is issued;

   b. Certify that the surety is otherwise in compliance with the Florida Insurance Code; and

   c. Providing a copy of the currently valid Certificate of Authority issued by the United States Department of the Treasury under ss. 31 U.S. C. 9404-9308.

   Surety insures shall be listed in the latest Circular 570 of the U.S. Department of the Treasury entitled "Surety Companies Acceptable on Federal Bonds," published annually. The bond amount shall not exceed the underwriting limitations as shown in this circular.

3. For contracts in excess of $500,000 the provisions of Section B will be adhered to plus the company must have been listed for at least three consecutive years, or holding a valid Certificate of Authority of at least 1.5 million dollars and on the Treasury List.

4. Surety Bonds guaranteed through the U.S. Government Small Business Administration or Contractors Training and Development, Inc., will also be accepted.

5. The attorney-in-fact or other officer who signs a contract bond for a surety company must file with such bond a certified copy of his/her power of attorney authorizing him/her to do so. The contract bond must be countersigned by the surety's resident Florida agent.

ARTICLE 9. PRICING

Prices shall remain firm and fixed for the term of the Contract, including any option or extension periods; however, the Contractor may offer incentive discounts to the County at any time during the Contract term, including any renewal or extension thereof.

ARTICLE 10. METHOD AND TIMES OF PAYMENT

The Contractor agrees that under the provisions of this Agreement, as reimbursement for those actual, reasonable and necessary costs incurred by the Contractor, which are directly attributable or properly allocable to the Services, the Contractor may bill the County once per month, upon invoices certified by the Contractor pursuant to Appendix B – Price Schedule. All invoices shall be taken from the books of account kept by the Contractor, shall be supported by copies of payroll distribution, receipt bills or other documents reasonably required by the County, shall show the County's contract number, and shall have a unique invoice number assigned by the Contractor. It is the policy of Miami-Dade County that payment for all purchases by County agencies and the Public Health Trust shall be made in a timely manner and that interest payments be made on late payments. In accordance with Florida Statutes, Section 218.74 and Section 2-8.1.4 of the Miami-Dade County Code, the time at which payment shall be due from the County or the Public Health Trust shall be forty-five days from receipt of a proper invoice. The time at which payment shall be due to small businesses shall be thirty (30) days from receipt of a proper invoice. All payments due from the County or the Public Health Trust, and not made within the time specified by this section shall bear interest from thirty (30) days after the due date at the rate of one percent (1%) per month on the unpaid balance. Further, proceedings to resolve disputes for payment of obligations shall be concluded by final written decision of the County Manager, or his or her designee(s), not later that sixty (60) days after the date on which the proper invoice was received by the County or the Public Health Trust.

Invoices and associated back-up documentation shall be submitted in duplicate by the Contractor to the County as follows:

Miami-Dade County
Public Works Department
Traffic Signals & Signs Office
7100 NW 36 Street
Miami, Florida 33166-6805
Attention: Robert Williams
Phone: (305) 592-8925 Ext: 247
Fax: (305) 594-0364

The County may at any time designate a different address and/or contact person by giving written notice to the other party.

ARTICLE 11. INDEMNIFICATION AND INSURANCE

The Contractor 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 Contractor or its employees, agents, servants, partners principals or subcontractors. The Contractor 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. The Contractor expressly understands and agrees that any insurance protection required by this Agreement or otherwise provided by the

Contractor 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.

Upon County's notification, the Contractor shall, furnish to Miami-Dade County, Department of Procurement Management, RFP Section, 111 N.W. 1st Street, Suite 1375, Miami, Florida 33128-1974, Certificates of Insurance that indicate that insurance coverage has been obtained, which meets the requirements as outlined below:

1. Worker's Compensation Insurance for all employees of the Contractor as required by Florida Statute 440.

2. Public Liability Insurance on a comprehensive basis in an amount not less than $500,000 combined single limit per occurrence for bodily injury and property damage. **Miami-Dade County must be shown as an additional insured with respect to this coverage. The mailing address of the Department of Procurement Management, as the certificate holder, must appear on the certificate of insurance.**

3. Automobile Liability Insurance covering all owned, non-owned, and hired vehicles used in connection with the Services, in an amount not less than $500,000 combined single limit per occurrence for bodily injury and property damage.

4. Professional Liability Insurance in an amount not less than $500,000 with a deductible per claim not to exceed ten percent (10%) of the limit of liability.

5. Owner's Protective Liability Insurance issued in the name of Miami-Dade County as the sole named insured, in an amount not less than $500,000 combined single limit per occurrence for bodily injury and property damage.

The insurance coverage required shall include those classifications, as listed in standard liability insurance manuals, which most nearly reflect the operation of the Contractor. 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 "B" as to management, and no less than "Class V" as to financial strength, according to the latest edition of 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 Insurance and are members of the Florida Guaranty Fund.

Certificates of Insurance must indicate that for any cancellation of coverage before the expiration date, the issuing insurance carrier will endeavor to mail thirty (30) day written advance notice to the certificate holder. In addition, the Contractor hereby agrees not to modify the insurance coverage without thirty (30) days written advance notice to the County.

NOTE: MIAMI-DADE COUNTY CONTRACT NUMBER AND TITLE MUST APPEAR ON EACH CERTIFICATE OF INSURANCE.

Compliance with the foregoing requirements shall not relieve the Contractor of this liability and obligation under this section or under any other section in this Agreement.

Award of this Contract is contingent upon the receipt of the insurance documents, as required, within fifteen (15) calendar days after County notification to Contractor to comply before the award is made. If the insurance certificate is received within the specified time frame but not in the manner prescribed in this Agreement, the Contractor shall be verbally notified of such deficiency and shall have an additional five (5) calendar days to submit a corrected certificate to the County. If the Contractor fails to submit the required insurance documents in the manner prescribed in this Agreement within twenty (20) calendar days after County notification to comply, the Contractor shall be in default of the contractual terms and conditions and award of the Contract will be rescinded, unless such time frame for submission has been extended by the County.

The Contractor shall be responsible for assuring that the insurance certificates required in conjunction with this Section remain in force for the duration of the contractual period of the Contract, including any and all option years or extension periods that may be granted by the County. If insurance certificates are scheduled to expire during the contractual period, the Contractor shall be responsible for submitting new or renewed insurance certificates to the County at a minimum of thirty (30) calendar days in advance of such expiration. In the event that expired certificates are not replaced with new or renewed certificates which cover the contractual period, the County shall suspend the Contract until such time as the new or renewed certificates are received by the County in the manner prescribed herein; provided, however, that this suspended period does not exceed thirty (30) calendar days. Thereafter, the County may, at its sole discretion, terminate this contract.

ARTICLE 12. MANNER OF PERFORMANCE

a) The Contractor shall provide the Services described herein in a competent and professional manner satisfactory to the County in accordance with the terms and conditions of this Agreement. The County shall be entitled to a satisfactory performance of all Services described herein and to full and prompt cooperation by the Contractor in all aspects of the Services. At the request of the County the Contractor shall promptly remove from the project any Contractor's employee, subcontractor, or any other person performing Services hereunder. The Contractor agrees that such removal of any of its employees does not require the termination or demotion of any employee by the Contractor.

b) The Contractor agrees to defend, hold harmless and indemnify the County and

shall be liable and responsible for any and all claims, suits, actions, damages and costs (including attorney's fees and court costs) made against the County, occurring on account of, arising from or in connection with the removal and replacement of any Contractor's personnel performing services hereunder at the behest of the County. Removal and replacement of any Contractor's personnel as used in this Article shall not require the termination and or demotion of such Contractor's personnel.

c) The Contractor agrees that at all times it will employ, maintain and assign to the performance of the Services a sufficient number of competent and qualified professionals and other personnel to meet the requirements to which reference is hereinafter made. The Contractor agrees to adjust its personnel staffing levels or to replace any its personnel if so directed upon reasonable request from the County, should the County make a determination, in its sole discretion that said personnel staffing is inappropriate or that any individual is not performing in a manner consistent with the requirements for such a position.

d) The Contractor warrants and represents that its personnel have the proper skill, training, background, knowledge, experience, rights, authorizations, integrity, character and licenses as necessary to perform the Services described herein, in a competent and professional manner.

e) The Contractor shall at all times cooperate with the County and coordinate its respective work efforts to most effectively and efficiently maintain the progress in performing the Services.

f) The Contractor shall comply with all provisions of all federal, state and local laws, statutes, ordinances, and regulations that are applicable to the performance of this Agreement.

ARTICLE 13. EMPLOYEES ARE THE RESPONSIBILITY OF THE CONTRACTOR

All employees of the Contractor shall be considered to be, at all times, employees of the Contractor under its sole direction and not employees or agents of the County. The Contractor shall supply competent employees. Miami-Dade County may require the Contractor to remove an employee it deems careless, incompetent, insubordinate or otherwise objectionable and whose continued employment on County property is not in the best interest of the County. Each employee shall have and wear proper identification.

ARTICLE 14. INDEPENDENT CONTRACTOR RELATIONSHIP

The Contractor is, and shall be, in the performance of all work services and activities under this Agreement, an independent Contractor, and not an employee, agent or servant of the County. All persons engaged in any of the work or services performed pursuant to this Agreement shall at all times, and in all places, be subject to the Contractor's sole direction, supervision and control. The Contractor shall exercise control over the means and manner in which it and its employees perform the work, and in all respects the Contractor's relationship and the relationship of its employees to the County shall be that of an independent Contractor and not as employees and agents of the County.

The Contractor does not have the power or authority to bind the County in any promise, agreement or representation other than specifically provided for in this Agreement.

ARTICLE 15. AUTHORITY OF THE COUNTY'S PROJECT MANAGER

a) The Contractor hereby acknowledges that the County's Project Manager will determine in the first instance all questions of any nature whatsoever arising out of, under, or in connection with, or in any way related to or on account of, this Agreement including without limitations: questions as to the value, acceptability and fitness of the Services; questions as to either party's fulfillment of its obligations under the Contract; negligence, fraud or misrepresentation before or subsequent to acceptance of the Proposal; questions as to the interpretation of the Scope of Services; and claims for damages, compensation and losses.

b) The Contractor shall be bound by all determinations or orders and shall promptly obey and follow every order of the Project Manager, including the withdrawal or modification of any previous order and regardless of whether the Contractor agrees with the Project Manager's determination or order. Where orders are given orally, they will be issued in writing by the Project Manager as soon thereafter as is practicable.

c) The Contractor must, in the final instance, seek to resolve every difference concerning the Agreement with the Project Manager. In the event that the Contractor and the Project Manager are unable to resolve their difference, the Contractor may initiate a dispute in accordance with the procedures set forth in this Article. Exhaustion of these procedures shall be a condition precedent to any lawsuit permitted hereunder.

d) In the event of such dispute, the parties to this Agreement authorize the County Manager or designee, who may not be the Project Manager or anyone associated with this Project, acting personally, to decide all questions arising out of, under, or in connection with, or in any way related to or on account of the Agreement (including but not limited to claims in the nature of breach of contract, fraud or misrepresentation arising either before or subsequent to execution hereof) and the decision of each with respect to matters within the County Manager's purview as set forth above shall be conclusive, final and binding on parties. Any such dispute shall be brought, if at all, before the County Manager within 10 days of the occurrence, event or act out of which the dispute arises.

e) The County Manager may base this decision on such assistance as may be desirable, including advice of experts, but in any event shall base the decision on an independent and objective determination of whether Contractor's performance or any Deliverable meets the requirements of this Agreement and any specifications with respect thereto set forth herein. The effect of any decision shall not be impaired or waived by any negotiations or settlements or offers made in connection with the dispute, whether or not the County Manager participated therein, or by any prior decision of others, which prior decision shall be deemed subject to review, or by any termination or cancellation of the Agreement. All

such disputes shall be submitted in writing by the Contractor to the County Manager for a decision, together with all evidence and other pertinent information in regard to such questions, in order that a fair and impartial decision may be made. Whenever the County Manager is entitled to exercise discretion or judgement or to make a determination or form an opinion pursuant to the provisions of this Article, such action shall be fair and impartial when exercised or taken. The County Manager, as appropriate, shall render a decision in writing and deliver a copy of the same to the Contractor. Except as such remedies may be limited or waived elsewhere in the Agreement, Contractor reserves the right to pursue any remedies available under law after exhausting the provisions of this Article.

ARTICLE 16. MUTUAL OBLIGATIONS

a) This Agreement, including attachments and appendixes to the Agreement, shall constitute the entire Agreement between the parties with respect hereto and supersedes all previous communications and representations or agreements, whether written or oral, with respect to the subject matter hereto unless acknowledged in writing by the duly authorized representatives of both parties.

b) Nothing in this Agreement shall be construed for the benefit, intended or otherwise, of any third party that is not a parent or subsidiary of a party or otherwise related (by virtue of ownership control or statutory control) to a party.

c) In those situations where this Agreement imposes an indemnity obligation on the Contractor, the County may, at its expense, elect to participate in the defense if the County should so choose. Furthermore, the County may at its own expense defend or settle any such claims if the Contractor fails to diligently defend such claims, and thereafter seek indemnity for costs from the Contractor.

ARTICLE 17. QUALITY ASSURANCE/QUALITY ASSURANCE RECORD KEEPING

The Contractor shall maintain, and shall require that its subcontractor and suppliers maintain, complete and accurate records to substantiate compliance with the requirements set forth in the Scope Of Services. The Contractor and its subcontractors and suppliers, shall retain such records, and all other documents relevant to the Services furnished under this Agreement for a period of three (3) years from the expiration date of this Agreement and any extension thereof.

ARTICLE 18. AUDITS

The Contractor agrees that the County or its duly authorized representatives or governmental agencies shall, until the expiration of three (3) years after the expiration of this Agreement and any extension thereof, have access to and the right to examine and reproduce any of the Contractor's books, documents, papers and records and of its subcontractors and suppliers which apply to all matters of the County. Such records shall subsequently conform to Generally Accepted Accounting Principles requirements, and shall only address those transactions related to this Agreement.

