

ELECTRONIC DOCUMENTS DISCLAIMER

1. Electronic copies of the solicitation documents are made available on this website solely for the convenience of prospective bidders (whether as a prime contractor or sub-contractor) on the Project, and are not considered part of the Contract Documents. No representation or warranty is made, either expressed or implied, with regard to the accuracy or suitability of these electronic copies for any purpose whatsoever. In the event of discrepancies or conflicts between the County's originally published document(s) and any other version distributed or submitted by other parties, the County's original hard copy version shall prevail.
2. Miami-Dade County Department of Transportation and Public Works (DTPW) does not track or monitor downloads of Project documents from this website. Therefore, prospective bidders who choose to use this method of distribution shall also be responsible for monitoring the site and downloading any applicable addenda or supplemental information. DTPW will distribute hard copy addenda or supplemental information only to those persons or firms who we have purchased a hard copy of the original solicitation documents.
3. Miami-Dade County shall not be responsible for errors and omissions occurring in the transmission or downloading of any documents or specifications from this website. In the event of any discrepancy between information obtained from this website and the DTPW hard copy solicitation documents and specifications, the terms of the hard copy documents will prevail.
4. Miami-Dade County does not guarantee continuous, uninterrupted or secure access to this or other related websites. Operation of this website may be affected from time to time by numerous factors outside of our control. In the event that we are notified of any problems in a timely manner we will do our best to assist with those problems that fall within our control. For assistance, contact us at 305-375-2930. Solicitation documents are removed from this website as soon as possible after the due date.
5. DTPW does not accept facsimile or electronic bid responses of any kind. All bids must be submitted in writing, on the forms provided by the County, to the address designated in the bid package. It is the bidder's responsibility to ensure that their submittals are received at the designated location, complete and on time. Bids received after the due date will be rejected, even if the solicitation is still appearing on this site.
6. With regards to Miscellaneous Construction Contracts (MCC) 7040 Plan Request for Price Quotations:
 - a. Only bidders included on the Project's Bidders List, provided by the Internal Service Department, Procurement Management Division to the DTPW, can submit a bid.
 - b. Only timely bids received from bidders included in the Project's Bidders List will be considered.
7. These documents shall not be altered in any manner. Utilization or viewing of these electronic documents shall constitute implicit acknowledgement and acceptance of these provisions. Failure to comply with these provisions may result in rejection of your bid.

CONTRACT SPECIFICATIONS

DEPARTMENT OF TRANSPORTATION
& PUBLIC WORKS
DESIGN AND ENGINEERING DIVISION

BID DOCUMENTS

HIGH MAST POLE LIGHT REFURBISHING AT WILLIAM LEHMAN CENTER

CONTRACT NO. MCC 7360 Plan - CICC
7360-0/08

RPQ No.: TP-00000014313

PROJECT NO.: IRP101

VOLUME I OF II

SOLICITATION DOCUMENTS

MARCH 2024



RPQ No.: TP-00000014313

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
BID DOCUMENTS
HIGH MAST POLE LIGHT REFURBISHING AT WILLIAM LEHMAN
CENTER
PROJECT NO. IRP101
RPQ NO. TP-00000014313

BID DOCUMENTS - TABLE OF CONTENTS I OF II

BID DOCUMENTS

INVITATION TO BID

FORMS FOR BIDDING

- Bid Form
- Attachment 5A
- Surety Bid Bond Form
- Acknowledgment Addenda (if applicable/Signed by Contractor)
- Certificate of Assurance (CoA)
- Bid Submittal Check List Questionnaire Appendix "D"
- Bidder's Statement of Qualifications and Business References
- Scrutinized Company Affidavit
- Non-Collusion Affidavit
- Firm's Responsibility Combined Affidavit
- Responsible Contractor Affidavit (Form RTFE 1)
- Contractor's Due Diligence Affidavit
- Fair Wage Affidavit
- E-Verify Affidavit
- DPM Requirement - Affirmation of Vendor Affidavits
- Disadvantage Business Enterprise (DBE) Package Information
- Financial Documentation
- Job Clearinghouse Form
- Fair Subcontracting Practices

CONTRACT FORMS

- Residents First Training and Employment Program/Community Workforce Program/
Employ Miami-Dade Program Construction Workforce Plan - Form RFTE2
- OSHA Safety Training Affidavit - Form RFTE 3
- Residents First Training and Employment Program/Employ Miami-Dade Program
Workforce Performance Report - Form RFTE 4
- Certificate(s) of Insurance
- Surety Performance and Payment Bond

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
BID DOCUMENTS
HIGH MAST POLE LIGHT REFURBISHING AT WILLIAM LEHMAN
CENTER
PROJECT NO. IRP101
RPQ NO. TP-00000014313

BID DOCUMENTS - TABLE OF CONTENTS II OF II

BID DOCUMENTS

- SMALL BUSINESS DEVELOPMENT PROJECT WORKSHEET
- DAVID BACON WAGES:
 - Construction Type: Highway
- SPECIFICATIONS:
 - Construction Specifications.
- SPECIAL PROVISIONS:
 - Appendix A: Authorization Agreement for Automatic Deposit.
 - Appendix B: Federal Requirements and Provisions.
- STANDARD CONSTRUCTION GENERAL CONTRACT CONDITIONS & ATTACHMENTS
- DRAWINGS & AS-BUILT SKETCHES

INVITATION TO BID



RPQ NO. TP-00000014313

**Department of Transportation and
Public Works**

**Capital Improvements Division
111 NW 1st Street, Suite 1410
Miami, FL 33128 FL 33128**



MIAMI-DADE COUNTY, FLORIDA

REQUEST FOR PRICE QUOTATION (RPQ)

Contract No: MCC 7360 Plan - CICC 7360-0/08

RPQ No: TP-00000014313

INVITATION TO BID

A RPQ has been issued for the work identified below. If you are interested in submitting a bid for this project, please submit your bid via Sealed Envelopes, attention to Clerk of the Board at 111 NW 1st ST. 17th Floor. Miami, FL. 33128 - Clerk of the Board Office no later than 4/10/2024 at 02:00 PM. If you have any questions, contact Marco Movilla at (305) 375-3267.

This RPQ is issued under the terms and conditions of the Miscellaneous Construction Contracts (MCC) Program MCC 7360 Plan.

RPQ DETAILED BREAKDOWN

Bid Due Date:	4/10/2024	Time Due:	02:00 PM	Submitted Via:	Sealed Envelopes	SBE-Con. Level:	N/A	
Estimated Value:	\$473,805	(excluding Contingencies and Dedicated Allowances)						
Project Name:	High Mast Pole Light Refurbishing at William Lehman Center							
Project Location:	6601 NW 72nd Avenue. Miami, Florida. 33166							
License Requirements:	Primary:	Electrical Contractor; Electric Utility						
Scope of Work:	(Contractor must obtain and submit all permits prior to performing any work). A. Work under this Contract includes furnishing of all supervision, labor, materials, tools, equipment and performing all operations required to retrofit 15 high mast arms light poles. Detail work includes but is not limited to: a) Remove existing luminaires and furnish and install new 90 LED luminaires type ERHM03E90VW750ND4BGRAYT. b) Refurbish (furnish and installation) the complete internal mechanism of the 15 poles lowering devices that includes the cables gearbox and locking components (includes Stainless Steel Hoist and Winch Cable). c) Provide Portable drive unit. d) Replace any existing damaged cables, conduits and deliver a complete working system. e) Contractor will be responsible for preparing and obtaining all required permits. f) Work to be performed in compliance with the 2023 National Electrical (NEC) Code and inspected by the proper authorities having jurisdiction where the work is to be performed. B. If any changes are required due to conflict of design and or field conditions, the Engineer will make the final determination. C. The Contractor and all subcontractors, under this Contract, are prohibited from performing any work, other than specified in the Contract and/or directed by the Engineer, within the limits of the project site, without prior written notification to the Engineer. This includes any work for private or commercial entities.							
Document Pickup:	Contact:	DTPW Capital Improvements Division		Phone No:	(305) 375-2930		Date:	3/7/2024
	Location:	111 NW 1st Street. Suite# 1410. Miami, FL. 33128						
Pre-Bid Meeting::	YES	Mandatory:	YES	Date:	3/27/2024	Time:	10:00 AM	
	Location:	Lehman Center 6601 NW 72nd Avenue. Miami, FL. 33166						
Site Meeting:	YES	Mandatory:	YES	Date:	3/27/2024	Time:	10:00 AM	
	Location:	Lehman Center 6601 NW 72nd Avenue. Miami, FL. 33166						
Bid shall be submitted to:	Contact:	Clerk of the Board						
	Address:	111 NW 1st ST. 17th Floor. Miami, FL. 33128 - Clerk of the Board Office						
	Email:	Clerkbbc@miamidade.gov				FAX # :		
Type of Contract:	Single Trade			Method of Award:	Lowest Responsible Bidder			
Method of Payment:	Scheduled Monthly Payments			Insurance Required:	YES			
Additional Insurance Required:	YES			If Yes - Minimum Coverage:	\$1,000,000.00			

Performance & Payment Bond Required:		YES		Bid Bond Required:		YES		
Prevailing Wage Rate Required:	Highway Construction	Davis Bacon:	YES	Maintenance Wages:	NO	AIPP:	NO	
SBE-Con. Requirements:		NO	Percentage:	0.00%	SBD Certificate of Assurance Form Required:			NO
DBE Participation:		NO	Percentage:	0.00%	DBE Subcontractor Forms Required:			YES
CWP Requirements:		NO	Percentage:	0.00%				
SBE-S Requirements		NO	Percentage:	0.00%				
SBE-G Requirements		NO	Percentage:	0.00%				
Liquidated Damages:		YES	\$\$ Per Day:	\$1,408.00				
Trade Set-a-side:		NO	If Yes, Trade =					
For RPQ's less than \$10,000, if no LD rate is specified, the County reserves the right to assess actual damages in lieu of LDs.								
Design Drawing Included:		YES	Shop Drawing Included:		NO	Specifications Included:		YES
Anticipated Start Date:		5/13/2024			Calendar Days for Project Completion:		360	
Comments:		The subject project is funded with Federal Transportation Authority (FTA) funds and the American Rescue Plan funds, therefore contractor must comply with all the applicable federal requirements under the Federal Transit Administration (FTA) Circular 4220.1F, 49 CFR Part 26, FTA's Best Practices Procurement Manual, and Florida Statutes 287.055. This project is subject to the requirements of the Federal Transportation Authority (FTA) and all the following requirements should apply inclusive of, but not limited to, Civil Right Act, DBE requirements, Buy America, Davis Bacon Wages, and all other requirements included under Appendix B of the Special Provisions. A. LICENSE REQUIREMENTS: 1. At the time of Bid and pursuant to the requirements of Section 10-3 of the Code of Miami-Dade County, Florida and these Solicitation and Contract Documents, the Bidder must hold a valid, current, and active: a. Certificate of Competency from the County's Construction Trades Qualifying Board as an Electrical Contractor, or; b. Certification, as an Electrical Contractor provided by the State of Florida Construction Industry Licensing Board, pursuant to the provisions of Section 489.115 of the Florida Statutes (F.S.), or; 2. Proof of such Certificate(s) must be submitted at the time of initial response and maintained current throughout the contract period. The County may request proof of continued certification at any time during the contract period. Failure to provide such proof within five (5) working days from notification by the County shall result in the removal from the contract and the rejection of any current or future RPQ bid submissions. B. EXPERIENCE REQUIREMENTS: 1. As per Miami Dade County Resolution R-1122-21, the Bidder must demonstrate that it has full-time personnel with the necessary experience to perform the Project's Scope of Work. This experience shall include work in successfully completed projects performed by the identified personnel whose bulk of work performed is similar in detail to the Project's Scope of Work described in these Solicitation Documents. Demonstrate the experience requirement by: Providing a detailed description of at least three (3) projects similar in detail to the Project's Scope of Work described in these Solicitation Documents and in which the Bidder's identified personnel is currently engaged or has completed within the past five years. List and describe the aforementioned projects and state whether the work was performed for the County, other government clients, or private entities. The description must identify for each project: 1. The identified personnel and their assigned role and responsibilities for the listed project 2. The client's name and address including a contact person and phone number for reference 3. Description of work 4. Total dollar value of the contract 5. Contract duration 6. Statement or notation of whether Bidder's referenced personnel is/was employed by the prime						

contractor or subcontractor, and

7. For completed projects, provide letters of certification of final acceptance or similar project closure documentation issued by the client and available Contractor's performance evaluations; or

2. The County reserves the right to request additional information and/or contact listed persons pertaining to the bidder's experience.

C. INDEMNIFICATION AND INSURANCE REQUIREMENTS:

The Contractor shall furnish to Department of Transportation and Public Works, 111 NW 1 Street, Miami Florida 33128, Certificate(s) of Insurance which indicate that insurance coverage has been obtained which meets the requirements as outlined below:

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

B. Commercial General Liability Insurance in an amount not less than \$1,000,000 per occurrence, and \$2,000,000 in the aggregate, not to exclude Products and Completed Operations. Miami-Dade County must be shown as an additional insured with respect to this coverage.

C. Automobile Liability Insurance covering all owned, non-owned and hired vehicles, in an amount not less than \$1,000,000 combined single limit per occurrence for bodily injury and property damage.

D. Umbrella Liability Insurance in an amount not less than \$3,000,000 per occurrence, and \$3,000,000 in the aggregate.

a. If Excess Liability is provided must be follow form of the General Liability policy.

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

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

or

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

D. BID DOCUMENTS:

Bidding documents may be purchased from the Department of Transportation and Public Works, Capital Improvements Division, 111 NW 1st Street, 14th Floor, Miami, Florida 33128 for a non-refundable fee of One Hundred Dollars (\$ 100.00) per each complete set of documents. Payment shall be in the form of a company check, cashier's check, or money order payable to the "Department of Transportation and Public Works." Bid Documents can also be downloaded for free at the following link:

<https://www8.miamidade.gov/Apps/ISD/DPMWW/SolicitationList.aspx>.

E. ADDENDUMS - RFI'S:

All RFI requests should be e-mailed to marco.movilla@miamidade.gov while copying the Clerk of the Board (clerkbcc@miamidade.gov).

Addendums and requests for information (RFI) will be sent to contractors who pick up documents at 111 NW 1st Street. Contractors who wish to download the solicitation and contract documents will be responsible for downloading the Addendums and RFI's. All Addendums, RFI's, and the document holders list (bidder's list) are available to view online at the following web address:

<https://www8.miamidade.gov/Apps/ISD/DPMWW/SolicitationList.aspx>

The Department will only be sending addendums and RFI's by e-mail and posting online at the aforementioned link. The bidders list will be updated every Friday during the advertisement phase of the contract. Please be aware that acknowledgment of receipt of all addendums and RFI's remain a requirement when submitting bids.

F. VENDOR REGISTRATION:

Due to the new Vendor Registration procedures of the Internal Services Department, Procurement Management Division, updated definitions along with the "Affirmation of Vendor Affidavits" has been added to the Bid Submittal Package. The successful bidder must be registered under this new procedure prior to the award.

G. PRE-BID MEETING AND SITE VISIT MEETING:

Pre-Bid Meeting and Site Visit Meeting will be held on Wednesday, 10:00 A.M., Wednesday March 27th, 2024, at William Lehman Center, located at 6601 NW 72 Avenue, Miami, Florida 33166.

Site Visit will be held immediately after the Pre-Bid meeting.

The Lehman Center is a security facility, therefore Contractors must RSVP in writing to marco.movilla@miamidade.gov and copy clerkbcc@miamidade.gov no later than close of business on Monday March 25th, 2024. The Pre-Bid Meeting will start promptly at 10:00 A.M. Wednesday, March 27th, 2024. If the prospective bidder does not arrive on time for the meeting, there is no guarantee of being allowed into the facility.

H. BID SUBMITTAL DUE DATE:

Bid Submittal Time and Location: Wednesday, 2:00 P.M., April 10th, 2024, at 111 NW 1 Street, 17th Floor, Clerk of the Board Office

Bid Opening immediately after Bid Submittal in the 18 Floor.

DISCLOSURE:

- 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. 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. 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.

The Contractor shall furnish to **Department of Transportation and Public Works, Capital Improvements Division, 111 NW 1st Street, Suite 1410, Miami, FL 33128 FL 33128**, Certificate(s) of Insurance which indicate that insurance coverage has been obtained which meets the requirements as outlined below:

- A.** Worker's Compensation Insurance for all employees of the Contractor as required by Florida Statute 440.
 - a. If applicable should include coverage required under the U.S. Longshoremen and Harbor Workers' Act (USL&H) and/or Jones Act for any activities on or about navigable water.
- B.** Commercial General Liability in an amount not less than \$300,000 per occurrence, and \$600,000 in the aggregate. Miami-Dade County must be shown as an additional insured with respect to this coverage.
- C.** Automobile Liability Insurance covering all owned, non-owned and hired vehicles used in connection with the work, in an amount not less than \$300,000 combined single limit per occurrence for bodily injury and property damage.

*Under no circumstances are Contractors permitted on the Aviation Department, Aircraft Operating Airside (A.O.A) at Miami International Airport without increasing automobile coverage to \$5 million. Only vehicles owned or leased by a company will be authorized. \$1 million limit applies at all other airports.

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS

HIGH MAST POLE LIGHT REFURBISHING AT WILLIAM

LEHMAN CENTER

PROJECT NO. IRP101

RPQ NO. TP-00000014313

FORMS FOR BIDDING

- Bid Form
- Attachment 5A
- Surety Bid Bond Form
- Acknowledgment Addenda (if applicable/Signed by Contractor)
- Certificate of Assurance (CoA)
- Bid Submittal Check List Questionnaire Appendix“D”
- Bidder's Statement of Qualifications and Business References
- Scrutinized Company Affidavit
- Non-Collusion Affidavit
- Firm's Responsibility Combined Affidavit
- Responsible Contractor Affidavit (Form RTFE 1)
- Contractor's Due Diligence Affidavit
- Fair Wage Affidavit
- E-Verify Affidavit
- DPM Requirement - Affirmation of Vendor Affidavits
- Disadvantage Business Enterprise (DBE) Package Information
- Financial Documentation
- Job Clearinghouse Form
- Fair Subcontracting Practices

All bids must be received by the due date and time. The County will not consider bids received after the due date and time.

Bids are to be submitted sealed with all necessary affidavits and supporting documentation attached. Bids are to be delivered to the Clerk of the Board at 111 NW 1st Street, 17th Floor, Miami, Florida, 33128. **All envelopes must be stamped at the reception desk with the date and time. Failure to submit with your bid the forms stipulated above may render the bid non-responsive.**

BID FORM



RPQ NO. TP-00000014313

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS

BID DOCUMENTS

HIGH MAST POLE LIGHT REFURBISHING AT

WILLIAM LEHMAN CENTER

PROJECT NO. IRP101

To: Miami-Dade County
Board of County Commissioners
Miami, Florida

RPQ NO. TP-00000014313

Bid Opening Date: _____

Bid Opening Time: _____

Local Time

Gentlemen:

We _____

Bidder's Name

have received, have examined and are familiar with the Contract Documents bearing the title **HIGH MAST POLE LIGHT REFURBISHING AT WILLIAM LEHMAN CENTER - RPQ NO. TP-00000014313**, the forms for the Submittal of Bids and have included the cost of their provisions, in our Bid. We have examined, are familiar with, and do accept the conditions of the Work site and other conditions affecting the Work.

Addendum No. _____ Dated _____

Addendum No. _____ Dated _____

Addendum No. _____ Dated _____

Addendum No. _____ Dated _____

Failure to acknowledge receipt of all addenda may cause the bid to be considered not responsive to the invitation, which would require rejection of the bid.

PROJECT NAME: HIGH MAST POLE LIGHT REFURBISHING AT WILLIAM LEHMAN CENTER

IF THIS PROPOSAL IS ACCEPTED, THE UNDERSIGNED BIDDER AGREES TO COMPLETE ALL WORK IN ACCORDANCE WITH THIS CONTRACT WITHIN THE CONTRACT DURATION SPECIFIED IN THE CONTRACT DOCUMENTS. **PRICING SHALL BE INCLUSIVE OF ALL REQUIREMENTS TO COMPLETE THE SCOPE OF WORK AND IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.**

PAY ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
1	Mobilization	LS	1.0		
2	Furnishing all supervision, labor, material, and equipment necessary to retrofit 15 high mast arms light poles	EACH	15.0		

BASE BID TOTAL \$ _____

(Instructions: The spaces provided in the Total Price Column(s) for the Bid Line Item(s) must be filled in and no spaces left blank. The sum of the Bid Line Items must represent your Base Bid Total. Failure to submit a complete and accurate Bid Form may result in your bid found non-responsive.)

A TEN PERCENT (10%) CONTINGENCY ALLOWANCE AND OTHER DEDICATED ALLOWANCES AS REQUIRED WILL BE ADDED TO THE BASE BID TOTAL AS STIPULATED IN THE SPECIAL PROVISIONS.

“Pursuant to the general terms and conditions of the solicitation document, local preference is applicable to this solicitation. However, please be advised that the reciprocity agreement with Broward County expired September 30, 2017. Accordingly, local preference will only be afforded to a firm that meets the requirements for Miami-Dade County in any solicitation with a due date after September 30, 2017.”

LOCAL PREFERENCE CERTIFICATION: For the purpose of this certification, a “local business” is a business located within the limits of Miami-Dade County that conforms with the provisions of Section 3.0 of the Special Provisions of this solicitation and contributes to the economic development of the community in a verifiable and measurable way. This may include, but not be limited to, the retention and expansion of employment opportunities and the support and increase to the County’s tax base.

☐ Place a check mark here only if affirming bidder meets requirements for Local Preference. Failure to complete this certification at this time (by checking the box above) may render the vendor ineligible for Local Preference.

LOCALLY-HEADQUARTERED BUSINESS CERTIFICATION: For the purpose of this certification, a “locally-headquartered business” is a Local business whose “principal place of business” is in Miami-Dade County as defined in Section 3.0 of the Special Provisions of this solicitation.

☐ Place a check mark here only if affirming bidder meets requirements for the Locally-Headquartered Preference (LHP). Failure to complete this certification at this time (by checking the box above) may render the vendor ineligible for the LHP. The address of the locally-headquartered office is _____

LOCAL CERTIFIED WARTIME VETERAN BUSINESS ENTERPRISE CERTIFICATION: A Local Certified Service-Wartime Veteran Business Enterprise is a firm that is (a) a local business pursuant to Section 2-8.5 of the Code of Miami-Dade County and (b) prior to bid submission is certified by the State of Florida Department of Management Services as a service-wartime veteran business enterprise pursuant to Section 295.187 of the Florida Statutes.

☐ Place a check mark here only if affirming bidder is a Local Certified Service-Wartime Veteran Business Enterprise. A copy of the certification must be submitted with this proposal.

A. CONVICTION DISCLOSURE:

Pursuant to Section 2-8.6 of the Code of Miami-Dade County, any individual, corporation, partnership, joint venture or other legal entity having an officer, director, or executive who has been convicted of a felony during the past ten (10) years shall disclose this information at the time of bid submittal.

☐ Place a check mark here **only** if the Bidder has such conviction to disclose to comply with this requirement.

B. WAIVER OF CONFIDENTIALITY AND TRADE SECRET TREATMENT OF BID:

The Bidder acknowledges and agrees that the submittal of the Bid is governed by Florida’s Government in the Sunshine Laws and Public Records Laws, as set forth in Florida Statutes Section 286.011 and Florida Statutes Chapter 119. As such, all material submitted as part of, or in support of, the Bid will be available for public inspection after opening of bids and may be considered by the County in public.

By submitting a bid pursuant to this solicitation, Bidder agrees that all such materials may be considered to be public records. The Bidder shall not submit any information in response to this solicitation which the Bidder considers to be a trade secret, proprietary or confidential. In the event that the Bid contains a claim that all or a portion of the Bid submitted contains confidential, proprietary or trade secret information, the Bidder, **by signing below**, knowingly and expressly **waives** all claims made that the Bid, or any part thereof no matter how indicated, is confidential, proprietary or a trade secret and authorizes the County to release such information to the public for any reason.

LICENSE NO. _____ BIDDER'S NAME _____
BIDDER'S FEIN NUMBER _____ BIDDER'S SIGNATURE _____

THE BIDDER UNDERSTANDS AND AGREES THAT THE BASE BID TOTAL AND ALL APPLICABLE ALLOWANCES ARE INCLUSIVE OF ALL WORK NECESSARY TO COMPLETE THE SCOPE OF WORK AS DESCRIBED IN THE CONTRACT DOCUMENTS, AND IF THIS PROPOSAL IS ACCEPTED, THE BIDDER AGREES TO ENTER INTO AND EXECUTE THE CONTRACT WITH THE NECESSARY BOND AND ACCEPT THE ABOVE BASE BID, INCLUSIVE OF ALL ALLOWANCES, AS FULL COMPENSATION FOR THE WORK PERFORMED UNDER THIS CONTRACT.

ATTACHMENT 5A



RPQ NO. TP-00000014313

Department of
Transportation and Public
Works
Capital Improvements Division
111 NW 1st Street, Suite 1410
Miami, FL 33128, FL 33128



MIAMI-DADE COUNTY, FLORIDA
REQUEST FOR PRICE QUOTATION (RPQ)
Contract No: MCC 7360 Plan - CICC 7360-0/08
RPQ No: TP-00000014313

RPQ BID FORM – ATTACHMENT 5A

RPQ Project Name: HIGH MAST POLE LIGHT REFURBISHING AT WILLIAM LEHMAN CENTER

Price Proposal (Cost to Perform the work **must** be stated here. State 'No Bid' if not submitting a price proposal)

\$ _____

Bidder's Company Name: _____

Company Address: _____

City: _____ **State:** _____ **Zip:** _____

Telephone No: _____ **Fax No:** _____ **EMail:** _____

THE EXECUTION OF THIS FORM CONSTITUTES THE UNEQUIVOCAL OFFER OF PROPOSER TO BE BOUND BY THE TERMS OF ITS PROPOSAL. FAILURE TO SIGN THIS SOLICITATION WHERE INDICATED BELOW BY AN AUTHORIZED REPRESENTATIVE SHALL RENDER THE PROPOSAL NON-RESPONSIVE. THE COUNTY MAY, HOWEVER, IN ITS SOLE DISCRETION, ACCEPT ANY PROPOSAL THAT INCLUDES AN EXECUTED DOCUMENT WHICH UNEQUIVOCALLY BINDS THE PROPOSER TO THE TERMS OF ITS OFFER.

Name of Person Submitting Quote (Print): _____

Number of Addendums received: _____ (if none' write "None")

Signature: _____ **Date:** _____

Note: Quotes must be submitted on this form. Quote envelope must state RPQ Number, date and time due and the Bidder's Name. Use of any other form for submission of the price quotation shall result in the rejection of the price quotation. Late bids will not be opened. *Low bidder will be notified, in the Recommendation of Award, of the requirements to submit current copies of insurance certificates in accordance with the Contract Documents. By signature, the CONTRACTOR agrees to be bound by the terms set forth in the MCC 7360 Plan.*

SURETY BID BOND FORM



RPQ NO. TP-00000014313

SURETY BID BOND

STATE OF _____) ss.:

COUNTY OF _____)

KNOW ALL MEN BY THESE PRESENTS, that we, _____ as Principal, and _____ as Surety, are held and firmly bound unto Miami-Dade County in the penal sum of Dollars (\$ _____) lawful money of the United States, which sum represents five percent of the Base Bid Total, and for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted the accompanying Bid, dated _____ 20____ for **RPQ NO. TP-00000014313** entitled, **HIGH MAST POLE LIGHT REFURBISHING AT WILLIAM LEHMAN CENTER.**

NOW THEREFORE, if the Principal shall not withdraw said Bid within 180 days after the Bid opening date, shall submit complete information required, and shall within 10 days after the prescribed forms are presented to him for signature, enter into a written Contract with Miami-Dade County, in accordance with the Bid as accepted, and give a Surety Performance and Payment Bond with good and sufficient surety or sureties and provide the necessary Insurance Certificates, as may be required, for the faithful performance and proper fulfillment of such Contract and for the prompt payment of all persons furnishing labor or materials in connection therewith, or in the event of withdrawal of said Bid within the period specified, or in the event of the failure to enter into such Contract and give such Bond within the time specified, if the Principal shall pay Miami-Dade County the difference between the amounts specified in said Bid and the amount for which Miami-Dade County may procure the required work and supplies, provided the latter amount be in excess of the former, then the above obligations shall be void and of no effect; otherwise, to remain in full force and virtue.

IN WITNESS WHEREOF, the above bounden parties have caused this Bond to be executed by their appropriate officials as of the _____ day of _____, 20__.

(CORPORATE SEAL)

(printed name of corporation)

(printed state of incorporation)

By: _____
(signature of president or vice-president & capacity)

(printed name of president or vice- president & capacity)

By: _____
(signature of secretary or assistant secretary & capacity)

(printed name of secretary or assistant secretary & capacity)

(Business address of corporation)

ACKNOWLEDGEMENT:

STATE OF _____) ss.:

COUNTY OF _____)

Before me personally appeared _____, as President to me well known or has presented _____ as identification and
(Type of identification)

_____ as Secretary, to me well known, or has presented _____ as identification and known to me to be individuals described
(Type of identification)

in and who executed the foregoing instrument as _____ President and _____ Secretary of the above named _____ a Corporation, and severally acknowledged that they executed such instrument as such _____ President and _____ Secretary, respectively, of said corporation, and that the seal affixed to the foregoing instrument is the corporate seal of said corporation and that it was affixed to said instrument by due and regular corporate authority, and said instrument is the free act and deed of said corporation.

SUBSCRIBED AND SWORN TO (or affirmed) before me on _____
(Date)
by _____. He / She is personally known to me or has presented
(Affiant)
_____ as identification.
(Type of Identification)

(Signature of Notary)

(Serial Number)

(Print or Stamp Name of Notary)

(Expiration Date)

Notary Public _____
(State)

Notary Seal:

=====

SURETY:

(CORPORATE SEAL)

(printed name of Surety)

(address of Surety)

By: _____
(Attorney-in-Fact)

By: _____
(resident Florida agent)

(printed name of Attorney-in-Fact)

(printed name of agent)

Note: Copy of Resident Agent's current license as issued by State of Florida Insurance Commissioner must be attached.

(Power of Attorney must be attached)

ACKNOWLEDGMENT ADDENDA
(IF APPLICABLE/ SIGNED BY CONTRACTOR)



RPQ NO. TP-00000014313

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS (DTPW)

PROJECT: High Mast Pole Light Refurbishing at William Lehman Center
Project No. TP-00000014313

ACKNOWLEDGEMENT OF ADDENDA

(Must be completed and submitted with required solicitation documents)

Instructions: Complete Part I or Part II, as applicable.

PART I: Listed below are the dates of issue for each Addendum received in connection with this solicitation.

Addendum #1, Dated _____,	202__
Addendum #2, Dated _____,	202__
Addendum #3, Dated _____,	202__
Addendum #4, Dated _____,	202__
Addendum #5, Dated _____,	202__
Addendum #6, Dated _____,	202__
Addendum #7, Dated _____,	202__
Addendum #8, Dated _____,	202__
Addendum #9, Dated _____,	202__
Addendum #10, Dated _____,	202__

PART II:

____ No Addendum was received in connection with this solicitation.

Authorized Signature: _____ Date: _____

Print Name: _____ Title: _____

Firm Name: _____

CERTIFICATE OF ASSURANCE (CoA)



RPQ NO. TP-00000014313



OFFICE OF SMALL BUSINESS DEVELOPMENT
CERTIFICATE OF ASSURANCE(COA)
SMALL BUSINESS PARTICIPATION ON COUNTY PROJECTS

This completed form must be submitted with bid documents by all bidders/proposers on a Miami-Dade County project with Small Business Enterprise ("SBE") program measure(s).

Project No.: TP-00000014313 Project Title: High Mast Pole Light Refurbishing at William Lehman Center
Bidder/Proposer: _____ FEIN: _____
Address: _____ City _____ State _____ ZIP _____
Phone Number: _____ Email address: _____

The bidder/proposer is committed to meeting the established measure(s) assigned to this project: _____ % SBE-A/E, _____ % SBE-Cons, N Trade Set-aside SBE-Cons, _____ % SBE-G, and/or _____ % SBE-S.
(For Goals, write in the percentage. For Set-aside, put Y or N.)

Print Prime Bidder's Name & Title

Prime Bidder's Signature

Date

To satisfy the requirements for Step 1 - Bid Submittal and Compliance with Small Business Enterprise Program(s), the following are required:

1. Acknowledgement of the SBE-Architecture & Engineering, SBE-Construction, SBE-Good and/or SBE-Service (non-construction, architecture or engineering) measure(s) established for this project via this Certificate of Assurance.
2. Agree to engage in the solicitation of approved Miami-Dade County Small Business Enterprise firm(s) to achieve the established measure(s) as indicated in the Project Documents (specifications).
3. Agree to select and submit the names of the certified SBEs to satisfy the measures via Miami-Dade County's Business Management Workforce System ("BMWS") within the specified timeframe, upon email notification from the Office of Small Business Development or BMWS.

To satisfy the requirements for Step 2 - Bid Evaluation and Recommendation for Award, please attest that:

I understand that my company will be deemed non-compliant and not eligible for award if I fail to (1) submit this form with my bid/proposal documents and/or (2) submit my company's Utilization Plan which shall list all certified Miami-Dade County Small Business Enterprise firms whom will be subcontracted with to satisfy the project's established SBE measure(s) via BMWS, within the specified timeframe, upon email notification from SBD or BMWS. Each SBE subcontractor, subconsultant, and/or sub-vendor will also be required to confirm its contractual relationship via BMWS, within the specified timeframe, for final approval by SBD.

STATE OF FLORIDA

COUNTY OF MIAMI-DADE

BEFORE ME, an officer duly authorized to administer oaths and take acknowledgement, personally appeared _____, who being first sworn deposes and affirms that the provided information statements are true and correct to the best of his/her knowledge information and belief.

Signature of Owner

SWORN TO and subscribed before me this day _____ of _____, 20_____

Signature of Notary Public-State of Florida

My Commission Expires:

BID SUBMITTAL CHECK LIST QUESTIONNAIRE
APPENDIX “D”



RPQ NO. TP-00000014313

QUESTIONNAIRE

Appendix D



IN ORDER TO PROVIDE INFORMATION NECESSARY IN DETERMINING THE QUALIFICATIONS OF THE PROPOSER, PLEASE PROVIDE THE INFORMATION LISTED BELOW

#	QUESTION	ANSWER
1	Have you carefully read the Instruction To Prospective Contractors?	☐ YES ☐ NO
2	Have you carefully reviewed the entire Contract Documents as identified within the Instruction To Prospective Contractors?	☐ YES ☐ NO
3	If identified in the Contract Documents, have you carefully inspected the site of the work?	☐ YES ☐ NO ☐ N/A
4	Have you requested, in writing, of the contact person identified in the Advertisement, any clarifications necessary to submit a responsive proposal? Have you received a written response of clarification?	☐ YES ☐ NO ☐ YES ☐ NO ☐ N/A
5	Are you licensed and certified to perform the work for which you are submitting this proposal? License No.: Competency No.: FEIN No.: Qualifier's Name:	☐ YES ☐ NO _____ _____ _____ _____
6	Are you registered with the Miami-Dade County Department of Procurement Management (DPM)?	☐ YES ☐ NO
7	Have you made any changes or written any codicils to the Contract Proposal?	☐ YES ☐ NO
8	How many previous Contracts with Miami-Dade County in the past five (5) years?	_____
9	Total dollar value of Contracts with Miami-Dade County in the past five (5) years?	_____
10	How many years has your Company been in business with the same Principals?	_____
11	Applicable Federal Requirement Certifications	☐ YES ☐ NO ☐ N/A

BIDDER'S STATEMENT OF QUALIFICATIONS
AND BUSINESS REFERENCES



RPQ NO. TP-00000014313

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
TRANSIT ENGINEERING

BIDDER'S STATEMENT OF QUALIFICATIONS AND BUSINESS REFERENCES

This statement is an integral part of the Contractor's Bid, and must be completed as directed in the Instructions to Bidders. All references and information shall be current and traceable. If Bidder is a joint venture, a separate form must be prepared by each venturer (extra forms are available from the Engineer).

NAME OF BIDDER _____

PRINCIPAL OFFICE _____

(Street Address or P. O. Number)

(City)

(State)

(Zip Code)

(Area Code) (Telephone Number)

1. Are you registered to do business in Florida? _____ Registration No. _____ Classification _____
2. Do you hold a certificate of competency issued by Miami-Dade County, Florida? _____ Classification _____
3. Are you an individual _____, a partnership _____, a corporation _____ or a joint venture _____ (Check as applicable).

If a partnership, list names and addresses of partners; if a corporation, list names of officers and directors and State of incorporation; if a joint venture, list names and addresses of venturers and, if any venturer is a corporation, partnership or joint venture, list the same information for each such corporation, partnership and joint venturer.

4. How many years has your organization been in business as a contractor under your present business name? _____ years.

5. How many years of experience has your organization had in construction work similar to the work of this Contract?

(a) As a general contractor? _____

(b) As a subcontractor? _____

6. List all the projects which your organization has completed, which demonstrate qualifications to perform the work of this Contract. (For joint venture work show the sponsoring individual or company.)

YEAR	CONTRACT PRICE	KIND OF CONSTRUCTION	LOCATION OF WORK	NAME, ADDRESS, AND E-MAIL OF ENGINEER OR ARCHITECT

7. Have you or your organization, or any officer or partner thereof, failed to complete a Contract? _____

If so, give details _____

8. In what other lines of business are you financially interested?

9. Name the persons with whom you have been associated in business as partners or business associates during the last five years.

10. Give information about the construction experience of the principal individuals of your present organization.

11. List work, which you have currently underway.

Contract Price	Type of Construction	Location of Work	Percent Completed	Expected Completion Date	Name & Address of Engineer or Architect

12. List engineers, architects and owners, including public bodies, for whom you have done work:

NAME	ADDRESS	BUSINESS	TELEPHONE

13. Reference is hereby made to the following financial institutions as to the financial responsibility of the Bidder:

Name of Bank: _____

Street Address: _____

City and State: _____ Telephone: _____

Officer Familiar with Bidder's Account: _____

Name of Bank: _____

Street Address: _____

City and State: _____ Telephone: _____

Officer Familiar with Bidder's Account: _____

Name of Bank: _____

Street Address: _____

City and State: _____ Telephone: _____

Officer Familiar with Bidder's Account: _____

14. Reference is hereby made to the following surety company or companies as to the financial responsibility and general reliability of Bidder:

Name of Surety Company: _____

Name of Local Agent (if different): _____

Local Street Address: _____

City and State: _____ Telephone: _____

Person Familiar with Bidder's Account: _____

Name of Surety Company: _____

Name of Local Agent (if different): _____

Local Street Address: _____

City and State: _____ Telephone: _____

Person Familiar with Bidder's Account: _____

15. Is any litigation pending against your organization? _____

If so, give details _____

16. Is any litigation presently being prosecuted by your organization or on behalf of your organization? _____

If so, give details

The undersigned certifies that he is legally authorized by the Bidder to make the statements and representations contained in this document, and represents and warrants that the foregoing information is true and accurate to the best of his knowledge, and intends that the Miami-Dade County, DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS Agency, rely thereon in awarding the Contract.

BIDDER'S NAME: _____

DATE OF SIGNING: _____

SIGNATURE: _____ By: _____

TITLE: _____

SCRUTINIZED COMPANIES
AFFIDAVIT

By executing the Scrutinized Companies with Activities in Sudan or Iran Petroleum Energy Sector Lists Affidavit through a duly authorized representative, the bidder certifies that the bidder is not on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, as those terms are used and defined in sections 287.135 and 215.473 of the Florida Statutes. In the event that the bidder is unable to provide such certification, the bidder shall execute the Affidavit through a duly authorized representative. In such event, the bidder shall furnish together with its bid a duly executed written explanation of the facts supporting any exception to the requirement for certification that it claims under Section 287.135 of the Florida Statutes. The bidder agrees to cooperate fully with the County in any investigation undertaken by the County to determine whether the claimed exception would be applicable. The County shall have the right to terminate any Contract resulting from this solicitation for default if the bidder is found to have submitted a false certification or to have been, or is subsequently during the term of the Contract, placed on the Scrutinized Companies for Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List.



AFFIDAVIT
SCRUTINIZED COMPANIES WITH ACTIVITIES IN SUDAN
OR IRAN PETROLEUM ENERGY SECTOR LISTS
FLORIDA STATUTES 215.473

Pursuant to 287.135, F.S., the { _____ } (“Entity”) must disclose, if the Entity or any of its officers, directors, or executives are doing certain types of business in or with Sudan or Iran.

Indicate below if the above named Entity, as of the date of submission:

_____ has not engaged in commerce in any form in Sudan or Iran, including, but not limited to, acquiring, developing, maintaining, owning, selling, possessing, leasing, or operating equipment, facilities, personnel, products, services, personal property, real property, or any other apparatus of business or commerce.

_____ has engaged in commerce with Sudan or Iran, including, but not limited to, acquiring, developing, maintaining, owning, selling, possessing, leasing, or operating equipment, facilities, personnel, products, services, personal property, real property, or any other apparatus of business or commerce.

(CORPORATE SEAL)

CONTRACTOR

(Legal Name of Corporation)

ATTEST:

Secretary _____
(Signature and Seal)

By: _____
Contractor – Signature

(Type Name & Title)

Name: _____

(Type Name & Title)

NON-COLLUSION AFFIDAVIT



RPQ NO. TP-00000014313



NON-COLLUSION AFFIDAVIT

(In accordance with [Sections 2-8.1.1](#) and [10-33.02.1](#) of the Code of Miami-Dade County)

I, the undersigned, am over 18 years of age, have personal knowledge of the facts stated in the Non-Collusion Affidavit (*this Affidavit*) and I am an owner, officer, director, principal shareholder and/or otherwise authorized to bind the Bidder/Proposer of this solicitation.

- A. I have reviewed the list of respondents attached to this Affidavit. I state that the Bidder/Proposer of this competitive solicitation (check one):

☐ is not related to any of the other respondents submitting a Bid/Proposal in the competitive solicitation.

☐ is related to the following respondents who submitted a Bid/Proposal in the competitive solicitation, which are identified and listed below:

- B. I state that the Bidder/Proposer of this competitive solicitation:

1. has prepared this Bid/Proposal independently without consultation, communication, agreement or arrangement with any other Bidder/Proposer or competitor for the purpose of restricting competition;
2. has submitted the Bid/Proposal in its own behalf, and not in the interest or on behalf of any person not therein named;
3. has not, directly or indirectly, induced or solicited any other Bidder/Proposer to put in a sham proposal, or any other person, firm, or corporation to refrain from proposing;
4. has not in any manner sought by collusion to secure an advantage over any other Bidder/Proposer.

Note: Any person or entity that fails to submit this executed Affidavit shall be ineligible for contract award. In accordance with Section 2-8.1.1 of the Code of Miami-Dade County, where two or more related parties, as defined herein, each submit a Bid for any contract, such Bids shall be presumed to be collusive. The foregoing presumption may be rebutted by the presentation of evidence as to the extent of ownership, control and management of such related parties in preparation and submittal of such Bids. **Related parties** shall mean the Bidder/Proposer; the principals, corporate officers, and managers of a Bidder/Proposer; or the spouse, domestic partner, parents, stepparents, siblings, children or stepchildren of a Bidder/Proposer or the principals, corporate officers and managers thereof which have a direct or indirect ownership interest in another Bidder/Proposer for the same contract or in which a parent company or the principals thereof of one Bidder/Proposer have a direct or indirect ownership interest in another Bidder/Proposer for the same contract. Bid/Proposal found to be collusive shall be rejected. Bidder/Proposer who has been found to have engaged in collusion may be considered non-responsible, and may be suspended or debarred, and any contract resulting from collusive bidding may be terminated for default.

Written Declaration: Pursuant to §92.525, Florida Statutes, under penalties of perjury, I declare that I have read the foregoing Affidavit and that the facts stated in it are true, accurate, and complete.

Solicitation No.: _____ Solicitation Title: _____

By: _____
Signature of Affiant

Date: _____ 20 ____

Printed Name of Affiant and Title

____/____/____-____/____/____/____/____
Federal Employer Identification Number

Printed Name of Bidder/Proposer

Address of Bidder/Proposer

FIRM'S RESPONSIBILITY COMBINED AFFIDAVIT



RPQ NO. TP-00000014313

FIRM'S RESPONSIBILITY AFFIDAVIT
"COMBINED AFFIDAVIT"

STATE OF FLORIDA)
) SS:
COUNTY OF MIAMI-DADE)

The undersigned, being first duly sworn, states as follows:

GENERAL

1. I am a duly authorized representative of the Firm submitting a bid, proposal or other document to Miami-Dade County with the intention of being awarded a contract (referred to in this affidavit as the "Respondent").
2. This Affidavit is made of my personal knowledge. I understand that Miami-Dade County will rely on the representations made in this affidavit in determining my eligibility and responsibility to enter into a contract with Miami-Dade County. By executing this affidavit, the Respondent agrees to provide to Miami-Dade County such documentation or other proof as Miami-Dade County may require verifying the accuracy and completeness of any of the representatives.
3. The Respondent is duly authorized to submit this bid or proposal, and if awarded the contract, to enter into the contract and perform the services or supply the goods contemplated in the contract.

OWNERSHIP DISCLOSURE

4. That in compliance with Section 2-8.1(d)(1) of the Miami Dade County Code, if the contract or business transaction is with a corporation, the full legal name and business address shall be provided for each officer and director and each stockholder who holds directly or indirectly five percent (5%) or more of the corporation's stock. If the contract or business transaction is with a trust, the full legal name and address shall be provided for each trustee and each beneficiary. All such names and addresses are (Post Office addresses are not acceptable). The full legal names and business address of any other individual (other than subcontractors, materialmen, suppliers, laborers, or lenders) that have, or will have, any interest (legal, equitable beneficial or otherwise) in the contract or business transaction with Miami-Dade County are (Post Office addresses are not acceptable). This information shall be supplied on the attached Ownership Disclosure form (Attachment "A") and signed by the Respondent.

Combined Affidavit Initial

EMPLOYMENT DISCLOSURE

5. The following information and attachments are provided and are in compliance with all items in County Ordinance No. 90-133, amending Section 2.8-1; Subsection (d) (2):

- a. Does your firm have a collective bargaining agreement with its employees?
☐ Yes ☐ No
- b. Does your firm provide paid health care benefits for its employees?
☐ Yes ☐ No
- c. Provide a current breakdown (number of persons) of your firm's work force and ownership as to race, national origin and gender:

White:	_____	Males:	_____	Females:	_____
Asian:	_____	Males:	_____	Females:	_____
Black:	_____	Males:	_____	Females:	_____
American					
Indian:	_____	Males:	_____	Females:	_____
Hispanics:	_____	Males:	_____	Females:	_____
Aleut					
(Eskimo):	_____	Males:	_____	Females:	_____
_____:	_____	Males:	_____	Females:	_____

EMPLOYMENT DRUG FREE WORKPLACE

6. The Respondent provides a drug-free workplace in full compliance with Section 2-8.1.2 of the Code of Miami-Dade County.

EMPLOYMENT FAMILY LEAVE

7. That in compliance with Ordinance No. 91-142 of the Code of Miami-Dade County, Florida, the following information is provided and is in compliance with all items in the aforementioned Ordinance:

An employee who has worked for the above firm for at least one (1) year shall be entitled to ninety (90) days of family leave during any twenty-four (24) month period, for medical reasons, for the birth or adoption of a child, or for the care of a child, spouse or other close relative who has a serious health condition without risk of termination of employment or employer retaliation.

Combined Affidavit Initial

ARREARS WITH THE COUNTY

8. That in compliance with Ordinance No. 95-178 and Section 2-8.1(c) of the Code of Miami-Dade County, the Proposer has paid all delinquent and currently due fees or taxes, including but not limited to real estate and personal property taxes, registered in the name of Proposer and which are collected in the normal course by the Miami-Dade County Tax Collector, and that County issued parking tickets for vehicles registered in the name of the above proposer, and which are collected in the normal course by the Miami-Dade Clerk of the Circuit and County Courts, have been paid.

That in compliance with Ordinance No. 99-162 and Section 2-8.1 of the Code of Miami-Dade County, the Proposer is not in arrears in any payment under contract, promissory note or other loan document with Miami-Dade County, or any of its agencies or instrumentalities, including the Public Health Trust, either directly or indirectly through a firm, corporation, partnership or joint venture in which the individual or entity has a controlling financial interest as that term is defined in Section 2-11.1(b)(8) of the Code of Miami-Dade County.

CODE OF BUSINESS ETHICS

9. I, being duly sworn, hereby state and certify that this firm has adopted a Code of Business Ethics that is fully compliant with the requirements of Section 2-8.1(i) of the Code of Miami-Dade County as amended. I further acknowledge that failure to comply with the adopted Code of Business Ethics shall render any contract with Miami-Dade County voidable, and subject this firm to debarment from County work pursuant to Section 10-38 (h)(2) of the Code of Miami-Dade County as amended. I further acknowledge that failure to submit this affidavit shall render this firm ineligible for contract award.

NO CRIMINAL RECORD

10. The Respondent has not been convicted of a felony during the past ten (10) years, nor does it, as of the date of the bid or proposal submission, have an officer, director or executive who has been convicted of a felony during the past ten (10) years as defined in Section 2-8.6 of the Code of Miami-Dade County.

PUBLIC ENTITY CRIME

11. The respondent has not been convicted of a Public Entity crime as defined in Paragraph 287.133(1)(g) of the Florida Statutes. Violation of any State or Federal law with respect to the transaction of business with any public entity or with an agency or political subdivision of any State.

Combined Affidavit Initial

DEBARMENT AND SUSPENSION DISCLOSURE

- 12 . The Respondent, and its officers, principals, stockholders, subcontractors or its affiliates are not debarred or suspended from contracting with Miami-Dade County as regulated by Section 10-38 of the Miami Dade County Code.

NON -DISCRIMINATION BASED ON DISABILITY

- 13 . The Respondent is in compliance with and agrees to continue to comply with and assure any subcontractor, or third party contractor under this project complies with all applicable laws forbidding discrimination based on disability including, but not limited to those provisions pertaining to employment, provision of programs and services, transportation, communications. Access to facility, renovations and new construction as set forth in the Americans with Disabilities Act of 1990 (ADA), the Rehabilitation Act of 1973, the Federal Transit Act and the Fair Housing Act.

FAIR SUBCONTRACTING

- 14 . Consistent with Section 2-8.8 of the Code of Miami-Dade County, the Respondent has adopted subcontracting policies and procedures which (a) notifies the broadest number of local subcontractors of the opportunity to be awarded a subcontract; (b) invites local subcontractors to submit bids in a practical, expedient way; (c) provides local subcontractors access to information necessary to prepare and formulate a subcontracting bid; (d) allows local subcontractors to meet with appropriate personnel of the Respondent to discuss the Respondent's requirements; and (e) awards subcontracts based on full and complete consideration of all submitted proposals and in accordance with the Respondent's stated objectives.

RESPONSIBLE WAGE AND BENEFITS (IF APPLICABLE)

- 15 . If applicable, the Respondent is in full compliance with Section 2-11.16 of the Code of Miami-Dade County, and should he or she be awarded the contract, understands his or her obligation to pay the project minimum wage rates set forth in that Section and the labor provisions of the contract documents.

Combined Affidavit Initial

CLEARINGHOUSE AFFIDAVIT

16. That in compliance with Miami-Dade County Resolution Number R-1145-99, the Respondent agrees to comply with all requirements of the Clearinghouse Resolution and Job Request form for posting job opportunities. Making it a mandatory requirement for Respondents to post notice of job opportunities resulting from the construction of improvements on County property through the County's Clearinghouse process.

I STATE NOTHING FURTHER IN THIS AFFIDAVIT.

Signature: _____

Position/Title: _____

Name of Firm: _____

The foregoing was sworn and subscribed before me this _____ day of _____, _____ by _____, who is personally known to me or who has produced _____ as identification who being duly sworn, deposes and says that the above is true to the best of his knowledge, information and belief.

My Commission expires:

NOTARY PUBLIC
STATE OF FLORIDA

RESPONSIBLE CONTRACTOR AFIDAVIT
(FORM RTFE 1)



RPQ NO. TP-00000014313

Residents First Training and Employment Program
Responsible Contractor/Subcontractor Affidavit Form (RFTE 1)
(Miami-Dade County Code Section 2-11.17)

In accordance with Section 2-11.17 of the Miami-Dade County Code, all contractors and subcontractors of any tier performing on a contract for (i) the construction, demolition, alteration and/or repair of public buildings or public works projects valued in excess of \$1,000,000 funded completely or partially by Miami-Dade County, or (ii) privately funded projects or leases valued in excess of \$1,000,000 for the construction, demolition, alteration or repair of buildings or improvements on County owned land, and which are subject to Section 2-11.16 of the Code of Miami-Dade County shall comply with the requirements of the Residents First Training and Employment Program.

If applicable, the undersigned ☐ Contractor / ☐ Subcontractor verifies that should they be awarded the contract, the undersigned understands their obligation to comply with the following:

- i. Prior to working on the project, all persons employed by the contractor / subcontractor to perform construction shall have completed, the OSHA 10 Hour Safety Training course established by the Occupational Safety & Health Administration of the United States Department of Labor. Such training does not need to be completed at the time of bidding but shall be completed prior to the date persons are employed on the project.
- ii. The contractor / subcontractor will make its best reasonable efforts to promote employment opportunities for local residents and seek to achieve a project goal of having fifty-one percent (51%) of all Construction Labor hours performed by Miami-Dade County residents. To verify workers' residency, firms shall require each worker to produce a valid driver's license or other form of government-issued identification.

Printed Name of Affiant Printed Title of Affiant Signature of Affiant

Name of Firm Date

Address of Firm State Zip Code

Notary Public Information

Notary Public – State of _____ County of _____

Subscribed and sworn to (or affirmed) before me this _____ day of, _____ 20____.

by _____ He or she is personally known to me ☐ or has produced identification ☐

Type of identification produced _____

Signature of Notary Public Serial Number

Print or Stamp of Notary Public Expiration Date Notary Public Seal

CONTRACTOR DUE DILIGENCE AFFIDAVIT

“The attention of the Contractor is hereby directed to the requirements of Resolution R-63-14 in that the award of this contract is conditioned on the Contractor providing the County, when required, with a “CONTRACTOR DUE DILIGENCE AFFIDAVIT”.



RPQ NO. TP-00000014313

Miami-Dade County
Contractor Due Diligence Affidavit

Per Miami-Dade County Board of County Commissioners (Board) Resolution No. R-63-14, County Vendors and Contractors shall disclose the following as a condition of award for any contract that exceeds one million dollars (\$1,000,000) or that otherwise must be presented to the Board for approval:

- (1) Provide a list of all lawsuits in the five (5) years prior to bid or proposal submittal that have been filed against the firm, its directors, partners, principals and/or board members based on a breach of contract by the firm; include the case name, number and disposition;
- (2) Provide a list of any instances in the five (5) years prior to bid or proposal submittal where the firm has defaulted; include a brief description of the circumstances;
- (3) Provide a list of any instances in the five (5) years prior to bid or proposal submittal where the firm has been debarred or received a formal notice of non-compliance or non-performance, such as a notice to cure or a suspension from participating or bidding for contracts, whether related to Miami-Dade County or not.

All of the above information shall be attached to the executed affidavit and submitted to the Procurement Officer overseeing this solicitation/ contract/purchase order. The Vendor/Contractor attests to providing all of the above information, if applicable, to the County.

Written Declaration: Pursuant to Florida Statutes s. 92.525, under penalties of perjury, I declare that I have read the foregoing Contractor Due Diligence Affidavit and that the facts stated in it (attached to it) are true.

Contract No. : **Federal Employer Identification Number (FEIN):**

Contract Title:

 Printed Name of Affiant	 Printed Title of Affiant	 Signature of Affiant
 Name of Firm	 Date	
 Address of Firm	 State	 Zip Code

Notary Public Information

Notary Public – State of _____ County of _____

Subscribed and sworn to (or affirmed) before me this _____ day of _____ by _____
_____ He or she is personally known to me _____ or has produced identification

_____ Signature of Notary Public	_____ Serial Number	
_____ Print or Stamp of Notary Public	_____ Expiration Date	_____ Notary Public Seal

FAIR WAGE AFFIDAVIT



RPQ NO. TP-00000014313

FAIR WAGE AFFIDAVIT

Before me, the undersigned authority appeared _____ the
(PRINT NAME)

_____ of _____,
(PRINT TITLE) (PRINT NAME OF BIDDER OR PROPOSER)

who attests that _____ shall pay workers on
(PRINT NAME OF BIDDER OR PROPOSER)

the project minimum wage rates in accordance with Responsible Wages and Benefits, Section 2-11.16 of the Code of Miami-Dade County and the Labor Provisions of the contract documents.

State of FLORIDA

County of Miami-Dade

Sworn to (or affirmed) and subscribed before me this _____ day of _____, 202_____.

_____ Personally, known or _____ produced identification.

(Signature of Notary Public - State of Florida)

(Print, Type, or Stamp Commissioned Name of Notary Public)

Type of identification produced: _____

E-VERIFY AFFIDAVIT



RPQ NO. TP-00000014313

Miami-Dade County

E-Verify Affidavit

Executive Order 11-02 requires all Florida State agencies under the direction of the Governor to use E-Verify to confirm the employment eligibility of all current and prospective employees (including subcontractors) assigned to perform work pursuant to a state agency contract. Executive Order 11-116 clarifies that the requirement for state contractors to use E-Verify applies to "all contracts for the provision of goods and services to the state in excess of nominal value."

In accordance with the State requirement, Miami-Dade County requires all vendors doing business with the County who are awarded state-funded contracts to verify employee eligibility using the E-verify system. It is the responsibility of the awarded vendor to insure compliance with E-verify requirements at all times.

To enroll in E-Verify, employers should visit the E-Verify website (<http://www.uscis.gov/e-verify>) and follow the instructions. The employer must, as usual, retain the I-9 Forms for inspection.

By affixing your signature below you hereby affirm that you have complied with E-Verify requirements.

Federal Employer Identification Number (FEIN): _____

_____	_____	_____
Printed Name of Affiant	Printed Title of Affiant	Signature of Affiant
_____		_____
Name of Firm		Date
_____	_____	_____
Address of Firm	State	Zip Code

Notary Public Information

Notary Public -- State of _____ County of _____

Subscribed and sworn to (or affirmed) before me this _____ day of, _____ 20

by _____ He or she is personally known to me ☐ or has produced identification

Type of identification produced _____

Signature of Notary Public

Serial Number

Print or Stamp of Notary Public

Expiration Date

Notary Public Seal

DEPARTMENT OF PROCUREMENT MANAGEMENT
(DPM) AFFIRMATION OF VENDOR AFFIDAVITS

Bidders are required to affirm that all information submitted with the Vendor Registration Package is current, complete and accurate as a condition of award, by completing the provided Affirmation of Vendor Affidavit Form.



RPQ NO. TP-00000014313



New Vendor Registration and Bid/Proposal Contract Language

1.1. DEFINITIONS FOR VENDOR REGISTRATION

Bid – shall refer to any offer(s) submitted in response to this solicitation.

Bidder – shall refer to anyone submitting a Bid in response to this solicitation.

Bid Solicitation – shall mean this solicitation documentation, including any and all addenda.

Bid Submittal Form – defines the requirement of items to be purchased, and must be completed and submitted with Bid. The Bidder should indicate its name in the appropriate space on each page.

County – shall refer to Miami-Dade County, Florida

DPM – shall refer to Miami-Dade County's Department of Procurement Management.

Enrolled Vendor – shall refer to a firm that has completed the necessary documentation in order to receive Bid notifications from the County.

Registered Vendor – shall refer to a firm that has completed the Miami-Dade County Business Entity Registration Application and has satisfied all requirements to enter into business agreements with the County.

The Vendor Registration Package – shall refer to the Business Entity Registration Application.

For additional information about on-line vendor enrollment or vendor registration contact the Vendor Assistance Unit at 111 N.W. 1st Street, 13th Floor, Miami, FL 33128, Phone 305-375-5773. Vendors can enroll online and obtain forms to register by visiting our web site at www.miamidade.gov/dpm

1.2. INSTRUCTIONS TO BIDDERS

A. Bidder Qualification

It is the policy of the County to encourage full and open competition among all available qualified vendors. All vendors regularly engaged in the type of work specified in the Bid Solicitation are encouraged to submit Bids. Vendors may enroll with the County to be included on a notification list for selected categories of goods and services. To be eligible for award of a contract (including small purchase orders), Bidders must become a Registered Vendor. Only Registered Vendors can be awarded County contracts. Vendors are required to register with the County by contacting the Vendor Assistance Unit. The County endeavors to obtain the participation of all qualified small business enterprises. For information and to apply for certification, contact the Department of Small Business Development at 111 N.W. 1st Street, 19th Floor, Miami, FL 33128-1900, or telephone at 305-375-3111. County employees and board members wishing to do business with the County are referred to Section 2-11.1 of the Miami-Dade County Code relating to Conflict of Interest and Code of Ethics.

B. Vendor Registration

To be recommended for award the County requires that vendors complete a Miami-Dade County Vendor Registration Package. Effective June 1, 2008, a new Vendor Registration Package, including a Uniform Affidavit Packet (Affidavit form), must be completed by vendors and returned to the Department of Procurement Management (DPM), Vendor Assistance Unit, within fourteen (14) days of notification of the intent to recommend for award. In the event the Vendor Registration Package is not properly completed and returned within the specified time, the County may in its sole discretion, award to the next lowest responsive, responsible Bidder. The Bidder is responsible for obtaining the Vendor Registration Package, including all affidavits by downloading from the DPM website at www.miamidade.gov or from the Vendor Assistance Unit at 111 N.W. 1st Street, 13th Floor, Miami, FL 33128.

Bidders are required to affirm that all information submitted with the Vendor Registration Package is current, complete and accurate, at the time they submit a response to a Bid Solicitation, by completing the provided Affirmation of Vendor Affidavit form.

In becoming a Registered Vendor with Miami-Dade County, the vendor confirms its knowledge of and commitment to comply with the following:

1. **Miami-Dade County Ownership Disclosure Affidavit**
(Sec. 2-8.1 of the County Code)
2. **Miami-Dade County Employment Disclosure Affidavit**
(County Ordinance No. 90-133, amending Section 2-8.1(d)(2) of the County Code)
3. **Miami-Dade County Employment Drug-free Workplace Certification**
(Section 2-8.1.2(b) of the County Code)
4. **Miami-Dade Disability and Nondiscrimination Affidavit**
(Article 1, Section 2-8.1.5 Resolution R182-00 Amending R-385-95)
5. **Miami-Dade County Debarment Disclosure Affidavit**
(Section 10.38 of the County Code)
6. **Miami-Dade County Vendor Obligation to County Affidavit**
(Section 2-8.1 of the County Code)
7. **Miami-Dade County Code of Business Ethics Affidavit**
(Article 1, Section 2-8.1(i) and 2-11(b)(1) of the County Code through (6) and (9) of the County Code and County Ordinance No 00-1 amending Section 2-11.1(c) of the County Code)
8. **Miami-Dade County Family Leave Affidavit**
(Article V of Chapter 11 of the County Code)

9. **Miami-Dade County Living Wage Affidavit**
(Section 2-8.9 of the County Code)

10. **Miami-Dade County Domestic Leave and Reporting Affidavit**
(Article 8, Section 11A-60 11A-67 of the County Code)

11. **Subcontracting Practices**
(Ordinance 97-35)

12. **Subcontractor /Supplier Listing**
(Ordinance 97-104)

13. **Environmentally Acceptable Packaging**
Resolution (R-738-92)

14. **W-9 and 8109 Forms**
The vendor must furnish these forms as required by the Internal Revenue Service.

15. **Social Security Number**
In order to establish a file for your firm, you must provide your firm's Federal Employer Identification Number (FEIN). If no FEIN exists, the Social Security Number of the owner or individual must be provided. This number becomes your "County Vendor Number". To comply with Section 119.071(5) of the Florida Statutes relating to the collection of an individual's Social Security Number, be aware that DPM requests the Social Security Number for the following purposes:

- Identification of individual account records
- To make payments to individual/vendor for goods and services provided to Miami-Dade County
- Tax reporting purposes
- To provide a unique identifier in the vendor database that may be used for searching and sorting departmental records

16. **Office of the Inspector General**
Pursuant to Section 2-1076 of the County Code.

17. **Small Business Enterprises**
The County endeavors to obtain the participation of all small business enterprises pursuant to Sections 2-8.2, 2-8.2.3 and 2-8.2.4 of the County Code and Title 49 of the Code of Federal Regulations.

18. **Antitrust Laws**
By acceptance of any contract, the vendor agrees to comply with all antitrust laws of the United States and the State of Florida.

C. PUBLIC ENTITY CRIMES

To be eligible for award of a contract, firms wishing to do business with the County must comply with the following:

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



Miami-Dade County
Department of Procurement Management
Affirmation of Vendor Affidavits

In accordance with Ordinance 07-143 amending Section 2-8.1 of the Code of Miami-Dade County, effective June 1, 2008 (for goods and services) and July 1, 2008 (for design and construction), vendors are required to complete a new Vendor Registration Package, including a Uniform Affidavit Packet (Vendor Affidavits Form), before being awarded a new contract. The undersigned affirms that the Vendor Affidavits Form submitted with the Vendor Registration Package is current, complete and accurate for each affidavit listed below.

Contract No. : _____ **Federal Employer Identification Number (FEIN):** _____

Contract Title: _____

Affidavits and Legislation/ Governing Body

1. Miami-Dade County Ownership Disclosure Sec. 2-8.1 of the County Code	6. Miami-Dade County Vendor Obligation to County Section 2-8.1 of the County Code
2. Miami-Dade County Employment Disclosure County Ordinance No. 90-133, amending Section 2-8-1(d)(2) of the County Code	7. Miami-Dade County Code of Business Ethics Article 1, Section 2-8.1(i) and 2-11(b)(1) of the County Code through (6) and (9) of the County Code and County Ordinance No 00-1 amending Section 2-11.1(c) of the County Code
3. Miami-Dade County Employment Drug-free Workplace Certification Section 2-8.1.2(b) f the County Code	8. Miami-Dade County Family Leave Article V of Chapter 11, Resolution No. R-183-00 amending Resolution No. R – 1499-91 of the County Code
4. Miami-Dade County Disability Non-Discrimination Article 1, Section 2-8.1.5 Resolution R182-00 amending R-385-95	9. Miami-Dade County Living Wage Section 2-8.9 of the County Code
5. Miami-Dade County Debarment Disclosure Section 10.38 of the County Code	10. Miami-Dade County Domestic Leave and Reporting Article 8, Section 11A-60 11A-67 of the County Code

Printed Name of Affiant	Printed Title of Affiant	Signature of Affiant
Name of Firm		Date
Address of Firm	State	Zip Code

Notary Public Information

Notary Public – State of _____ County of _____

Subscribed and sworn to (or affirmed) before me this _____ day of, _____ 20 _____.

by _____ He or she is personally known to me ☐ or has produced identification ☐

Type of identification produced _____

Signature of Notary Public	Serial Number
Print or Stamp of Notary Public	Notary Public Seal

Expiration Date

DISADVANTAGED BUSINESS ENTERPRISE (DBE)
PACKAGE INFORMATION



RPQ NO. TP-00000014313



DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS (DTPW)
DISADVANTAGED BUSINESS ENTERPRISE (DBE)/ PROGRAM REQUIREMENTS

INSTALLATION AND REPLACEMENT OF 15 HIGH MAST POLE LIGHT REFURBISHING PROJECT
AT DTPW'S WILLIAM LEHMAN CENTER

CONTRACT No.: RPQ No. TP-00000014313; MCC 7360 PLAN

Issued: January 9, 2024

This Agreement is subject to Title 49, Part 26 of the Code of Federal Regulations (CFR) entitled: "Participation by Disadvantaged Business Enterprises in Department of Transportation (DOT) Financial Assistance Programs", the standards of Best Procurement Practices Manual, and FTA Circular 4220.1F (the Circular).

As a recipient of FTA funding, the Miami-Dade Department of Transportation & Public Works (DTPW) Disadvantaged Business Enterprise (DBE) Program is to carry out and fully implement the ideas of 49 CFR Part 26. Primarily, the DBE Program is to:

1. Ensure that there is a "*leveled playing field*" in DOT assisted contracts,
2. Improve the flexibility and efficiency of contracting opportunities by reducing the burdens on small businesses to compete for contracting opportunities.
3. The DBE program also helps to identify and remove barriers to the participation of DBE contractors in DOT-assisted contracts, and
4. Ultimately to assist the development of firms that can compete successfully in the marketplace outside of the DBE program.

It is the Department's primary objective to ensure that proposers invite certified DBE firms to have an opportunity to participate in the performance of federally-funded contracts, and for proposers to take all necessary and reasonable steps to make such assurances. DBE's and other small businesses, as defined in Title 49 CFR Part 26, are encouraged to participate in the performance of agreements financed in whole or in part with federal funds. FTA Circular 4220.1F defines the requirements a grantee must adhere to in the solicitation, award and administration of its third-party contracts. Such contract awards include the procurement of supplies, services, rolling stock, equipment, construction, and other related services.

Contractors shall perform its obligations and shall require each Subcontractor regardless of the tier to perform its respective obligations under the Contract and the Subcontract(s) in accordance with the following requirements. The Contractor shall insert this Part A, DBE Contract Requirements and all flow-down provisions as detailed in these DBE Contract Requirements into each Subcontract regardless of the tier.

DBE Determination

In keeping with 49 Code of Federal Regulations (CFR) Part 26- this office recommends a race-neutral DBE goal. Furthermore, this project presents a premium opportunity for a certified DBE firm(s) who by reason of their certification are ready, willing, and able to provide and assist with the services delineated in the scope of work.