The Contractor agrees to maintain an accounting system that provides accounting records that are supported with adequate documentation, and adequate procedures for determining the allowability and allocability of costs.

ARTICLE 19. SUBSTITUTION OF PERSONNEL

In the event the Contractor wishes to substitute personnel for the key personnel identified by the Contractor's Proposal, the Contractor must notify the County in writing and request written approval for the substitution at least ten (10) business days prior to effecting such substitution.

ARTICLE 20. CONSENT OF THE COUNTY REQUIRED FOR ASSIGNMENT

The Contractor shall not assign, transfer, convey or otherwise dispose of this Agreement, including its rights, title or interest in or to the same or any part thereof without the prior written consent of the County.

ARTICLE 21. SUBCONTRACTUAL RELATIONS

a) If the Contractor will cause any part of this Agreement to be performed by a Subcontractor, the provisions of this Contract will apply to such Subcontractor and its officers, agents and employees in all respects as if it and they were employees of the Contractor; and the Contractor will not be in any manner thereby discharged from its obligations and liabilities hereunder, but will be liable hereunder for all acts and negligence of the Subcontractor, its officers, agents, and employees, as if they were employees of the Contractor. The services performed by the Subcontractor will be subject to the provisions hereof as if performed directly by the Contractor.

b) The Contractor, before making any subcontract for any portion of the services, will state in writing to the County the name of the proposed Subcontractor, the portion of the Services which the Subcontractor is to do, the place of business of such Subcontractor, and such other information as the County may require. The County will have the right to require the Contractor not to award any subcontract to a person, firm or corporation disapproved by the County.

c) Before entering into any subcontract hereunder, the Contractor will inform the Subcontractor fully and completely of all provisions and requirements of this Agreement relating either directly or indirectly to the Services to be performed. Such Services performed by such Subcontractor will strictly comply with the requirements of this Contract.

d) In order to qualify as a Subcontractor satisfactory to the County, in addition to the other requirements herein provided, the Subcontractor must be prepared to prove to the satisfaction of the County that it has the necessary facilities, skill and experience, and ample financial resources to perform the Services in a satisfactory manner. To be considered skilled and experienced, the Subcontractor must show to the satisfaction of the County that it has satisfactorily performed services of the same general type which is required to be performed under this Agreement.

e) The County shall have the right to withdraw its consent to a subcontract if it appears to the County that the subcontract will delay, prevent, or otherwise impair the performance of the Contractor's obligations under this Agreement. All Subcontractors are required to protect the confidentiality of the County's and County's proprietary and confidential information. Contractor shall furnish to the County copies of all subcontracts between Provider and Subcontractors and suppliers hereunder. Within each such subcontract, there shall be a clause for the benefit of the County permitting the County to request completion of performance by the Subcontractor of its obligations under the subcontract, in the event the County finds the Contractor in breach of its obligations, the option to pay the Subcontractor directly for the performance by such subcontractor. Notwithstanding, the foregoing shall neither convey nor imply any obligation or liability on the part of the County to any subcontractor hereunder as more fully described herein.

ARTICLE 22. ASSUMPTION, PARAMETERS, PROJECTIONS, ESTIMATES AND EXPLANATIONS

The Contractor understands and agrees that any assumptions, parameters, projections, estimates and explanations presented by the County were provided to the Contractor for evaluation purposes only. However, since these assumptions, parameters, projections, estimates and explanations represent predictions of future events the County makes no representations or guarantees; and the County shall not be responsible for the accuracy of the assumptions presented; and the County shall not be responsible for conclusions to be drawn therefrom; and any assumptions, parameters, projections, estimates and explanations shall not form the basis of any claim by the Contractor. The Contractor accepts all risk associated with using this information.

ARTICLE 23. SEVERABILITY

If this Agreement contains any provision found to be unlawful, the same shall be deemed to be of no effect and shall be deemed stricken from this Agreement without affecting the binding force of this Agreement as it shall remain after omitting such provision.

ARTICLE 24. TERMINATION FOR CONVENIENCE AND SUSPENSION OF WORK

a) The County may terminate this Agreement if an individual or corporation or other entity attempts to meet its contractual obligation with the County through fraud, misrepresentation or material misstatement.

b) The County may, as a further sanction, terminate or cancel any other contract(s) that such individual or corporation or other entity has with the County and that such individual, corporation or other entity shall be responsible for all direct and indirect costs associated with such termination or cancellation, including attorney's fees.

c) The foregoing notwithstanding, any individual, corporation or other entity which attempts to meet its contractual obligations with the County through fraud, misrepresentation or material misstatement may be debarred from County contracting for up to five (5) years in accordance with the County debarment procedures. The Contractor may be subject to debarment for failure to perform

and all other reasons set forth in Section 10-38 of the County Code.

In addition to cancellation or termination as otherwise provided in this Agreement, the County may at any time, in its sole discretion, with or without cause, terminate this Agreement by written notice to the Contractor and in such event:

d) The Contractor shall, upon receipt of such notice, unless otherwise directed by the County:

i. stop work on the date specified in the notice ("the Effective Termination Date");

ii. take such action as may be necessary for the protection and preservation of the County's materials and property;

iii. cancel orders;

iv. assign to the County and deliver to any location designated by the County any noncancelable orders for Deliverables that are not capable of use except in the performance of this Agreement and has been specifically developed for the sole purpose of this Agreement and not incorporated in the Services;

v. take no action which will increase the amounts payable by the County under this Agreement; and

e) In the event that the County exercises its right to terminate this Agreement pursuant to this Article the Contractor will be compensated as stated in the payment Articles, herein, for the:

i. portion of the Services completed in accordance with the Agreement and the Work Order up to the Effective Termination Date; and

ii. noncancelable Deliverables that are not capable of use except in the performance of this Agreement and Work Order and has been specifically developed for the sole purpose of this Agreement Work Order but not incorporated in the Services.

f) All compensation pursuant to this Article are subject to audit.

ARTICLE 25. EVENT OF DEFAULT

a) An Event of Default shall mean a breach of this Agreement by the Contractor. Without limiting the generality of the foregoing and in addition to those instances referred to herein as a breach, an Event of Default, shall include the following:

i. the Contractor has not delivered Deliverables on a timely basis.

ii. the Contractor has refused or failed, except in case for which an extension of time is provided, to supply enough properly skilled Staff Personnel;

iii. the Contractor has failed to make prompt payment to subcontractors or suppliers for any Services;

iv. the Contractor has become insolvent (other than as interdicted by the bankruptcy laws), or has assigned the proceeds received for the benefit of the Contractor's creditors, or the Contractor has taken advantage of any insolvency statute or debtor/creditor law or if the Contractor's affairs have been put in the hands of a receiver;

v. the Contractor has failed to obtain the approval of the County where required by this Agreement;

vi. the Contractor has failed to provide "adequate assurances" as required under subsection "b" below;

vii. the Contractor has failed in the representation of any warranties stated herein.

b) When, in the opinion of the County, reasonable grounds for uncertainty exist with respect to the Contractor's ability to perform the Services or any portion thereof, the County may request that the Contractor, within the time frame set forth in the County's request, provide adequate assurances to the County, in writing, of the Contractor's ability to perform in accordance with terms of this Agreement. Until the County receives such assurances the County may request an adjustment to the compensation received by the Contractor for portions of the Services which the Contractor has not performed. In the event that the Contractor fails to provide to the County the requested assurances within the prescribed time frame, the County may:

i. treat such failure as a repudiation of this Agreement;

ii. resort to any remedy for breach provided herein or at law, including but not limited to, taking over the performance of the Services or any part thereof either by itself or through others.

c) In the event the County shall terminate this Agreement for default, the County or its designated representatives, may immediately take possession of all applicable equipment, materials, products, documentation, reports and data.

ARTICLE 26. NOTICE OF DEFAULT - OPPORTUNITY TO CURE /TERMINATION

If an Event of Default occurs, in the determination of the County, the County may so notify the Contractor ("Default Notice"), specifying the basis for such default, and advising the Contractor that such default must be cured immediately or this Agreement with the County may be terminated. Notwithstanding, the County may, in its sole discretion, allow the Contractor to rectify the default to the County's reasonable satisfaction within a thirty (30) day period. The County may grant an additional period of such duration as the County shall deem appropriate without waiver of any of the County's rights hereunder, so long as the Contractor has commenced curing such default and is effectuating a cure with diligence and continuity during such thirty (30) day period or any other period which the County prescribes. The default notice shall

specify the date the Contractor shall discontinue the Services upon the Termination Date.

ARTICLE 27. REMEDIES IN THE EVENT OF DEFAULT

If an Event of Default occurs, the Contractor shall be liable for all damages resulting from the default, including but not limited to:

a) lost revenues;

b) the difference between the cost associated with procuring Services hereunder and the amount actually expended by the County for reprocurement of Services, including procurement and administrative costs; and,

c) such other direct damages.

The Contractor shall also remain liable for any liabilities and claims related to the Contractor's default.

The County may also bring any suit or proceeding for specific performance or for an injunction.

ARTICLE 28. PATENT AND COPYRIGHT INDEMNIFICATION

a) The Contractor warrants that all Deliverables furnished hereunder, including but not limited to: equipment programs, documentation, software, analyses, applications, methods, ways, processes, and the like, do not infringe upon or violate any patent, copyrights, service marks, trade secret, or any other third party proprietary rights.

b) The Contractor shall be liable and responsible for any and all claims made against the County for infringement of patents, copyrights, service marks, trade secrets or any other third party proprietary rights, by the use or supplying of any programs, documentation, software, analyses, applications, methods, ways, processes, and the like, in the course of performance or completion of, or in any way connected with, the Work, or the County's continued use of the Deliverables furnished hereunder. Accordingly, the Contractor at its own expense, including the payment of attorney's fees, shall indemnify, and hold harmless the County and defend any action brought against the County with respect to any claim, demand, cause of action, debt, or liability.

c) In the event any Deliverable or anything provided to the County hereunder, or portion thereof is held to constitute an infringement and its use is or may be enjoined, the Contractor shall have the obligation to, at the County's option to (i) modify, or require that the applicable sub subcontractor or supplier modify, the alleged infringing item(s) at its own expense, without impairing in any respect the functionality or performance of the item(s), or (ii) procure for the County, at the Contractor's expense, the rights provided under this Agreement to use the item(s).

d) The Contractor shall be solely responsible for determining and informing the County whether a prospective supplier or subcontractor is a party to any litigation involving patent or copyright infringement, service mark, trademark, violation, or proprietary rights claims or is subject to any injunction which may prohibit it from providing any Deliverable hereunder. The Contractor shall enter into agreements with all suppliers and subcontractors at the Contractor's own risk. The County may reject any Deliverable that it believes to be the subject of any such litigation or injunction, or if, in the County's judgment, use thereof would delay the Work or be unlawful.

e) The Contractor shall not infringe any copyright, trademark, service mark, trade secrets, patent rights, or other intellectual property rights in the performance of the Work.

ARTICLE 29. CONFIDENTIALITY

a) All Developed Works and other materials, data, transactions of all forms, financial information, documentation, inventions, designs and methods obtained from the County in connection with the Services performed under this Agreement, made or developed by the Contractor or its subcontractors in the course of the performance of such Services, or the results of such Services, or which the County holds the proprietary rights, constitute Confidential Information and may not, without the prior written consent of the County, be used by the Contractor or its employees, agents, subcontractors or suppliers for any purpose other than for the benefit of the County, unless required by law. In addition to the foregoing, all County employee information and County financial information shall be considered confidential information and shall be subject to all the requirements stated herein. Neither the Contractor nor its employees, agents, subcontractors or suppliers may sell, transfer, publish, disclose, display, license or otherwise make available to others any part of such Confidential Information without the prior written consent of the County. Additionally, the Contractor expressly agrees to be bound by and to defend, indemnify and hold harmless the County, and their officers and employees from the breach of any federal, state or local law in regard to the privacy of individuals.

b) The Contractor shall advise each of its employees, agents, subcontractors and suppliers who may be exposed to such Confidential Information of their obligation to keep such information confidential and shall promptly advise the County in writing if it learns of any unauthorized use or disclosure of the Confidential Information by any of its employees or agents, or subcontractor's or supplier's employees, present or former. In addition, theContractor agrees to cooperate fully and provide any assistance necessary to ensure the confidentiality of the Confidential Information.

c) It is understood and agreed that in the event of a breach of this Article damages may not be an adequate remedy and the County shall be entitled to injunctive relief to restrain any such breach or threatened breach. Unless otherwise requested by the County, upon the completion of the Services performed

hereunder, theContractor shall immediately turn over to the County all such Confidential Information existing in tangible form, and no copies thereof shall be retained by the Contractor or its employees, agents, subcontractors or suppliers without the prior written consent of the County. A certificate evidencing compliance with this provision and signed by an officer of the Contractor shall accompany such materials.

ARTICLE 30. PROPRIETARY INFORMATION

As a political subdivision of the State of Florida, Miami-Dade County is subject to the stipulations of Florida's Public Records Law.

The Contractor acknowledge that all computer software in the County's possession may constitute or contain information or materials which the County has agreed to protect as proprietary information from disclosure or unauthorized use and may also constitute or contain information or materials which the County has developed at its own expense, the disclosure of which could harm the County's proprietary interest therein.

During the term of the contract, the Contractors will not use directly or indirectly for itself or for others, or publish or disclose to any third party, or remove from the County's property, any computer programs, data compilations, or other software which the County has developed, has used or is using, is holding for use, or which are otherwise in the possession of the County (hereinafter "Computer Software"). All third-party license agreements must also be honored by the Contractors and their employees, except as authorized by the County and, if the Computer Software has been leased or purchased by the County, all hired party license agreements must also be honored by the Contractors' employees with the approval of the lessor or Contractors thereof. This includes mainframe, minis, telecommunications, personal computers and any and all information technology software.

The Contractor will report to the County any information discovered or which is disclosed to the Contractor which may relate to the improper use, publication, disclosure or removal from the County's property of any information technology software and hardware and will take such steps as are within the Contractor's authority to prevent improper use, disclosure or removal.

ARTICLE 31. PROPRIETARY RIGHTS

a) The Contractor hereby acknowledges and agrees that the County retains all rights, title and interests in and to all materials, data, documentation and copies thereof furnished by the County to the Contractor hereunder or furnished by the Contractor to the County and/or created by the Contractor for delivery to the County, even if unfinished or in process, as a result of the Services the Contractor performs in connection with this Agreement, including all copyright and other proprietary rights therein, which the Contractor as well as its employees, agents, subcontractors and suppliers may use only in connection of

the performance of Services under this Agreement. The Contractor shall not, without the prior written consent of the County, use such documentation on any other project in which the Contractor or its employees, agents, subcontractors or suppliers are or may become engaged. Submission or distribution by the Contractor to meet official regulatory requirements or for other purposes in connection with the performance of Services under this Agreement shall not be construed as publication in derogation of the County's copyrights or other proprietary rights.

b) All rights, title and interest in and to certain inventions, ideas, designs and methods, specifications and other documentation related thereto developed by the Contractor and its subcontractors specifically for the County, hereinafter referred to as "Developed Works" shall become the property of the County.

c) Accordingly, neither the Contractor nor its employees, agents, subcontractors or suppliers shall have any proprietary interest in such Developed Works. The Developed Works may not be utilized, reproduced or distributed by or on behalf of the Contractor, or any employee, agent, subcontractor or supplier thereof, without the prior written consent of the County, except as required for the Contractor's performance hereunder.

d) Except as otherwise provided in subsections a, b, and c above, or elsewhere herein, the Contractor and its subcontractors and suppliers hereunder shall retain all proprietary rights in and to all Licensed Software provided hereunder, that have not been customized to satisfy the performance criteria set forth in the Scope of Services. Notwithstanding the foregoing, the Contractor hereby grants, and shall require that its subcontractors and suppliers grant, if the County so desires, a perpetual, irrevocable and unrestricted right and license to use, duplicate, disclose and/or permit any other person(s) or entity(ies) to use all such Licensed Software and the associated specifications, technical data and other Documentation for the operations of the County or entities controlling, controlled by, under common control with, or affiliated with the County, or organizations which may hereafter be formed by or become affiliated with the County. Such license specifically includes, but is not limited to, the right of the County to use and/or disclose, in whole or in part, the technical documentation and Licensed Software, including source code provided hereunder, to any person or entity outside the County for such person's or entity's use in furnishing any and/or all of the Deliverables provided hereunder exclusively for the County or entities controlling, controlled by, under common control with, or affiliated with the County, or organizations which may hereafter be formed by or become affiliated with the County. No such License Software, specifications, data, documentation or related information shall be deemed to have been given in confidence and any statement or legend to the contrary shall be void and of no effect.

ARTICLE 32. BUSINESS APPLICATION AND FORMS

Business Application The Contractor shall be a registered vendor with the County –

Department of Procurement Management, for the duration of this Agreement. It is the responsibility of the Contractor to file the appropriate Vendor Application and to update the Application file for any changes for the duration of this Agreement, including any option years.

Section 2-11.1(d) of Miami-Dade County Code as amended by Ordinance 00-1, requires any county employee or any member of the employee's immediate family who has a controlling financial interest, direct or indirect, with Miami-Dade County or any person or agency acting for Miami-Dade County from competing or applying for any such contract as it pertains to this solicitation, must first request a conflict of interest opinion from the County's Ethic Commission prior to their or their immediate family member's entering into any contract or transacting any business through a firm, corporation, partnership or business entity in which the employee or any member of the employee's immediate family has a controlling financial interest, direct or indirect, with Miami-Dade County or any person or agency acting for Miami-Dade County and that any such contract, agreement or business engagement entered in violation of this subsection, as amended, shall render this Agreement voidable. For additional information, please contact the Ethics Commission hotline at (305) 579-2593.

ARTICLE 33. INSPECTOR GENERAL REVIEWS

Independent Private Sector Inspector General Reviews

Pursuant to Miami-Dade County Administrative Order 3-20, the County has the right to retain the services of an Independent Private Sector Inspector General (hereinafter "IPSIG"), whenever the County deems it appropriate to do so. Upon written notice from the County, the Contractor shall make available to the IPSIG retained by the County, all requested records and documentation pertaining to this Agreement for inspection and reproduction. The County shall be responsible for the payment of these IPSIG services, and under no circumstance shall the Contractor's prices and any changes thereto approved by the County, be inclusive of any charges relating to these IPSIG services. The terms of this provision herein, apply to the Contractor, its officers, agents, employees, subcontractors and assignees. Nothing contained in this provision shall impair any independent right of the County to conduct an audit or investigate the operations, activities and performance of the Contractor in connection with this Agreement. The terms of this Article shall not impose any liability on the County by the Contractor or any third party.

Miami-Dade County Inspector General Review

According to Section 2-1076 of the Code of Miami-Dade County, as amended by Ordinance No. 99-63, Miami-Dade County has established the Office of the Inspector General which may, on a random basis, perform audits on all County contracts, throughout the duration of said contracts, except as otherwise provided below. The cost of the audit for this Contract shall be one quarter (1/4) of one (1) percent of the total contract amount which cost shall be included in the total contract amount. The audit cost will be deducted by the County from progress payments to the Contractor. The audit cost shall also be included in all change orders and all contract renewals and extensions.

Exception: The above application of one quarter (1/4) of one percent fee assessment shall not apply to the following contracts: (a) IPSIG contracts; (b) contracts for legal services; (c) contracts for financial advisory services; (d) auditing contracts; (e) facility rentals and lease agreements; (f) concessions and other rental agreements; (g) insurance contracts; (h) revenue-generating contracts; (I) contracts where an IPSIG is assigned at the time the contract is approved by the Commission; (j) professional service agreements under $1,000; (k) management agreements; (l) small purchase orders as defined in Miami-Dade County Administrative Order 3-2; (m) federal, state and local government-funded grants; and (n) interlocal agreements. ***Notwithstanding the foregoing, the Miami-Dade County Board of County Commissioners may authorize the inclusion of the fee assessment of one quarter (1/4) of one percent in any exempted contract at the time of award***

Nothing contained above shall in any way limit the powers of the Inspector General to perform audits on all County contracts including, but not limited to, those contracts specifically exempted above. The Miami-Dade County Inspector General is authorized and empowered to review past, present and proposed County and Public Health Trust contracts, transactions, accounts, records and programs. In addition, the Inspector General has the power to subpoena witnesses, administer oaths, require the production of records and monitor existing projects and programs. Monitoring of an existing project or program may include a report concerning whether the project is on time, within budget and in conformance with plans, specifications and applicable law. The Inspector General is empowered to analyze the necessity of and reasonableness of proposed change orders to the Contract. The Inspector General is empowered to retain the services of independent private sector inspectors general (IPSIG) to audit, investigate, monitor, oversee, inspect and review operations, activities, performance and procurement process, including but not limited to project design, specifications, proposal submittals, activities of the Contractor, its officers, agents and employees, lobbyists, County staff and elected officials to ensure compliance with contract specifications and to detect fraud and corruption.

Upon written notice to the Contractor from the Inspector General or IPSIG retained by the Inspector General, the Contractor shall make all requested records and documents available to the Inspector General or IPSIG for inspection and copying. The Inspector General and IPSIG shall have the right to inspect and copy all documents and records in the Contractor's possession, custody or control which, in the Inspector General's or IPSIG's sole judgment, pertain to performance of the contract, including, but not limited to original estimate files, change order estimate files, worksheets, proposals and agreements form and which successful and unsuccessful subcontractors and suppliers, all project-related correspondence, memoranda, instructions, financial documents, construction documents, proposal and contract documents, back-charge documents, all documents and records which involve cash, trade or volume discounts, insurance proceeds, rebates, or dividends received, payroll and personnel records, and supporting documentation for the aforesaid documents and records.

ARTICLE 34. LOCAL, STATE, AND FEDERAL COMPLIANCE REQUIREMENTS

Contractor agrees to comply, subject to applicable professional standards, with the provisions of any and all applicable Federal, State and the County orders, statutes, ordinances, rules and regulations which may pertain to the Services required under this Agreement, including but not limited to:

a) Equal Employment Opportunity (EEO), in compliance with Executive Order 11246 as amended and applicable to this Contract.

b) Miami-Dade County Florida, Department of Business Development Participation Provisions, as applicable to this Contract.

c) Environmental Protection Agency (EPA), as applicable to this Contract.

d) Miami-Dade County Code, Chapter 11A, Article 3. All Contractors and subcontractors performing work in connection with this Contract shall provide equal opportunity for employment because of race, religion, color, age, sex, national origin, sexual preference, disability or marital status. The aforesaid provision shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous place available for employees and applicants for employment, such notices as may be required by the Dade County Fair Housing and Employment Commission, or other authority having jurisdiction over the work setting forth the provisions of the nondiscrimination law.

e) "Conflicts of Interest" Section 2-11 of the County Code, and Ordinance 01-199.

f) Miami-Dade County Code Section 10-38 "Debarment".

g) Miami-Dade County Ordinance 99-5, codified at 11A-60 et. seq. of Miami-Dade Code pertaining to complying with the County's Domestic Leave Ordinance.

h) Miami-Dade County Ordinance 99-152, prohibiting the presentation, maintenance, or prosecution of false or fraudulent claims against Miami-Dade County.

Notwithstanding any other provision of this Agreement, Contractor shall not be required pursuant to this Agreement to take any action or abstain from taking any action if such action or abstention would, in the good faith determination of the Contractor, constitute a violation of any law or regulation to which Contractor is subject, including but not limited to laws and regulations requiring that Contractor conduct its operations in a safe and sound manner.

ARTICLE 35. NONDISCRIMINATION

During the performance of this Contract, Contractor agrees to: not discriminate against any employee or applicant for employment because of race, religion, color, sex, handicap, marital status, age or national origin, and will take affirmative action to ensure that they are afforded equal employment opportunities without discrimination. Such action shall be taken with reference to, but not limited to: recruitment, employment, termination, rates of pay or other forms of compensation, and selection for training or retraining, including apprenticeship and on the job training.

By entering into this Contract with the County, the Contractor attests that it is not in violation of the Americans with Disabilities Act of 1990 (and related Acts) or Miami-Dade County Resolution No. R-385-95. If the Contractor or any owner, subsidiary or other firm affiliated with or related to the Contractor is found by the responsible

enforcement agency or the County to be in violation of the Act or the Resolution, such violation shall render this Contract void. This Contract shall be void if the Contractor submits a false affidavit pursuant to this Resolution or the Contractor violates the Act or the Resolution during the term of this Contract, even if the Contractor was not in violation at the time it submitted its affidavit.

ARTICLE 36. CONFLICT OF INTEREST

The Contractor represents that:

a) No officer, director, employee, agent, or other Contractor of the County or a member of the immediate family or household of the aforesaid has directly or indirectly received or been promised any form of benefit, payment or compensation, whether tangible or intangible, in connection with the grant of this Agreement.

b) There are no undisclosed persons or entities interested with the Contractor in this Agreement. This Agreement is entered into by the Contractor without any connection with any other entity or person making a proposal for the same purpose, and without collusion, fraud or conflict of interest. No elected or appointed officer or official, director, employee, agent or other Contractor of the County, or of the State of Florida (including elected and appointed members of the legislative and executive branches of government), or a member of the immediate family or household of any of the aforesaid:

i) is interested on behalf of or through the Contractor directly or indirectly in any manner whatsoever in the execution or the performance of this Agreement, or in the services, supplies or work, to which this Agreement relates or in any portion of the revenues; or

ii) is an employee, agent, advisor, or Contractor to the Contractor or to the best of the Contractor's knowledge any subcontractor or supplier to the Contractor.

c) Neither the Contractor nor any officer, director, employee, agency, parent, subsidiary, or affiliate of the Contractor shall have an interest which is in conflict with the Contractor's faithful performance of its obligation under this Agreement; provided that the County, in its sole discretion, may consent in writing to such a relationship, provided the Contractor provides the County with a written notice, in advance, which identifies all the individuals and entities involved and sets forth in detail the nature of the relationship and why it is in the County's best interest to consent to such relationship.

d) The provisions of this Article are supplemental to, not in lieu of, all applicable laws with respect to conflict of interest. In the event there is a difference between the standards applicable under this Agreement and those provided by statute, the stricter standard shall apply.

e) In the event Contractor has no prior knowledge of a conflict of interest as set forth above and acquires information which may indicate that there may be an actual or apparent violation of any of the above, Contractor shall promptly bring such information to the attention of the County's Project Manager. Contractor shall thereafter cooperate with the County's review and investigation of such information, and comply with the instructions Contractor receives from the Project

Manager in regard to remedying the situation.

ARTICLE 37. PRESS RELEASE OR OTHER PUBLIC COMMUNICATION

Under no circumstances shall the Contractor without the express written consent of the County:

a) Issue or permit to be issued any press release, advertisement or literature of any kind which refers to the County, or the Work being performed hereunder, unless the Contractor first obtains the written approval of the County. Such approval may be withheld if for any reason the County believes that the publication of such information would be harmful to the public interest or is in any way undesirable; and

b) Communicate in any way with any Contractor, department, board, agency, commission or other organization or any person whether governmental or private in connection with the Services to be performed hereunder except upon prior written approval and instruction of the County; and

c) Except as may be required by law, the Contractor and its employees, agents, subcontractors and suppliers will not represent, directly or indirectly, that any product or service provided by the Contractor or such parties has been approved or endorsed by the County.