Bidders should make full use of the certified DBE firms listed in the Unified Certification Program (UCP) website: (<https://fdotxwp02.dot.state.fl.us/EqualOpportunityOfficeBusinessDirectory/>)



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I. GENERAL PROVISIONS

Upon bid submittal, each bidder proposer shall:

- A. Prime and Subcontractors Information Form - *executed by the prime and Subcontractor.*
- B. Complete registration in Miami-Dade County's DTPW-Disadvantaged Business Enterprise (DBE) Compliance Software. To complete or update your registration, please go to: <https://dtpw.eComply.us>. Be sure to disable your pop-up blocker settings and utilize Google Chrome or an updated browser. When prompted, please enter the department code as: **DTPW**.
 - **Returning Users:** To obtain your USERNAME and PASSWORD, please utilize this link <https://dtpw.eComply.us/LogOn> and click "**Forgot Username?**" from the home screen. The system will prompt you to enter the email address that was provided when your company registered. If this information is not available, please contact the support desk at (855) 496-9526 or support@ecomplysolutions.com.
 - If a user-name (email address) and password was created in the previous software version, request a password reset.
 - Send an email to support@ecomplysolutions.com providing the log-in information that was previously used. eComply support will email a temporary password to access the system.
 - Using the temporary password, log into the software. Click the Setup tab on the top left. Under Account Settings, click Change Password. Enter the temporary password that was provided, your new password and click "**Change Password**" again.

Once you are logged in, click the **Setup** tab on the top left. Under account settings, click **Change Password**. Enter the temporary password that was provided and create your new password and click **Change Password** again.

DBE Determination

In keeping with 49 Code of Federal Regulations (CFR) Part 26- this office recommends a race-neutral DBE goal. This project presents a premium opportunity for a certified DBE firm(s) who by reason of their certification are ready, willing, and able to provide and assist with the services delineated in the scope of work.



II. DEFINITIONS

All definitions in 49 CFR § 26 apply to these provisions. The following additional definitions are provided:

1. *Affirmative Action* - Positive activities undertaken to eliminate discrimination and effects of past discrimination and to ensure nondiscriminatory practices in the future.
2. *Affidavit of No Change*- an affidavit from a certified DBE, affirming that the DBE continues to meet the eligibility criteria of 49 CFR Part 26.
3. *Board* - Board of County Commissioners, Miami-Dade County, Florida.
4. *Challenge* - A formal filing by a third party to rebut the presumption that a particular individual is socially and economically disadvantaged.
5. *Commercially Useful Function* – When a DBE is responsible for the execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself, in light of industry practices and other relevant considerations. If, MDC has any reason to believe that a firm, while an eligible DBE, is not performing a commercially useful function in a particular transaction, the contractor will not receive credit toward the goal.
6. *Compliance Monitor* - A person designated by the Director of MDC to assist and to make recommendations to MDC with respect to compliance with this Provision.
7. *Contract* - A legally binding relationship obligating a seller to furnish supplies or services (including, but not limited to, construction and professional services) and the buyer to pay for them; the Contract, executed by MDC and the successful proposer, of which this Provision is a part. For the purposes of this program, a lease is considered to be a contract.
8. *Contract Goal* - DBE participation goal established by the Board of County Commissioners for this Contract solicitation.
9. *Contract Price* - the total bid price of the successful proposer as awarded by the Board of County Commissioners.
10. *Contracting Officer* - The Director of the Department of Transportation and Public Works or his/her designee.
11. *Contracting Opportunity* - Any decision by the Department of Transportation and Public Works or contractor to institute a procurement action to obtain a product or service commercially (as opposed to intergovernmental actions).
12. *DBE Certification Letter* - A letter issued to a firm by the State of Florida Unified Certification Program (UCP) certifying member or agency, declaring that the firm is certified as a DBE.
13. *DBE Directory* - a registry of DBEs that are certified by Miami-Dade County, published to aid in the location of certified DBE.



DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS (DTPW)

DISADVANTAGED BUSINESS ENTERPRISE (DBE)/ PROGRAM REQUIREMENTS

14. *Disadvantaged Business Enterprise* or DBE A "for-profit" small business concern
 - a. That is at least 51 percent owned by one or more individuals who are both socially and economically disadvantaged as defined in 49 CFR Part 26.5, or in the case of a corporation, in which at least 51 percent of the stock of which is owned by one or more such individuals; and
 - b. Whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it.
15. *Goal* – a percentage of the total contract price that is to be expended with certified DBE
16. *Letter of Intent* a letter, in the form annexed to this Provision, to be signed by a DBE with respect to certain work under the Contract.
17. *Manufacturer* - An individual (or individuals) who owns, operates, or maintains a factory or establishment that produces on the premises the components, materials, or supplies obtained by the Department of Transportation and Public Works, Contractor, or Transit Vehicle Manufacturer.
18. *MDC* - Miami-Dade County, Dade County or the County or Department of Transportation and Public Works or DTPW as referred to in the Contract Documents.
19. *Monthly Utilization Report* - A monthly report in the form annexed to this Provision, containing certain information with respect to work to be performed by DBE Contractors.
20. *Primary Recipient* - A grantee who receives DOT financial assistance and passes all or some of the assistance on to a subrecipient.
21. *Proposer* - An individual, firm, partnership, corporation, joint venture, or combination thereof submitting a bid for construction work.
22. *Qualified* - a Contractor is qualified to do specific work if it meets all of the following criteria:
 - a. It has or can obtain all licenses required to do such work.
 - b. It has the necessary experience, organization, technical qualifications skills and facilities to do such work.
 - c. It can comply with the performance schedule reasonably needed for such work.
 - d. It does not have an unsatisfactory record of integrity, judgment, and performance.
 - e. It can meet the applicable equal employment opportunities requirements, and
 - f. It is not otherwise ineligible to perform such work under applicable laws and regulations.
23. *Recipient* - means any entity, public or private, to which financial assistance from the U. S. Department of Transportation (DOT) is extended whether directly or through another recipient, through the programs of the Federal Transit Administration (FTA), the Federal Highway Administration (FHWA), or the Federal Aviation Administration (FAA), or who has applied for such assistance.
24. *Regular Dealer* means a firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials or supplies required for the performance of the contract are bought, kept in stock, and regularly sold to the public in the usual course of business. To be a regular dealer, the firm must engage in, as its principal business, and in its own name, the purchase and sale of the products in question. A regular dealer in such bulk items as steel, cement, gravel, stone, and petroleum products need not keep such products in stock if it owns or operates distribution equipment.



DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS (DTPW)

DISADVANTAGED BUSINESS ENTERPRISE (DBE)/ PROGRAM REQUIREMENTS

Brokers and packagers shall not be regarded as manufacturers or regular dealers within the meaning of this definition.

25. A *Small Business Concern*, with respect to firms seeking to participate as DBEs in DOT-assisted contracts, is defined in section 3 of the Small Business Act and in Small Business Administration regulations implementing the Act (13 CFR Part 121). Additionally, a small business concern cannot exceed the cap on average annual gross receipts specified in 49 CFR 26.65(b).
26. *Socially and Economically Disadvantaged Individual* - means any individual who is a citizen (or lawfully admitted permanent resident) of the United States and who is:
 - a. Any individual who MDC finds to be a socially and economically disadvantaged individual on a case-by-case basis.
 - b. Any individual in the following groups, members of which are rebuttably presumed to be socially and economically disadvantaged:
 - (1) "Black Americans," which includes persons having origins in any of the black racial groups of Africans or that are African descent.
 - (2) "Hispanic Americans," which includes persons of Mexican, Puerto Rican, Cuban, Dominican, Central or South American or other Spanish or Portuguese culture or origin, regardless of race;
 - (3) "Native Americans," which includes persons who are American Indians, Eskimos, Aleuts, or Native Hawaiians.
 - (4) "Asian-Pacific Americans," which includes persons whose origins are from Japan, China, Taiwan, Korea, Burma (Myanmar), Vietnam, Laos, Cambodia (Kampuchea), Thailand, Malaysia, Indonesia, the Philippines, Brunei, Samoa, Guam, the U. S. Trust Territories of the Pacific Islands (Republic of Palau), the Commonwealth of the Northern Marianas Islands, Macao, Fiji, Tonga, Kiribati, Juvalu, Nauru, Federated States of Micronesia, or Hong Kong;
 - (5) "Subcontinent Asian Americans," which includes persons whose origins are from India, Pakistan, Bangladesh, Bhutan, the Maldives Islands, Nepal or Sri Lanka.
 - (6) Women.
 - (7) Any additional groups whose members are designated as socially and economically disadvantaged by the Small Business Administration (SBA), at such time as the SBA designation becomes effective.
27. *Schedule of Participation* by DBEs a schedule, in the form annexed to this Provision, containing certain information with respect to work to be performed by DBEs. It is the schedule that lists the Certified DBEs with which the proposer intends to subcontract with, specifying price, a proposed timetable stating commencement and completion dates, and other information as may be outlined on the schedule.
28. *Sub recipient* - Any entity that receives Federal financial assistance from FTA through a primary recipient.
29. *Successful proposer* - the proposer to which the Contract is awarded.



DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS (DTPW)

DISADVANTAGED BUSINESS ENTERPRISE (DBE)/ PROGRAM REQUIREMENTS

30. *Transportation Improvement Program (TIP)* means an annual or biennial listing of capital and operating assistance projects proposed for funding by FTA.
31. *Unavailable* - a Contractor is unavailable to do specific work if:
 - a. It has that knowledge of the terms and specifications of the Contract needed to formulate intelligently a bid or proposal to do such work or to decline intelligently an opportunity to formulate such a bid or proposal; and
 - b. It does not intend, or is unable, to make a bid or proposal because of lack of interest, inability to meet the reasonable and ordinary demands connected with doing such work, unwillingness to meet the specifications for such work, unwillingness to work on this project or in this geographic area, or such other reason as is determined by MDC to be sufficient.
32. *Unified Planning Work Program (UPWP)* - A listing of planning projects proposed for funding by FTA.
33. *U.S. Department of Transportation Regulations* - the final rules and regulations published in the Federal Register (Vol. 64, No. 21, P. 5126 et seq.) dated Tuesday, February 2, 1999, entitled PART 26--PARTICIPATION BY DISADVANTAGED BUSINESS ENTERPRISES IN DEPARTMENT OF TRANSPORTATION FINANCIAL ASSISTANCE PROGRAMS.

III. ANTI-DISCRIMINATION

The Contractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of this DOT-assisted contract. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as DTPW deems appropriate, which may include, but is not limited to:

1. Withholding monthly progress payments.
2. Assessing sanctions.
3. Liquidated damages, and/or
4. Disqualifying the Contractor from future bidding as non-responsible.

Each subcontract the Contractor signs with a Subcontractor must include the assurance in this paragraph (see 49 CFR§26.13(b)).

Disability Nondiscrimination.

It is hereby declared to be the national policy that elderly persons and persons with disabilities have the same right as other persons to utilize mass transportation and services; that special efforts shall be made in the planning and design of mass transportation facilities and services so that the availability to elderly persons and persons with disabilities of mass transportation which they can effectively utilize will be assured; and that all Federal programs offering assistance in the field of mass transportation (including the programs under this chapter) should contain provisions implementing this policy. (49 U.S.C. Part 5301. [d].)

"In accordance with section 102 of the Americans with Disabilities Act, as amended, 42 U.S.C. §12112, the Contractor agrees that it will comply with the requirements of U.S. Equal Employment Opportunity



Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 C.F.R. Part 1630, pertaining to employment of persons with disabilities. Also, in accord with section 102(a) as amended, FR 28 CFR Part 35 and 36, section 202, as amended, 29 U.S.C. 794d, and section 228(a)(1), FR 49 CFR, Parts 27, 37, and 38, the Contractor agrees that it will comply with the requirements of the Americans with Disabilities Act Rules and Regulations prohibiting discrimination based on disability: "no qualified individual with a disability shall, by reason of such disability, be excluded from participation in or be denied the benefits of the services, programs, or activities of a public entity, or be subjected to discrimination by any such entity." Additionally, the contractor agrees to comply with requirements pertaining to existing facilities used in the provision of designated public transportation services: "it shall be considered discrimination, for purposes of section 202 of this Act and section # 504 of the Rehabilitation Act of 1973 (29 U.S.C. 794), for a public entity to fail to operate a designated public transportation program or activity conducted in such facilities so that, when viewed in the entirety, the program or activity is readily accessible to and usable by individuals with disabilities. Furthermore, the Contractor agrees to comply with any implementing requirements the Department of Transportation & Public Works (DTPW), formally, Department of Transportation and Public Works and/or FTA may issue."

IV. REPORTS AND FORMS

- A. All proposers, as a condition of bidding on this project, must submit with their bid or proposal a completed **Prime and Subcontractor/Consultant Information Form**, *for itself and for each of its Subcontractor*. Failure to submit a completed **Prime and Subcontractors Information Form** will deem the proposer's proposal non-responsive. If such proposer is found non-responsive, such proposer shall be disqualified from participating in this project.
- B. Although a "race-neutral" measure applies to this procurement, should the successful proposer retain the services of DBE firms on this project through *race-neutral* means, the selected proposer shall submit monthly the **Subcontractor Monthly Utilization Report** and weekly **Certified Payrolls**, reflecting such participation. The Proposer shall not terminate for convenience, and the Proposer shall obtain written authorization from the County prior to terminating a DBE.
 - 1. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or cost anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b) (2) (b) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 C.F.R. 5.5 (a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(b) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated of or the actual costs incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.



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- a) The contractor shall submit weekly copies of its complete and accurate payrolls, which must be in accordance with 29 C.F.R. 5.5 (a) (3) (i) and similar to those of its Subcontractors. Such payrolls may be submitted on form WH-348 or on any identical form with identical wording, which can be purchased from the Superintendent of Documents (Federal Stock No. 029-005-00014-1), U.S. Government Printing Office; Washington, D.C. 20402.
 - b) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or Subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:
 - 1) That the payroll for the payroll period contains the information required to be maintained under 29 C.F.R 5.5. (a)(3)(i) and that such information is correct and complete.
 - 2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth at 29 C.F.R. Part 3;
 - 3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.
 - c) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-348 shall satisfy the requirement for submission of the "Statement of Compliance" required by 29 C.F.R. 5.5(a)(3)(ii)(b).
 - d) The falsification of any of the above certifications may subject the contractor or Subcontractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 231.
2. The contractor or Subcontractor shall make labor and required under 29 C.F.R. 5.5 (a)(3)(ii) available for inspection, copying, or transcription by authorized representatives of FTA or the department of labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or Subcontractor fails to submit the required records or make them available, FTA may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or make such records available may be grounds for debarment action pursuant to 29 C.F.R. 5.12.
- C. The Contractor must promptly notify the County whenever a DBE Subcontractor performing work on this project is terminated or fails to complete its work. The Contractor then shall be required to make good faith efforts to engage another DBE Subcontractor to perform at least the same amount of work. The Contractor may not terminate any DBE Subcontractor and perform that work through its own forces or those of an affiliate without first obtaining prior written consent from the Contracting Officer.

V. COLLUSION AND FALSE STATEMENTS PROHIBITED

Any agreements between a proposer and a DBE, in which the DBE Contractor promises not to provide subcontracting quotations to other proposers, are prohibited. Any uses or attempts to use, on the basis of false, fraudulent or deceitful statements or representations or other circumstances indicating a serious lack of business integrity or honesty, another firm that does not meet the eligibility criteria of the DBE program, may be subject to debarment proceedings under 49 CFR part 29; Program Fraud and Civil Remedies under 49 CFR part 31; and prosecution under 18 U.S.C. 1001, by the Department of Justice.

VI. COMPETITION REQUIRED

Where there are subcontracting opportunities, the Proposer shall afford DBE firms the maximum practicable opportunity to participate on the project. The Proposer shall select DBE Subcontractors, including DBE suppliers, on a competitive basis to the maximum practical extent, consistent with the objectives and requirements of the contract and 49 CFR part 26. The Proposer is prohibited from requiring unnecessary experience, excessive bonding, and qualification.

VII. PROMPT PAYMENTS AND RETAINAGE

Pursuant to 49 CFR part 26.29 and 26.37, prime contractors shall pay Subcontractors, including DBE'S, for satisfactory performance of their contracts no later than 30 calendar days after the date on which the payment request or a proper invoice is stamped received. Further, the prime contractor will return retainage payments to the Subcontractor, including DBE firms, within 30 days of the Subcontractor's satisfactory completion of work.

- A. The following correct information constitutes a proper invoice and is required as payment documentation:
 1. Name of Subcontractor.
 2. Invoice date.
 3. Invoicing period.
 4. DTPW Contract number.
 5. Subcontractor's invoice number; account number; and/or any other identifying number agreed by contract.
 6. Description and nature of work completed.
 7. Taxpayer Identification Number (TIN).
 8. Bank Information; and/or EFT and Financial EDI Statements
 9. Contact person's name, title, and Telephone Number.
 10. Other substantiating documentation, information required by contract.
- B. An invoice shall be deemed to be received on the receipt date stamped on the invoice by the Contractor. If the Contractor fails to annotate the invoice with a date of receipt, the date placed on the invoice by the Subcontractor shall control.
- C. The Prime Contractor shall make timely payment on a payment request or invoice without regard as to whether DTPW has tendered payment and/or reimbursement to the Prime Contractor.



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- D. The prime Contractor will not be reimbursed for work performed by Subcontractors unless and until the prime Contractor ensures that the Subcontractors are promptly paid for the work they have performed, and upon which a payment request or proper invoice was submitted and received. Nothing herein shall prohibit a prime Contractor or Subcontractor from disputing, pursuant to the terms of the contract, all or any portion of a payment alleged to be due to another party.
- E. In the event of a payment dispute, the Contractor and Subcontractor may withhold the disputed portion of any such payment, if the Contractor, or Subcontractor notifies the party whose payment is disputed, in writing, of the amount in dispute and the actions required to cure the dispute. The undisputed portion shall be paid in a timely manner.
- F. The Prime and Subcontractors will use appropriate alternative dispute resolution mechanisms to resolve payments disputes, including but not limited to mediation, arbitration and/or an DTPW's Ombudsperson.
- G. In cases of disputes, proceedings to resolve the dispute shall be commenced not later than 20 days after the date on which the payment request or proper invoice was received by the Contractor and shall be concluded by final decision not later than 30 days after the date on which the payment request or proper invoice was received by the Contractor. Such procedures shall not be subject to chapter 120, and such procedures shall not constitute an administrative proceeding which prohibits a court from deciding de novo any action arising out of the dispute. If the dispute is resolved in favor of the Prime Contractor, then interest charges shall begin to accrue 15 days after the final decision. If the dispute is resolved in favor of the Subcontractor, then interest shall begin to accrue as of the original date the payment became due.
- H. The prime Contractor may reject a payment request or invoice within 10 business days after the date on which the payment request or invoice is stamped as received. The rejection must be written and must specify the deficiency in the payment request or invoice and the action necessary to make the payment request or invoice proper.
- I. If a payment request or an invoice is rejected under subsection (9) and the Subcontractor submits a corrected payment request or invoice which corrects the deficiency specified in writing by the prime, the corrected payment request or invoice must be paid or rejected on the later of Ten (10) business days after the date the corrected payment request or invoice was stamped as received.
- J. All payments due under this section and not made within the period specified by this section shall bear interest at the rate of 1.5% per month, or the rate specified by the Contract whichever is greater.
- K. Late payment interest penalties shall be paid without regard to whether the Subcontractor has requested payment of such penalty and shall be accompanied by a notice stating the amount of the interest penalty, the number of days late and the rate used. Interest payment of less than one dollar need not be paid. In the event of a dispute, interest penalties under this clause will not continue to accrue.
- L. The Prime and Subcontractor in their business judgment and of their own volition may negotiate reasonable cash discounts, or any other means of payment reduction for early payments, if the parties can agree to mutually advantageous terms.
- M. A provision in an agreement between a Subcontractor and a Contractor is void and unenforceable to the extent that it purports to waive or preclude the rights, remedies, or requirements set forth in this subsection; or that it purports to limit it or preclude any liability of the prime Contractor to the Subcontractor or of the Subcontractor to the Contractor, arising under this subsection.



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The Contractor/ Contractor may NOT hold retainage from its Subcontractor/ Subcontractor and is required to return any retainage payments to those Subcontractors/ Subcontractors within 30 days after the Subcontractor's work related to this contract is satisfactorily completed or within 30 days after incremental acceptance of the Subcontractors/ Subcontractors work by the County and Contractor's receipt of the partial retainage payment related to the Subcontractors/ Subcontractors work, whichever comes first.

VIII. DEPARTMENT OF LABOR PROVISIONS

1. Overtime requirements - No Contractor or Subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
2. Violation; liability for unpaid wages; liquidated damages - In the event of any violation of the clause set forth in paragraph (1) of this section the Contractor and any Subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such Contractor and Subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this section.
3. Withholding for unpaid wages and liquidated damages - The (write in the name of the grantee) shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the Contractor or Subcontractor under any such contract or any other Federal contract with the same prime Contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime Contractor, such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or Subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this section.
4. Non-Construction Contracts- The requirements of the clauses contained in 29 C.F.R. 5.5 (b) or paragraphs (10) through (13) of Section 112.a. of Part II Terms and Conditions (Master Agreement) of the Federal Transit Administration agreement, are applicable in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in 29 C.F.R. 5.1. The Contractor or Subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked deductions made, and actual wages paid. The records to be maintained under this paragraph shall be made available by the Contractor or Subcontractor for inspection, copying, or transcription by authorized representatives of FTA, DOT, or the Department of Labor, and the Contractor or Subcontractor will permit such representatives to interview employees during working hours on the job.
5. Subcontracts- The contractor/ Contractor or Subcontractor/ Subcontractor shall insert in any subcontracts the clauses set forth in subparagraphs (1) through (12) of this paragraph and a clause requiring the Subcontractors/ Subcontractors to include these clauses in any lower tier subcontracts.

The Contractor shall be responsible for compliance by any Subcontractor/ Subcontractor or lower tier Subcontractor/ Subcontractor with the clauses set forth on subparagraphs (1) through (12) of this paragraph.

IX. TITLE VI COMPLIANCE (CIVIL RIGHTS ACT OF 1964)

During the performance of this contract, the contractor itself, its assignees and successors in interest (hereinafter referred to as the "contractor"), agrees as follows:

- A. *Compliance with Regulations:* The contractor shall comply with the Regulations relative to nondiscrimination in federally-assisted programs of the Department of Transportation (hereinafter, "DOT") Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.
- B. *Nondiscrimination:* The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, religion, color, sex, age, or national origin in the selection and retention of Subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.
- C. *Solicitations for Subcontracts, Including Procurements of Materials and Equipment:* In all solicitations either by competitive bidding or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential Subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, religion, color, sex, age, or national origin.
- D. *Information and Reports:* The contractor shall provide all information and reports required by the regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information and its facilities as may be determined by Miami-Dade County or the Federal Transit Administration (FTA) to be pertinent to ascertain compliance with such regulations, orders and instructions. Where any information required from a contractor is in the exclusive possession of another who fails or refuses to furnish this information, the contractor shall so certify to Miami-Dade County, or to the Federal Transit Administration as appropriate, and shall set forth what efforts it has made to obtain the information.
- E. *Sanctions for Noncompliance:* In the event of the contractor's noncompliance with the nondiscrimination provisions of this contract, Miami-Dade County shall impose such contract sanctions as it or the Federal Transit Administration may determine to be appropriate, including, but not limited to:
 - (1) Withholding of payments to the contractor under the contract until the contractor complies, and/or
 - (2) Cancellation, termination or suspension of the contract, in whole or in part.
- F. *Incorporation of Provisions:* The contractor shall include the provisions of paragraph III.B.4.a. through III.B.4.f of this section in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations or directives issued pursuant thereto. The contractor shall take such action with respect to any subcontract or procurements as Miami-Dade County or the Federal Transit Administration may direct as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that, in the event a contractor becomes involved in, or is threatened



with, litigation with a Subcontractor or supplier as a result of such direction, the contractor may request Miami-Dade County to enter into such litigation to protect the interests of Miami-Dade County, and, in addition, the contractor may request the services of the Attorney General in such litigation to protect the interests of the United States.

X. EQUAL EMPLOYMENT OPPORTUNITY/NONDISCRIMINATION

A. Equal Employment Opportunity

In connection with the execution of this contract, the Contractor shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, age, disability, ancestry, marital status, pregnancy, sexual orientation, veteran's status, or national origin. The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, age, disability, marital status, pregnancy, sexual orientation, veteran's status, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, promotion, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeships. The Contractor further agrees to insert a similar provision in all subcontracts, except subcontracts for standard commercial supplies or raw materials. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by The County setting forth the provisions of this Equal Opportunity clause.

B. Discrimination Prohibited

The Contractor, sub recipient or Subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or any other remedy as The County deems appropriate. (49 CFR Part 26.13(b))

C. Nondiscrimination (General)

The proposer will comply with all regulations of the U. S. Department of Transportation, all applicable provisions of the Civil Rights act of 1964, Executive Order 11246 of September 24, 1964 as amended by Executive Order 11375 Executive Order 11625 of October 13, 1971, the Age Discrimination in Employment Act effective June 12, 1968, the rules regulations and relevant orders of the Secretary of Labor, Chapter 760 (Florida Civil Rights Act of 1992, as amended); Dade County Ordinance 75-46 and Articles 3 and 4 of Chapter 11a of the Code of Miami-Dade County which prohibit discrimination because of race, color, religion, ancestry, sex, pregnancy, national origin, age, handicap, marital status or familial status of any individual.

Note: FTA directs the County, and the County requires each Contractor or Subcontractor to include the above paragraphs, A through C, in each of its contracts.

XI. CONTINUED COMPLIANCE

MDC shall monitor the compliance of the contractor with the requirements of this Provision during the course of the work to be performed under the Contract. The Compliance Monitor may require the proposer to produce such additional information as the Compliance Monitor deems appropriate and may obtain whatever other and further information from whatever other sources he deems appropriate to ensure such compliance. Therefore, the contractor shall permit MDC and DOT to have access to the job site and to



DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS (DTPW)

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necessary records, and to examine such information as appropriate for the purpose of investigating and determining compliance with this Provision, including, but not limited to, manning tables, records of expenditures, change orders, observations at the job site, and contracts between the contractor and other parties entered into during the life of the Contract.

XII. SANCTIONS FOR VIOLATIONS

If at any time MDC has reason to believe that the contractor is in violation of its obligations under this Provision, or has otherwise failed to comply with this Provision, MDC may, in addition to pursuing any other available legal remedy, commence proceedings to impose sanctions on the contractor. Such sanctions may include, but are not limited to, one or more of the following:

- A. The suspension of any payment or part thereof due the contractor until such time as the issues concerning the contractor's compliance are resolved;
- B. The termination or cancellation of the Contract in whole or in part unless the contractor is able to demonstrate within a reasonable time its compliance with the terms of this Provision; and
- C. The denial to the contractor of the right to participate in any further contracts awarded by MDC for a period of not longer than three (3) years. No such sanction shall be imposed by MDC upon the contractor except pursuant to a hearing conducted by the Contracting Officer.

---END---

APPENDIX OF FORMS

PRIMES AND SUBCONTRACTOR/ SUBCONSULTANT INFORMATION FORM
MONTHLY PROGRESS REPORT (Due monthly)



PRIME AND SUBCONTRACTOR/ SUBCONSULTANT INFORMATION FORM

INSTRUCTIONS: Prime must complete a form for itself and must provide a form for each firm which was contracted as a potential Subcontractor. An authorized representative of each firm must complete, sign and submit this affidavit at submittal.

BIDDER INFORMATION

Firm Name _____ F.E.I.N.* _____

Year Founded (XXXX) _____ Ethnicity _____ Gender _____

Street _____ Suite No. _____

City _____ State _____ Zip Code _____

Prime Bidder? Yes _____ No _____ If No, enter name of Prime _____

Annual Gross Receipts: Under \$500k _____ Over \$500k _____ Over \$1Million _____ Over \$5Million _____

Phone No. _____ FAX No. _____ Email _____

SPECIALTY

INDICATE APPROPRIATE NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM (NAICS) CODE:

Construction (23): Building-- _____ Heavy-- _____ Specialty Trades-- _____

Professional Services (Architectural, Engineering, Accounting, etc.) (54) _____

Goods, Equipment and Non-professional Services (31-33, 81, etc.) _____

MIAMI-DADE COUNTY CERTIFIED DBE:

Certificate Anniversary Date: _____/_____/_____

AFFIDAVIT

I certify that I am an authorized representative of above named firm.

Signature Print Name Title Date

For MDC Use Only:

Was the subject bid awarded to this bidder? Yes _____ No _____

Bid Description: _____ Bid No. _____

Percentage of DBE Goal _____%



DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS (DTPW)
DISADVANTAGED BUSINESS ENTERPRISE (DBE) PROGRAM

MONTHLY UTILIZATION PROGRESS REPORT

Report Period:	CONTRACT NUMBER _____ PROJECT NAME _____
	CONTRACTOR NAME _____ CONTRACT AMOUNT \$ _____
	DBE GOAL _____ % DBE GOAL TO DATE _____ %
	PAID TO PRIME CONTRACTOR THIS MONTH \$ _____ TOTAL TO DATE: \$ _____

DBE FIRMS	SEX	ETHNIC	TYPE OF WORK/SERVICE	MONTHLY PAYMENT	PAYMENT TO DATE	CONTRACT AMOUNT

PAYMENTS TO NON-DBE FIRMS	TYPE OF WORK/SERVICE	MONTHLY PAYMENT	PAYMENT TO DATE	CONTRACT AMOUNT

I certify that the above information is true and accurate to the best of my knowledge and understand that if I misrepresent or falsify such information, I may be subject to civil and or criminal prosecution under Title 18 United State Code Section 1001.

Authorized Signature	Print Name and Title	Date

PROJECT NAME: William Lehman Center Mast Light Pole Replacement
Contract No.: RPQ No. TP-00000014313; MCC 7360 Plan
DBE & EEO REQUIREMENTS
Issued: 1/9/2024



DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS (DTPW)
DISADVANTAGED BUSINESS ENTERPRISE (DBE) PROGRAM

FINANCIAL DOCUMENTATION

As a condition of award, the Contractor may be required to provide documentation that affirm its financial capacity to perform the work (i.e., Tax Returns, Financial Statements, Profit-and-Loss Statements, Cash Flow Statements, etc.).



SBD JOB CLEARINGHOUSE AFFIDAVIT

The attention of the Contractor is hereby directed to the requirements of Job Clearinghouse Code §2-1701 and Resolution No. R-1395-05.

COUNTY'S CLEARINGHOUSE: Pursuant to Miami-Dade County Resolution R-1145-99, Contractors involved in the construction of improvements on County property must post a notice of job opportunities with the Miami-Dade County Job Clearinghouse. For information regarding the Miami-Dade County's Clearinghouse program, please contact the County's Division of Small Business Development at (305) 375-3157.





Delivering Excellence Every Day

JOB CLEARINGHOUSE AFFIDAVIT
Notice of Construction Job Opportunities

Project / Contract Number: _____

Pursuant to Miami-Dade County Resolution No. R-1395-05, there are ____ open position(s) to submit to the Job Clearinghouse for this project at this time. All open positions will be submitted to South Florida Workforce at <https://iapps.careersourcesfl.com/jchcwp/>.

(Signature of Affiant)

(Date)

(Printed Name of Affiant, Title, and Firm Name)

(Witness)

Sworn to and subscribed before me this

_____ day of _____ 20 ____

By: _____

Signature of Notary Public



Personally Known



Produced ID

Type of ID produced _____

FAIR SUBCONTRACTING PRACTICES

Consistent with Section 2-8.8 of the Code of Miami-Dade County, the Bidder has adopted subcontracting policies and procedures which (a) notifies the broadest number of local subcontractors of the opportunity to be awarded a subcontract; (b) invites local subcontractors to submit bids in a practical, expedient way; (c) provides local subcontractors access to information necessary to prepare and formulate a subcontracting bid; (d) allows local subcontractors to meet with appropriate personnel of the Respondent to discuss the Respondent's requirements; and (e) awards subcontracts based on full and complete consideration of all submitted proposals and in accordance with the Respondent's stated objectives.



In compliance with Miami-Dade County Code, Section 2-8.8 – *Fair subcontracting practices*, as a condition of award, the Bidder shall provide a detailed statement of its policies and procedures (use separate sheet if necessary) for awarding subcontracts. **Failure to provide the required statement shall preclude your firm from receiving the contract.**

[illegible]

Signature

Date

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS

HIGH MAST POLE LIGHT REFURBISHING AT WILLIAM LEHMAN CENTER

PROJECT NO. IRP101

RPQ NO. TP-00000014313

CONTRACT FORMS

- Residents First Training and Employment Program/Community WorkForce Program/Employ Miami-Dade Program Construction WorkForce Plan - Form RFTE 2
- OSHA Safety Training Affidavit - Form RFTE 3
- Residents First Training and Employment Program/Employ Miami-Dade Program WorkForce Performance Report - RFTE 4
- Certificate(s) of Insurance
- Surety Performance and Payment Bond

**RESIDENTS FIRST TRAINING AND EMPLOYMENT PROGRAM/
COMMUNITY WORKFORCE PROGRAM/EMPLOY MIAMI-
DADE PROGRAM CONSTRUCTION WORKFORCE PLAN -
FORM RFTE 2**



RPQ NO. TP-00000014313

**Residents First Training and Employment Program/Community Workforce Program/Employ Miami-Dade Program
Construction Workforce Plan (Miami-Dade County Code Sections 2-11.17, 2-1701 & A.O. 3-63) - Form RFTE 2**

Contract No. _____

Prime Contractor: _____

☐ §2-1701 Community Workforce Program ☐ §2-11.17 Resident First Training and Employment Program ☐ A.O. 3-63 Employ Miami-Dade Program

In accordance with Sections 2-11.17 & 2-1701 of the Miami Dade County-Code, this form must be submitted by the Prime Contractor within 15 business days of award notification and prior to issuance of a Notice to Proceed. The Prime Contractor should enter the word "NONE" where appropriate below and sign the form below. Please duplicate this form if additional space is needed.

- i. Specify the total number of persons that will be used by the Prime Contractor and all subcontractors to perform all of the construction trades and labor work of the contract, broken down by trade and labor category, minimum qualifications for each category, the number of persons to be utilized in each category, the number of positions to be hired by the contractor in each category which are not currently staffed, the number of positions to be filled from the Employ Miami-Dade Register and the number of employees which live within the project DTA. If the current workforce will not achieve the project goal of 51% construction labor hours performed by Miami-Dade County residents, include a Job Clearinghouse Affidavit or a statement on how Miami-Dade County residents will be recruited to fill the needed positions and meet the goal.

Contractor/Subcontractor Name	Trade/Category	Minimum Qualifications	# of Persons to be Utilized	# of Positions to be filled by Employ Miami Dade	# of Persons to be Hired	# of Persons who Reside in the DTA (if applicable)
Total:						

- ii. Identify by name, address and trade category of all persons proposed to perform work under the contract currently on the contractor's (or on any proposed subcontractor's) payroll who reside in Miami-Dade County only and marking the correct box for DTA residents. Two forms of identification must be provided for each DTA resident demonstrating one year of residency.

Employee Name	Address	Trade/Category Performing	DTA Resident (if applicable)

- iii. Attach a list of subcontractors that will be used on the project and executed Responsible Subcontractor Affidavits (Form RFTE 1) for each.
iv. Attach a list of all employees currently employed by the contractor and each subcontractor at the time of award that includes the last four digits of their social security.

I certify that the representations contained in this Construction Workforce Plan are to the best of my knowledge true and accurate.

Signature of Affiant

Print Name

Print Title

Date

OSHA SAFETY TRAINING AFFIDAVIT

(FORM RFTE 3)



RPQ NO. TP-00000014313

**Residents First Training and Employment Program
Occupational Safety & Health Administration (OSHA)
10 Hour Safety Training Affidavit - Form RFTE 3**

In accordance with Section 2-11.17 of the Miami-Dade County Code, all contractors and subcontractors of any tier performing on a County Construction Contract, shall satisfy the requirements of the Miami-Dade County Residents First Training and Employment Program which requires: for (i) all persons employed by the contractor to perform construction shall have completed the Occupational Safety & Health Administration (OSHA) 10 Hour safety training course established by the Occupational Safety & Health Administration of the United States Department of Labor

The undersigned verifies that every employee reported on the payroll has completed the OSHA 10 Hour or OSHA 30 Hour Safety Training Course prior to working on the project.

Project Number, Title

Printed Name of Affiant

Printed Title of Affiant

Signature of Affiant

Name of Firm

Date

Address of Firm

State

Zip Code

Notary Public Information

Notary Public – State of _____ County of _____

Subscribed and sworn to (or affirmed) before me this _____ day of, _____ 20____.

by _____ He or she is personally known to me ☐ or has produced identification ☐

Type of identification produced _____

Signature of Notary Public

Serial Number

Print or Stamp of Notary Public

Expiration Date

Notary Public Seal

RESIDENTS FIRST TRAINING AND EMPLOYMENT PROGRAM/
EMPLOY MIAMI-DADE PROGRAM WORKFORCE
PERFORMANCE REPORT - FORM RFTE 4



RPQ NO. TP-00000014313

**Workforce Performance Report - Form RFTE 4
(Miami-Dade County Code Section 2-11.17 & A.O. 3-63)**

Contract No. _____ Prime Contractor: _____

In accordance with Section 2-11.17 of the Miami-Dade County Code & A.O. 3-63, this report must be submitted by the Prime Contractor within thirty (30) days of completion of a County Capital Construction Contract to Small Business Development through the Contracting Officer. The Contracting Officer shall not authorize issuance of final payment for completion of a County Capital Construction Contract until the County receives a completed Workforce Performance Report.

Please provide the following information on the workforce employed in the execution of the contract:

_____	Total number of Construction Labor positions utilized on the project
_____	Total number of Construction Labor work hours performed on the project
_____	Total number Construction Labor work hours performed by Miami-Dade County residents
_____	Total number Construction Labor positions performed by Employ Miami-Dade participants
_____	Percentage of Construction Labor work hours performed by Miami-Dade County residents

Attach supporting documentation verifying construction labor work hours performed by Miami-Dade County residents & Employ Miami-Dade participants.

\$ _____ Total amount of funds expended during the course of the project on other related skill and safety training programs

Were any positions on this project filled with new hires? _____ Yes _____ No

If you answered "yes" to the above question, please identify the new hires by name, address and trade category, and indicate whether they were Miami-Dade County residents or an Employ Miami-Dade participant. (Please attach additional sheets if necessary.)

Employee Name	Address	Trade/Category Performed	Miami-Dade County Resident (√)	Employ Miami-Dade County Participant (√)

Were all new hires Miami-Dade County residents?	No	Yes

Was the 20% labor workforce threshold met from the Employ Miami-Dade Register?	No	Yes

If you answered “no” to either of the above questions, please attach supporting documentation that verifies reasonable efforts to promote employment opportunities for local residents including participation in the Employ Miami-Dade Program, which shall include applicable advertisements in local newspapers, posting of job opportunities with CareerSource South Florida’s Job Clearinghouse, referrals received from CareerSource South Florida, job applications received, candidates interviewed, and number of new hires.

I certify that the representations contained in this Construction Workforce Plan are to the best of my knowledge true and accurate.

Signature of Affiant

Print Name, Title

Date _____

CERTIFICATE(S) OF INSURANCE
(TO BE PROVIDED BY CONTRACTOR)



RPQ NO. TP-00000014313

SURETY PERFORMANCE AND PAYMENT BOND

(This is a sample P&P Bond to be submitted by successful bidder)



RPQ NO. TP-00000014313

SURETY PERFORMANCE AND PAYMENT BOND

By this Bond, we _____, as Principal, whose principal business address is _____, as Contractor under the contract dated _____, 20____, between Principal Miami-Dade County for the construction of **HIGH MAST POLE LIGHT REFURBISHING AT WILLIAM LEHMAN CENTER**, RPQ/Project No. **RPQ NO. TP-00000014313** (herein after referred to as "Contract") the terms of which Contract are incorporated by reference in its entirety into this Bond and, _____, a corporation, whose principal business address is _____ as Surety, are bound to Miami-Dade County (hereinafter referred to as "County") in the sum of _____ (U.S. dollars) \$ _____, for payment of which we bind Ourselves, our heirs, personal representatives, successors, and assigns, jointly and severally.

THE CONDITION OF THIS BOND is that if Principal:

1. Performs all the work under the Contract, including but not limited to guarantees, warranties and the curing of latent defects, said Contract being made a part of this bond by reference, and in the times and in the manner prescribed in the Contract, including any and all damages for delay; and
2. Promptly makes payments to all claimants, as defined in Section [255.05\(1\)](#), Florida Statutes, supplying Principal with labor, materials, or supplies, used directly or indirectly by Principal in the prosecution of the work provided for in the contract; and
3. Pays County all losses, damages, including damages for delay, expenses, costs and attorney's fees, including appellate proceedings, that County sustains because of a default by Principal under the Contract, including but not limited to a failure to honor all guarantees and warranties or to cure latent defects in its work or materials within 5 years after completion of the work under the Contract; and
4. Performs the guarantee of all work and materials furnished under the contract for the time specified in the Contract, including all warranties and curing all latent defects within 5 years after completion of the work under the Contract;

then this bond is void; otherwise, it remains in full force.

If no specific periods of warranty are stated in the Contract for any particular item or work, material or equipment, the warranty shall be deemed to be a period of one (1) year from the date of final acceptance by the County. This Bond does not limit the County's ability to pursue suits directly with the Principal seeking damages for latent defects in materials or workmanship, such actions being subject to the limitations found in Section 95.11(3)(c), Florida Statutes.

Any changes in or under the Contract Documents and compliance or noncompliance with any formalities connected with the Contract or the changes does not affect Surety's obligation under this Bond.

RPQ NO. TP-00000014313

SURETY PERFORMANCE AND PAYMENT BOND (Cont'd)

IN WITNESS WHEREOF, the above bounden parties have caused this Bond to be executed by their appropriate officials as of the _____ day of _____ 20 ____.

CONTRACTOR

(Contractor Name)

BY:

(President) (Managing Partner or Joint Venture)

(SEAL)

COUNTERSIGNED BY RESIDENT
FLORIDA AGENT OF SURETY:

SURETY:

(Copy of Agent's current
Identification Card as issued by
State of Florida Insurance Commissioner must be attached)

By: _____
Attorney-in-Fact

(CORPORATE SEAL)

(Power of Attorney must be attached)

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS

HIGH MAST POLE LIGHT REFURBISHING AT WILLIAM LEHMAN
CENTER

PROJECT NO. IRP101

RPQ NO. TP-00000014313

BID DOCUMENTS

- SMALL BUSINESS DEVELOPMENT PROJECT WORKSHEET
- DAVID BACON WAGES:
 - Construction Type: Highway
- SPECIFICATIONS:
 - Construction Specifications.
- SPECIAL PROVISIONS:
 - Appendix A: Authorization Agreement for Automatic Deposit.
 - Appendix B: Federal Requirements and Provisions.
- STANDARD CONSTRUCTION GENERAL CONTRACT CONDITIONS & ATTACHMENTS
- DRAWINGS & AS-BUILT SKETCHES

**SMALL BUSINESS DEVELOPMENT
PROJECT WORKSHEET**



RPQ NO. TP-00000014313



Office of Small Business Development

Project Worksheet

Project/Contract Title: High Mast Pole Light Refurbishing at William Lehman Center Received Date: 1/16/2024

Project/Contract No: RPQ No. TP-00000014313 Funding Source: FTA, and American Rescue Plan Act (ARP)

Department: Transportation & Public Works

Estimated Cost of Project/Bid: \$521,185.50

Description of Project/Bid: DTPW has a need to establish construction services for the project entitled: High Mast Pole Light Refurbishing at William Lehman Center (the "Project"). Project Work includes, but is not limited to, furnishing all supervision, labor, material, and equipment necessary to retrofit 15 high mast arms light poles.

Detail work includes:

- a) Remove existing luminaires and furnish and install new 90 LED luminaires type ERHM03E90VW750ND4BGRAYT.
 - b) Refurbish (furnish and installation) the complete internal mechanism of the 15 poles lowering devices that includes the cables gearbox and locking components (includes Stainless Steel Hoist and Winch Cable).
 - c) Provide Portable drive unit.
 - d) Replace any existing damaged cables, conduits and deliver a complete working system.
 - e) The contractor will be responsible for preparing and obtaining all required permits and plans.
- Work to be performed in compliance with the 2023 National Electrical (NEC) Code and inspected by the proper authorities having jurisdiction where the work is to be performed.

Contract Measures Recommendation

Measure	Program	Goal Percent
No Measure	SBE - Con	

Reasons for Recommendation

SMALL BUSINESS ENTERPRISE- CONSTRUCTION (SBE-Con).

SBD reviewed this project pursuant to Implementing Order 3-22 for SBE-Con measure. Project information analyzed included the project's scope of services, estimated project cost, minimum requirements/qualifications, and funding source. These indicate that an SBE-Con No Measure is appropriate for this contract due to the funding source (Federal funds).

Community Workforce Program (CWP) is not applicable due to funding source.

Davis-Bacon Wage Rates are applicable to this solicitation; the prevailing wage type is building.

NAICS 238210 Electrical Contractors and Other Wiring Installation Contractors

Living Wages: YES ☐ NO ☒ Highway: YES ☒ NO ☐ Heavy Construction: YES ☐ NO ☒

Davis Bacon Wages: YES ☒ NO ☐ Building: YES ☐ NO ☒

SBD Director

Date

1-24-24

DAVIS BACON WAGES

CONSTRUCTION TYPE:
HIGHWAY



RPQ NO. TP-00000014313

Superseded General Decision Number: FL20230178

State: Florida

Construction Type: Highway

County: Miami-Dade County in Florida.

HIGHWAY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least \$17.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2024.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least \$12.90 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2024.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number Publication Date
0 01/05/2024

	Rates	Fringes
ELECTRICIAN.....	\$ 39.81	14.62

SUFL2013-039 08/19/2013		

	Rates	Fringes
CARPENTER.....	\$ 17.84	0.00
CEMENT MASON/CONCRETE FINISHER, Includes Form Work.....	\$ 15.49 **	0.00
FENCE ERECTOR.....	\$ 12.82 **	0.00
HIGHWAY/PARKING LOT STRIPING: Operator (Striping Machine).....	\$ 15.07 **	0.00
HIGHWAY/PARKING LOT STRIPING: Painter.....	\$ 12.13 **	0.00
HIGHWAY/PARKING LOT STRIPING: Operator (Spray Nozzleman).....	\$ 11.16 **	0.00
INSTALLER - GUARDRAIL.....	\$ 13.43 **	0.00
IRONWORKER, ORNAMENTAL.....	\$ 13.48 **	0.00
IRONWORKER, REINFORCING.....	\$ 18.43	0.00
IRONWORKER, STRUCTURAL.....	\$ 16.42 **	0.00
LABORER (Traffic Control Specialist incl. placing of cones/barricades/barrels - Setter, Mover, Sweeper).....	\$ 11.59 **	0.00
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor.....	\$ 12.31 **	0.00
LABORER: Common or General.....	\$ 10.69 **	0.00
LABORER: Flagger.....	\$ 12.53 **	0.00
LABORER: Grade Checker.....	\$ 12.41 **	0.00
LABORER: Landscape & Irrigation.....	\$ 9.02 **	0.00
LABORER: Mason Tender - Cement/Concrete.....	\$ 13.91 **	3.50
LABORER: Pipelayer.....	\$ 15.02 **	0.00
OPERATOR: Backhoe/Excavator/Trackhoe.....	\$ 16.24 **	0.00
OPERATOR: Bobcat/Skid Steer/Skid Loader.....	\$ 12.88 **	0.00
OPERATOR: Boom.....	\$ 18.95	0.00
OPERATOR: Boring Machine.....	\$ 15.29 **	0.00

OPERATOR: Broom/Sweeper.....	\$ 13.01 **	0.00
OPERATOR: Bulldozer.....	\$ 16.77 **	0.00
OPERATOR: Concrete Finishing Machine.....	\$ 15.44 **	0.00
OPERATOR: Concrete Saw.....	\$ 14.43 **	0.00
OPERATOR: Crane.....	\$ 22.46	0.00
OPERATOR: Curb Machine.....	\$ 20.74	0.00
OPERATOR: Distributor.....	\$ 13.29 **	0.00
OPERATOR: Drill.....	\$ 14.78 **	0.00
OPERATOR: Forklift.....	\$ 16.32 **	0.00
OPERATOR: Gradall.....	\$ 14.71 **	0.00
OPERATOR: Grader/Blade.....	\$ 20.22	3.85
OPERATOR: Loader.....	\$ 15.53 **	0.00
OPERATOR: Mechanic.....	\$ 18.03	0.00
OPERATOR: Milling Machine.....	\$ 14.67 **	0.00
OPERATOR: Oiler.....	\$ 16.32 **	0.00
OPERATOR: Paver (Asphalt, Aggregate, and Concrete).....	\$ 13.61 **	0.00
OPERATOR: Piledriver.....	\$ 17.23	0.00
OPERATOR: Post Driver (Guardrail/Fences).....	\$ 14.45 **	0.00
OPERATOR: Roller.....	\$ 13.67 **	0.00
OPERATOR: Scraper.....	\$ 12.01 **	0.00
OPERATOR: Screed.....	\$ 14.15 **	0.00
OPERATOR: Tractor.....	\$ 12.19 **	0.00
OPERATOR: Trencher.....	\$ 14.74 **	0.00
PAINTER: Spray.....	\$ 16.52 **	0.00
SIGN ERECTOR.....	\$ 12.96 **	0.00
TRAFFIC SIGNALIZATION: Traffic Signal Installation.....	\$ 19.07	0.00
TRUCK DRIVER: Distributor Truck.....	\$ 14.96 **	2.17
TRUCK DRIVER: Dump Truck.....	\$ 12.19 **	0.00
TRUCK DRIVER: Flatbed Truck.....	\$ 14.28 **	0.00
TRUCK DRIVER: Lowboy Truck.....	\$ 15.07 **	0.00

TRUCK DRIVER: Slurry Truck.....	\$ 11.96 **	0.00
TRUCK DRIVER: Vactor Truck.....	\$ 14.21 **	0.00
TRUCK DRIVER: Water Truck.....	\$ 13.17 **	1.60

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$17.20) or 13658 (\$12.90). Please see the Note at the top of the wage determination for more information. Please also note that the minimum wage requirements of Executive Order 14026 are not currently being enforced as to any contract or subcontract to which the states of Texas, Louisiana, or Mississippi, including their agencies, are a party.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example:

PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"

SPECIFICATIONS

CONSTRUCTION SPECIFICATIONS



RPQ NO. TP-00000014313

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**DIVISION 100 GENERAL CONSTRUCTION
OPERATIONS**

Item #	Description	Unit
1	Mobilization	Lump sum

101 MOBILIZATION (REV. 03-12-2013)

A. Description.

1. Perform preparatory work and operations in mobilizing for beginning work on the Project, including, but not limited to, those operations necessary for the movement of personnel, equipment, supplies, and incidentals to the project site(s) and for the establishment of temporary offices, buildings, safety equipment and first aid supplies, and sanitary and other facilities.
2. Include the costs of bonds and any required insurance and any other preconstruction expense necessary for the start of the work, excluding the cost of construction materials.

B. Basis of Payment.

1. When No Separate Item for Mobilization is Included in the Contract:
 - a. All work and incidental costs specified as being covered under this Article will be included for payment under the several scheduled items of the overall Contract, and no separate payment will be made therefore.
2. When a Separate Pay Item for Mobilization is Included in the Contract:
 - a. The work and incidental costs specified as being covered under this Article will be paid for at the Contract lump sum price for the Mobilization pay item, after an executed Notice to Proceed has been issued, by partial payments made in accordance with the following:
 - 1) For contracts of 120 contract days duration or less, partial payment will be made at 50% of the bid price per month for the first two months. For contracts in excess of 120 contract days duration, partial payment will be made at 25% of the bid price per month for the first four months. In no event shall more than 50% of the bid price be paid prior to commencing construction on the project site.
 - 2) Total partial payments for Mobilization on any project, including when more than one project or job is included in the Contract, will be limited to 10% of the original Contract amount for that project. Any remaining amount will be paid upon completion of all work on the Contract.
 - 3) Retainage, as specified in the Contract Documents, will be applied to all partial payments.
 - 4) Partial payments made on this Subarticle will in no way act to preclude or limit any of the provisions for partial payments otherwise provided for by the Contract.

3. Basis of Payment:

- a. Payment will be made under:

102 MAINTENANCE OF TRAFFIC (REV. 12-15-2015)

A. Description.

1. General:

- a. Maintain, for the duration of the construction period including any temporary suspensions of the Work, all traffic including pedestrian traffic within the limits of the Project starting the day work begins on the Project or the first day Contract time is charged, or on the day work begins on the work order, whichever is earlier .
 - b. Construct and maintain detours.
 - c. Provide facilities for access to residences, businesses, etc., along the Project.
 - d. Furnish, install and maintain traffic control and safety devices during construction in accordance with FDOT Index 600 Series of the FDOT Design Standards, or as directed by Engineer. MOT includes all facilities, devices and operations as required for safety and convenience of the public within the work zone. Provide pickup, removal and disposal of litter and mow turf or vegetation within the MOT limits as required by Article 107.
 - e. Furnish and install work zone pavement markings for maintenance of traffic (MOT) in construction areas.
 - f. Provide any other special requirements for safe and expeditious movement of traffic specified in the Plans or directed by Engineer.
2. Unless otherwise directed by Engineer or required by the Contract Documents, do not maintain traffic over those portions of the Project where no work is to be accomplished or where construction operations will not affect existing roads including sidewalks.
 3. Do not obstruct or create a hazard to any traffic during the performance of the Work, and repair any damage to existing pavement open to traffic.
 4. Traffic may be detoured only upon approval by the County Engineer. Contractor must submit for review and approval an updated MOT plan prior to closure of any roads.
 5. The Department may temporarily suspend all activities, except traffic, erosion control and such other activities that are necessary for project maintenance and safety, for failure to comply with these provisions.
 6. Due to traffic congestion, work hours other than normal established hours may be required by the Engineer. In the case of extreme traffic or weather conditions, Contractor may be required to remove their operation from the roadway and/or right of way, at the discretion of the Engineer or the Traffic Control Officer at no additional compensation.

B. Materials.

1. Meet the following requirements:

Bituminous Adhesive	FDOT Section 970
Temporary Retroreflective Pavement Markers	FDOT Section 990
Paint	FDOT Section 971
Removable Tape	FDOT Section 990
Glass Spheres	FDOT Section 971
Temporary Traffic Control Device Materials	FDOT Section 990
Retroreflective and Nonreflective Sheeting for Temporary Traffic Control Devices	FDOT Section 994

2. Temporary Traffic Control Devices: Use only the materials meeting the requirements of FDOT Section 990, FDOT Section 994, FDOT Design Standards and the Manual on Uniform Traffic Control Devices (MUTCD).
3. Detour: Provide all materials for the construction and maintenance of all detours.
4. Commercial Materials for Driveway Maintenance: Provide materials of the type typically used by FDOT for roadway base construction, including reclaimed asphalt pavement material, and having stability and drainage properties that will provide a firm surface under wet conditions.

C. Worksite Traffic Supervisor.

1. Provide a worksite traffic supervisor meeting the requirements of Article 105. Provide the worksite traffic supervisor with all equipment and materials needed to set up, take down, maintain traffic control, and handle traffic-related situations.
2. Ensure that the worksite traffic supervisor performs the following duties:
 - a. On site direction of all traffic control on the Project.
 - b. Is on site during all MOT set up and take down, and performs a drive through inspection immediately after set up.
 - c. Is on site during all nighttime operations to ensure proper MOT.
 - d. Immediately corrects all safety deficiencies and does not permit minor deficiencies that are not immediate safety hazards to remain uncorrected for more than 24 hours.
 - e. Is available on a 24 hour per day basis and present within 45 minutes after notification of an emergency situation and is prepared to positively respond to repair the work zone traffic control or to provide alternate traffic arrangements.
 - f. Conducts daily daytime and weekly nighttime inspections of projects with predominately daytime work activities, and daily nighttime and weekly daytime inspections of projects with predominantly nighttime work activities of all traffic control devices, traffic flow, pedestrian, bicyclist, and business accommodations. Advise Engineer and the Project personnel of the schedule of these inspections and give them the opportunity to join in the inspection as is deemed necessary.

3. The Department may disqualify and remove from the Project a worksite traffic supervisor who fails to comply with the provisions of this Article.

D. Submittals

1. Traffic Control Plan

- a. Submit at Contractor's own expense a Traffic Control Plan (TCP) for approval by the County. Sequence the Work in a manner that will minimize disruption of vehicular and pedestrian access through and around the Project's construction area(s).
- b. The TCP must detail procedures and protective measures proposed by Contractor to provide for protection and control of traffic affected by the Work consistent with the following applicable standards:

1) The Contract Documents;

- 2) "Manual on Uniform Traffic Control Devices for Streets and Highways" (MUTCD) and subsequent revisions and addendums, as published by the U.S. Department of Transportation, Federal Highway Administration;

- 3) The 600 Series indices of the FDOT Design Standards for Design, Construction, Maintenance and Utility Operations on the State Highway System; and

4) The Miami-Dade County Public Works Manual.

- c. All references to the respective agencies in the above referenced standards shall be construed to also include more stringent requirements of the jurisdictional municipality as applicable for this Work.

- d. The TCP must be signed and sealed by a Professional Engineer registered in the state of Florida and shall include proposed locations and time durations of the following, as applicable:

1) Pedestrian and public vehicular traffic routing.

- 2) Lane and sidewalk closures, other traffic blockage and lane restrictions and reductions anticipated to be caused by construction operations. Show and describe the proposed location, dates, hours and duration of closure, vehicular and pedestrian traffic routing and management, traffic control devices for implementing pedestrian and vehicular movement around the closures, and details of barricades.

- 3) Location, type and method of shoring to provide lateral support to the side of an excavation or embankment parallel to an open travel-way.

- 4) Allowable on-street parking within the immediate vicinity of worksite.

- 5) Access to buildings immediately adjacent to worksite.

- 6) Driveways blocked by construction operations.

- 7) Temporary traffic control devices, temporary pavement striping and marking of streets and sidewalks affected by construction

- 8) Temporary commercial and industrial loading and unloading zones.

- 9) Construction vehicle reroutes, travel times, staging locations, and number and size of vehicles involved.
 - e. Obtain and submit prior to erection, or otherwise impacting traffic, all required permits from all authorities having jurisdiction, including the Department, if applicable.
2. Alternative Traffic Control Plan.
 - a. Where a TCP is provided by the County with the Contract Documents, Contractor may still propose an alternative TCP to the plan presented in the Contract Documents. Prepare the TCP in conformance with the requirements stipulated in this Specification and in the form outlined in the current version of FDOT's Plans Preparation Manual. Indicate in the plan a TCP for each phase of activities. Have Contractor's Engineer of Record sign and seal the alternative plan. Take responsibility for identifying and assessing any potential impacts to a utility that may be caused by the alternate TCP proposed by Contractor, and notify the Department in writing of any such potential impacts to utilities.
 - b. Engineer's approval of the alternate TCP does not relieve Contractor of sole responsibility for all utility impacts, costs, delays or damages, whether direct or indirect, resulting from Contractor initiated changes in the design or construction activities from those in the original Contract Specifications, Design Plans (including TCPs) or other Contract Documents and which effect a change in utility work different from that shown in the Utility Plans, joint project agreements or utility relocation schedules.
 - c. The Department reserves the right to reject any alternative TCP. Obtain Engineer's written approval before beginning work using an alternate TCP. Engineer's written approval is required for all modifications to the TCP. Engineer will only allow changes to the TCP in an emergency without the proper documentation.
 3. Comprehensive Weekly Report:
 - a. Submit to Engineer a comprehensive weekly report of the daily inspections performed and detailing the condition of all traffic control devices (including pavement markings) being used.
 - b. Include assurances in the report that pedestrians are accommodated with a safe, accessible travel path around work sites separated from mainline traffic in compliance with the Americans with Disabilities Act (ADA) Standards for Transportation Facilities, that existing or detoured bicyclist paths are being maintained satisfactorily throughout the Project limits, and that existing businesses in work areas are being provided with adequate entrances for vehicular and pedestrian traffic during business hours.
 - c. When deficiencies are found, the worksite traffic supervisor is to note such deficiencies and include the proposed or implemented corrective actions, including the date corrected.
 - d. Have the worksite traffic supervisor sign the report and certify that all of the above issues are being handled in accordance with the Contract Documents.
- E. Traffic Control.
 1. Standards: FDOT Design Standards are the minimum standards for the use in the development of all TCPs. The MUTCD, Part VI is the minimum national standard for traffic control for highway construction, maintenance, and utility operations. Follow the basic principles and minimum standards contained in these documents for the design, application, installation, maintenance, and removal of all traffic control devices, warning devices and barriers which are necessary to protect the public and workers from hazards within the Project limits.
 2. Maintenance of Roadway Surfaces:
 - a. Maintain all lanes that are being used for the MOT, including those on detours and temporary facilities, under all weather conditions. Keep the lanes reasonably free of dust, potholes and rutting. Provide the lanes with the drainage facilities necessary to maintain a smooth riding surface under all weather conditions.
 3. Number of Traffic Lanes:
 - a. Maintain one lane of traffic in each direction.
 - b. Maintain two lanes of traffic in each direction at existing four (or more) lane cross roads, where necessary to avoid undue traffic congestion.
 - c. Construct each lane used for MOT at least as wide as the traffic lanes existing in the area before commencement of construction.
 - d. Do not allow traffic control and warning devices to encroach on lanes used for MOT.
 - e. Engineer may allow Contractor to restrict traffic to one-way operation for short periods of time provided that Contractor employs adequate means of traffic control and does not unreasonably delay traffic. When a construction activity requires restricting traffic to one-way operations, locate the flaggers within view of each other when possible. When visual contact between flaggers is not possible, equip them with 2-way radios, official, or pilot vehicles, or use traffic signals.
 4. Crossings and Intersections:
 - a. Provide and maintain adequate accommodations for intersecting and crossing traffic. Do not block or unduly restrict any road or street crossing the Project unless approved by Engineer. Before beginning any construction, provide Engineer the names and phone numbers of persons that can be contacted when signal operation malfunctions.
 5. Access for Residences and Businesses: Provide continuous access to all residences and all places of business.
 6. Protection of the Work from Injury by Traffic: Where traffic would be injurious to a base, surface course, or structure constructed as a part of the work, maintain all traffic outside the limits of such areas until the potential for injury no longer exists.
 7. Flagger: Provide trained flaggers in accordance with Article 105.
 8. Conflicting Pavement Markings:

- a. Where the lane use or where normal vehicle or pedestrian paths are altered during construction, remove all pavement markings (paint, tape, thermoplastic, raised pavement markers, etc.) that will conflict with the adjusted vehicle or pedestrian paths. Use of paint to cover conflicting pavement markings is prohibited. Remove conflicting pavement markings using a method that will not damage the surface texture of the pavement and which will eliminate the previous marking pattern regardless of weather and light conditions.
 - b. Remove all pavement markings that will be in conflict with "next phase of operation" vehicle pedestrian paths as described above, before opening to vehicle traffic or use by pedestrians.
 - c. Cost for removing conflicting pavement markings (paint, tape, thermoplastic, raised pavement markers, etc.) to be included in the Project costs for Maintenance of Traffic (General).
9. Vehicle and Equipment Visibility:
- a. Equip all pickups and automobiles used on the Project with a minimum of one Class 2 amber or white warning light that meets the Society of Automotive Engineers Recommended Practice SAE J595, dated November 1, 2008, or SAE J845, dated December 1, 2007, and incorporated herein by reference. Existing lights that meet SAE J845, dated March, 1992, or SAE J1318, dated April, 1986, may be used to its end of service life. Warning lights shall be a high intensity amber or white rotating, flashing, oscillating or strobe light. Lights should be unobstructed by ancillary vehicle equipment such as ladders, racks or booms. If the light is obstructed, additional lights will be required. The lights shall be operating when a vehicle is in a work area where a potential hazard exists, when operating the vehicle at less than the average speed for the facility while performing work activities, making frequent stops or called for in the Plans or FDOT Design Standards.
 - b. Equip all other vehicles and equipment with a minimum of 4 square feet of retroreflective sheeting or flashing lights.
 - c. To avoid distraction to motorists, do not operate the lights on the vehicles or equipment when the vehicles are outside the clear zone or behind a barrier.
10. No Waiver of Liability: Conduct operations in such a manner that no undue hazard results due to the requirements of this Article. The procedures and policies described herein in no way acts as a waiver of any terms of the liability of Contractor or his surety.
- F. Detours.
1. General: Construct and maintain detour facilities wherever it becomes necessary to divert traffic from any existing roadway or bridge, or wherever construction operations block the flow of traffic.
 2. Construction: Plan, construct, and maintain detours for the safe passage of traffic in all conditions of weather. Provide the detour with all facilities necessary to meet this requirement. Where pedestrian facilities are detoured, blocked or closed during the work, provide safe alternate accessible routes through or around the work zone meeting the requirements of the ADA Standards for Transportation Facilities.
3. Construction Methods: Select and use construction methods and materials that provide a stable and safe detour facility. Construct the detour facility to have sufficient durability to remain in good condition, supplemented by maintenance, for the entire period that the detour is required.
4. Removal of Detours: Remove detours when they are no longer needed and before the Contract is completed. Take ownership of all materials from the detour and dispose of them, except for the materials on loan from the Department with the stipulation that they are returned.
5. Detours Over Existing Roads and Streets: When the Department specifies that traffic be detoured over roads or streets outside the Project area, do not maintain such roads or streets. However, maintain all signs and other devices placed for the purpose of the detour.
6. Operation of Existing Movable Bridges:
- a. At the pre-construction meeting, the Engineer and the Contractor will select a date for the County to turn over the bridge maintenance and operations responsibilities. In the event that this date is not discussed, the Contractor will take full responsibility at the NTP date.
 - b. In addition to bridge maintenance responsibilities during the duration of the project, Contractor is responsible for having qualified and sufficient number of bridge operators to be able to operate the bridge in accordance USCG regulations – specifically, Title 33- Navigation and Navigable Waters, Chapter I - U.S. Coast Guard, Department of Homeland Security, Subchapter J-Bridges, Part 117--Drawbridge Operation Regulations, Subpart B--Specific Requirements § 117.5.
 - c. County's bridge operators are scheduled as follows:

1st Shift:	12am to 8am
2nd Shift:	8am to 4pm
3rd Shift:	4pm to 12am
 - d. This allows the bridge to be operational on a 7 days/week, 365 days per year basis.
 - e. When removing bridges: Once the bridge is removed Contractor is relieved of this responsibility; however, upon completion of the construction of the new bridge and until the new bridge is officially returned to the County, the contractor is obligated to operate the bridge in accordance with the established USCG regulation.
 - f. Make immediate repairs of any damage to such structures caused by use or operations related to the work at no expense to the County, but do not provide routine repairs or maintenance. In the event that use or operations result in damage to a bridge requiring repairs, give such repairs top priority to any equipment, material, or labor available.
- G. Traffic Control Officer.
1. Provide uniformed law enforcement officers, including marked law enforcement vehicles, to assist in controlling

and directing traffic in the work zone as required by Engineer and when the following types of work is necessary on projects:

- a. Directing traffic/overriding the signal in a signalized intersection.
- b. When FDOT Design Standards, Index No. 655 Traffic Pacing for overhead work is called for in the Plans or approved by Engineer.
- c. When pulling conductor/cable above an open traffic lane on limited access facilities, when called for in the Plans or approved by Engineer.
- d. When FDOT Design Standards, Index No. 625 Temporary Road Closure 5 Minutes or Less is used.

H. Driveway Maintenance.

1. General: Ensure that each residence and business has safe, stable, and reasonable access.
2. Construction Methods:
 - a. Place, level, manipulate, compact, and maintain the material, to the extent appropriate for the intended use.
 - b. As permanent driveway construction is accomplished at a particular location, Contractor may salvage and reuse previously placed materials that are suitable for reuse on other driveways.

I. Temporary Traffic Control Devices.

1. Installation and Maintenance:
 - a. Install and maintain temporary traffic control devices as detailed in the Plans, Index 600 of the FDOT Design Standards and when applicable, in accordance with the approved vendor drawings, as provided on FDOT's Approved Products List (APL) and the TSSQPL. Erect the required temporary traffic control devices to prevent any hazardous conditions and in conjunction with any necessary traffic re-routing to protect the traveling public, workers, and to safeguard the work area. Use only those devices that are on the FDOT APL and the TSSQPL. Immediately remove or cover any devices that do not apply to existing conditions.
 - b. All temporary traffic control devices must meet the requirements of National Cooperative Highway Research Program Report 350 (NCHRP 350) or the Manual for Assessing Safety Hardware 2009 (MASH) and current FHWA directives.
 - c. For devices requiring field assembly or special site preparation, vendor drawings shall include all field assembly details and technical information necessary for proper application and installation and must be signed and sealed by a Professional Engineer registered in the State of Florida.
 - d. Ensure that the FDOT APL number is permanently marked on the device at a readily visible location. Sheeting used on devices is exempt from this marking requirement.
 - e. Notify Engineer of any scheduled operation which will affect traffic patterns or safety sufficiently in advance of commencing such operation to permit his review of the

plan for the proposed installation of temporary traffic control devices.

- f. Ensure an employee is assigned the responsibility of maintaining the position and condition of all temporary traffic control devices throughout the duration of the Contract. Keep Engineer advised at all times of the identification and means of contacting this employee on a 24 hour basis.
- g. Keep temporary traffic control devices in the correct position, properly directed, clearly visible and clean, at all times. Ensure that all traffic control devices meet acceptable standards as outlined in American Traffic Safety Services Association (ATSSA) "Quality Guidelines for Temporary Traffic Control Devices and Features". Immediately repair, replace or clean damaged, defaced or dirty devices. Traffic control devices shall not be cleaned while installed/used. Use of warning lights on any temporary traffic control device is prohibited.

2. Work Zone Signs:

- a. Furnish, install, maintain, remove and relocate signs in accordance with the Plans and FDOT Design Standards, Index No. 600. Use signs that meet the material and process requirements of FDOT Section 994. Use Type IV sheeting for fluorescent orange work zone signs. Roll-up signs must meet the requirements of Type VI sheeting. Use Type IV or Type XI sheeting for all other work zone signs. Attach the sign to the sign support using hardware meeting the manufacturer's recommendations on the FDOT APL vendor drawings or as specified in the FDOT Design Standards.

1) Post Mounted Signs:

- a) Meet the requirements of FDOT Section 990-8.

2) Portable Signs:

- a) Use only approved systems, which includes sign stands and attachment hardware (nuts, bolts, clamps, brackets, braces, etc.), meeting the vendor requirements specified on the FDOT APL drawings.
- b) Provide Federal Highway Administration's (FHWA) accepted sign substrate for use with accepted sign stands on the National Highway System (NHS) under the provisions of the NCHRP Report 350 "Recommended Procedures for the Safety Performance Evaluation of Highway Features."

3) Barrier Mounted Signs:

- a) When post mounting criteria cannot be achieved in accordance with FDOT Design Standards, Index No. 600 and a barrier or traffic railing exists, use temporary sign criteria provided in FDOT Design Standards, Index No. 11871.