ARTICLE 38. BANKRUPTCY

The County reserves the right to terminate this contract, if, during the term of any contract the Contractor has with the County, the Contractor becomes involved as a debtor in a bankruptcy proceeding, or becomes involved in a reorganization, dissolution, or liquidation proceeding, or if a trustee or receiver is appointed over all or a substantial portion of the property of the Contractor under federal bankruptcy law or any state insolvency law.

ARTICLE 39. GOVERNING LAW

This Contract, including appendices, and all matters relating to this Contract (whether in contract, statute, tort (such as negligence), or otherwise) shall be governed by, and construed in accordance with, the laws of the State of Florida.

ARTICLE 40. COUNTY USER ACCESS PROGRAM (UAP)

a) User Access Fee

Pursuant to Miami-Dade County Budget Ordinance No. 03-192, this Contract is subject to a user access fee under the County User Access Program (UAP) in the amount of two percent (2%). All sales resulting from this Contract, or any contract resulting from this solicitation and the utilization of the County contract price and the terms and conditions identified herein, are subject to the two percent (2%) UAP. This fee applies to all contract usage whether by County Departments or by any other governmental, quasi-governmental or not-for-profit entity.

The Contractor providing goods or services under this Contract shall invoice the contract price and shall accept as payment thereof the contract price less the 2% UAP as full and complete payment for the goods and/or services specified on the invoice. The County shall retain the 2% UAP for use by the County to help defray the cost of the procurement program. Vendor participation in this invoice reduction portion of the UAP is mandatory.

b) Joint Purchase

Only those entities that have been approved by the County for participation in the County's Joint Purchase and Entity Revenue Sharing Agreement are eligible to utilize or receive County contract pricing and terms and conditions. The County will provide to approved entities a UAP Participant Validation Number. The Contractor must obtain the participation number from the entity prior to filling any order placed pursuant to this section. Contractor participation in this joint purchase portion of the UAP, however, is voluntary. The Contractor shall notify the ordering entity, in writing, within 3 work days of receipt of an order, of a decision to decline the order.

For all ordering entities located outside the geographical boundaries of Miami-Dade County, the Contractor shall be entitled to ship goods on an "FOB Destination, Prepaid and Charged Back" basis. This allowance shall only be made when expressly authorized by a representative of the ordering entity prior to shipping the goods.

The County shall have no liability to the Contractor for the cost of any purchase made by an ordering entity under the UAP and shall not be deemed to be a party thereto. All orders shall be placed directly by the ordering entity with the Contractor and shall be paid by the ordering entity less the 2% UAP.

c) Contractor Compliance

If a Contractor fails to comply with this Article, that Contractor may be considered in default by the County in accordance with Article 24 of this Contract.

ARTICLE 41. SURVIVAL

The parties acknowledge that any of the obligations in this Agreement will survive the term, termination and cancellation hereof. Accordingly, the respective obligations of the Contractor and the County under this Agreement, which by nature would continue beyond the termination, cancellation or expiration thereof, shall survive termination, cancellation or expiration hereof.

ARTICLE 42. FORCE MAJEURE.

Except as otherwise expressly provided herein, neither party hereto shall be considered in default in the performance of its obligations hereunder to the extent that such performance is prevented or delayed by any cause, existing or future, which is not within the reasonable control of such party including, but not limited to, acts of God or

the public enemy, fires, explosions, riots, strikes (not including strikes of the Contractor's Staff Personnel), or war. Notwithstanding the foregoing, the failures of any of the Contractor's suppliers, subcontractors, or the like shall not excuse the Contractor's performance except to the extent that such failures are due to any cause without the fault and reasonable control of such suppliers, subcontractors, or the like including, but not limited to, acts of God or the Public enemy, fires, explosion, riots, strikes (not including strikes of personnel of the Contractor's suppliers or subcontractors), or war.

IN WITNESS WHEREOF, the parties have executed this Agreement effective as of the contract date herein above set forth.

Contractor	Miami-Dade County
By: _____	By: _____
Name: WADE WHITE	Name: _____
Title: PRESIDENT	Title: _____
Date: 3-26-07	Date: _____
Attest: _____ Corporate Secretary	Attest: _____ Clerk of the Board
Corporate Seal	Approved as to form and legal sufficiency
	_____ Assistant County Attorney

NATRICIA COMPANEY
Commission # 1621484
Notary Public - California
Marin County
My Comm. Expires Nov 14, 2009

Natricia Companey

APPENDIX A

SCOPE OF SERVICES

1. INTRODUCTION

South Zone

A. Objective

Miami-Dade County, hereinafter referred to as the "County," is contracting for a Light Emitting Diode (LED) Traffic Signal Head Retrofit Project (the "Project") for the County and related services. The purpose of the Project is to retrofit all traffic lights in the County with LED lights.

2. DEFINITIONS

1) "Conditional Acceptance" to mean an electronic inventory of the quantity and type of signal heads installed by the Contractor per location on a weekly basis.

2) The term "Final Acceptance" to mean the 1st of the month after 30 days after the date of Conditional Acceptance for the location.

3) The project shall be considered complete upon installation and Final Acceptance at all locations and expiration of the five year maintenance warranty period on the last issued Final Acceptance location.

3. REQUIREMENTS AND SERVICES TO BE PROVIDED

A. GENERAL OBJECTIVES

The Contractor shall:

1) Manage the Project from the start to finish. This includes managing any problems that arise during the five-year warranty period.

2) Purchase, store, and distribute the LED modules and related equipment.

3) Provide installation and required field work of LED and PV modules (to be performed by one or more qualified signal contractors).

4) Perform appropriate construction engineering and inspection (CEI) services including final acceptance.

5) Keep the County advised of the status of the project

6) Guarantee the quality of the workmanship for one year and the performance of the LED modules for a minimum of five years.

B. TECHNICAL REQUIREMENTS

1. **Equipment and Material Requirements** -- All equipment and materials furnished by the Contractor shall be in full compliance with all applicable Miami-Dade Public Works Department (MDPWD), Florida Department of Transportation (FDOT), Manual on Uniform Traffic Control Devices (MUTCD) and Institute of Transportation Engineers (ITE) standards as of the RFP proposal due date. The MDPWD technical specification (Appendices C and D) shall take precedence. All LED and Programmable Visibility (PV) modules shall be on the FDOT Approved Products List (APL). All 12-inch LED traffic signal module retrofit products and PV Modules shall be approved by the Florida Department of Transportation (FDOT) for installation in the State per Florida State Statues and shall meet Miami-Dade County's Technical Specifications for Expanded View LED Traffic Signal Modules (Appendix C) and LED PV Signal Modules (Appendix D).

   All miscellaneous equipment and materials that may be required to complete tasks under Section 2.0 shall meet applicable requirements in the County's document titled "Traffic Control Equipment Specifications and Standards" (TCESS) 2000 version which can be obtained from the address shown below. Cost of the document is $26.25 plus tax and shipping. Information on shipping may be obtained by contacting (305) 375-2690 or by visiting MDPWD Reproduction Services, 111 NW 1 Street, 16th Floor, Miami, Florida 33128.

   (a) **Work Performance Requirements** -- All labor, installation, and maintenance activities shall meet applicable requirements of the State of Florida, County, and OHSA regulations for all work to be performed. All Maintenance of Traffic (MOT) shall be in full accordance with FDOT document titled "Design Standards" January 2006, 600 series Indexes or latest revision thereof. The Design Standards may be downloaded from the www.MyFlorida.com website.

   (b) **Licensing Requirements** -- All Contractor and any subcontractor employees on this Project shall carry proof of all required licenses/certification(s) as established by MDPWD Traffic Signal Contractor requirements as specified in Appendix C, and to present such upon request to any MDPWD or FDOT Inspector.

   (c) **Work Hour Requirements** -- The Contractor shall perform signal modification work at the two-hundred (200) busiest intersections in the applicable zone of the County, per a list to be provided by MDPWD, during late night hours to minimize disruptions to the motoring public. These hours are defined as the weeknight hours of 10 PM to 6 AM or the weekend hours of 10 PM to 8 AM. The remainder of the locations, those with the lightest traffic volumes, may be worked on during any period except the weekday peak hours of 7 AM – 9 AM and 4 PM – 6 PM. Weekdays are defined as Monday through Friday excluding Miami-Dade County holidays

   (d) **Signal Head Removals** -- On approaches where the number of existing traffic signal heads exceeds County standards as per guidelines to be provided by the County, the extra heads shall be removed instead of having their bulbs replaced with LED modules. The Contractor shall

identify such locations, obtaining the County's concurrence. The Contractor shall determine if any repositioning of the remaining signal heads is required, obtain the County's concurrence.

(e) **Spare Modules** – As the Final Acceptances of each location occurs and maintenance is transferred back to the County, the Contractor shall furnish spare modules of each type to the County. One percent of the quantity of each type of LED module installed shall be provided to the County by the Contractor during the installation process, ensuring that at the end of the installation process the County has a one percent supply. In the event of a total replacement of all LED modules, the Contractor shall also be responsible for the total replacement of said modules held in the maintenance inventory.

(f) **Project Time Frame** -- The Contractor shall complete all installation within 350 days or less of the issuance of a Notice to Proceed, or within such extra time as the County may have granted. If the Contractor fails to do so, then the Contractor shall pay to the County, not as a penalty but as liquidated damages in an amount calculated in accordance with Florida Department of Transportation *Standard Specification for Road and Bridge Construction (2004).*

(g) **Recycling** -- The Contractor shall dispose of the removed materials (lamps, glass lens, reflector, ring, and socket) in a cost-beneficial and environmentally friendly manner as approved by the County. Items that may be recycled must be recycled. The savings as a result of the recycling may be returned to the County or utilized to offset the cost of the Project to the County.

(h) **Short-term Warranty** – The Contractor shall fully warrant (Parts and labor) the LED modules at each completed location during the period from the time the modules are installed until the Final Acceptance.

(i) **Long-term Warranty** -- For the five-year period after the County's Final Acceptance at each location, the Contractor shall guarantee furnishing, including shipping, a replacement LED module for any module which fails. "Fail" means "cease to perform per specifications before the warranty is over". As long as fewer than 3% of the modules fail in any 12-month period, the County will ship at its expense any failed module to manufacturer. The Contractor shall ensure that the County receives the replacement module to be provided within 4 weeks after receipt of the failed module.

If more than 3% of the modules fail in any 12-month period during the Long-term Warranty, the Contractor shall become responsible for the labor aspect of future required replacements for the remainder of the Long-term Warranty period and shall retain a contractor, approved by the County, for that purpose.

If more than 15% of any of the nine (9) different types of modules installed (12-inch R, Y, or G balls, 12-inch R, Y, or G arrows, R,Y, or G PV's) fabricated by any one Manufacturer fail during the Long-term

Warranty period, the Contractor shall replace all existing LED modules of the failed type [by that Manufacturer(s)] with a verifiably more reliable model(s) from a Manufacturer approved by FDOT and the County. In this event, the previous Short-term and Long-term Warranties shall cease and the newly installed modules shall have new Short-term and Long-term Warranty periods starting with their installation.

4. GENERAL PROCESS FOR COMPLETING WORK

a) The County will provide the Contractor with a list of all locations in the awarded zone and an indication of the number of modules at each location that need to be replaced. The Contractor shall perform a site survey at each location to confirm the exact number of modules that need to be replaced. The Contractor shall take a digital photograph (minimum 3-megapixels) from the approximate center of each approach showing all heads facing that approach as well as the approach lane lines. The Contractor shall document the modules on each approach that have already been converted to LED to assure that the Contractor won't later be reimbursed for replacing them. The Contractor shall name each picture per Traffic Control Center Standards and provide the pictures to the County in JPEG format for their storage and future use. The Contractor shall also use the pictures to determine, subject to the County's approval, the locations where heads can be removed and/or repositioned.

b) The County will provide the Contractor with appropriate records of other signal projects underway at the start of the LED project and which begin during the LED project. The Contractor shall coordinate with the Project Managers for those projects to ensure all necessary work for the completion of the services identified herein are completed and do not damage any work previously completed or duplicated.

c) The Contractor shall provide electronic records in a mutually agreeable format to the County, daily between 7 & 9 AM, listing locations (incl. MDPWD ID Nos.) where the Contractor is expected to be working in the upcoming 24-hour period. Upon receipt of such notice, the County will reassign related maintenance responsibility for the signal heads to the Contractor. Contractor responsibilities shall only be for traffic signal heads and any signal operation problems caused by the Contractor's work. All other signal maintenance responsibilities will remain with the original responsible party, typically the County's Traffic Signal & Signs Division.

d) At each assigned location, the responsible Contractor shall replace all 12-inch traffic signal head incandescent lamps and optically programmed traffic signal head PAR lamps with the appropriate LED modules. Any PAR lamps shall be immediately programmed per guidelines to be provided by the MDPWD's Project Manager. The Contractor shall not replace any existing LED signal modules in any traffic signal head that have been previously replaced with LED modules. The Contractor shall document the above cases and shall include in the documentation to the County: the Manufacturer, Model Numbers, and signal heads found.

e) All work at each signalization shall be completed within twenty-four (24) clock

hours of when the Contractor begins work at the intersection, including any load switch replacements required and any head removals and/or relocations required. Any extenuating circumstances that prevent this from happening shall be brought to the County's Project Manager's attention for approval.

f) If the "new" LED modules are found to be incompatible with any load switch(es), the load switch(es) shall be immediately upgraded and replaced by the Contractor, at no additional costs, to the County. The Contractor shall return all removed load switches to the County. Any intersection where load switch(es) where removed and replaced due to incompatibility the Contractor shall document, for the County, the intersection location and controller cabinet's load switch number(s). All materials to be returned to the County shall be sent to Traffic Signal & Signs Division Yard located 7100 NW 36 Street, Miami Fl Attention: Warehouse Storekeeper.

g) The Contractor shall serve as Construction Engineering Inspector (CEI), inspecting all installations and issuing the Conditional Acceptance.

h) Once per week, the Contractor shall provide to the County electronic records of each completed location. The record shall include an inventory of the quantity and type of signal heads on each approach, any changes to those quantities as a result of head removals, head relocations required, load switches required, and the quantity of each LED module type which was installed at each location. The record shall be in an MS Excel spreadsheet or other mutually agreeable electronic format.

i) On approximately the last day of each month, the County will distribute to Contractors a list of signalizations for which Final Acceptance is issued. Such lists will include records of the maintenance responsibilities incurred by this project, noting that the extent of the maintenance responsibilities is limited to signal heads.

j) The five (5) year material warranty shall begin on the day of Final Acceptance, by the County, at each location

5. REIMBURSEMENT TO THE CONTRACTOR

At the start of each month, the Contractor shall submit a detailed invoice to the County's Project Manager covering the previous month's charges. Each invoice should be divided into agreed upon charges analogous to Sections 1 – 3 of Appendix B (attached) and to an agreed-upon percentage of the Section 4 Project Management Fee The Project Manager must approve each monthly invoice.

APPENDIX B
South Zone

PRICE SCHEDULE

Contractor's price for providing services as stated in Appendix A, Scope of Services and applicable attachments thereto are fixed as determined below.

Table B-1: Price Proposal Schedule					
	Column A	Column B	Column C	Column D	Column E
	Pay Item	Unit Cost	Estimated Quantities	Subtotal Costs (Columns B X C)	Totals
Section 1 — Consultant Cost to Furnish LED Modules including 1% Spares					
1	standard red balls	$50.22	10,352	$519,877	
2	standard red arrows	$43.20	404	$17,453	
3	standard green balls	$83 16	10,302	$856,714	
4	standard green arrows	$64 80	1,667	$108,022	
5	standard yellow balls	$95 58	11,160	$1,066,673	
6	standard yellow arrows	$59.40	1,465	$87,021	
7	programmed reds	$72.36	121	$8,756	
8	programmed greens	$108.00	142	$15,336	
9	programmed yellows	$72.36	141	$10,203	
10	Total of Material Costs (Lines 1 -- 9):				$2,690,055
Section 2 — Cost of Contractor Labor					
11	One (1) standard signal section converted (incandescent lamp to LED module)	$36 92	35,000	$1,292,200	
12	One (1) optically programmed signal section converted PAR lamp to PV LED module)	$36 92	400	$14,768	
13	Remove and return one 3-section head	$70 19	200	$14,038	
14	Reposition one existing overhead signal head by several feet on its existing support system.	$130.39	300	$39,117	
15	Sub-Total of Labor Costs (Lines 11 -- 14):				$1,360,123
Section 3 — Costs (Savings) of Recycling					
16	Credit for recycling/ dispose of lamp, glass lense, reflector, ring, & socket from each standard signal head section	($2.50)	35,000		($87,500)
Section 4 — Total Project Management Fee					

APPENDIX B
South Zone

17	Lump Sum Fee:	$50,000
	Section 5 — Total	
18	Total Project Cost without interest (Lines 10 + 15 + 16 + 17):	$4,012,678

Notes on Appendix B

1. Estimated quantities and the resulting cost estimates were for proposal comparison purposes only Actual quantities will vary. Actual reimbursements to the Consultant will be based on actual quantities.
2. Round off data in Columns D & E to the nearest dollar and show as such with no decimal point or cents
3. In Section 1, LED module costs shall be from the supplier(s) without mark-up. Any cost reductions for these items attained from supplier(s) after the submission of the proposal shall be passed along to the County.
4. The Total Project Management Fee is contingent upon award of both Zones. Otherwise the fee is $100,000

APPENDIX C

TECHNICAL SPECIFICATION
12-INCH EXPANDED VIEW LIGHT EMITTING DIODE (LED) TRAFFIC SIGNAL MODULES

Miami-Dade County Public Works Department
Traffic Signals & Signs Division

January 2006

APPENDIX C

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APPENDIX C

12-INCH EXPANDED VIEW LIGHT EMITTING DIODE (LED) TRAFFIC SIGNAL MODULES

1.0 PURPOSE

This specification is to describe the minimum acceptable design and operating requirements for 12-inch (300 mm) Light Emitting Diode (LED) vehicle signal modules. The specific items covered under this specification include the red ball, the yellow ball, the green ball, the red arrow, the yellow arrow, and the green arrow.

2.0 GENERAL DESCRIPTION

2.01 This specification covers "red ball", "yellow ball", "green ball", "red arrow", "yellow arrow,", and "green arrow" LED modules to be used in place of the incandescent lamp, reflector, socket, gasket and lens assembly of the vehicle signal sections. Each LED module shall consist of an assembly that utilizes LEDs as the light source in lieu of an incandescent lamp for use in vehicle signal sections.

2.02 All vehicle signal LED modules shall be engineered to fit into all Institute of Transportation Engineers (ITE) compliant conventional vehicle traffic control signal housings and shall be on the Florida Department of Transportation (FDOT) Approved Products List (APL).

2.03 LED signal modules shall utilize the same mounting hardware used to secure a standard incandescent lens and gasket assembly, and shall only require a screwdriver or basic installation tools to complete the mounting.

2.04 The LEDs utilized in the modules shall be AlInGaP technology for red and yellow indications and InGaN for green indications. The LEDs shall be the ultra bright type with sufficient lifetime rating to support system operation at 40°F to +165°F (-40°C to + 74°C). For ball modules, the LED light engine shall be a centralized light source.

2.05 Each LED module shall be rated for a minimum useful life of sixty (60) months. All LED modules shall meet all parameters of this specification during this period.

2.06 Each individual Arrow LED module shall be wired such that the failure of one (1) LED will result in the loss of not more than five percent (5%) of the signal module light output.

2.07 All Red, Amber and Green LED Modules shall be in full compliance with the latest revised version of ITE VTCSH - LED Circular Signal Supplement

and All Arrows shall meet the Latest Released Version of the ITE VTCSH Part 3 LED Vehicle Arrow Traffic Signal Module Specification, with the exception that the Turn-off Voltage shall be in compliance with Section 5.2.4 of the ITE VTCSH – LED Circular Signal Supplement (dated June 27, 2005).

2.08 The advertising date of the Contract associated with this specification shall be used to determine the date of the applicable standards.

3.0 ELECTRICAL REQUIREMENTS

3.01 Power Consumption

3.01.1 The maximum power consumption requirements measured in watts at 120 VAC and at 77°F (25°C) for each module shall be as follows:

MODULE	MAXIMUM WATTAGE
Red ball	12 W
Yellow ball	30 W
Green ball	15 W
Red arrow	9 W
Yellow arrow	15 W
Green arrow	9 W

3.01.2 All LED modules except yellow modules shall be compliant with U.S. Environmental Protection Agency (EPA) Energy Star wattages. Power consumption of these LED modules shall not exceed the maximum allowed by the EPA.

3.02 Operating Voltage:

3.02.1 Each module shall operate from a 60Hz +/-3Hz AC line over a voltage ranging from 80 volts to 135 volts. Fluctuations of line voltage shall have no visible effect upon the luminous intensity of the indications.

3.02.2 The operating voltage of the modules shall be 120 Volts AC. All operating parameters shall be measured at this voltage.

3.02.3 LED circuitry shall prevent perceptible flicker to the unaided eye over the 80 to 135 voltage range.

3.03 The LED module shall have a power factor of 0.90 or greater at a nominal rated voltage at 77°F (25°C) over the sixty (60) minutes of operation.

3.04 Total Harmonic Distortion (THD) induced into an AC power line by an LED signal shall be less than twenty percent (20%) at the rated voltage at 77°F (25°C).

3.05 The signal module on-board circuitry shall include voltage surge protection to withstand high-repetition and low repetition high energy noise transients as stated in Section 2.1.6 and Section 2.1.8 of the National Electrical Manufacturers Association (NEMA) Standard TS-2 dated 2003. The module shall include fusing with a rating of 2 amps or less to protect against sustained over-currents. In addition, the following transient requirements shall be met:

3.05.1 IEC 1000-4-5 Standard Test at 3KV with 2 Ohm source impedance and no additional resistance.

3.05.2 ANSI/IEEE C62, 41-2002 or IEC 61000-4-12 standard test at 6KV, 200A 100 KHz ring wave.

3.06 Each LED module and associated on-board circuitry shall be in compliance with Federal Communications Commission (FCC) noise regulations and must meet FCC Title 47, Subpart B, Section 15 class A regulations concerning the emission of electronic noise.

3.07 All wiring and terminal blocks must meet the requirements of Section 13.02 of the ITE Publication: Equipment and Material Standards, Chapter 2, Vehicular Traffic Control Signal Heads.

3.08 Each LED module shall be operationally compatible with controller assemblies and all peripheral equipment including but not limited to, electro-mechanical relays, solid state load switches, flashers, and conflict-voltage monitors currently used in the Miami-Dade County, Florida. Current Department controller specifications are available for review at the specific request of the Manufacturer, Contractor or Proposer.

3.09 Voltage turn off shall be per NEMA TS-2 Standard. There shall be no visible illumination from the module when the applied voltage is less than 35 VAC rms.

3.10 Each module shall reach ninety percent (90%) of its full illumination within 75 milliseconds of the application of the nominal operating voltage. The modules shall not have any visible illumination after 75 milliseconds of the removal of the nominal operating voltage.

3.11 Two (2) secured, color coded, 600 V, anti-capillary 18 AWG minimum jacketed wires conforming to the National Electrical Code (NEC), rated for service at 221°F (105°C), are to be provided for electrical connections for

each LED signal module. The two (2) wire leads shall be separate at the point at which they leave the LED module and ensure there is no moisture path to the inside of the LED module. Refer to Section 5.05 of this specification for specified color coding requirements.

4.0 ENVIRONMENTAL REQUIREMENTS

4.01 Each LED module shall be rated for use in operating temperatures in the range of -40°F to +165°F (-40°C to +74°C) and shall be tested after the module has been operated under the test conditions for a minimum of sixty (60) minutes. Yellow modules shall be tested at a 12.5% duty cycle (5 seconds ON and 35 seconds OFF). Readings shall be taken at the end of the 5-second ON interval, or as close to the end of the ON interval as possible.

4.02 Moisture resistance testing shall be performed per MIL-STD-810F, Test Method 506.4, Procedure I, Rain and Blowing Rain. The test shall be conducted on stand-alone modules, without a protective housing. The rainfall rate shall be 4 in/hr (1.7 mm/min) and droplet size shall predominantly be between 0.02 to 0.18 in (0.5 mm and 4.5 mm). The modules shall be vertically oriented, such that the lens is directed towards the wind source when at a zero (0) rotation angle. The module shall be rotated at a rate of 4 degrees (4°) per minute along the vertical axis, from an orientation of -60 to +60 degrees during the test. The duration of the test shall be thirty (30) minutes. The modules shall be energized throughout the test. The water shall be at 77° ± 9°F (25° ± 5°C). The wind velocity shall be 50 mph (80 km/hr). If the module is equipped with a remote power supply unit, then the test shall be conducted with the remote power supply unit attached to the clamping device holding the module to the test apparatus.

5.0 CONSTRUCTION

5.01 Each LED module shall be a single, self-contained sealed unit, not requiring on-site assembly for installation into existing traffic signal housings.

5.02 The power supply for the LED module shall be integral to the unit and shall be conformally coated or shall conform to Salt Fog ASTM B117-03 testing for forty-eight (48) hours at five percent (5%) concentration with no traces of corrosion.

5.03 The circuit board and the power supply shall be contained inside the module.

5.04 Each LED module shall incorporate printed circuit boards containing required LEDs and circuit components. The LEDs in ball modules shall be mounted as per LED Manufacturer assembly recommendation for the Ball modules.

5.05 Each LED module shall feature two (2) 39-inch long 18 AWG minimum anti-capillary wire leads with strain relief and quick connect terminals with spade adapters for connection to the terminal block of the signal head. The two (2) wire leads shall be separate at the point at which they leave the LED module and ensure there is no moisture path to the inside of the module. One (1) of the conductors shall contain white insulation to signify neutral. The color of the other conductor shall be different and shall be used to differentiate between red ball, yellow ball, green ball, red arrow, yellow arrow, and green arrow LED modules. The following Miami-Dade County Wire Lead Color Code Standard for vehicular traffic signal head LED modules shall be followed. The Manufacturer shall supply all modules, including sample modules for evaluation, to Miami-Dade County, wired per the following Chart:

CHART I
Wire Lead Color Code Standard *

BALL INDICATIONS		ARROW INDICATIONS	
Red:	Red & White	Red:	Red w/Black tracer & White
Yellow:	Yellow & White	Yellow:	Yellow w/Black tracer & White
Green:	Green & White	Green:	Green w/Black tracer & White

* Proposed FDOT Statewide uniform wire color code standard.

5.06 Each LED module shall feature a rigid housing for protection in shipping, handling, and installation, and a one-piece gasket installed on the outer mounting flange. Screw-in type products shall be prohibited for LED modules.

5.07 The assembly and manufacturing process for the LED signal assembly shall be designed to ensure that all internal components are adequately supported to withstand mechanical shock and vibration from high winds and other sources.

9.04.5.3 Acceptance/Rejection Criteria: The photometric performance of a module following the lens abrasion test shall be ninety percent (90%) or more of the photometric performance of the same module measured prior to the lens abrasion test. A single point correlation as described in paragraph 9.04.4.4 may be used to determine the change in photometric performance. Failure of any module to meet the requirement for photometric performance following the lens abrasion test shall be considered a failure of the proposed design.

9.04.6 Electrical Tests: Three (3) of the modules that were subjected to the Environmental Tests shall undergo Electrical Tests. These tests shall be performed with the modules energized at nominal operating voltage and at a standard temperature of 77°F (25°C), unless specified otherwise.