3. Business Signs:

- a. Provide and place signs in accordance with the Plans and FDOT Design Standards, Index No. 600 series. Furnish signs having retroreflective sheeting meeting the requirements of FDOT Section 990.

4. High Intensity Flashing Lights:

- a. Furnish Type B lights in accordance with the Plans and FDOT Design Standards.
5. Warning/Channelizing Devices:
 - a. Furnish warning/channelizing devices in accordance with the Plans and FDOT Design Standards.
 - b. Retroreflective Collars for Traffic Cones:
 - 1) Use collars for traffic cones listed on the FDOT APL that meets the requirements of FDOT Section 990. Use cone collars at night designed to properly fit the taper of the cone when installed. Place the upper 6 inch collar a uniform 3-1/2 inches distance from the top of the cone and the lower 4 inch collar a uniform 2 inches distance below the bottom of the upper 6 inch collar. Ensure that the collars are capable of being removed for temporary use or attached permanently to the cone in accordance with the manufacturer's recommendations. Provide a white sheeting having a smooth outer surface and that has the property of a retroreflector over its entire surface.
 - c. Barrier Wall (Temporary):
 - 1) Furnish, install, maintain, remove and relocate a temporary barrier wall in accordance with the Plans. Ensure that temporary concrete barrier wall for use on roadway sections, complies with FDOT Design Standards, Index Nos. 412, 415 or 414 as specified in the Plans. Ensure that temporary concrete barrier wall for use on bridge and wall sections, complies with FDOT Design Standards, Index No 414 as specified in the Plans.
 - 2) Ensure that temporary water filled barrier wall used on roadway sections meets the NCHRP Report 350 criteria or the MASH and is listed on the FDOT APL. Barriers meeting the requirements of FDOT Design Standards, Index Nos. 412, 415 or temporary water filled barriers on the FDOT APL will not be accepted as an alternate to barriers meeting the requirements of FDOT Design Standards, Index No. 414.
 - 3) Trailer mounted barriers listed on the FDOT APL may be used at the option of the Contractor. Trailer mounted barriers listed on the FDOT APL must have an FHWA eligibility letter and be successfully crash tested in accordance with MASH TL-3 criteria. All trailer mounted barriers must be equipped with an FDOT APL listed truck mounted attenuator, an FDOT APL listed vehicle mounted arrow board and vehicle warning lights in accordance with this Article
 - 4) Temporary Barrier Wall Meeting the Requirements of Design Standards, Index Nos. 412 and 414:
 - a) Ensure the marking requirements of the respective Index are met.
 - 5) Proprietary Precast Temporary Barrier Wall Fabricated prior to 2005:
 - a) Contractor must submit a certification stating that all unmarked barrier wall units meet the requirements of the Specifications and the FDOT Design Standards. Certifications will be project specific and non-transferable
 - 6) Proprietary Precast Temporary Barrier Wall Fabricated in 2005 or later:
 - a) Ensure each wall unit has permanent clear markings, showing the manufacture date, serial number, manufacturer's name or symbol, and the FDOT APL number. Label the markings on a plate, plaque, or cast in the unit. Proprietary barrier wall fabricated prior to 2016 and marked with the "INDX 521" in lieu of the FDOT APL number will be permitted.
 - 7) Glare Screen (Temporary):
 - a) Use temporary glare screens listed on the FDOT APL that meet the requirements of FDOT Section 990. Furnish, install, maintain, remove and relocate glare screen systems in conjunction with temporary barrier wall at locations identified in the Plans.
 - b) Ensure the anchorage of the glare screen to the barrier is capable of safely resisting an equivalent tensile load of 600 pounds per foot of glare screen, with a requirement to use a minimum of three fasteners per barrier section.
 - c) When glare screen is utilized on temporary barrier wall, warning lights will not be required.
 - 8) Longitudinal Channelizing Devices (LCDs):
 - a) Furnish LCDs in accordance with the Plans and FDOT Design Standards. LCDs are categorized as vehicular or pedestrian and shall be interlocked. For LCDs requiring internal ballasting, an indicator that clearly identifies the proper ballast level will be required.
 - b) Use alternating orange and white pattern for solid color vehicular LCDs. Vehicular LCDs may be substituted for drums, vertical panels, or barricades.
 6. Temporary Crash Cushion (Redirective/Gating):
 - a. Furnish, install, maintain and subsequently remove temporary crash cushions in accordance with the details and notes shown in the Plans, the FDOT Design Standards, and requirements of the pre-approved alternatives listed on the FDOT APL.
 - b. Maintain the crash cushions until their authorized removal. Repair all attachment scars to permanent structures and pavements after crash cushion removal. Make necessary repairs due to defective material, work, or Contractor operations at no cost to the Department.
 - c. Restore crash cushions damaged by the traveling public within 24 hours after notification as authorized by Engineer.
 7. Guardrail (Temporary):
 - a. Furnish guardrail (temporary) in accordance with the Plans and Design Standards. Meet the requirements of Article 536.
 8. Arrow Board:
 - a. Furnish arrow boards that meet the requirements of FDOT Section 990 as required by the Plans and Design

Standards to advise approaching traffic of lane closures or shoulder work.

- b. Type B arrow boards may be used on low to intermediate speed (0 mph to 50 mph) facilities or for maintenance or moving operations on any speed facility.
- c. Type C arrow boards shall be used for all other operations on high-speed (50 mph and greater) facilities and may be substituted for Type B arrow boards on any speed facility.

9. Portable Changeable Message Sign (PCMS):

- a. Furnish PCMSs or truck mounted changeable message signs that meet the requirements of FDOT Section 990 as required by the Plans and FDOT Design Standards to supplement other temporary traffic control devices used in work zones.

10. Portable Regulatory Signs (PRS):

- a. Furnish PRSs that meet the requirements of FDOT Section 990 as required by the Plans and FDOT Design Standards.
- b. Activate portable regulatory signs only during active work activities and deactivate when no work is being performed.

11. Radar Speed Display Unit (RSDU):

- a. Furnish RSDUs that meet the requirements of FDOT Section 990 as required by the Plans and FDOT Design Standards to inform motorists of the posted speed and their actual speed.
- b. Activate the radar speed display unit only during active work activities and deactivate when no work is being performed.

12. Temporary Signalization and Maintenance:

- a. Provide temporary signalization and maintenance at existing, temporary, and new intersections including but not limited to the following:
 - 1) Installation of temporary poles and span wire assemblies as shown in the Plans,
 - 2) Temporary portable traffic signals as shown in the Plans,
 - 3) Adding or shifting signal heads,
 - 4) Trouble calls,
 - 5) Maintaining intersection and coordination timing and preemption devices.
- b. Restore any loss of operation within 12 hours after notification.
- c. Provide traffic signal equipment that meets the requirements of Article 603 of FDOT Design Standards. Engineer may approve used signal equipment if it is in acceptable condition. Replacement components for traffic signal cabinet assemblies will be provided by the maintaining agency.

13. Temporary Traffic Detection and Maintenance:

- a. Provide temporary traffic detection and maintenance at existing, temporary, and new signalized intersections. Provide temporary traffic detection equipment listed on

the FDOT APL. Restore any loss of detection within 12 hours. Ensure 90% accuracy per signal phase, measured at the initial installation and after any lane shifts, by comparing sample data collected from the detection system with ground truth data collected by human observation. Collect the sample and ground truth data for a minimum of five minutes during a peak and five minutes during an off-peak period with a minimum three detections for each signal phase. Perform the test in the presence of Engineer.

14. Truck Mounted Attenuators and Trailer Mounted Attenuators:

- a. Furnish, install and maintain only those attenuators that meet the requirements of NCHRP 350 or the MASH.
- b. Use truck mounted attenuators or trailer mounted attenuators, when called for in the FDOT Design Standards. Use attenuators listed on the FDOT APL.
- c. When attenuators are called for, use either a truck mounted attenuator or a trailer mounted attenuator system designed and installed in accordance with the manufacturers recommendations.
- d. Equip the attenuator cartridge with lights and reflectors in compliance with applicable Florida motor vehicle laws, including turn signals, dual tail lights, and brake lights. Ensure that lights are visible in both the raised and lowered positions if the unit is capable of being raised.
- e. Install either alternating black with yellow or white with orange sheeting on the rear of trailer mounted attenuators and on truck mounted attenuators, in both the operating and raised position. Use Type III (work zone) or Type IV sheeting consisting of 4 or 6 inch wide stripes installed to form chevrons that point upward. All sheeting except black shall be retroreflective.
- f. Attenuators will not be paid for separately. Include the cost of the truck with either a truck mounted attenuator or a trailer mounted attenuator under Maintenance of Traffic (General). Payment includes all costs, including furnishing, maintaining and removal when no longer required, and all materials, labor, tools, equipment and incidentals required for attenuator maintenance.

15. Temporary Raised Rumble Strip Sets:

- a. When called for in the Plans, furnish, install, maintain, remove, and reinstall temporary raised rumble strip sets.
- b. Install the temporary raised rumble strip sets per the manufacturer's recommendations and in accordance with FDOT Design Standards, Index No. 603.
- c. The temporary raised rumble strip may be either a removable polymer striping tape or a molded engineered polymer material.

16. Automated Flagger Assistance Devices (AFAD):

- a. Furnish, install, maintain, remove and relocate AFADs in accordance with the Plans and FDOT Design Standards. Position AFADs where they are clearly visible to oncoming traffic and out of the lane of traffic. The devices may be operated either by a single flagger at one end of the traffic control zone, from a central location, or by a separate flagger near each device's location.

- b. AFADs may be either a remotely controlled Stop/Slow AFAD mounted on either a trailer or a movable cart system, or a remotely controlled Red/Yellow Lens AFAD.
- c. AFADs will not be paid for separately. AFADs may be used as a supplement or an alternate to flaggers in accordance with FDOT Index 603. Include the cost for AFADs in Maintenance of Traffic (General).

17. Temporary Lane Separator:

- a. Furnish, install, maintain, remove and relocate temporary lane separator in accordance with the Plans and FDOT Design Standards, Index No 600.
- b. Anchor the portable temporary lane separator with a removable anchor bolt. Use epoxy on bridge decks where anchoring is not allowed. Remove the epoxy from the bridge deck by hydroblasting or other method approved by Engineer.

J. Work Zone Pavement Marking.

1. Description:

- a. Furnish and install work zone pavement markings for MOT in construction areas and in close conformity with the lines and details shown in the Plans and FDOT Design Standards.
- b. Centerlines, lane lines, edge lines, stop bars and turn arrows will be required in work zones prior to opening the road to traffic.
- c. The most common types of work zone pavement markings are painted pavement markings and removable tape. Other types of work zone pavement markings may be identified in the Plans.

2. Painted Pavement Markings:

- a. General: Use painted pavement markings meeting the requirements of Article 710. Use standard waterborne paint unless otherwise identified in the Plans or approved by Engineer.

3. Removable Tape:

- a. General: Use removable tape listed on the FDOT APL and meeting the requirements of FDOT 990-4.
- b. Application: Apply removable tape with a mechanical applicator to provide pavement lines that are neat, accurate and uniform. Equip the mechanical applicator with a film cut-off device and with measuring devices that automatically and accumulatively measure the length of each line placed within an accuracy tolerance of plus or minus 2%. Ensure removable tape adheres to the road surface. Removable tape may be placed by hand on short sections, 500 feet or less, if it is done in a neat accurate manner.
- c. Retroreflectivity: Apply white and yellow traffic stripes and markings that will attain an initial retroreflectivity of not less than 300 mcd/lx·m² for white and contrast markings and not less than 250 mcd/lx·m² for yellow markings. Black portions of contrast tapes and black masking tapes must be non-reflective and have a reflectance of less than 5 mcd/lx m². At the end of the six month service life, the retroreflectance of white and

yellow removable tape shall not be less than 150 mcd/lx·m².

- d. Removability: Provide removable tape capable of being removed from bituminous concrete and portland cement concrete pavement intact or in substantially large strips, either manually or by a mechanical roll-up device, at temperatures above 40°F, without the use of heat, solvents, grinding or blasting.

- 4. Temporary Retroreflective Pavement Markers (RPM's): Use markers listed on the FDOT APL and meeting the requirements of FDOT 990-5. Apply all markers in accordance with the FDOT Design Standards, Index Nos. 600 and 17352, prior to opening the road to traffic. Replace markers any time after installation when more than three consecutive markers fail or are missing, at no expense to the Department, in a timely manner, as directed by Engineer.

K. Method of Measurement.

1. General:

- a. Devices installed/used on the Project on any calendar day or portion thereof, within the allowable Contract Time, including time extensions which may be granted, will be paid for at the Contract unit price for the applicable pay item, except those paid for as Maintenance of Traffic (General).
- b. One or more of the following items may appear in a contract in addition to a direct payment item for Maintenance of Traffic (Lump Sum). Unless otherwise stipulated in the Contract Documents, only those items with an Awarded Unit Price will be considered for direct payment.

2. Traffic Control Officers:

- a. The County will reimburse Contractor for the services of uniformed law enforcement officers authorized to serve as traffic control officers for the purpose of controlling or directing traffic in the work zone as part of the County approved Traffic Control Plan and Maintenance of Traffic provided by Contractor pursuant to the Contract Documents.
- b. The quantity to be paid for will be the invoice unit price per hour for the actual number of officers certified to be on the project site, including any law enforcement vehicles and all other direct and indirect costs.
- c. Payment will be made at invoice cost from an appropriate dedicated allowance established by the County.
- d. Payment will be made only for those Traffic Control Officers specified in the Plans and authorized by the Engineer. The necessary invoices and documentation must be submitted to the Engineer along with the payment request.

3. Special Detours:

- a. When a detour facility is specifically detailed in the Plans, or is otherwise described or detailed as a special item, and an item for separate payment is included in the proposal, the work of constructing, maintaining, and subsequently removing such detour facilities will be paid for separately. Traffic control devices, warning

- devices, barriers, signing, and pavement markings for special detours will also be paid for separately.
- b. When the Plans show more than one detour, each detour will be paid for separately, at the Contract lump sum price for each.
 - c. Where a separate item for a specific detour facility is included in the proposal, payment will be made under special detour.
4. Commercial Material for Driveway Maintenance:
 - a. The quantity to be paid for will be the certified volume, in cubic yards, of all materials authorized by the Engineer, acceptably placed, compacted and maintained for driveway maintenance. The volume, which is authorized to be reused, and which is acceptably salvaged, placed, compacted and maintained in other designated driveways will be included again for payment.
 - b. Arrow Board: The quantity to be paid at the contract unit price will be for the number of arrow boards certified as installed/used on the project on any calendar day or portion thereof within the contract time.
 5. Work Zone Signs:
 - a. The number of temporary post-mounted signs (temporary regulatory, warning and guide) certified as installed/used on the project will be paid for at the Contract unit price for work zone signs. When multiple signs are located on single or multiple posts, each sign panel will be paid individually. Signs greater than 20 square feet and detailed in the Plans will be paid for under Maintenance of Traffic (General).
 - b. Temporary portable signs (excluding mesh signs) and vehicular mounted signs will be included for payment under work zone signs, only if used in accordance with the FDOT Design Standards.
 - c. The number of temporary barrier mounted signs (temporary regulatory, warning and guide) certified as installed/used on the project will be paid for at the Contract unit price for barrier mounted work zone signs.
 6. Business Signs:
 - a. The number of business signs certified as installed/used on the project will be paid for at the Contract unit price for business signs.
 7. High Intensity Flashing Lights:
 - a. The number of high intensity flashing lights (Type B) certified as installed/used on the project will be paid for at the Contract unit price for high intensity flashing lights (temporary - Type B).
 8. Channelizing Devices:
 - a. The number of drums, vertical panels, pedestrian LCDs, and Type I, Type II, Type III, or direction indicator barricades, certified as installed/used on the project meeting the requirements of FDOT Design Standards, Index No. 600 and have been properly maintained will be paid for at the Contract unit prices for channelizing device.
 - b. Payment for vehicular LCDs will be paid as the length in feet installed divided by the device spacing for barricades, vertical panels, and drums and certified as installed/used on the project meeting the requirements of FDOT Design Standards, Index No. 600 and have been properly maintained will be paid for at the Contract unit price for channelizing device.
 - c. Payment will not be made for channelizing devices unsatisfactorily maintained, as determined by the Engineer.
 - d. Payment will be made for each channelizing device that is used to delineate trailer mounted devices.
 - e. Payment will be made for channelizing devices delineating portable changeable message signs during the period beginning 14 working days before Contract Time begins as authorized by the Engineer.
 9. Barrier Wall (Temporary):
 - a. The Contract unit price for barrier wall (temporary) will be full compensation for furnishing, installing, maintaining, and removing the barrier wall. When called for, the Contract unit price for barrier wall (temporary/relocate) will be full compensation for relocating the barrier. The certified quantity to be paid for will be determined by the number of sections times the nominal length of each section.
 10. Barrier Delineators:
 - a. The number of barrier delineators, installed on top of barrier wall, used on the project, meeting the requirements of FDOT Design Standards and Article 705.
 11. Lights, Temporary, Barrier Wall Mount:
 - a. The number of Type C steady burn lights, mounted on barrier wall, certified as installed/used on the project, meeting the requirements of the Design Standards and have been properly maintained will be paid for at the Contract unit price for lights temporary, barrier wall mount.
 12. Glare Screen (Temporary):
 - a. The certified quantity to be paid for will be determined by the number of sections times the nominal length of each section.
 13. Temporary Crash Cushions:
 - a. Redirective:
 - 1) The quantity to be paid for will be the number of temporary crash cushions (redirective) certified as installed/used and maintained on the project, including object marker.
 - b. Gating:
 - 1) The quantity to be paid for will be the number of temporary crash cushions (gating) certified as installed/used and maintained on the project, including object marker.
 14. Temporary Guardrail:
 - a. The quantity to be paid for will be the length, in feet, of temporary guardrail constructed and certified as installed/used on the project. The length of a run of guardrail will be determined as a multiple of the nominal panel lengths.

15. Arrow Board:

- a. The quantity to be paid at the Contract unit price will be for the number of arrow boards certified as installed/used on the project on any calendar day or portion thereof within the Contract time.

16. Portable Changeable Message Sign:

- a. The quantity to be paid at the Contract unit price will be for the number of portable changeable message signs or truck mounted changeable message signs certified as installed/used on the project on any calendar day or portion thereof within the Contract time.
- b. Payment will be made for each portable changeable message sign that is used during the period beginning fourteen working days before Contract Time begins as authorized by Engineer.

17. Portable Regulatory Signs:

- a. The quantity to be paid for will be the number of portable regulatory signs certified as installed/used on the project on any calendar day or portion thereof within the Contract time, will be paid for the Contract unit price for portable regulatory sign.

18. Radar Speed Display Unit:

- a. The quantity to be paid for will be the number of radar speed display units certified as installed/used on the project on any calendar day or portion thereof within the Contract Time, will be paid for the Contract unit price for radar speed display unit.

19. Temporary Signalization and Maintenance:

- a. For existing intersections, the quantity to be paid for will be the number of signalized intersections per day for the full duration of the Contract. For temporary intersections, the quantity to be paid for will be the number of signalized intersections per day for the duration of the temporary intersection. No separate payment will be made for temporary signalization and maintenance at new intersections.

20. Temporary Traffic Detection and Maintenance:

- a. For existing intersections, the quantity to be paid for will be the number of signalized intersections per day beginning the day Contract Time begins and ending the day the permanent detection is operational and the final lane configuration is in place. For temporary and new intersections, the quantity to be paid for will be the number of signalized intersections per day beginning the day the temporary detection is functional and ending the day the permanent detection is operational and the final lane configuration is in place for a new intersection; or, when the detection is removed for a temporary intersection.

21. Work Zone Pavement Markings:

- a. The quantities, furnished and installed, to be paid for will be the length of skip and solid pavement markings, and the area of pavement markings placed as follows:
 - 1) The total transverse distance, in feet, of skip pavement marking authorized and acceptably applied. The length of actual applied line will depend on the skip ratio of the material used.

Measurement will be the distance from the beginning of the first stripe to the end of the last stripe with proper deductions made for unpainted intervals as determined by plan dimensions or stations, subject to the requirements of the Contract Documents.

- 2) The net length, in feet, of solid pavement marking authorized and acceptably applied.
- 3) The number of directional arrows or pavement messages authorized and acceptably applied.
- 4) The number of temporary RPM's authorized and acceptably applied.

22. Temporary Raised Rumble Strips:

- a. The quantity to be paid for will be the number of temporary raised rumble strip sets certified as installed/used on the project on any calendar day or portion thereof within the Contract Time.
- b. The number of strips used must meet the requirements of FDOT Design Standards, Index No. 603. No adjustment will be made to the per day measurement for the number of strips or sets used, or for the number of times the sets are relocated.

23. Temporary Lane Separator:

- a. The quantity of temporary lane separator to be paid for will be plan quantity, in feet, including drainage gaps, completed and accepted.

L. Submittals.

1. Submittal Instructions:

- a. Prepare a certification of quantities for certified MOT payment items for each project in the Contract. Submit the certification of quantities to Engineer. The Department will not pay for any disputed items until Engineer approves the certification of quantities.

2. Contractor's Certification of Quantities:

- a. Request payment by submitting a certification of quantities as directed by Engineer, based on the amount of work done or completed. Ensure the certification consists of the following:
- b. Contract Number, Certification Date and the period that the certification represents.
- c. The basis for arriving at the amount of the progress certification, less payments previously made and less an amount previously retained or withheld. The basis will include a detail breakdown provided on the certification of items of payment in accordance with 102-M. After the initial setup of the MOT items and counts, the interval for recording the counts will be made weekly on the certification sheet unless there is a change. This change will be documented on the day of occurrence. Some items may necessitate a daily interval of recording the counts.

M. Basis of Payment.

1. Maintenance of Traffic (General):

- a. No Direct Payment Provided: When no item for direct payment of Maintenance of Traffic (Lump Sum) is provided by the Contract, the costs for performing all work and requirements specified under this Article, except as may be specifically covered for payment under other items, will be included among the various scheduled items of the Contract.
 - b. Direct Payment Provided: When direct payment for Maintenance of Traffic (Lump Sum) is provided in the Contract, the quantity to be paid all work and costs specified under this Article, except as may be specifically covered for payment under other items, will be the lump sum Contract Price.
2. Additional items of Direct Payment. Only those items with an Awarded Unit Price will be considered for direct payment.
 - a. Traffic Control Officers:
 - 1) Price and payment will be full compensation for the services of the traffic control officers at invoice cost as specified under subarticle 102.K.2 above.
 - b. Special Detours:
 - 1) Price and payment will be full compensation for providing all detour facilities shown in the Plans and all costs incurred in carrying out all requirements of this Article for general MOT within the limits of the detour, as shown in the Plans.
 - c. Commercial Materials for Driveway Maintenance:
 - 1) Price and payment will be full compensation for all work and materials specified for this item, including specifically all required shaping and maintaining of driveways.
 - d. Work Zone Signs:
 - 1) Price and payment will be full compensation for all work and materials for furnishing signs, supports and necessary hardware, installation, relocating, maintaining and removing signs.
 - e. Business Signs:
 - 1) Price and payment will be full compensation for all materials and labor required for furnishing, installing, relocating, maintaining, and removing the signs as well as the cost of installing any logos provided by business owners.
 - f. High Intensity Warning Lights:
 - 1) Price and payment will be full compensation for furnishing, installing, operating, relocating, maintaining and removing high intensity flashing lights (Type B).
 - g. Channelizing Devices:
 - 1) Prices and payment will be full compensation for furnishing, installing, relocating, maintaining and removing the channelizing devices, including the costs associated with attached warning lights as required.
 - h. Barrier Wall (Temporary):
 - 1) Price and payment will be full compensation for furnishing, installing, maintaining, and removing the barrier. When called for, barrier wall (temporary) (relocate) will be full compensation for relocating the barrier.
 - i. Lights, Temporary, Barrier Wall Mount:
 - 1) Price and payment will be full compensation for all work and materials for furnishing, installing and maintaining the warning lights mounted on barrier wall. Payment will not be made for lights that are improperly placed or are not working.
 - j. Barrier Delineators:
 - 1) No separate payment will be made for barrier delineators installed on top of temporary barrier wall. The cost of furnishing, installing and maintaining the barrier delineators will be included in the cost of the temporary barrier wall.
 - k. Glare Screen (Temporary):
 - 1) Price and payment will be full compensation for furnishing, installing, maintaining, and removing the glare screen certified as installed/used on the project. When called for, glare screen (relocate) will be full compensation for relocating the glare screen.
 - l. Temporary Crash Cushion (Redirective/Gating):
 - 1) Price and payment will be full compensation for furnishing, installing, maintaining and subsequently removing such crash cushions. Payment for restoring damaged crash cushions will be the manufacturer's/distributor's invoice price for the new materials/parts plus 20% markup. The 20% markup is compensation for all necessary work including; but not limited to, labor, equipment, supplies and profit, as authorized by Engineer. Additional MOT required for the repair of the crash cushion will be paid for under the appropriate MOT pay item.
 - m. Temporary Guardrail:
 - 1) Price and payment will be full compensation for furnishing all materials required for a complete installation, including end anchorage assemblies and any end connections to other structures and for installing, maintaining and removing guardrail.
 - n. Arrow Board:
 - 1) Price and payment will be full compensation for furnishing, installing, operating, relocating, maintaining and removing arrow boards.
 - o. Portable Changeable Message Sign:
 - 1) Price and payment will be full compensation for furnishing, installing, operating, relocating, maintaining and removing portable changeable message signs.
 - p. Portable Regulatory Signs:
 - 1) Price and payment will be full compensation for furnishing, installing, relocating, maintaining and removing a completely functioning system as described in these Specifications portable

regulatory signs. Price and payment will be full compensation for furnishing, installing, operating, relocating, maintaining and removing portable regulatory signs.

- 2) Payment will include all labor, materials, incidentals, repairs and any actions necessary to operate and maintain the unit at all times that work is being performed or traffic is being affected by construction and/or MOT operations.

q. Radar Speed Display Unit:

- 1) Price and payment will be made only for a completely functioning system as described in these specifications. Payment will include all labor, hardware, accessories, signs, and incidental items necessary for a complete system.
- 2) Payment will include any measurements needed to insure that the unit conforms to all specification requirements.
- 3) Payment will include all labor, materials, incidentals, repairs and any actions necessary to operate and maintain the unit at all times that work is being performed or traffic is being affected by construction and/or MOT operations. Price and payment will be full compensation for furnishing, installing, operating, relocating, maintaining and removing radar speed display unit.

r. Temporary Signalization and Maintenance:

- 1) Price and payment will constitute full compensation for furnishing, installing, operating, maintaining and removing temporary traffic control signals including all equipment and components necessary to provide an operable traffic signal. Payment will be withheld for each day at each intersection where the temporary signalization is not operational within 12 hours after notification.

s. Temporary Traffic Detection and Maintenance:

- 1) Price and payment will constitute full compensation for furnishing, installing, operating, maintaining and removing temporary traffic detection including all equipment and components necessary to provide an acceptable signalized intersection. Take ownership of all equipment and components. Payment will be withheld for each day at each intersection where the temporary detection is not operational within 12 hours after notification.

t. Temporary Raised Rumble Strips:

- 1) Price and payment will be full compensation for all work and materials described in this Article, including all cleaning and preparing of surfaces, disposal of all debris, furnishing of all materials, application, curing, removal, reinstalling and protection of all items, protection of traffic, furnishing of all tools, machines and equipment, and all incidentals necessary to complete the work.

u. Work Zone Pavement Markings:

- 1) Price and payment will be full compensation for all work specified including, all cleaning and preparing of surfaces, furnishing of all materials, application,

curing and protection of all items, protection of traffic, furnishing of all tools, machines and equipment, and all incidentals necessary to complete the work. Final payment will be withheld until all deficiencies are corrected.

- 2) Removable tape may be substituted for work zone paint at no additional cost to the Department.

- 3) Payment for temporary RPMs used to supplement line markings will be paid for under temporary retroreflective pavement markers. Install these markers as detailed in the Design Standards.

v. Temporary Lane Separator:

- 1) Price and payment will be full compensation for all work specified in this Article.

3. Payment Items: Payment will be made under:

- 1) No separate item(s) for Maintenance of Traffic will be provided under this contract.

104 PREVENTION, CONTROL, AND ABATEMENT OF EROSION AND WATER POLLUTION (REV. 01-09-12)

A. Description.

1. Provide erosion control measures on the Project and in areas outside the right-of-way where work is accomplished in conjunction with the Project, so as to prevent pollution of water, detrimental effects to public or private property adjacent to the Project right-of-way, and damage to work on the Project.
2. Construct and maintain temporary erosion control features and, as required, construct and maintain permanent erosion control features as shown in the Plans or as may be directed by Engineer.

B. General.

1. Coordinate the installation of temporary erosion control features with the construction of the permanent erosion control features to the extent necessary to ensure economical, effective, and continuous control of erosion and water pollution throughout the life of the Contract.
2. Maintain, at the work site, copies of all documents referenced by this Specification including: the Departmental Stormwater Pollution Prevention Plan (if provided); the approved contractor Erosion Control Plan; and applicable inspection reports, permits and certifications. Document compliance with all requirements pertaining to the aforementioned documents and this Specification.
3. Engineer may direct, when warranted by unforeseen conditions, the use of control features or methods other than those included in the original Contract. In such event, the Department will pay for this additional work as unforeseeable work.

C. Control of Contractor's Operations Which May Result in Water Pollution.

1. Prevent pollution of streams, canals, lakes, reservoirs, and other water impoundments with fuels, oils, bitumens, calcium chloride, or other harmful materials.
2. Conduct and schedule operations to avoid or otherwise minimize pollution or siltation of such water impoundments, and to avoid interference with movement of migratory fish. Do not dump any residue from dust collectors or washers into any water body.
3. Restrict construction operations in rivers, streams, lakes, tidal waters, reservoirs, canals, and other water impoundments to those areas where it is necessary to perform filling or excavation to accomplish the work shown in the Plans and to those areas which must be entered to construct temporary or permanent structures. As soon as conditions permit, promptly clear rivers, streams, and impoundments of all obstructions placed therein or caused by construction operations.
4. Do not frequently ford live streams with construction equipment. Wherever an appreciable number of stream crossings are necessary at any one location, use a temporary bridge or other structure.
5. Except as necessary and authorized for Project construction, do not deposit excavated material in rivers, streams, canals, or impoundments, or in a position close enough thereto, to be washed away by high water or runoff.
6. Where pumps are authorized for use in removing highly turbid waters from enclosed construction areas such as cofferdams or forms, treat the water by one or more of the following methods prior to discharge into State waters:
 - a. Pumping into grassed swales or appropriate vegetated areas or sediment basins.
 - b. Confined by an appropriate enclosure such as turbidity barriers when other methods are not considered appropriate.
7. Do not disturb lands or waters outside the limits of construction as staked, except as authorized by Engineer.
8. Obtain Engineer's approval for the location of, and method of operation in, borrow pits, material pits, and disposal areas furnished for waste material from the project (other than commercially operated sources) such that erosion during and after completion of the work will not result in probability of detrimental siltation or water pollution.

D. Materials for Temporary Erosion Control.

1. Engineer will not require testing of materials used in construction of temporary erosion control features other than as provided for geotextile fabric in FDOT 985-3 unless such material is to be incorporated into the completed Project.
2. When no testing is required, Engineer will base acceptance on visual inspection.
3. Contractor may use new or used materials, subject to Engineer's approval, for the construction of temporary silt

fence, staked turbidity barriers, and floating turbidity barrier not to be incorporated into the completed Project.

E. Erosion Control Plan.

1. Prepare the Erosion Control Plan (ECP) in a format acceptable to the Department and in accordance with the planned sequence of operations.
2. At the Preconstruction Conference, submit to the Department an ECP that:
 - a. Meets the requirements or conditions of all permits authorizing construction of the Project. Where no permits are required or the approved permits do not contain conditions that specifically addresses erosion and water pollution, the requirements of the ECP will be governed by the Contract Documents and all applicable laws, rules, or regulations.
 - b. Accompanies the Department's Stormwater Pollution Prevention Plan (SWPPP) when a SWPPP is provided for the Project.
 - c. Includes and describes for each phase of construction operations or activities the following:
 - 1) Locations of all erosion control devices
 - 2) Types of all erosion control devices
 - 3) Estimated time erosion control devices will be in operation
 - 4) Monitoring schedules for maintenance of erosion control devices
 - 5) Methods of maintaining erosion control devices
 - 6) Containment or removal methods for pollutants or hazardous wastes
 - 7) The name and telephone number of the person responsible for monitoring and maintaining the erosion control devices.
 - d. Includes procedures to control off-site tracking of soil by vehicles and construction equipment and a procedure for cleanup and reporting of non-stormwater discharges.
 - e. Describes all phases of operations, the prevention, control, and abatement of erosion and water pollution items or activities necessary for the Project, to include:
 - 1) Types and locations of all erosion control devices
 - 2) Estimated time erosion control devices will be in operation
 - 3) Monitoring schedules for maintenance of erosion control devices
 - 4) Methods for maintaining erosion control devices
 - 5) Containment or removal methods for pollution or hazardous wastes
 - 6) Name and telephone number of the person responsible for monitoring and maintaining the erosion control devices.
3. Contractor must obtain Engineer's written approval of the ECP prior to commencing any construction activities.

4. For project requiring a Florida Department of Environmental Protection (FDEP) Generic Permit for Stormwater Discharge from Large and Small Construction Activities (Generic Permit):

- a. Failure to sign any documents or certification statements required by the FDEP Generic Permit will be considered a default of the Contract.
- b. Any soil disturbing activities performed without the required signed documents or certifications statements may be considered a violation of the FDEP Generic Permit.

F. Construction Requirements.

1. Limitation of Exposure of Erodible Earth:

- a. Engineer may limit the surface areas of unprotected erodible earth exposed by the construction operation and may direct Contractor to provide erosion or pollution control measures to prevent contamination of any river, stream, lake, tidal waters, reservoir, canal, or other water impoundments or to prevent detrimental effects on property outside the Project right-of-way or damage to the Project.
- b. Limit the area in which excavation and filling operations are being performed so that it does not exceed the capacity to keep the finish grading, turf, sod, and other such permanent erosion control measures current in accordance with the accepted schedule.
- c. Do not allow the surface area of erodible earth that clearing and grubbing operations or excavation and filling operations expose to exceed 750,000 square feet without specific prior approval by Engineer. This limitation applies separately to clearing and grubbing operations and excavation and filling operations.
- d. Engineer may increase or decrease the amount of surface area the Contractor may expose at any one time.

2. Incorporation of Erosion and Sediment Control Features:

- a. Incorporate permanent erosion control features into the project at the earliest practical time. Use temporary erosion and sediment control features found in the State of Florida Erosion and Sediment Control Designer and Reviewer Manual (E&SC Manual) to correct conditions that develop during construction which were not foreseen at the time of design, to control erosion and sediment prior to the time it is practical to construct permanent control features, or to provide immediate temporary control of erosion and sediment that develops during normal construction operations, which are not associated with permanent erosion control features on the project. An electronic version of the E&SC Manual can be found at the following URL: <http://www.dot.state.fl.us/specificationoffice/implemented/URLinSpecs/Files/FLerosionSedimentManual060709.pdf>
- b. Install all sediment control devices in a timely manner to ensure the control of sediment and the protection of lakes, streams, gulf or ocean waters, or any wetlands associated therewith and to any adjacent property outside the right-of-way as required.

c. At sites where exposure to such sensitive areas is prevalent, complete the installation of any sediment control device prior to the commencement of any earthwork.

d. After installation of sediment control devices, repair portions of any devices damaged at no expense to the Department. Engineer may authorize temporary erosion and sediment control features when finished soil layer is specified in the Contract and the limited availability of that material from the grading operations will prevent scheduled progress of the work or damage the permanent erosion control features.

3. Scheduling of Successive Operations:

- a. Schedule operations such that the area of unprotected erodible earth exposed at any one time is not larger than the minimum area necessary for efficient construction operations, and the duration of exposure of uncompleted construction to the elements is as short as practicable.
- b. Schedule and perform clearing and grubbing so that grading operations can follow immediately thereafter. Schedule and perform grading operations so that permanent erosion control features can follow immediately thereafter if conditions on the project permit.

4. Details for Temporary Erosion and Sediment Control Features:

- a. General: Use temporary erosion, sediment and water pollution control features found in the E&SC Manual. These features consist of, but are not limited to, temporary turf, rolled erosion control products, sediment containment systems, runoff control structures, sediment barriers, inlet protection systems, silt fences, and turbidity barriers. For design details for some of these items, refer to the Plans, the FDOT Design Standards and E&SC Manual.
- b. Temporary Sod: Engineer may designate certain areas of sod constructed in accordance with the Specifications as temporary erosion control features. For areas not defined as sod, constructing temporary turf by seeding only is not an option for temporary erosion control under this Article. Engineer may waive the turf establishment requirements of the Specifications for areas with temporary sod that will not be a part of the permanent construction. The work of placing temporary sod, approved as a temporary erosion control feature where directed by Engineer and in accordance with these Specifications, will be paid for as unforeseeable work.
- c. Runoff Control Structures: Construct runoff control structures in accordance with the details shown in the Plans, the E&SC Manual, or as may be approved as suitable to adequately perform the intended function.
- d. Sediment Containment Systems: Construct sediment containment systems in accordance with the details shown in the Plans, the E&SC Manual, or as may be approved as suitable to adequately perform the intended function. Clean out sediment containment systems as necessary in accordance with the Plans or as directed.
- e. Sediment Barriers: Provide and install sediment barriers according to details shown in the Plans, as

directed by Engineer, or as shown in the E&SC Manual to protect against downstream accumulation of sediment. Sediment Barriers include, but are not limited to synthetic bales, silt fence, fiber logs and geosynthetic barriers. Reusable barriers that have had sediment deposits removed may be reinstalled on the Project as approved by Engineer.

f. Silt Fence:

- 1) General: Furnish, install, maintain, and remove silt fences, in accordance with the manufacturer's directions, these Specifications, the details as shown on the Plans, the FDOT Design Standards, and the E&SC Manual.
- 2) Materials and Installation: Use a geotextile fabric made from woven or nonwoven fabric, meeting the physical requirements of FDOT Section 985 according to those applications for erosion control. Choose the type and size of posts, wire mesh reinforcement (if required), and method of installation. Do not use products which have a separate layer of plastic mesh or netting. Provide a durable and effective silt fence that controls sediment comparable to the FDOT Design Standards and the E&SC Manual. Erect silt fence at upland locations, across ditch lines and at temporary locations shown on the plans or approved by Engineer where continuous construction activities change the natural contour and drainage runoff. Do not attach silt fence to existing trees unless approved by Engineer.
- 3) Inspection and Maintenance: Inspect all silt fences immediately after each rainfall and at least daily during prolonged rainfall. Immediately correct any deficiencies. In addition, make a daily review of the location of silt fences in areas where construction activities have changed the natural contour and drainage runoff to ensure that the silt fences are properly located for effectiveness. Where deficiencies exist, install additional silt fences as directed by Engineer. Remove sediment deposits when the deposit reaches approximately 1/2 of the volume capacity of the silt fence or as directed by Engineer. Dress any sediment deposits remaining in place after the silt fence is no longer required to conform with the finished grade, and prepare them in accordance with the Contract Documents and as directed by Engineer.

g. Floating Turbidity Barriers and Staked Turbidity Barriers:

- 1) Install, maintain, and remove turbidity barriers to contain turbidity that may occur as the result of dredging, filling, or other construction activities which may cause turbidity to occur in the waters of the State. Contractor may need to deploy turbidity barriers around isolated areas of concern such as seagrass beds, coral communities, etc. both within as well as outside the right-of-way limits. Engineer will identify such areas. Place the barriers prior to the commencement of any work that could impact the area of concern. Install the barriers in accordance with the details shown in the Plans or as approved by Engineer. Ensure that the type

barrier used and the deployment and maintenance of the barrier will minimize dispersion of turbid waters from the construction site. Engineer may approve alternate methods or materials.

- 2) Operate turbidity barriers in such a manner to avoid or minimize the degradation of the water quality of the surrounding waters and minimize damage to areas where floating barriers installed.

h. Inlet Protection System: Furnish and install inlet protection systems as shown in the Plans, FDOT Design Standards and the E&SC Manual.

i. Rolled Erosion Control Products (RECPs):

- 1) General: Install RECPs in locations where temporary protection from erosion is needed. Two situations occur that require artificial coverings each having differing material requirements.
 - a) Temporary pauses in construction: Use RECPs composed of natural or synthetic fiber mats, plastic sheeting, or netting as protection against erosion, when directed by Engineer, during temporary pauses in construction caused by inclement weather or other circumstances. Remove the material when construction resumes.
 - b) Facilitating plant growth: Use RECPs as erosion control blankets, at locations shown in the plans, to facilitate plant growth while permanent grassing is being established. For the purpose described, use non-toxic, biodegradable, natural or synthetic woven fiber mats. Install erosion control blankets capable of sustaining a maximum design velocity of 6.5 ft/sec as determined from tests performed by Utah State University, Texas Transportation Institute or an independent testing laboratory approved by the Department. Furnish to Engineer, two certified copies of manufacturers test reports showing that the erosion control blankets meet the requirements of this Specification. Certification must be attested, by a person having legal authority to bind the manufacturing company. Also, furnish two 4 by 8 inch samples for product identification. The manufacturers test records shall be made available to the Department upon request. Leave the material in place, as installed, to biodegrade.

5. Removal of Temporary Erosion Control Features: In general, remove or incorporate into the soil any temporary erosion control features existing at the time of construction of the permanent erosion control features in an area of the Project in such a manner that no detrimental effect will result. Engineer may direct that temporary features be left in place.

G. Maintenance of Erosion and Sediment Control Features.

1. General: Provide routine maintenance of permanent and temporary erosion and sediment control features, at no expense to the Department, until the Project is complete and accepted. If reconstruction of such erosion and sediment control features is necessary due to Contractor's negligence or carelessness or, in the case

of temporary erosion and sediment control features, failure by the Contractor to install permanent erosion control features as scheduled, Contractor must replace such erosion control features at no expense to the Department. If reconstruction of permanent or temporary erosion and sediment control features is necessary due to factors beyond the control of Contractor, the Department will pay for replacement under the appropriate Contract pay item or items.

2. Inspect all erosion and sediment control features at least once every seven calendar days and within 24 hours of the end of a storm of 0.50 inches or greater. Maintain all erosion control features as required in the SWPPP, Contractor's ECP, the E&SC Manual, and as specified in the State of Florida Department of Environmental Protection Generic Permit for Stormwater Discharge from Large and Small Construction Activities.

H. Protection During Suspension of Contract Time.

1. If it is necessary to suspend the construction operations for any appreciable length of time, shape the top of the earthwork in such a manner to permit runoff of rainwater, and construct earth berms along the top edges of embankments to intercept runoff water. Provide temporary slope drains to carry runoff from cuts and embankments that are in the vicinity of rivers, streams, canals, lakes, and impoundments. Locate slope drains at intervals of approximately 500 feet, and stabilize them by paving or by covering with waterproof materials. Should such preventive measures fail, immediately take such other action as necessary to effectively prevent erosion and siltation. Engineer may direct Contractor to perform, during such suspensions of operations, any other erosion and sediment control work deemed necessary.

I. Method of Measurement.

1. Direct Payment Provided:

- a. When separate items for temporary erosion control features are included in the Contract and have awarded Contract prices, the quantities to be paid for will be the:
 - 1) Area, in square yards, of Rolled Erosion Control Products.
 - 2) Length, in feet, of Runoff Control Structures, measured along the surface of the work constructed.
 - 3) Number of Sediment Containment Systems constructed and accepted.
 - 4) Number of Sediment Containment System Cleanouts accomplished and accepted.
 - 5) Length, in feet, of Sediment Barriers.
 - 6) Length, in feet, of Floating Turbidity Barrier.
 - 7) Length, in feet, of Staked Turbidity Barrier.
 - 8) Number of inlet protection systems.
- b. Upon acceptance by the Engineer, the quantity of floating turbidity barriers, sediment barriers, staked turbidity barriers, and inlet protection devices will be

paid for regardless of whether materials are new, used, or relocated from a previous approved installation on the Project.

2. No Direct Payment Provided: Unless otherwise specified, when no item for direct payment of temporary erosion control features is provided by the Contract, the costs for performing all work and meeting the requirements of this Article will be included among the various scheduled items of the Contract.

J. Basis of Payment.

1. Prices and payments will be full compensation for all work specified in this Article, including construction and routine maintenance of temporary erosion control features.
2. Any additional costs resulting from compliance with the requirements of this Article, other than construction, routine maintenance, and removal of temporary erosion control features, will be included in the Contract unit prices for the item or items to which such costs are related.
3. Separate payment will not be made for the cost of constructing temporary earth berms along the edges of the roadways to prevent erosion during grading and subsequent operations. Contractor must include these costs in the Contract prices for earthwork items.
4. Additional temporary erosion control features constructed as directed by Engineer will be paid for as unforeseeable work.
5. In case of repeated failure on the part of Contractor to control erosion, pollution, or siltation, Engineer reserves the right to employ outside assistance or to use the Department's own forces to provide the necessary corrective measures. Any such costs incurred, including engineering costs, will be charged to Contractor and appropriate deductions made from the monthly progress estimate.
6. Payment will be made under:
 - a. No separate item(s) for Prevention, Control, and Abatement of Erosion and Water Pollution will be provided under this contract.

105 CONTRACTOR QUALITY CONTROL GENERAL REQUIREMENTS (REV. 08-23-12)

A. General.

1. Submit to Engineer a meeting the requirements stipulated in this Article and that addresses the transportation, storage, placement, sampling, inspection of Contract materials and related construction operations; and to ensure that all work and material incorporated into the Project meet the requirements of the Contract Documents.
2. Comply with all personnel qualification requirements stipulated in this Article and elsewhere in the Contract Documents.

B. Guidelines for Development of the CQCP

1. Use the following guidelines for developing the CQCP and include other additional items as necessary.
 - a. General. Provide detailed policies, methods and procedures to ensure the specified quality of all applicable materials and related production and field operations.
 - b. Process control testing. List the material to be tested by pay item, tests to be conducted, the location of sampling, and the frequency of testing.
 - c. Inspection/control procedures. Address each of the following subjects in each phase of construction:
 - 1) Preparatory phase.
 - a) Review all Contract requirements.
 - b) Ensure compliance of component material to the Contract requirements.
 - c) Coordinate all submittals including certifications.
 - d) Ensure capability of equipment and personnel to comply with the Contract requirements.
 - e) Ensure preliminary testing is accomplished.
 - f) Coordinate surveying and staking of the work.
 - 2) Start-up phase.
 - a) Review the Contract requirements with personnel performing the work.
 - b) Inspect start-up of work.
 - c) Establish standards of workmanship.
 - d) Provide training as necessary.
 - e) Establish detailed testing schedule based on the production schedule.
 - 3) Production phase.
 - a) Conduct intermittent or continuous inspection during construction to identify and correct deficiencies.
 - b) Inspect completed work before requesting Engineer inspection acceptance.
 - c) Provide feedback and system changes to prevent repeated deficiencies.
 - d. Description of records. List the records to be maintained.
 - e. Personnel qualifications.
 - 1) Identify the primary contact that will communicate with the Department. Identify roles and responsibilities of the personnel involved in the Quality Control (QC) process. Document the name, authority, relevant experience, and qualifications of person with overall responsibility for the inspection system.
 - 2) Document the names, authority, and relevant experience of all personnel directly responsible for inspection and testing.
 - 3) Submit the Training Identification Numbers (TINs) or any other information which will be traceable to the certification agency's training location and dates for all technicians performing sampling, testing and

inspection for both field and laboratory tests. Provide the names of the Florida Department of Transportation's Construction Training and Qualification Program (CTQP) certifications and other pertinent certifications held and the expiration dates for each certification for each technician. Include employed and subcontracted technicians.

- f. Subcontractors.
 - 1) Include the work of all subcontractors.
 - 2) If a subcontractor is to perform work subject to the requirements of this Article, detail how that subcontractor will interface with Contractor's and other subcontractor's organizations.
- g. Raw Materials:
 - 1) Source: Identify the sources of raw materials. Provide locations and plant or mine numbers when applicable. Include the mailing address, physical address including county of the plant, telephone and fax numbers, E-mail address, primary contact at the plant, responsible person in charge, facility number provided by the FDOT, Owner information and Vendor Number and other information as required.
 - 2) Certification: Describe methods of verifying compliance of certification with the Specifications.
 - 3) Disposition of Failing Materials: Describe the system for controlling non-conforming materials, including procedures for identification, isolation and disposition.
 - 4) Storage Facilities for Raw Materials: Describe measures and methods, including bedding details, for preventing segregation, contamination and degradation.
 - 5) Describe methods of identifying individual materials. Where applicable, submit a site plan showing the locations of various materials.
- h. Production Equipment: Describe calibration frequencies, maintenance schedule and procedures for production equipment.
- i. Other Requirements:
 - 1) Copy of Certification: Attach certifications issued by the plant/Contractor for the products approved by the FDOT that will be used in the Project.
 - 2) Statement of Compliance: Include a statement of compliance with all quality requirements set forth by the Department in the Contract Documents.
 - 3) Information on Producers with Accepted FDOT Quality Control Programs: All producers of materials listed herein in Subarticle 105-G.1 must have FDOT accepted QC Programs and be listed on the FDOT's List of Producers with Accepted QC Programs. Identify the Producers of materials for the Project and include the FDOT's Facility Id number as part of the identification.
 - 4) Describing Documentation Procedure: Identify location of document storage to enable Department review. Include QC charts,

qualification/accreditation records, inspection reports, and other pertinent/supporting documents for an approved CQCP.

- j. Final Manufactured Product - Plant Operations: Describe inspection schedule and methods for identifying defects and non-compliance with the specifications. Describe corrective actions and methods to resolve them.

- 1) Storage: When storage of the produced materials is required and it is not defined in the Contract Documents, describe the methods and duration for storage. Include measures and methods for preventing segregation, contamination and degradation during storage.
- 2) Disposition of Failing Materials: When not described in the specifications, describe the methods and measures for identifying and controlling the failing materials. Include preventive and corrective measures. Describe disposition of failing materials.

- k. Final Manufactured Product - Field Operations:

- 1) Transportation: Describe the method of delivery from the point of production/storage to the point of placement.
- 2) Storage: When storage of the produced materials is required and it is not defined in the Contract Documents, describe the methods and duration for storage. Include measures and methods for preventing segregation, contamination and degradation during storage.
- 3) Placement: Describe the methods and identify the type of equipment used in incorporation of the materials into the project.
- 4) Disposition of Failing Materials: When not described in the specifications, describe the methods and measures for identifying and controlling the failing materials. Include preventive and corrective measures. Describe disposition of failing materials.

C. Quality Control Plan Submittal.

1. Submit the CQCP to Engineer for approval within 21 days after the Contract Award or at the Preconstruction Conference, whichever is sooner. Do not incorporate materials into the Project or begin any work subject to the CQCP prior to Engineer's acceptance of the CQCP.
2. Modifications or additions may be required to any part of the CQCP that is not adequately covered. Acceptance of the CQCP will be based on the inclusion of the required information. Acceptance does not imply any warranty by the County that the CQCP will result in consistent contract compliance. It remains the responsibility of Contractor to demonstrate such compliance.
3. If at any time Contractor is not in compliance with the approved CQCP, or a part thereof, affected portions of the CQCP will be disapproved. Cease work in the affected operation(s) and submit a revision to Engineer. If the CQCP, or a part thereof, must be revised, submit the revision to Engineer. Engineer will review the revision and respond within seven calendar days of receipt.

4. Continue to work on operations that are still in compliance with the approved sections of the CQCP.
5. As work progresses, submit to Engineer for acceptance supplementary documentation to the CQCP whenever quality control or quality control personnel changes are necessary.

D. Quality Control Documentation.

1. Maintain complete testing and inspection records by pay item number and make them accessible to Engineer. When or where required, submit the record and certification within one working day of the work being performed. If the record is incomplete, in error, or otherwise misleading, a copy of the record will be returned with corrections noted. When chronic errors or omissions occur, correct the procedures by which the records are produced.
2. Submission of Materials Certification and Reporting Test Results: Provide certifications prior to placement of materials. Report test results at completion of the test and meet the requirements of the applicable Specifications.
3. Worksheets: Make available to the Department, when requested, worksheets used for collecting test information. Ensure the worksheets at a minimum contain the following:
 - a. Project Identification Number,
 - b. Time and Date,
 - c. Laboratory Identification and Name,
 - d. Training Identification Numbers (TIN) and initials,
 - e. Record details as specified within the test method.
4. Inspections to Assure Compliance with Acceptance Criteria.
 - a. General: The Department is not obligated to make an inspection of materials at the source of supply, manufacture, or fabrication.
 - b. Quality Control Inspection: Provide all necessary inspection to assure effective Quality Control of the operations related to materials acceptance. This includes but is not limited to sampling and testing, production, storage, delivery, construction and placement. Ensure that the equipment used in the production and testing of the materials provides accurate and precise measurements in accordance with the applicable Specifications. Maintain a record of all inspections, including but not limited to, date of inspection, results of inspection, and any subsequent corrective actions taken. Make available to the Department the inspection records, when requested.
 - c. Notification of Placing Order:
 - 1) Order materials sufficiently in advance of their incorporation in the work to allow time for sampling, testing and inspection. Notify Engineer, prior to placing orders for materials.
 - 2) Submit to Engineer a fabrication schedule for all items requiring commercial inspection, before or at the preconstruction meeting. These items include, but are not limited to steel bridge components, overhead cantilevered sign supports with

cantilevered arms exceeding 41 feet, moveable bridge components or any other item identified as an item requiring commercial inspection in the Contract Documents.

- 3) Notify Engineer at least 30 days before beginning any production and include a production schedule.

E. Contractor Certification of Compliance.

1. Provide Engineer with a notarized monthly certification of compliance with the requirements of this Article, to accompany each progress estimate, on a form acceptable by Engineer. The Department may not authorize payment of any progress estimate not accompanied by an executed certification document.
2. Final payment will not be made until a final notarized certification summarizing all QC exceptions has been submitted.

F. Personnel Qualifications.

1. General:
 - a. Provide qualified personnel for sampling, testing and inspection of materials and construction activities. Ensure that qualifications are maintained during the course of sampling, testing and inspection.
 - b. Construction operations that require a qualified technician must not begin until Engineer verifies that the technician is on the FDOT CTQP list of qualified technicians.
2. QC Manager:
 - a. Designate a QC Manager who has full authority to act as Contractor's agent to institute any and all actions necessary for the successful implementation of the CQCP. The QC Manager must speak and understand English. The QC Manager must be on-site at the Project on a daily basis or always available upon four hours notice to administer the CQCP. This includes administering, implementing, monitoring, and as necessary, adjusting the processes to ensure compliance with the Contract Documents. Ensure that the QC Manager is qualified as such through the FDOT CTQP.
 - b. Under the direction of the QC Manager, and using standard forms approved by Engineer, summarize the daily QC activities including testing and material sampling. Since erasures are strictly prohibited on all reports and forms, use blue or colored ink. Do not use black ink. If manual corrections to original data are necessary, strike through, correct, and date the entry, including the initials of the person making the correction. Make copies of the completed forms available for the Department to review daily unless otherwise required in the specifications. Maintain all QC related reports and documentation for a period of three years from final acceptance of the Project. Make copies available for review by the Department upon request.
3. Worksite Traffic Supervisor:
 - a. Provide a Worksite Traffic Supervisor who is responsible for initiating, installing, and maintaining all

traffic control devices as described in Article 102 (Maintenance of Traffic) and in the Contract Documents. Ensure that the Worksite Traffic Supervisor is certified in the advanced training category by a FDOT approved training Provider. Approved Providers will be posted on the FDOT's website at the following URL address:

1) <http://www.dot.state.fl.us/rddesign/MOT/MOT.shtm>

- b. Use approved alternate Worksite Traffic Supervisors when necessary.
4. Flagger: Provide trained flaggers to direct traffic where one-way operation in a single lane is in effect and in other situations as required. The Worksite Traffic Supervisor or others as approved by the Department will provide training for flaggers.
5. Earthwork Quality Control Personnel:
 - a. Earthwork Level I: Ensure the technician who samples soil and earthwork materials from the roadway project, takes earthwork moisture and density readings, and records those data in the Density Log Book holds a CTQP Earthwork Construction Inspection Level I qualification.
 - b. Earthwork Level II: Ensure the technician responsible for determining the disposition of soil and earthwork materials on the roadway, and for interpreting and meeting Contract Document requirements holds a CTQP Earthwork Construction Inspection Level II qualification.
6. Asphalt Quality Control Personnel:
 - a. Plant Technicians: For asphalt plant operations, provide a QC technician, qualified as a CTQP Asphalt Plant Level II technician, available at the asphalt plant at all times when producing mix for the Department. Perform all asphalt plant related testing with a CTQP Asphalt Plant Level I technician. As an exception, measurements of temperature may be performed by someone under the supervision of a CTQP Plant Level II technician.
 - b. Paving Technicians: For paving operations (with the exception of miscellaneous or temporary asphalt), keep a qualified CTQP Asphalt Paving Level II technician on the roadway at all times when placing asphalt mix for the Department, and perform all testing with a CTQP Asphalt Paving Level I technician. As an exception, measurements of cross-slope, temperature, and yield (spread rate) can be performed by someone under the supervision of a CTQP Paving Level II technician at the roadway.
 - c. Mix Designer: Ensure all mix designs are developed by individuals who are CTQP qualified as an Asphalt Hot Mix Designer.
 - d. Documentation: Document all QC procedures, inspection, and all test results and make them available for review by Engineer throughout the life of the Contract. Identify in the asphalt producer's Quality Control Plan the Quality Control Manager(s) and/or Asphalt Plant Level II technician(s) responsible for the decision to resume production after a quality control failure.
7. Concrete QC Personnel:

- a. Concrete Field Technician - Level I: Ensure technicians performing plastic property testing on concrete for materials acceptance are qualified CTQP Concrete Field Technicians Level I. Plastic property testing will include but not be limited to slump, temperature, air content, water-to-cementitious materials ratio calculation, and making and curing concrete cylinders. Duties will include initial sampling and testing to confirm specification compliance prior to beginning concrete placements, ensuring timely placement of initial cure and providing for the transport of compressive strength samples to the designated laboratories.
 - b. Concrete Field Inspector - Level II: Ensure field inspectors responsible for the quality of concrete being placed on major bridge projects are qualified CTQP Concrete Field Inspectors Level II. A Level II Inspector must be present on the jobsite during all concrete placements. Prior to the placement of concrete, the inspector will inspect the element to be cast to ensure compliance with Contract Documents. A Level II Inspector's duties may include ensuring that concrete testing, inspection, and curing in the field are performed in accordance with the Contract Documents. The QC Inspector will inform the Verification Inspector of anticipated concrete placements and LOT sizes.
 - c. Concrete Laboratory Technician:
 - 1) Concrete Laboratory Technician - Level I: Ensure technicians testing cylinders and recording concrete strength for material acceptance are qualified CTQP Concrete Laboratory Technicians Level I. Duties include final curing, compressive strength testing, and the recording/reporting of all test data.
 - 2) Concrete Laboratory Technician – Level II: Ensure that laboratories providing hardened property test results to the Department are under the supervision of a CTQP Concrete Laboratory Technician - Level II. This person is responsible to ensure that the tests are performed in accordance with Standard Test Methods, project specifications and other contract documents.
8. Supervisory Personnel – Post-Tensioned and Movable Bridge Structures:
- a. General: Provide supervisory personnel meeting the qualification requirements only for the post-tensioned and movable bridge types detailed in this Article. Submit qualifications to Engineer at the pre-construction conference. Do not begin construction until the qualifications of supervisory personnel have been approved by Engineer.
 - b. Proof of License or Certification:
 - 1) Submit a copy of the Professional Engineer license current and in force issued by the state in which registration is held. The license must be for the field of engineering that the construction work involves such as Civil, Electrical or Mechanical. Under certain circumstances Florida registration may be required.
 - 2) Submit a copy of the license issued by the State of Florida for tradesmen that require a license indicating that the license is in force and is current.
- Submit a copy of the certification issued by the Instrumentation, Systems and Automation Society of America for each Certified Control Systems Technician.
- c. Experience Record: Submit the following information for supervisory personnel to substantiate their experience record. The supervisor (project engineer, superintendent/manager or foreman) seeking approval must provide a notarized certification statement attesting to the completeness and accuracy of the information submitted. Provide the following experience information for each individual seeking approval as a supervisor:
 - 1) Project owner's name and telephone number of an owner's representative, project identification number, state, city, county, highway number and feature intersected.
 - 2) Provide a detailed description of each bridge construction experience, and the level of supervisory authority during that experience. Report the duration in weeks, as well as begin and end dates, for each experience period.
 - 3) Provide the name, address and telephone number of an individual that can verify that the experience being reported is accurate. This individual should have been an immediate supervisor unless the supervisor cannot be contacted in which case another individual with direct knowledge of the experience is acceptable.
 - d. Concrete Post-Tensioned Segmental Box Girder Construction: Ensure the individuals filling the following positions meet the minimum requirements as follows:
 - 1) Project Engineer-New Construction: Ensure the Project Engineer is a registered Professional Engineer with five years of bridge construction experience. Ensure a minimum of three years of experience is in Segmental Box Girder Construction Engineering and includes a minimum of one year in segmental casting yard operations and related surveying, one year in segment erection and related surveying, including post-tensioning and grouting of longitudinal tendons and a minimum of one year as the Project Engineer in responsible charge of Segmental Box Girder Construction Engineering. Ensure this individual is present at the site of construction, at all times while segmental box girder construction or segment erection is in progress.
 - 2) Project Engineer-Repair and Rehabilitation: Ensure the Project Engineer is a registered Professional Engineer with five years of bridge construction experience. Ensure a minimum of three years of experience is in Segmental Box Girder Construction Engineering and includes one year of post-tensioning and grouting of longitudinal tendons and a minimum of one year as the Project Engineer in responsible charge of Segmental Box Girder rehabilitation engineering or Segmental Box Girder new construction engineering.
 - 3) Project Superintendent/Manager - New Construction:

- a) Ensure the Project Superintendent/Manager has a minimum of ten years of bridge construction experience or is a registered Professional Engineer with five years of bridge construction experience. Ensure that a minimum of three years of experience is in Segmental Box Girder construction operations and includes a minimum of one year in the casting yard operations and related surveying, one year in segment erection and related surveying including post-tensioning and grouting of longitudinal tendons and a minimum of one year as the Project Superintendent/Manager in responsible charge of Segmental Box Girder construction operations. Ensure this individual is present at the site of construction, at all times while segmental box girder construction or segment erection is in progress.
- 4) Project Superintendent/Manager-Repair and Rehabilitation: Ensure the Project Superintendent/Manager has a minimum of five years of bridge construction experience or is a registered Professional Engineer with three years of bridge construction experience. Ensure that a minimum of two years of experience is in Segmental Box Girder construction operations and includes a minimum of one year experience performing post-tensioning and grouting of longitudinal tendons and a minimum of one year as the Project Superintendent/Manager in responsible charge of Segmental Box Girder rehabilitation operations or Segmental Box Girder new construction operations.
- 5) Foreman-New Construction: Ensure that the Foreman has a minimum of five years of bridge construction experience with two years of experience in Segmental Box Girder Operations and a minimum of one year as the foreman in responsible charge of Segmental Box Girder new construction Operations. Ensure this individual is present at the site of construction, at all times while segmental box girder construction or segment erection is in progress.
- 6) Foreman-Repair and Rehabilitation: Ensure the Foreman has a minimum of five years of bridge construction experience with two years of experience in Segmental Box Girder Operations and a minimum of one year as the foreman in responsible charge of Segmental Box Girder rehabilitation operations or Segmental Box Girder new construction operations.
- 7) Geometry Control Engineer/Manager:
 - a) Ensure that the Geometry Control Engineer/Manager for construction of cast-in-place box segments is a registered Professional Engineer with one year of experience, a non-registered Engineer with three years of experience or a Registered Professional Land Surveyor with three years of experience in geometry control for casting and erection of cast-in-place box segments. Credit for experience in cast-in-place box girder geometry control will be given for experience in precast box girder geometry control but not vice versa.
 - b) Ensure that the Geometry Control Engineer/Manager for precast box segments is a registered Professional Engineer with one year of experience or non-registered with three years of experience in casting yard geometry control of concrete box segments.
 - c) The Geometry Control Engineer/Manager must be responsible for and experienced at implementing the method for establishing and maintaining geometry control for segment casting yard operations and segment erection operations and must be experienced with the use of computer programs for monitoring and adjusting theoretical segment casting curves and geometry. This individual must be experienced at establishing procedures for assuring accurate segment form setup, post-tensioning duct and rebar alignment and effective concrete placement and curing operations as well as for verifying that casting and erection field survey data has been properly gathered and recorded. Ensure this individual is present at the site of construction, at all times while cast-in-place segmental box girder construction is in progress or until casting yard operations and segment erection is complete.
- 8) Surveyor: Ensure that the Surveyor in charge of geometry control surveying for box segment casting and/or box segment erection has a minimum of one year of bridge construction surveying experience. Ensure this individual is present at the site of construction, at all times while segmental box girder construction or segment erection is in progress.
- e. Movable Bridge Construction: Ensure the individual filling the following positions meet the minimum requirements as follows:
 - 1) Electrical Journeyman: Ensure the Electrical Journeyman holds, an active journeyman electrician's license and has at least five years experience in industrial electrical work, or is a Certified Control Systems Technician. A Certified Control Systems Technician will not be permitted to perform electrical power work including, but not limited to, conduit and wire-way installation or power conductor connection. Ensure the electrical journeyman has successfully completed the installation of one similar movable bridge electrical system during the last three years.
 - 2) Control Systems Engineer and Mechanical Systems Engineer: Ensure the Control Systems Engineer and Mechanical Systems Engineer are both registered Professional Engineers with a minimum of 10 years supervisory experience each in movable bridge construction. Ensure the engineers have working knowledge of the movable bridge leaf motion control techniques, mechanical equipment and arrangements specified for this project. Ensure that each Engineer has been in responsible control of the design and implementation of at least three movable bridge electrical control and machinery systems within the

past 10 years of which, at least one of the three bridges was within the last three years. Ensure that a minimum of one of the three bridge designs incorporated the same type of leaf motion control and machinery systems specified for this project.

f. Concrete Post-Tensioned Other Than Segmental Box Girder Construction: Ensure the individual filling the following positions meet the minimum requirements as follows:

- 1) Project Engineer: Ensure the Project Engineer is a registered Professional Engineer with five years of bridge construction experience. Ensure that a minimum of three years of experience is in concrete post-tensioned construction. Ensure that the three years of experience includes experience in girder erection, safe use of cranes, stabilization of girders; design of false work for temporary girder support, post-tensioning and grouting operations, and a minimum of one year as the Project Engineer in responsible charge of post-tensioning related engineering responsibilities.
- 2) Project Superintendent/Manager: Ensure the Project Superintendent/Manager has a minimum of ten years of bridge construction experience or is a registered Professional Engineer with five years of bridge construction experience and has a minimum of three years of supervisory experience in girder erection, safe use of cranes, stabilization of girders; design of falsework for temporary girder support post-tensioning, grouting operations and a minimum of one year as the Project Superintendent/Manager in responsible charge of post-tensioning related operations.
- 3) Foreman: Ensure the Foreman has a minimum of five years of bridge construction experience with two years of experience in post-tensioning related operations and a minimum of one year as the foreman in responsible charge of post-tensioning related operations.

g. Post-Tensioning (PT) and Grouting Personnel Qualifications: Perform all stressing and grouting operations in the presence of Engineer and with personnel meeting the qualifications of this article. Coordinate and schedule all PT and grouting activities to facilitate inspection by Engineer.

- 1) Post-Tensioning: Perform all PT field operations under the direct supervision of a Level II CTQP Qualified PT Technician who must be present at the site of the post-tensioning work during the entire duration of the operation. For the superstructures of bridges having concrete post-tensioned box or I girder construction, provide at least two CTQP qualified PT technicians, Level I or II, on the work crew. The supervisor of the work crew, who must be a Level II CTQP Qualified PT Technician, may also be a work crew member, in which case, the supervisor shall count as one of the two CTQP qualified work crew members. For PT operations other than the superstructures of post-tensioned box or I girder construction, perform all PT operations under the direct supervision of a Level II CTQP Qualified PT Technician who must be

present at the site of the PT work during the entire duration of the operation. Work crew members are not required to be CTQP qualified.

2) Grouting:

- a) Perform all grouting field operations under the direct supervision of a Level II CTQP Qualified Grouting Technician who must be present at the site of the grouting work during the entire duration of the operation. For the superstructures of bridges having concrete post-tensioned box or I girder construction, provide at least two CTQP qualified grouting technicians, Level I or II, on the work crew. The supervisor of the work crew, who must be a Level II CTQP Qualified Grouting Technician, may also be a work crew member, in which case, the supervisor shall count as one of two CTQP qualified work crew members.
- b) For grouting operations other than the superstructures of post-tensioned box or I girder construction, perform all grouting operations under the direct supervision of a Level II CTQP Qualified Grouting Technician who must be present at the site of the grouting work during the entire duration of the operation. Work crew members are not required to be CTQP qualified.
- c) Perform all vacuum grouting operations under the direct supervision of a crew foreman who has been trained and has experience in the use of vacuum grouting equipment and procedures. Submit the crew foreman's training and experience records to Engineer prior to performing any vacuum grouting operation.

h. Failure to Comply with Bridge Qualification Requirements:

- 1) Make an immediate effort to reestablish compliance. If an immediate effort is not put forth as determined by Engineer, payment for the bridge construction operations requiring supervisors to be qualified under this Specification will be withheld up to 60 days. Cease all bridge construction and related activities (casting yard, etc.) if compliance is not met within 60 days, regardless of how much effort is put forth. Resume bridge construction operations only after written approval from Engineer stating that compliance is reestablished.

9. Prestressed Concrete Plant Quality Control Personnel:

- a. Ensure each prestressed concrete plant has an onsite production manager, an onsite Plant Quality Control Manager, a Plant engineer, and adequate onsite QC inspectors/technicians to provide complete QC inspections and testing.
- b. Ensure the Plant Manager for QC has at least five years of related experience and a current PCI QC personnel Level III certification and a certificate of completion of FDOT Section 450 Specification examination. Ensure that the QC inspector/technician has current PCI QC Technician/Inspector Level II certification and a certificate of completion of FDOT Section 450 Specification examination.
- c. Ensure that the batch plant operators of the ready mixed concrete batch plants meet the requirements of

Section 9.2 of the FDOT Materials Manual. Ensure that the batch plant operators of the onsite centrally mixed concrete plants meet the training requirements of Subarticle 105-F.11.b.4) b) below.

10. Signal Installation Inspector:

- a. Provide an inspector trained and certified by the International Municipal Signal Association (IMSA) as a Traffic Signal Inspector to perform all signal installation inspections. Use only Department approved signal inspection report forms during the signal inspection activities.
- b. Ensure all equipment, materials, and hardware is in compliance with Department Specifications and verify that all equipment requiring certification is listed on the PWWM Traffic Signals And Signs Qualified Products List (TSSQPL) <http://www.miamidade.gov/qpl/>.
- c. Provide the completed signal inspection report form(s), certified by the IMSA Traffic Signal Inspector to Engineer. Sample forms are available at the FDOT webpage <http://www.dot.state.fl.us/trafficoperations> address:

11. Pipe and Precast Concrete Products Manufacturing Facilities Quality Control Personnel:

- a. General: Obtain personnel certifications from FDOT accredited training providers. The list of FDOT approved courses and their accredited providers is available on the State Materials Office website.
- b. Precast Concrete Drainage Structures, Precast Concrete Box Culvert, Precast Concrete Pipe, Incidental Precast Concrete, and Flexible Pipe Manufacturing Facilities Quality Control Personnel:
 - 1) Level I Quality Control Inspectors: Ensure that the Level I Inspectors have completed a minimum of a 12-hour, Department approved, Level I QC Inspector training course in the respective work area. As an exception to this, ensure Flexible Pipe Level I QC Inspectors have completed a minimum of an 8-hour, Department approved, Level I QC Flexible Pipe Inspector training course. For Incidental Precast Concrete, as an alternative to the completion of the 12-hour training course, the Department will accept QC personnel meeting the requirements of Subarticle 105-F.11.b.4)a) below and CTQP Concrete Field Technician level I certification or Precast/Prestressed Concrete Institute (PCI) Quality Control Technician/Inspector Level II certification.
 - 2) Level II Quality Control Inspectors: Ensure that Level II Inspectors have completed FDOT approved Level I QC Inspector training and a minimum of a 5-hour, FDOT approved, Level II QC Inspector training course in the respective work areas. For Incidental Precast Concrete, as an alternative to the completion of the 5-hour training course, the Department will accept CTQP Concrete Field Technician Level II or PCI Quality Control Level III certifications.
 - 3) Plant Quality Control Manager: Ensure that QC Manager has completed FDOT approved Level II QC Inspector training and has a minimum of 2 years

construction related experience in the specific work area.

4) Additional Requirements for Quality Control Personnel of Precast Concrete Drainage, Precast Concrete Box Culvert, and Incidental Precast Concrete Manufacturing Facilities:

- a) Testing Personnel: Ensure the personnel performing plastic property tests have ACI Concrete Field Testing Technician-Grade I certification. Ensure the personnel performing laboratory compressive strength testing have ACI Concrete Laboratory Testing Technician-Grade 1 certification or ACI Concrete Strength Testing Technician certification.
- b) Batch Plant Operator: Ensure the concrete batch plant operator is qualified as a CTQP Concrete Batch Plant Operator. As an alternative to CTQP qualification, the Department will accept the completion of a minimum of a 6-hour, FDOT approved, Batch Plant Operator training course.

12. Structural Steel and Miscellaneous Metals Fabrication Facility Quality Control Personnel:

- a. Ensure each fabrication facility has an onsite production manager, an onsite facility manager for QC, a plant engineer, and on site QC inspectors/technicians to provide complete QC inspections and testing.
- b. Ensure that the Facility Manager for QC and QC inspectors/technicians meet the certification requirements set forth in the latest version of AASHTO/NSBA Steel Bridge Collaboration S 4.1, Steel Bridge Fabrication QC/QA Guide Specification, including the years of experience required in Table 105-1 below. The Facility Manager for QC must meet the requirements of Table 105-1 for every Structural Steel Member Type produced by a plant with QC being managed by the Facility Manager for QC. The Facility Manager for QC will report directly to the plant manager or plant engineer and must not be the plant production manager nor report to or be the subordinate of the plant production manager. QC inspectors/technicians must be the employees of, and must report directly to the Facility Manager for QC.

TABLE 105-1 Experience Requirements for QC Inspectors/Technicians And Facility Manager for Quality Control		
Structural Steel Member Type	Minimum Years of Experience Required	
	QC Inspector/Technician	Facility Manager for QC
Rolled beam bridges	1 year	3 years
Welded plate girders (I sections, box sections, etc.)	2 years	4 years
Complex structures, such as trusses, arches, cable	3 years	5 years

stayed bridges, and moveable bridges		
Fracture critical (FC) members	3 years	5 years

fencing, guardrail, light poles, high mast light poles, standard mast arm assemblies and Monotube assemblies, stay in-place forms, casing pipe, strain poles, fasteners, connectors and other hardware.

G. FDOT Quality Control Program.

1. Producers for the following materials must have an accepted FDOT Quality Control Program during the production of materials to be used on Department projects and be currently listed in the FDOT Materials/Producer Listings and must meet and maintain the approved FDOT Quality Control Program requirements at all times while producing materials that will be incorporated into the Project (<http://www.dot.state.fl.us/statematerialsoffice/quality/programs/qualitycontrol/materialslistings/postjuly2002.shtm>):
 - a. Aggregate
 - b. Asphalt Mix
 - c. Cementitious Material
 - d. Drainage Products
 - e. Earthwork
 - f. Galvanize Metal Products
 - g. Portland Cement Concrete (Structural)
 - h. Prestress/Precast Concrete Products
 - i. Steel and Miscellaneous Metal
 - j. Timber
2. When accreditation or certification is required, make supporting documents from the two previous inspections performed by the accrediting or certifying agency available to the Department upon request.
3. Prestressed Concrete Quality Control Program: Ensure that prestressed concrete plants participating in the FDOT's Acceptance Program are qualified. Obtaining qualification requires a current certification from a FDOT approved precast prestressed concrete plant certification agency and a FDOT approved Quality Control Plan. The list of FDOT approved certification agencies is available on the website of the FDOT State Materials Office.
4. Steel and Miscellaneous Metals Quality Control Program:
 - a. Ensure that the fabricators of Steel and miscellaneous metal products participating in the FDOT's Quality Control Acceptance Program are qualified. Obtaining qualification requires an accepted FDOT Quality Control Plan. A current American Institute for Steel Construction (AISC) certification is a requirement for the Quality Control Acceptance Program of the steel and miscellaneous metal fabricators, provided that AISC certification program is available for the category of the fabrication products.
 - b. Steel and Miscellaneous Metal products, including aluminum, are defined as the metal components of bridges, including pedestrian and moveable bridges, overhead and cantilevered sign supports, ladders and platforms, bearings, end wall grates, roadway gratings, drainage items, expansion joints, roadway decking, shear connectors, handrails, galvanized products,

107 LITTER REMOVAL AND MOWING (REV. 11-25-2015)

H. Description.

1. Contractor to be responsible for the work below in areas where the County or the property owner has restricted or limited access to maintain the property.
 - a. Provide pickup, removal and disposal of litter within the project limits from the outside edge of travel way to the right of way line. Include the median on divided highways, from the inside edge of travel way to the inside edge of travel way. Litter includes; but is not limited to, bottles, cans, paper, tires, tire pieces, lumber, vehicle parts, metal junk, and brush debris. Exclude any inaccessible areas or areas identified in the Plans as new landscaping in accordance with the Contract Documents.
 - b. Mow turf or vegetation within the project limits. Turf consists of grasses planted in accordance with FDOT Section 570. Vegetation consists of planted and natural grasses, weeds, and other natural vegetation that have been previously mowed. Exclude any areas identified in the Plans as new landscaping in accordance with the Contract Documents.

I. Operation.

1. Frequency:
 - a. Remove litter daily from the beginning of the project until final completion, unless otherwise directed by the Engineer. Continue litter removal until final acceptance.
 - b. Begin mowing when directed by the Engineer and continue per the frequency agreed, (every month or less depending of the weather season) unless otherwise directed by the Engineer. Mow all areas to obtain a uniform height of 6 inches. Maintain turf and vegetation height between 6 inches and 12 inches. Do not include seed stalk or wildflowers when measuring height. Continue mowing until final acceptance. After final acceptance perform litter removal and mowing until new turf is established in accordance with FDOT 570-4 at no cost to the County.
 - c. Perform litter removal prior to and in conjunction with mowing; however, the Engineer may direct litter pickups in addition to those performed in conjunction with mowing. Do not mow new turf until a healthy root system is established. In designated wildflower areas, avoid cutting wildflowers when in bloom and when re-seeding.
2. General:
 - a. Mow shoulders and medians concurrently so that not more than one mile will be left partially mowed at the conclusion of the working day. Mow turf and vegetation on slopes or around appurtenances concurrent with the mowing operation. In areas saturated with standing

water, mow or cut to the surface of the water using hand labor or other specialized equipment when standard equipment will cause damage. Do not remove turf or other vegetation cuttings from the right-of-way, or rake or pick up the cuttings unless the cuttings are in the traveled ways, bike lanes, or sidewalk; are obstructing drainage structures; or are the result of cleaning the equipment.

3. Limitations:

- a. Maintain traffic in accordance with Article 102-Maintenance of Traffic. When mowing within four feet of a travel lane, operate the equipment in the same direction of traffic, unless the adjacent lane is closed to traffic due to construction operations. Perform all work during daylight hours.

4. Disposal of Litter and Debris:

- a. During each litter removal cycle, bag and remove all litter or piles at the end of each working day. Dispose of litter in accordance with applicable local and state laws. Do not store or stockpile litter within the project limits.

J. Method of Measurement.

1. No measure is included for litter removal or mowing.

K. Basis of Payment.

1. All work and incidental costs specified as being covered under this Article will be included for payment under the several scheduled items of the overall Contract, and no separate payment will be made.

110 CLEARING AND GRUBBING (REV. 05-16-11)

A. General.

1. Perform all Clearing and Grubbing required by the Contract Documents or necessary to prepare the Project site for the proposed construction.
2. Remove and dispose of all structures, material, product and debris not required to be salvaged or not required to complete the construction.
3. Trim trees and shrubs within the Project right-of-way that are required by the Contract Documents or necessary for the construction of the Project.
4. Perform the work and meet all the requirements for the miscellaneous operations described in Subarticle B.6 herein.
5. Protect and do not displace structures which are to remain in place.

B. Clearing and Grubbing:

1. Standard Clearing and Grubbing.
 - a. Perform Standard Clearing and Grubbing within:
 - 1) Right-of-way of the roadway to be constructed.

- 2) All Project areas, whether or not shown in the Plans, that require Clearing and Grubbing including:

- a) Areas where excavation is to be done.
- b) Areas where roadway embankments will be constructed.
- c) Areas where structures will be constructed or installed.

b. Work includes complete removal and disposal of:

- 1) All buildings, structures, appurtenances, existing pavement, trees, plants, vegetation, timber, brush, stumps, roots, rubbish, debris, and all other obstructions resting on or protruding through the surface of the existing ground and the surface of excavated areas.
- 2) All other structures and obstructions necessary to be removed and for which other items of the Contract do not specify the removal thereof.
- 3) Any boulders encountered in the roadway excavation or found on the surface of the ground unless otherwise permitted by the Contract Documents

c. Depths of Removal of Roots, Stumps, and Other Debris:

- 1) Completely remove and dispose of all stumps found within the roadway right-of-way.
- 2) Remove roots and other debris from all excavated material to be used in the construction of roadway embankment.
- 3) In all areas where excavation is to be performed or roadway embankments are to be constructed, plow the surface to a depth of at least 6 inches, and remove roots and other debris to a depth of 12 inches below the ground surface.
- 4) Remove all roots and other debris protruding through or appearing on the surface of the completed excavation within the roadway area and for structures, to a depth of at least 12 inches below the finished excavation surface.
- 5) In borrow pits, material pits, and lateral ditches, remove or cut off all stumps, roots, etc. below the surface of the completed excavation. Do not perform any clearing or grubbing within 3 feet inside the right-of-way line in borrow and material pits.
- 6) Within all other areas where Standard Clearing and Grubbing is to be performed, remove roots and other debris projecting through or appearing on the surface of the original ground to a depth of 12 inches below the surface, but do not plow or harrow these areas.

d. Trees to Remain:

- 1) As an exception to the above provisions, where so directed by the Engineer, trim, protect, and leave standing desirable trees within the Project area.
- 2) Trim branches of trees extending over the area occupied by the roadway as directed, to give a clear height of 16 feet above the roadway.

2. Selective Clearing and Grubbing.

- a. Perform Selective Clearing and Grubbing only in areas so designated in the Plans or where directed by the Engineer.
- b. Completely remove and dispose of stumps and remove and dispose of all vegetation, obstructions, etc., as required for Standard Clearing and Grubbing except that, where so elected, the Contractor may cut roots flush with the ground surface.
- c. Entirely remove undergrowth except in specific areas designated by the Engineer to remain for aesthetic purposes.
- d. Trim, protect, and leave standing desirable trees, with the exception of such trees as the Engineer may designate to be removed in order to facilitate right-of-way maintenance. Remove undesirable or damaged trees as so designated by the Engineer.

3. Removal of Buildings.

- a. Completely remove all parts of the buildings, including utilities, plumbing, foundations, floors, basements, steps, connecting concrete sidewalks or other pavement, septic tanks, and any other appurtenances, by any practical manner which is not detrimental to other property and improvements. Remove utilities to the point of connection to the utility authority's cut-in.
- b. After removing the sewer connections to the point of cut-in, construct a concrete plug at the cut-in point, as directed by the Engineer, except where the utility owners may elect to perform their own plugging. Contact the appropriate utility companies prior to removal of any part of the building to ensure disconnection of services.
- c. Removal by Others: Where buildings within the area to be cleared and grubbed are so specified to be removed by others, remove and dispose of any foundations, curtain walls, concrete floors, basements or other foundation parts which might be left in place after such removal of buildings by others.

4. Removal of Existing Structures.

- a. Structures to be removed include:
 - 1) Structures, or portions of structures, shown in the Plans to be removed;
 - 2) Structures, or portions of structures, found within the areas requiring Clearing and Grubbing, and directed by the Engineer to be removed;
 - 3) Structures, or portion of structures, which are necessary to be removed in order to construct new structures; and
 - 4) All other appurtenances or obstructions which may be designated in the Contract Documents as to be included for removal under this Article.
- b. Removal Requirements:
 - 1) General:
 - a) Remove and dispose of all materials from existing structures required to be removed.

- b) Remove the structures in a neat manner so as to leave no obstructions to any proposed new structures, construction, or to any waterways.
- c) Pull, cut off, or break off pilings to the requirements of the permit or other Contract Documents, whichever requires the deepest removal, but not less than 2 feet below the finish ground line.
- d) If Plans indicate channel excavation to be done by others, consider the finish ground line as the limits of such excavation.
- e) For materials which are to remain the property of the Department or are to be salvaged for use in temporary structures, avoid damage to such materials, and entirely remove all bolts, nails, etc. from timbers to be so salvaged.
- f) Mark structural steel members for identification as directed.

2) Removal of Steel Members With Hazardous Coatings:

- a) Provide to the Engineer for approval, a copy of the "Contractor's Lead in Construction Compliance Program" from the firm actually removing and disposing of these steel members before any members are disturbed.
- b) Vacuum power tool clean any coated steel member to bare metal as defined by SSPC-SP11 a minimum of 4 inches either side of any area to be heated (torch cutting, sawing, grinding, etc.) in accordance with 29 CFR 1926.354. Abrasive blasting is prohibited.
- c) Provide air supplied respirators in accordance with 29 CFR 1926.62 and 29 CFR 1910.134.

c. Partial Removal of Bridges:

- 1) For all demolition methods, submit for review and approval of the Engineer, a demolition plan that describes the method of removal, equipment to be used, types of rebar splices or couplers, and method of straightening or cutting rebars. In addition, for hydro-demolition, describe the method for control of water or slurry runoff and measures for safe containment of concrete fragments that are thrown out by the hydro-demolition machine.
 - 2) Where concrete is to be removed to neat lines, use concrete saws or hydro-demolition methods capable of providing a reasonably uniform cleavage face. If the equipment used will not provide a uniform cut without surface spalling, first score the outlines of the work with small trenches or grooves.
 - 3) On concrete bridges to be partially removed and widened, remove concrete by manually or mechanically operated pavement breakers, by concrete saws, by chipping hammers, or by hydro-demolition methods. Do not use explosives.
- d. Authority of U.S. Coast Guard: For structures in navigable waters, when constructing the project under authority of a U.S. Coast Guard permit, the U.S. Coast Guard may inspect and approve the work to remove any existing structures involved therein, prior to acceptance by the Department.

e. Asbestos Containing Materials (ACM) Not Identified Prior to the Work:

- 1) When encountering or exposing any condition indicating the presence of asbestos, cease operations immediately in the vicinity and notify the Engineer.
- 2) Make every effort to minimize the disturbance of the ACM. Immediately provide for the health and safety of all workers at the job site and make provisions necessary for the health and safety of the public that may be exposed to any potentially hazardous conditions. Provisions shall meet all applicable laws, rules or regulations covering hazardous conditions and will be in a manner commensurate with the gravity of the conditions.
- 3) The Engineer will direct the Prime Contractor when operations may resume in the affected area.

5. Removal of Existing Concrete Pavement.

- a. Remove and dispose of existing rigid portland cement concrete pavement, sidewalk, slope pavement, ditch pavement, curb, and curb and gutter etc., where shown in the plans or ordered by the Engineer to be removed or where required because of the construction operations.
- b. The work under Removal of Existing Concrete Pavement does not include the removal of retaining walls, drainage structures and flexible asphalt pavement.

6. Miscellaneous Operations.

a. Water Wells Required to be Plugged:

- 1) Fill or plug all water wells within the right-of-way, including areas of borrow pits and lateral ditches that are not to remain in service, in accordance with applicable Water Management District rules or the Department of Environmental Protection regulations.
- 2) Cut off the casing of cased wells at least 12 inches below the ground line or 12 inches below the elevation of the finished excavation surface, whichever is lower. Water wells, as referred to herein, are defined either as artesian or non-artesian, as follows:
 - a) An artesian well is an artificial hole in the ground from which water supplies may be obtained and which penetrates any water-bearing rock, the water in which is raised to the surface by natural flow or which rises to an elevation above the top of the water-bearing bed. Artesian wells are further defined to include all holes drilled as a source of water that penetrate any water-bearing beds that are a part of the artesian water system of Florida, as determined by representatives of the applicable Water Management District.
 - b) A non-artesian (water-table) well is a well in which the source of water is an unconfined aquifer. The water in a non-artesian well does not rise above the source bed.

- b. Landscape Areas: When certain areas of the right-of-way, outside of the limits of construction, are shown in

the plans or designated by the Engineer to be landscaped, either under the construction Contract or at a later time, remove undesirable trees, stumps, undergrowth, and vegetation, as directed, and preserve and trim natural growth and trees as directed by the Engineer.

- c. Leveling Terrain: Within the areas between the limits of construction and the outer limits of clearing and grubbing, fill all holes and other depressions, and cut down all mounds and ridges. Make the area of a sufficient uniform contour so that the Department's subsequent mowing and cutting operations are not hindered by irregularity of terrain. Perform this work regardless of whether the irregularities were the result of construction operations or existed originally.
- d. Mailboxes: When the Contract Documents require furnishing and installing mailboxes, permit each owner to remove the existing mailbox. Work with the Local Postmaster to develop a method of temporary mail service for the period between removal and installation of the new mailboxes. Install the mailboxes in accordance with the Design Standards.

C. Ownership of Materials.

1. Except as may be otherwise specified in the Contract Documents, the Contractor shall take ownership of all buildings, structures, appurtenances, and other materials removed by him and shall dispose of them in accordance with subarticle D below.

D. Disposal of Materials.

1. General:

- a. Dispose of all debris, timber, stumps, brush, roots, rubbish, and other waste material resulting from clearing and grubbing in areas and by methods meeting the applicable requirements of all Local, State and Federal regulations.

2. Disposal of Treated Wood:

- a. Treated wood, including that which comes from bridge channel fender systems, must be handled and disposed of properly during removal.
- b. Treated wood should not be cut or otherwise mechanically altered in a manner that would generate dust or particles without proper respiratory and dermal protection.
- c. Treated wood must be disposed of in at least a lined solid waste facility or through recycling/reuse.
- d. Treated wood shall not be disposed by burning or placement in a construction and demolition (C&D) debris landfill.
- e. All compensation for the cost of removal and disposal of treated wood will be included in the Cost of Removal of Existing Structures when an item for direct payment is provided in the Contract. If an item of direct payment is not provided in the Contract, the aforementioned cost is included in the cost for Clearing and Grubbing or among the other items of work in the Contract.

3. Hazardous Materials/Waste:

a. General:

- 1) Handle, transport and dispose of hazardous materials in accordance with all Local, State and Federal requirements including the following:
 - a) SSPC Guide 7
 - b) Federal Water Pollution Control Act, and
 - c) Resource Conservation and Recovery Act (RCRA).
- 2) Accept responsibility for the collection, sampling, classification, packaging, labeling, accumulation time, storage, manifesting, transportation, treatment and disposal of hazardous waste, both solid and liquid. Separate all solid and liquid waste and collect all liquids used at hygiene stations and handle as hazardous materials/waste. Obtain written approval from the Engineer and required agencies for all hazardous materials/waste stabilization methods before implementation.
- 3) Obtain an EPA/FDEP Hazardous Waste Identification Number (EPA/FDEP ID Number) before transporting and/or disposal of any hazardous materials/waste.
- 4) List the Department as the generator of all hazardous materials/waste.
- 5) Submit the following for the Engineers' approval before transporting, treatment or disposal of any hazardous materials/waste:
 - a) Name, address and qualifications of the transporter,
 - b) Name, address and qualifications of the treatment facility,
 - c) Proposed treatment and/or disposal of all Hazardous Materials/Waste.
- 6) Transport all hazardous materials/waste in accordance with applicable 40 CFR 263 Standards. Provide a copy of all completed Hazardous Materials/Waste manifest/bills of lading to the Engineer within 21 days of each shipment.

b. Steel Members With Hazardous Coating:

- 1) Unless otherwise required by the Contract Documents, dispose of steel members with hazardous coating in one of the following manners:
 - a) Deliver the steel members and other hazardous waste to a licensed recycling or treatment facility capable of processing steel members with hazardous coating.
 - b) Deliver any other hazardous materials/waste to a licensed hazardous materials/waste recycling treatment facility.
- 2) Dismantle and/or cut steel members to meet the required dimensions of the recycling facility, treatment facility or other regulatory agency.
- 3) All compensation for the cost of removal and disposal of hazardous materials/waste will be included in the Cost of Removal of Existing Structures when an item for direct payment is provided in the Contract. If an item of direct

payment is not provided in the Contract, the aforementioned cost is included in the cost for Clearing and Grubbing or among the other items of work in the Contract.

c. Certification of Compliance:

- 1) Furnish two copies of Certification of Compliance from the firm actually removing and disposing of the hazardous materials/waste stipulating, the hazardous materials/waste has been handled, transported and disposed of in accordance with this Specification.
- 2) The Certification of Compliance shall be attested to by a person having legal authority to bind the company.

- d. Maintain all records required by this Specification and ensure they are available to the Department upon request.

E. Method of Measurement.

1. Clearing and Grubbing:

- a. No Direct Payment Provided: When no item for direct payment of Clearing and Grubbing is provided by the Contract, the costs for performing all work and meeting the requirements of this Article will be included among the various scheduled items of the Contract.
 - b. Direct Payment Provided: When direct payment for Clearing and Grubbing is provided in the Contract, the quantity to be paid for will be the lump sum quantity.
2. One or more of the following items may appear in a contract where no direct payment item for Clearing and Grubbing is provided. Only those items with an Awarded Unit Price will be considered for direct payment. All other work of Clearing and Grubbing is included among the various scheduled items of the Contract.
- a. Removal of Existing Structures: When a separate item for the Removal of Existing Structures is provided for direct payment in the Contract, the quantity to be paid for will be the lump sum quantity or actual quantities for the specific structures removed, as stipulated in the Contract Documents.
 - b. Removal of Existing Concrete Pavement: When a separate item for Removal of Existing Concrete Pavement is provided for direct payment in the Contract, the quantity to be paid for will be the number of square yards of existing pavement of the types listed in subarticle B.5 herein, acceptably removed and disposed of, as specified. The quantity will be determined by actual measurement along the surface of the pavement before its removal. Measurements for appurtenances which have irregular surface configurations, such as curb and gutter, steps, and ditch pavement, will be the area as projected to an approximate horizontal plane. Where the removal of pavement areas is necessary only for the construction of box culverts, pipe culverts, storm sewers, french drains, inlets, manholes, etc., these areas will not be included in the measurements.
 - c. Removal of Trees: When separate items for the Removal of Trees are provided for direct payment in the

Contract, trees that are greater than 6 inches in diameter, will be paid on a per each basis by actual count by the Engineer of such trees under the appropriate item provided in the Contract. The diameter of a tree shall be obtained by measuring its circumference at 4.5 feet above the ground using a flexible tape measure and dividing the circumference by 3.14. If the tree is growing on a slope, the circumference is measured at 4.5 feet from the center of the slope. If the tree begins to branch below 4.5 feet, measure at the smallest circumference below the first branch.

- d. Plugging Water Wells: When a separate item for Plugging of Water Wells is provided for direct payment in the Contract, the quantity to be paid for will be the number of water wells plugged, for each type of well (artesian or non-artesian).
- e. Mailboxes: When a separate item is provided in the Contract for furnishing and installing mailboxes, the quantity to be paid for will be the number of mailboxes acceptably furnished and installed.
- f. Delivery of Salvageable Material to the Department: When a separate item is provided in the Contract for the delivery of salvageable material to the Department, the quantity to be paid for will be the Lump Sum quantity for delivery of salvageable materials to the Department as indicated in the Plans or as directed by the Engineer.

F. Basis of Payment.

1. Clearing and Grubbing:

- a. No Direct Payment Provided: When direct payment for Clearing and Grubbing is not provided in the Contract, the cost of any work of clearing and grubbing necessary for the proper construction of the Project and meeting all requirements of this Article, is included in the Contract price for the structure or other item of work for which such clearing and grubbing is required.
- b. Direct Payment Provided:
 - 1) Price and payment will be full compensation for all clearing and grubbing indicated or required for the construction of the entire Project, including all necessary hauling, furnishing equipment, equipment operation, furnishing any areas required for disposal of debris, leveling of terrain and the landscaping work of trimming, etc., as specified herein, except for any areas designated to be paid for separately or to be specifically included in the costs of other work under the Contract.
 - 2) Unless otherwise provided by the Contract, price and payment will be full compensation for all work required by this Article including Removal of Existing Structures, Removal of Existing Concrete Pavement, Removal of Trees, Plugging of Water Wells, Mailboxes, and Delivery of Salvageable Material to the Department.
 - 3) Where construction easements are specified in the Plans and the limits of clearing and grubbing for such easements are dependent upon the final construction requirements, no adjustment will be made in the lump sum price and payment, either

over or under, for variations from the limits of the easement defined on the Plans.

- c. The Contractor shall include the cost of all clearing and grubbing which might be necessary in pits or areas from which base material is obtained in the Contract price for the base in which such material is used.
- d. The clearing and grubbing of areas for obtaining stabilizing materials, where required only for the purpose of obtaining materials for stabilizing, will not be paid for separately.

2. Removal of Existing Structures:

- a. Price and payment will be full compensation for all work of removal and disposal of the designated structures.
- b. When direct payment for the removal of existing structures is not provided in the Contract, the cost of removing all structures is included in the Contract price for Clearing and Grubbing or, if no item of Clearing and Grubbing is included, in the compensation for the other items covering the new structure being constructed.

3. Removal of Existing Concrete Pavement:

- a. Price and payment will be full compensation for performing and completing all the work of removal and satisfactory disposal including any saw cutting required.
- b. When direct payment for the removal of existing concrete pavement is not provided in the Contract and no applicable item of excavation or embankment covering such work is included in the Contract, the Contractor shall include the costs of this work in the Contract price for the item of Clearing and Grubbing or, if no item of Clearing and Grubbing is included in the Contract, in any work, pipe or other structure for which the concrete pavement removal is required.

4. Removal of Trees:

- a. Price and payment will be full compensation for complete removal and disposal of each tree counted by the Engineer pursuant to these specifications.
- b. When direct payment for the removal of trees is not provided in the Contract, the cost of removing all trees is included in the Contract price for Clearing and Grubbing or, if no item of Clearing and Grubbing is included in the Contract, in the compensation for all other items in the Contract.

5. Plugging Water Wells:

- a. Price and payment will be full compensation for each type of well acceptably plugged.
- b. When direct payment for plugging water wells is not provided in the Contract, the cost plugging water wells is included in the Contract price for Clearing and Grubbing or, if no item of Clearing and Grubbing is included in the Contract, in the compensation for all other items in the Contract.

6. Mailboxes:

- a. Price and payment will be full compensation for all work and materials required, including supports and numbers.

- b. When direct payment for mailboxes is not provided in the Contract, the cost for all work and materials required, including supports and numbers, is included in the Contract price for Clearing and Grubbing or, if no item of Clearing and Grubbing is included in the Contract, in the compensation for all other items in the Contract.
7. Delivery of Salvageable Material to the Department:
- a. Price and payment will be full compensation for all work required for delivery of the materials to the Department.
 - b. When the Contract does not provide direct payment for the Delivery of Salvageable Material that is to be delivered to the County, the cost of Delivery of Salvageable Material is included in the Contract price for Clearing and Grubbing or, where no item for Clearing and Grubbing is included in the Contract, in the compensation for all other items in the Contract.
8. Payment Items: Payment will be made under:
- a. No separate item(s) for Clearing and Grubbing will be provided under this contract.

120 EARTHWORK AND RELATED OPERATIONS

A. Description.

- 1. General:
 - a. Earthwork and Related Operations consists of excavation for the construction of the roadway, excavation for structures and pipe, constructing backfill around structures and pipe, and constructing embankments as required for the roadway, ditches, and channel changes.
 - b. Perform Earthwork and Related Operations based on the type of work specified in the Contract Documents.
 - c. Meet the applicable requirements for materials, equipment and construction as specified in the Contract Documents.

B. Classes of Excavation.

- 1. Excavation of Unsuitable Material: Excavation of unsuitable material consists of the removal of muck, clay, rock or any other material that is unsuitable in its original position and that is excavated below the finished grading template. For stabilized bases and sand bituminous road mixes, the finished grading template is the top of the finished base, shoulders and slopes. For all other bases and rigid pavement, the finished grading template is the finished shoulder and slope lines and bottom of completed base or rigid pavement.
- 2. Lateral Ditch Excavation: Lateral Ditch Excavation consists of all excavation of inlet and outlet ditches to structures and roadway, changes in channels of streams, and ditches parallel to the roadway right-of-way.
- 3. Channel Excavation: Channel Excavation consists of the excavation and satisfactory disposal of all materials from the limits of the channel as shown in the Plans.

- 4. Excavation for Structures and Pipe: Excavation for Structures consists of the excavation for bridge foundations, box culverts, pipe culverts, storm sewers and all other pipe lines, retaining walls, headwalls for pipe culverts and drains, catch basins, drop inlets, manholes, and similar structures.

C. Excavation Requirements.

- 1. Excavation and Replacement of Unsuitable Materials: Where rock, muck, clay, or other material within the limits of the roadway is unsuitable in its original position, excavate such material to the cross-sections shown in the Plans or indicated by the Engineer, and backfill with suitable material. Shape backfill materials to the required cross-sections. Where the removal of plastic soils below the finished earthwork grade is required, meet a construction tolerance of ± 0.2 foot in depth and ± 6 inches (each side) in width.
- 2. Lateral Ditch Excavation: Excavate inlet and outlet ditches to structures and roadway, changes in channels of streams and ditches parallel to the roadway. Dress lateral ditches to the grade and cross-section shown in the Plans.
- 3. Channel Excavation: Excavate and dispose of all materials from the limits of the channel as shown in the Plans. Excavate for bridge foundations, box culverts, pipe culverts, storm sewers and all other pipe lines, retaining walls, headwalls for pipe culverts and drains, catch basins, drop inlets, manholes, and similar structures.
- 4. Excavation for Structures and Pipe.
 - a. General: Excavate foundation pits to permit the placing of the full widths and lengths of footings shown in the Plans, with full horizontal beds. Do not round or undercut corners or edges of footings. Perform all excavation to foundation materials, satisfactory to the Engineer, regardless of the elevation shown on the Plans. Perform all excavation in stream beds to a depth at least 4 feet below the permanent bed of the stream, unless a firm footing can be established on solid rock before such depth is reached, and excavate to such additional depth as may be necessary to eliminate any danger of undermining. Wherever rock bottom is secured, excavate in such manner as to allow the solid rock to be exposed and prepared in horizontal beds for receiving the masonry. Remove all loose and disintegrated rock or thin strata. Have the Engineer inspect and approve all foundation excavations prior to placing masonry.
 - b. Earth Excavation:
 - 1) Foundation Material other than the Rock: When masonry is to rest on an excavated surface other than rock, take special care to avoid disturbing the bottom of the excavation, and do not remove the final foundation material to grade until just before placing the masonry. In case the foundation material is soft or mucky, the Engineer may require excavation to a greater depth and to backfill to grade with approved material.
 - 2) Foundation Piles: Where foundation piles are used, complete the excavation of each pit before driving the piles. After the driving is completed, remove all

loose and displaced material, leaving a smooth, solid, and level bed to receive the masonry.

- 3) Removal of Obstructions: Remove boulders, logs, or any unforeseen obstacles encountered in excavating.
- c. Rock Excavation: Clean all rock and other hard foundation material, remove all loose material, and cut all rock to a firm surface. Either level, step vertically and horizontally, or serrate the rock, as may be directed by the Engineer. Clean out all seams, and fill them with concrete or mortar.
- d. Pipe Trench Excavation:
 - 1) Excavate trenches for pipe culverts and storm sewers to the elevation of the bottom of the pipe and to a width sufficient to provide adequate working room. Remove soil not meeting the classification specified herein for suitable backfill material for backfilling around pipe to a depth of 4 inches below the bottom of the pipe elevation. Remove rock, boulders or other hard lumpy or unyielding material to a depth of 12 inches below the bottom of the pipe elevation. Remove muck or other soft material to a depth necessary to establish a firm foundation. Where the soils permit, ensure that the trench sides are vertical up to at least the mid-point of the pipe.
 - 2) For pipe lines placed above the natural ground line, place and compact the embankment, prior to excavation of the trench, to an elevation at least 2 feet above the top of the pipe and to a width equal to four pipe diameters, and then excavate the trench to the required grade.

D. Disposal of Surplus and Unsuitable Material.

1. Ownership of Excavated Materials: Dispose of surplus and excavated materials as shown in the Plans or, if the Plans do not indicate the method of disposal, take ownership of the materials and dispose of them in an authorized and lawful manner.
2. Disposal of Muck on Side Slopes: As an exception to the provisions herein for Ownership of Excavated Materials, when approved by the Engineer, muck (A-8 material) may be placed on the slopes, or stored alongside the roadway, provided there is a clear distance of at least 6 feet between the roadway grading limits and the muck, and the muck is dressed to present a neat appearance. In addition, this material may also be disposed of by placing it on the slopes where, in the opinion of the Engineer, this will result in an aesthetically pleasing appearance and will have no detrimental effect on the adjacent developments. Where the Engineer permits the disposal of muck or other unsuitable material inside the right-of-way limits, do not place such material in a manner which will impede the inflow or outfall of any channel or of side ditches. The Engineer will determine the limits adjacent to channels within which such materials may be disposed.
3. Disposal of Paving Materials: Unless otherwise noted, take ownership of paving materials, such as paving brick, asphalt block, concrete slab, sidewalk, curb and gutter, etc., excavated in the removal of existing pavements, and dispose of them outside the right-of-way. If the materials

are to remain the property of the Agency, place them in neat piles as directed. Existing limerock base that is removed may be incorporated in the stabilized portion of the subgrade. If the construction sequence will allow, incorporate all existing limerock base into the project as allowed by the Contract Documents.

4. Disposal Areas:

- a. Where the Contract Documents require disposal of excavated materials outside the right-of-way, and the disposal area is not indicated in the Contract Documents, furnish the disposal area without additional compensation.

E. Materials for Embankment.

1. General Requirements for Embankment Materials:

- a. Construct embankments using suitable materials excavated from the roadway or delivered to the jobsite from authorized borrow pits.
 - b. Construct the embankment using maximum particle sizes (in any dimension) as follows:
 - 1) In top 12 inches: 3 1/2 inches (in any dimension).
 - 2) 12 to 24 inches: 6 inches (in any dimension).
 - 3) In the depth below 24 inches: not to exceed 12 inches (in any dimension) or the compacted thickness of the layer being placed, whichever is less.
 - c. Spread all material so that the larger particles are separated from each other to minimize voids between them during compaction. Compact around these rocks in accordance with the requirements herein for Compaction of Embankments.
 - d. When and where approved by the Engineer, larger rocks (not to exceed 18 inches in any dimension) may be placed outside the one to two slope and at least 4 feet or more below the bottom of the base. Compact around these rocks to a firmness equal to that of the supporting soil. Where constructing embankments adjacent to bridge end bents or abutments, do not place rock larger than 3 1/2 inches in diameter within 3 feet of the location of any end-bent piling.
2. Use of Materials Excavated From the Roadway and Appurtenances: Assume responsibility for determining the suitability of excavated material for use on the project in accordance with the applicable Contract Documents. Consider the sequence of work and maintenance of traffic phasing in the determination of the availability of this material.
 3. Authorization for Use of Borrow: Use borrow only when sufficient quantities of suitable material are not available from roadway and drainage excavation, to properly construct the embankment, subgrade, and shoulders, and to complete the backfilling of structures and pipe. Do not use borrow material until authorized by the Engineer, and then only use material from approved borrow pits.
 - a. Haul Routes for Borrow Pits:
 - 1) Provide and maintain, at no expense to the County, all necessary roads for hauling the borrow material.

Where borrow area haul roads or trails are used by others, do not cause such roads or trails to deteriorate in condition.

- 2) Arrange for the use of all non-public haul routes crossing the property of any railroad. Incur any expense for the use of such haul routes. Establish haul routes which will direct construction vehicles away from developed areas when feasible, and keep noise from hauling operations to a minimum. Advise the Engineer in writing of all proposed haul routes.

- b. Borrow Material for Shoulder Build-up: When so indicated in the Plans, furnish borrow material with a specific minimum bearing value, for building up of existing shoulders. Blend materials as necessary to achieve this specified minimum bearing value prior to placing the materials on the shoulders. Take samples of this borrow material at the pit or blended stockpile.

4. Materials Used at Pipes, Culverts, etc.: Construct embankments over and around pipes, culverts, and bridge foundations with selected materials.

F. Embankment Construction.

1. General: Construct embankments in sections of not less than 300 feet in length or for the full length of the embankment.

2. Dry Fill Method:

a. General:

- 1) Construct embankments to meet the requirements of subarticle G (Compaction Requirements) and in accordance with the Acceptance Program requirements herein. Restrict the compacted thickness of the last embankment lift to 6 inches maximum.
- 2) As far as practicable, distribute traffic over the work during the construction of embankments so as to cover the maximum area of the surface of each layer.
- 3) Construct embankment in the dry whenever normal dewatering equipment and methods can accomplish the needed dewatering.
 - a) For A-3 and A-2-4 Materials with up to 15% fines: Construct the embankment in successive layers with lifts up to a maximum compacted thickness of 12 inches. Ensure the percentage of fines passing the No. 200 US Standard sieve in the A 2 4 material does not exceed 15%.
 - b) For A-1 Plastic materials (As designated in FDOT Design Standard Index 505) and A-2-4 Materials with greater than 15% fines: Construct the embankment in successive layers with lifts up to a maximum compacted thickness of 6 inches.
 - c) Equipment and Methods: Provide normal dewatering equipment including, but not limited to, surface pumps, sump pumps and trenching/digging machinery. Provide normal dewatering methods including, but not limited to, constructing shallow surface drainage

trenches/ditches, using sand blankets, sumps and siphons.

- 4) When normal dewatering does not adequately remove the water, the Engineer may require the embankment material to be placed in the water or in low swampy ground in accordance with the requirements herein for Compaction Where Plastic Material Has Been Removed.

- b. Placing in Unstable Areas: Where depositing the material in water, or in low swampy ground that will not support the weight of hauling equipment, construct the embankment by dumping successive loads in a uniformly distributed layer of a thickness not greater than necessary to support the hauling equipment while placing subsequent layers. Once sufficient material has been placed so that the hauling equipment can be supported, construct the remaining portion of the embankment in layers in accordance with the applicable provisions herein for Compaction Where Plastic Material Has Been Removed and for Compaction of Grassed Shoulder Areas.

- c. Placing on Steep Slopes: When constructing an embankment on a hillside sloping more than 20 degrees from the horizontal, before starting the fill, deeply plow or cut into steps the surface of the original ground on which the embankment is to be placed.

- d. Placing Outside Standard Minimum Slope: Where material that is unsuitable for normal embankment construction is to be used in the embankment outside the standard minimum slope (approximately one to two), place such material in layers of not more than 18 inches in thickness, measured loose. The Contractor may also place material which is suitable for normal embankment, outside such standard minimum slope, in 18 inch layers. Maintain a constant thickness for suitable material placed within and outside the standard minimum slope, unless placing in a separate operation.

3. Hydraulic Method:

- a. Method of Placing: When the hydraulic method is used, as far as practicable, place all dredged material in its final position in the embankment by such method. Place and compact any dredged material that is rehandled, or moved and placed in its final position by any other method, as specified herein for Compaction of Embankments. The Contractor may use baffles or any form of construction he may select, provided the slopes of the embankments are not steeper than indicated in the Plans. Remove all timber used for temporary bulkheads or baffles from the embankment, and fill and thoroughly compact the holes thus formed. When placing fill on submerged land, construct dikes prior to beginning of dredging, and maintain the dikes throughout the dredging operation.
- b. Excess Material: Do not use excess material placed outside the prescribed slopes, below the normal high-water level, to raise the fill. Remove only the portion of this material required for dressing the slopes.
- c. Protection of Openings in Embankment: Leave openings in the embankments at the bridge sites. Remove any material which invades these openings or existing channels without additional compensation to

provide the same depth of channel as existed before the construction of the embankment. Do not excavate or dredge any material within 200 feet of the toe of the proposed embankment.

G. Compaction Requirements.

1. Moisture Content: Compact the materials at a moisture content such that the specified density can be attained. If necessary to attain the specified density, add water to the material, or lower the moisture content by manipulating the material or allowing it to dry, as is appropriate.
2. Compaction of Embankments:
 - a. Density requirements for earthwork and related operations associated with the construction of sidewalks and bike paths along with any drainage structures associated with these facilities; and for earthwork and related operations associated with the construction of turn lanes and other non-mainline traffic lanes, widening, roadway shoulders, concrete box culverts, retaining walls, and other drainage structures on the non-mainline pavement:
 - 1) Reduce the minimum required density from 100% to 95% of AASHTO T99 Method C for all earthwork items requiring densities.
 - b. Density Requirements for earthwork and related operations associated with the construction of new mainline pavement, along with concrete box culverts, retaining walls, and other drainage structures on the mainline pavement:
 - 1) Except for embankments constructed by the hydraulic method as specified herein, and for the material placed outside the standard minimum slope as specified herein for Placing Outside Standard Minimum Slope, and for other areas specifically excluded herein, compact each layer of the material used in the formation of embankments to a density of at least 100% of the maximum density as required by AASHTO T 99, Method C.
 - 2) Uniformly compact each layer using equipment that will achieve the required density, and as compaction operations progress, shape and manipulate each layer as necessary to ensure uniform density throughout the embankment.
 - c. Compaction Over Unstable Foundations: Where the embankment material is deposited in water or on low swampy ground, and in a layer thicker than 12 inches (as provided herein under the requirements for Placing in Unstable Areas), compact the top 6 inches (compacted thickness) of such layer to the density as specified in the Acceptance Criteria herein.
 - d. Compaction Where Plastic Material Has Been Removed: Where unsuitable material is removed and the remaining surface is of the A 4, A 5, A 6, or A 7 Soil Groups, as determined by the Engineer, compact the surface of the excavated area by rolling with a sheepfoot roller exerting a compression of at least 250 psi on the tamper feet, for the full width of the roadbed (subgrade and shoulders). Perform rolling before beginning any backfill, and continue until the roller feet do not penetrate the surface more than 1 inch. Do not

perform such rolling where the remaining surface is below the normal water table and covered with water. Vary the procedure and equipment required for this operation at the discretion of the Engineer.

- e. Compaction of Material to Be Used In Base, Pavement, or Stabilized Areas: Do not compact embankment material which will be incorporated into a pavement, base course, or stabilized subgrade, to be constructed as a part of the same Contract.
 - f. Compaction of Grassed Shoulder Areas: For the upper 6 inch layer of all shoulders which are to be grassed, since no specific density is required, compact only to the extent directed.
 - g. Compaction of Grassed Embankment Areas: For the outer layer of all embankments where plant growth will be established, do not compact. Leave this layer in a loose condition to a minimum depth of 6 inches for the subsequent seeding or planting operations.
- #### 3. Compaction of Subgrade:
- a. If the Plans do not provide for stabilizing, compact the subgrade in both cuts and fills to the density specified in the Acceptance Criteria herein. For undisturbed soils, do not apply density requirements where constructing narrow widening strips or paved shoulders 5 feet or less in width.
 - b. Where trenches for widening strips are not of sufficient width to permit the use of standard compaction equipment, perform compaction using vibratory rollers, trench rollers, or other type compaction equipment approved by the Engineer.
 - c. Maintain the required density until the base or pavement is placed on the subgrade.
- #### H. Backfilling Around Structures and Pipe.
- ##### 1. Backfill Materials:
- a. Backfill to the original ground surface or subgrade surface of openings made for structures, with a sufficient allowance for settlement. The Engineer may require that the material used for this backfill be obtained from a source entirely apart from the structure.
 - b. Do not allow heavy construction equipment to cross over culvert or storm sewer pipes until placing and compacting backfill material to the finished earthwork grade or to an elevation at least 4 feet above the crown of the pipe.
 - c. Use of A-7 Material: In the backfilling of trenches, A 7 material may be used from a point 12 inches above the top of the pipe up to the elevation shown on the FDOT Design Standards as the elevation for undercutting of A 7 material.
 - d. Time of Placing Backfill: Do not place backfill against any masonry or concrete abutment, wingwall, or culvert until the Engineer has given permission to do so, and in no case until the masonry or concrete has been in place seven days or until the specified 28 day compressive strength occurs.
 - e. Placement and Compaction:
 - 1) Place the material in horizontal layers not exceeding 6 inches compacted thickness, in depth

above water level, behind abutments, wingwalls and end bents or end rest piers, and around box culverts and all structures including pipe culverts. When the backfill material is deposited in water, compact per the requirements herein for Compaction Under Wet Conditions and Backfill Under Wet Conditions.

- 2) The Contractor may elect to place material in thicker lifts of no more than 12 inches compacted thickness outside the soil envelope if he can demonstrate with a successful test section that density can be achieved. Notify the Engineer prior to beginning construction of a test section. Construct a test section of 500 feet in length. Perform five tests at random locations within the test section. All five tests must meet the density required by the Compaction of Embankments specified herein. Identify the test section with the compaction effort and soil classification in the Agency Logbook. In case of a change in compaction effort or soil classification, construct a new test section. When a test fails the Compaction Requirements specified herein, construct a new test section. The Contractor may elect to place material in 6 inches compacted thickness at any time.

2. Additional Requirements for Structures Other than Pipe:

- a. Density: Where the backfill material is deposited in water, obtain a 12 inch layer of comparatively dry material, thoroughly compacted by tamping, before verifying the layer and density requirements. Meet the requirements of the density Acceptance Criteria.
- b. Box Culverts: For box culverts over which pavement is to be constructed, compact around the structure to an elevation not less than 12 inches above the top of the structure, using rapid-striking mechanical tampers.
- c. Other Limited Areas: Compact in other limited areas using mechanical tampers or approved hand tampers, until the cover over the structure is at least 12 inches thick. When hand tampers are used, deposit the materials in layers not more than 4 inches thick using hand tampers suitable for this purpose with a face area of not more than 100 in². Take special precautions to prevent any wedging action against the masonry, and step or terrace the slope bounding the excavation for abutments and wingwalls if required by the Engineer.
- d. Culverts and Piers: Backfill around culverts and piers on both sides simultaneously to approximately the same elevation.
- e. Compaction Under Wet Conditions: Where wet conditions do not permit the use of mechanical tampers, compact using hand tampers. Use only A 3 material for the hand tamped portions of the backfill. When the backfill has reached an elevation and condition such as to make the use of the mechanical tampers practical, perform mechanical tamping in such manner and to such extent as to transfer the compaction force into the sections previously tamped by hand.

3. Additional Requirements for Pipe 15 Inches Inside Diameter or Greater:

- a. General: Trenches for pipe may have up to four zones that must be backfilled.

- 1) Lowest Zone: The lowest zone is backfilled for deep undercuts up to within 4 inches of the bottom of the pipe.
- 2) Bedding Zone: The zone above the Lowest Zone is the Bedding Zone. Usually it will be the backfill which is the 4 inches of soil below the bottom of the pipe. When rock or other hard material has been removed to place the pipe, the Bedding Zone will be the 12 inches of soil below the bottom of the pipe.
- 3) Cover Zone: The next zone is backfill that is placed after the pipe has been laid and will be called the Cover Zone. This zone extends to 12 inches above the top of the pipe. The Cover Zone and the Bedding Zone are considered the Soil Envelope for the pipe.
- 4) Top Zone: The Top Zone extends from 12 inches above the top of the pipe to the base or final grade.

b. Material:

- 1) Lowest Zone: Backfill areas undercut below the Bedding Zone of a pipe with coarse sand, or other suitable granular material, obtained from the grading operations on the project, or a commercial material if no suitable material is available.
- 2) Soil Envelope: In both the Bedding Zone and the Cover Zone of the pipe, backfill with materials classified as A 1, A 2, or A 3. Material classified as A-4 may be used if the pipe is concrete pipe.
- 3) Top Zone: Backfill the area of the trench above the soil envelope of the pipe with materials allowed on Design Standard, Index No. 505.

c. Compaction:

- 1) Lowest Zone: Compact the soil in the Lowest Zone to approximately match the density of the soil in which the trench was cut.
- 2) Bedding Zone:
 - a) If the trench was not undercut below the bottom of the pipe, loosen the soil in the bottom of the trench immediately below the approximate middle third of the outside diameter of the pipe.
 - b) If the trench was undercut, place the bedding material and leave it in a loose condition below the middle third of the outside diameter of the pipe. Compact the outer portions to meet the density requirements of the Acceptance Criteria. Place the material in lifts no greater than 6 inches (compacted thickness).
- 3) Cover Zone: Place the material in 6 inches layers (compacted thickness), evenly deposited on both sides of the pipe, and compact with mechanical tampers suitable for this purpose. Hand tamp material below the pipe haunch that cannot be reached by mechanical tampers. Meet the requirements of the density Acceptance Criteria.
- 4) Top Zone: Place the material in layers not to exceed 12 inches in compacted thickness. Meet the requirements of the density Acceptance Criteria.
- 5) Backfill Under Wet Conditions:

- a) Where wet conditions are such that dewatering by normal pumping methods would not be effective, the procedure outlined below may be used when specifically authorized by the Engineer in writing.
- b) Granular material may be used below the elevation at which mechanical tampers would be effective, but only material classified as A 3. Place and compact the material using timbers or hand tampers until the backfill reaches an elevation such that its moisture content will permit the use of mechanical tampers. When the backfill has reached such elevation, use normally acceptable backfill material. Compact the material using mechanical tampers in such manner and to such extent as to transfer the compacting force into the material previously tamped by hand.

I. Acceptance Program.

1. Density over 105%: When a computed dry density results in a value greater than 105% of the applicable Proctor maximum dry density, perform a second density test within 5 feet. If the second density results in a value greater than 105%, investigate the compaction methods, examine the applicable Maximum Density and material description. If necessary, test an additional sample for acceptance in accordance with AASHTO T 99, Method C.
2. Maximum Density Determination: Determine the maximum density and optimum moisture content by sampling and testing the material in accordance with the specified test method listed below for Density Testing Requirements.
3. Density Testing Requirements: Ensure compliance, with the requirements of the Acceptance Criteria herein, by Nuclear Density testing in accordance with FDOT Florida Method FM 1 T 238. Determine the in-place moisture content for each density test. Use Florida Method FM 1 T 238, FM 5 507 (Determination of Moisture Content by Means of a Calcium Carbide Gas Pressure Moisture Tester), or ASTM D 4643 (Laboratory Determination of Moisture Content of Granular Soils By Use of a Microwave Oven) for moisture determination.
4. Soil Classification: Perform soil classification tests in accordance with AASHTO T 88. Classify soils in accordance with AASHTO M-145 in order to determine compliance with embankment utilization requirements.
5. Acceptance Criteria: Obtain a minimum density in accordance with the requirements herein for Compaction of Embankments with the following exceptions:
 - a. Embankment constructed by the Hydraulic Method as specified herein;
 - b. Material placed outside the standard minimum slope as specified in the requirements herein for Placing Outside Standard Minimum Slope;
 - c. Other areas specifically excluded herein.
6. Frequency: Conduct sampling and testing at a minimum frequency listed in the table below.

Test Name	Frequency
Maximum Density	One per soil type
Density	1 per 500' RDWY (Alt Lift)
Soil Classification	One per Maximum Density

J. Maintenance and Protection of Work.

1. While construction is in progress, maintain adequate drainage for the roadbed at all times. Maintain a shoulder at least 3 feet wide adjacent to all pavement or base construction in order to provide support for the edges.
2. Maintain and protect all earthwork construction throughout the life of the Contract, and take all reasonable precautions to prevent loss of material from the roadway due to the action of wind or water. Repair any slides, washouts, settlement, subsidence, or other mishap which may occur prior to final acceptance of the work. Maintain all channels excavated as a part of the Contract work against natural shoaling or other encroachments to the lines, grades, and cross-sections shown in the Plans, until final acceptance of the Project.

K. Construction.

1. Construction Tolerances:

- a. Shape the surface of the earthwork to conform to the lines, grades, and cross-sections shown in the Plans. In final shaping of the surface of earthwork, maintain a tolerance of 0.3 foot above or below the plan cross-section with the following exceptions:
 - 1) Shape the surface of shoulders to within 0.1 foot of the plan cross-section.
 - 2) Shape the earthwork to match adjacent pavement, curb, sidewalk, structures, etc.
 - 3) Shape the bottom of ditches so that the ditch impounds no water.
 - 4) When the work does not include construction of base or pavement, shape the entire roadbed (shoulder point to shoulder point) to within 0.1 foot above or below the plan cross-section.
- b. Ensure that the shoulder lines do not vary horizontally more than 0.3 foot from the true lines shown in the Plans.

2. Operations Adjacent to Pavement:

- a. Carefully dress areas adjacent to pavement areas to avoid damage to such pavement.
- b. Complete grassing of shoulder areas prior to placing the final wearing course. Do not manipulate any embankment material on a pavement surface.
- c. When shoulder dressing is underway adjacent to a pavement lane being used to maintain traffic, exercise extreme care to avoid interference with the safe movement of traffic.

L. Method of Measurement.

1. Excavation: Excavation will be paid for by volume, in cubic yards, calculated by the method of average end areas, unless the Engineer determines that another method of calculation will provide a more accurate result. The material will be measured in its original position by field survey or by photogrammetric means as designated by the Engineer. Measurement for payment will include the excavation and disposal of unsuitable material, lateral ditch excavation, channel excavation, and excavation for structures and pipe. Payment will not be made for excavation or embankment beyond the limits shown in the Plans or authorized by the Engineer. Shrinkage or swell factors are Contractor's responsibility. When shown on the plans, factors are for informational purposes only.

2. Embankment:

- a. Will be paid for in cubic yards, as accepted by Engineer, calculated by the method of average end areas, unless Engineer determines that another method of calculation will provide a more accurate result. Embankment will be measured in its final position by field survey or by photogrammetric means as designated by Engineer.
- b. The measurement will include only material actually placed and compacted above the original ground line, within the lines and grades indicated in the Plans or directed by the Engineer. The length used in the computations will be the station-to-station length actually constructed. The original ground line used in the computations will be as determined prior to placing of embankment and no allowance will be made for subsidence of material below the surface of the original ground.
- c. Deduct any quantity beyond the limits shown in the Plans or authorized by Engineer. No payment will be made for additional material required to obtain compaction, material placed by Contractor outside the limits of the typical cross section, or material placed to correct for settlement of the embankment. Shrinkage or swell factors are Contractor's responsibility. When shown on the plans, factors are for informational purposes only.

M. Basis of Payment.

1. When No Direct Payment is Provided:

- a. When no item for Excavation or Embankment is included in the list of Contract Unit Prices, the cost of any excavation or embankment necessary for the proper construction of the Project is included in the Contract Prices for the work requiring excavation or embankment.
- b. Where the Work includes structures including pipe culvert and french drain, all earthwork costs for the installation of these items are included in their associated Contract Price.

2. When Direct Payment for Excavation or Embankment is Provided in the Contract:

- a. Prices and payments for the work items included in this Section will be full compensation for all work described herein, including excavating, dredging, hauling, placing, and compacting; dressing the surface of the

earthwork; and maintaining and protecting the complete earthwork.

b. Excavation:

- 1) The total quantity of all excavation specified under this Section will be paid for at the Contract unit price for Excavation.
- 2) No payment will be made for the excavation of any materials which are used for purposes other than those shown in the Plans or designated by the Engineer.
- 3) No payment will be made for materials excavated outside the lines and grades given by the Engineer, unless specifically authorized by the Engineer.

c. Embankment:

- 1) The total quantity of embankment specified in this Section will be paid for at the Contract unit price for embankment.
- 2) No payment will be made for materials which are used for purposes other than those shown in the Plans or designated by the Engineer.
- 3) No payment will be made for materials placed outside the lines and grades given by the Engineer.

3. Payment will be made under:

- a. No separate item(s) for Earthwork and Related Operations will be provided under this contract.

121 FLOWABLE FILL

A. Description.

1. When approved by the Engineer, furnish and place Flowable Fill per FDOT Design Standard Index 307, as an alternative to compacted soil, where compaction cannot be achieved through normal mechanical methods. Applications for this material include beddings, encasements, closures for tanks, pipes, general backfill for trenches, and other uses specified in the Plans.

B. Materials.

1. Meet the following requirements:

Fine Aggregate*	Section 902
Portland Cement (Types I, II, or III)	Section 921
Water	Section 923
Admixtures**	Section 924
Fly Ash, Slag and other Pozzolanic Materials	Section 929
*Any clean fine aggregate with 100% passing a 3/8 inch mesh sieve and not more than 15% passing a No. 200 sieve may be used. **High air generators or foaming agents may be used in lieu of conventional air entraining admixtures and may be added at jobsite and mixed	

in accordance with manufacturer's recommendation.

C. Mix Design.

1. Flowable Fill is a mixture of portland cement, fly ash, fine aggregate, air entraining admixture and water. Flowable fill contains a low cementitious content for reduced strength development.
2. Submit mix designs to the Engineer for approval. The following are suggested mix guides for excavatable and non-excavatable flowable fill:

	Excavatable	Non-Excavatable
Cement Type 1	75-100 lb/yd3	75-150 lb/yd3
Fly Ash	None	150-600 lb/yd3
Water	*	*
Air**	5-35%	5-15%
28 Day Compressive Strength**	Maximum 100 psi	Minimum 125 psi**
Unit Weight (Wet)***	90-110 lb/ft3	100-125 lb/ft3
Fine Aggregate shall be proportioned to yield 1 yd3.		
*Mix designs shall produce a consistency that will result in a flowable self-leveling product at time of placement. **Minimum 300 psi where approved by the Engineer for use above pipe culverts having less than two feet of cover measured to top of rock base. ***The requirements for percent air, compressive strength and unit weight are for laboratory designs only and are not intended for jobsite acceptance requirements.		

D. Production and Placing.

1. Use flowable fill manufactured at a production facility that meets the requirements of FDOT 347-3.
2. Deliver flowable fill using concrete construction equipment. Revolution counter are waived. Place flowable fill by chute, pumping or other methods approved by the Engineer. Tremie flowable fill through water.

E. Construction Requirements.

1. Use straps, soil anchors or other approved means of restraint to ensure correct alignment when flowable fill is used as backfill for pipe or where flotation or misalignment may occur.
2. Place flowable fill to the designated fill line without vibration or other means of compaction. Do not place

flowable fill during inclement weather, e.g. rain or ambient temperatures below 40°F. Protect flowable fill from freezing for a period of 36 hours after placement.

3. Take all necessary precautions to prevent any damages caused by the hydraulic pressure of the fill during placement prior to hardening. Provide the means to confine the material within the designated space.

F. Acceptance.

1. Acceptance of flowable fill will be based on the following documentation and a minimum temperature of flowable fill at the point of delivery of 50°F.
2. Furnish a delivery ticket to the Engineer for each load of flowable fill delivered to the worksite. Ensure that each ticket contains the following information:
 - a. Project designation,
 - b. Date,
 - c. Time,
 - d. Class and quantity of flowable fill,
 - e. Actual batch proportions,
 - f. Free moisture content of aggregates,
 - g. Quantity of water withheld.
3. Leave the fill undisturbed until the material obtains sufficient strength. Sufficient strength, unless otherwise required by the Engineer, is 35 psi penetration resistance as measured using a hand held penetrometer in accordance with ASTM C-403. Provide a hand held penetrometer to measure the penetration resistance of the hardened flowable fill.

G. Method of Measurement

1. Flowable fill will be measured for payment in cubic yards in place, as accepted by the Engineer, when shown as a pay item in the Contract. When flowable fill is not shown as a pay item, include the cost of the work in the bid price for the appropriate item.

H. Basis of Payment.

1. When the item of flowable fill is included in the Contract, payment will be made at the Contract unit price per cubic yard. Such price and payment will include all cost of the mixture, in place and accepted, determined as specified above. No measurement and payment will be made for material placed outside the neat line limits or outside the adjusted limits, or for unused or wasted material.
2. Payment will be made under:
 - a. No separate item for Flowable Fill will be provided under this contract.

160 TYPE "B" STABILIZATION (SECTION 160)

- A. Page 188, Section 160 - Stabilizing:

1. Delete the words "bearing value" or "Limerock Bearing Ratio Method" where they occur throughout this section and substitute the words "California Bearing Ratio."
 2. Delete all contrary references to density requirements and substitute with the following:
 - a. Compaction - The density requirements for all embankment and subgrade involved in this Section shall be a minimum ninety five (95) percent for non-roadway areas and ninety eight (98) percent for roadway areas, of maximum density as determined by AASHTO T-180.
 3. Delete all mention of Bearing Value requirements entirely and substitute with the following:
 - a. California Bearing Ratio Requirements: Suitability of the soil to be compacted shall be determined by the California Bearing Ratio Test as outlined in ASTM D 1883-87. Tests shall be made on each separate course, generally before the materials have been compacted. Any areas where the materials have a C.B.R. value of less than thirty (30) at ninety five (95) percent of the maximum density as determined by AASHTO T-180 shall be stabilized (or further stabilized) as specified herein.
- B. Page 189, Subarticle 160-4.1- Commercial and Local Materials – Add the following:
1. Except that the limerock used for stabilization shall have a minimum of at least fifty (50) percent carbonates of calcium and magnesium.
- C. Page 192, Subarticle 160-7.2.1.2- Undertolerances In...; is deleted in its entirety and replaced with the following:
1. There shall be no undertolerances in the C.B.R. permitted.
- D. Page 195, Article 160-9- Basis of Payment; Is deleted in its entirety and replaced with the following:
1. Payment for stabilizing including all labor and materials shall be made at the Contract Unit Price Bid as indicated in the Bid Form of the Proposal.
 2. Such price and payments shall constitute full compensation for all work specified in this Section for Type "B" Stabilization, including furnishing, spreading and mixing of all stabilizing material required and any reprocessing of stabilization areas necessary to attain the specified bearing value.

200 LIMEROCK BASE (REV. 08-23-12)**A. Description.**

1. Construct a base composed of limerock material. Perform work in accordance with an approved Quality Control Plan meeting the requirements of Article 105 of these Specifications.

B. Materials.

1. Limerock base:
 - a. Meet the requirements of FDOT Section 911.
 - b. Produced and obtained from an FDOT approved source listed on the current FDOT Approved Aggregate Products from Mines or Terminals Listings.
2. More than one source of base rock on a single Contract may be used provided that a single source is used throughout the entire width and depth of a section of base. Obtain approval from Engineer before placing material from more than one source. Place material to ensure total thickness single source integrity at any station location of the base.
3. Intermittent placement or "Blending" of sources is not permitted.
4. Do not use any of the existing base that is removed to construct the new base.
5. Limerock is referred to hereinafter as "rock".

C. Equipment.

1. Use mechanical rock spreaders, equipped with a device that strikes off the rock uniformly to laying thickness, capable of producing even distribution. For crossovers, intersections and ramp areas; roadway widths of 20 feet or less; the main roadway area when forms are used and any other areas where the use of a mechanical spreader is not practicable; Contractor may spread the rock using bulldozers or blade graders.

D. Transporting Rock.

1. Transport the rock to its point of use, over rock previously placed if practicable, and dump it on the end of the preceding spread. Hauling and dumping on the subgrade will be permitted only when, in Engineer's opinion, these operations will not be detrimental to the subgrade.

E. Spreading Rock.

1. Method of Spreading:
 - a. Spread the rock uniformly.
 - b. Remove all segregated areas of fine or coarse rock and replace them with properly graded rock.
2. Number of Courses:

- a. When the specified compacted thickness of the base is greater than 6 inches, construct the base in multiple courses of equal thickness. Individual courses shall not be less than 3 inches. The thickness of the first course may be increased to bear the weight of the construction equipment without disturbing the subgrade.

3. Approval requirements for thicker lifts.

- a. If, through field tests, Contractor can demonstrate that the compaction equipment can achieve density for the full depth of a thicker lift, and if approved by Engineer, the base may be constructed in successive courses of not more than 8 inches compacted thickness. Engineer will base approval on results of a test section constructed using Contractor's specified compaction effort as follows:

- 1) Notify Engineer prior to beginning construction of a test section.
- 2) Construct a test section of the length of one LOT. Perform five QC density tests at random locations within the test section. At each test site, test the bottom 6 inches in addition to the entire course thickness. All QC tests and a Department Verification test must meet the density required by the Acceptance Criteria in this Article.
- 3) Identify the test section with the compaction effort and thickness in the Logbook. Remove the materials above the bottom 6 inches, at no expense to the Department. The minimum density required on the thicker lift will be the average of the five results obtained on the thick lift in the passing test section.
- 4) Maintain the exposed surface as close to "undisturbed" as possible; no further compaction will be permitted during the test preparation. If unable to achieve the required density, remove and replace or repair the test section to comply with the specifications at no additional expense to the Department. Contractor may elect to place material in 6 inches compacted thickness at any time.
- 5) Once approved, a change in the source of base material will require the construction of a new test section. Do not change the compaction effort once the test section is approved. Engineer will periodically verify the density of the bottom 6 inches during thick lift operations.
- 6) Engineer may terminate the use of thick lift construction and instruct Contractor to revert to the 6 inches maximum lift thickness if Contractor fails to achieve satisfactory results or meet applicable specifications.

4. Rock Base for Shoulder Pavement: Unless otherwise permitted, complete all rock base shoulder construction at any particular location before placing the final course of pavement on the traveled roadway. When dumping material for the construction of a rock base on the shoulders, do not allow material capable of scarring or contaminating the pavement surface on the adjacent pavement. Immediately sweep off any rock material that is deposited on the surface course.

F. Compacting and Finishing Base.

1. General:

- a. Perform work in accordance with an approved Quality Control Plan meeting the requirements of Article 105 of these Specifications and the Acceptance Criteria herein below.
- b. Construct mainline pavement lanes, turn lanes, ramps, parking lots, concrete box culverts and retaining wall systems in sections of not less than 300 feet in length or for the full length of the rock base. For these, a LOT is defined as a single lift of finished embankment not to exceed 500 feet.
- c. Construct shoulder-only areas, bike/shared use paths, and sidewalks in sections of not less than 300 feet in length or for the full length of the rock base. For these, a LOT is defined as 1,000 feet or one Day's Production, whichever is greater. Shoulders compacted separately shall be considered separate LOTs.

2. Single Course Base: After spreading, scarify the entire surface. Shape the base to produce the required grade and cross-section, free of scabs and laminations, after compaction.

3. Multiple Course Base: Clean the first course of foreign material, then blade and bring it to a surface cross-section approximately parallel to the finished base. Before spreading any material for the upper courses, allow Engineer to make density tests for the lower courses to determine that the required compaction has been obtained. After spreading the material for the top course, scarify finish and shape its surface to produce the required grade and cross-section, free of scabs and laminations, after compaction.

4. Moisture Content: When the material does not have the proper moisture content to ensure the required density, wet or dry it as required. When adding water, uniformly mix it in to the full depth of the course that is being compacted. During wetting or drying operations, manipulate, as a unit, the entire width and depth of the course that is being compacted.

5. Thickness Requirements: Within the entire limits of the length and width of the finished base, meet the specified plan thickness in accordance with the Quality Control requirements specified in Depth and Surface Testing Requirements subarticle herein below.

6. Correction of Defects:

- a. Contamination of Base Material: If, at any time, the subgrade material becomes mixed with the base course material, dig out and remove the mixture, and reshape and compact the subgrade. Then replace the materials removed with clean base material, and shape and compact as specified above. Perform this work at no expense to the Department.
- b. Cracks and Checks: If cracks or checks appear in the base, either before or after priming, which, in the opinion of Engineer, would impair the structural efficiency of the base, remove the cracks or checks by rescarifying, reshaping, adding base material where necessary, and recompacting.

7. Compaction of Widening Strips:

- a. Where base construction consists of widening strips and the trench width is not sufficient to permit use of standard base compaction equipment, compact the base using vibratory compactors, trench rollers or other special equipment which will achieve the density requirements specified herein.
- b. When multiple course base construction is required, compact each course prior to spreading material for the overlaying course.