9.04.6.1 Current Consumption: The current flow, in Amperes, shall be measured at various ambient temperatures across the span of the operating temperature range specified in -40°F to +165°F (-40°C to +74°C). The manufacturer shall provide information (charts, tables and/or graphs) on the variation in current through sixty (60) months of service, or greater as specified by the manufacturer, within the operating temperature range of -40°F to +165°F (-40°C to +74°C). In addition, the current consumption at start-up shall be measured at 77°F (25°C) to establish the reference value used for Production Quality Assurance (9. 3.4).

9.04.6.2 Low-Voltage Turn-OFF: The modules shall be connected to a variable power supply, and energized at nominal operating voltage. The applied voltage shall be reduced to a point where there is no visible illumination from the module when the background is at an average luminance of 0.01 ft-cd (0.1 cd/m^2).

9.04.6.3 Turn-ON/Turn-OFF Times: Using a two-channel oscilloscope, the time delay between application of nominal operating voltage and the module reaching ninety percent (90%) of full light output, and the time delay between de-energizing the module and the light output dropping to zero percent (0%) of full output, shall be measured.

9.04.6.4 Transient Voltage Immunity: The modules shall be tested for transient immunity using the procedure described in Section 2.1.8, NEMA Standard TS 2-2003.

9.04.6.5 Electronic Noise: The modules shall be tested for conformance with the requirements of a Class A digital device, as specified in FCC Title 47, Subpart B, Section 15.109(b).

9.04.6.6 Power Factor: The power factor for the modules shall be measured and recorded. A commercially available power factor meter may be used to perform this measurement.

9.04.6.7 Total Harmonic Distortion (THD): The THD induced into an AC power line by the modules shall be measured and recorded. A commercially available total harmonic distortion meter may be used to perform this measurement.

9.04.6.8 Electrical Tests Evaluation: At the conclusion of the Electrical Tests, the measurement data shall be compared to the requirements.

9.04.6.9 Acceptance/Rejection Criteria: The failure of any module to meet the requirements for low-voltage turn-OFF (5.2.4) turn-ON/turn-OFF times, transient voltage immunity), emission of electronic noise, minimum power factor, and/or maximum total harmonic distortion shall be considered a failure of the proposed design.

9.04.7 Controller Assembly Compatibility Tests: Following the Electrical Tests, three modules shall be tested for compatibility with load current switches and conflict monitors presently in service. The manufacturer shall test the design for the specific type signal control unit with which the design is intended to be compatible.

9.04.7.1 Load Switch Compatibility: The modules shall be tested for compatibility and proper operation with load current switches. Each module shall be connected to a variable AC voltage supply. The AC line current into the module shall be monitored for sufficient current draw to ensure proper load switch operation while the voltage is varied from 80 to 135 VAC.

9.04.7.2 Off State Voltage Decay Test: Each module shall be operated from a 135 VAC voltage supply. A 19.5 kΩ resistor shall be wired in series in the hot line between the module and the AC power supply. A single-pole-single-throw switch shall be wired in parallel with the 19.5 kΩ resistor. A 220 kΩ shunt resistor shall be wired between the hot line connection and the neutral line connection on the module. Conflict monitor Off state impedance compatibility shall be tested by measuring the

voltage decay across the 220 kΩ shunt resistor as follows: The single-pole-single-throw switch shall be closed, bypassing the 19.5 kΩ resistor and allowing the AC power supply to energize the module. Next, the switch shall be opened and the voltage across the 220 kΩ shunt resistor shall be measured for decay to a value equal to or less than 10 VAC RMS. The test shall be repeated ten (10) times, with the longest decay time recorded as the final test value.

9.04.7.3 Controller Assembly Compatibility Tests Evaluation: At the conclusion of the Controller Assembly Compatibility Tests, the measurement data shall be compared to the requirements.

9.04.7.4 Acceptance/Rejection Criteria: Failure of the module to draw sufficient current to ensure compatibility with the load current switches in the appropriate Controller Assembly and/or failure of the circuit voltage to decay to a value equal to or less than 10 VAC RMS within a time period equal to or less than 100 milliseconds shall be considered a failure of the proposed design.

9.04.8 Failed State Impedance Test: The modules shall be tested for compliance with the requirement for provision of a failed-state impedance. The test is conducted in two (2) parts: first the module is energized with the LED load disconnected from the power supply to establish the failed-state impedance. Next, the requirement for the failed state impedance is tested. The module shall be operated from a 120 VAC voltage supply.

a) Wire a 50 kΩ resistor in series with the hot line between the module and the AC power supply. A 100 kΩ shunt resistor shall be wired between the hot line connection and the neutral line connection on the module. A single-pole-single-throw switch shall be wired in parallel with the 50 kΩ resistor. With the switch in the closed position and the LED load disconnected from the module power supply, energize the module for 300 ms to establish the failed state impedance.

b) The second part of the failed state impedance test is conducted to insure that the appropriate failed state impedance is established. The switch is opened and the circuit is energized by the 120 VAC voltage supply. The voltage across the 100 kΩ shunt resistor shall be continuously monitored. The voltage shall decay to a value equal to or greater than 70 VAC RMS. For the continuous interval of 500 ms through 1500 ms, after energizing the circuit with an open switch, the measured voltage shall be 70 VAC RMS or greater. The second part of the test shall be repeated ten (10) times, with the minimum voltage recorded during the continuous interval of 500 ms through 1500 ms, after energizing the circuit with an open switch, recorded as the final test value.

9.04.8.1 Failed State Impedance Test Evaluation: At the conclusion of the Failed State Impedance Test, the measurement data shall be compared to the requirement of this Section.

9.04.8.2 Acceptance/Rejection Criteria: Failure of the voltage across the 100 kΩ shunt resistor to remain at a value equal to or greater than 70 VAC RMS for the continuous time interval of 500 ms through 1500 ms, after energizing the circuit with an open switch, shall be considered a failure of the proposed design.

9.05 Production Quality Control Testing

9.05.1 The following Production Quality Assurance tests shall be performed on each new module prior to shipment. Failure to meet requirements of any of these tests shall be cause for rejection. Test results shall be retained by the manufacturer for seven (7) years.

9.5.2??

9.05.3 Each module shall be tested for rated initial intensity.

9.05.3.1 A single point measurement, with a correlation to the intensity requirements see Section 8.0, may be used.

9.05.3.2 The ambient temperature for this measurement shall be 77°F (25°C).

9.05.3.3 Each LED Module failing to meet minimum luminous intensity requirements specified in 8.01 of these specifications shall be cause for rejection.

9.05.4 Each module shall be tested for required power factor.

9.05.5 Each module shall be measured for current flow in amperes. The measured current values shall be compared against rated values resulting from design qualification measurements under "Design Qualification Testing". The current flow shall not exceed +/- 20% of the rated value.

9.05.6 Each module shall be visually inspected for any exterior physical damage or assembly anomalies. Careful attention shall be paid to the surface of the lens to ensure there are no scratches (abrasions), cracks, chips, discoloration, or other defects. Any such defect shall be cause for rejection.

9.06 The Manufacturer shall be required to undertake Design Qualification and Production Quality Control testing as specified in 9.04 and 9.05 of this specification and report all results to the County. Procurement and

installation of LED modules prior to the receipt and acceptance of test results by the County shall be done at the Contractor's risk.

9.07 Conflicts with testing procedures/certification.

9.07.1 In the event this specification has conflict(s) between County testing procedures/certification and the FDOT testing procedure/certification, the County procedures shall apply.

10.0 WARRANTY

Manufacturers shall provide a written warranty issued by their factory located in the NAFTA Country of module origin with the following minimum provisions:

10.01 The manufacturer shall provide a written warranty against defects in materials and workmanship for a minimum period of sixty (60) months.

10.02 The warranty period shall begin on the date the LED module is energized and placed into service at the intersection, or ninety (90) days after delivery of the module to the Department's Traffic Signal & Signs Division Warehouse (or any other receiving facility if specified in the Contract Documents), whichever occurs first.

10.03 Replacement LED modules shall be provided on a one-for-one basis after receipt of the LED modules that no longer conform to this specification and shall be replaced within forty-five (45) calendar days after the Manufacturer has receipt of the modules. Replacement modules shall be repaired or replaced at no additional cost to the County, with the exception, the County shall pay for the one-way shipping of the modules to the Manufacturer.

10.04 All warranty documentation shall be submitted to the County prior to random sample testing.

10.05 Red ball and green ball LED modules shall be warranted to be in compliance with the Minimum Luminous Intensity requirements provided in Table 1 and referenced in 8.01 for a period of sixty (60) months, consistent with the provisions of 10.02.

10.06 Yellow ball LED modules shall be warranted to be in compliance with Minimum Luminous Intensity requirements referenced in Table 1 and per FDOT specifications for a period of sixty (60) months, consistent with the provisions of 10.02.

10.07 LED signal modules, as specified in 8.01, which exhibit luminous intensities less than the minimum values within the first sixty (60) months

the module is placed into service at the intersection, or ninety (90) days from the date of delivery, whichever comes first, shall be replaced or repaired, at no additional cost to the County.

10.08 The County reserves the right to randomly select and not to exceed one-quarter percent (1/4%) of the LED modules, procured and installed by an LED ITB, RFQ and/or RFP contract; or per County Purchase Order (P.O.), for testing to conformance to this specification. Said testing shall be conducted once per year, during the first sixty (60) months of the warranted life of the modules. The Manufacturer shall conduct said tests and reports for the County, at no additional cost.

10.09 The County, at anytime during the sixty (60) month warranty period, at its discretion, may have randomly selected modules, Independent Lab tests conducted for conformance to the specification. Independent Lab testing shall be conducted at the County's expense; however, in the event of "failure" (any non-conformance to the specification), the Manufacturer shall be required to reimburse the County for said testing.

10.10 Upon request, the LED module Manufacturer shall provide written documentation of its ability to satisfy a worst-case, catastrophic warranty claim.

10.10.1 The documentation shall clearly show that the manufacturer and/or its parent corporation possess a minimum of 10 million dollars [$10,000,000 (US dollars)] in net worth, within the United States, Canada, and/or England.

10.10.2 A current corporate annual report duly-certified by an independent auditing firm, containing a balance sheet illustrating such net worth, is an example of suitable documentation.

10.10.3 The documentation shall clearly disclose:

a) The Country in which the factory of module origin is located.

b) The name of the company or organization that owns the factory of module origin including any and all of its parent companies and/or organizations, and their respective Country of corporate citizenship.

10.10.4 For firms with business and/or corporate citizenship in the United States of less than seven (7) years, the process by which the end-users/owners of the modules will be able to obtain worst-case, catastrophic warranty service in the event of bankruptcy or

cessation-of-operations by the firm supplying the modules within North America, or in the event of bankruptcy or cessation-of-operations by the owner of the factory of origin, shall be clearly disclosed.

10.11 The LED module manufacturer shall provide references relevant to installations of at least five-thousand (5,000) 12-inch LED traffic signal modules per installation, in six (6) distinct and unrelated governmental jurisdictions within the United States, which have been installed for at least two (2) years.

11.0 CONFLICTS AND WAIVERS

11.01 The technical and warranty requirements of this document shall prevail over any other specification or standards for the installation of Light Emitting Diode (LED) Traffic Signal Modules in Miami-Dade County, Florida, unless amended by additional requirements and/or testing described RFP No. 524 titled: "LED Traffic Signal Module Retrofit Project". This specification supersedes all previous specifications.

11.02 In the event of conflicts within this specification between technical; certification; and/or testing minimum or compliant standards/requirements, between County and FDOT as stated in Section 9.0 QUALITY ASSURANCE Article 9.07.1, or as referenced elsewhere throughout this specification, County requirements shall prevail in all cases.

11.03 The Department reserves the right to waive in writing any portion or portions of this specification. The following Sub-sections 11.04 and 11.05, of this specification, shall however be excluded from waiver by the County.

11.04 This technical specification shall be for LED module retro-fit of new "standard" die-cast aluminum traffic signal heads by the manufacturer/suppliers of vehicular traffic signal heads procured by: County, State, Municipal or Private Developer for the installation and operation of vehicular traffic control signals installed within the jurisdictional boundaries of Miami-Dade County, Florida which are maintained by Miami-Dade County Public Works Department.

11.05 This technical specification shall be for LED module retro-fit of existing "standard" die-cast aluminum vehicular traffic signal heads, as stated in RFP No. 524 titled: "LED Traffic Signal Module Retrofit Project" for the conversion of all existing vehicular traffic signal heads within the jurisdictional boundaries of Miami-Dade County, Florida which are maintained by Miami-Dade County Public Works Department.

APPENDIX C

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APPENDIX C

APPENDIX D

LED Programmable Visibility Signal Modules Specification

Miami-Dade County Public Works Department
Traffic Signals & Signs Division

January 2006

APPENDIX D

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1. Purpose

This purpose of this specification is to provide the minimum performance requirements for LED Programmable Visibility (PV) modules designed to replace the 150 Watt Par lamps used in PV traffic signal heads.

2. Definitions

2.1 Chromaticity. The color of the light emitted by the module, specified as x-y chromaticity coordinates on the chromaticity diagram according to the 1931 Commission Internationale d'Eclairage (CIE) standard observer and coordinate system.

2.2 LED Programmable Visibility Signal Module (PV Module). An array of LEDs and lens that is capable of providing light to the diffuser and optical limiter within the PV signal head. The module shall be capable of replacing the incandescent lamp used in the PV signal head. The terms "PV module" and "module" are used interchangeably throughout this specification.

2.3 Luminous Intensity. The luminous flux per unit solid angle in a given direction, expressed in Candelas (Cd).

2.4 Nominal Operating Voltage. The Voltage, 120 VAC RMS, at which photometric and electrical performance requirements are specified.

2.5 Power Consumption. The electrical power in Watts consumed by the module when operated at nominal operating voltage and ambient operating temperature range.

2.6 Power Factor (PF). PF equals Watts divided by Volt-Ampere (VA) or the ratio of power consumption in Watts to Volt-Amperes.