G. Acceptance Criteria:

1. Density: Within the entire limits of the width and depth of the base, obtain a minimum density in any LOT of 98% of modified Proctor maximum density as determined by FM 1-T 180, Method D. For shoulder only areas and bike/shared use paths, obtain a minimum density of 95% of the modified Proctor maximum density as determined by FM 1-T 180, Method D.
2. Frequency: Conduct QC sampling and testing at a minimum frequency listed in the table below. Engineer will perform Verification sampling and tests at a minimum frequency listed in the tables below.

Mainline Pavement Lanes, Turn Lanes, Ramps, Parking Lots, Concrete Box Culverts and Retaining Wall Systems		
Test Name	Quality Control	Verification
Modified Proctor Maximum Density	One per eight consecutive LOTs	One per 16 consecutive LOTs
Density	One per LOT	One per four LOTs
Roadway Surface	Ten per LOT	Witness
Roadway Thickness	Three per LOT	Witness

Shoulder-Only, Bike/Shared Use Path and Sidewalk Construction		
Test Name	Quality Control	Verification
Modified Proctor Maximum Density	One per two LOTs	One per four LOTs
Density	One per LOT	One per two LOTs
Surface	Five per 500 feet	Witness
Thickness	Three per 600 consecutive feet	Witness

3. Initial Equipment Comparison:

- a. Before initial production, perform a comparison test using the Quality Control, Verifications and Independent Assurance gauges. Unless Engineer instructs, do not perform the initial equipment comparison more than once per project. When comparing the computed dry density of one nuclear gauge to a second gauge, ensure that the difference between the two computed dry densities does not

- exceed 2 lb/ft³ between gauges from the same manufacturer, and 3 lb/ft³ between gauges from different manufacturers. Repair or replace any Quality Control gauge that does not compare favorably with the Independent Assurance gauge.
- b. Perform a comparison analysis between the Quality Control nuclear gauge and the Verification nuclear gauge any time a nuclear gauge or repaired nuclear gauge is first brought to the project. Repair and replace any Quality Control gauge that does not compare favorably with the Verification gauge at any time during the remainder of the project. Calibrate all Quality Control gauges annually.
4. Initial Production Lot:
 - a. Before construction of any other LOT, prepare a 500-foot initial control section consisting of one full LOT in accordance with the approved Quality Control Plan for the Project.
 - b. Notify Engineer at least 24 hours prior to production of the initial control section. Perform all QC tests required herein below. When the initial Quality Control test results pass specifications, Engineer will perform a Verification test to verify compliance with the specifications.
 - c. Do not begin constructing another LOT until successfully completing the initial production LOT. Engineer will notify Contractor of the initial production lot approval within three working days after receiving Contractor's Quality Control data when test results meet the following conditions:
 - 1) Quality Control tests must meet the specifications.
 - 2) Verification test must meet the specifications.
 - 3) Difference between Quality Control and Verification computed Dry Density results shall meet the requirements provided above for Initial Equipment Comparison.
 - 4) If Verification test result fails the density requirements of the Acceptance Criteria, correct the areas of non-compliance. The Quality Control and Verification tests will then be repeated. Engineer will reject Contractor's Quality Control Plan after three unsuccessful Verification attempts. Submit a revised Quality Control Plan to Engineer for approval.
 5. Density over 105%:
 - a. When a QC computed dry density results in a value greater than 105% of the applicable Proctor maximum dry density, Engineer will perform an Independent Verification density test within 5 feet.
 - b. If the Independent Verification density results in a value greater than 105%, Engineer will investigate the compaction methods, examine the applicable Standard Proctor Maximum Density and material description.
 - c. Engineer may collect and test an Independent Verification Standard Proctor Maximum Density sample for acceptance in accordance with the Acceptance Criteria.
 6. Quality Control Tests:
 - a. Standard Proctor Maximum Density Determination: Determine the Quality Control standard Proctor maximum density and optimum moisture content by sampling and testing the material in accordance with the specified test method listed in the Acceptance Criteria.
 - b. Density Testing Requirements: Ensure compliance to the requirements of the Acceptance Criteria by Nuclear Density testing in accordance with FM 1-T 238. Determine the in-place moisture content for each density test. Use Florida Method FM 1-T 238, FM 5-507 (Determination of Moisture Content by Means of a Calcium Carbide Gas Pressure Moisture Tester), or ASTM D-4643 (Laboratory Determination of Moisture Content of Granular Soils By Use of a Microwave Oven) for moisture determination.
 - c. Soil Classification: Perform soil classification tests on the sample collected for the Standard Proctor Maximum Density Determination above, in accordance with AASHTO T-88. Classify soils in accordance with AASHTO M-145 in order to determine compliance with embankment utilization requirements. Unless required by Engineer, do not test or classify materials for stabilized subgrade or base.
 7. Department Verification:
 - a. Engineer will conduct a Verification test(s) in order to accept all materials and work associated with the Quality Control Tests. Engineer will verify the Quality Control results if they meet the Verification Comparison Criteria, otherwise Engineer will implement Resolution procedures.
 - b. Engineer will select test locations, including Station, Offset, and Lift, using a Random Number generator based on the Lots under consideration. Each Verification test evaluates all work represented by the Quality Control testing completed in those LOTs.
 - c. In addition to the Verification testing, Engineer may perform additional Independent Verification (IV) testing. Engineer will evaluate and act upon the IV test results in the same manner as Verification test results.
 - d. When the project requires less than four Quality Control tests per material type, Engineer reserves the right to accept the materials and work through visual inspection.
 8. Reduced Testing Frequency: When no Resolution testing is required for 12 consecutive verified LOTs, or if required, the QC test data was upheld, reduce the QC density testing to one test every two LOTs by identifying the substantiating tests in the Density Log Book and notifying Engineer in writing prior to starting reduced frequency of testing. Generate random numbers based on the two LOTs under consideration. When Quality Control test frequency is reduced to one every two LOTs, obtain Engineer's approval to place more than one LOT over an untested LOT. Assure similar compaction efforts for the untested LOTs. If the Verification test fails, and Quality Control test data is not upheld by Resolution testing, the Quality Control testing will revert to the original frequency of one Quality Control test per LOT. Do not apply reduced testing frequency in construction of shoulder-only areas, bike/shared use paths and sidewalks.

9. Quality Control Testing:

- a. Modified Proctor Maximum Density Requirement: Collect enough material to split and create three separate samples and retain two for Engineer's Verification and Resolution testing until Engineer accepts the 16 LOTs represented by the samples.
- b. Depth and Surface Testing Requirements:
 - 1) Notify Engineer a minimum of 24 hours before checking base depths and surface checking. Determine test locations including Stations and Offsets, using the Random Number generator approved by the Department. Do not perform depth and surface checks until Engineer is present to witness. Perform thickness check on the finished base or granular subbase component of a composite base. Provide traffic control, coring/boring equipment, and an operator for the coring/boring equipment. Traffic control is to be provided in accordance with the standard maintenance of traffic requirements of the Contract.
 - 2) The thickness is considered deficient, if the measured depth is over 1/2 inch less than the specified thickness. Correct all deficient areas of the completed base by scarifying and adding additional base material. As an exception, if authorized by the Department, such areas may be left in place without correction and with no payment.
 - 3) Check the finished surface of the base course with a template cut to the required crown and with a 15 foot straightedge laid parallel to the centerline of the road. Correct all irregularities greater than 1/4 inch to the satisfaction of the Engineer by scarifying and removing or adding rock as required, and recompact the entire area as specified hereinbefore.
- c. Surface & Thickness Reduced Testing Frequency: When no Resolution testing is required for 12 consecutive verified LOTs, or if required, the QC test data was upheld, reduce the QC surface and/or thickness checks to one half the minimum requirements as stated in the frequency requirements above (e.g. Reduce frequency from ten per LOT to ten per two LOTs) by identifying the substantiating tests and notifying Engineer in writing prior to starting reduced frequency of testing. If the Verification test fails, and Quality Control test data is not upheld by Resolution testing the Quality Control testing will revert to the original frequency required by the Acceptance Criteria above. The results of the Independent Verification testing will not affect the frequency of the Quality Control testing.

10. Department Verification Tests:

- a. Maximum Density: Engineer will randomly select one of the remaining two split samples and test in accordance with FM 1-T 180, Method D.
- b. Thickness and Surface Testing Requirements: The Department will witness the base depth and surface checks to ensure compliance with the Depth and Surface Testing Requirements above. If the QC test results are not deficient as defined therein, the LOT or 500-foot section will be accepted. If the QC test results

are deficient, resolve deficiencies in accordance with the Depth and Surface Testing Requirements. Repeat acceptance testing. Provide traffic control, coring/boring equipment, and an operator for the coring/boring equipment.

c. Verification Comparison Criteria and Resolution Procedures:

- 1) Modified Proctor Maximum Density: Engineer will compare the Verification test results for Maximum Density to the corresponding Quality Control test results. If the test result is within 4.5 lb/ft³ of the QC test result, the LOTs will be verified. Otherwise, Engineer will collect the Resolution split sample corresponding to the Verification sample tested. The State Materials Office or an AASHTO accredited laboratory designated by the State Materials Office will perform Resolution testing. The material will be sampled and tested in accordance with FM 1-T 180, Method D.
- 2) Engineer will compare the Resolution Test results with the Quality Control test results. If the Resolution Test result is within 4.5 lb/ft³ of the corresponding Quality Control test result, Engineer will use the Quality Control test results for material acceptance purposes for each corresponding set of LOTs. If the Resolution test result is not within 4.5 lb/ft³ of the corresponding Quality Control test, Engineer will collect the remaining Verification split sample for testing. Verification Test results will be used for material acceptance purposes for the LOTs in question.
- 3) Density: When a Verification or Independent Verification density test does not meet the requirements of the Acceptance Criteria, retest at a site within a 5 feet radius of the Verification test location and observe the following:
 - a) If the Quality Control retest meets the Acceptance Criteria and compares favorably with the Verification or Independent Verification test, Engineer will accept the LOTs in question.
 - b) If the Quality Control retest does not meet the Acceptance Criteria and compares favorably with the Verification or Independent Verification test, rework and retest the material in that LOT. Engineer will re-verify the LOTs in question.
 - c) If the Quality Control retest and the Verification or Independent Verification test do not compare favorably, complete a new Equipment-Comparison Analysis. Once acceptable comparison is achieved, retest the LOTs. Engineer will perform new verification testing. Acceptance testing will not begin on a new LOT until Contractor has a gauge that meets the comparison requirements.
- 4) Thickness and Surface Testing Requirements: Resolve deficiencies in accordance with the Depth and Surface Testing Requirements above.

H. Priming and Maintaining.

1. Priming: Apply the prime coat only when the base meets the specified density requirements and when the

moisture content in the top half of the base does not exceed the optimum moisture of the base material. At the time of priming, ensure that the base is firm, unyielding and in such condition that no undue distortion will occur.

2. Maintaining: Maintain the true crown and template, with no rutting or other distortion, while applying the surface course.

I. Thickness of Base.

1. Engineer will determine, as follows, the average thickness of the compacted limerock base for use in the measurements specified in the Method of Measurement:
 - a. Average thickness will be calculated per typical cross-section for the entire job as a unit.
 - b. Any measured thickness that is more than 1/2 inch greater than the design thickness shown on the typical cross-section in the Plans or, when no plans exist, the thickness specified in the description of the Contract pay item, will be considered as the design or specified thickness plus 1/2 inch.
 - c. Any areas of existing base left in place will not be included in the calculations.

J. Method of Measurement.

1. The quantity to be paid for will be the pay area in square yards of limerock base constructed pursuant to these specifications that is measured, adjusted as specified below, and accepted by Engineer.
 - a. Normal Thickness Base: The surface area of specified normal thickness base to be adjusted will be the measured quantity as specified above, omitting any areas not accepted for payment under Subarticle 200-J.2 below, and omitting areas which are to be included for payment under the Method of Measurement for Variable Thickness Base Authorized by Engineer. The pay area is determined by adjusting the aforementioned surface area using the formula below limited to a maximum for the final pay area of 105 percent of the surface area.
 - 1) $\text{Pay Area} = \text{Surface Area} \times ((\text{Calculated Average Thickness per these Specifications}) / (\text{Plan or Specified Thickness}))$
 - b. Variable Thickness Base Authorized by Engineer: Where the base is constructed to an authorized compacted thickness other than the normal thickness as shown on the typical section in the Plans, as specified on the Plans, the thickness specified in the description of the Contract pay item, or ordered as by Engineer for providing additional depths at culverts or bridges, or for providing transitions to connecting pavements; the volume of such authorized variable thickness compacted base will be calculated from authorized lines and grades, or by other methods selected by Engineer, and converted to equivalent square yards of normal thickness base for payment.
2. Additional areas that will not be included in the above measurements for payment include:
 - a. Areas of existing base left in place;

- b. Areas where under-thickness is in excess of the allowable tolerance as specified in Subarticle 200-G.9; and
- c. Areas where the work under other Contract pay item(s) includes the construction or restoration of a limerock base.

K. Basis of Payment.

1. Price and payment will be full compensation for all the work specified in this Article, including correcting all defective surface and deficient thickness, removing cracks and checks as provided above in Crack and Checks, prime coat application meeting the requirements of FDOT Section 300, and the additional rock required for crack elimination.
2. Payment will be made under the item(s) below that are provided in the Contract having awarded Contract unit price(s):
 - a. No separate item for Limerock base will be provided under this contract.

**327 MILLING OF EXISTING ASPHALT PAVEMENT (REV.
05-14-12)**

A. Description.

1. At the locations and to the average depth of cut specified by the Contract Documents or Work Order, remove existing asphalt concrete pavement by milling to improve the rideability and cross slope of the finished pavement, to lower the finished grade adjacent to existing curb prior to resurfacing, or to completely remove existing pavement.
2. Take ownership of milled material.

B. Equipment.

1. Provide a milling machine capable of maintaining a depth of cut and cross slope that will achieve the results specified in the Contract Documents or Engineer. Use a machine with a minimum overall length (out to out measurement excluding the conveyor) of 18 feet and a minimum cutting width of 6 feet.
2. Equip the milling machine with a built-in automatic grade control system that can control the transverse slope and the longitudinal profile to produce the specified results.
3. To start the project, Engineer will approve any commercially manufactured milling machine that meets the above requirements. If it becomes evident after starting milling that the milling machine cannot consistently produce the specified results, Engineer will reject the milling machine for further use.
4. Contractor may use a smaller milling machine when milling to lower the grade adjacent to existing curb or other areas where it is impractical to use the above described equipment.
5. Equip the milling machine with means to effectively limit the amount of dust escaping during the removal operation.
6. For complete pavement removal, Engineer may approve the use of alternate removal and crushing equipment in lieu of the equipment specified above.

C. Construction.

1. General:

- a. Remove the existing raised reflective pavement markers prior to milling. Include the cost of removing existing pavement markers in the price for milling.
- b. When milling to improve rideability or cross slope, remove the existing pavement to the average depth specified by the Contract Documents or Work Order, in a manner that will restore the pavement surface to a uniform cross-section and longitudinal profile. Engineer may require the use of a stringline to ensure maintaining the proper alignment.

- c. Establish the longitudinal profile of the milled surface in accordance with the milling plans. Ensure that the final cross slope of the milled surface parallels the surface cross slope shown on the Plans or as directed by Engineer. Establish the cross slope of the milled surface by a second sensing device near the outside edge of the cut or by an automatic cross slope control mechanism. The Plans may waive the requirement of automatic grade or cross slope controls where the situation warrants such action.
- d. Operate the milling machine to minimize the amount of dust being emitted. Engineer may require prewetting of the pavement.
- e. Provide positive drainage of the milled surface and the adjacent pavement. Perform this operation on the same day as milling. Repave all milled surfaces no later than the day after the surface was milled unless otherwise stated in the plans.
- f. If traffic is to be maintained on the milled surface prior to the placement of the new asphalt concrete, provide suitable transitions between areas of varying thickness to create a smooth longitudinal riding surface. Produce a pattern of striations that will provide an acceptable riding surface. Engineer will require the control the traveling speed of the milling machine to produce a texture that will provide an acceptable riding surface.
- g. Prior to opening an area which has been milled to traffic, sweep the pavement with a power broom or other approved equipment to remove, to the greatest extent practicable, fine material which will create dust under traffic. Sweep in a manner that will minimize the potential for creation of a traffic hazard and to minimize air pollution.
- h. Sweep the milled surface with a power broom prior to placing asphalt concrete.
- i. In urban and other sensitive areas, use a street sweeper or other equipment capable of removing excess milled materials and controlling dust. Obtain Engineer's approval of such equipment, contingent upon its demonstrated ability to do the work.
- j. Perform the sweeping operation immediately after the milling operations or as directed by Engineer.

2. Quality Control Requirements:

- a. Furnish an electronic level with a length of 4 feet and an accuracy of plus or minus 0.1 degree approved by Engineer for the control of cross slope. Make this electronic level available at the jobsite at all times during milling operations. Calibrate and compare electronic levels at a minimum frequency of once per day before any milling operation, and at any time as directed by Engineer. If the comparison between the QC and Verification levels is within the comparison tolerance of plus or minus 0.2%, the QC level is considered to compare favorably and can be used for measurement and acceptance of cross slopes. If the levels do not compare favorably, perform a second comparison using another calibrated electronic level (PWWM or Contractor) for resolution. If this resolution level compares favorably with the QC level, the QC level is considered to be verified. If the second level does not compare favorably with the QC level, discontinue the use of the QC electronic level and

obtain another approved electronic level that meets the requirements of this specification. Regardless of the comparison analysis outcome, Contractor assumes all risk associated with placing the pavement at the correct cross slope.

- b. Multiple cuts may be made to achieve the required pavement configuration or depth of cut. Measure the cross slope of the milled surface by placing the level at the center location of a lane and perpendicular to the roadway centerline. Record all the measurements to the nearest 0.1% on an approved form and submit to Engineer for documentation.

- 1) Tangent Sections: Measure the cross slope per lane at a minimum frequency of one measurement every 100 feet. Calculate the absolute deviation of cross slope at each measurement and then average the absolute deviation of ten consecutive cross slope measurements. The absolute deviation is the positive value of a deviation. When the average absolute deviation cross slope is consistently within the acceptance tolerance as shown in Table 327-1 and upon approval by Engineer, the frequency of the cross slope measurements can be reduced to one measurement every 200 feet during milling operations.

- 2) Superelevated Sections: Measure the cross slope every 100 feet per lane within the length of full superelevation. Calculate the absolute deviation of each measurement and then average the absolute deviation of ten consecutive cross slope measurements. For every transition section, measure the cross slope at control points identified in the plans or, if not shown in the plans, at a control point at a location of 0.0% cross slope. For curves where the length of the fully superelevated section is less than 250 feet, measure the cross slope at the beginning point, midpoint and ending point of the fully superelevated section, calculate the absolute deviation and average. When the number of measurements is less than ten and the length of full superelevation is greater than 250 feet, average the absolute deviation of all measurements.

- c. If the average absolute deviation of the cross slope measurements falls outside the acceptance tolerance shown in Table 327-1, stop the milling operations and make adjustments until the problem is resolved to the satisfaction of Engineer. If an individual cross slope deviation falls outside the acceptance tolerance as shown in Table 327-1, make corrections only in the deficient area to the satisfaction of Engineer at no cost to the Department. For pavement with multiple cuts, the deficient areas not caused by the final cut may be left in place upon approval of Engineer. All milling corrections shall be completed before placement of the asphalt course unless stated otherwise in the plans or as determined by Engineer.

- d. The limits of deficient areas requiring correction may be verified and adjusted with more accurate measurement methods, including survey instruments, upon approval by Engineer at no cost to the Department. Should Contractor wish to have any corrections waived, submit a request to Engineer for approval. Engineer may waive the corrections at no reduction in payment if an

engineering determination indicates that the deficiencies are sufficiently separated so as not to significantly affect the final cross slope or project grade.

- e. For intersections, tapers, crossovers, transitions at the beginning and end of the project, bridge approaches and similar areas, adjust the cross slope to match the actual site conditions, or as directed by Engineer.

TABLE 327-1 Cross Slope Milling Acceptance Tolerance		
Roadway Feature	Individual Absolute Deviation	Average Absolute Deviation
Tangent section (including turn lanes)	0.4%	0.2%
Superelevated curve	0.4%	0.2%
Shoulder	0.5%	0.5%

D. Milled Surface.

1. Provide a milled surface with a reasonably uniform texture, within 1/4 inch of a true profile grade, and with no deviation in excess of 1/4 inch from a straightedge applied to the pavement perpendicular to the centerline. Ensure that the variation of the longitudinal joint between multiple cut areas does not exceed 1/4 inch. Engineer may accept areas varying from a true surface in excess of the above stated tolerance without correction if Engineer determines that they were caused by a pre-existing condition which could not have reasonably been corrected by the milling operations. Correct any unsuitable texture or profile, as determined by Engineer, at no additional expense to the Department.
2. Engineer may require remilling of any area where a surface lamination causes a non-uniform texture to occur.

E. Method of Measurement.

1. The quantity to be paid for will be the area, in square yards, over which milling is completed and accepted by Engineer.

F. Basis of Payment.

1. Price and payment will be full compensation for all work specified in this Article, including hauling off and stockpiling or otherwise disposing of the milled material.
2. Payment will be made under:
 - a. No separate pay item(s) for Milling of Existing Asphalt Pavement will be provided under this contract.

334 HOT MIX ASPHALT (REV. 01-29-15)

A. Description.

1. General.

- a. Construct plant mixed Hot Mix Asphalt (HMA) pavements based on the type of mixture specified in the Contract Documents and for the Asphalt Work Categories defined below.
- b. Meet all applicable requirements for plants, material, equipment, and construction specified herein.

2. Asphalt Work Categories.

- a. Asphalt Work Category 1: Includes the construction of shared use paths and miscellaneous asphalt.
- b. Asphalt Work Category 2: Includes the construction of new asphalt turn lanes, paved shoulders and other non-mainline pavement locations.
- c. Asphalt Work Category 3: Includes the construction of new mainline asphalt pavement I, milling and resurfacing.

3. Mix Types.

- a. Use a HMA mix that meets the requirements of this specification.
- b. In the event a mix type is not identified in the Contract Documents use, subject to Engineer's approval, the appropriate HMA mix from Table 1 below.
- c. Mixtures are based on the design traffic level of the project, expressed in 18,000 pounds Equivalent Single Axle Loads (ESAL's).
- d. A Type SP or FC mix one traffic level higher than the traffic level specified in the Contract may be substituted, at no additional cost.

Table 1 HMA Fine Mix Types		
Asphalt Work Category	Mix Types	Traffic Level ⁽²⁾
1	Type SP-9.5 ⁽¹⁾	A
2	Structural Mixes: Types SP-9.5 or SP-12.5 ⁽¹⁾ Friction Mixes: Types FC-9.5 or FC-12.5 ⁽¹⁾	B or C
3	Structural Mixes: Types SP-9.5 or SP-12.5 Friction Mixes: Types FC-9.5 or FC-12.5	C
⁽¹⁾ Equivalent mixes may be approved as determined by the Engineer.		
⁽²⁾ Traffic Level (1x10 ⁶ ESAL's): A is <0.3; B is 0.3 to <3; and C is 3 to <10		

4. Gradation Classification.

- a. Use only fine HMA mixes meeting the requirements of subarticle C.2.b below. The equivalent AASHTO nominal maximum aggregate size Superpave mixes are as follows:
 - 1) Type SP-9.5, FC-9.5 9.5 mm (3/8")
 - 2) Type SP-12.5, FC-12.5 12.5 mm (1/2")

5. Total Pavement Thickness.

- a. The total pavement thickness of the HMA Pavement will be based on a specified spread rate or plan thickness as shown in the Contract Documents. Before paving, propose a spread rate or thickness for each individual layer meeting the requirements of this specification, which when combined with other layers (as applicable) will equal the plan spread rate or thickness.
- b. When the total pavement thickness is specified as plan thickness, the plan thickness and individual layer thickness will be converted to spread rate using the following equation:
 - 1) Spread rate (lbs/yd²) = t x G_{mm} x 43.3 where:
 - a) t = Thickness (in.) (Plan thickness or individual layer thickness)
 - b) G_{mm} = Maximum specific gravity from the mix design
 - c) For target purposes only, spread rate calculations shall be rounded to the nearest whole number.
 - c. Plan quantities are based on a G_{mm} of 2.540, corresponding to a spread rate of 110 lbs. per square yard per inch. Pay quantities will be based on the actual maximum specific gravity of the mix being used.

6. Layer Thicknesses.

- a. Structural Course Layer(s):
 - 1) Unless otherwise called for in the Contract Documents, the allowable layer thicknesses for fine Type SP HMA mixes are as follows:
 - a) Type SP-9.5.....1 - 1 1/2 inches
 - b) Type SP-12.5.....1 1/2 - 2 1/2 inches
 - 2) Fine Type SP-9.5 mixes are limited to the top two structural layers, two layers maximum.
- b. Friction Course Layer (FC-12.5 and FC-9.5):
 - 1) The thickness of the friction course layer will be the plan thickness as shown in the Contract Document or as directed in writing by the Engineer. For construction purposes, the plan thickness will be converted to spread rate as defined in Subarticle A.5 above.

7. Additional Requirements.

- a. Type SP HMA fine mixtures:
 - 1) When construction includes the paving of adjacent shoulders (≤5 feet wide), the layer thickness for the upper pavement layer and shoulder shall be the same and paved in a single pass, unless otherwise called for in the Contract Documents.
 - 2) For overbuild layers, use the minimum and maximum layer thicknesses as specified above unless called for differently in the Contract Documents. On variable thickness overbuild layers, the minimum allowable thickness may be reduced by 1/2 inch, and the maximum allowable thickness may be increased by 1/2 inch, unless called for differently in the Contract Documents.

8. Weight of Mixture.

- a. The weight of the mixture shall be determined as provided in FDOT 320-2.2 (Electronic Weigh Systems).

B. Materials.

1. General Requirements: Meet the material requirements specified in FDOT Division III (Materials). Specific references as follows:

Superpave PG Asphalt Binder	FDOT 916-1
Recycling Agents	FDOT 916-2
Course Aggregate	FDOT Section 901
Fine Aggregate	FDOT Section 902

2. Asphalt Binder:

- a. For Type SP Mixtures:

- 1) Unless specified elsewhere in the Contract Documents, use a PG 67-22 asphalt binder from the FDOT's Approved Products List (APL).
 - 2) Meet the requirements of FDOT Section 916 and Subarticle B.4 below.

- b. For Type FC Mixtures:

- 1) Use an ARB-5 asphalt rubber binder meeting the requirements of FDOT Section 336 and any additional requirements or modifications specified herein for the various mixtures.
 - 2) If called for in the Contract Documents, use a PG 76-22 asphalt binder meeting the requirements of FDOT 916-1.
 - 3) For projects with a total quantity of FC-9.5 or FC-12.5 less than 500 tons, the Contractor may elect to substitute for the ARB-5, a PG 76-22 Asphalt Binder that meets the requirements of FDOT 916-1.

3. Aggregate:

- a. Provide certification from the aggregate supplier that the material meets all requirements for construction aggregates stipulated in the Contract Documents.

- b. Aggregates and sources used must be identified in the FDOT "Approved Aggregate Products from Mines or Terminals" current listings.

- c. For Type FC mixes:

- 1) Use an aggregate blend that consists of crushed granite, crushed Oolitic limestone, other crushed materials (as approved by FDOT for friction courses per Rule 14-103.005, Florida Administrative Code), or a combination of the above. Crushed limestone from the Oolitic formation may be used if it contains a minimum of 12% silica material as determined by FDOT Test Method FM 5-510 and FDOT grants approval of the source prior to its use. As an exception, mixes that contain a minimum of 60% crushed granite may either contain:

- a) Up to 40% fine aggregate from other sources, or

- b) A combination of up to 15% Reclaimed Asphalt Pavement (RAP) Material and the remaining fine aggregate from other sources.

- c) A list of aggregates approved for use in friction courses may be available on the FDOT's website. The URL for obtaining this information, if available, is: <https://mac.fdot.gov/smreports>

4. Reclaimed Asphalt Pavement (RAP) use in Type SP asphalt mixture:

- a. General requirements: RAP may be used as a component of the Type SP asphalt mixture, if approved by the Engineer. Usage of RAP is subject to the following requirements:

- 1) Limit the amount of RAP material used in the mix to a maximum of 50 percent by weight of total aggregate.
 - 2) When using a PG 76-22 Asphalt Binder, limit the amount of RAP material used in the mix to a maximum of 20 percent by weight of total aggregate.
 - 3) Provide stockpiled RAP material that is reasonably consistent in characteristics and contains no aggregate particles which are soft or conglomerates of fines.
 - 4) Provide RAP material having a minimum average asphalt content of 4.0 percent by weight of total mix. The Engineer may sample the stockpile to verify that this requirement is met.
 - 5) Use a grizzly or grid over the RAP cold bin, in-line roller crusher, screen, or other suitable means to prevent oversized RAP material from showing up in the completed recycle mixture. If oversized RAP material appears in the completed recycle mix, take the appropriate corrective action immediately. If the appropriate corrective actions are not immediately taken, stop plant operations.

- b. Material Characterization: Assume responsibility for establishing the asphalt binder content, gradation, viscosity and bulk specific gravity (Gsb) of the RAP material based on a representative sampling of the material.

- c. Asphalt Binder for Mixes with RAP:

- 1) Select the appropriate asphalt binder grade based on Table 2 below.
 - 2) The Engineer reserves the right to change the asphalt binder type and grade at design based on the characteristics of the RAP asphalt binder, and reserves the right to make changes during production.
 - 3) Maintain the viscosity of the recycled mixture within the range of 5,000 to 15,000 poises.

Table 2 Asphalt Binder Grade for Mixes Containing RAP	
Percent RAP	Asphalt Binder Grade
<20	PG 67-22
20 – 29	PG 64-22

≥ 30	Recycling Agent

C. Composition of Mixture.

1. General: Compose the asphalt mixture using a combination of aggregates, mineral filler, if required, and asphalt binder material. Size, grade and combine the aggregate fractions to meet the grading and physical properties of the mix design. Aggregates from various sources may be combined.
2. Mix Design:
 - a. General: Design the asphalt mixture in accordance with AASHTO R35 04, except as noted herein. Submit the proposed mix design with supporting test data indicating compliance with all mix design criteria to the Engineer. Prior to the production of any asphalt mixture, obtain the Engineer's conditional approval of the mix design. If required by the Engineer, send representative samples of all component materials, including asphalt binder to a laboratory designated by the Engineer for verification. The Engineer will consider any marked variations from original test data for a mix design or any evidence of inadequate field performance of a mix design as sufficient evidence that the properties of the mix design have changed, and at his discretion, the Engineer may no longer allow the use of the mix design.
 - b. Mixture Gradation Requirements: Combine the aggregates in proportions that will produce an asphalt mixture meeting all of the requirements defined in this specification and conform to the gradation requirements at design as defined in AASHTO M323 04, Table 3. Aggregates from various sources may be combined.
 - 1) Mixture Gradation Classification: Plot the combined mixture gradation on an FHWA 0.45 Power Gradation Chart. Include the Control Points from AASHTO M323 04, Table 3, as well as the Primary Control Sieve (PCS) Control Point from AASHTO M323 04, Table 4. Fine mixes are defined as having a gradation that passes above or through the primary control sieve control point. Use only fine mixes.
 - c. Gyratory Compaction: Compact the design mixture in accordance with AASHTO T312 04. Use the number of gyrations as defined in AASHTO R35 04, Table 1.
 - d. Design Criteria: Meet the requirements for nominal maximum aggregate size as defined in AASHTO M323 04, as well as for relative density, VMA, VFA, and dust-to-binder ratio as specified in AASHTO M323 04, Table 6.
 - e. Moisture Susceptibility:
 - 1) Test 4 inch specimens in accordance with FM 1 T 283. Provide a mixture having a retained tensile strength ratio of at least 0.80 and a minimum tensile strength (unconditioned) of 100 psi. If necessary, add a liquid anti-stripping agent from the FDOT's Qualified Products List, or hydrated lime in order to meet these criteria.
 - 2) In lieu of moisture susceptibility testing, add a liquid anti-stripping agent from the FDOT's Qualified

Products List. Add 0.5% liquid anti-stripping agent by weight of binder.

- f. Additional Information: In addition to the requirements listed above, provide the following information on each mix design:
 - 1) The design traffic level and the design number of gyrations (N_{design}).
 - 2) The source and description of the materials to be used.
 - 3) The FDOT source number and the FDOT product code of the aggregate components furnished from an FDOT approved source.
 - 4) The gradation and proportions of the raw materials as intended to be combined in the paving mixture. The gradation of the component materials shall be representative of the material at the time of use. Compensate for any change in aggregate gradation caused by handling and processing as necessary.
 - 5) A single percentage of the combined mineral aggregate passing each specified sieve. Degradation of the aggregate due to processing (particularly material passing the No. 200 sieve) should be accounted for and identified.
 - 6) The bulk specific gravity (G_{sb}) value for each individual aggregate and RAP component.
 - 7) A single percentage of asphalt binder by weight of total mix intended to be incorporated in the completed mixture, shown to the nearest 0.1 percent.
 - 8) A target temperature at which the mixture is to be discharged from the plant and a target roadway temperature. Do not exceed a target temperature of 330°F for modified asphalts and 315°F for unmodified asphalts.
 - 9) Provide the physical properties achieved at four different asphalt binder contents. One shall be at the optimum asphalt content, and must conform to all specified physical requirements.
 - 10) The name of the Mix Designer.
 - 11) The ignition oven calibration factor.

D. Contractor Quality Control.

1. Assume full responsibility for controlling all operations and processes such that the requirements of these Specifications are met at all times. Perform any tests necessary at the plant and Project site for quality control purposes.
2. Acceptance of any automatic delivery ticket printout, electronic weight delivery ticket, or other evidence of weight of the materials or approval of any particular type of materials or production methods will not constitute agreement by the County that such matters are in accordance with the Contract Documents and it shall be the Contractor's responsibility to ensure that the materials delivered to the project are in accordance with the Contract Documents.

E. General Construction Requirements.

1. Weather Limitations: Do not transport asphalt mix from the plant to the roadway unless all weather conditions are suitable for the laying operations.
2. Limitations of Laying Operations:
 - a. General: Spread the mixture only when the surface upon which it is to be placed has been previously prepared, is intact, firm, and properly cured, and is dry.
 - b. Air Temperature: Spread the mixture only when the air temperature in the shade and away from artificial heat is at least 40°F for layers greater than 1 inch (100 lb/yd²) in thickness and at least 45°F for layers 1 inch (100 lb/yd²) or less in thickness (this includes leveling courses). The minimum temperature requirement for leveling courses with a spread rate of 50 lb/yd² or less is 50°F.
3. Mix Temperature: Heat and combine the ingredients of the mix in such a manner as to produce a mixture with a temperature at the plant and at the roadway, within a range of ±30°F from the target temperature as shown on the mix design. Reject all loads outside of this range.
4. Transportation of the Mixture: Transport the mixture in vehicles previously cleaned of all foreign material. After cleaning, thinly coat the inside surface of the truck bodies with soapy water or an asphalt release agent as needed to prevent the mixture from adhering to the beds. Do not allow excess liquid to pond in the truck body. Do not use diesel fuel or any other hazardous or environmentally detrimental material as a coating for the inside surface of the truck body. Cover each load at all times.
5. Preparation of Surfaces Prior to Paving:
 - a. Cleaning: Clean the surface of all loose and deleterious material by the use of power brooms or blowers, supplemented by hand brooming where necessary.
 - b. Patching and Leveling Courses: Where the HMA is to be placed on an existing pavement which is irregular, wherever the plans indicate, or if directed by the Engineer, bring the existing surface to proper grade and cross-section by the application of patching or leveling courses.
 - c. Application over Surface Treatment: Where an asphalt mix is to be placed over a surface treatment, sweep and dispose of all loose material from the paving area.
 - d. Tack Coat: Apply a tack coat on existing pavement structures that are to be overlaid with an asphalt mix and between successive layers of all asphalt mixes, unless directed otherwise by the Engineer. Use a tack coat product meeting FDOT Section 300 (Prime and Tack Coats for Base Courses). Use an emulsified tack coat spread rate of 0.02 to 0.08 gal/sy or as specified by the Engineer.
6. Paving:
 - a. Alignment of Edges: With the exception of pavements placed adjacent to curb and gutter or other true edges, place all pavements by the stringline method to obtain an accurate, uniform alignment of the pavement edge. Control the unsupported pavement edge to ensure that it will not deviate more than ± 1.5 inches from the stringline.
 - b. Rain and Surface Conditions: Immediately cease transportation of asphalt mixtures from the plant when rain begins at the roadway. Do not place asphalt mixtures while rain is falling, or when there is water on the surface to be covered. Once the rain has stopped and water has been removed from the tacked surface to the satisfaction of the Engineer and the temperature of the mixture caught in transit still meets the requirements as specified in subarticle E.3 above, the Contractor may then place the mixture caught in transit.
 - c. Checking Depth of Layer: Check the depth of each layer at frequent intervals, and make adjustments when the thickness exceeds the allowable tolerance of 1/4". Address any material outside of this tolerance per the direction of the Engineer. When making an adjustment, allow the paving machine to travel a minimum distance of 32 feet to stabilize before the second check is made to determine the effects of the adjustment.
 - d. Hand Spreading: In limited areas where the use of the spreader is impossible or impracticable, spread and finish the mixture by hand.
 - e. Spreading and Finishing: Upon arrival, dump the mixture in the approved paver, and immediately spread and strike-off the mixture to the full width required, and to such loose depth for each course that, when the work is completed, the required weight of mixture per square yard, or the specified thickness, is secured. Carry a uniform amount of mixture ahead of the screed at all times.
 - f. Thickness of Layers: Construct each course of Type SP mixtures in layers of thickness pursuant to subarticle A.6.a above.
7. Leveling Courses:
 - a. Patching Depressions: Before spreading any leveling course, fill all depressions in the existing surface more than 1 inch deep by spot patching with leveling course mixture, and compact thoroughly.
 - b. Spreading Leveling Courses: Place all courses of leveling with an asphalt paver or by the use of two motor graders, one being equipped with a spreader box. Other types of leveling devices may be used upon approval by the Engineer.
 - c. Rate of Application: When using Type SP-9.5 (fine graded) for leveling, do not allow the average spread of a layer to be less than 50 lb/yd² or more than 75 lb/yd². The quantity of mix for leveling shown in the plans represents the average for the entire project; however, the Contractor may vary the rate of application throughout the project as directed by the Engineer. When leveling in connection with base widening, the Engineer may require placing all the leveling mix prior to the widening operation.
8. Compaction:
 - a. For each paving or leveling train in operation, furnish a separate set of rollers, with their operators.
 - b. When density testing for acceptance is required (Asphalt Work Category 3), select equipment, sequence, and coverage of rolling to meet the specified density requirement. Regardless of the rolling

procedure used, complete the final rolling before the surface temperature of the pavement drops to the extent that effective compaction may not be achieved or the rollers begin to damage the pavement.

- c. When density testing for acceptance is not required (Asphalt Work Categories 1 and 2), use a rolling pattern approved by the Engineer.
- d. Use hand tamps or other satisfactory means to compact areas which are inaccessible to a roller, such as areas adjacent to curbs, headers, gutters, bridges, manholes, etc.

9. Joints.

- a. Transverse Joints: Construct smooth transverse joints, which are within 3/16 inch of a true longitudinal profile when measured with a 15 foot manual straightedge.
- b. Longitudinal Joints: For all layers of pavement except the leveling course, place each layer so that longitudinal construction joints are offset 6 to 12 inches laterally between successive layers. Do not construct longitudinal joints in the wheelpaths. The Engineer may waive these requirement where offsetting is not feasible due to the sequence of construction.

10. Surface Requirements: Construct a smooth pavement with good surface texture and the proper cross-slope.

- a. Texture of the Finished Surface of Paving Layers: Produce a finished surface of uniform texture and compaction with no pulled, torn, raveled, crushed or loosened portions and free of segregation, bleeding, flushing, sand streaks, sand spots, or ripples. Correct any area of the surface that does not meet the foregoing requirements in accordance with the requirements below for Correcting Unacceptable Pavement.
- b. Cross Slope: Construct a pavement surface with cross slopes in compliance with the requirements of the Contract Documents.
- c. Pavement Smoothness: Construct a smooth pavement meeting the requirements of this Specification. Furnish a 15 foot manual and a 15 foot rolling straightedge meeting the requirements of FM 5-509. Make them available at the job site at all times during paving operations for Asphalt Work Category 3 and make them available upon request of the Engineer for Asphalt Work Categories 1 and 2.

1) Asphalt Work Category 3:

- a) Acceptance Testing: Using a rolling straightedge, test the final Type SP structural layer and the Type FC layer, where a friction course is called for in the Contract Documents. Test all pavement lanes where the width is constant using a rolling straightedge and document all deficiencies on a form approved by the Engineer. Notify the Engineer of the location and time of all straightedge testing a minimum of 48 hours before beginning testing.
- b) Rolling Straightedge Exceptions: Testing with the rolling straightedge will not be required in the following areas: intersections, tapers, crossovers, parking lots and similar areas. In addition, testing with the rolling straightedge will

not be performed on the following areas when they are less than 50 feet in length: turn lanes, acceleration/deceleration lanes and side streets. However, correct any individual surface irregularity in these areas that deviates from the plan grade in excess of 3/8 inch as determined by a 15 foot manual straightedge, and that the Engineer deems to be objectionable, in accordance with the requirement below for Correcting Unacceptable Pavement. The Engineer may waive or modify straightedging requirements if no milling, leveling, overbuild or underlying structural layer was placed on the project and the underlying layer was determined to be exceptionally irregular.

- c) Final Type SP Structural Layer: Straightedge the final Type SP structural layer with a rolling straightedge behind the final roller of the paving train or as a separate operation. Address all deficiencies in excess of 3/16 inch in accordance with the requirements below for Correcting Unacceptable Pavement (structural layer). If the Type SP layer is to be the final surface, corrections may be waived by the Engineer. Retest the corrected areas.

- d) Friction Course Layer: Where a friction course is called for in the Contract, at the completion of all paving operations, straightedge the friction course either behind the final roller of the paving train or as a separate operation. Address all deficiencies in excess of 3/16 inch in accordance with the requirements below for Correcting Unacceptable Pavement (friction course), unless waived by the Engineer. Retest all corrected areas.

- 2) Asphalt Work Categories 1 and 2: If required by the Engineer, straightedge the final structural layer with a rolling straightedge, either behind the final roller of the paving train or as a separate operation. Correct all deficiencies in excess of 5/16 inch in accordance with the requirements below for Correcting Unacceptable Pavement (structural layer). Retest all corrected areas. If the Engineer determines that the deficiencies on a bicycle path are due to field geometrical conditions, the Engineer will waive corrections with no deduction to the pay item quantity.

d. Correcting Unacceptable Pavement:

- 1) General: Correct all areas of unacceptable pavement at no additional cost.
- 2) Structural Layers: Correct deficiencies in the Type SP structural layer by one of the following methods:
 - a) Remove and replace the full depth of the layer, extending a minimum of 50 feet on both sides of the defective area for the full width of the paving lane.
 - b) Mill the pavement surface to a depth and width that is adequate to remove the deficiency. (This option only applies if the structural layer is not the final surface layer.)

- 3) Friction Course: Correct deficiencies in the friction course layer by removing and replacing the full depth of the layer, extending a minimum of 50 feet on both sides of the defective area for the full width of the paving lane.

F. Acceptance of the Mixture.

1. General: The asphalt mixture will be accepted based on the Asphalt Work Category as defined below:
 - a. Asphalt Work Category 1 – Certification by the Contractor as defined below.
 - b. Asphalt Work Category 2 – Certification and quality control testing by the Contractor as defined below.
 - c. Asphalt Work Category 3 – Quality control testing by the Contractor and acceptance testing by the Engineer as defined below.
2. Certification by the Contractor: On Asphalt Work Category 1 construction, the Engineer will accept the mix on the basis of visual inspection. Submit a Notarized Certification of Specification Compliance letter on company letterhead to the Engineer stating that all material produced and placed on the project was in substantial compliance with the Specifications. The Engineer may run independent tests to determine the acceptability of the material.
3. Certification and Quality Control Testing by the Contractor: On Asphalt Work Category 2 construction, submit a Notarized Certification of Specification Compliance letter on company letterhead to the Engineer stating that all material produced and placed on the project was in substantial compliance with the Specifications, along with supporting test data documenting all quality control testing as described in the Quality Control Sampling and Testing Requirements (subarticle F.3.a. below). If so required by the Contract, utilize an Independent Laboratory as approved by the Engineer for the quality control testing. The mix will also require visual acceptance by the Engineer. In addition, the Engineer may run independent tests to determine the acceptability of the material.
 - a. Quality Control Sampling and Testing Requirements:
 - 1) Perform quality control testing at a frequency of once per day. Obtain the samples in accordance with FDOT Method FM 1 T 168.
 - 2) Test the mixture at the plant for gradation (P-8 and P-200) and asphalt binder content (Pb).
 - 3) Test the mixture on the roadway for density using six-inch diameter roadway cores obtained at a frequency of three cores per day.
 - 4) Determine the asphalt content of the mixture in accordance with FM 5 563.
 - 5) Determine the gradation of the recovered aggregate in accordance with FM 1 T 030.
 - 6) Determine the roadway density in accordance with FM 1 T 166. The minimum roadway density will be based on the percent of the maximum specific gravity (G_{mm}) from the approved mix design. If the Contractor or Engineer suspects that the mix design

G_{mm} is no longer representative of the asphalt mixture being produced, then a new G_{mm} value will be determined from plant-produced mix with the approval of the Engineer. Roadway density testing will not be required in certain situations as described in the Acceptance Testing Exceptions (subarticle F.4.a below).

- 7) Assume that the asphalt content, gradation and density test results meet the criteria in Table 3 below.

Table 3 Quality Control and Acceptance Values	
Characteristic	Tolerance
Asphalt Binder Content (percent)	Target $\pm$ 0.55
Passing No. 8 Sieve (percent)	Target $\pm$ 6.00
Passing No. 200 Sieve (percent)	Target $\pm$ 2.00
Roadway Density (average of three cores)	91.5% G _{mm}
Roadway Density (any single core)	90.0 % G _{mm}

4. Quality Control Testing by the Contractor and Acceptance Testing by the Engineer: On Asphalt Work Category 3, perform quality control testing as described in the Quality Control Sampling and Testing Requirements (subarticle F.3.a above). In addition, the Engineer will accept the mixture at the plant with respect to gradation (P-8 and P-200) and asphalt binder content (Pb). The mixture will be accepted on the roadway with respect to density. The Engineer will sample and test the material as described in subarticle F.3.a above. The Engineer will randomly obtain at least one set of samples per day. Assume that the asphalt content, gradation and density test results meet the criteria in Table 3 above. Material failing to meet these acceptance criteria will be addressed as directed by the Engineer.
 - a. Acceptance Testing Exceptions:
 - 1) When the total quantity of any mix type in the Project is less than 500 tons, or on Asphalt Work Category 1 construction, the Engineer will accept the mix on the basis of visual inspection. The Engineer may run independent tests to determine the acceptability of the material.
 - 2) Density testing for acceptance will not be performed on widening strips or shoulders with a width of 5 feet or less, variable thickness overbuild courses, leveling courses, first lift of asphalt base course placed on subgrade, miscellaneous asphalt pavement, or any course with a specified thickness less than 1 inch or a specified spread rate less than 100 lbs/sy. In addition, density testing for acceptance will not be performed on the following areas when they are less than 1,000 feet in length: crossovers, intersections, turning lanes, acceleration lanes, deceleration lanes, or ramps. Compact these courses in accordance with a standard rolling procedure approved by the Engineer. In the event that the rolling procedure deviates from the approved procedure, placement of the mix will be stopped.

G. Method of Measurement.

1. For the work specified under this Article, the quantity to be paid for will be the weight of the mixture, in tons.
2. The bid price for the asphalt mix will include the cost of the liquid asphalt or the asphalt recycling agent and the tack coat application as specified herein.

H. Basis of Payment.

1. No separate pay item(s) for Hot Mix Asphalt will be provided under this contract.

- b. Provide and compact new limerock base to obtain a minimum density of 98% of modified Proctor maximum density as determined by FM 1-T 180, Method D.
- c. Construct a minimum 1" thick HMA pavement layer (Type SP-9.5).
4. Dispose of all excess materials and debris properly.

D. Method of Measurement

1. The quantity to be paid for will be the area, in square yards, of approved HMA or concrete pavement transition, measured and accepted by the Engineer.

E. Basis of Payment

1. No separate pay item(s) for Driveway Transition will be provided under this contract.

335 DRIVEWAY TRANSITIONS (REV. 06-23-11)

A. Description

1. General: Where required by the Contract Documents or directed by the Engineer, transition the driveway to meet the elevation of a newly constructed and abutting sidewalk or roadway.

B. Materials

1. Meet the following requirements:
 - a. Limerock (FDOT Section 911)
 - b. Concrete (FDOT Section 347; minimum compressive strength of 3,000 p.s.i. at 28 days)
 - c. Hot Mix Asphalt; refer to HMA Specifications in these Contract Documents.
 - d. Expansion Joints (FDOT 932-1.1)

C. Preparation and Construction

1. Full-depth saw cut a neat line along the entire width of the driveway where it abuts the new sidewalk or roadway and remove existing concrete or asphalt to provide for a maximum transition slope of 2" per foot.
2. Concrete Driveways:
 - a. Remove or add any additional subgrade material necessary to meet final elevation requirements.
 - b. Add the necessary amount of limerock to rework the rock base and compact to a minimum of 95% of AASHTO T 99 density.
 - c. Construct a 6" thick concrete pavement.
 - d. Form a ½ inch expansion joint between the sidewalk and the driveway or at fixed objects and driveway intersections.
 - e. Finish surface of concrete to match existing driveway.
3. Asphalt Driveways:
 - a. Remove or add any additional subgrade necessary to meet final elevation for a new 6" thick limerock base and a 1" thick Hot Mix Asphalt (HMA) pavement layer.

339 MISCELLANEOUS ASPHALT PAVEMENT (REV. 08-25-11)

A. Description.

1. Construct asphalt pavement in areas where vehicular traffic does not travel, such as pavement under guardrail, bicycle paths, median pavement, sidewalks, etc.
2. Chemically treat the underlying soil to prevent plant growth.

B. Materials.

1. Use a plant-mixed hot bituminous mixture, other than an open-graded friction course (FC-5), meeting the requirements of a mix design approved by Engineer. For bicycle paths, use a mixture that produces a finished pavement which will not distort or mar under bicycle or commercial riding mower wheel loads.

C. Foundation.

1. Shape the soil in areas where pavement is to be constructed to a surface true to the lines, grades and typical cross-sections shown in the Plans.
2. Compact the soil to a firm unyielding state.

D. Soil Treatment.

1. Immediately before placing the pavement, uniformly apply a pre-emergent herbicide to the foundation soil meeting the following requirements:
 - a. Use only products approved by the Florida Department of Agriculture for the State of Florida found on www.flpesticide.us/ website.
 - b. Ensure that the herbicide carries an approved label for use under paved surfaces, and that herbicide is applied in accordance with directions on the label.
 - c. Do not use any products in the sulfonylurea family of chemicals.

2. Herbicide application by broadcast spraying is not allowed.
3. Prevent damage to any adjacent vegetation during herbicide application. Replace, at no expense to the Department, any plants damaged as the result of soil treatment outside designated areas.
4. Ensure that all employees applying insecticides and herbicides possess a current Florida Department of Agriculture Commercial Applicator license with the categories of licensure in Right-of-Way Pest Control and Aquatic Pest Control. Ensure that employees who work with herbicides comply with all applicable Federal, State, and local regulations. If application of synthetic organo-auxin herbicides is necessary, meet the requirements of Chapter 5E-2, Florida Administrative Code.

E. Placing Mixture.

1. Uniformly place the hot bituminous mixture by machine or hand methods at the rate of spread or dimensions indicated in the plans or as otherwise directed by Engineer.
2. If posts are to be constructed within the pavement area, the Contractor may cut holes for installation through the completed pavement.
3. After completing installation of posts and compaction of the backfill material, patch the area around each post with fresh hot bituminous mixture.
4. If directed by the Engineer, place miscellaneous asphalt pavement prior to placement of the final surface course.

F. Compacting Mixture.

1. Uniformly compact the hot bituminous mixture with lightweight rollers or vibratory compactors as directed by Engineer. The Contractor may use hand tamps for compaction in areas which are inaccessible to other compaction equipment.

G. Surface Requirements.

1. Provide a finished surface that is reasonably smooth, of uniform texture, and shaped so as to drain without ponding of water.
2. Upon completion of the pavement, shape the surface of the adjacent earth to match the pavement edges.

H. Method of Measurement.

1. The quantity to be paid for will be the weight, in tons, determined by an electronic weighing system as described in FDOT 320-2.2. The pay quantity will be based on the average spread rate of the area shown on the Plans or authorized by the Engineer.
2. For calculation, a weight of 100 lbs/yd² per inch thickness of asphalt will be used.
3. Prepare a Certification of Quantities for the miscellaneous asphalt pavement pay item, based on the quantity of asphalt accepted by the Engineer. The certification must be provided monthly with each payment

request and include the Contract Number, Certification Number, Certification Date, period represented by Certification, and the tons of miscellaneous asphalt pavement for the period.

I. Basis of Payment.

1. Price and payment will be full compensation for all work specified in this Article, including shaping and compacting the foundation, soil sterilization treatment, furnishing of the bituminous material used in the mixture, and shaping of adjacent earth surfaces.
2. No separate pay item(s) for Miscellaneous Asphalt Pavement will be provided under this contract.

344 PORTLAND CEMENT CONCRETE (REV. 10-26-11)

A. Description.

1. Use concrete composed of a mixture of Portland cement, aggregates, and water, with or without chemical or mineral admixtures. Construct Concrete based on the type of work as described in the Contract Documents and the Concrete Work Categories below.
 - a. Concrete Work Category 1: Includes the construction of sidewalks, curb and gutter, ditch and slope pavement, or other non-reinforced cast-in-place or precast elements.
 - b. Concrete Work Category 2: Includes the construction of precast concrete including concrete barriers, traffic railing barriers, parapets, sound barriers, inlets, manholes, junction boxes, pipe culverts, storm sewers, box culverts, prestressed concrete poles, concrete bases for light poles, highway sign foundations, retaining wall systems, traffic separators or other structural precast elements.
 - c. Concrete Work Category 3: Includes the work associated with the placement and/or construction of structural cast-in-place concrete requiring a class of concrete specified in FDOT Section 346.

B. Materials.

1. General: Certify that all materials used in concrete meet the following requirements:

Portland Cement:	FDOT Section 921 except Portland cements meeting the requirements of AASHTO M-85 or ASTM C-150 are allowed for nonstructural concrete.
Coarse Aggregate:	FDOT Section 901
Fine Aggregate:	FDOT Section 902
Water:	FDOT Section 923
Chemical Admixtures:	FDOT Section 924
Pozzolans and Slag:	FDOT Section 929

2. Admixture Requirements: Chemical admixtures may be added at the dosage rates recommended by the manufacturer.
3. Material Storage: Use a concrete production facility that meets the following requirements.
 - a. Cementitious Materials Storage: Provide a separate and clearly labeled weatherproof facility to store each brand or type of cementitious material without mixing or contamination. Different brands of cement, cement of the same brand from different facilities, or different types of cement must be stored separately and must not be mixed. Provide a suitable, safe and convenient means of collecting cementitious material samples at each storage facility.
 - b. Aggregate Storage: Provide suitable bins, stockpiles or silos to store and identify aggregates without mixing, segregating or contaminating different grades or types of materials. Identify aggregate type/gradation. Handle the aggregates in a manner to minimize segregation and meet the specification requirements when recovered from storage. Continuously and uniformly sprinkle coarse aggregate with water, for 24 hours preceding introduction into the concrete mix. Timers may be used to facilitate the sprinkling of aggregate stockpiles using an alternating on/off method. However, in no event shall the top surface of the stockpile be permitted to become dry prior to batching of concrete. Moisture probes may be used to determine the moisture content of the aggregate. Ensure that the accuracy of the probe is certified annually and verified weekly. Maintain stored aggregates in a well-drained condition to minimize free water content. Provide access for the Engineer to sample the aggregates from the recovery side of the storage facility.

C. Production, Mixing and Delivery of Concrete.

1. Concrete Production Requirements:

- a. Use concrete production facilities certified by the National Ready-Mixed Concrete Association (NRMCA) and approved by the FDOT.
- b. Produce concrete utilizing equipment that is in good operating condition and operated in a manner to ensure a consistent product. When moisture probes are not used, ensure that the concrete production facility determines the free moisture for the coarse and fine aggregates within two hours prior to each day's batching. On concrete placements expected to exceed three hours, perform an additional moisture test approximately half way through the batching operations and adjust batch proportions accordingly.
- c. Ensure that the calibration of the measuring devices of the concrete production facilities meets the requirements of Chapter 531 of the Florida Statutes, and are in accordance with Chapter 9.2 of the FDOT Materials Manual. At least quarterly, ensure that all scales, meters and other weighing or measuring devices are checked for accuracy by a qualified representative of a scale company registered with the Bureau of Weights and Measures of the Florida Department of Agriculture. As an alternative, the producer may have this frequency identified in an

FDOT approved QC plan. The accuracy of admixture measuring dispensers will be certified annually by the admixture supplier.

- d. When Volumetric Mixers are used for Category I applications, deliver concrete in accordance with the requirements of Volumetric Mixer Manufacturers Bureau (VMMB) and ensure that the vehicle has a VMMB registered rating plate.
2. Classes of Concrete: Classes of concrete to be used on the Project will be as specified in the Contract Documents or FDOT Section 346 when applicable.
 3. Contractors Quality Control: Provide Engineer for approval a Quality Control (QC) plan to identify to the Department how quality will be ensured at the project site. During random inspections Engineer will use this document to verify that the construction of the Project is in agreement with the QC plan and the Contract Documents.
 4. Concrete Mix Design:
 - a. Before producing any concrete, submit the proposed mix design to Engineer on a form provided by the Department. Otherwise, the Department may accept applicable mix designs previously described in an FDOT approved QC plan. In any event, use only concrete mix designs having prior approval of the Engineer.
 - b. Materials may be adjusted provided that the theoretical yield requirement of the approved mix design is met. Show all required original approved design mix data and batch adjustments and substituted material on a Department approved concrete delivery ticket. Engineer may disqualify any concrete production facility for non-compliance with specification requirements.
 5. Delivery:
 - a. For cast-in-place applications, the maximum allowable mixing and agitation time of concrete is 90 minutes.
 - b. Furnish a delivery ticket on a form approved by the Department with each batch of concrete before unloading at the placement site. The delivery ticket shall be printed. Record material quantities incorporated into the mix on the delivery ticket. Ensure that the Batchers responsible for producing the concrete certifies that the batch was produced in accordance with these Specifications and signs the delivery ticket. Contractor must sign the delivery ticket certifying that the concrete was batched, delivered and placed in accordance with these Specifications.
 - c. The Contractor is responsible for rejecting loads of concrete that do not meet the plastic properties of the approved mix design or the minimum compressive strength requirements.
 - d. At the sole option of the Department, the Engineer may accept concrete at a reduced pay when it is determined that the concrete will serve its intended function.
 6. Placing Concrete:
 - a. Concreting in Cold Weather:
 - 1) Do not place concrete when the temperature of the concrete at placement is below 45°F.

- 2) Meet the air temperature requirements for mixing and placing concrete in cold weather as specified in FDOT Section 346. During the curing period, if NOAA predicts the ambient temperature to fall below 35°F for 12 hours or more or to fall below 30°F for more than 4 hours, enclose the structure in such a way that the concrete and air within the enclosure can be kept above 60°F for a period of 3 days after placing the concrete or until the concrete reaches a minimum compressive strength of 1,500 psi.
 - 3) Assume all risks connected with the placing and curing of concrete. Although Engineer may give permission to place concrete, Contractor is responsible for satisfactory results. If the placed concrete is determined to be unsatisfactory, remove, dispose of, and replace the concrete at no expense to the County.
- b. Concreting in Hot Weather:
- 1) Meet the temperature requirements and special measures for mixing and placing concrete in hot weather as specified in FDOT Section 346.
 - 2) When the temperature of the concrete as placed exceeds 75°F, incorporate in the concrete mix a water-reducing retarder or water reducer if allowed by FDOT Section 346.
- c. Spray reinforcing steel and metal forms with cool fresh water just prior to placing the concrete in a method approved by the Engineer.
- d. Assume all risks connected with the placing and curing of concrete. Although Engineer may give permission to place concrete, Contractor is responsible for satisfactory results. If the placed concrete is determined to be unsatisfactory, remove, dispose of, and replace the concrete at no expense to the County.
7. Mixers: Ensure that mixers are capable of combining the components of concrete into thoroughly mixed and uniform mass, free from balls or lumps of cementitious materials, and capable of discharging the concrete uniformly. Operate concrete mixers at speeds per the manufacturer's design. Do not exceed the manufacturer's rated capacity for the volume of mixed concrete in the mixer, mixing drum, or container.
8. Small Quantities of Concrete: With approval of the Engineer, small quantities of concrete, less than 3 yd³ placed in one day and less than 0.5 yd³ placed in a single placement may be accepted using a pre-bagged mixture. The Department may verify that the pre-bagged mixture is prepared in accordance with the manufacturer's recommendations and will meet the requirements of this Specification.
9. Sampling and Testing:
- a. Category 1: Engineer may sample and test the concrete at his discretion to verify its quality. The minimum 28 day compressive strength requirement for this concrete is 3,000 psi.
 - b. Category 2: Provide a statement of certification from the manufacturer of the precast element that the element meets the quality control and inspection testing requirements of the Contract Documents.
 - c. Category 3: The Department will randomly select a sample from each 200 yd³ or one day's production to determine plastic properties and to make three 4 x 8 inch cylinders for testing by the Department at 28 days to ensure that the design compressive strength has been met. The Department may, at its discretion, test additional concrete samples to ensure compliance with the Specifications.
10. Records: Maintain the following records for review for at least 3 years after final acceptance of the Project:
- a. Approved concrete mix designs.
 - b. Materials source (delivery tickets, certifications, certified mill test reports).
 - c. A copy of the scale company or testing agency report showing the observed deviations from quantities checked during calibration of the scales and meters.
 - d. A copy of the documentation certifying the admixture weighing/measuring devices.
 - e. For non structural concrete, the Department will accept recent NRMCA, VMMB or FDOT inspection records certifying the plant or truck can produce concrete. In addition, documentation will be available at the plant or in the truck showing that action has been taken to correct deficiencies noted during the inspections.
- D. Acceptance of the Work.
1. Category 1 Work: Category 1 work will be accepted based upon compliance with Production, Mixing and Delivery Requirements specified in herein.
 2. Category 2 Work: Precast elements will be accepted based upon certification from the Contractor that the elements were produced by a production facility on the FDOT's current approved plant list. In addition, the producers QC stamp will be displayed on the element.
 3. Category 3 Work: Category 3 work shall be in full compliance with this Specification, and with current FDOT Specifications, FDOT Section 346 and associated Contractor Quality Control (QC) specifications governing cast-in-place concrete. In addition, a Delivery Ticket as described in Subarticle 344-B.5 will be required for acceptance of the material at the Project site.
- E. Method of Measurement.
1. The quantities to be paid for will be the concrete items having awarded Contract Prices that are completed and accepted by Engineer.
- F. Basis of Payment.
1. Prices and payments will be full compensation for all work and materials specified in this Article and the Articles applicable to the items of work having awarded Contract Prices measured and approved for payment.

**425 INLETS, MANHOLES AND JUNCTION BOXES
(SECTION 425)**

A. Page 417, Subarticle 425-6.6 - Placing Pipe; The third sentence of this sub-article is modified to read:

1. When catch basins are called for, the inlet and outlet pipe may extend into the structure not to exceed 4 inches beyond the interior face of the wall.

B. Page 417, Subarticle 425-6.7 Backfilling; is modified to include the following:

1. Select material shall be used for backfill adjacent to catch basins and riser inlets, as detailed in the Plans. It shall consist of well-graded limerock or limerock and sand fill. Sand or fill having a high proportion of sand will not be accepted as select fill. All select fill shall be approved by the Engineer prior to placing. No separate payment will be made for select fill, but shall be included in the unit bid price for each particular item as indicated in the Bid Form of the Proposal.

C. Page 417, Subarticle 425-8.2 - Adjusted Structures; is expanded to include the following:

1. Upon completion of the work, and prior to acceptance and final payment, all such structures will be inspected by the Engineer to ensure that they are free of all debris and thoroughly cleaned. All drainage structures within the project limits shall be cleaned thoroughly and made free of all debris prior to final acceptance by the County. The Contractor shall include within the scheduled items listed on the Contract's Bid Form, the cost of all work necessary for cleaning and debris removal.

D. Page 418, Subarticle 425-8.3 – Payment Items; is expanded to include the following:

1. When a separate item is listed on the Bid Form for cleaning of structures, said item shall only be used when indicated on the Engineering Plans or as directed by the Engineer, and only for the cleaning of drainage structures that were not impacted by construction activities.
2. No separate pay item(s) for Inlets, Manholes and Junction Boxes will be provided under this contract.

430 PIPE CULVERTS (REV. 01-12-16)

A. Description.

1. Furnish and install drainage pipe and end sections at the locations called for in the Plans or as directed by Engineer. Furnish and construct joints and connections to existing pipes, catch basins, inlets, manholes, walls, etc., as may be required to complete the work.
2. Construct structural plate pipe culverts or underdrains in accordance with FDOT Sections 435 and 440.

3. Obtain pipe culverts from a Producer currently on the FDOT's list of Producers with Accepted Quality Control Programs. Producers seeking inclusion on the list shall meet the requirements of FDOT 105-3.

4. When the producer's FDOT Quality Control Program is suspended, accept responsibility of either obtaining drainage products from another producer with an accepted FDOT Quality Control Program or await re-approval of the producer's FDOT Quality Control Program. Engineer will not allow changes in Contract Time or completion dates as a result of the producer's FDOT Quality Control Program suspension. Accept responsibility for all delay costs or other costs associated with the producer's FDOT Quality Control Program suspension.

B. Materials.

1. Pipe: Meet the following requirements:

Concrete Pipe	FDOT Section 449
Round Rubber Gaskets	FDOT Section 942
Corrugated Steel Pipe and Pipe Arch	FDOT Section 943
Corrugated Aluminum Pipe and Pipe Arch	FDOT Section 945
Corrugated Polyethylene Pipe	FDOT Section 948
Polyvinyl Chloride (PVC) Pipe	FDOT Section 948

2. Joint Materials: Use joint materials specified in this Article according to type of pipe and conditions of usage.

3. Mortar: Use mortar composed of one part portland cement and two parts of clean, sharp sand, to which mixture Contractor may add hydrated lime in an amount not to exceed 15% of the cement content. Use mortar within 30 minutes after its preparation.

C. Type of Pipe to Be Used.

1. When the Plans designate a type (or types) of pipe, use only the type (or choose from the types) designated.
2. If the Plans do not designate a type (or types) of pipe, Contractor, subject to Engineer's approval, may use either a minimum Class I concrete pipe, corrugated steel pipe, corrugated aluminum pipe, corrugated polyethylene pipe or PVC pipe. If one of the metal types is chosen, use the minimum gage specified in FDOT Section 943 for steel pipe or FDOT Section 945 for aluminum pipe.
3. Class I corrugated Polyethylene Pipe may be used on local (non-arterial or non-collector) roads only.

D. Laying Pipe.

1. General:

- a. Lay all pipe, true to the lines and grades given, with hubs upgrade and tongue end fully entered into the hub. When pipe with quadrant reinforcement or circular pipe with elliptical reinforcement is used, install the pipe in a position such that the manufacturer's marks

- designating "top" and "bottom" of the pipe are not more than five degrees from the vertical plane through the longitudinal axis of the pipe. Do not allow departure from and return to plan alignment and grade to exceed 1/16 inch per foot of nominal pipe length, with a total of not more than 1 inch departure from theoretical line and grade. Take up and relay any pipe that is not in true alignment or which shows any settlement after laying at no additional expense to the Department.
- b. Do not use concrete pipe with lift holes except round pipe which has an inside diameter in excess of 54 inches or any elliptical pipe.
 - c. Repair lift holes, if present, by use of a hand-placed, stiff, non-shrink, 1-to-1 mortar of cement and fine sand, after first washing out the hole with water. Completely fill the void created by the lift hole with mortar. Cover the repaired area with a 24 by 24 inches piece of filter fabric secured to the pipe. Use a Type D-3 filter fabric meeting the requirements shown on FDOT Design Standards, Index 199 and the Contract Documents.
 - d. Secure the filter fabric to the pipe using a method that holds the fabric in place until the backfill is placed and compacted. Use a grout mixtures, mastics, or strapping devices to secure the fabric to the pipe.
 - e. When installing pipes in structures, construct inlet and outlet pipes of the same size and kind as the connecting pipe shown in the Plans. Extend the pipes through the walls for a distance beyond the outside surface sufficient for the intended connections, and construct the concrete around them neatly to prevent leakage along their outer surface as shown on the FDOT Design Standards, Index 201. Keep the inlet and outlet pipes flush with the inside of the wall. Resilient connectors as specified in FDOT 942-3 may be used in lieu of a masonry seal.
 - f. Furnish and install a filter fabric jacket around all pipe joints and the joint between the pipe and the structure in accordance with FDOT Design Standards, Index Nos. 201 and 280. Use fabric meeting the physical requirements of Type D-3 specified on the FDOT Design Standards, Index 199 and the Contract Documents. The fabric shall extend a minimum of 12 inches beyond each side of the joint or both edges of the coupling band, if a coupling band is used. The fabric shall have a minimum width of 24 inches, and a length sufficient to provide a minimum overlap of 24 inches. Secure the filter fabric jacket against the outside of the pipe by metal or plastic strapping or by other methods approved by Engineer.
 - g. Meet the following minimum joint standards:

Pipe Application	Minimum Standard
Storm and Cross Drains	Water-tight
Gutter Drain	Water-tight
Side Drains	Soil-tight
 - h. When rubber gaskets are to be installed in the pipe joint, the gasket shall be the sole element relied on to maintain a tight joint. Soil tight joints must be watertight to 2 psi. Water-tight joints must be water-tight to 5 psi unless a higher pressure rating is required in the Plans.
2. Trench Excavation: Excavate the trench for storm and cross drains, and side drains as specified in the Contract Documents.
 3. Foundation: Provide a suitable foundation, where the foundation material is of inadequate supporting value, as determined by Engineer. Remove the unsuitable material and replace it with suitable material, as specified in Article 120 (Earthwork and Related Operations) of these Specifications. Where in Engineer's opinion, the removal and replacement of unsuitable material is not practicable, he may direct alternates in the design of the pipe line, as required to provide adequate support. Minor changes in the grade or alignment will not be considered as an adequate basis for extra compensation. Do not lay pipe on blocks or timbers, or on other unyielding material, except where the use of such devices is called for in the Plans.
 4. Backfilling: Backfill around the pipe as specified in Article 120 (Earthwork and Related Operations) of these Specifications unless specific backfilling procedures are described in the Contract Documents.
 5. Plugging Pipe:
 - a. When existing pipe culverts are to be permanently placed out of service, fill them with flowable fill that is non-excavatable, contains a minimum 350 lbs/cy of cementitious material and meets the requirements Article 121 (Flowable Fill) and/or plug them with masonry plugs as required by the Contract Documents. Install masonry plugs that are a minimum of 8 inches in thickness, in accordance with FDOT Design Standards Index 280.
 - b. When proposed or existing pipe culverts are to be temporarily placed out of service, plug them with prefabricated plugs as shown in the Plans. Install prefabricated plugs in accordance with the manufacturer's recommendations. Do not fill, or construct masonry plugs in, any pipe culverts intended for current or future service.
 6. End Treatment:
 - a. Place an end treatment at each storm and cross drain, and side drain as shown in the Plans. Refer to the FDOT Design Standards for types of end treatment details.
 - b. As an exception to the above, when concrete mitered end sections are permitted, Contractor may use reinforced concrete U-endwalls, if shop drawings are submitted to Engineer for approval prior to use.
 - c. Provide end treatments for corrugated polyethylene pipe and PVC pipe as specified in FDOT Section 948, or as detailed in the Plans.
 7. Metal Pipe Protection:
 - a. Apply a bituminous coating to the surface area of the pipe within and 12 inches beyond the concrete or mortar seal prior to sealing, to protect corrugated steel or aluminum pipe embedded in a concrete structure, such as an inlet, manhole, junction box, endwall, or concrete jacket.
 - b. Ensure that the surface preparation, application methods (dry film thickness and conditions during application), and equipment used are in accordance

with the coating manufacturers' published specifications.