2.7 Programmable Visibility (PV) Signal Head. A traffic signal head designed to allow viewing from only certain preprogrammed vantage points. The programming is achieved via masking of the optical limiter within the PV signal Head.

2.8 Total Harmonic Distortion (THD). THD is the ratio of the root-mean-square (RMS) value of the harmonics to the amplitude of the fundamental component of the ac waveform.

2.9 Turn-Off Time. The amount of time required after removal of the nominal operating voltage for the module to show no visible illumination.

2.10 Turn-Off Voltage. The voltage below which there is no visible illumination from the PV module.

2.11 Turn-On Time. The amount of time required for the PV module to reach 90% of its full illumination.

2.12 Volt-Amperes. The product of root-mean-square (RMS) line voltage and RMS line current measured with true RMS meter.

3. General Requirements

3.1 The PV module shall be a self contained device designed to mount in the standard three prong Par lamp socket used in current production McCain and 3M PV signal heads.

3.2 The module shall be a sealed unit containing all components necessary for operation. The power supply for the module shall be contained inside the module housing.

3.3 The housing of the module shall be made of UL94 flame retardant materials.

3.4 The module shall be designed to assure all internal LED and electronic components are adequately supported to withstand mechanical shock and vibration due to high winds and other sources.

3.5 There shall be three flat metal contacts, each protruding 0.5" from the rear of the PV module to ensure proper electrical and mechanical connection between the module and the lamp socket in the PV signal head.

3.6 The module shall utilize a clear non-removable polycarbonate lens and a closed-cell foam gasket seal between the module housing and module lens in order to ensure a permanent moisture resistant seal and a tight compression fit when installed under the lamp retaining clip in the PV signal head.

3.7 No special tools will be required for installation of the LED PV module into the lamp socket within the PV signal head.

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3.8 The dimming circuitry within the PV signal head shall be disabled prior to installing the PV module to avoid damage to the module.

3 9 The maximum weight of the module shall be 0 75 lb (0 34 kg)

3 10 The module shall be a CalTrans qualified product listed on the most recent version of the CalTrans Qualified Products Listing (QPL) and FDOT APL

4. Environmental Requirements

4.1 The module shall be rated for use in the ambient operating temperature range of -40°C (-40°F) to +74°C (+165°F).

4.2 The module shall be protected against dust and moisture intrusion.

5. Electrical Requirements

5.1 The LED module shall operate from a 60±3 Hz AC source over a voltage range of 80VAC to 135VAC and at a nominal voltage of 120VAC.

5.2 Fluctuations in line voltage over the range of 80VAC to 135VAC shall not affect luminous intensity by more than ±10 percent.

5 3 The module circuitry shall prevent flicker of the LED output at frequencies less than 100 Hz over the voltage range specified in Section 5.1

5 4 Turn-On and Turn-Off Time. The module shall reach 90% of full illumination (Turn-On) within 75 msec of the application of the nominal operating voltage The signal shall cease emitting visible illumination (Turn-Off) within 75 msec of the removal of the nominal operating voltage.

5.5 Electronic fusing and transient suppression shall be incorporated into the module to withstand high-repetition noise transients, low-repetition, high-energy transients, and nondestruct transients, as stated in Sections 2.1 6 and 2.1.8 of NEMA Standard TS-2, 1992

5.7 The LED module and associated onboard circuitry must meet Federal Communications Commission (FCC) Title 47, SubPart B, Section 15 regulations concerning the emission of electronic noise

5.8 When operated at nominal operating voltage and at 25°C (77°F), the Power Factor of the module shall be greater than 0.90, and the Total Harmonic Distortion (THD) induced into an AC power line by a module shall not exceed 20%.

5 9 The power consumption of the module shall comply with the values shown in Table 1-1.

5.10 The current draw shall be sufficient to ensure compatibility, proper triggering, and operation of load current switches and conflict monitors in signal controller units.

5.11 When the module is switched from the On-State to the Off-State the terminal voltage shall decay to a value les than 10VAC RMS in less than 100 milliseconds when driven by a maximum allowed load switch leakage current of 10 milliamps peak (7.1 milliamps AC, RMS)

5.12 The power supply current to the LED board shall be adjusted via a programming resistor located on the LED board so as to ensure that the LEDs for different colored modules are always driven at the proper current level.

6. Optical Requirements

6.1 The module shall comply with the intensity values given in Table 1-2 and the chromaticity values given in Table 1-3, when operated over the voltage range of 80VAC to 135VAC and at a temperature of 25°C (77°F).

6 2 Approximately 120 LEDs shall be utilized in each module. Red and Yellow modules shall utilize AlInGaP type LEDs and Green modules shall utilize InGaN type LEDs.

6.3 The failure of a single LED to illuminate shall result in the loss of light output from that LED only

7. Warranty

7.1 Manufacturers shall provide a written warranty issued by the factory located in the NAFTA country of module origin with the following minimum provisions:

7 2 Modules shall be replaced, repaired or purchase value refunded if the module fails to

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function as intended due to workmanship or material defects within the first 60 months from the date of delivery

7.3 Modules which exhibit luminous intensities less than the minimum specified values within 60 months of the date of delivery shall be replaced, repaired or purchase value refunded.

7.4 Upon request, the LED lamp module manufacturer shall provide written documentation of its ability to satisfy a worst-case, catastrophic warranty claim.

7.4.1 The documentation shall clearly show that the manufacturer and/or its parent corporation possesses a minimum of US$10 million in net worth, within the United States, Canada, and/or England.

7.4.2 A current corporate annual report duly-certified by an independent auditing firm, containing a balance sheet illustrating such net worth, is an example of suitable documentation.

7.4.3 The documentation shall clearly disclose:
a) The country in which the factory of module origin is located
b) The name of the company or organization that owns the factory of module origin including any and all of its parent companies and/or organizations, and their respective country of corporate citizenship

7.4.4 For firms with business and/or corporate citizenship in the United States of less than seven years, the process by which the end-users/owners of the modules will be able to obtain worst-case, catastrophic warranty service in the event of bankruptcy or cessation-of-operations by the firm supplying the modules within North America, or in the event of bankruptcy or cessation-of-operations by the owner of the factory of origin, shall be clearly disclosed.

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8. Tables

Table 1-1 PV Module Power Consumption (in Watts @ 25°C)

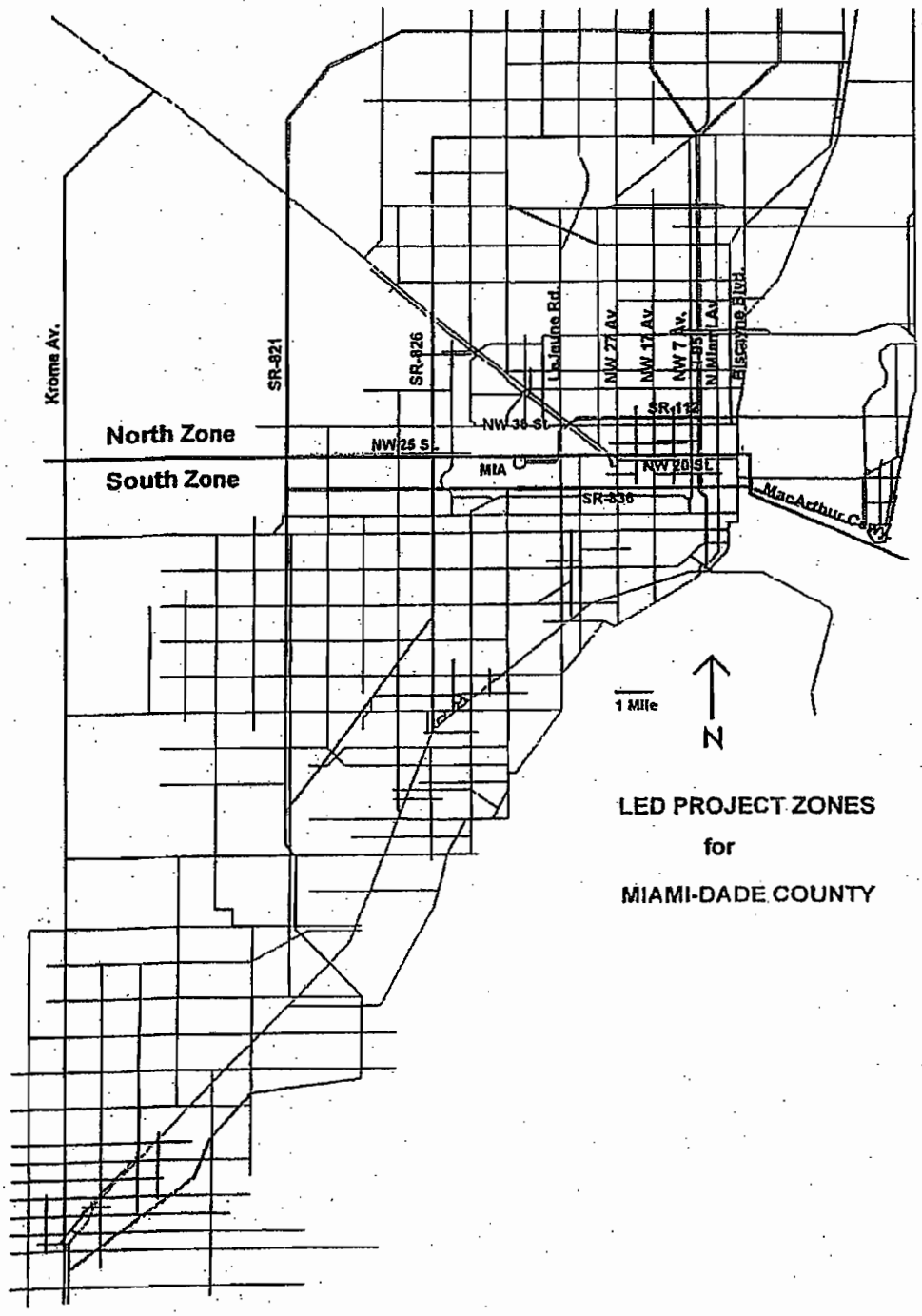
	Red	Yellow	Green
Maximum Power	11	18	15

Table 1-2 PV Module Minimum Initial On-axis Luminous Intensities (in Cd @ 25°C)

	Red	Yellow	Green
PV Module Intensity	500	500	500

Table 1-3 Chromaticity Standards (CIE Chart)

Red	Y: not greater than 0.308, nor less than 0.998 -x
Yellow	Y: not less than 0.411, nor less than 0 995 –x, nor less than 0.452
Green	Y: not less than 0 506 - .519x, nor less than 0 150 + 1 068x, nor more than 0.730 - x


Krome Av.
SR-821
SR-826
LeJeune Rd.
NW 27 Av.
NW 17 Av.
NW 7 Av.
I-95
N Miami Av.
Biscayne Blvd.
SR-112
NW 36 St.
NW 25 St.
North Zone
South Zone
MIA
NW 20 St.
SR-836
MacArthur Cswy
1 Mile
N
LED PROJECT ZONES
for
MIAMI-DADE COUNTY

Memorandum

MIAMI-DADE COUNTY

Date: December 7, 2006

To: Miriam Singer
Director
Department of Procurement Management

From: Oscar Willumsen, Jr.
Chairperson
Evaluation/Selection Committee

Subject: Report of Evaluation/Selection Committee for RFP No. 524 LED Traffic Signal Module Retrofit Project

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The Evaluation/Selection Committee has completed the task of evaluating proposals submitted in response to the above referenced Request for Proposals ("RFP") following the guidelines published in the solicitation as summarized below.

Committee meeting dates: August 8, 2006 ("Kick-off")
September 18, 2006 ("Evaluation/Selection Meeting")
October 19, 2006 ("Evaluation/Selection Meeting")
November 16, 2006 ("Evaluation/Selection Meeting")

Verification of compliance with contract measures: The Review Committee meeting of April 5, 2006 recommended a Community Small Business Enterprise (CSBE) 10% Subcontractor Goal for this solicitation. The Department of Business Development (see Schedule of Intent Affidavit Checklists) has determined that the following firms have met the CSBE goal:

1. Republic Electric
2. Johnson Control, Inc.
3. Siemens Building Technologies

Verification of compliance with minimum qualification requirements: The solicitation had minimum qualification requirements which were reviewed by the Chairperson of this Committee and Robert Janosi of the client department, Public Works Department. All of the proposers met the requirements.

Summary of Committee scores:

The total final scores for the South Zone are as follows:

Proposer	*Technical Score* (max.240)	*Price Score* (max.160)	*Total Combined Score* (max.400)	*Price/Cost Submitted*
1. Republic Electric	201	160.00	361.00	$4,062,678.00
2. Johnson Control, Inc.	190	70.63	260.43	$9,203,832.00
3. Siemens Building Technologies	131	93.88	224.88	$6,923,819.00

The total final scores for the North Zone are as follows:

Proposer	*Technical Score* (max.240)	*Price Score* (max.160)	*Total Combined Score* (max.400)	*Price/Cost Submitted*
1. Republic Electric	201	160.00	361.00	$4,062,678.00
2. Johnson Control, Inc.	190	70.63	260.43	$9,203,832.00
3. Siemens Building Technologies	131	93.88	224.88	$6,923,819.00

***Local Preference:** Local Preference was considered in accordance with applicable ordinances, but did not affect the outcome, as no Proposer is within 5% of the highest ranked Proposer.

Copies of the score sheets are attached for each Evaluation/Selection Committee Member, as well as a composite score sheet.

Other information:
One member of the five-member Evaluation/Selection Committee had a schedule conflict. The Committee decided to proceed with four members.

Negotiations: The Committee recommends that the County enter into negotiations with the two highest ranked firms each for one zone. The highest ranked firm, Republic Electric, will be afforded their zone preference. Negotiations will be held with Johnson Controls, Inc. for the remaining zone. The following individuals will participate in the negotiations:

Oscar Willumsen, Jr., Procurement Contracting Officer, DPM
Robert Willimans,TCC Engineer Supervisor, Public Works
Robert Janosi, TCC Engineer II, Public Works
Frank Hinton, Bond Analyst, Finance

Copies of the score sheets are attached for each Evaluation/Selection Committee Member, as well as a composite score sheet.