- c. Obtain Engineer's approval of the coating products used.

8. Final Pipe Inspection:

- a. Pipe must be lay under direct supervision of Engineer at all times. In the event that a specific job site requires a video inspection, and it is approved by Engineer, pipe must be inspected as per FDOT Article 430-4.8. County will pay for the cost of inspection and report.

E. Removing Existing Pipe.

- 1. If the Plans indicate that existing pipe is to remain the property of the Department, collect and stack along the right-of-way all existing pipe or pipe arch so indicated in the Plans to be removed, or that does not conform to the lines and grades of the proposed work and that is not to be re-laid, as directed by Engineer. Take care to prevent damage to salvageable pipe during removal and stacking operations.

F. Placing Pipe Under Railroad.

- 1. General: Construct pipe culverts under railroad tracks in accordance with the requirements of the railroad company. Perform all the shoring under the tracks, and sheeting and bracing of the trench, required by the railroad company or deemed necessary by Engineer in order to ensure safe and uninterrupted movement of the railroad equipment, at no expense to the Department.
- 2. Requirements of the Railroad Company:
 - a. Install pipe using methods required by the railroad company and shown in the Contract Documents.
 - b. When the general method of installation required by the railroad company is indicated in the Plans, do not alter such method, or any other specific details of the installation which might be indicated in the Plans, without receiving approval or direction from the railroad, followed by written approval from Engineer.
- 3. Notification to Railroad Company: Notify the railroad company and Engineer at least ten days prior to the date on which pipe is to be placed under the railroad tracks.
- 4. Placing Pipe by Jacking: Obtain Engineer's and the railroad company's approval of the details of the jacking method to be used, when placing pipe through the railroad embankment, before the work is started.
- 5. Use of Tunnel Liner: When the railroad company requires that a tunnel liner be used for placing the pipe in lieu of the jacking method, the Department will pay for the tunnel liner material separately in cases where the Contract Documents do not require the use of a tunnel liner. For these cases the Department will reimburse Contractor for the actual cost of the liner, delivered at the site. The Department will base such cost on a liner having the minimum gage acceptable to the railroad.

G. Specific Requirements for Concrete Pipe.

- 1. Sealing Joints: Seal the pipe joints with round rubber or profile gaskets meeting the requirements of FDOT Section 449. Ensure that the gasket and the surface of the pipe joint, including the gasket recess, are clean and free from grit, dirt and other foreign matter, at the time the joints are made. In order to facilitate closure of the joint, application of a vegetable soap lubricant immediately before closing of the joint will be permitted. Prelubricated gaskets may be used in lieu of a vegetable soap lubricant when the lubricating material is certified to be inert with respect to the rubber material.
- 2. Laying Requirements for Concrete Pipe with Rubber Gasket Joints: Do not allow the gap between sections of pipe to exceed 5/8 inch for pipe diameters of 12 inches through 18 inches, 7/8 inch for pipe diameters of 24 through 66 inches, and 1 inch for pipe diameters 72 inches and larger. Where minor imperfections in the manufacture of the pipe create an apparent gap in excess of the tabulated gap, Engineer will accept the joint provided that the imperfection does not exceed 1/3 the circumference of the pipe, and the rubber gasket is 1/4 inch or more past the pipe joint entrance taper. Where concrete pipes are outside of these tolerances, replace them at no expense to the Department. Do not apply mortar, joint compound, or other filler to the gap which would restrict the flexibility of the joint.
- 3. Field Joints for Elliptical Concrete Pipe: Use either a preformed plastic gasket material or an approved rubber gasket to make a field joint.
 - a. Plastic Gasket. For field joints that are made from preformed plastic gasket material; install field joints in accordance with the manufacturer's instructions and the following:
 - 1) Material: Meet the requirements of FDOT 942-2.
 - 2) Joint Design: Ensure that the pipe manufacturer furnishes Engineer with details regarding configuration of the joint and the amount of gasket material required to affect a satisfactory seal. Do not brush or wipe joint surfaces which are to be in contact with the gasket material with a cement slurry. Fill minor voids with cement slurry.
 - 3) Primer: Apply a primer of the type recommended by the manufacturer of the gasket material to all joint surfaces which are to be in contact with the gasket material, prior to application of the gasket material. Thoroughly clean and dry the surface to be primed.
 - 4) Application of Gasket: Apply gasket material to form a continuous gasket around the entire circumference of the leading edge of the tongue and the groove joint, in accordance with the detail shown on the Design Standards, Index No. 280. Do not remove the paper wrapper on the exterior surface of the gasket material until immediately prior to joining of sections. Apply plastic gasket material only to surfaces which are dry. When the atmospheric temperature is below 60°F, either store plastic joint seal gaskets in an area above 70°F, or artificially warm the gaskets to 70°F in a manner satisfactory to Engineer.
 - 5) Installation of Pipe: Remove and reposition or replace any displaced or contaminated gasket as

directed by Engineer. Install the pipe in a dry trench. Carefully shape the bottom of the trench to minimize the need for realignment of sections of pipe after they are placed in the trench. Hold to a minimum any realignment of a joint after the gaskets come into contact. Prior to joining the pipes, fill the entire joint with gasket material and ensure that when the pipes are joined there is evidence of squeeze-out of gasket material for the entire internal and external circumference of the joint. Trim excess material on the interior of the pipe to provide a smooth interior surface. If a joint is defective, remove the leading section of pipe and reseal the joint.

- b. Rubber Gasket. For field joints that are made with profile rubber gaskets; install field joints in accordance with the manufacturer's instructions and the following:

- 1) Material: Meet the requirements of FDOT 942-4.
- 2) Joint Design: Ensure that the pipe manufacturer furnishes Engineer with details regarding configuration of the joint and gasket required to effect a satisfactory seal. Do not apply mortar, joint compound, or other filler which would restrict the flexibility of the gasket joint.

4. Requirements for Concrete Radius Pipe:

- a. Design: Construct concrete radius pipe in segments not longer than 4 feet (along the pipe centerline), except where another length is called for in the Contract Documents. Join each segment using round rubber gaskets. Ensure that the pipe manufacturer submits details of the proposed joint, segment length and shape for approval by Engineer, prior to manufacture.
- b. Pre-Assembly: Ensure that the manufacturer pre-assembles the entire radius section in his yard, in the presence of Engineer, to ensure a proper fit for all parts. At the option of the manufacturer, Contractor may assemble the pipe without gaskets. Consecutively number the joints on both the interior and exterior surfaces of each joint, and make match marks showing proper position of joints. Install the pipe at the project site in the same order as pre-assembly.

H. Specific Requirements for Corrugated Metal Pipe.

1. Field Joints:

a. General:

- 1) Make a field joint with locking bands, as specified in Article 9 of AASHTO M 36 and AASHTO M 196M for aluminum pipe. For aluminum pipe, fabricate bands from the same alloy as the culvert sheeting.
- 2) When existing pipe to be extended is helically fabricated, make a field joint between the existing pipe and the new pipe using one of the following methods:
 - a) Cut the new pipe to remove one of the re-rolled annular end sections required in FDOT Sections 943 or 945, or fabricate the pipe so that the re-rolled annular section is fabricated only on one end. Use either a spiral (helical) band with a gasket or a flat band with gaskets as required by

Subarticle 430-H.1.b.1) b) to join the pipe sections.

- b) Contractor may construct a concrete jacket as shown on the FDOT Design Standards, Index No. 280, provided that the minimum cover required by the FDOT Design Standards, Index No. 205 can be obtained.

- b. Side Drain, Storm and Cross Drain, and Gutter Drains: Where corrugated metal pipe is used as side drain, storm and cross drain, or gutter drain, use a rubber or neoprene gasket of a design shown to provide a joint as specified in Subarticle 430-D.

1) Use a gasket of one of the following dimensions:

- a) For annular joints with 1/2 inch depth corrugation: either a single gasket a minimum of 7 inches by 3/8 inch or two gaskets a minimum of 3 1/2 inches by 3/8 inch; and for annular joints with 1 inch depth corrugations: either a single gasket a minimum of 7 inches by 7/8 inch or two gaskets a minimum of 3 1/2 inches by 7/8 inch.
- b) For helical joints with 1/2 inch depth corrugation: either a single gasket a minimum of 5 inches by 1 inch or two gaskets a minimum of 3 1/2 inches by 1 inch; and for helical joints with 1 inch depth corrugations: either a single gasket a minimum of 5 inches by 1 1/2 inches or two gaskets a minimum of 3 1/2 inches by 1 1/2 inches.
- c) Such other gasket designs as may be approved by Engineer.

- 2) If, in lieu of a single gasket spanning the joint, two gaskets are used, place these individual gaskets approximately 2 inches from each pipe end at the joint. When two gaskets are used, seal the overlapping area on the coupling band between the gaskets consistent with the joint performance specified. Contractor may tuck a strip of preformed gasket material over the bottom lip of the band for this purpose. Use coupling bands that provide a minimum circumferential overlap of 3 inches. As the end connections on the coupling band are tightened, ensure that there is no local bending of the band or the connection. Use precurved coupling bands on pipe diameters of 24 inches or less.

- 3) Use flat gaskets meeting the requirements of ASTM D-1056, designation 2C2 or 2B3. In placing flat gaskets on pipe prior to placing the coupling band, do not stretch the gasket more than 15% of its original circumference. Use circular gaskets meeting the requirements of ASTM C-361. Do not stretch the circular gasket more than 20% of its original circumference in placing the gasket on pipe. Use preformed plastic gasket material meeting the composition requirements of FDOT 942-2.2.

- 4) Apply an approved vegetable soap lubricant, as specified for concrete pipe in Subarticle 430-G.1.

- c. Alternate Joint: In lieu of the above-specified combination of locking bands and flat gaskets, Contractor may make field joints for these pipe installations by the following combinations:

- 1) Use the metal bands as specified in Article 9 of AASHTO M 36M that are at least 10 1/2 inches wide and consist of a flat central section with a corrugated section near each end, designed to match the annular corrugation in the pipe with which they are to be used. Connect the bands in a manner approved by Engineer, with a suitable fastening device such as the use of two galvanized 1/2 inch diameter bolts through a galvanized bar and galvanized strap, suitably welded to the band. Use a strap that is the same gage as the band.
- 2) Where helically corrugated pipe is to be jointed by this alternate combination, ensure that at least the last two corrugations of each pipe section are annular, and designed such that the band will engage each pipe end with the next-to-outside annular corrugation.
- 3) For these bands, use a rubber gasket with a circular cross-section of the "O-ring" type conforming to ASTM C-361. Use gaskets having the following cross-sectional diameter for the given size of pipe:

<u>Pipe Size</u>	<u>Gasket Diameter</u>
12 inches through 36 inches (with 1/2 inch depth corrugations)	13/16 inch
42 inches through 96 inches (with 1/2 inch depth corrugations)	7/8 inch
36 inches through 120 inches (with 1 inch depth corrugations)	1 3/8 inches

- 4) Use preformed gasket material to seal the overlapping area on the coupling band between gaskets.
- 5) Use channel band couplers in helical pipe with ends which have been reformed and flanged specifically to receive these bands. Use channel band couplers that are of a two piece design, are fabricated from galvanized steel stock conforming to AASHTO M 36, have 2 by 2 by 3/16 inch angles fastened to the band ends to allow for proper tightening, and meet the following:

<u>Band Thickness</u>	<u>Pipe Wall Thickness</u>
0.079 inch	0.109 inch or lighter
0.109 inch	0.138 inch or heavier
3/4 inch wide	0.109 inch or lighter
1 inch wide	0.138 inch or heavier

- 6) Furnish two 1/2 inch diameter connection bolts with each band, that conform to ASTM A-307, Grade A and are electroplated in accordance with ASTM B-633.
- 7) Use a gasket with the joint that is a hydrocarbon blend of butyl rubber meeting the chemical composition and physical properties of FDOT 942-2.2. Use a 3/8 by 3/4 inch gasket for pipe fabricated from 0.109 inch or lighter material and a 3/8 by 1

inch gasket for pipe fabricated from 0.138 inch and heavier material.

- 8) Contractor may use a flange band coupler without the gasket for all applications other than side drain, storm and cross drain, and gutter drain.
- 9) Do not use the flange band coupler to join dissimilar types of pipe.

- 10) Contractor may join reformed flanged helical pipe to existing annular or reformed pipe having annular ends. On non-gasketed installations, use either an annular band or an alternate joint described in Subarticle 430-H.1.c. On gasketed installations, use an annular band, minimum of five corrugations in width, in conjunction with two O-ring gaskets as specified in Subarticle 430-H.1.c. Use mastic material to seal the area of band overlap.

- 11) The minimum joint performance standards specified in Subarticle 430-D.1 applies.

2. Laying and Shape Requirements for Corrugated Metal Pipe: Install pipe using either a trench or open ditch procedure.

- a. Check pipe shape regularly during backfilling to verify acceptability of the construction method used. Pipe deflected 5% or more of the certified actual mean diameter of the pipe shall be replaced at no cost to the Department. Deflection measurements are taken at the point of smallest diameter on the corrugations.

- I. Specific Requirements for Corrugated Polyethylene Pipe and Polyvinyl Chloride (PVC) Pipe.

1. Field Joints: Use gasketed joints to seal side drain, and storm and cross drain. Use gaskets meeting the requirements of FDOT Section 449. Ensure that the pipe manufacturer provides a joint design approved by Engineer before use.
2. Installation Requirements Including Trenching, Foundation and Backfilling Operations: Check structure shape regularly during backfilling to verify acceptability of the construction method used.
3. Pipe deflected 5% or more of the certified actual mean diameter of the pipe shall be replaced at no cost to the Department.

- J. Desilting Pipe Culverts, Box Culverts, and Inlet Structures.

1. Description. Completely remove and dispose of silt, debris, vegetation, soil, rock, and any type of blockage inside existing pipe culvert(s), box culvert(s) or inlet structure(s) specified in the Contract Documents or directed by Engineer.

2. General.

- a. Access to the pipe or box culvert may require temporary removal of fence, signs, guardrail, grates or manhole covers.
- b. Clean the existing pipe or box culvert by completely removing all of the silt, debris, vegetation, soil, rock, and any type of blockage to restore the hydraulic conveyance design capacity of the pipe or box culvert.

- c. Clean the existing inlet structure by completely removing all of the silt, debris, vegetation, soil, rock, and any type of blockage.
 - d. Perform desilting operations in a manner not to damage the pipe culverts, box culverts, and inlet structures or surrounding area.
 - e. Meet the requirements of Federal, State and local environmental standards and laws when performing all activities.
 - f. Meet the requirements of Article 104 of these Specifications (Prevention, Control, and Abatement of Erosion and Water Pollution).
 - g. Identify and report to Engineer necessary repairs to the pipes or box culverts and structures exposed during the desilting operation.
 - h. Pipe or Box Culverts:
 - 1) Replace according to Department standards at the completion of the desilting operation or each day, as appropriate for safety.
 - 2) Align infall and outfall ditches 50 feet from the pipe or box culvert to meet the existing line and grade. If the Right-of-Way line is less than 50 feet from the pipe or box culvert, align infall and outfall ditches to the Right-of-Way line. Grade and sod any disturbed areas caused by the desilting operation.
 - 3) Dispose of all silt and debris removed in the desilting operations in areas meeting Federal, State and local rules and regulations.
 - 4) Repair or replace damage to turf, pavement, signs or structures, etc. due to negligence to the satisfaction of Engineer at no additional cost to the Department. Complete repairs prior to submission of the invoice for work accomplished.
3. Inspection.
- a. When directed by Engineer, de-water the pipe or box culvert to facilitate inspection.
 - b. Re-clean culverts and structures determined to be unacceptable by Engineer within the time directed at no additional cost to the Department.
- K. Method of Measurement.
- 1. General:
 - a. The quantity to be paid for will be the number completed pursuant to these specifications that is measured and accepted by Engineer.
 - b. Only items of work required by this Article that have a Contract Unit Price will be measured by Engineer for payment. All other work described in this Article that is required by the Contract Documents but does not have a Contract Unit Price is considered incidental to the Work and its costs are included among the various scheduled items of the Contract.
 - 2. New Pipe: The quantities of storm and cross drain pipe, storm drain trench, side drain pipe and gutter drain pipe to be paid for will be quantity, measured in place and accepted by Engineer. The quantity of pipe will be measured from the inside wall of the structure, along the centerline of the pipe.
- 3. Mitered End Section: The quantity to be paid for will be the number completed and accepted.
 - 4. Desilting Pipe Culverts, Box Culverts, and Inlet Structures:
 - a. General:
 - 1) The cost of temporary removal and subsequent replacement of fence, signs, guardrail, grates or manhole covers will be included in the contract unit price for the related item.
 - 2) Infall and outfall ditch alignment, grading and sodding will be included in the contract unit price of the related item.
 - 3) Pipes or structures that are impacted by the Work must be cleaned at no cost to the County and will not be measured for payment.
 - b. Desilting Pipe Culverts: The quantities for payment will be the length in feet of existing pipe desilted and accepted by Engineer.
 - c. Desilting Box Culverts: The quantities for payment will be the volume in cubic yard of material removed from the existing box culvert as measured and accepted by Engineer.
 - d. Desilting Structures: The quantities for payment will be the number of existing Inlet Structures desilted and cleaned as counted and accepted by Engineer.
- L. Basis of Payment.
- 1. General:
 - a. Prices and payments will be full compensation for all work specified in this Article including:
 - 1) All excavation except the volume included in the items for the grading work on the Project, and except for other items specified for separate payment in Article 120 (Earthwork And Related Operations) of these Specifications;
 - 2) All backfilling material and compaction; disposal of surplus material; and
 - 3) All clearing and grubbing outside of the required limits of clearing and grubbing as shown in the Plans.
 - 2. Removing Existing Pipe: When existing pipe is removed and replaced with new pipe approximately at the same location, the cost of excavating and removing the old pipe and of its disposal will be included in the Contract unit price for clearing and grubbing.
 - 3. Site Restoration: The cost of completely restoring the areas of the Project Site that is disturbed for the purpose of constructing pipe culvert is included in the Contract unit price for the pipe culvert, unless designated specifically to be paid for under other items.
 - 4. Plugging Pipes:
 - a. The cost of temporarily plugging a pipe culvert, either proposed or existing, will be incidental to the contract unit price for new pipe culvert.

- b. The cost of filling and/or plugging an existing pipe culvert that is to be permanently placed out of service will be paid for at the contract unit price for filling and plugging pipe, per cubic yard. Price and payment will be full compensation for flowable fill, masonry, concrete, mortar, and all labor and materials necessary to complete the work.
- 5. Desilting Pipe Culverts, Box Culverts, and Drainage Structures: Price and payment will be full compensation for furnishing all equipment, tools, labor, removal and disposal of silt, debris, vegetation, soil, rock, and any type of blockage, de-watering, erosion and water pollution control, clean up and all incidentals necessary for the satisfactory performance of the work.
- 6. Flared End Sections: Price and payment will be full compensation for all work and materials required.
- 7. Mitered End Sections: Price and payment will be full compensation for all pipe, grates when required, fasteners, reinforcing, connectors, anchors, concrete, sealants, jackets and coupling bands, and all work required.
- 8. Railroad Requirements:
 - a. Where pipe culvert is constructed under railroad tracks, the Contract unit price for the pipe culvert will include the costs of any jacking operations and the operation of placing the pipe by use of a tunnel liner, (except as specified for unanticipated tunnel liner, in Subarticle 430-F.5, where reimbursement is to be made for such unanticipated liner), and all other work necessary to meet the requirements of the railroad company, excluding the costs of watchman or flagman services provided by the railroad company, except as provided below.
 - b. The Department will reimburse Contractor for the actual costs of any trestle bridge work which is performed by the railroad's forces, as billed to him by the railroad, less the value of any salvage materials derived there from, whether such salvage materials are retained by the railroad company or by Contractor. When the work of shoring and bracing is to be performed by the railroad, such fact will be stipulated in the Contract Documents and Contractor will be required to pay to the railroad the amount of such costs, which amount will be reimbursed to him by the Department. The Contract unit price for the pipe culvert shall include the costs of all other work of shoring and bracing.
- 9. Payment Items:
 - a. No separate pay item(s) for Pipes Culverts will be provided under this contract

443 FRENCH DRAINS

A. Description.

- 1. Construct french drains, utilizing one of the authorized types of pipes listed below, with coarse aggregate, and plastic filter fabric (geotextile). Construct in accordance with FDOT Design Standards, Index No. 285 as modified by or otherwise specified in the Contract Documents.

B. Materials.

- 1. Pipe: Unless a particular type is specified in the Contract Documents, pipe furnished may be any of the following types:
 - a. Concrete Pipe (Bell & Spigot): Slotted or perforated concrete pipe may be used.
 - 1) Meet the requirements of FDOT 449 for concrete pipe. Use the class of pipe specified on the FDOT Design Standards, Index No. 205. Do not use gaskets. Fully insert the spigot in the bell, and bring home. Conform to FDOT Design Standards, Index No. 285 for slotted pipe. Use perforated pipe having perforations equally located 360 degrees around the pipe.
 - 2) Furnish pipe having not less than 30 round perforations, 3/8 inch each, per square foot of inside pipe surface. Extend perforations to within 6 inches of the bell or spigot area. The Engineer will permit other perforations not less than 5/16 inch nor more than 3/8 inch in the least dimension if they provide an opening area not less than 3.31 in²/ft² of pipe surface.
 - b. Corrugated Aluminum Alloy Culvert Perforated Pipe:
 - 1) Meet the requirements of FDOT 945. Use perforated pipe having perforations equally located 360 degrees around the pipe. Locate perforations either on the inside crests or on the neutral axis of all corrugations except that perforations are not required within 4 inches of each end of each length of pipe or in a corrugation where seams are located.
 - 2) Furnish pipe having not less than 30 round perforations, 3/8 inch each, per square foot of pipe surface. The Engineer will permit other perforations not less than 5/16 inch nor more than 3/8 inch in the least dimension if they provide an opening area not less than 3.31 in²/ft² of pipe surface.
 - c. Corrugated Steel Perforated Pipe: Meet the requirements of FDOT 943. Space the perforations and meet the requirements as specified in b. 2) above.
 - d. Bituminous Coated Corrugated Steel Perforated Pipe: Meet the requirements of FDOT 943. Space the perforations and meet the requirements as specified in b. 2) above. Place the perforations prior to the bituminous coating. The Engineer will accept the minimum opening of not less than 3.31 in²/ft² of pipe if 50% of the opening area is maintained after coating.
 - e. Corrugated Polyethylene Pipe:
 - 1) Meet the requirements of FDOT 948-2.3 except that Class I corrugated Polyethylene Pipe may only be used on local roads (non-arterial or non-collector).
 - 2) Space the perforations and meet the requirements as specified in b. 2) above.
 - f. Polyvinyl Chloride (PVC) Pipe: Meet the requirements of FDOT 948-1.7. Space the perforations and meet the requirements as specified in b. 2) above.
- 2. Coarse Aggregate: No. 4 limestone aggregate meeting the requirements of FDOT 901. Aggregates must be an

approved product from an approved source listed on the current FDOT Approved Aggregate Products from Mines or Terminals Listings.

3. Select Fill: Use select fill meeting the requirements of either FDOT 911, 913, 913A or 915.

C. Excavating Trench.

1. Excavate the trench in accordance with the Contract specifications for Earthwork and Related Operations (hereinafter referred to as Earthwork specifications) unless specific trench excavation procedures are described in the Plans.
2. Carefully excavate the trench to such depths as required to permit the filter fabric, coarse aggregate and the pipe to be placed in accordance with the details shown on the Plans.

D. Laying Pipe.

1. Lay all pipe conforming with the lines and grades specified in the plans and in accordance with these Specifications. Unless otherwise specified in the Plans or directed by the Engineer, set the pipe with a minimum cover of 30 inches in paved areas (24 inches for non-paved areas) and a maximum cover of 66 inches.

E. Placing Coarse Aggregate and Backfilling.

1. After placing the pipe and without disturbing the pipe, carefully place the coarse aggregate around the pipe to a depth shown in the plans. Fold the filter fabric over the coarse aggregate. Backfill and compact as described below.
 - a. French Drains Under Pavement: Fill the area above the coarse aggregate with select fill material meeting the requirements of this Section. Place and compact the select fill according to the requirements for pipe as specified in the Earthwork specifications. The Department will allow use of additional coarse aggregate over the top of the pipe instead of select fill material. In this case, the filter fabric shall be extended to wrap the additional coarse aggregate. The top of the coarse aggregate shall not be higher than the bottom of the base, unless shown in the plans. The Department will not pay additional costs associated with substituting coarse aggregate for select fill.
 - b. French Drains not Under Pavement: Fill and compact the area above the coarse aggregate according to the requirements for pipe in the Earthwork specifications, unless specific procedures are described in the Plans as specified in the Earthwork specifications.

F. Method of Measurement.

1. Quantity of french drains to be paid for under this Article shall be the length in linear feet completed in accordance with Plans and specifications; measured in place and accepted by the Engineer subject to the following conditions:

- a. French drain lengths having a depth of trench less than 10 feet below land surface (BLS) will not be accepted for payment by the Engineer.
- b. For french drains with specified depth of trench of 15 feet BLS or greater, any length not meeting the specified depth for reasons approved by the Engineer will have the payment quantity calculated as:

$$1) \text{ Quantity for Payment (LF) } = \text{ Quantity Measured by the Engineer (LF) } \times \text{ Engineer Approved Depth Rounded to the Lowest Whole Foot (ft) } / \text{ Specified Depth (ft) }$$

G. Basis of Payment.

1. The quantities determined as provided above will be paid for at the Contract unit price for french drains. Such prices and payments will be full compensation for all work, labor, equipment and material necessary for construction of the french drains as specified in these Contract Documents including excavation, sheeting or shoring if required, the disposal of surplus material, providing plastic filter fabric, pipe, coarse aggregate, select backfill, tamping, and final dressing.
2. Price and payment shall also include all clearing and grubbing; and pavement, sidewalk, curb, and gutter restoration unless these items are specifically provided for under separate payment items in this Contract.
3. No separate pay item(s) for French Drains will be provided under this contract.

514 GEOTEXTILE (REV. 11-04-11)

A. Description.

1. Install a geotextile (plastic filter) fabric.

B. Material.

1. Meet the plastic filter fabric requirements as specified in FDOT 985.
2. Geotextile used in the Drainage class (type D-3) applications listed in FDOT Design Standards Index 199 shall be woven monofilament geotextiles only. No Slit Film geotextiles are allowed.

C. Construction Methods.

1. General:

- a. Place the fabric in the manner and locations as shown on the construction drawings, in accordance with the manufacturer's directions, and as specified in these Specifications.
- b. Place the fabric on areas with a uniform slope that are reasonably smooth, free from mounds and windrows, and free of any debris or projections which might damage the fabric.
- c. Loosely lay the material. Do not stretch the material.
- d. Replace or repair any fabric damaged or displaced before or during placement of overlying layers to the satisfaction of the Engineer and at no expense to the Department.
- e. When overlapping is necessary, the Contractor may sew the seams to reduce overlaps as specified in FDOT 985-3.
- f. Schedule work so that covering the fabric with the specified material does not exceed the manufacturer's recommendations for exposure to ultraviolet light or five days, whichever is less. If the Engineer determines the exposure time was exceeded, the Contractor shall replace the fabric at no expense to the Department.

2. Subsurface Drainage: When indicated in the plans, place the fabric with the long dimension parallel to the trench. Place the fabric to provide a minimum 12 inch overlap for each joint. Do not drop the filter material from heights greater than 3 feet.

3. Stabilization and Reinforcement: Overlap adjacent strips of fabric a minimum of 2 feet.

4. Riprap Filter:

- a. Overlap adjacent strips of fabric a minimum of 24 inches, and anchor them with securing pins (as recommended by the manufacturer) inserted through both strips of fabric along a line through the midpoint of the overlap and to the extent necessary to prevent displacement of the fabric.
- b. Place the fabric so that the upstream (upper) strip of fabric overlaps the downstream (lower) strip.

- c. Stagger vertical laps a minimum of 5 feet. Use full rolls of fabric whenever possible in order to reduce the number of vertical laps.
- d. Do not drop bedding stone or riprap from heights greater than 3 feet onto the fabric.

D. Method of Measurement.

1. No separate payment for furnishing and placing the geotextile fabric is contained in the Contract Documents.

E. Basis of Payment.

1. All costs for the work specified herein, including furnishing, placing, and sewing or overlapping the fabric is included in the Contract price for the item or items to which the geotextile fabric is incidental.

519 DRIVEWAY PAVEMENT (REV. 08-23-12)

A. Description

1. Pursuant to the Contract Documents or as otherwise directed by the Engineer:

- a. Construct new asphalt concrete driveway approaches on public right-of-way.
- b. Restore existing asphalt or cement concrete driveways and approaches that have been authorized to be disturbed by the performance of the Work; and provide all other required labor, material and equipment necessary for complete restoration of the disturbed area.

B. Materials

1. Meet the following requirements:

Limerock	FDOT Section 911
Concrete	FDOT Section 350; Class I (Pavement)
Hot Mix Asphalt (HMA)	Per Article 334 of these Specifications
Joint Seal	FDOT Section 932

C. Preparation and Construction

1. General:

- a. Conform to applicable surface slope requirements of FDOT Index No. 304.
- b. Meet all applicable requirements of the Miami-Dade County Public Works Manual.
- c. Perform any required clearing and grubbing under Article 110 of these Specifications.
- d. Remove or add any additional subgrade material necessary to meet final surface elevation requirements after construction of a new limerock base and pavement of the thicknesses specified below.
- e. Provide a new six inch limerock base; or greater if needed to match existing. Build up in layers not to

exceed three inches and compact each layer to obtain a minimum density of 98% of modified Proctor maximum density as determined by FM 1-T 180, Method D.

- f. Maintain the area of excavation in a safe condition and level with the surrounding pavement until work is complete.
- g. Furnish and place all materials; construct all forms, joints, bracing, expansion joint materials, and accessories; apply required surface finishes; and all required clearing and grubbing, excavation and backfilling.
- h. Remove all remaining excess material, dirt, and other debris from the roadways immediately after all construction or restoration of pavement under this Article has been completed.

2. Cement Concrete Pavement:

- a. Concrete pavement for driveways, driveway aprons and sidewalk across driveways must be a minimum thickness of six inches. Materials and construction must conform to the requirements of FDOT Section 350.
- b. Form a ½ inch expansion joint between the sidewalk and the driveway or at fixed objects and driveway intersections.
- c. Finish surface of concrete to match existing pavement.

3. Asphalt Concrete Pavement:

- a. Construct a minimum one inch thick HMA pavement layer (Type SP-9.5) meeting the material and construction requirements of Article 334 of these Specifications.

4. Additional Requirements for Restoration of Pavement:

- a. Full-depth saw cut a smooth, straight, neat and square line along the entire width of damaged pavement that is to be restored. Immediately dispose of all excess debris properly.
- b. Restore sidewalks across driveways, cut or damaged by construction, in full sections concrete curb or gutter to the existing height and cross section in full sections or lengths between joints.

D. Method of Measurement

1. The quantity to be paid for will be the area, in square yards, of approved driveway pavement constructed or restored in accordance with this Article, as measured and accepted by the Engineer.

E. Basis of Payment

1. Price and payment will be full compensation for all work and materials specified in this Article.
 - a. No separate pay item(s) for Driveway Pavement will be provided under this contract

520 CONCRETE GUTTER, CURB ELEMENTS, AND TRAFFIC SEPARATOR (SECTION 520)

- A. Page 583, Article 520-1, Description: Is expanded to include the following:

1. The work specified under this section includes any type of curb and /or gutter in accordance with FDOT Design Standards for Design, Construction, Maintenance and Utility Operations on the State Highway System 2008 and the Public Works Manual of Metropolitan Dade County (Standard Road Details R.14.1 and R.14.2) curb with or without gutter, driveway curbs, Type "C" median curb and Type "A" median curb, including the necessary preparation and compaction of the subgrade in both cut and fill areas, as well as backfilling, grading, excavation and final dressing required as directed by the Engineer.

- B. Page 583, Article 520-2, Materials: Is amended as follows:

1. Class I Concrete shall have a minimum compressive strength of 3,000 p.s.i. at 28 days.

- C. Page 591 Article 520-12, Basis of Payment: Is deleted in its entirety and replaced with the following:

1. The quantity of curb or curb and gutter, shall be paid for at the Contract unit price for the quantities completed and accepted by the Engineer and does not include ramp and sidewalk curb. Such price and payment shall be full compensation for all work specified under this Section, including the necessary preparation, limerock or suitable material and compaction of the subgrade in both, cut and fill areas, as well as backfilling, grading, excavation and final dressing required as directed by the Engineer.
2. No separate pay item(s) for Concrete Gutter, Curb Elements, and Traffic Separator will be provided under this contract.

522 CONCRETE SIDEWALK (SECTION 522)

- A. Page 589, Article 522-1, Description: Is expanded to include the following:

1. The work specified under this Section consists of the forming, furnishing, placement, and finishing of concrete for the construction of concrete sidewalks, pedestrian ramps and sidewalk curbs (back of sidewalk) utilizing Class I Concrete. The width, thickness and type shall be as shown and noted in the Plans. All work will be in accordance with this Section except as modified herein.

- B. Page 589, Article 522-2, Materials; is amended as follows:

1. Class I Concrete shall have a minimum compressive strength of 3,000 p.s.i. at 28 days.

- C. Page 591 Article 522-9, Method of Measurement; is expanded to include the following:

1. The quantity to be paid for under this Article shall be the area in square yards of concrete sidewalk and pedestrian ramps, measured in place, complete and accepted. Measurement shall be the final dimensions measured

along the surface of the completed work within the neat lines shown on the Plans or designated by the Engineer. No deduction will be made for the area occupied by trees left within the area of sidewalks or for any area occupied by manholes, inlets or other drainage or public utility appurtenances within the sidewalk area.

D. Page 591 Article 522-10, Basis of Payment; is deleted in its entirety and replaced with the following:

1. The quantity, determined as provided above, shall be paid for at the Contract unit price for the quantities completed and accepted by the Engineer. Such price and payment shall be full compensation for all work specified under this Section.
2. When curb and gutter is required for the construction of pedestrian ramps and no specific pay item has been included for the construction of the curb and gutter, such payment shall be included in the pay item for Sidewalk (including pedestrian ramps and sidewalk curbs).
3. No separate payment shall be made for the removal of forms or the filling of excavated area left by removal of forms. Contractor shall be responsible for any vandalized sidewalk until it is finally accepted by the Engineer.
4. No separate pay item(s) for Concrete Sidewalk will be provided under this contract.

523 PATTERNED PAVEMENT (REV. 01-06-2015)

A. Description

1. Install patterned pavement on asphalt or concrete pavement areas at locations and with the color and pattern as specified in the Plans. Use products listed on the FDOT Approved Product List (APL), as approved for use in areas subject to vehicular traffic or non-vehicular traffic, respectively, as specified herein. Install products in accordance with manufacturer's recommendations.
2. For the purpose of this Specification, patterned pavements are defined as a post applied surface marking overlay to either the pavement surface or to an imprinted pavement surface. Vehicular traffic areas are defined as those subject to vehicles within the traveled way, shoulders and auxiliary lanes. Non-vehicular travel areas include medians, islands, curb extensions, sidewalks, borders, plazas and other areas typically subject to foot traffic only.
3. Install overlay products in areas subject to vehicular traffic to a thickness not exceeding 180 mils. Do not use products requiring removal of pavement or requiring blockouts or trenches below the top of pavement.
4. Variations within a pattern shall comply with ADA requirements.

B. Materials

1. General:

- a. Use only patterned pavement products approved for use in vehicular and non-vehicular areas, as

appropriate, and listed on the APL. Meet manufacturer's specifications for all patterns, textures, templates, sealers, coatings and coloring materials.

- b. Material coatings used to achieve the pattern and color shall produce an adherent, weather resistant, skid resistant, wear resistant surface under service conditions. Color shall be integral and consistent throughout the installation. The composition of materials is intended to be left to the discretion of the manufacturer.
- c. Materials shall be characterized as non-hazardous as defined by Resource Conservation and Recovery Act (RCRA), Subpart C, Table 1 of 40 CFR 261.24 "Toxicity Characteristic". Materials shall not exude fumes which are hazardous, toxic or detrimental to persons or property.

2. Approved Product List (APL):

- a. Manufacturers seeking evaluation of their product shall submit an application to FDOT in accordance with FDOT Section 6 along with the following documentation:
 - 1) Manufacturer's recommendations for applicability of use on concrete or asphalt surfaces.
 - 2) Manufacturer's recommendation for applicability of use in vehicular or non-vehicular travel areas.
 - 3) Manufacturer's specifications and procedures for materials and installation for each use above.
 - 4) For products proposed for use in vehicular traffic areas, independent test data verifying the material meets the requirements of this Section including verification that the product, installed in accordance with the manufacturer's specifications and procedures, has been tested in accordance with either:
 - a) ASTM E-274, Skid Resistance of Paved Surfaces using a standard ribbed full scale tire at a speed of 40 mph (FN40R), and has a minimum FN40R value of 35, or
 - b) ASTM E-1911, Measuring Paved Surface Frictional Properties Using the Dynamic Friction Tester (DFT), at a speed of 40 mph (DFT40), and has a minimum DFT40 value of 40.
 - 5) For products proposed for use in non-vehicular traffic areas, independent test data verifying the material meets the requirements of this Section including verification that the product, installed in accordance with the manufacturer's specifications and procedures, has been tested in accordance with ASTM E-303 using the British Pendulum Tester and has a British Pendulum Number (BPN) of at least 40.
 - 6) For products proposed for use as a bike lane application, independent testing verifying that the material can meet the color as identified in the April 15, 2011, Interim Approval for Optional use of Green Colored Pavement for Bike Lanes, Interim Approval (IA-14) Memorandum Valid Under the 2009 MUTCD (http://mutcd.fhwa.dot.gov/resources/interim_approval/ia14/ia14grnpmbiketlanes.pdf).

3. Performance Requirements for Products in Vehicular Travel Areas:

- a. In addition to the submittal requirements of B.2 above, APL approval will be contingent on a field service test demonstrating that the patterned pavement product meets the following performance measures at the end of three years from opening to traffic:
 - 1) The average thickness shall be a minimum of 50% of the original thickness.
 - 2) Wearing of the material coating shall not expose more than 15% of the underlying surface area as measured within the traveled way.
 - 3) Friction performance of patterned/textured pavement materials shall meet or exceed one of the following test method values:
 - a) FN40R value of 35 in accordance with ASTM E-274; or,
 - b) DFT40 value of 40 in accordance with ASTM E-1911.
 - c) Manufacturers shall provide a field service test installation of each product within a marked crosswalk on a roadway with an ADT of 6,000 to 12,000 vehicles per day per lane, on a site approved by the Department. The test installation shall be a minimum six feet wide and extend from pavement edge to pavement edge across all traffic lanes and shoulder pavement at the crosswalk location. The test installation shall be tested by the manufacturer in accordance with FM 5-592.

C. Construction

1. Product Submittals: Prior to installation, submit pattern and color samples to the Engineer for confirmation that the product meets the pattern and color specified in the Plans. Do not begin installation until acceptance by the Engineer.
2. Pavement Cuts: Complete all utility, traffic loop detector, and other items requiring a cut and installation under the finished surface, prior to product installation.
3. Surface Protection: Protect treated surfaces from traffic and environmental effects until the product is completely installed, including drying and curing according to the manufacturer's instructions.
4. Installation Acceptance:
 - a. For installation on new asphalt roadways, apply patterned pavement a minimum of 14 days after placement of the adjacent pavement.
 - b. Upon completion of the installation, the Engineer will check the area at random locations for geometric accuracy. If any of the chosen areas are found to be deficient, correct the entire patterned area at no additional cost to the Department.
 - c. Provide certification that the patterned pavement was installed in accordance with the manufacturer's requirements.

D. Method of Measurement.

1. The quantity to be paid will be the installed quantities in square yards of patterned pavement, completed and accepted. No deduction will be made for areas occupied by landscaping, manholes, inlets, drainage structures, or by any public utility appurtenances within the area.

E. Basis of Payment.

1. Price and payment will be full compensation for all work specified in this Article.
2. No separate pay item(s) for Patterned Pavement will be provided under this contract.

527 DETECTABLE WARNINGS ON WALKING SURFACES (REV. 12-20-16)

A. Description.

1. Furnish and install Safety Yellow Colored Detectable Warning devices on newly constructed and/or existing concrete or asphalt walking surfaces (curb ramps, sidewalks, shared-use paths, etc.) constructed in accordance with the FDOT Design Standards Index No. 304 and these specifications, where indicated on the Plans or directed by the Engineer.

B. Materials.

1. General:

- a. Provide Detectable Warnings in accordance with the Americans with Disabilities Act Standards for Transportation Facilities, Section 705.
- b. Provide only embedded Detectable Warning devices, set in wet concrete, for all construction except where retrofit applications of surface applied detectable warnings have been approved in writing by the Engineer.
- c. Use Detectable Warnings consisting of materials intended for exterior use subject to routine pedestrian traffic and occasional vehicular traffic.
- d. Use Detectable Warnings with size and pattern shown in the plans comprised of truncated domes aligned in parallel rows in accordance with the FDOT Design Standards, Index No. 304. Do not use detectable warnings with a diagonal pattern.
- e. Concrete stamping, field-formed materials, or methods or products used to form Detectable Warnings in wet concrete are not permitted.

2. Material Properties:

- a. Provide Detectable Warnings that meet the following minimum material property requirements when tested in accordance with the indicated Standard appropriate to the material.

PROPERTY	STANDARD	TEST VALUE
Slip Resistance	FM 3-C 1028	Dry Coefficient of Friction – 0.8 min.

		Wet Coefficient of Friction – 0.65 min. (include recessed areas between truncated domes)
Wear Resistance	FM 5-594	Average Volume Loss: no more than 0.06 cm ³
Water Absorption*	ASTM D-570	Not to exceed 5%.
Adhesion/Bond Strength**	FM 5-589	150 psi min. tensile adhesion strength
Non-Hazardous Classification	Submit Material Safety Data Sheet (MSDS)	Non-Hazardous, per RCRA Subtitle C
* Applies only to plastic materials.		
** Applies only to surface-applied materials.		

3. Color/Contrast: Use Safety Yellow colored Detectable Warnings on concrete or asphalt walking surfaces. Acceptable Detectable Warnings must maintain a Light Reflectance Value (LRV) CAP Y of 25 – 45, as measured with a spectrophotometer, for a minimum duration of three years.

4. Approved Products List:

- a. Use Detectable Warnings listed on the FDOT Approved Products List (APL) and that have been further evaluated and found acceptable by the Department. At the option of the Contractor, an "or equal" product evaluation request, for an equivalent FDOT APL approved product that meets or exceeds the specification stipulated herein, may be submitted in writing to the Engineer for review and acceptance.
- b. The following products, subject to continued listing on the FDOT APL, have been evaluated by the Department for use on Department projects:

SURFACE APPLIED DETECTABLE WARNING DEVICES		
Manufacturer	Product	APL Number
Engineered Plastics, Inc.	Armor-Tile Surface Applied Inline Dome	527-000-006
TufTile	TufTile Polymer (Surface Applied)	527-000-045
TufTile	TufTile Polymer (Surface Applied) Radius	527-000-045-RW
EMBEDDED DETECTABLE WARNING DEVICES		

Manufacturer	Product	APL Number
ADA Solutions, Inc.	Cast-In-Place Composite Tactile	527-000-003
ADA Solutions, Inc.	Replaceable Wet Set Composite	527-000-018
Engineered Plastics, Inc.	Armor-Tile Replaceable Cast in Place	527-000-026
Engineered Plastics, Inc.	Armor-Tile Cast-In-Place Inline Dome Tile	527-000-027
Cape Fear Systems, LLC	AlertCast (Replaceable) Cast-In-Place	527-000-029
Access Products, Inc.	Access Tile Replaceable Cast in Place	527-000-033
StrongGo Industries	TekWay Dome Tile	527-000-035
TufTile, Inc.	TufTile Cast Iron (Wet-set) Replaceable	527-000-044
TufTile	TufTile Polymer (Wet Set) Replaceable	527-000-046
TufTile	TufTile Polymer (Wet Set) Radius	527-000-046-RW

A. Installation Procedures.

1. Surface Preparation and Installation: Prepare the surface in accordance with the manufacturer's recommendations. Use only products and materials appropriate for the surface on which they will be applied. Install in accordance with the manufacturer's instructions, using materials and equipment recommended and approved by the manufacturer. For surface-applied tiles or mats, use adhesives applied over the entire surface and mechanical fasteners.

B. Method of Measurement.

1. The quantity to be paid for will be the area, in square feet, of Detectable Warnings furnished and installed pursuant to these specifications, measured in place and accepted by the Engineer.

C. Basis of Payment.

1. Price and payment will be full compensation for all work specified in this Article, including all labor, surface preparation, materials and incidentals necessary to complete the work for installation of Detectable Warnings on walking surfaces.
2. No separate pay item(s) for Detectable Warning On Walking Surface will be provided under this contract.

528 RIPRAP FOR DRAINAGE STRUCTURES

A. General

1. This Article is for sand-cement riprap used to fill the void space adjacent to proposed inlet structures placed in existing slab-covered trenches, FDOT Section 530 is modified as follows:
2. Page 600, Section 530-2.1 – Materials/Sand-Cement; expand this Subarticle to include:
 - a. Sand-Cement riprap to be placed in existing slab-covered trenches may consist of commercially available pre-bagged sand-cement mixes subject to the following:
 - 1) Prior to use, submit the manufacturer's product specifications and information for the proposed sand-cement product to the Engineer for approval.
 - 2) The sand-cement mix shall consist only of Portland Cement and sand meeting the requirements of FDOT Section 921 and 902-3.3 respectively.
 - 3) Sacks (bags) shall be permeable and absorptive enough to permit passage of water to provide for hydration of the cement.
 - 4) Ensure that sacks are free from holes and strong enough to withstand handling without ripping or splitting.
 - 5) Use only one type and size of pre-bagged sand-cement mix at any one structure.
3. Page 603, Section 530-3.1 – Construction Methods/Sand-Cement; delete this Subarticle and substitute the following:
 - a. Place sand-cement sacks as shown in the engineering plans or as directed by the Engineer. Sacks are placed without ripping or splitting with its shorter dimension (width) abutting the structure. Lay the sacks in a regular pattern and pack against each other so as to form a close and molded contact after the sand and cement mixture has set up. Remove and replace sacks ripped or torn in placing with sound, unbroken sacks. Then, thoroughly saturate all sacks with water. Grouting, if required by the Engineer, shall be in accordance with FDOT 530-3.1.4.
 - b. If mixing and filling sacks at the job site, the mixing and filling requirements of FDOT 530-3.1.1 (Mixing Materials) and FDOT 530-3.1.2 (Filling Sacks) shall also apply.
4. Page 603, Section 530-4.1 – Method of Measurements/Sand-Cement; Delete this Subarticle and substitute the following when using commercially available pre-bagged sand-cement mixes:
 - a. The pay quantity for the work specified under this Section shall be the number of cubic yards of sand-cement mixture, placed in sacks or used in the grout, actually placed and accepted. For payment purposes, 1 cubic yard of sand-cement riprap shall constitute either 36 (60 lb) bags of sand-cement mixture or 27 (80 lb) bags of sand-cement mixture.
5. No separate pay item(s) for Riprap is provided under this contract.

536 GUARDRAIL

A. Description.

1. Perform work, pursuant to the Contract Documents and the FDOT Design Standards, to include:
 - a. Construction of metal guardrail on posts of timber or steel
 - b. Removal of existing guardrail
 - c. Construction of guardrail anchorages
 - d. Replacement of guardrail posts

B. Materials.

1. Guardrail:

- a. Construct guardrail of the standard W-beam or thrie beam type. Use materials for the rail and rail elements meeting the steel requirements of FDOT 967-1.

2. Posts:

a. General:

- 1) Unless the Contract Documents or Engineer designate a particular type of post, the Contractor may choose the type of material of post to use.
- 2) Use posts of either timber, or steel, and of the sizes and dimensions specified in the Contract Documents. Use the particular type selected throughout a run of rail, except where special steel posts are required.

b. Timber Posts:

- 1) Meet the requirements of the latest edition of the Southern Pine Inspection Bureau's Standard Grading Rules for Southern Pine Lumber, for No.1 grade timber, and treat the posts in accordance with the requirements for posts in FDOT 955-5.3. Ensure that penetration of preservative is in accordance with requirements for round piles and fence posts in FDOT 955-6.2. Shape and drill the posts prior to treatment, and ensure that they do not vary more than 1 inch from the specified length. Dress all timber posts on all four sides (S4S).

c. Steel Posts:

- 1) Use steel posts meeting the requirements of ASTM A36 steel. Galvanize the posts in accordance with the requirements of ASTM A 123, with 2 oz/ft² of zinc coating. Drill the posts prior to galvanizing. Ensure that the manufacturer furnishes certification showing physical and chemical properties of each heat, the amount of spelter coating, and conformance to ASTM A 123.
- 2) The Contractor may use steel guardrail posts of either a rolled section or a welded structural shape with nominal dimensions as shown in the FDOT Design Standards.
- 3) For welded structural shapes, meet the following requirements:
 - a) Ensure that the design properties of the shape meet or exceed the design properties for a W 6 x

9 shape as contained in the AISC Manual of Steel Construction.

- b) Weld in accordance with the requirements of ASTM A 769.
- c) After cutting posts to length, place a weld to seal the spaces between the web plate and flange plates.
- d) Galvanize as specified above after completing all drilling and welding.

3. Anchor Blocks:

- a. Use anchor blocks of Class I concrete, and construct and place them in accordance with the requirements shown in the Plans or as directed by the Engineer.

4. Offset Blocks:

- a. Use guardrail offset blocks of either timber, steel, recycled plastic, or rubber, and of the sizes specified in the FDOT Design Standards.
- b. Treat timber blocks in accordance with the requirements for posts in FDOT 955-5.3. Ensure that penetration of preservative is in accordance with requirements for round piles and fence posts in FDOT 955-6.2. For timber offset blocks, meet the requirements of the latest edition of the Southern Pine Inspection Bureau's Standard Grading Rules for Southern Pine Lumber, for No.1 grade timber. Dress all timber offset blocks on all four sides (S4S). Ensure that timber offset blocks do not vary more than 0.25 inch from the specified length
- c. Use rubber blocks that have a minimum Durometer hardness of 50 (ASTM D 2240), show no cracking at the end of an ozone exposure of 100 ±10 pphm for 15 hours at 100°F (ASTM D 1149 mounting type A), do not exceed 15 points change in Durometer hardness in oven ageing for 70 hours at 158°F (ASTM D 573), and show no cutting or tearing under a 6,500 lb load applied through a guardrail section. Ensure that the blocks present a neat appearance and have plane surfaces. Provide rubber blocks that are 6 inches wide, 8 inches deep and 14 inches high. Allow dimensional tolerances of ±5/8 inch in height, ±3/8 inch in width, and ±3/8 inch in depth.
- d. For Recycled Plastic offset blocks, meet the requirements of FDOT Section 972.

5. Reflector Elements:

- a. Provide reflectors that meet the requirements of FDOT 993-5.
- b. Mount reflectors onto the guardrail in accordance with the details shown in the Plans and the FDOT Design Standards.

6. Certification:

- a. Provide the Engineer, at least ten days prior to guardrail construction, a certification from the manufacturer confirming that all materials (timber or steel posts, anchor and offset blocks, reflector elements, and all other accessories) meet the requirements of the Contract Documents and the FDOT Design Standards.
- b. Furnish the Engineer a Certificate of Compliance certifying that the guardrail system, materials and

construction practices, comply with applicable FDOT Design Standards and Contract Specifications.

- c. Acceptance of furnished material will be based on the Certificate of Compliance, material certification and visual inspection by the Engineer.

C. Setting Posts.

- 1. Set standard length posts vertically to the depth shown in the FDOT Design Standards. Set special length posts vertically to the depth shown in the plans. Align and realign posts as necessary, until final acceptance. Where the posts are not set in concrete or mounted on structures, backfill the post holes with suitable thoroughly tamped material. As an alternate method, the Contractor may use a post-driving machine, meeting the approval of the Engineer and capable of driving the posts without damaging them.
- 2. For guardrail post replacement, backfill and compact the existing hole prior to setting the new post.
- 3. If driving timber posts, the Contractor may either block out holes in the asphalt for the posts during the asphalt paving operation or cut holes through the asphalt mat prior to the post installation. Blocked out holes or cut holes in the asphalt pavement shall be at least 50% larger than the sectional area of the timber post. After completing driving of the posts patch the area of asphalt around each post with fresh hot bituminous mixture.
- 4. If driving steel posts, drive the post directly through the asphalt mat. Fill depressions or cracks with fresh, hot bituminous mixture in a manner meeting the approval of the Engineer.
- 5. For either timber or steel post locations, in which rock, concrete or asphalt thicker than 2 inches exist, remove such material and backfill with suitable material, thoroughly tamped as detailed in the FDOT Design Standards.

D. Erection of Rail

- 1. Erect the guardrail panels, supports, anchors, etc., as shown in the FDOT Design Standards.

E. Existing Guardrail.

- 1. Stockpile guardrail, so specified, within the right-of-way at a location approved by the Engineer. Dispose of all remaining guardrail not specified for stockpiling.

F. Method of Measurement.

1. Guardrail:

- a. The quantity to be paid for will be the length, in feet, constructed, in place and accepted.
- 2. Miscellaneous items as provided by the Contract Documents:
 - a. End Anchorage Assemblies:
 - 1) The quantity to be paid for will be the number of each type constructed, in place and accepted.

- b. Special Guardrail Posts:
 - 1) The quantity to be paid for will be the number of each, constructed, in place and accepted.
 - 2) The designation "Special Guardrail Posts" will include only such posts as require special fabrication, for installation at locations where the normal setting would conflict with concrete structures, such as approach slabs, culvert slabs, footings, inlets, etc. Special posts, however, will not include posts for double-face median guardrail, regardless of whether they are embedded in or attached to concrete.
- c. Bridge Anchorage Assemblies:
 - 1) The quantity to be paid for will be the number of each, constructed, in place and accepted.
- d. Guardrail Anchorage (Concrete Barrier Wall):
 - 1) The quantity to be paid for will be the number of each, constructed, in place and accepted.
- e. Guardrail Post Replacement:
 - 1) The quantity to be paid for will be the number of each, replaced.
- f. Removal of Existing Guardrail:
 - 1) The quantity to be paid for will be the length, in feet, measured prior to removal.
- g. Special Steel Guardrail Posts:
 - 1) The quantity to be paid for will be the number of each, constructed, in place and accepted.

G. Basis of Payment.

1. Guardrail:

- a. Price and payment will be full compensation for all work specified under this Article, including the furnishing and installing of the acrylic plastic reflectors and all other materials as specified. Payment will be made under the items as follows:
 - 1) Where the Contractor furnishes all materials for the guardrail, and the Engineer does not require shop-bent rails, payment will be made under the basic item of Guardrail.
 - 2) Where the radius of the guardrail installation is such as to require shop bending of the guardrail panels, payment will be made under the item of Guardrail (Shop-bent Panels).
- b. All component parts of the complete guardrail installation will be included in the price per foot for the above items except, when the Contract Documents provides for the separate payments to be made under the special items listed below.
 - 1) End Anchorage Assemblies:
 - a) Price and payment will include all components specified in the Contract Documents and FDOT Design Standards.
 - 2) Special Guardrail Posts:

- a) Price and payment will include all costs for furnishing and installing the special posts that are over and above the costs for the normal posts, which are replaced by such special posts.

3) Bridge Anchorage Assemblies:

- a) When the Contract Documents provide for direct payment for Bridge Anchorage Assemblies, price and payment will include furnishing and installing the special End Shoes, Wood Blocks or Retrofit Wing Posts, Concrete Anchor Posts and necessary hardware.
- b) When the Contract Documents do not provide for direct payment for Bridge Anchorage Assemblies, the Contractor shall include the cost for the assemblies in the Contract price per foot for the guardrail.

4) Guardrail Anchorage (Concrete Barrier Wall):

- a) Price and payment will include installing connections to concrete barrier walls, as shown on the FDOT Design Standards, Index Nos. 400 and 410.

5) Guardrail Post Replacement:

- a) Price and payment will include all labor, materials, and equipment required for removal and disposal of existing posts in areas provided by the Contractor, backfilling and compacting existing holes, and replacement with new posts.

6) Removal of Existing Guardrail:

- a) Price and payment will include all labor and equipment required for removal and disposition of the existing guardrail, as specified in the Contract Documents. No additional payment will be made for the removal of the back rail on double face guardrail, three beam guardrail, nested rail, safety pipe rail, rub rail or end anchorages.

7) Special Steel Guardrail Posts with Accessories:

- a) Price and payment will include all components specified in the Contract Documents and the FDOT Design Standards.

- 2. No separate pay item(s) for Guardrail will be provided under this contract.

538 RESETTING GUARDRAIL

A. Description.

- 1. Remove the existing guardrail, and reset the salvaged guardrail with new materials. Reset the guardrail, at locations shown in the Plans or designated by the Engineer, in accordance with the FDOT design standards for guardrail construction, as modified by the Contract Documents.

B. Materials.

1. Prevent damage to reusable materials when removing existing guardrail.
2. Furnish all new materials necessary to complete the reset guardrail installation.
3. Provide only new offset blocks.
4. Meet the requirements specified in the Contract Documents for Guardrail.

C. Construction Methods.

1. Set posts in accordance with the requirements of the Contract Documents.
2. Erect guardrail panels, anchors, and hardware in accordance with the FDOT design standards for guardrail construction, as modified by the Contract Documents.
3. Replace any salvageable materials damaged by operations at no expense to the Department.
4. Use a consistent type of post throughout a run of guardrail.

D. Method of Measurement.

1. The quantities to be paid for will be as measured and accepted by the Engineer in feet of reset guardrail.
2. Additionally and where provided by the Contract Documents, the quantities of the following items to be paid for will be as measured and accepted by the Engineer:
 - a. number of end anchorage assemblies of each type as designated,
 - b. number of special posts, and
 - c. number of bridge anchorage assemblies.

E. Basis of Payment.

1. Prices and payments for resetting guardrail will be full compensation for all work specified in this Article, including furnishing all required new hardware and posts, all new offset blocks, and replacement of any material damaged by the Contractor except as specified below.
2. Price and payment for end anchorage assemblies, special guardrail posts, and bridge anchorage assemblies will be as specified in the Contract Documents for Guardrail.
3. Payment for new guardrail panels furnished to replace such items determined to be non-salvageable, excluding any items damaged by the Contractor, will be paid for at the actual invoiced cost for the panels including transportation charges, to which cost will be added an amount equal to 25% of the total invoice amount.
4. No separate pay item(s) for Resetting Guardrail will be provided under this contract

1. Establish a stand of grass within the specified areas, by furnishing and placing sod, and rolling, watering, and maintaining the sodded areas to ensure a healthy stand of grass.

B. Materials. Meet the following requirements:

1. Sod FDOT 981-2
2. Water FDOT Section 983

C. Construction Methods.

1. Preparation of Ground: Scarify or loosen the areas requiring sod to a depth of 6 inches. On areas where the soil is sufficiently loose, particularly on shoulders and fill slopes, the Engineer may authorize the elimination of the ground preparation. Limit preparation to those areas that can be sodded within 72 hours after preparation. Prior to sodding, thoroughly water areas and allow water to percolate into the soil. Allow surface moisture to dry before sodding to prevent a muddy soil condition.
2. Placing Sod: Place sod immediately after ground preparation. Do not use sod which has been cut for more than 72 hours. Stack all sod that is not planted within 24 hours after cutting and maintain proper moist condition.
 - a. Do not sod when weather and soil conditions are unsuitable for proper results. Pre-wet the area prior to placing sod. Do not place sod on eroded or washed out sites.
 - b. Place the sod on the prepared surface, with edges in close contact, and embed it firmly and smoothly by light tamping with appropriate tools.
 - c. Place the sod to the edge of all the paving and shrub areas and 1 inch below adjoining pavement with an even surface and edge. Place rolled sod parallel with the roadway and cut any exposed netting even with the sod edge.
 - d. Roll using a lightweight turf roller. Provide a true and even surface without any displacement of the sod or deformation.
 - e. Where sodding in drainage ditches, stagger the setting of the sod pieces to avoid a continuous seam along the line of flow. Ensure that the offsets of individual strips do not exceed 6 inches. Tamp the outer pieces of sod to produce a featheredge effect.
 - f. Peg sod at locations where the sod may slide. Drive pegs through sod blocks into firm earth, at intervals approved by the Engineer.
 - g. Remove any sod as directed by the Engineer.
3. Watering: Thoroughly water the sod immediately after placing. Do not water in excess of 1 inch per week for establishment. The contractor shall water and maintain newly sodded areas as needed and adhere to the following minimum frequencies until final acceptance of the Project by the County unless otherwise approved by the Engineer:
 - a. Minimum Watering Schedule (3/4" to 1" per watering)
 - 1) Every day for the first 14 days after placement, followed by

575 SODDING

A. Description.

- 2) Three times per week for next 14 days, followed by
 - 3) Two times per week until final acceptance of the project.
- b. Mowing Schedule
- 1) Minimum bi-weekly after established, and
 - 2) Immediately prior to final acceptance.
- D. Maintenance.
1. Maintain the sodded areas in a satisfactory condition until final acceptance of the project. Include in such maintenance the filling, leveling, and repairing of any washed or eroded areas, as may be necessary. The Department will pay for resodding necessary due to factors determined by the Engineer to be beyond the control of the Contractor.
 2. Monitor placed sod for growth of pest plants and noxious weeds. If pest plants and/or noxious weeds manifest themselves within 30 days of placement of the sod, treat affected areas by means acceptable to the Department at no expense to the Department. If pest plants and/or noxious weeds manifest themselves after 30 days from date of placement of sod, the Engineer, at his sole option, will determine if treatment is required and whether or not the Contractor will be compensated for such treatment. If compensation is provided, payment approved by the Engineer will be made as unforeseeable work.
 3. Maintenance of sodded areas is required for no less than thirty (30) days after placement or until the sodded area is determined to be established and satisfactory by the Engineer, whichever is greater.
- E. Method of Measurement.
1. The quantities to be paid for will be the area of sodding measured and accepted by the Engineer.
 2. Measurement for payment shall include only areas of sodding that have established a satisfactory root system (i.e. leaf blades break before sod can be pulled from the soil by hand).
- F. Basis of Payment.
1. Prices and payments for Sodding will be full compensation for all work, water, and materials required to perform the work as specified in this Article, the satisfactory disposal of excavated material, and the furnishing and application of the water.
 2. The costs for watering, mowing, and maintaining the sod in a moist condition for a period of at least two weeks, shall be included in the Contract unit price for Sodding.
 3. No separate pay item(s) for Sodding will be provided under this contract.

575 RELOCATION OF TREES OR PALMS; AND PROTECTION OF EXISTING LANDSCAPE

A. Relocation of trees or palms

1. General
 - a. Work consists of relocating trees and/or palms within the existing right of way, within a one (1) mile radius, in locations indicated in the drawings or as directed by the Engineer. Where drainage work is required, minor adjustments to the system may be necessary to minimize relocations.
 - b. The Contractor shall be cognizant of and comply with the Miami-Dade County Ordinance regulating the removal and/or relocation of all trees. Permits required for tree removal and/or relocation shall be the responsibility of the Contractor.
2. Material
 - a. Water: provide water by a method approved by the Engineer meeting the requirements of FDOT Section 983.
 - b. Backfill Material: the existing material excavated from the planting pit is to be used as backfill.
3. Pruning
 - a. Trees
 - 1) Prior to root pruning, prune tree canopy to ISA Standards and conform to ANSI A300. The extent of pruning shall be the minimum needed to reduce shock resulting from severing of roots.
 - 2) No more than 30 percent of total canopy branches greater than one inch in diameter may be removed. Interior sucker growth and dead wood shall be removed first, followed by selective pruning of branches and limbs. Limbs that run through the tree crown shall be removed before other limbs are removed. Pruning shall not destroy the form of the tree. All cuts shall be made outside of the branch collar.
 - 3) Trees shall be root pruned six (6) weeks prior to relocation. No backhoes or trenchers shall be used in the process. Backfill trench within 24 hours after root pruning with coarse sand.
 - 4) Where required by the Engineer or the designated County arborist, brace and guy the root pruned tree to support and maintain the tree in a stable vertical position until relocation.
4. Replanting
 - a. Trees
 - 1) The planting pit shall be a minimum of 24" wider than the diameter of the rootball unless otherwise directed by the Engineer. The depth of the pit shall be adjusted so that the top of the rootball will be at the same elevation or slightly above the existing ground level. All plants shall be centered in the hole. Trees shall be watered in during the planting process to eliminate air pockets in the backfill.
 - 2) Size of the trees will be the trunk diameter measured at breast height (54 inches above grade).
 - 3) All trees are to be fertilized at the time of planting with Atlantic Florida East Coast Fertilizer Mixture (No. 5231) 12-06-08 slow-release fertilizer or approved equal. This fertilizer is to be spread

evenly over the top of the planting pit after backfilling. The application rate is 2 lbs/tree.

b. Palms

- 1) The planting pit shall be a minimum of 24" wider than the diameter of the rootball unless otherwise directed by the Engineer. The depth of the pit shall be adjusted so that the top of the rootball will be at the same elevation or slightly above the existing ground level. All plants shall be centered in the hole. Burlap is to be untied and pulled away from the top of the ball, unless specified in writing by the Engineer. Plants are to be watered-in during the planting process to eliminate all air pockets in the backfill material.
- 2) Size of the palm will be determined by measuring ground level to the topmost portion of the palm.
- 3) All palms are to be fertilized at time of planting with Atlantic Florida East Coast Fertilizer Mixture 08-04-12 slow-release improved palm special fertilizer or equal. This fertilizer is to be spread evenly over the top of the planting pit after backfilling. The application rate of 3 lbs/palm.

5. Mulching:

- a. A planting saucer will be established, the same size as the diameter of the planting pit and the rim shall be no higher than 4 inches. The mulch is to be Forestry Research Products Florimulch (Melaleuca mulch) free of viable seed and burrowing nematodes and certified by the Florida Department of Agriculture, or equal, and is to be spread evenly inside the saucer to a depth of 3 inches.
- b. Remove saucer prior to Project completion or as directed by the Engineer.

6. Staking and Guying:

- a. This work shall be performed in accordance with the standard planting detail for trees and/or palms.
- b. Palms shall be staked using the Arborlock Staking System or equal (with the approval of County representative).
- c. Trees shall be guyed using Arbor Tie (a flat woven polypropylene material with 900 lbs. Break strength) manufactured by Deep Root Partners, L.P., or equal.
- d. Six (6) month after planting, the Contractor shall return to the site and remove all materials used for staking and guying. At the discretion of the Engineer, the period for staking and guying may be extended beyond six (6) months but for no longer than one (1) year.

7. Watering Schedule:

- a. After replanting trees and palms, they are to be watered as follows:
 - 1) for the first 4 weeks 3 times/week
 - 2) for the second 4 weeks 2 times/week
 - 3) for the third 4 weeks 1 time/week
- b. Application Rate:
 - 1) Trees and slender trunk palms 6 gal/watering

- 2) Moderate and heavy trunk palms 10 gal/watering

8. Guarantee of Relocated Trees and Palms

- a. All trees and palms that are relocated shall be guaranteed for a period of one year after relocation.

B. Protection of Existing Landscaping

1. Description:

- a. Install tree protection barricades when called for in the Contract Documents or by the Engineer to protect existing trees and landscape from damage during project construction. Place barricades, as directed by the Engineer, at the drip line of the landscape foliage or as far from the base of the tree trunk as possible. Barricades shall consist of Heavy-Duty Construction (Orange) Barrier Fence (Minimum 4-feet high) attached to 2-inch by 4-inch by 6-foot long vertical wooden posts per FDOT Index No. 544 except that 2-inch by 4-inch horizontal wooden top bars with a maximum 8-foot spacing between posts shall be used. Barricades shall be able to withstand bumps by heavy equipment and trucks. Maintain barricades in good condition.
- b. All trees, shrubbery, and landscaping (on the R/W or adjacent property) irreparably damaged or destroyed by the Contractor during construction, as determined by the Engineer, shall be replaced by and at the Contractor's expense. Trees and shrubbery shall be replaced with like-sized plants; except for trees or shrubs removed pursuant to the requirements of the Contract Documents or at the specific direction of the Engineer. Replacement plant size shall be determined by calculating the total diameter at breast height (DBH) of affected trees, palms, and/or shrubbery, or the total averaged height of affected trees, palms, and/or shrubs. All replacement material must be Florida #1 Grade or better.

C. Method of Measurement:

1. The quantity to be paid for relocation of trees or palms will be the quantities measured, completed and accepted by the Engineer, under the items shown in the Contract Document.
2. The quantity to be paid for protection of existing landscape will be the quantity in linear feet of barricade, completed and accepted, measured by the Engineer.

D. Basis of Payment:

1. Price and payment shall be full compensation for all work specified in this Section inclusive of all labor, material, and equipment necessary for the proper relocation of trees or palms and protection of existing landscape as required by the Contract Documents.
2. No separate pay item(s) for Relocation of Trees or Palms; and Protection of Existing Landscape will be provided under this contract.

580 LANDSCAPE INSTALLATION

A. Description.

1. Plant trees and shrubs of the species, size, and quality indicated in the plans.
2. The Engineer reserves the right to adjust the number and location of any of the designated types and species to be used at any of the locations shown, in order to provide for any unanticipated effects which might become apparent after the substantial completion of other phases of the Project, or for other causes.

B. Materials.

1. Plants:

- a. Authority for Nomenclature; Species, etc.: For the designated authority in the identification of all plant material, refer to two publications of L.H. Bailey: "Hortus III" and "Manual of Cultivated Plants," and ensure that all specimens are true to type, name, etc., as described therein. For the standard nomenclature, refer to the publication of the American Joint Committee on Horticultural Nomenclature, "Standardized Plant Names."
 - b. Grade Standards and Conformity with Type and Species: Only use nursery grown plant material except where specified as Collected Material. Use nursery grown plant material that complies with all required inspection, grading standards, and plant regulations in accordance with the latest edition of the Florida Department of Agriculture's "Grades and Standards for Nursery Plants".
 - 1) Except where a lesser grade might be specifically specified in the plans, ensure that the minimum grade for all trees and shrubs is Florida No. 1. Ensure that all plants are the proper size and grade at the time of delivery to the site, throughout the project construction period and during any designated plant establishment period.
 - 2) Ensure that plant materials are true to type and species and that any plant materials not specifically covered in Florida Department of Agriculture's "Grades and Standards for Nursery Plants" conform in type and species with the standards and designations in general acceptance by Florida nurseries.
 - 3) Ensure that plant materials are shipped with tags stating the botanical and common name of the plant.
 - c. Inspection and Transporting: Move nursery stock in accordance with all Federal and State regulations and accompany each shipment with the required inspection certificates for filing with the Engineer.
2. Water: Water used in landscaping operations may be obtained from any approved source. Ensure that water is free of any substance which might be detrimental to plant growth. The use of effluent water is subject to approval and must meet all Federal, State and Local requirements.

C. Specific Requirements for the Various Plant Designations.

1. Balled-and-Burlapped Plants (B&B), and Wired Balled-and-Burlapped (WB & B):

- a. General: Properly protect the root ball of these plants until planting them. The Engineer may reject any plant which shows evidence of having been mishandled.
 - 1) Set the B&B and WB&B plants then remove the top 2/3 of all wire, rope, and binding surrounding the plant. Remove the burlap from the top 4 inches [100 mm] of the root ball. Do not disturb the root ball in any way. Bare root material is not allowed for substitution.
 - 2) At least 90 days before digging out B & B and WB & B plants, root-prune those 1 1/2 inches [38 mm] or greater in diameter and certify such fact on accompanying invoices.
- b. Provisions for Wiring: For plants grown in soil of a loose texture, which does not readily adhere to the root system (and especially in the case of large plants or trees), the Engineer may require WB & B plants. For WB & B plants, before removing the plant from the excavated hole, place sound hog wire around the burlapped ball, and loop and tension it until the tightened wire netting substantially packages the burlapped ball such as to prevent disturbing of the loose soil around the roots during handling.

2. Container-Grown Plants (CG): The Engineer will not accept any CG plants with roots which have become pot-bound or for which the top system is too large for the size of the container. Fully cut and open all containers in a manner that will not damage the root system. Do not remove CG plants from the container until immediately before planting to prevent damage to the root system.

3. Collected Plants (Trees and Shrubs) (C): Use C plants which have a root ball according to "Florida Grades and Standards for Nursery Plants". Do not plant any C plant before the Engineer's inspection and acceptance at the planting site.

4. Collected Plants (Herbaceous) (HC): The root mass and vegetative portions of collected herbaceous plants shall be as large as the specified container-grown equivalent. Do not plant any collected plant before inspection and acceptance by the Engineer.

5. Specimen Plants (Special Grade): When Specimen (or Special Grade) plants are required, label them as such on the plant list, and tag the plant to be furnished.

6. Palms: Wrap the roots of all plants of the palm species before transporting, except if they are CG plants and ensure that they have an adequate root ball structure and mass for healthy transplantation as defined in "Florida Grades and Standards for Nursery Plants".

- a. The Engineer will not require burlapping if the palm is carefully dug from marl or heavy soil that adheres to the roots and retains its shape without crumbling. During transporting and after arrival, carefully protect root balls of palms from wind and exposure to the sun. Muck grown palms are not allowed. After delivery to the job site, if not planting the palm within 24 hours, cover the root ball with a moist material. Plant all palms within 48 hours of delivery to the site.

- b. Move sabal and coconut palms in accordance with the "Florida Grades and Standards for Nursery Plants."

7. Substitution of Container-Grown (CG) Plants: With the Engineer's approval, the Contractor may substitute CG plants for any other root classification types, if he has met all other requirements of the Contract Documents.

D. Planting Requirements.

1. Layout: Prior to any excavation or planting, mark all planting beds and individual locations of palms, trees, large shrubs and proposed art and architectural structures, as shown in the plans, on the ground with a common bright orange colored spray paint, or with other approved methods, within the project limits. Obtain the Engineer's approval and make necessary utility clearance requests.

2. Excavation of Plant Holes: Excavate plant holes after an area around the plant three times the size of the root ball has been tilled to a depth of the root ball. Ensure that the plant hole is made in the center of the tilled area only to the depth of the plant root ball.

- a. Where excess material has been excavated from the plant hole, use the excavated material to backfill to proper level.

3. Setting of Plants: Center plants in the hole. Lower the plant into the hole so that it rests on a prepared hole bottom such that the roots are level with, or slightly above, the level of their previous growth and so oriented such as to present the best appearance.

- a. Backfill with native soil, unless otherwise specified on the plans. Firmly rod and water-in the backfill so that no air pockets remain. Apply a sufficient quantity of water immediately upon planting to thoroughly moisten all of the backfilled earth. Keep plants in a moistened condition for the duration of the planting period.

- b. When so directed, form a water ring 6 inches [150 mm] in width to make a water collecting basin with an inside diameter equal to the diameter of the excavated hole. Maintain the water ring in an acceptable condition.

4. Special Bed Preparation: Where multiple or mass plantings are to be made in extended bedding areas, and the plans specify Special Bed Preparation, prepare the planting beds as follows:

- a. Remove all vegetation from within the area of the planting bed and excavate the surface soil to a depth of 6 inches [150 mm]. Backfill the excavated area with peat, sand, finish soil layer material or other material to the elevation of the original surface. Till the entire area to provide a loose, friable mixture to a depth of at least 8 inches [200 mm]. Level the bed only slightly above the adjacent ground level. Then mulch the entire bedding area, in accordance with 580 8.

E. Staking and Guying.

1. General: When specified in the plans, or as directed by the Engineer, stake plants in accordance with the following.

- a. Use wide plastic, rubber or other flexible strapping materials to support the tree to stakes or ground anchors that will give as the tree moves in any direction up to 30 degrees. Do not use rope or wire through a hose. Use guy chords, hose or any other thin bracing or anchorage material which has a minimum 12 inches [300 mm] length of high visibility flagging tape secured to guys, midway between the tree and stakes for safety.

- b. Stake trees larger than 1 inch [25 mm] diameter and smaller than 2 inches [50 mm] diameter with a 2 by 2 inch [50 by 50 mm] stake, set at least 2 feet [0.6 m] in the ground and extending to the crown of the plant. Firmly fasten the plant to the stake with flexible strapping materials as noted above.

2. Trees of 2 to 3 1/2 inches [50 to 90 mm] Caliper: Stake all trees, other than palm trees, larger than 2 inches [50 mm] caliper and smaller than 3 1/2 inches [90 mm] caliper with two 2 by 4 inch [50 by 100 mm] stakes, 8 feet [2.4 m] long, set 2 feet [0.6 m] in the ground. Place the tree midway between the stakes and hold it firmly in place by flexible strapping materials as noted above.

3. Large Trees: Guy all trees, other than palm trees, larger than 3 1/2 inches [90 mm] caliper, from at least three points, with flexible strapping materials as noted above.

- a. Anchor flexible strapping to 2 by 4 by 24 inch [50 by 100 by 600 mm] stakes, driven into the ground such that the top of the stake is at least 3 inches [75 mm] below the finished ground.

4. Special Requirements for Palm Trees: Brace palms which are to be staked with three 2 by 4 inch [50 by 100 mm] wood braces, toe-nailed to cleats which are securely banded at two points to the palm, at a point one third the height of the trunk. Pad the trunk with five layers of burlap under the cleats. Place braces approximately 120 degrees apart and secure them underground by 2 by 4 by 12 inch [50 by 100 by 300 mm] stake pads.

F. Tree Protection and Root Barriers.

1. Install tree barricades when called for in the Contract Documents or by the Engineer to protect existing trees from damage during project construction. Place barricades at the drip line of the tree foliage or as far from the base of the tree trunk as possible. Barricades shall be able to withstand bumps by heavy equipment and trucks. Maintain barricades in good condition.

2. When called for in the Contract Documents, install root barriers or fabrics in accordance with the details shown.

G. Pruning.

1. Prune all broken or damaged roots and limbs in accordance with established arboriculture practices. When pruning is completed ensure that all remaining wood is alive. Do not reduce the size or quality of the plant below the minimum specified.

H. Mulching.

1. Uniformly apply mulch material, consisting of wood chips (no Cypress Mulch is allowed), pine straw, compost, or

other suitable material approved by the Engineer, to a minimum loose thickness of 3 inches [75 mm] over the entire area of the backfilled hole or bed within two days after the planting. Maintain the mulch continuously in place until the time of final inspection.

I. Disposal of Surplus Materials and Debris.

1. Dispose of surplus excavated material from plant holes by scattering or otherwise as might be directed so that it is not readily visible or conspicuous to the passing motorist or pedestrian. Remove all debris and other objectionable material from the site and clean up the entire area and leave it in neat condition.

J. Contractor's Responsibility for Condition of the Plantings.

1. Ensure that the plants are kept watered, that the staking and guying is kept adjusted as necessary, that all planting areas and beds are kept free of weeds and undesirable plant growth and that the plants are maintained so that they are healthy, vigorous, and undamaged at the time of acceptance.

K. Plant Establishment Period.

1. If the Contract Documents designate a Plant Establishment Period, assume responsibility for the proper maintenance, survival and condition of all landscape items during such period at no additional cost.

L. Method of Measurement.

1. The quantities to be paid for will be the items shown in the plans, completed and accepted.

M. Basis of Payment.

1. No separate pay item(s) for Landscape Installation will be provided under this contract.

**701 AUDIBLE AND VIBRATORY PAVEMENT MARKINGS
(REV. 01-07-2014)****A. Description**

1. Apply audible and vibratory pavement markings in accordance with the Contract Documents.

B. Materials

1. Thermoplastic:
 - a. Use thermoplastic material meeting the requirements of FDOT 971-1 and 971-9 and listed on the FDOT's Approved Product List (APL) as an approved system. The Engineer will take random samples of the materials in accordance with the FDOT's Sampling, Testing and Reporting Guide schedule.
2. Retroreflective Elements:
 - a. Use reflective elements recommended by the manufacturer that meet the requirements of FDOT 971-1.7 and are part of the system listed on the APL.

C. Equipment

1. Use equipment capable of providing continuous, uniform heating of the striping material to temperatures exceeding 390°F, mixing and agitating the material in the reservoir to provide a homogenous mixture without segregation. Use equipment that will maintain the striping material in a plastic state, in all mixing and conveying parts, including the line dispensing device until applied. Use equipment which is capable of producing a consistent pattern of transverse bumps positioned at regular and predetermined intervals. Use equipment which meets the following requirements:
 - a. Capable of traveling at a uniform rate of speed, both uphill and downhill, to produce a uniform application of striping material and capable of following straight lines and making normal curves in a true arc.
 - b. Capable of applying reflective elements to the surface of the completed stripe by automatic dispensers attached to the striping machine such that the reflective elements are dispensed closely behind the installed line. Use reflective element dispensers equipped with an automatic cut-off control that is synchronized with the cut-off of the thermoplastic material and applies the reflective elements uniformly on the entire traffic stripe surface with 50 to 60% embedment.
 - c. Equipped with a special kettle for uniformly heating and melting the striping material. The kettle must be equipped with an automatic temperature control device and material thermometer for positive temperature control and to prevent overheating or scorching of the thermoplastic material.
 - d. Meets the requirements of the National Fire Protection Association (NFPA), State and Local authorities.

D. Application**1. General:**

- a. Before applying traffic stripes and markings, remove any material that would adversely affect the bond of the traffic stripes by a method approved by the Engineer.
- b. Before applying traffic stripes to any portland cement surface, apply a primer, sealer or surface preparation adhesive of the type recommended by the manufacturer. Offset longitudinal lines at least 2 inches from construction joints of portland cement concrete pavement.
- c. Apply traffic stripes or markings only to dry surfaces, and when the ambient air and surface temperature is at least 50°F and rising for asphalt surfaces and 60°F and rising for concrete surface.
- d. Apply striping to the same tolerances in dimensions and in alignment specified in Article 710, Painted Pavement Markings, Subarticle D. When applying traffic stripes and marking over existing markings, ensure that no more than 2 inches on either end and not more than 1 inch on either side of the existing line is visible.
- e. Conduct field tests in accordance with FM 5-541. Take test readings representative of the striping performance. Remove and replace markings not meeting the requirements of this Section.

E. Thickness:

1. Apply flat base lines having a thickness of 0.100 to 0.150 inches, exclusive of the audible bumps, when measured above the pavement surface.
2. Measure, record and certify and submit to the Engineer, the thickness of white and yellow pavement markings in accordance with FM 5-541.
3. The Engineer will verify the thickness of the pavement markings in accordance with FM 5-541 within 30 days of receipt of the Contractor's certification.

F. Dimensions of Audible Bumps:

1. Apply the raised bumps with a profile such that the leading and trailing edges are sloped at a sufficient angle to create an audible and vibratory warning.
2. Bumps on shoulder and centerline markings shall be at least 0.45 inches at the highest point of the bump, above the pavement surface, including the base line. The height shall be measured after application of drop-on reflective elements. Bumps shall have a minimum baseline coverage dimension of 2.5 inches in both transverse and longitudinal directions. The bumps may have a drainage channel, the width of each drainage channel will not exceed 1/4 inch at the bottom of the channel. The longitudinal distance between bumps shall be approximately 30 inches.

G. Retroreflectivity:

1. Apply white and yellow audible and vibratory markings that will attain an initial retroreflectance of not less than 300 mcd/lx·m² and not less than 250 mcd/lx·m², respectively. Measure, record, and submit to the

Engineer, the retroreflectivity of white and yellow pavement markings in accordance with FM 5-541.

H. Color:

1. Use pavement marking materials that meet the requirements of FDOT 971-1.

I. Reflective Elements:

1. Apply reflective elements to all markings at the rates determined by the manufacturer's recommendations as identified for the APL System.

J. Loss:

1. If more than 1% of the bumps or more than three consecutive bumps are missing or broken (less than half a bump remaining) within the first 45 days under traffic, replace all failed bumps at no expense to the Department. If more than 2% of the bumps fail within the first 45 days under traffic, the replacement period will extend an additional 45 days from the date all replacement bumps were installed. If, at the end of the additional 45 days, more the 2% of all bumps (initial and replacement) fail, replace all failed bumps at no expense to the Department. Measure, record, certify and submit to the Engineer, the loss of bumps.

K. Contractor's Responsibility for Notification.

1. Notify the Engineer prior to the placement of audible and vibratory markings. Furnish the Engineer with the manufacturer's name and batch numbers of the thermoplastic materials and reflective elements to be used. Ensure that the batch numbers appear on the thermoplastic materials and reflective elements packages.

L. Protection of Newly Applied Audible and Vibratory Markings.

1. Do not allow traffic onto or permit vehicles to cross newly applied pavement markings until they are sufficiently dry. Remove and replace any portion of the pavement markings damaged by passing traffic or from any other cause.

M. Observation Period.

1. Longitudinal pavement markings are subject to a 180 day observation period under normal traffic. The observation period will begin with the satisfactory completion and acceptance of the pavement marking work.
2. The longitudinal pavement markings shall show no signs of failure due to blistering, excessive cracking, chipping, discoloration, poor adhesion to the pavement, loss of reflectivity or vehicular damage. The retroreflectivity shall meet the initial requirements of Subarticle G. The Department reserves the right to check the retroreflectivity any time prior to the end of the observation period.

3. Replace, at no expense to the Department, any longitudinal pavement markings that do not perform satisfactorily under traffic during the 180 day observation period.

N. Corrections for Deficiencies.

1. Correct all deficiencies by removal and reapplication of a one mile section centered around the deficiency at no cost to the Department.

O. Submittals.

1. Submittal Instructions:

- a. Prepare and submit a certification of quantities to the Engineer. The Department will not pay for any disputed items until the Engineer approves the certification of quantities.

P. Method of Measurement.

1. The quantities to be paid for under this Section will be as follows:
 - a. The length, in net miles, of 6 inches solid traffic stripe, authorized and acceptably applied.
 - b. The total traversed distance in gross miles of 10-30 skip line. The actual applied line is 25% of the traverse distance for a 1:3 ratio. This equates to 1,320 feet of marking per mile of single line.

Q. Basis of Payment.

1. Prices and payments will be full compensation for all work specified in this Section, including, all cleaning and preparing of surfaces, furnishing of all materials, application, curing and protection of all items, protection of traffic, furnishing of all tools, machines and equipment, and all incidentals necessary to complete the work. Final payment will be withheld until all deficiencies are corrected.
2. No separate pay item(s) for Audible and Vibratory Pavement Markings will be provided under this contract.

705 OBJECT MARKERS AND DELINEATORS (REV. 08-23-12)

A. Description.

1. Furnish and install object markers to mark obstructions within or adjacent to the roadway of the types and at the locations called for in the Contract Documents.
2. Furnish and install delineators along the side of the roadway to indicate the alignment of the roadway as indicated in the Contract Documents.
3. Meet all requirements of the FDOT Design Standards and the Contract Documents.

B. Materials.

1. General:

a. Meet the following requirements:

Object Markers and Delineators	FDOT Section 993
Retroreflective and Nonreflective Sign Sheeting	FDOT Section 994

2. Product Acceptance on the Project:

- a. Ensure that delineators, delineator posts, and markers used to delineate guardrail and barrier wall are listed on the FDOT Qualified Products List.
- b. Provide to the Engineer a manufacturer's certification conforming to the requirements of Article 1.04 (Controlling Materials) of Division 1, which confirms that each product meets the requirements of this Article.

C. Installation Requirements.

1. Install delineators, object markers, and reflector units for guardrail and barrier wall and in accordance with the MUTCD, FDOT Design Standards and Contract Documents.

D. Method of Measurement.

1. The quantity to be paid for will be the number of delineators or object markers furnished, installed and accepted.

E. Basis of Payment.

1. Prices and payments will be full compensation for work specified in this Article, including the cost of labor, materials, and incidental items required to complete the work.
2. No separate pay item(s) for Object Markers and Delineators will be provided under this contract.

706 RAISED RETRO-REFLECTIVE PAVEMENT MARKERS AND BITUMINOUS ADHESIVE (REV. 05-02-12)

A. Description.

1. Place raised Retro-Reflective Pavement Markers (RPMs) and adhesive, which upon installation produces a positive guidance system to supplement other reflective pavement markings.

B. Materials.

1. Use only Class B markers unless otherwise shown on the Plans.
2. Meet the requirements of FDOT Section 970.
3. Product Acceptance on the Project.
 - a. Use only reflective pavement markers and bituminous adhesive that are listed on the FDOT Qualified Products List.

- b. Provide Engineer a producer's certification, conforming to the requirements of Article 1.04 (Controlling Materials) of the General Requirements to these Specifications, which confirms that each product meets the requirements of this Article.

C. Equipment.

1. Use equipment having either thermostatically controlled double boiler type units utilizing heat transfer oil or thermostatically controlled electric heating pots to install hot applied bituminous adhesive. Do not use direct flame melting units with flexible adhesives; however, this type of unit may be used with standard adhesive in accordance with manufacturer's recommendations. Use a melter/applicator unit suited for both melting and pumping the adhesive through heated applicator hoses.
2. Heat the adhesive to between 375 and 425°F and apply directly to the bonding surface from the melter/applicator by either pumping or pouring. Maintain the application temperature between 375 and 425°F. The adhesive may be reheated. Do not exceed the manufacturer's recommendations for pot life at application temperatures.

D. Application.

1. Apply RPMs to the bonding surface using bituminous adhesives only. Engineer will conduct field testing in accordance with Florida Method (FM) 5-566. Correct RPMs not applied in accordance with these requirements at no cost to the Department.
2. Prior to application of adhesive, clean the bonding surface to remove any material that would adversely affect the adhesive.
3. Apply the adhesive to the bonding surface, not the RPMs, so that 100% of the bonding area of the RPMs will be covered, in accordance with adhesive manufacturer's recommendations. Apply sufficient adhesive to ensure, that when the RPMs are pressed downward into the adhesive, adhesive will be forced out around the entire perimeter of each RPM.
4. Immediately remove excess adhesive from the bonding surface and exposed surfaces of the RPMs. Soft rags moistened with mineral spirits meeting Federal Specifications TT-T-291 or kerosene may be used to remove adhesive from exposed faces of the RPMs. Do not use any other solvent. If any adhesive, pavement marking materials or other foreign matter adheres to the reflective face of the RPM, replace the RPM at no cost to the Department.
5. Install RPMs with the reflective face of the RPM perpendicular to a line parallel to the roadway centerline. Do not install RPMs over longitudinal or transverse joints of the bonding surface.
6. Ensure that all final RPMs are in place prior to opening the road to traffic.
7. If more than 2 percent of the RPMs fail in adhesion or alignment within the first 45 days under traffic, replace all failed RPMs at no expense to the Department. If more than 5 percent of the RPMs fail in adhesion and or alignment during the initial 45 day period, Engineer will

extend the replacement period an additional 45 days from the date that all replacement RPMs have been installed. If, at the end of the additional 45 day period, more than 2 percent of all RPMs (initial installation and 45 day replacements combined) fail in adhesion or alignment, replace all failed RPMs at no expense to the Department.

E. Contractor's Responsibility for Notification.

1. Notify Engineer prior to the placement of RPMs. At the time of notification, indicate the manufacturer and the LOT numbers of RPMs and bituminous adhesive that are intended for use. Verify that the approved LOT numbers appear on the material packages. Furnish a test report to Engineer certifying that the materials meet all requirements specified.

F. Method of Measurement.

1. Unless otherwise specified herein, the quantities to be paid for will be the number of RPMs, furnished and installed, completed and accepted.

G. Basis of Payment.

1. Lump Sum Payment: When the pay item for Painted Pavement Markings (Final Surface) is included in the Contract, price and payment for RPMs is as stipulated in Article 710 of these Specifications. RPMs will not be measured or paid for separately.
2. Payment will be made under the item(s) below if provided in the Contract with awarded Contract unit price(s) for the completed quantities, measured and accepted by Engineer. Price and payment will be full compensation for all work specified in this Article.
3. No separate pay item(s) for Raised Retro-Reflective Pavement Markers and Bituminous Adhesive will be provided under this contract.

710 PAINTED PAVEMENT MARKINGS (REV. 05-02-12)

A. Description.

1. Apply Painted Traffic Stripes and Raised Retro-Reflective Pavement Markers (RPMs), in accordance with the Contract Documents.

B. Materials.

1. Use only materials listed on the FDOT Qualified Products List (QPL) meeting the following requirements:

Raised Retro-reflective Pavement Markers and Bituminous Adhesive	FDOT Section 970
Standard Waterborne Fast Dry Traffic Paint	FDOT 971-1 and 971-3
Fast Dry Solvent Paint	FDOT 971-1 and 971-4
Glass Spheres	FDOT 971-1 and 971-2

C. Equipment.

1. Use equipment that will produce continuous uniform dimensions of pavement markings of varying widths and meet the following requirements:
 - a. Capable of traveling at a uniform, predetermined rate of speed, both uphill and downhill, in order to produce a uniform application of paint and capable of following straight lines and making normal curves in a true arc.
 - b. Capable of applying glass spheres to the surface of the completed stripe by an automatic sphere dispenser attached to the striping machine such that the glass spheres are dispensed closely behind the installed line. Use a glass spheres dispenser equipped with an automatic cut-off control that is synchronized with the cut-off of the traffic paint and applies the glass spheres in a manner such that the spheres appear uniform on the entire pavement markings surface with 50 to 60 percent embedment.
 - c. Capable of spraying the paint to the required thickness and width without thinning of the paint.
2. Paint tank must be equipped with nozzles having cut-off valves, which will apply broken or skip lines automatically.

D. Application:

1. General:

- a. Remove, by a method approved by Engineer, existing pavement markings such that scars or traces of removed markings will not conflict with new stripes and markings. Refer to Subarticle J below for Removal of Existing Painted Traffic Stripes and Markings Clean and dispose at an approved site all resulting debris. Use of paint to cover conflicting pavement markings is prohibited. Cost for removal of pavement markings is incidental to the work specified in this Article and will not be measured separately for payment. Cost for removing conflicting pavement markings during maintenance of traffic operations is included in general costs for Maintenance of Traffic.
- b. Before applying traffic stripes and markings, remove any material that would adversely affect the bond of the traffic stripes by a method approved by Engineer and consistent with manufacturer's specifications.
- c. Remove any vegetation, soil, and other materials covering the pavement where the marking is to be applied.
- d. Apply traffic stripes and markings only to dry surfaces, and when the ambient air and surface temperature is at least 40°F and rising. Do not apply traffic stripes and markings when winds are sufficient to cause spray dust.
- e. Apply traffic stripes and markings, having well defined edges, over existing pavement markings such that not more than 2 inches on either end and not more than 1 inch on either side is visible.
- f. Mix the paint thoroughly prior to pouring into the painting machine. Apply paint to the pavement by spray or other means approved by Engineer.
- g. Conduct field testing in accordance with Florida Method (FM) 5-541. Remove and replace traffic stripes and markings not meeting the requirements of this Article at no additional cost to the Department.

- h. Apply all pavement markings prior to opening the road to traffic.
 - i. Apply all retro-reflective pavement markers per the requirements of Article 706 (Raised Retro-Reflective Pavement Markers and Bituminous Adhesive).
2. Painted Pavement Markings (Final Surface), when included as a single lump sum item in the Contract having and awarded Contract price, will include two applications of standard painted pavement markings and one application of retro-reflective pavement markers applied to the final surface. Wait at least 14 days after the first application to apply the second application of Painted Pavement Markings (Final Surface). Second application must be applied prior to final acceptance of the project.
3. Thickness: Apply paint to attain a minimum wet film thickness in accordance with the manufacturer's recommendations.
4. Retroreflectivity:
- a. Apply white and yellow standard pavement markings that will attain an initial retroreflectance of not less than 300 mcd/lx•m² and not less than 250 mcd/lx•m², respectively. Measure, record and certify on a Department approved form and submit to Engineer, the retroreflectivity of white and yellow pavement markings in accordance with FM 5-541.
 - b. The Department reserves the right to test the markings within 3 days of receipt of the Contractor's certification. Failure to afford the Department opportunity to test the markings will result in non-payment. The test readings should be representative of the Contractor's striping performance. If the retroreflectivity values measure below values shown above, reapply the pavement markings at no additional cost to the Department.
 - c. For standard pavement markings, ensure that the minimum retroreflectance of white and yellow pavement markings are not less than 150 mcd/lx m². If the retroreflectivity values fall below the 150 mcd/lx m² value within six months of initial application, the striping will be reapplied at the Contractor's expense.
5. Color: Use paint material that meets the requirements of FDOT 971-1.
6. Glass Spheres: Apply glass spheres on all pavement markings immediately and uniformly following the paint application. The rate of application shall be based on the manufacturer's recommendation.
- E. Tolerances in Dimensions and in Alignment.
- 1. Establish tack points at appropriate intervals for use in aligning stripes, and set a stringline from such points to achieve accuracy.
 - 2. Dimensions:
 - a. Longitudinal Lines: Apply painted skip line segments with no more than ±12 inches variance, so that over-tolerance and under-tolerance lengths between skip line and the gap will approximately balance. Apply longitudinal lines at least 2 inches from construction joints of Portland cement concrete pavement.
 - b. Transverse Markings, Gore Markings, Arrows, and Messages: Apply paint in multiple passes when the marking cannot be completed in one pass, with an overall line width allowable tolerance of ±1 inch
 - c. Contrast Lines: Use black paint to provide contrast on concrete or light asphalt pavement, when specified by Engineer. Apply black paint in 10 foot segments following each longitudinal skip line.
3. Alignment:
- a. Apply painted stripes that will not deviate more than 1 inch from the stringline on tangents and curves one degree or less.
 - b. Apply painted stripes that will not deviate more than 2 inches from the stringline on curves greater than one degree.
 - c. Apply painted edge stripes uniformly, not less than 2 inches or more than 4 inches from the edge of pavement, without noticeable breaks or deviations in alignment or width.
 - d. Remove and replace at no additional cost to the Department, traffic stripes that deviate more than the above stated requirements.
4. Correction Rates: Make corrections of variations in width at a maximum rate of 10 feet for each 0.5 inches of correction. Make corrections of variations in alignment at a maximum rate of 25 feet for each 1 inch of correction, to return to the stringline.
- F. Contractor's Responsibility for Notification.
- 1. Notify Engineer prior to the placement of the materials. Furnish Engineer with the manufacturer's name and batch numbers of the materials and glass spheres to be used. Ensure that the approved batch numbers appear on the materials and glass spheres packages.
- G. Protection of Newly Painted Pavement Markings.
- 1. Do not allow traffic onto or permit vehicles to cross newly applied pavement markings until they are sufficiently dry.
 - 2. Remove and replace any portion of the pavement markings damaged by passing traffic or from any other cause, at no additional cost to the Department.
- H. Corrections for Deficiencies to Applied Painted Pavement Markings.
- 1. Reapply a 1.0 mile section centered around any deficiency, at no additional cost to the Department.
- I. Submittals.
- 1. Submittal Instructions: Prepare a certification of quantities, using the Department's current approved form, for each project in the Contract. Submit the certification of quantities and daily worksheets to Engineer. The Department will not pay for any disputed items until Engineer approves the certification of quantities.

2. Contractor's Certification of Quantities: Request payment by providing to Engineer a monthly certification of quantities with each payment requisition or as directed by Engineer, based on the amount of work done or completed. Ensure the certification of quantities include the following:
 - a. Contract Number, Certification Number, Certification Date and the period that the certification represents.
 - b. The basis for arriving at the amount of the progress certification, less payments previously made and less any amount previously retained or withheld. The basis will include a detailed breakdown provided on the certification of items of payment.
- J. Removal of Existing Painted Traffic Stripes and Markings.
1. Removal Requirements.
 - a. Remove existing pavement markings by water blasting, sandblasting, or other method approved by the Engineer. Do not use chemicals for the removal of painted traffic stripes and/or markings. Provide positive means to control dust and accumulation of debris from the removal operations. Remove all pavement marking materials from the pavement surface. Remove accumulated piles of any debris as a result of the removal operation from the right of way and dispose of in accordance with applicable Federal, State, and Local regulations, at no additional cost to the Department.
 2. Protection of Existing Pavement Surfaces.
 3. Conduct removal operations in a manner that will not damage existing pavement surfaces (concrete or asphalt) or damage pavement joint materials. Repair, to the satisfaction of the Engineer, any damage as a result of the removal operations.
 4. Do not paint over existing pavement markings to blackout, hide, or disguise markings.
- K. Method of Measurement.
1. The quantities to be paid for under this Article will be as follows:
 - a. Length, in net miles, of 6 inch Solid Traffic Stripe, authorized and acceptably applied.
 - b. Total traversed distance in gross miles of 10-30 or 3-9 skip line. The actual applied line is 25 percent of the traverse distance for a 1:3 ratio. This equates to 1,320 feet of marking per mile of single line.
 - c. Net length, in feet, of each of all other types of lines and stripes, authorized and acceptably applied.
 - d. Number of pavement messages, symbols and directional arrows, authorized and acceptably applied. For bicycle marking, the bicycle symbol and the arrow will be paid as one unit.
 - e. Lump Sum, as specified under Final Surface above, when the item for Painted Pavement Markings (Final Surface) is provided in the Contract with an awarded Contract Unit Price.
 2. The net length, in feet of dotted and skip stripes other than 10-30 and 3-9 will be measured as the distance from

the beginning of the first painted stripe to the end of the last painted stripe with proper deductions made for unpainted intervals as determined by plan dimensions or stations, subject to the requirements of Subarticle 1.07 F.3 (Determination of Pay Areas) of the General Requirements to these Specifications. Unpainted intervals will not be included in pay quantity.

3. The gross-mile measurement of 10-30 and 3-9 Skip Traffic Stripes will be taken as the distance from the beginning of the first painted stripe to the end of the last painted stripe, and will include the unpainted intervals. It will not include any lengths of unpainted intervals which, by design or by other intent of the Department, are greater than 30 feet. Final measurement will be determined by plan dimensions or stations, subject to the requirements of Subarticle 1.07 F.3 of the General Requirements to these Specifications.
 4. Removal:
 - a. The area, in square feet, for removal of existing markings acceptably removed.
 - b. Payment for removal of conflicting markings will be in accordance with 102-E.8. Payment for removal of non-conflicting markings will be paid separately.
 - c. The gross mile measurement will be taken as the distance from the beginning of the painted line to the end of the painted line and will include the unmarked gaps for skip and dotted lines.
 - d. The gross mile measurement will not include designated unmarked lengths at intersections, turn lanes, etc.
- L. Basis of Payment.
1. General:
 - a. Prices and payments will be full compensation for all work specified in this Article, including all cleaning and preparing of surfaces, furnishing of all materials, application, curing and protection of all items, protection of traffic, furnishing of all tools, machines and equipment, and all incidentals necessary to complete the work. There will be no separate payment for removal of conflicting markings.
 - b. Final payment will be withheld until all deficiencies are corrected.
 2. Lump Sum Payment: When the item for Painted Pavement Markings (Final Surface) is included in the proposal, prices and payments will be full compensation for two applications of all painted pavement markings applied to the final surface, and one application of retro-reflective pavement markers applied to the final surface in accordance Article 706 of these Specifications.
 3. No separate pay item(s) Painted Pavement will be provided under this contract.

711 THERMOPLASTIC TRAFFIC STRIPES AND MARKINGS (REV. 05-02-12)

A. Description.

1. Apply new thermoplastic traffic stripes and markings, or refurbish existing thermoplastic traffic stripes and markings, in accordance with the Contract Documents.

B. Materials.

1. Thermoplastic: Use only thermoplastic materials listed on the FDOT Qualified Products List (QPL). Engineer may require random samples of all material. Use materials meeting the following requirements:

Initial or Recapped Stripes FDOT 971-1 and 971-5
and Markings:

Refurbishing Existing FDOT 971-1 and 971-5
Stripes and Markings:

Preformed Stripes and FDOT 971-1 and 971-6
Markings:

2. Glass Spheres: Use only glass spheres listed on the FDOT QPL, meeting the requirements of FDOT 971-1 and 971-2. Engineer may require random samples of all glass spheres in accordance with ASTM D 1214.
3. Sand: Use materials meeting the requirements of FDOT 971-5.4.

C. Equipment.

1. Use equipment capable of providing continuous uniform heating of striping materials to temperatures exceeding 390°F, mixing and agitation of the material reservoir to provide a homogeneous mixture without segregation. Use equipment that will maintain the striping material in a plastic state, in all mixing and conveying parts, including the line dispensing device until applied.
2. Use equipment which can produce varying width traffic stripes and which meets the following requirements:
 - a. Capable of traveling at a uniform, predetermined rate of speed, both uphill and downhill, in order to produce a uniform application of striping material and capable of following straight lines and making normal curves in a true arc.
 - b. Capable of applying glass spheres to the surface of the completed stripe by a double drop application for initial traffic striping and marking and a single drop application for recapping and refurbishing. The bead dispenser for the first bead drop shall be attached to the striping machine in such a manner that the beads are dispensed closely behind with the thermoplastic material. The second bead dispenser bead shall be attached to the striping machine in such a manner that the beads are dispensed immediately after the first bead drop application. Glass spheres dispensers shall be equipped with an automatic cut-off control that is synchronized with the cut-off of the thermoplastic material and applies the glass spheres in a manner such that the spheres appear uniform on the entire traffic stripes and markings surface with, 50 to 60 percent embedment.
 - c. Equipped with a special kettle for uniformly heating and melting the striping material. The kettle must be equipped with an automatic temperature control device and material thermometer for positive temperature

control and to prevent overheating or scorching of the thermoplastic material.

- d. Meet the requirements of the National Fire Protection Association, state, and local authorities.

D. Application.

1. General:

- a. Remove, by a method approved by Engineer, existing pavement markings such that scars or traces of removed markings will not conflict with new stripes and markings. Clean and dispose at an approved site all resulting debris. Use of paint to cover conflicting pavement markings is prohibited. Cost for removal of pavement markings is incidental to the work specified in this Article. Cost for removing conflicting pavement markings during maintenance of traffic operations to be included in Maintenance of Traffic.
- b. Remove any vegetation, soil, and other materials covering the pavement where the marking is to be applied.
- c. Before applying traffic stripes and markings remove, by a method approved by Engineer and consistent with manufacturer's specifications, any material that would adversely affect the bond of the traffic stripes. Before applying traffic stripes to any Portland cement concrete surface, apply a primer, sealer or surface preparation adhesive of the type recommended by the manufacturer. Offset longitudinal lines at least 2 inches from any longitudinal joints of Portland cement concrete pavement.
- d. Apply traffic stripes or markings only to dry surfaces, and when the ambient air and surface temperature is at least 50°F and rising for asphalt surfaces and 60°F and rising for concrete surfaces.
- e. Apply striping to the same tolerances in dimensions and in alignment specified under "Tolerances in Dimension and in Alignment" below. When applying traffic stripes and markings over existing markings, ensure that not more than 2 inches on either end and not more than 1 inch on either side of the existing line is visible.
- f. Apply thermoplastic material to the pavement either by spray, extrusion or other means approved by Engineer.
- g. Conduct field tests in accordance with Florida Method (FM) 5-541. Take test readings representative of the striping performance. Remove and replace traffic stripes and markings not meeting the requirements of this Article at no additional cost to the Department.
- h. Apply all final pavement markings prior to opening the road to traffic.
- i. Preformed Thermoplastic: Apply markings only to dry surfaces and when ambient air temperature is at least 32°F. Prior to installation, follow the manufacturer's recommendations for pre-heating.

2. Thickness:

- a. Initial or Recapped Stripes and Markings:
 - 1) Apply or recap traffic stripes or markings such that all lane lines, center lines, transverse markings and traffic stripes and markings within traffic wearing

areas, will have a thickness of 0.10 to 0.15 inch when measured above the pavement surface.

- 2) Gore, island, and diagonal stripe markings, bike lane symbols and messages, wherever located, will have a thickness of 0.09 to 0.12 inch when measured above the pavement surface.
- 3) Measure, record, certify and submit to Engineer, the thickness of white and yellow pavement markings in accordance with FM 5-541.
- b. Refurbishing Existing Traffic Stripes and Markings: Apply a minimum of 0.06 inch of thermoplastic material. Ensure that the combination of the existing stripe and the overlay after application of glass spheres does not exceed the maximum thickness of 0.150 inch for all lines.
3. Retroreflectivity:
 - a. Apply white and yellow traffic stripes and markings that will attain an initial retroreflectivity of not less than 450 mcd/lx•m² and not less than 350 mcd/lx•m², respectively for all longitudinal lines.
 - b. All transverse lines, messages and arrows will attain an initial retroreflectivity of not less than 300 mcd/lx•m² and 250 mcd/lx•m² for white and yellow respectively.
 - c. All pedestrian crosswalks, bike lane symbols or messages in a proposed bike lane shall attain an initial retroreflectivity of not less than 275 mcd/lx•m².
 - d. Measure, record, certify, and submit to Engineer, the retroreflectivity of white and yellow pavement markings in accordance with FM 5-541.
4. Glass Spheres:
 - a. Longitudinal Lines:
 - 1) For initial traffic striping and marking, apply the first drop of Type 4 or larger glass spheres immediately followed by the second drop of Type 1 glass spheres.
 - 2) For refurbishing, apply a single drop of Type 3 glass spheres.
 - 3) Apply reflective glass spheres to all markings at the rates determined by the manufacturer's recommendations.
 - b. Transverse Stripes and Markings:
 - 1) Apply a single drop of Type 1 glass spheres.
 - 2) Apply reflective glass spheres to all markings at the rates determined by the manufacturer's recommendations.
 - 3) Apply a mixture consisting of 50 percent glass spheres and 50 percent sharp silica sand to all thermoplastic pedestrian crosswalk lines and bike lane symbols at the rates determined by the manufacturer's recommendations.
 - c. Preformed Markings: These markings are factory supplied with glass spheres and skid resistant material. No additional glass spheres or skid resistant material should be applied during installation.

E. Tolerances in Dimensions and in Alignment.

1. Establish tack points at appropriate intervals for use in aligning stripes, and set a stringline from such points to achieve accuracy.
2. Dimensions:
 - a. Longitudinal Lines: Apply thermoplastic skip line segments with no more than ±12 inches variance, so that over-tolerance and under-tolerance lengths between skip line and the gap will approximately balance. Apply longitudinal lines at least 2 inches from construction joints of Portland cement concrete pavement.
 - b. Transverse Markings, Gore Markings, Arrows, and Messages: Apply thermoplastic in multiple passes when the marking cannot be completed in one pass, with an overall line width allowable tolerance of ±1 inch
 - c. Contrast Lines: Use black paint to provide contrast on concrete or light asphalt pavement, when specified by Engineer. Apply black paint in 10 foot segments following each longitudinal skip line.
3. Alignment:
 - a. Apply thermoplastic stripes that will not deviate more than 1 inch from the stringline on tangents and curves one degree or less.
 - b. Apply thermoplastic stripes that will not deviate more than 2 inches from the stringline on curves greater than one degree.
 - c. Apply thermoplastic edge stripes uniformly, not less than 2 inches or more than 4 inches from the edge of pavement, without noticeable breaks or deviations in alignment or width.
 - d. Remove and replace at no additional cost to the Department, traffic stripes that deviate more than the above stated requirements.
4. Correction Rates:
 - a. Make corrections of variations in width at a maximum rate of 10 feet for each 0.5 inches of correction. Make corrections of variations in alignment at a maximum rate of 25 feet for each 1 inch of correction, to return to the stringline.

F. Contractor's Responsibility for Notification.

1. Notify Engineer prior to the placement of the thermoplastic materials.
2. Furnish Engineer with the manufacturer's name and batch numbers of the thermoplastic materials and glass spheres to be used.
3. Ensure that the approved batch numbers appear on the thermoplastic materials and glass spheres packages.

G. Protection of Newly Applied Traffic Stripes and Markings.

1. Do not allow traffic onto or permit vehicles to cross newly applied pavement markings until they are sufficiently dry.
2. Remove and replace any portion of the pavement markings damaged by passing traffic or from any other cause, at no additional cost to the Department.

H. Observation Period.

1. Pavement markings are subject to a 180 day observation period under normal traffic. The observation period shall begin with the satisfactory completion and acceptance of the work.
2. The pavement markings shall show no signs of failure due to blistering, excessive cracking, chipping, discoloration, poor adhesion to the pavement, loss of reflectivity or vehicular damage. The retroreflectivity must meet the initial requirements stipulated above. The Department reserves the right to check the color and retroreflectivity any time prior to the end of the observation period.
3. Replace, at no additional expense to the Department, any pavement markings that do not perform satisfactorily under traffic during the 180 day observation period.

I. Corrections for Deficiencies.

1. Recapping applies to conditions where additional striping material is applied to new or refurbished traffic stripes or markings to correct a deficiency. Recap a 1.0 mile section centered around the deficiency with additional striping material or by complete removal and reapplication at no additional cost to the Department.
2. If recapping will result in a thickness exceeding the maximum allowed, the traffic stripes or markings must be removed and reapplied.

J. Submittals.

1. Submittal Instructions: Prepare a certification of quantities, for each project in the Contract. Submit the certification of quantities and daily worksheets to Engineer. The Department will not pay for any disputed items until Engineer approves the certification of quantities.
2. Contractor's Certification of Quantities: Request payment by submitting a certification of quantities with each payment requisition, based on the amount of work done or completed. Ensure the certification of quantities includes the following:
 - a. Contract Number, Certification Number, Certification Date and the period that the certification represents.
 - b. The basis for arriving at the amount of the progress certification, less payments previously made and less any amount previously retained or withheld. The basis will include a detailed breakdown provided on the certification of items of payment.

K. Method of Measurement.

1. Quantities to be measured by Engineer for payment under this Article will be as follows:
 - a. The length, in net miles, of 6 inch Solid Traffic Stripe, authorized and acceptably applied.
 - b. The total traversed distance in gross miles of 10-30 or 3-9 skip line. The actual applied line is 25 percent of

the traverse distance, for a 1:3 ratio. This equates to 1,320 feet of marking per mile of single line.

- c. The net length, in feet, of all other types of lines and stripes, authorized and acceptably applied.
- d. The area, in square feet, of Removal of Existing Pavement Markings, acceptably removed. Cost for removing conflicting pavement markings during maintenance of traffic operations is included in Maintenance of Traffic.
- e. The number of pavement messages, symbols and directional arrows, authorized and acceptably applied.

L. Basis of Payment.

1. Prices and payments will be full compensation for all work specified in this Article, including all cleaning and preparing of surfaces, furnishing of all materials, application, curing and protection of all items, protection of traffic, furnishing of all tools, machines and equipment, and all incidentals necessary to complete the work. Final payment will be withheld until all deficiencies are corrected.
2. No separate pay item(s) for Thermoplastic Traffic Stripes and Markings will be provided under this contract.

715 ROADWAY LIGHTING (REV. 12-31-2015)

A. Description.

1. Install a roadway lighting system in accordance with the details shown in the Plans. Use pole assemblies as shown in the FDOT Design Standards when standard aluminum pole assemblies are required by the Contract Documents. Include in the system the light poles, bases, luminaires, ballasts, cable, conduit, protective devices, and control devices; all as specified or required for the complete facility.
2. Obtain conventional light pole assemblies from a fabrication facility that is listed on FDOT's Production Facility Listing with an Accepted Quality Control Program, meeting the requirements of FDOT 105-3.
3. Provide metal lighting poles with internal vibration damping devices in accordance with FDOT Design Standard 17515 in all installations on bridges, walls and concrete median barriers.
4. When used on bridges, in order to minimize vibration of light poles due to traffic, locate light poles near substructure supports.

B. Shop Drawings and Working Drawings.

1. Submit shop drawings and working drawings with descriptive specifications and engineering data for the service main, control panel enclosure, control panel main disconnect, lighting contactor, electrical panel, transformer, in-line fuse holders, surge protective devices, non-standard light poles (including brackets), luminaires, ballast, photo-electric cell, conduit and cable or any other item requested by Engineer as specified in the Contract Documents.

C. Materials and Equipment to be Installed.

1. General: Meet the materials and equipment requirements of FDOT Section 992.
2. Criterion Designation of Materials and Equipment: Where a criterion specification is designated for any material or equipment to be installed, by the name or catalog number of a specific manufacturer, understand that such designation is intended only for the purpose of establishing the style, quality, performance characteristics, etc., and is not intended to limit the acceptability of competitive products. Engineer will consider products of other manufacturers which are approved as similar and equal as equally acceptable.

D. Furnishing of Electrical Service.

1. Start the system with a weatherhead on a riser on a service pole and extend through the required metering equipment of the power company, and through the lighting system as shown on the Plans.
2. The power company will provide service to the areas in the vicinities indicated. Consult and cooperate with the power company in locating its distribution transformer and service pole so that the lines will be as short and direct as possible. Bear any line-extension costs up to the first 2,000 feet. Furnish or install only those parts of the metering equipment or connections that are customary and required by the power company in the locality involved.

E. Excavation and Backfilling.

1. General: For excavation and backfilling, meet the requirements of FDOT Section 125, except that when rock is encountered, carry the excavation 3 inches below the required level and refill with sand or with selected earth material, 100% of which passes the 1 inch sieve.
2. Trenches for Cable: Construct trenches for cable or conduit no less than 6 inches in width and deep enough to provide a minimum cover in accordance with the FDOT Design Standards.
3. Placing Backfill for Cable: For installation of the cable, place an initial layer of 6 inches thick, loose measurement, sand or selected earth material, 100% of which passes a 1 inch sieve. Place and compact the remaining material in accordance with FDOT 125-8.

F. Foundations for Light Poles.

1. Concrete Foundations: Provide foundations for light poles of the sizes and shapes shown in the Plans. Construct precast or cast-in-place concrete foundations in accordance with the FDOT Design Standards. Obtain precast foundations from a plant that is currently on the FDOT's Production Facility Listing with Accepted FDOT Quality Control Programs.
2. Setting Anchor Bolts: Set anchor bolts according to manufacturer's templates and adjust to a plumb line, check for elevation and location, and hold rigidly in position to prevent displacement while pouring concrete.

3. Installation:

- a. Do not erect roadway light poles until the concrete strength in the cast-in-place foundation is at least 2,500 psi. Determine concrete strength from tests on a minimum of two test cylinders sampled and tested in accordance with ASTM C31 and ASTM C39 and verifying test results have been provided to Engineer.
- b. Fill the voids around precast concrete foundations under roadway light poles with flowable fill meeting the requirements of Article 121 or clean sands placed using hydraulic methods to a level 6 inches below grade.

G. Pulling Conductors.

1. Leave at least 3 feet of conductor where the cable enters and leaves conduit. Protect conductors pulled into conduit or ducts against abrasion, kinking, and twisting. Locate pull boxes so that the conductors are not subjected to excessive pulling stresses.

H. Splicing.

1. Make all conductor splices in the bases of the light poles, or in pull boxes designed for the purpose. Do not make any other underground splices.
2. Unless otherwise shown in the FDOT Design Standards or authorized by Engineer, splices must be made with split bolt connectors. The connector must be sealed in silicone gel that easily peels away leaving a clean connection. The gel will be contained in a closure that when snapped around the split bolt will provide a waterproof connection without the use of tools or taping. This closure will be UV resistant, impact resistant and abrasion resistant.

I. Conduit and Ducts.

1. Install conduit at the locations shown in the Plans and in accordance with FDOT Section 630.

J. Erecting Light Poles.

1. General: Install the light poles at the locations and in accordance with the details shown in the Plans. Unless otherwise specifically approved by the Engineer, fasten bracket (truss) arms to the pole prior to erection. Do not field weld on any part of the pole assembly. Plumb the poles after erection and use metal shims or leveling nuts if necessary to obtain precise alignment. Use a thin cement grout where necessary to eliminate unevenness or irregularities in the top of the base.
2. Adjusting Anchor Bolts and Installing Nuts on Anchor Bolts: Where poles are to be placed on existing foundations or bases with anchor bolts in place, furnish poles with a base which fits the anchor bolt spacing. Include the cost of any necessary extension of existing anchor bolts in the price bid for the lighting system. For high mast light pole bases, install nuts on anchor bolts in accordance with FDOT 649-5.
3. Installation of Luminaire: Install the luminaire on the truss arm in accordance with the manufacturer's instructions,

and place it so that the light pattern is evenly distributed along the roadway.

4. Electrical Connections: Make primary ballast connections in accordance with manufacturer's instructions. Install sufficient cable to allow all connections to be made outside the light pole base. Connect the ground conductor to the ground stud provided.
5. Identification Plates Stamp the identification plate on the pole with an identifying number or legend. Number the poles consecutively, beginning with number 1. Stamp each light pole number with 3/4 inch figures and stamp each circuit number with 1/2 inch figures.

K. Grounding.

1. Ground in accordance with the NEC, and local codes which exceed these Specifications.
2. Ground each metal light pole, not on a bridge structure, with an approved rod, 20 feet in length and at least 5/8 inch in diameter.
3. For poles on bridge structures, bring the grounding conductors out to a pull box at each end of the structure and connect them to driven ground rods, 20 feet in length and at least 5/8 inch in diameter.
4. The 20 feet length of rod may be either two rods 10 feet in length connected by a threaded coupling and driven as a single rod or two rods 10 feet in length separated by at least 6 feet.
5. Make all bonds between ground wires and grounding electrode assemblies or arrays with an exothermic bond with the following exception: do not exothermically bond grounding electrode to grounding electrode connections.
6. The work specified in this Subarticle will not be paid for directly, but will be considered as incidental work.

L. Labeling.

1. Stencil labels on the cases of transformer and panel board with white oil paint, as designated by Engineer. Also, mark the correct circuit designations in accordance with the wiring diagram on the terminal marking strips of each terminal block and on the card holder in the panel board.

M. Markers.

1. Construct duct, cable, and splice markers as shown in the Plans, and place them over the ends of underground ducts and at each change in direction of cable or conduit run. Place markers flat on the ground with 1 inch projecting above finished grade.

N. Tests of Installation.

1. Upon completion of the work, test the installation to ensure that the installation is entirely free of ground faults, short circuits, and open circuits and that it is in satisfactory working condition. Furnish all labor, materials, and apparatus necessary for making the required tests. Remove and replace any defective

material or workmanship discovered as a result of these tests at no expense to the County, and make subsequent re-tests to the satisfaction of Engineer.

2. Make all arrangements with the power supplier for power. Pay all costs, excluding energy charges, required for the test period.
3. Not less than 48 hours prior to the beginning of the test period, give the power supplier the schedule for such test.
4. Test the installation under normal operating conditions during the seven day test period specified in 715-O below, rather than as a continuous burn test period.
5. If the work is not open to traffic at the end of the seven day test period, de-energize the lighting system until the work is opened.

O. Acceptance of Roadway Lighting.

1. Engineer may make partial acceptance of the roadway lighting based on satisfactory performance of all system for seven consecutive days. The seven day evaluation period may commence upon written authorization by the Engineer that roadway lighting is considered ready for acceptance evaluation. Contract Time will be charged during the entire roadway lighting evaluation period. Correct any defects in materials or workmanship which might appear during the evaluation period at no expense to the County. Transfer to the County any guarantees on equipment or materials furnished by the manufacturer and ensure that the manufacturer includes with such guarantees the provision that they are subject to such transfer, and proper validation of such fact. The County's written acceptance of roadway lighting and the transfer to the County of all manufacturer guarantees will be conditions precedent to final acceptance of all work under the Contract in accordance with Contract Final Acceptance.

P. Method of Measurement.

1. The quantities to be paid for will be as follows, completed and accepted:
 - a. Conduit: Payment will be made in accordance with FDOT Section 630.
 - b. Luminaire and Truss Arm: The Contract unit price will include the truss arm, luminaire with lamp, and all necessary mounting hardware as indicated in the Plans and the FDOT Design Standards.
 - c. Electrical Power Service Assembly: The Contract unit price will include the service pole, insulators, weatherheads, transformers, enclosures, panel boards, breakers, safety switches, H.O.A. switches, lightning protectors, fuses, photo electric assembly, meter base, and all external and internal conduit and conductors for the service as indicated in the Plans and the PWWM Traffic Signals and Signs Section 639.
 - d. Light Pole Foundation: The Contract unit price will include the foundation and anchor bolts with lock nuts and washers as indicated in the Plans and the FDOT Design Standards.
 - e. Luminaire: The Contract unit price will include the luminaire with lamp and necessary mounting hardware

as indicated in the Plans and the FDOT Design Standards.

- f. Pull Box: Payment will be made in accordance with Article 635.
- g. Frangible Base for Light Pole: The Contract unit price will include the frangible base, attachments, bolts, and washers as indicated in the Plans and the FDOT Design Standards.
- h. Photo Electric Control Assembly: The Contract unit price will include the photo electric control, transformers, conduit, and conductors as indicated in the Plans and the FDOT Design Standards.
- i. Pre-Fab Pilaster: The Contract unit price will include the pilaster and all mounting hardware as indicated in the Plans.
- j. Conductor: The length, in feet, as indicated in the Plans and the FDOT Design Standards.
- k. Lighting Pole Complete: The Contract unit price will include the pole, internal vibration damping device, truss arm, luminaire with lamp, anchor bolts with lock nuts and washers, frangible base and foundation.
- l. Pole Cable Distribution System: The Contract Unit price will include the surge protector, fuse holders with fuses, waterproof connectors and the waterproof wiring connection to the luminaries.

Q. Basis of Payment.

- 1. Prices and payments will be full compensation for all work specified in this Section, including all materials, equipment and tests.
- 2. Payment Items: Payment will be made under:

Item No.	Description	Unit
2	Furnishing all supervision, labor, material, and equipment necessary to retrofit 15 high mast arms light poles	EA

SPECIAL PROVISIONS



RPQ NO. TP-00000014313

SPECIAL PROVISIONS

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2. GENERAL CONSTRUCTION

APPENDIX "A" TO SPECIAL PROVISIONS

Authorization Agreement for Automatic Deposit

APPENDIX "B" TO SPECIAL PROVISIONS

Federal Requirements and Provisions

1. GENERAL REQUIREMENTS

1.01 MISCELLANEOUS CONSTRUCTION CONTRACTS (MCC) PLAN. GENERAL TERMS AND CONDITIONS AND SPECIAL CONDITIONS

- A. Division 01 (General Requirements) of the DTPW Specifications amends the MCC Plan, and other provisions of the Contract Documents. All requirements of the MCC Plan, Resolution and amendments', or portions thereof, which are not specifically modified, deleted, or superseded by Division 01, remain in full effect. In the event a conflict between these two complementary portions of the Contract Documents occurs, Division 01 will prevail and Engineer will provide clarification and final determination. These Special Provisions also amend, complement, modify, or delete items from the DTPW Construction Specifications of these Solicitation and Contract Documents.
- B. This project is subject to the requirements of the Federal Transportation Authority (FTA) and all requirements should apply inclusive of, but not limited to Civil Right Act, DBE requirements, Buy America, Davis Bacon Wages, and all other requirements included under Appendix B of this Special Provisions.

1.02 SCOPE OF WORK

- A. Work under this Contract includes furnishing of all supervision, labor, materials, tools, equipment and performing all operations required to retrofit 15 high mast arms light poles. Detail work includes but is not limited to:
 - a) Remove existing luminaires and furnish and install new 90 LED luminaires type ERHM03E90VW750ND4BGRAYT.
 - b) Refurbish (furnish and installation) the complete internal mechanism of the 15 poles lowering devices that includes the cables gearbox and locking components (includes Stainless Steel Hoist and Winch Cable).
 - c) Provide Portable drive unit.
 - d) Replace any existing damaged cables, conduits and deliver a complete working system.
 - e) Contractor will be responsible for preparing and obtaining all required permits.
 - f) Work to be performed in compliance with the 2023 National Electrical (NEC) Code and inspected by the proper authorities having jurisdiction where the work is to be performed.
- B. If any changes are required due to conflict of design and or field conditions, the Engineer will make the final determination.
- C. The Contractor and all subcontractors, under this Contract, are prohibited from performing any work, other than specified in the Contract and/or directed by the Engineer, within the limits of the project site, without prior written notification to the Engineer. This includes any work for private or commercial entities.

1.03 LOCATION OF WORK

- A. The location of work to be performed under the terms of this Contract shall be as follows:
 - 1. Miami Dade William Lehman Center Facility. 6970-80 NW 70th Ave, Miami, FL 33166
- B. The exact location and limits of construction are as shown on the Plans accompanying these Contract Documents.

1.04 PLANS

- A. As-built drawing titled "Palmetto Yard" are included with these Contract Documents. Additionally, there are some sketches to facilitate identification of the Work. standard details are available in the Miami-Dade County Public Works Manual and the latest edition of the Florida Department of Transportation's Design Standards for Design, Construction, Maintenance and Utility Operations on The State Highway System. Additional details are provided in Volume I of II, under *Drawings & As-Built Sketches*.
- B. The County through its Engineer shall have the right to modify the details and/or sketches, to supplement the sketches with additional plans and/or with additional information as work proceeds; all of which shall be considered as plans accompanying these Specifications herein generally referred to as the "Plans." In case of disagreement between the Plans and Specifications, the Engineer shall make a final determination as to which shall govern.

1.05 TIME FOR COMPLETION

- A. The Work must be substantially completed within 300 days after the date when the Contract Time commences to run as provided in Subarticle 1.06 N of the General Requirements (Division 1), and all requirements of the Contract Documents completed and ready for final payment within 360 days after the date when the Contract Time commences to run.
- B. The effective date of the "Notice to Proceed" will be established during the Preconstruction Conference which is held shortly after the Award of Contract and which is attended by members of Department of Transportation and Public Works, the Contractor, representatives of utility companies, and others affected by the Work. The effective date shall be set as a date no later than 30 calendar days after the date of execution of the Contract Documents unless a later date acceptable to both parties is agreed upon in writing.

1.06 LIQUIDATED DAMAGES

- A. Delete Article 1.06, J. 2 from the General requirements, (DTPW Division 1) and replace with the following:
- B. Contractor to pay liquidated damages of \$1,408.00 for each day after the scheduled substantial completion is the amounts established for this project.

1.07 ESCORT ALLOWANCE

- A. DTPW has established an allowance account of \$173,160.00 to be reimbursed to the contractor at invoice cost.

1.08 PERMITS AND CERTIFICATIONS

- A. DTPW has established an allowance account for permits for \$3,000.00 to be reimbursed to the contractor at invoice cost.

2. GENERAL CONSTRUCTION

- A. FIELD OFFICE (REV. 11-9-15)
 - B. A local field office is not required; however, the Contractor will be required to provide the Engineer with a local (Miami-Dade County) telephone or cellular number, where the Contractor may be contacted 24 hours a day, 7 days a week during the period for which the Contract is in force.
-

APPENDIX "A"
AUTHORIZATION AGREEMENT FOR
AUTOMATIC DEPOSIT



RPQ NO. TP-00000014313



ACH AUTHORIZATION AGREEMENT FOR AUTOMATIC DIRECT DEPOSIT OF MIAMI-DADE COUNTY WARRANTS

We hereby authorize the Finance Department to initiate credit entries and, if necessary, a debit entry in order to reverse a credit entry made in error in accordance with NACHA rules.

Original form must be received before we can process your request for ACH deposits. Please refer to page 2 for instructions. Processing of the form is approximately 15 days from receipt of completed original form. This authority is to remain in effect until revoked in writing and received by the Finance Department. Account changes must be reported at a minimum **fifteen (15) days prior to actual change**.

Section 1 (TO BE COMPLETED BY VENDOR) - ALL FIELDS ARE REQUIRED

TRANSACTION TYPE:

New ☐

Change ☐

Terminate ☐

FEDERAL IDENTIFICATION NUMBER

(AS PER CURRENT W-9)

(FOR INTERNAL USE ONLY)

VENDOR NAME :

DBA (DOING BUSINESS AS) :

TELEPHONE NUMBER :

FISCAL OFFICER NAME AND TITLE :

FISCAL OFFICER'S EMAIL :

ACH NOTIFICATION EMAIL:

(This is the email where payment information will be sent)

ROUTING NUMBER

(FOR INTERNAL USE ONLY)

VENDOR'S BANK ACCOUNT NUMBER

TYPE OF ACCOUNT

Checking ☐

Savings ☐

AUTHORIZED SIGNATURE

DATE :

PRINTED NAME

A VOIDED CHECK OR REDACTED COPY OF A BANK STATEMENT FOR THE ACCOUNT LISTED ABOVE MUST BE PROVIDED. PLEASE REFER TO INSTRUCTIONS FOR OUR MAILING ADDRESS. SUBMISSION OF YOUR E-MAIL ADDRESS IS MANDATORY IN ORDER TO PARTICIPATE IN THIS PAYMENT OPTION.

Section 2 (TO BE COMPLETED BY FINANCIAL INSTITUTION)

FINANCIAL INSTITUTION NAME:

ADDRESS:

BANK OFFICIAL NAME (PRINTED) AND TITLE :

TELEPHONE NUMBER :

EMPLOYEE ID NO. :

EMAIL :

☐ I have verified that the account and routing number provided above is correct and corresponds to vendor noted above.

☐ I have also verified that the person signing is an authorized signer on the account specified.

SIGNATURE

DATE :

Section 3 (TO BE COMPLETED BY MIAMI-DADE FINANCE DEPARTMENT)

Accounts Payable Verifications

Corp. Officer Name :

Verified by:

A/P Staff:

Corp. Officer Title :

Date:

Bank Officer:

A/P Supervisor:

Date:

Cash Management

Routing # verified by :

Date:

Verified by :

Verification Date:

Input/Output

ACH Indicator updated by :

Date of Update :

Verified by :

Verification Date:



ACH AUTHORIZATION AGREEMENT FOR AUTOMATIC DIRECT DEPOSIT OF MIAMI-DADE COUNTY WARRANTS

INSTRUCTIONS

Please contact us at (305) 375-5111 or email at FIN-ACHN@miamidade.gov if you have any questions or need assistance with this form.

You may obtain blank copies of this form at : http://www.miamidade.gov/finance/library/ach_form.pdf

At our Vendor Payment Inquiry (VPI) website you can obtain payment information as well as status of invoices, payment due date and other important information. You can reach the VPI site at :

<https://w85exp.miamidade.gov/VInvoice/login.do>

Section 1

Transaction Type

- New : If vendor is currently not on ACH deposits with Miami-Dade County.
- Change : If vendor is currently on ACH deposits with Miami-Dade County and would like to make changes to their information (example : change of financial institution, account number, etc.)
- Terminate : If vendor is currently on ACH deposits with Miami-Dade County and would like to switch to either Check or AP Control disbursement type)

Federal Identification Number : Enter your Federal Employer Identification Number (FEIN) or Social Security Number (SSN) used to register you as a vendor with Miami-Dade County. Name and FEIN/SS must be exactly as provided on IRS Form W-9.

Vendor Name : Enter the name of your business or individual name used to register you as a vendor with Miami-Dade County.

DBA (Doing Business As) : If you have registered a DBA for your business or for you as an individual, please enter it here.

Fiscal Officer Name, Title and E-Mail : Name of Authorized Corporate officer, Title and E-Mail address to be contacted to. Corporate officer signing this form must be an authorized signatory in the corporate bank account listed on this form.

ACH Notification E-Mail : This is the E-Mail address where payment information will be sent to.

Section 2

This section must be completed in full and legible manner by your banking institution in order to prevent delays in processing change to ACH. Both acknowledgment statements must be checked off by Bank Official signing and dating the form.

Section 3

This section will be completed by Miami-Dade County Finance Department.

ORIGINAL FORM AND VOIDED CHECK OR REDACTED STATEMENT MUST BE MAILED TO :

Accounts Payable Manager

Miami-Dade County Finance Department

111 NW First Street, Suite 2620

Miami, Florida 33128

Terms and Conditions

Completed form should not contain any changes (scratched off /white out) or altered information; otherwise, form will not be accepted.

Processing time is approximately fifteen (15) days from receipt of complete form and voided check or redacted Bank statement.

Providing account information does not authorize Miami-Dade County to access bank account activity.

ACH deposits can be made into **only** one (1) bank account. Payments can not be split between multiple accounts.

Notification E-mail providing payment information can be sent to one (1) single E-mail address **only**.

Proper verification will be conducted by Miami-Dade County Finance Department Staff, via a telephone call to confirm the information being provided is accurate.

This authorization shall remain in effect until terminated in writing with sufficient notice to Miami-Dade County Finance Department.

Miami-Dade County will not be responsible for any loss that may arise solely by reason of error, mistake or fraud regarding information provided on this ACH Authorization Agreement Form.

APPENDIX "B"
**FEDERAL REQUIREMENTS AND
PROVISIONS**



RPQ NO. TP-00000014313

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- 01. No Federal Government Obligations to Third Parties (by use of a Disclaimer)**
- 02. False Statements or Claims Civil and Criminal Fraud**
- 03. Access to Third Party Contract Records**
- 04. Changes to Federal Requirements**
- 05. Termination**
- 06. Civil Rights (Title VI, ADA, EEO except Special DOL EEO clause for construction)**
- 07. Special DOL EEO clause for construction projects**
- 08. Disadvantaged Business Enterprises (DBEs)**
- 09. Incorporation of Federal Transit Administration (FTA) Terms**
- 10. Debarment and Suspensions**
- 11. Buy America**
- 12. Resolution of Dispute, Breaches or Other Litigation**
- 13. Lobbying**
- 14. Clean Air**
- 15. Clean Water**
- 16. Cargo Preference**
- 17. Fly America**
- 18. Davis-Bacon Act**
- 19. Contract Work Hours and Safety Standards Act**
- 20. Copeland Anti-Kickback Acts**
- 21. Bonding**
- 22. Energy Conservation**
- 23. Recycled Products**
- 24. Americans with Disabilities (ADA) Access**
- 25. Bid Protests**

The Contractor further agrees to comply with the following Federal requirements

FEDERAL REQUIREMENTS AND PROVISIONS

This Procurement is subject to a financial assistance contract between Miami-Dade County (MDC) and the U.S. Department of Transportation. By reason of such participation, the Bidder (the terms "Bidder", "Proposer" and "Contractor" are used interchangeably) is required to agree to the following provisions:

1. No Federal Government Obligations to Third Parties (by Use of a Disclaimer) (April 6 2011)

No Obligation by the Federal Government.

(1) The Purchaser Miami-Dade County (MDC) and Contractor acknowledge and agree that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying contract, absent the express written consent by the Federal Government, the Federal Government is not a party to this contract and shall not be subject to any obligations or liabilities to the Purchaser, Contractor, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying contract.

(2) The Contractor agrees to include the above clause in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provisions

2. False Statements or Claims Civil and Criminal Fraud (April 6 2011)

31 U.S.C. 3801 et seq.
49 CFR Part 31 18 U.S.C. 1001
49 U.S.C. 5307

Applicability to Contracts

These requirements are applicable to all contracts.

Applicability to Micro-Purchases

Micro-purchases are defined as those purchases under \$2,500. These requirements do not apply to micro-purchases.