Reviewed:

Miriam Singer
Director

3/30/07
Date

RFP NO. 524
LED Traffic Signal Module Retrofit Project - (North Division)
EVALUATION OF PROPOSALS

COMPOSITE

SELECTION CRITERIA / PROPOSERS	Maximum Points Per Member	Maximum Total Points (4 members)	Johnson Controls, Inc.	Republic Electric	Siemens Building Technologies
LED Modules: Quality, Warranty Period, Wattage, and resulting savings and payback period	30	120	107.00	104.00	57.00
Respondent's experience, qualifications, capabilities, and past performance in providing this type of service	15	60	36.00	52.00	33.00
Experience and qualifications of individuals, including Subcontractors that will be assigned to this project	10	40	30.00	29.00	28.00
Respondent's approach to prividing the type of services described in this RFP	5	20	17.00	16.00	13.00
Total Technical Points *(Total of above rows)*	60	240	190.00	201.00	131.00
Total Price Points	40	160	70.63	160.00	93.88
TOTAL POINTS *(Technical + Price)*	100	400	260.63	361.00	224.88
Local Preference* *(Highest ranked proposer's total points - 5% = Local Preference range)*					

Signature: 11/21/06
Chairperson

Reviewed By 11/21/06

11/29/2006

RFP NO. 524
LED Traffic Signal Module Retrofit Project - (North Division)
EVALUATION OF PROPOSALS

ESTHER CALAS

SELECTION CRITERIA / PROPOSERS	Maximum Points Per Member	Johnson Controls, Inc.	Republic Electric	Siemens Building Technologies
LED Modules: Quality, Warranty Period, Wattage, and resulting savings and payback period	30	28	28	5
Respondent's experience, qualifications, capabilities, and past performance in providing this type of service	15	10	15	14
Experience and qualifications of individuals, including Subcontractors that will be assigned to this project	10	10	7	10
Respondent's approach to prividing the type of services described in this RFP	5	5	4	4
Total Technical Points *(Total of above rows)*	**60**	**53**	**54**	**33**
Total Price Points	**40**	17.66	40.00	23.47
TOTAL POINTS *(Technical + Price)*	**100**	**70.66**	**94.00**	**56.47**

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RFP NO. 524
LED Traffic Signal Module Retrofit Project - (North Division)
EVALUATION OF PROPOSALS

ROBERT WILLIAMS

SELECTION CRITERIA / PROPOSERS	Maximum Points Per Member	Johnson Controls, Inc.	Republic Electric	Siemens Building Technologies
LED Modules: Quality, Warranty Period, Wattage, and resulting savings and payback period	30	30	30	25
Respondent's experience, qualifications, capabilities, and past performance in providing this type of service	15	5	15	10
Experience and qualifications of individuals, including Subcontractors that will be assigned to this project	10	5	5	5
Respondent's approach to prividing the type of services described in this RFP	5	4	4	4
Total Technical Points *(Total of above rows)*	**60**	**44**	**54**	**44**
Total Price Points	**40**	17.66	40.00	23.47
TOTAL POINTS *(Technical + Price)*	**100**	**61.66**	**94.00**	**67.47**

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RFP NO. 524
LED Traffic Signal Module Retrofit Project - (North Division)
EVALUATION OF PROPOSALS

FRANKLYN E. JARMAN

SELECTION CRITERIA / PROPOSERS	Maximum Points Per Member	Johnson Controls, Inc.	Republic Electric	Siemens Building Technologies
LED Modules: Quality, Warranty Period, Wattage, and resulting savings and payback period	30	25	25	15
Respondent's experience, qualifications, capabilities, and past performance in providing this type of service	15	8	10	3
Experience and qualifications of individuals, including Subcontractors that will be assigned to this project	10	7	10	7
Respondent's approach to prividing the type of services described in this RFP	5	4	5	2
Total Technical Points *(Total of above rows)*	**60**	**44**	**50**	**27**
Total Price Points	**40**	17.66	40.00	23.47
TOTAL POINTS *(Technical + Price)*	**100**	**61.66**	**90.00**	**50.47**

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RFP NO. 524
LED Traffic Signal Module Retrofit Project - (North Division)
EVALUATION OF PROPOSALS

TERESA SANDS

SELECTION CRITERIA / PROPOSERS	Maximum Points Per Member	Johnson Controls, Inc.	Republic Electric	Siemens Building Technologies
LED Modules: Quality, Warranty Period, Wattage, and resulting savings and payback period	30	24	21	12
Respondent's experience, qualifications, capabilities, and past performance in providing this type of service	15	13	12	6
Experience and qualifications of individuals, including Subcontractors that will be assigned to this project	10	8	7	6
Respondent's approach to prividing the type of services described in this RFP	5	4	3	3
Total Technical Points *(Total of above rows)*	**60**	**49**	**43**	**27**
Total Price Points	**40**	17.66	40.00	23.47
TOTAL POINTS *(Technical + Price)*	**100**	**66.66**	**83.00**	**50.47**

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RFP NO. 524
LED Traffic Signal Module Retrofit Project - (South Division)
EVALUATION OF PROPOSALS

COMPOSITE

SELECTION CRITERIA / PROPOSERS	Maximum Points Per Member	Maximum Total Points (4 members)	Johnson Controls, Inc.	Republic Electric	Siemens Building Technologies
LED Modules: Quality, Warranty Period, Wattage, and resulting savings and payback period	30	120	107.00	104.00	57.00
Respondent's experience, qualifications, capabilities, and past performance in providing this type of service	15	60	36.00	52.00	33.00
Experience and qualifications of individuals, including Subcontractors that will be assigned to this project	10	40	30.00	29.00	28.00
Respondent's approach to prividing the type of services described in this RFP	5	20	17.00	16.00	13.00
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Total Price Points	40	160	70.63	160.00	93.88
TOTAL POINTS *(Technical + Price)*	100	400	260.63	361.00	224.88
Local Preference* *(Highest ranked proposer's total points - 5% = Local Preference range)*					

Signature: [signature] 11/21/06
Chairperson

Brigitte Mutter 11/21/06
Reviewed By

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11/29/

RFP NO. 524
LED Traffic Signal Module Retrofit Project - (South Division)
EVALUATION OF PROPOSALS

ESTHER CALAS

SELECTION CRITERIA / PROPOSERS	Maximum Points Per Member	Johnson Controls, Inc.	Republic Electric	Siemens Building Technologies
LED Modules: Quality, Warranty Period, Wattage, and resulting savings and payback period	30	28	28	5
Respondent's experience, qualifications, capabilities, and past performance in providing this type of service	15	10	15	14
Experience and qualifications of individuals, including Subcontractors that will be assigned to this project	10	10	7	10
Respondent's approach to prividing the type of services described in this RFP	5	5	4	4
Total Technical Points *(Total of above rows)*	**60**	**53**	**54**	**33**
Total Price Points	**40**	17.66	40.00	23.47
TOTAL POINTS *(Technical + Price)*	**100**	**70.66**	**94.00**	**56.47**

RFP NO. 524
LED Traffic Signal Module Retrofit Project - (South Division)
EVALUATION OF PROPOSALS

ROBERT WILLIAMS

SELECTION CRITERIA / PROPOSERS	Maximum Points Per Member	Johnson Controls, Inc.	Republic Electric	Siemens Building Technologies
LED Modules: Quality, Warranty Period, Wattage, and resulting savings and payback period	30	30	30	25
Respondent's experience, qualifications, capabilities, and past performance in providing this type of service	15	5	15	10
Experience and qualifications of individuals, including Subcontractors that will be assigned to this project	10	5	5	5
Respondent's approach to prividing the type of services described in this RFP	5	4	4	4
Total Technical Points *(Total of above rows)*	60	44	54	44
Total Price Points	40	17.66	40.00	23.47
TOTAL POINTS *(Technical + Price)*	100	61.66	94.00	67.47

RFP NO. 524
LED Traffic Signal Module Retrofit Project - (South Division)
EVALUATION OF PROPOSALS

FRANKLYN E. JARMAN

SELECTION CRITERIA / PROPOSERS	Maximum Points Per Member	Johnson Controls, Inc.	Republic Electric	Siemens Building Technologies
LED Modules: Quality, Warranty Period, Wattage, and resulting savings and payback period	30	25	25	15
Respondent's experience, qualifications, capabilities, and past performance in providing this type of service	15	8	10	3
Experience and qualifications of individuals, including Subcontractors that will be assigned to this project	10	7	10	7
Respondent's approach to prividing the type of services described in this RFP	5	4	5	2
Total Technical Points *(Total of above rows)*	**60**	**44**	**50**	**27**
Total Price Points	**40**	17.66	40.00	23.47
TOTAL POINTS *(Technical + Price)*	**100**	**61.66**	**90.00**	**50.47**

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RFP NO. 524
LED Traffic Signal Module Retrofit Project - (South Division)
EVALUATION OF PROPOSALS

TERESA SANDS

SELECTION CRITERIA \ PROPOSERS	Maximum Points Per Member	Johnson Controls, Inc.	Republic Electric	Siemens Building Technologies
LED Modules: Quality, Warranty Period, Wattage, and resulting savings and payback period	30	24	21	12
Respondent's experience, qualifications, capabilities, and past performance in providing this type of service	15	13	12	6
Experience and qualifications of individuals, including Subcontractors that will be assigned to this project	10	8	7	6
Respondent's approach to prividing the type of services described in this RFP	5	4	3	3
Total Technical Points *(Total of above rows)*	60	49	43	27
Total Price Points	40	17.66	40.00	23.47
TOTAL POINTS *(Technical + Price)*	**100**	**66.66**	**83.00**	**50.47**

Memorandum

MIAMI-DADE COUNTY

Date: JUN 26 2006

To: Those Listed Below

From: George M. Burgess
County Manager

Subject: Selection Committee for the Public Works Department Request for Proposals for LED Traffic Signal Module Retrofit Project - RFP No. 524

In accordance with Administrative Order 3-34, I am hereby appointing those listed below as the Selection Committee for the Public Works Department Request for Proposals for LED Traffic Signal Module Retrofit Project - RFP No. 524:

Selection Committee
Norma S. Armstrong, DPM (Non-Voting Chairperson)
Esther Calas, PWD
Robert Williams, PWD
Hugh Chen, MDT
Franklyn E. Jarman, MDWASD
Teresa Sands, DBD
Pedro J. Garcia, MDAD (Alternate)

Technical Advisors (Non-Voting)
Bob Janosi, PWD
Alfonso Dager, PWD
Frank Hinton, Finance
Ines Beecher, PWD
Christopher Rose, OSBM

The Selection Committee will meet to review written or printed material regarding the qualifications of each of the certified firms as it relates to the requirements defined in the advertised document. If required, the Selection Committee will select several candidate firms meeting the published criteria, to make oral presentations at a properly noticed public hearing to the full Selection Committee.

The Selection Committee shall be responsible for evaluating, rating and ranking the proposals by each Committee member, based on the criteria and procedure contained in the advertised document. The Evaluation/Selection Committee will first evaluate and rank responsive proposals on the Technical (Quality) criteria. If responsive proposers are invited to make oral presentations, the Committee may re-rate and re-rank the proposals based upon the written documents combined with the oral presentation. You may utilize staff of the issuing department and the using agency to conduct a preliminary review of the proposals for responsiveness to the technical requirements. All requests for specific determinations shall be made in writing to the County Attorney's Office.

You are directed to assist me in the selection process considering the factors delineated in the advertised document. These factors may include methodology and management approach, qualifications and experience of principals and staff, financial stability, proposer's past performance of similar scope and size, proposer's detailed plans to meet the objectives of each task, activity, etc., pursuant to any schedule, proposer's previous County experience, history and experience of the firm or individual(s), understanding of the project and the County's objectives, responsiveness to the established requirements, and Cost/Revenue (normally separate and sealed). When the document requires the proposer to provide cost/revenue in a separate sealed envelope, cost/revenue will be considered separately and after the other criteria have been evaluated.

If you are unable to participate in the Selection process, contact this office through the Department of Business Development (DBD) by memorandum documenting the reason why you cannot participate. Only in cases of dire urgency may you be excused from participation.

The alternate committee member will serve only in the event of an approved substitution. No substitution of committee members shall be allowed after the first official meeting of the committee. The Department of Procurement Management's (DPM) RFP Unit may substitute the chairperson to ensure the appropriate level of staffing expertise as deemed necessary to accommodate the needs of this solicitation.

Following the oral presentation, or upon completion of the review process, the Committee shall prepare and submit a memorandum to include a narrative of the evaluation and justification of the top recommended firm(s) based upon the reasoning and mathematical formula, if utilized, and attach supporting documentation and a summary sheet which MUST include the following information:

Name of firm(s)
Quality Rating Score
Price
Adjusted Score (if applicable)
Committee's Overall Ranking

This report should be submitted to me through the DPM and the DBD for review and consideration for further recommendation to the Board of County Commissioners.

As a matter of administrative policy and to maintain a fair and impartial process, all individuals appointed to the Selection Committee (including the Chairperson) and staff are instructed to refrain from discussing the solicitation with prospective lobbyists and/or consultants. Committee members are reminded that in accordance with the Cone of Silence Ordinance 98-106, they are prohibited from having any communication with potential respondents and/or their representatives. Violation of this policy could lead to termination.

All questions must be directed to the staff contact person(s) designated by the issuing department.

c: Marsha E. Jackman, Director, DBD
Miriam Singer, Director, DPM
Roosevelt Bradley, Director, MDT
John Renfrow, Director, MDWASD
Jose Abreu, Director, MDAD
Rachel Baum, Director, Finance
Jennifer Glazer-Moon, Director, OSBM

Selection Committee
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