Flow Down

These requirements flow down to contractors and subcontractors who make, present, or submit covered claims and statements.

Program Fraud and False or Fraudulent Statements or Related Acts.

(1) The Contractor acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. § § 3801 et seq. and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 C.F.R. Part 31, apply to its actions pertaining to this Project. Upon execution of the underlying contract, the Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining to the underlying contract or the FTA assisted project for which this contract work is being performed. In addition to other penalties that may be applicable, the Contractor further acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on the Contractor to the extent the Federal Government deems appropriate.

(2) The Contractor also acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government under a contract connected with a project that is financed in whole or in part with Federal assistance originally awarded by FTA under the authority of 49 U.S.C. § 5307, the Government reserves the right to impose the penalties of 18 U.S.C. § 1001 and 49 U.S.C. § 5307(n)(1) on the Contractor, to the extent the Federal Government deems appropriate.

(3) The Contractor agrees to include the above two clauses in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clauses shall not be modified, except to identify the subcontractor who will be subject to the provisions.

3. Access to Third Party Contract Records (August 30 2011)

49 U.S.C. 5325
18 CFR 18.36 (i)
49 CFR 633.17

Applicability to Contracts

Reference Chart "Requirements for Access to Records and Reports by Type of Contracts"

Applicability to Micro-Purchases

Micro-purchases are defined as those purchases under \$2,500. These requirements do not apply to micro-purchases.

Flow Down

FTA does not require the inclusion of these requirements in subcontracts.

Access to Records - The following access to records requirements apply to this Contract:

1. Where the Purchaser is not a State but a local government and is the FTA Recipient or a subgrantee of the FTA Recipient in accordance with 49 C. F. R. 18.36(i), the Contractor agrees to provide the Purchaser, the FTA Administrator, the Comptroller General of the United States or any of their authorized representatives access to any books, documents, papers and records of the Contractor which are directly pertinent to this contract for the purposes

of making audits, examinations, excerpts and transcriptions. Contractor also agrees, pursuant to 49 C. F. R. 633.17 to provide the FTA Administrator or his authorized representatives including any PMO Contractor access to Contractor's records and construction sites pertaining to a major capital project, defined at 49 U.S.C. 5302(a)1, which is receiving federal financial assistance through the programs described at 49 U.S.C. 5307, 5309 or 5311.

2. Where the Purchaser is a State and is the FTA Recipient or a subgrantee of the FTA Recipient in accordance with 49 C.F.R. 633.17, Contractor agrees to provide the Purchaser, the FTA Administrator or his authorized representatives, including any PMO Contractor, access to the Contractor's records and construction sites pertaining to a major capital project, defined at 49 U.S.C. 5302(a)1, which is receiving federal financial assistance through the programs described at 49 U.S.C. 5307, 5309 or 5311. By definition, a major capital project excludes contracts of less than the simplified acquisition threshold currently set at \$100,000.

3. Where the Purchaser enters into a negotiated contract for other than a small purchase or under the simplified acquisition threshold and is an institution of higher education, a hospital or other non-profit organization and is the FTA Recipient or a subgrantee of the FTA Recipient in accordance with 49 C.F.R. 19.48, Contractor agrees to provide the Purchaser, FTA Administrator, the Comptroller General of the United States or any of their duly authorized representatives with access to any books, documents, papers and record of the Contractor which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts and transcriptions.

4. Where any Purchaser which is the FTA Recipient or a subgrantee of the FTA Recipient in accordance with 49 U.S.C. 5325(a) enters into a contract for a capital project or improvement (defined at 49 U.S.C. 5302(a)1) through other than competitive bidding, the Contractor shall make available records related to the contract to the Purchaser, the Secretary of Transportation and the Comptroller General or any authorized officer or employee of any of them for the purposes of conducting an audit and inspection.

5. The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.

6. The Contractor agrees to maintain all books, records, accounts and reports required under this contract for a period of not less than three years after the date of termination or expiration of this contract, except in the event of litigation or settlement of claims arising from the performance of this contract, in which case Contractor agrees to maintain same until the Purchaser, the FTA Administrator, the Comptroller General, or any of their duly authorized representatives, have disposed of all such litigation, appeals, claims or exceptions related thereto. Reference 49 CFR 18.39(i)(11).

7. FTA does not require the inclusion of these requirements in subcontracts. Requirements for Access to Records and Reports by Types of Contract

Contract Characteristics		Operational Service Contract	Turnkey	Construction	Architectural Engineering	Acquisition of Rolling Stock	Professional Services
I <u>State Grantees</u>		None	Those imposed	None	None	None	None
a. Contracts below SAT (\$100,000)		None unless 1 non-competitive award	on state pass thru to Contractor	Yes, if non-competitive award or if funded thru 2 5307/5309/5311	None unless non-competitive award	None unless non-competitive award	None unless non-competitive award
b. Contracts above \$100,000/Capital Projects							
II <u>Non State Grantees</u>		Yes	Those imposed	Yes	Yes	Yes	Yes
a. Contracts below SAT (\$100,000)		Yes	on non-state Grantee pass thru to Contractor	Yes	Yes	Yes	Yes
b. Contracts >\$100,000/Capital Projects							

4. Changes to Federal Requirements (April 6 2011)

49 CFR Part 18

Applicability to Contracts

The Federal Changes requirement applies to all contracts.

Applicability to Micro-Purchases

Micro-purchases are defined as those purchases under \$2,500. These requirements do not apply to micro-purchases.

Flow Down

The Federal Changes requirement flows down appropriately to each applicable changed requirement.

Federal Changes - Contractor shall at all times comply with all applicable FTA regulations, policies, procedures and directives, including without limitation those listed directly or by reference in the Master Agreement between Purchaser and FTA, as they may be amended or promulgated from time to time during the term of this contract. Contractor's failure to so comply shall constitute a material breach of this contract.

5. Termination (August 30 2011)

49 U.S.C. Part 18
FTA Circular 4220.1F

Applicability to Contracts

All contracts (with the exception of contracts with nonprofit organizations and institutions of higher education,) in excess of \$10,000 shall contain suitable provisions for termination by the grantee including the manner by which it will be effected and the basis for settlement. (For contracts with nonprofit organizations and institutions of higher education the threshold is \$100,000.) In addition, such contracts shall describe conditions under which the contract may be terminated for default as well as conditions where the contract may be terminated because of circumstances beyond the control of the contractor.

Flow Down

The termination requirements flow down to all contracts in excess of \$10,000, with the exception of contracts with nonprofit organizations and institutions of higher learning.

Refer to the Miscellaneous Construction Contract DOC. NO.: CICC 7360-08/08, Article 1.19 and 1.20 for project specific requirements

6. Civil Rights (Title VI, ADA, EEO except Special DOL EEO clause for construction) (April 6 2011)

29 U.S.C. § 623, 42 U.S.C. § 2000
42 U.S.C. § 6102, 42 U.S.C. § 12112
42 U.S.C. § 12132, 49 U.S.C. § 5332
29 CFR Part 1630, 41 CFR Parts 60 et seq.

Applicability to Contracts

The Civil Rights Requirements apply to all contracts.

Applicability to Micro-Purchases

Micro-purchases are defined as those purchases under \$2,500. These requirements do not apply to micro-purchases.

Flow Down

The Civil Rights requirements flow down to all third party contractors and their contracts at every tier.

Civil Rights - The following requirements apply

(1) Nondiscrimination - In accordance with Title VI of the Civil Rights Act, as amended, 42 U.S.C. § 2000d, section 303 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. § 6102, section 202 of the Americans with **Disabilities Act of 1990, 42 U.S.C. § 12132, and Federal transit law at 49 U.S.C. § 5332**, the Contractor agrees that it will not discriminate against any employee or applicant for employment because of race, color, creed, national origin, sex, age, or disability. In addition, the Contractor agrees to comply with applicable Federal implementing regulations and other implementing requirements FTA may issue.

(2) Equal Employment Opportunity - The following equal employment opportunity requirements apply to the underlying contract:

(a) Race, Color, Creed, National Origin, Sex - In accordance with Title VII of the Civil Rights Act, as amended, 42 U.S.C. § 2000e, and Federal transit laws at 49 U.S.C. § 5332, the Contractor agrees to comply with all applicable equal employment opportunity requirements of U.S. Department of Labor (U.S. DOL) regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor," 41 C.F.R. Parts 60 et seq ., (which implement Executive Order No. 11246, "Equal Employment Opportunity," as amended by Executive Order No. 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," 42 U.S.C. § 2000e note), and with any applicable Federal statutes, executive orders, regulations, and Federal policies that may in the future affect construction activities undertaken in the course of the Project. The Contractor agrees to take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, creed, national origin, sex, or age. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

(b) Age - In accordance with section 4 of the Age Discrimination in Employment Act of 1967, as amended, 29 U.S.C. § § 623 and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees to refrain from discrimination against present and prospective employees for reason of age. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

(c) Disabilities - In accordance with section 102 of the Americans with Disabilities Act, as amended, 42 U.S.C. § 12112, the Contractor agrees that it will comply with the requirements of U.S. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 C.F.R. Part 1630, pertaining to employment of persons with disabilities. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

(3) Equal Employment Opportunity. The Common Grant Rules require that third party construction contracts include provisions ensuring compliance with **DOL regulations**, "Office of Federal Contract Compliance Programs, **Equal Employment Opportunity, Department of Labor,**" **41 CFR Chapter 60**, which implement

Executive Order No. 11246, "Equal Employment Opportunity," September 24, 1965, as amended by Executive Order No. 11375, "Amending Executive Order No. 11246 Relating to Equal Employment Opportunity," October 13, 1967.

(4) The Contractor also agrees to include these requirements in each subcontract financed in whole or in part with Federal assistance provided by FTA, modified only if necessary to identify the affected parties.

(5) Refer to Disadvantage Business Enterprises & Equal Opportunity Requirements/Affirmative Action Plan for project specific requirements.

7. Special DOL EEO Clause for Construction Projects (April 6 2011)

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630 and 41 CFR 60) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The Equal Opportunity Construction Contract Specifications set forth under **41 CFR 60-4.3** and the provisions of the American Disabilities Act of 1990 (42 U.S.C. 12101 *et seq.*) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:
 - a) The contractor will work with the State highway agency (SHA) and the Federal Government in carrying out EEO obligations and in their review of his/her activities under the contract.
 - b) The contractor will accept as his operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion or transfer, recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training
2. EEO Officer: The contractor will designate and make known to the SHA contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active contractor program of EEO and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEQ in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:
 - a) Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.
 - b) All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.
 - c) All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minority group employees.
 - d) Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.
 - e) The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.
4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minority groups in the area from which the project work force would normally be derived.
 - a) The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority group applicants. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority group applicants may be referred to the contractor for employment consideration.
 - b) In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with EEO contract provisions. (The DOL has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)

- c) The contractor will encourage his present employees to refer minority group applicants for employment. Information and procedures with regard to referring minority group applicants will be discussed with employees.
5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:
- a) The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.
 - b) The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.
 - c) The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.
 - d) The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with his obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of his avenues of appeal.
6. Training and Promotion:
- a) The contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.
 - b) Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship and on—the—job training programs for the geographical area of contract performance. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision.
 - c) The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.
 - d) The contractor will periodically review the training and promotion potential of minority group and women employees and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the contractor either directly or through a contractor's association acting as agent will include the procedures set forth below:
- a) The contractor will use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.
 - b) The contractor will use best efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.
 - c) The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the SHA and shall set forth what efforts have been made to obtain such information.
 - d) In the event the union is unable to provide the contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The DOL has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the SHA.
8. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment.
- a) The contractor shall notify all potential subcontractors and suppliers of his/her EEO obligations under this contract.
 - b) Disadvantaged business enterprises (DBE), as defined in 49 CFR 23, shall have equal opportunity to compete for and perform subcontracts which the contractor enters into pursuant to this contract. The contractor will use his best efforts to solicit bids from and to utilize DBE subcontractors or subcontractors with meaningful minority group and female representation among their employees. Contractors shall obtain lists of DBE construction firms from SHA personnel.

- c) The contractor will use his best efforts to ensure subcontractor compliance with their EEO obligations.
9. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of- three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the SHA and the FHWA.
- a) The records kept by the contractor shall document the following:
 - 1) The number of minority and non—minority group members and women employed in each work classification on the project;
 - 2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women;
 - 3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees; and
 - 4) The progress and efforts being made in securing the services of DBE subcontractors or subcontractors with meaningful minority and female representation among their employees.
 - b. The contractors will submit an annual report to the SHA each July for the duration of the project, indicating the number of minority, women, and non—minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data.
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8. Disadvantaged Business Enterprises (DBEs) (August 30 2011)

49 CFR Part 26

Background and Applicability

The newest version on the Department of Transportation's Disadvantaged Business Enterprise (DBE) program became effective July 16, 2003. The rule provides guidance to grantees on the use of overall and contract goals, requirement to include DBE provisions in subcontracts, evaluating DBE participation where specific contract goals have been set, reporting requirements, and replacement of DBE subcontractors. Additionally, the DBE program dictates payment terms and conditions (including limitations on retainage) applicable to all subcontractors regardless of whether they are DBE firms or not.

The DBE program applies to all DOT-assisted contracting activities. A formal clause such as that below must be included in all contracts above the micro-purchase level. The requirements of clause subsection b flow down to subcontracts.

A substantial change to the payment provisions in this newest version of Part 26 concerns retainage (see section 26.29). Grantee choices concerning retainage should be reflected in the language choices in clause subsection d.

a. This contract is subject to the requirements of Title 49, Code of Federal Regulations, Part 26, Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs.

b. The contractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of this DOT-assisted contract. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as Miami Dade Transit deems appropriate. Each subcontract the contractor signs with a subcontractor must include the assurance in this paragraph (see 49 CFR 26.13(b)).

Refer to Disadvantage Business Enterprises & Equal Opportunity Requirements/Affirmative Action Plan for project specific requirements.

9. Incorporation of Federal Transit Administration (FTA) Terms (August 30 2011)

Applicability to Contracts

The incorporation of FTA terms applies to all contracts.

Applicability to Micro-Purchases

Micro-purchases are defined as those purchases under \$2,500. These requirements do not apply to micro-purchases.

Flow Down

The incorporation of FTA terms has unlimited flow down.

Incorporation of Federal Transit Administration (FTA) Terms - The preceding provisions include, in part, certain Standard Terms and Conditions required by DOT, whether or not expressly set forth in the preceding contract provisions. All contractual provisions required by DOT, as set forth in FTA Circular 4220.1F are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this Agreement. The Contractor shall not perform any act, fail to perform any act, or refuse to comply with any (name of grantee) requests which would cause (name of grantee) to be in violation of the FTA terms and conditions.

10. Debarment and Suspension (April 6 2011)

49 CFR Part 29

Executive Order 12549

Background and Applicability

In conjunction with the Office of Management and Budget and other affected Federal agencies, DOT published an update to 49 CFR Part 29 on November 26, 2003. This government-wide regulation implements Executive Order 12549, Debarment and Suspension, Executive Order 12689, Debarment and Suspension, and 31 U.S.C. 6101 note (Section 2455, Public Law 103-355, 108 Stat. 3327).

The provisions of Part 29 apply to all grantee contracts and subcontracts at any level expected to equal or exceed \$25,000 as well as any contract or subcontract (at any level) for Federally required auditing services. 49 CFR 29.220(b). This represents a change from prior practice in that the dollar threshold for application of these rules has been lowered from \$100,000 to \$25,000. These are contracts and subcontracts referred to in the regulation as “covered transactions.”

Grantees, contractors, and subcontractors (at any level) that enter into covered transactions are required to verify that the entity (as well as its principals and affiliates) they propose to contract or subcontract with is not excluded or disqualified. They do this by (a) Checking the Excluded Parties List System, (b) Collecting a certification from that person, or (c) Adding a clause or condition to the contract or subcontract. This represents a change from prior practice in that certification is still acceptable but is no longer required. 49 CFR 29.300.

Grantees, contractors, and subcontractors who enter into covered transactions also must require the entities they contract with to comply with 49 CFR 29, subpart C and include this requirement in their own subsequent covered transactions (i.e., the requirement flows down to subcontracts at all levels).

Suspension and Debarment

This contract is a covered transaction for purposes of 49 CFR Part 29. As such, the contractor is required to verify that none of the contractor, its principals, as defined at 49 CFR 29.995, or affiliates, as defined at 49 CFR 29.905, are excluded or disqualified as defined at 49 CFR 29.940 and 29.945.

The contractor is required to comply with 49 CFR 29, Subpart C and must include the requirement to comply with 49 CFR 29, Subpart C in any lower tier covered transaction it enters into.

By signing and submitting its bid or proposal, the bidder or proposer certifies as follows:

The certification in this clause is a material representation of fact relied upon by Miami Dade Transit. If it is later determined that the bidder or proposer knowingly rendered an erroneous certification, in addition to remedies available to Miami Dade Transit, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment. The bidder or proposer agrees to comply with the requirements of 49 CFR 29, Subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

Refer to MDC Ordinances No. 93-129, as amended by Ordinance No. 00-18 for project specific requirements

11. Buy America (April 6 2011)

49 U.S.C. 5323(j)

49 CFR Part 661

Applicability to Contracts

The Buy America requirements apply to the following types of contracts: Construction Contracts and Acquisition of Goods or Rolling Stock (valued at more than \$100,000).

Flow Down

The Buy America requirements flow down from FTA recipients and subrecipients to first tier contractors, who are responsible for ensuring that lower tier contractors and subcontractors are in compliance. The \$100,000 threshold applies only to the grantee contract; subcontracts under that amount are subject to Buy America.

Buy America - The contractor agrees to comply with 49 U.S.C. 5323(j) and 49 C.F.R. Part 661, which provide that Federal funds may not be obligated unless steel, iron, and manufactured products used in FTA-funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver. General waivers are listed in 49 C.F.R. 661.7, and include final assembly in the United States for 15 passenger vans and 15 passenger wagons produced by Chrysler Corporation, and microcomputer equipment and software. Separate requirements for rolling stock are set out at 49 U.S.C. 5323(j)(2)(C) and 49 C.F.R. 661.11. Rolling stock must be assembled in the United States and have a 60 percent domestic content.

A bidder or offeror must submit to the FTA recipient the appropriate Buy America certification with all bids or offers on FTA-funded contracts, except those subject to a general waiver. Bids or offers that are not accompanied by a completed Buy America certification must be rejected as nonresponsive. This requirement does not apply to lower tier subcontractors.

12. Resolution of Dispute, Breaches or other litigation (September 19, 2011)

49 CFR Part 18

FTA Circular 4220.1F

Applicability to Contracts

All contracts in excess of \$100,000 shall contain provisions or conditions which will allow for administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as may be appropriate. This may include provisions for bonding, penalties for late or inadequate performance, retained earnings, liquidated damages or other appropriate measures.

Flow Down

The Breaches and Dispute Resolutions requirements flow down to all tiers.

Refer to the Miscellaneous construction contract DOC. NO CICC 7360, Article 2.81 Disputes for project specific requirements.

13. Lobbying

31 U.S.C. 1352

49 CFR Part 19

49 CFR Part 20

Applicability to Contracts

The Lobbying requirements apply to Construction/Architectural and Engineering/Acquisition of Rolling Stock/Professional Service Contract/Operational Service Contract/Turnkey contracts.

Applicability to Micro-Purchases

Micro-purchases are defined as those purchases under \$2,500. These requirements do not apply to micro-purchases.

Flow Down

The Lobbying requirements mandate the maximum flow down, pursuant to Byrd Anti-Lobbying Amendment, 31 U.S.C. § 1352(b)(5) and 49 C.F.R. Part 19, Appendix A, Section 7.

Modifications have been made to the Clause pursuant to Section 10 of the Lobbying Disclosure Act of 1995, P.L. 104-65 [to be codified at 2 U.S.C. § 1601, et seq.]

- Lobbying Certification and Disclosure of Lobbying Activities for third party contractors are mandated by 31 U.S.C. 1352(b)(5), as amended by Section 10 of the Lobbying Disclosure Act of 1995, and DOT implementing regulation, "New Restrictions on Lobbying," at 49 CFR § 20.110(d)

- Language in Lobbying Certification is mandated by 49 CFR Part 19, Appendix A, Section 7, which provides that contractors file the certification required by 49 CFR Part 20, Appendix A.

Modifications have been made to the Lobbying Certification pursuant to Section 10 of the Lobbying Disclosure Act of 1995.

- Use of "Disclosure of Lobbying Activities," Standard Form-LLL set forth in Appendix B of 49 CFR Part 20, as amended by "Government wide Guidance For New Restrictions on Lobbying," 61 Fed. Reg. 1413 (1/19/96) is mandated by 49 CFR Part 20, Appendix A.

Byrd Anti-Lobbying Amendment, 31 U.S.C. 1352, as amended by the Lobbying Disclosure Act of 1995, P.L. 104-65 [to be codified at 2 U.S.C. § 1601, et seq.] - Contractors who apply or bid for an award of \$100,000 or more shall file the certification required by 49 CFR part 20, "New Restrictions on Lobbying." Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier shall also disclose the name of any registrant under the Lobbying Disclosure Act of 1995 who has made lobbying contacts on its behalf with non-Federal funds with respect to that Federal contract, grant or award covered by 31 U.S.C. 1352. Such disclosures are forwarded from tier to tier up to the recipient.

14. Clean Air

42 U.S.C. 7401 et seq

40 CFR 15.61

49 CFR Part 18

Applicability to Contracts

The Clean Air requirements apply to all contracts exceeding \$100,000, including indefinite quantities where the amount is expected to exceed \$100,000 in any year.

Flow Down

The Clean Air requirements flow down to all subcontracts which exceed \$100,000.

Clean Air - (1) The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. §§ 7401 et seq . The Contractor agrees to report each violation to the Purchaser and understands and agrees that the Purchaser will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.

(2) The Contractor also agrees to include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with Federal assistance provided by FTA.

15. Clean Water (April 6 2011)

33 U.S.C. 1251

Applicability to Contracts

The Clean Water requirements apply to each contract and subcontract which exceeds \$100,000.

Flow Down

The Clean Water requirements flow down to FTA recipients and subrecipients at every tier.

Clean Water - (1) The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq . The Contractor agrees to report each violation to the Purchaser and understands and agrees that the Purchaser will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.

(2) The Contractor also agrees to include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with Federal assistance provided by FTA.

16. Cargo Preference (April 6 2011)

46 U.S.C. 1241

46 CFR Part 381

Applicability to Contracts

The Cargo Preference requirements apply to all contracts involving equipment, materials, or commodities which may be transported by ocean vessels.

Applicability to Micro-Purchases

Micro-purchases are defined as those purchases under \$2,500. These requirements do not apply to micro-purchases.

Flow Down

The Cargo Preference requirements apply to all subcontracts when the subcontract may be involved with the transport of equipment, material, or commodities by ocean vessel.

Cargo Preference - Use of United States-Flag Vessels - The contractor agrees: a. to use privately owned United States-Flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to the underlying contract to the extent such vessels are available at fair and reasonable rates for United States-Flag commercial vessels; b. to furnish within 20 working days following the date of loading for shipments originating within the United States or within 30 working days following the date of leading for shipments originating outside the United States, a legible copy of a rated, "on-board" commercial ocean bill-of-lading in English for each shipment of cargo described in the preceding paragraph to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590 and to the FTA recipient (through the contractor in the case of a subcontractor's bill-of-lading.) c. to include these requirements in all subcontracts issued pursuant to this contract when the subcontract may involve the transport of equipment, material, or commodities by ocean vessel.

17. Fly America (April 6 2011)

49 U.S.C. §40118

41 CFR Part 301-10

Applicability to Contracts

The Fly America requirements apply to the transportation of persons or property, by air, between a place in the U.S. and a place outside the U.S., or between places outside the U.S., when the FTA will participate in the costs of such air transportation. Transportation on a foreign air carrier is permissible when provided by a foreign air carrier under a code share agreement when the ticket identifies the U.S. air carrier's designator code and flight number.

Transportation by a foreign air carrier is also permissible if there is a bilateral or multilateral air transportation agreement to which the U.S. Government and a foreign government are parties and which the Federal DOT has determined meets the requirements of the Fly America Act.

Applicability to Micro-Purchases

Micro-purchases are defined as those purchases under \$2,500. These requirements do not apply to micro-purchases.

Flow Down Requirements

The Fly America requirements flow down from FTA recipients and subrecipients to first tier contractors, who are responsible for ensuring that lower tier contractors and subcontractors are in compliance.

Fly America Requirements - The Contractor agrees to comply with 49 U.S.C. 40118 (the "Fly America" Act) in accordance with the General Services Administration's regulations at 41 CFR Part 301-10, which provide that recipients and subrecipients of Federal funds and their contractors are required to use U.S. Flag air carriers for U.S Government-financed international air travel and transportation of their personal effects or property, to the extent such service is available, unless travel by foreign air carrier is a matter of necessity, as defined by the Fly America Act. The Contractor shall submit, if a foreign air carrier was used, an appropriate certification or memorandum adequately explaining why service by a U.S. flag air carrier was not available or why it was necessary to use a foreign air carrier and shall, in any event, provide a certificate of compliance with the Fly America requirements. The Contractor agrees to include the requirements of this section in all subcontracts that may involve international air transportation.

18. Davis-Bacon Act (April 6 2011)

Refer to Davis Bacon General Decision Section

19. Contract Work Hours and Safety Standards Act

The Contract Work Hours and Safety Standards Act is codified at 40 USC 3701, et seq. The Act applies to grantee contracts and subcontracts "financed at least in part by loans or grants from ... the [Federal] Government." 40 USC 3701(b)(1)(B)(iii) and (b)(2), 29 CFR 5.2(h), 49 CFR 18.36(i)(6). Although the original Act required its application in any construction contract over \$2,000 or non-construction contract to which the Act applied over \$2,500 (and language to that effect is still found in 49 CFR 18.36(i)(6)), the Act no longer applies to any "contract in an amount that is not greater than \$100,000." 40 USC 3701(b)(3)(A)(iii). The Act applies to construction contracts and, in very limited circumstances, non-construction projects that employ "laborers or mechanics on a public work." These non-construction applications do not generally apply to transit procurements because transit procurements (to include rail cars and buses) are deemed "commercial items." 40 USC 3707, 41 USC 403 (12). A grantee that contemplates entering into a contract to procure a developmental or unique item should consult counsel to determine if the Act applies to that procurement and that additional language required by 29 CFR 5.5(c) must be added to the basic clause below.

Refer to Disadvantage Business Enterprises & Equal Opportunity Requirements/Affirmative Action Plan for project specific requirements.

20. Copeland Anti-Kickback Acts

The contractor shall comply with the requirements of 29 C.F.R. part 3, which are incorporated herein by reference.

Refer to Disadvantage Business Enterprises & Equal Opportunity Requirements/Affirmative Action Plan for project specific requirements.

21. Bonding (August 30 2011)

Applicability to Contracts

For those construction or facility improvement contracts or subcontracts exceeding \$100,000, FTA may accept the bonding policy and requirements of the recipient, provided that they meet the minimum requirements for construction contracts as follows:

a. A bid guarantee from each bidder equivalent to five (5) percent of the bid price. The "bid guarantees" shall consist of a firm commitment such as a bid bond, certified check, or other negotiable instrument accompanying a bid as assurance that the bidder will, upon acceptance of his bid, execute such contractual documents as may be required within the time specified.

b. A performance bond on the part to the Contractor for 100 percent of the contract price. A "performance bond" is one executed in connection with a contract to secure fulfillment of all the contractor's obligations under such contract.

c. A payment bond on the part of the contractor for 100 percent of the contract price. A "payment bond" is one executed in connection with a contract to assure payment, as required by law, of all persons supplying labor and material in the execution of the work provided for in the contract. Payment bond amounts required from Contractors are as follows:

(1) 50% of the contract price if the contract price is not more than \$1 million;

(2) 40% of the contract price if the contract price is more than \$1 million but not more than \$5 million; or

(3) \$2.5 million if the contract price is more than \$5 million.

d. A cash deposit, certified check or other negotiable instrument may be accepted by a grantee in lieu of performance and payment bonds, provided the grantee has established a procedure to assure that the interest of FTA is adequately protected. An irrevocable letter of credit would also satisfy the requirement for a bond.

Flow Down

Bonding requirements flow down to the first tier contractors.

Refer to Bid Bond, Performance and Payment Bond for project specific requirements.

22. Energy Conservation (April 6 2011)

42 U.S.C. 6321 et seq.

49 CFR Part 18

Applicability to Contracts

The Energy Conservation requirements are applicable to all contracts.

Applicability to Micro-Purchases

Micro-purchases are defined as those purchases under \$2,500. These requirements do not apply to micro-purchases.

Flow Down

The Energy Conservation requirements extend to all third party contractors and their contracts at every tier and subrecipients and their subagreements at every tier.

Energy Conservation - The contractor agrees to comply with mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act.

23. Recycled Products

42 U.S.C. 6962

40 CFR Part 247

Executive Order 12873

Applicability to Contracts

The Recycled Products requirements apply to all contracts for items designated by the EPA, when the purchaser or contractor procures \$10,000 or more of one of these items during the fiscal year, or has procured \$10,000 or more of such items in the previous fiscal year, using Federal funds. New requirements for "recovered materials" will become effective May 1, 1996. These new regulations apply to all procurement actions involving items designated by the EPA, where the procuring agency purchases \$10,000 or more of one of these items in a fiscal year, or when the cost of such items purchased during the previous fiscal year was \$10,000.

Applicability to Micro-Purchases

Micro-purchases are defined as those purchases under \$2,500. These requirements do not apply to micro-purchases.

Flow Down

These requirements flow down to all to all contractor and subcontractor tiers.

Recovered Materials - The contractor agrees to comply with all the requirements of Section 6002 of the Resource Conservation and Recovery Act (RCRA), as amended (42 U.S.C. 6962), including but not limited to the regulatory provisions of 40 CFR Part 247, and Executive Order 12873, as they apply to the procurement

24. Americans with Disabilities (ADA) Access (August 30 2011)

Disabilities - In accordance with section 102 of the Americans with Disabilities Act, as amended, 42 U.S.C. § 12112, the

Contractor agrees that it will comply with the requirements of U.S. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 C.F.R. Part 1630, pertaining to employment of persons with disabilities.

ADA ACCESS:

In accordance with section 102(a) as amended, FR 28 CFR Part 35 and 36, section 202, as amended, 29 U.S.C. 794d, and section 228(a)(1), FR 49 CFR, Parts 27, 37, and 38, the Contractor agrees that it will comply with the requirements of the Americans with Disabilities Act Rules and Regulations prohibiting discrimination based on disability: "no qualified individual with a disability shall, by reason of such disability, be excluded from participation in or be denied the benefits of the services, programs, or activities of a public entity, or be subjected to discrimination by any such entity." Also, the contractor agrees to comply with requirements pertaining to existing facilities used in the provision of designated public transportation services: "it shall be considered discrimination, for purposes of section 202 of this Act and section #504 of the Rehabilitation Act of 1973 (29 U.S.C. 794), for a public entity to fail to operate a designated public transportation program or activity conducted in such facilities so that, when viewed in the entirety, the program or activity is readily accessible to and usable by individuals with disabilities. In addition, the Contractor agrees to comply with any implementing requirements Miami-Dade Transit and/or FTA may issue.

Refer to Disadvantage Business Enterprises & Equal Opportunity Requirements/Affirmative Action Plan for project specific requirements.

25. Bid Protests

CFR 49 PART 18

PROTESTS, CHANGES AND MODIFICATIONS,

DISPUTES, CLAIMS, LITIGATION, AND SETTLEMENTS

The Common Grant Rules assign responsibility to the recipient for resolving all contractual and administrative issues arising out of their third party procurements, including source evaluation and selection, including protests of awards, disputes, and claims using good administrative practices and sound business judgment. The Federal Transit Administration (FTA) also encourages the recipient to use appropriate alternative dispute resolution procedures. Neither FTA nor the Common Grant Rules relieve the recipient of any responsibility under its contracts to resolve disagreements that may arise in the course of contract formation or contract administration.

In general, FTA will not substitute its judgment for that of the recipient or subrecipient unless the matter is primarily a Federal concern. Examples of "Federal concerns" include, but are not limited to, situations "where a special Federal interest is declared because of program management concerns, possible mismanagement, impropriety, waste, or fraud." Nevertheless, FTA can become involved in the recipient's administrative decisions when a recipient's protest decision is appealed to FTA, or when the recipient seeks to use FTA assistance to support the costs of settlements or other resolutions of protests, disputes, claims, or litigation.

Refer to Implementing Order 3-21 – Bid Protest Procedures for project specific requirements

For more information on the aforementioned federal requirements please visit the following websites:

http://www.fta.dot.gov/funding/thirdpartyprocurement/bppm/grants_financing_6195.html

Submittal of Federal Affidavits

The Bidder shall submit the following federal affidavits with the bid package:

- Buy America Certificate
- Certification Regarding Debarment, Suspension and Other Responsibility Matters
- Lobbying Certification
- Statement for Loan Guarantees and Loan Insurance
- Disclosure of Lobbying Activities

Failure of the bidder to complete and submit the above mentioned forms with the bid package may render the bid non-responsive.

**MIAMI-DADE COUNTY
BUY AMERICA
CERTIFICATE OF COMPLIANCE**

Buy America - The contractor agrees to comply with 49 U.S.C. 5323(j) and 49 C.F.R. Part 661, which provide that Federal funds may not be obligated unless steel, iron, and manufactured products used in FTA-funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver. General waivers are listed in 49 C.F.R. 661.7, and include final assembly in the United States for 15 passenger vans and 15 passenger wagons produced by Chrysler Corporation, and microcomputer equipment and software. Separate requirements for rolling stock are set out at 49 U.S.C. 5323(j) (2) (C) and 49 C.F.R. 661.11. Rolling stock must be assembled in the United States and have a 60 percent domestic content.

A bidder or offeror must submit to the FTA recipient the appropriate Buy America certification (below) with all bids or offers on FTA-funded contracts, except those subject to a general waiver. Bids or offers that are not accompanied by a completed Buy America certification must be rejected as nonresponsive. This requirement does not apply to lower tier subcontractors.

Certification requirement for procurement of steel, iron, or manufactured products.

Certificate of Compliance with 49 U.S.C. 5323(j) (1)

The bidder or offeror hereby certifies that it will meet the requirements of 49 U.S.C. 5323(j) (1) and the applicable regulations in 49 CFR Part 661.5.

Firm Name _____

Date _____

Signature _____

Printed Name _____

Title _____

Certification Regarding Debarment, Suspension and Other Responsibility Matters

Lower Tier Covered Transactions

(Third Party Contracts equal to or over \$25,000)

Instructions for Certification

1. By signing and submitting this bid or proposal, the prospective lower tier participant is providing the signed certification set out in “Certification Regarding Debarment, and Suspension.
2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, MDC may pursue available remedies, including suspension and/or debarment.
3. The prospective lower tier participant shall provide immediate written notice to MDC if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.
4. The terms “covered transaction,” “debarred,” “suspended,” “ineligible,” “lower tier covered transaction,” “participant,” “persons,” “principal,” “proposal,” and “voluntarily excluded,” as used in this clause, have the meanings set out in the Definitions and Coverage sections or rules implementing Executive Order 12549 [49 CFR Part 29]. You may contact MDC for assistance in obtaining a copy of these regulations.
5. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized in writing by MDC.
6. The prospective lower tier participant further agrees by submitting this proposal that it will include the clause titled “Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transaction,” and the certification form, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the

eligibility of its principals. Each participant may, but is not required to, check the Non-procurement List issued by U. S. General Service Administration.

8. Nothing contained in the foregoing shall be construed to require establishment of system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
9. Except for transactions authorized under Paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to all remedies available to the Federal Government, MDC may pursue available remedies including suspension and/or debarment.

“Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transaction”

- (1) The prospective Lower Tier Participant certifies, by submission of this bid or proposal, that neither it nor its “principals” as defined at 49 C. F. R. 29.105(p) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
- (2) If the prospective Lower Tier Participant is unable to certify to the statements in this certification, such prospective participant shall attach an explanation to this proposal.

CERTIFICATION REGARDING DEBARMENT AND SUSPENSION,

The prospective contractor certifies, by submission of this bid, that neither it nor its principals, as defined at 49 CFR 29.995, or affiliates, as defined at 49 CFR 29.905, are excluded or disqualified as defined at 49 CFR 29.940 and 29.945.

The contractor is required to comply with 49 CFR 29, Subpart C and must include the requirement to comply with 49 CFR 29, Subpart C in any lower tier covered transaction it enters into.

By signing and submitting its bid or proposal, the bidder or proposer certifies as follows:

The certification in this clause is a material representation of fact relied upon by {insert agency name}. If it is later determined that the bidder or proposer knowingly rendered an erroneous certification, in addition to remedies available to Miami-Dade Transit, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment. The bidder or proposer agrees to comply with the requirements of 49 CFR 29, Subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

Signature of Contractor's Authorized Official

Name and title of Contractor's Authorized Official

Date

LOBBYING CERTIFICATION

Certification for Contracts, Grants, Loans and Cooperative Agreements

(To be submitted with each bid or offer exceeding \$100,000)

The Contractor certifies, to the best of its knowledge and belief, that:

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an Federal department or agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal Contract, the making of any Federal Grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for making lobbying contacts to an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions [as amended by "Government wide Guidance for New Restrictions on Lobbying," 61 Fed Reg 1413 (1/19/96). Note: Language in paragraph (2) herein has been modified in accordance with Section 10 of the Lobbying Disclosure Act of 1995 (P. L. 104-65, to be codified at 2 U.S.C. 1601, et seq.)]
- (3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352, (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure. [Note: Pursuant to 31 U.S.C. 1352(C)(1)-(2) (A), any person who makes a prohibited expenditure or fails to file or amend a required certification or disclosure form shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such expenditure or failure.]

The Contractor, _____, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. 3801 et seq. apply to this certification and disclosure, if any.

Signature of Contractor's Authorized Official: _____

Name and Title of Contractor's Authorized Official: _____

Date: _____

STATEMENT FOR LOAN GUARANTEES AND LOAN INSURANCE

The undersigned states, to the best of his or her knowledge and belief, that:

If any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Signature

Date

SUBSCRIBED AND SWORN TO (or affirmed) before me on _____
(Date)

By _____. He / She is personally known to me
(Affiant)

or has presented _____ as identification.
(Type of Identification)

(Signature of Notary)

(Serial Number)

(Print or Stamp Name of Notary)

(Expiration Date)

Notary Public _____

Notary Seal

(State) _____

DISCLOSURE OF LOBBYING ACTIVITIES

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352

Approved by OMB

0348-0046

(See reverse for public burden disclosure.)

1. Type of Federal Action: ☐ a. contract ☐ b. grant ☐ c. cooperative agreement ☐ d. loan ☐ e. loan guarantee ☐ f. loan insurance	2. Status of Federal Action: ☐ a. bid/offer/application ☐ b. initial award ☐ c. post-award	3. Report Type: ☐ a. initial filing ☐ b. material change For Material Change Only: year _____ quarter _____ date of last report _____
4. Name and Address of Reporting Entity: ☐ Prime ☐ Subawardee Tier _____, if known: Congressional District, if known: 4c	5. If Reporting Entity in No. 4 is a Subawardee, Enter Name and Address of Prime: Congressional District, if known:	
6. Federal Department/Agency:	7. Federal Program Name/Description: CFDA Number, if applicable: _____	
8. Federal Action Number, if known:	9. Award Amount, if known: \$ _____	
10. a. Name and Address of Lobbying Registrant <i>(if individual, last name, first name, MI):</i>	b. Individuals Performing Services <i>(including address if different from No. 10a)</i> <i>(last name, first name, MI):</i>	
11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.	Signature: _____ Print Name: _____ Title: _____ Telephone No.: _____ Date: _____	
Federal Use Only:		Authorized for Local Reproduction Standard Form LLL (Rev. 7-97)

**STANDARD CONSTRUCTION
GENERAL CONTRACT CONDITIONS
& ATTACHMENTS**



RPQ NO. TP-00000014313

STANDARD CONSTRUCTION
GENERAL CONTRACT CONDITIONS
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13. ATTACHMENTS

1. DEFINITIONS

(June 12, 2012)

Addendum/Addenda: A modification or clarification of the Contract Documents distributed to prospective Bidders prior to the opening of Bids.

Advertisement for Bids: The public notice inviting the submission of Bids for the Work.

Allowance Account (General): Account in which a stated maximum dollar amount is included in the Contract for the purpose of funding, at the sole discretion of the Owner, unforeseen and/or changed conditions or extra work arising during the prosecution of the Work or any other changes issued by the Owner. The scope and limitations regarding use of the Allowance Account are contained in the Contract Documents. Performance of work, if any, under this Allowance Account shall be authorized by written Work Order issued by the Owner.

Allowance Account(s) (Dedicated): Account(s) in which stated maximum dollar amount(s) are included in the Contract for the purpose of funding specific items of work at the sole discretion of the Owner. The scope and limitations regarding use of the Dedicated Allowance Account(s) are contained in the Contract Documents.

Architect/Engineer: Owner or its authorized representatives identified in the Notice-to-Proceed letter, including but not limited to the Resident Architect/Engineer, the Construction Manager, the Owner's representatives and the Architect/Engineer of Record. In the event an Architect/Engineer is not employed on the project, the term "Owner" may be substituted for Architect/Engineer.

Art in Public Places: Miami-Dade County program established through Ordinance #94-12 and codified in Miami-Dade County Code Section 2-11.15 providing 1.5% of each County project's capital cost to fund a public art component within the Project. Coordination and installation of the Artist's work is included as part of the scope of the Contractor's services to the extent that it is defined in the Bid Documents.

Artist: Person(s) chosen through the Art in Public Places program to design and fabricate or specify an integrated work of art for the Project. The term Artist as may be referred to in the Contract Documents means the Artist and/or their authorized representative.

As-Built Documents: Documents signed and sealed by an appropriately licensed professional and submitted by the Contractor during and/or upon completion of the Contract reflecting actual installed/built conditions and all changes made in the Contract Documents during the construction process and showing the exact dimensions, geometry, location, identification and such other information as required by the Contract Documents and/or Architect/Engineer for all elements of the work completed under the contract. (Also referred to as As-Built Drawings or As-Built). Final payment is conditional upon the receipt of As-Built Documents.

BCC: Board of County Commissioners, the governing board of Miami-Dade County.

Beneficial Occupancy: The point at which the Owner or Architect/Engineer determines that the Work or any portion thereof can be occupied from a regulatory and work function standpoint prior to Substantial Completion of the Work. Beneficial Occupancy will not relieve the Contractor of any of its obligations

relative to Substantial Completion or of its responsibility to fully complete the Work in accordance with the Contract Documents.

Bid: The written offer of a Bidder to perform the Work.

Bid Documents: The Advertisement for Bids, Instructions to Bidders, Bid Form, Bid Security, Construction Contract, all contractual forms, General Conditions, Special Provisions, Technical Specifications and Contract Drawings, together with all Addenda and any other applicable standards, regulations, laws and permits as described within these other documents which may be incorporated by reference.

Bid Item: A specific item of work represented by a line item in the Bid Form.

Bid Form: The form on which Bids are submitted.

Bid Security: The cashier's check, certified check or bid bond, accompanying the Bid and submitted by the prospective bidder, as a guarantee that the prospective bidder will enter into a contract with the Owner for the performance of the Work and furnish acceptable bonds and insurance if the Contract is awarded to him.

Bidder: An individual, firm, partnership, corporation or combination thereof, submitting a Bid for the Work.

Certificate of Substantial Completion: Certificate issued to the Contractor by the Owner certifying that Substantial Completion has been achieved.

Certificate of Completion: Certificate issued by the local building official providing proof that a structure or system is complete and, for certain types of permits, is released for use and may be connected to a utility system. This certificate does not grant authority to occupy a building, such as a shell building, prior to the issuance of a Certificate of Occupancy by the local building official.

Certificate of Final Acceptance: Certificate issued to the Contractor by the Owner certifying that Final Acceptance has been achieved in accordance with the definition reflected herein (see Final Acceptance definition).

Certificate of Occupancy: Certificate issued by the local building official after the building official inspects the building or structure and finds no violations of the provisions of applicable codes or other laws that are enforced by the local building department.

Change Notice: A document issued by the Architect/Engineer or Owner to the Contractor specifying a proposed change to the Contract Documents and requesting a price proposal from the Contractor, if applicable, within a specified time period.

Change Order: A written agreement executed by the Owner, the Contractor and the Contractor's Surety, covering modifications to the Contract Documents.

Construction Staging Area: Property which may be available for use by the Contractor during the construction period for the purpose of storing products and construction equipment and for the purpose of staging the Work. The construction staging area(s), if applicable, are defined in the Contract Documents.

Construction Contract: The agreement executed by the Contractor and the Owner covering the performance of the Work including the furnishing of labor, superintendence, materials, tools and equipment as indicated in the Contract Documents. The term "Contract" shall have the same meaning.

Consultant: See Architect/Engineer.

Contract Documents: Bid Documents, Change Orders, Payment and Performance Bonds, Work Orders, Approved Schedules, all Contractual Forms, Approved Shop Drawings and Approved Working Drawings.

Contract Drawings: The plans, profiles, cross-sections, elevations, schedules, and details which show locations, character, dimensions and details of the Work. Contract Drawings are confidential under the Florida Public Records Act and the Contractor is responsible for maintaining confidentiality during and after the progress of the Work.

Contractor: The individual, firm, partnership, or corporation, or combination thereof, private, municipal, or public, including joint ventures, duly licensed under Florida Statutes, which, as an independent Contractor, has entered into a Contract with Miami-Dade County, who is referred to throughout the Contract Documents by singular in number and masculine in gender.

Contract Time: The number of days allowed for completion of the Work commencing with the effective date of Notice to Proceed. The Contract Time will be stipulated in the Contract Documents unless extended by a Change Order or by a Work Order.

County: See Owner.

County Manager: The County Manager of Miami-Dade County, Florida.

County Mayor: The Mayor of Miami-Dade County, Florida.

Critical Path: Longest sequence of activities in a project's schedule which defines the project completion date and which must be completed on time in order for the project to be completed on schedule.

Days: Unless otherwise designated, days mean calendar days.

Department Director: The Director of the Miami-Dade County Department implementing the work.

Department Director's Representative: The person or persons designated by the Department Director to act on his behalf in the administration of the contract within the limits of their respective authorization.

Direct Costs: Direct Costs recoverable by the Contractor as a result of changes in the Work shall be limited to the actual additional costs of labor and materials installed as part of the Work and for the reasonable additional cost of rental of any Special Equipment or Machinery. Labor shall be limited to site labor costs, including Employer's Payroll Burden. Specifically excluded from labor are the costs of general foremen and site office personnel. Materials are limited to permanent materials required by the Contract Documents and materials approved by the Architect/Engineer as necessary to install the permanent materials in an efficient and workmanlike manner. For special equipment or machinery not listed in said document, the Contractor shall be paid a rental rate corresponding to the average prevailing rental rate for such equipment or machinery in Miami-Dade County, Florida, subject to approval by the Architect/Engineer. No additional payment shall be made to the Contractor for fuel, lubricants, fair wear and tear, transportation, insurance, or depreciation. Any equipment or machinery not designated by the Architect/Engineer as special equipment and machinery shall be considered Overhead.

Extra Work: Work not provided for in the Contract Documents as awarded or as previously modified by Change Order or Work Order but found to be essential to the satisfactory completion of the Contract within its intended scope.

Field Representative/Construction Manager: An authorized representative of the Owner that may provide administrative and construction inspection services during the pre-construction, construction, and closeout phases of the Contract and through which the orders of the Owner shall be given. The Field Representative has no authority to modify or waive any provision of the Contract Documents.

Final Acceptance: The formal written acceptance by the Owner of the completed work.

Final Completion: Point in time when the Owner determines that all Work has been completed in accordance with the Contract Documents and all deficiencies listed within the Certificate of Substantial Completion and Punch List have been corrected to the satisfaction of the Owner or Architect/Engineer including but not limited to all required final inspections, close-out documents, delivery of all spares and extra materials and activation of warranties as required. A Certificate of Final Acceptance shall be issued to the Contractor by the Owner upon Final Completion.

Force Account: A method of payment measured by actual cost of the labor, materials and equipment plus a mark-up for Indirect Costs, as distinct from other payment methods such as lump sum or unit price, for Extra Work ordered by Change Order and/or Work Order.

Fragment: A fragment or selected portion of the Schedule network and/or network of proposed changed work activities.

Furnishing: Manufacturing, fabricating and delivering to the site of the Work materials, plant, power, tools, patterns, supplies, appliances, vehicles and conveyances necessary or required for the completion of Work.

General Conditions: This section of the Contract Documents which specifies, in general, the contractual conditions.

Green Building Practices: Environmentally- and socially-conscious practices that emphasize processes and methods of design and construction that reduce exposure to noxious materials, conserve non-renewable energy and scarce materials, minimize life-cycle ecological impact of energy and materials, employ renewable energy or materials that are sustainably harvested, protect and restore local air, water, soils, flora and fauna, and support pedestrians, bicycles, mass transit and other alternatives to fossil-fueled vehicles.

Indirect Costs: Overhead.

Installation, Install or Installing: Completely assembling, erecting and connecting material, parts, components, supplies and related equipment specified or required for the completion of the Work including the successful passing of all tests so that they are fully functional.

LEED (Leadership in Energy and Environmental Design): An ecology-oriented building certification program run under the auspices of the U.S. Green Building Council (USGBC) which concentrates its efforts on improving performance across five key areas of environmental and human health: energy efficiency, indoor environmental quality, materials selection, sustainable site development, and water savings.

Limit of Work: Boundary within which the Work is to be performed.

Liquidated Damages: The amount that the Contractor accepts, as stipulated in the Contract Documents, that will be deducted from the Contract Sum for each Day of delay due to a Nonexcusable Delay.

Liquidated Indirect Costs Rate: The amount, stipulated in the Contract Documents, that will be added to the Contract Sum for each Day of delay due to a Compensable Delay. The Contractor accepts this sum as full compensation for the Contractor's and all its Subcontractors' Indirect Costs, for each Day of Compensable Delays. This amount is agreed to include any costs other than Direct Costs incurred by the Contractor and all its Subcontractors of any tier in the performance of this Contract.

Lump Sum Bid Item: A bid item in which quantity is not separately measured for payment in units but rather is based on the amount bid by the Contractor as indicated in the Bid Form and made a part of the Contract. Partial payments of Lump Sum Bid Items will be conditionally made, based upon an approved schedule of values, and will be subject to reconciliation in the event that the work of a Lump Sum Bid Item is not fully completed in accordance with the requirements of the Contract Documents.

Miami-Dade County (MDC): A political subdivision of the State of Florida, the Owner.

Milestone: A completion date as defined in the Contract Documents.

Notice to Proceed: Written notice from the Owner to the Contractor specifying the date on which the Contractor is to proceed with the Work and on which the Contract Time commences to run.

Notice of Termination: Written notice from the Architect/Engineer or the Owner to the Contractor to permanently stop work under the Contract on the date and to the extent specified in the notice. The Notice of Termination includes Notices of Termination for Convenience, Default and National Emergencies as set forth in the Contract Documents. Upon receipt of such notice, the Contractor shall comply with the termination provisions of this Contract.

Overhead (Indirect Costs): Overhead, also defined as "Indirect Costs", includes any and all costs other than Direct Costs. The term "Overhead" as indicated in this definition shall apply to both Contractors and Subcontractors of any tier. Overhead includes, but is not limited to, all profit and costs associated with: Project bond premiums, Project insurance premiums, costs of supervision, coordination, superintendents, general foremen, consultants, schedulers, cost controllers, accountants, office administrative personnel, time keepers, clerks, secretaries, watch persons, small tools, equipment or machinery, utilities, rent, telephones, facsimile machines, computers, word processors, printers, plotters, computer software, all expendable items, job site and general office expenses, extended jobsite general conditions, interest on monies retained by the Owner, escalated costs of materials and labor, impact cost on unchanged work, inefficiency, decreased productivity, home office expenses or any cost incurred that may be allocated from the headquarters of the Contractor or any of its Subcontractors, loss of any anticipated profits, loss of bonding capacity or capability losses, loss of business opportunities, loss of productivity on this or any other Project, loss of interest income on funds not paid, costs to prepare a bid, cost to prepare a quote for a Change in the Work, costs to prepare, negotiate or prosecute claims, costs of legal and accounting work, costs spent to achieve compliance with applicable laws and ordinances, loss of Projects not bid upon, loss of productivity or inefficiencies in the Work from any cause.

Owner: Miami-Dade County, whose governing body is the BCC acting in its proprietary capacity. Where applicable, the Owner acts through its Architect/Engineer or Field Representative. When these Contract Documents require the action of individual persons, the documents contain specific references to these

persons. In particular, the documents shall refer to the BCC when approval of the BCC is specifically required and to the Architect/Engineer when the Architect/Engineer's approval is specifically required.

Payment and Performance Bonds: Bonds executed by the Contractor and its Surety assuring that the Contractor will, in good faith, perform and guarantee the work in full conformity with the terms of the Contract Documents and will promptly pay all persons supplying the Contractor with labor, materials, or supplies, used directly or indirectly by the Contractor in the prosecution of the Work. These bonds shall be two separate bonds, one bonding payment and one bonding performance. Each bond shall be for no less than 100% of the total maximum contract amount.

Project: See definition for Work.

Punch List: A list issued by the Owner to the Contractor of work elements requiring remedial action or completion by the Contractor before Final Completion is issued to the Contractor.

Right-of-Way: A term denoting land and property, and interests therein, owned or acquired by the Owner.

Schedules: All schedules delivered under the Contract including time schedules and schedule of values.

Schedule of Values: A detailed cost breakdown of each lump sum bid item in the bid form, submitted by the Contractor at the beginning of the Work and to be used as a basis to determine monthly progress payments and quantity adjustments within the constraints specified in the Contract Documents.

Shop Drawings: Documents furnished by the Contractor for approval by the Architect/Engineer to illustrate specific portions of the Work. Shop Drawings include drawings, diagrams, illustrations, calculations, schedules, tables, charts, brochures and other data describing design, fabrication and installation of specific portions of the Work.

Site, Project Site, Work Site, Construction Site, Job Site: The location(s) at which the work under this Contract is to be accomplished, as shown in the Contract Documents.

Special Provisions: Section of the Contract which includes specific contractual requirements not covered in the General Conditions that are specific to the Project.

Subcontractor: Any person or entity, other than the employees of the Contractor, supplying the Contractor with labor, materials, supplies and/or equipment used directly or indirectly by the Contractor in the prosecution of the Work.

Substantial Completion: Substantial Completion of a Project is the date on which the Owner certifies that the construction is sufficiently completed, in accordance with the Contract Documents, as modified by any Change Orders, so that the Owner can occupy the Project for the use for which it was intended. A certificate shall be issued to the Contractor by the Owner upon achievement of Substantial Completion.

Surety: The bonding company or companies furnishing the bonds required of a Bidder and of the Contractor.

Technical Specifications: The general term comprising all the written directions, provisions and requirements contained herein, entitled "Technical Specifications," those portions of standard specifications to which reference is specifically made in the Technical Specifications, and any Addenda, Work Orders and Change Orders that may be issued for the Contract, all describing the work required to be performed, including detailed technical requirements as to labor, materials, supplies and equipment and standards to which such work is to be performed as well as any reports specifically issued with the

Bid Documents and specifically identified in the Instructions to Bidders which may include geotechnical or other technical reports.

Temporary Construction Easement Line: A boundary which describes additional areas which may be made temporarily available for construction operations.

Time Contingency: The maximum time specifically identified in the Contract Documents by which the Owner may extend the contract time to accomplish the work without a change order. Limitations on the use of the time contingency are set forth in the Contract Documents.

Unit Prices: Unit prices shall include all labor, materials, tools, and equipment; all other direct and indirect costs necessary to complete the item of Work and to coordinate the unit price Work with adjacent work; and shall include all overhead and profit. Contractor shall accept compensation computed in accordance with the unit prices as full compensation for furnishing such Work.

Work: The construction and services required by the Contract Documents, which includes all labor, materials, equipment, and services to be provided by the Contractor to fulfill the Contractor's duties and obligations imposed by the Contract Documents or, if not specifically imposed by the Contract Documents, which can be reasonably assumed as necessary to fulfill the intent of the Contract Documents to provide a complete, fully functional and satisfactory project.

Work Order: A written order, authorized by the Architect/Engineer or Owner, directing the Contractor to perform work under a specific Allowance Account or directing the Contractor to perform a change in the Work that does not have a monetary impact, including but not limited to, extending the Contract Time or subject to the payment of Liquidated Indirect Costs if entitlement is established as required by these Contract Documents. No Work Order may increase the Contract Sum.

END OF ARTICLE

2. INTERPRETATION

(June 12, 2012)

- A. The intent of the Contract is to include all necessary items for the proper completion of the Work by the Contractor so the Owner may have a fully functioning facility and fully receive the benefits intended under the Contract. The Contractor shall perform, without additional compensation, such incidental work as necessary to complete the Work and fulfill the design intent, in accordance with the requirements set forth in the Contract Documents, so that it will meet the requirements for which the Project was intended, in a satisfactory and workmanlike manner.
- B. The Contract Documents and all referenced standards cited are essential parts of the Contract requirements. A requirement occurring in one is as binding as though occurring in all. The documents comprising the Contract Documents are complementary and indicate the construction and completion of the Work. Anything mentioned in the Contract Documents and not shown on the Contract Drawings or shown on the Contract Drawings and not mentioned in the Contract Documents, shall be of like effect as if shown or mentioned in both. The more stringent shall apply in the case of a conflict.

- C. Site Inspections and Verification of Governing Dimensions: In executing the contract, the Contractor represents that he has, prior to bid, visited the site, become familiar with the conditions under which the work is to be performed and correlated his personal observations with the requirements of the Contract Documents or that he has chosen not to do so, in the event that a mandatory site visit is not specified in the Contract Documents. The Contractor accepts the responsibility for all errors in construction which could have been avoided by such examination and the opportunity to seek timely clarifications during the bidding process. The Contractor, before commencing work, shall verify all governing dimensions at the site, and shall examine all adjoining work on which his work is in any way dependent for its conformance with the intent of the Contract Documents and no disclaimer of responsibility for defective or non-conforming adjoining work will be considered unless notice of same has been filed by the Contractor, and agreed to in writing by the Owner through the Architect/Engineer before the Contractor begins any part of the Work. No disclaimer for defective or non-conforming adjoining work that was clearly foreseeable to the Contractor during a site visit (mandatory or non-mandatory) will be considered by the Owner.
- D. Errors, Inconsistencies and Omissions: The Contractor shall carefully study and compare all drawings, Contract Documents and other instructions; shall verify all figures on the Contract Drawings before laying out the Work; shall notify the Owner or Architect/Engineer of all errors, inconsistencies, or omissions which he may discover; and obtain specific instructions in writing during the bidding process and prior to submitting his Bid. The Contractor shall not take advantage of any apparent error or omission which may be found in the Contract Drawings or Contract Documents, and the Architect/Engineer shall be entitled to make such corrections therein and interpretations thereof as he may deem necessary for the fulfillment of their intent. The Contractor shall be responsible for all errors in construction which could have been avoided by such examination and notification, and shall correct, at his own expense, all work improperly priced, scheduled or constructed through failure to notify the Owner or Architect/Engineer and to request specific instructions.
- E. Where "as indicated", "as detailed", or words of similar import are used, it shall be understood that the reference is made to the Contract Documents unless stated otherwise.
- F. References to Articles or Sections include sub-articles or subsections under the Article referenced.
- G. Referenced Standards: Material and workmanship specified by the number, symbol, or title of a referenced standard shall comply with the latest edition or revision thereof and amendments and supplements thereto in effect on the date of the Invitation to Bid except where otherwise expressly indicated. In case of a conflict between the Contract Documents and the referenced standard, the Contract Documents shall govern.
- H. Order of Precedence of Contract Documents: Unless otherwise provided for in the Special Provisions or required by law, the order of precedence of the Contract Documents will be as follows:
- 1) Change Orders to the Contract
 - 2) Notice to Proceed
 - 3) Construction Contract

- 4) Addenda
 - 5) Special Provisions
 - 6) General Conditions
 - 7) Technical Specifications
 - 8) Contract Drawings
 - 9) Referenced Codes and Standards
 - 10) Guarantees
 - 11) Instructions to Bidders
 - 12) Invitation to Bid
 - 13) Other documents
- I. In case of differences between small and large scale drawings, the drawings showing greater detail shall govern. Schedules on drawings shall take precedence over conflicting notations on drawings. In the event of discrepancy between any scaled dimensions on drawings and the figures written thereon, the figures shall govern over the scaled dimensions unless otherwise indicated.
- J. Explanations: Should it appear that the Work to be done or any of the matters relative thereto are not sufficiently detailed or explained in the Contract Documents, the Contractor shall apply to the Owner or Architect/Engineer in a timely manner to allow sufficient time for such further written explanations as may be necessary and shall conform to the explanation provided as part of the Contract. The Owner or Architect/Engineer's decision shall be final.
- K. Effect of Headings: The headings and titles to provisions in the Contract Documents are descriptive only and shall be deemed not to modify or affect the rights and duties of parties to this Contract.
- L. No acceptance, order, measurement, payment, or certificate of or by the Architect/Engineer and/or the Owner or its employees or agents shall either estop the Owner from asserting any rights or operate as a waiver of any provision hereof or of any power or right herein reserved to the Owner or of any rights to damages herein provided.
- M. Wherever the terms, "as directed", "ordered", "permitted", "designated", "as approved", "approved equal", "or equal", "acceptable" and other words of similar meaning which authorize an exercise of judgment are used in the Contract Documents, such judgment shall be vested only in the Architect/Engineer and/or the Owner and shall be final.
- N. The Contractor shall make available at the job site one copy of each referenced standard and/or Contract Documents for the Contractor's and the Field Representative's use during the time that work covered by the standards and/or Contract Documents is underway.
- O. The Contract Documents provide for a complete work and may have been prepared in divisions of various crafts, trades and other categories of work. The Contractor is responsible for the performance of all work under the Contract regardless of any such divisions and shall ensure that all of the work is performed and completed. The organization of the Contract Documents into divisions, sections and articles and the arrangement of the drawings do not restrict or limit

the Contractor into dividing the Work among subcontractors or in establishing the extent of the Work to be performed by any trade.

- P. No deviation from the approved Contract Documents shall be permitted without the prior written approval of the Owner, which approved deviation shall be documented either by Change order or Work Order.
- Q. All Requests for Information by the Contractor per this section shall be in accordance with the Contract Documents.

END OF ARTICLE

3. ARCHITECT/ENGINEER/FIELD REPRESENTATIVE

(June 12, 2012)

- A. The Architect/Engineer shall respond to questions which may arise as to the quality and acceptability of materials furnished, work performed, and as to the manner of performance and rate of progress of the work in accordance with the time frames prescribed in the Contract Documents. The Architect/Engineer shall decide all questions which may arise as to the interpretation of the Contract Documents relating to the Work, and the fulfillment of the Contract on the part of the Contractor, and those decisions shall be binding on the Contractor
- B. The Architect/Engineer is not authorized to revoke, alter, or waive any requirement of the Contract.
- C. The Architect/Engineer, Owner or Field Representative shall have free access to the Work and materials at all times to facilitate the performance of his duties.
- D. Subject to concurrence by the Owner, the Architect/Engineer shall have the right to observe and reject any material or work performed which does not meet the requirements of the Contract Documents. When the Architect/Engineer discovers any work in progress or completed that does not meet the requirements of the Contract Documents, the Architect/Engineer shall reject that portion of the Work affected and shall confirm such rejection in writing, as soon as practical, detailing the reasons for the rejection. Work rejected by the Architect/Engineer will not be paid for. Any such observation and/or rejection shall not be construed as undertaking supervisory control of the Work or of means and methods employed by the Contractor or his Subcontractors and shall not relieve the Contractor of any of his responsibilities or obligations under the Contract. The Contractor shall not request or attempt to require the Architect/Engineer to undertake such supervisory control or to administer, supervise, inspect, assist, or act in any manner so as to relieve the Contractor from such responsibilities or obligations.
- E. The fact that the Architect/Engineer has not made early discovery of materials furnished or work performed which does not meet the requirements of the Contract Documents, shall not bar the Architect/Engineer from subsequently rejecting said materials or work.
- F. If either the Architect/Engineer or the Field Representative requests it, the Contractor, at any time before acceptance of the work, shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of the work to

the standard required by the Contract Documents. Should the work thus exposed or examined prove acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for as Extra Work. Should the work so exposed or examined prove unacceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be at no additional cost to the Owner.

- G. Any work done or materials used which are not in compliance with the Contract Documents may be ordered removed and replaced at the Contractor's expense.
- H. The Owner and other agencies having jurisdiction over the work hereunder shall be afforded free access to the site to perform such inspections and tests as may be required to determine conformance of the Work with the Contract Documents.
- I. Neither the Architect/Engineer nor the Field Representative shall be responsible for any safety obligations imposed on the Contractor by applicable industry standards, licensing requirements, laws or regulatory requirements.

END OF ARTICLE

4. OWNER

(June 12, 2012)

- A. Unless otherwise specified or excluded elsewhere in the Contract Documents, the records of borings, test excavations and other subsurface investigations, if any, are offered as information only and solely for the convenience of the Contractor. The Owner does not warrant or guarantee either that said records are complete or that the said records will disclose the actual subsurface conditions. The interpretation of the records and the conclusions drawn therefrom as to the actual existing subsurface conditions are the sole responsibility of the Contractor.
- B. Any estimates of quantities of work or materials, based on said borings, test excavations and other subsurface investigations are not warranted by the Owner to indicate the true quantities or distribution of quantities unless the Contractor is expressly directed to rely on such information to prepare and submit his Bid.
- C. If the Contractor is notified by the Owner to correct defective or nonconforming work, and the Contractor fails to promptly proceed with corrective action in a reasonable time, the Owner may, upon written notice, accomplish the redesign, repair, rework or replacement of nonconforming work by the most expeditious means available and backcharge the Contractor for the cost incurred. The cost of backcharge work shall include all reasonable costs associated with the corrective action.
- D. The Owner shall separately invoice or deduct from payments, otherwise due to the Contractor, the costs as provided herein. The Owner's right to backcharge is in addition to any or all other rights and remedies provided in this Contract, or by law. The performance of backcharge work, on behalf of the Owner, shall not relieve the Contractor of any of its responsibilities under this Contract including but not limited to express or implied warranties, specified standards for quality, contractual liabilities and indemnifications, and the Contract Time.
- E. The Field Representative and/or Architect/Engineer will administer the Contract and the orders of the Owner are to be given through the Field Representative and/or Architect/Engineer. The Field Representative and/or Architect/Engineer shall determine the amount and quality of the several kinds of work performed and materials furnished which are to be paid for under the Contract.
- F. The Field Representative will observe the Contractor's work for compliance with the Contract Documents. Such observation shall extend to all or any part of the work done and to the preparation, fabrication, or manufacture of the material to be used.
- G. Upon discovery, the Field Representative shall call the Contractor's attention to faulty workmanship or defective materials and shall reject work and materials not conforming to the requirements of the Contract Documents.
- H. When any work in progress or completed does not meet the requirements of the Contract Documents, the Field Representative shall have the authority to order the Contractor to shut down that portion of the work affected until the affected work is corrected to the satisfaction of the Field Representative. The Field Representative shall confirm this order in writing as soon as practicable, detailing the reasons for the shutdown. Work performed in violation of the Field Representative's order to shutdown will not be accepted or paid for.

- I. The Field Representative is not authorized to revoke, alter, or waive any requirements of the Contract. The Field Representative will negotiate and act on behalf of the Owner to the authorized limits of his authority as specified in the Contract Documents.
- J. Whenever the Contractor intends to build, assemble or perform any portions of the Work away from the site, the Contractor shall promptly notify the Field Representative of such intentions, including where and when such work is to be performed, before such work starts. The Contractor shall also make arrangements for access thereto by the Field Representative and/or the Architect/Engineer so that the aforementioned portions of the Work may be inspected as needed.
- K. The fact that the Field Representative has not made early discovery of materials furnished or work performed which does not meet the requirements of the Contract Documents, shall not bar the Field Representative from subsequently rejecting said materials or work and does not relieve the Contractor of his responsibility to meet the requirements of the Contract Documents.
- L. The Field Representative shall not act as a foreman or perform other duties for the Contractor, nor interfere with the management of the work by the Contractor.
- M. The administration, observation of the work, and actions by the Field Representative, as herein provided, shall not be construed as undertaking supervisory control of the construction work or of means and methods employed by the Contractor or his Subcontractors and shall not relieve the Contractor from any of his responsibilities or obligations under the Contract; the Contractor shall not request or attempt to require the Field Representative to undertake such supervisory control or to administer, to supervise, to inspect, to assist, or to act in any manner so as to relieve the Contractor from such responsibilities or obligations.
- N. The Field Representative shall decide all questions relating to the rights of different prime Contractors on the Project or site.
- O. All materials and each part or detail of the work shall be subject to observation by the Field Representative and/or the Architect/Engineer. The Architect/Engineer and the Field Representative shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the Contractor as is required.
- P. Miami-Dade County enters into this Contract solely in its proprietary capacity. Nothing in this Contract is intended to bind or otherwise restrict the discretion of Miami-Dade County acting in its regulatory capacity, including but not limited to the regulatory acts of the Departments of Regulatory and Economic Resources (RER), Transportation and Public Works (DTPW), Fire-Rescue (MDFRD) and Water & Sewer (WASD) or their successors.

END OF ARTICLE

5. CONTRACTOR

(June 12, 2012)

- A. If the Contractor hereunder is comprised of more than one legal entity, each such entity shall be jointly and severally liable hereunder.

- B. The Contractor shall hold valid current certificate(s) of competency for the type of work to be performed, in accordance with the qualifications requirements as set forth in Chapter 489 of the Florida Statutes and Chapter 10 of the Code of Miami- Dade County.
- C. The Contractor shall maintain within Miami-Dade County, Florida, a duly authorized agent to accept service of legal process on its behalf, and shall keep the Owner advised of such agent's name and address, during the duration of the Contract, and for three years after final payment or as long as Contractor has warranty obligations under these Contract Documents, whichever period terminates later. The Contractor shall complete the form titled "Contractor Agent to Accept Service" included in the Contract Documents and submit it to the Architect/Engineer prior to NTP.
- D. The Contractor shall be responsible for the complete performance for all of the work under the Contract, and for the methods, means, and equipment used in performing the Contract and for all materials, tools, apparatus and property of every description used in connection therewith.
- E. Upon approval of the Contractor's schedule by the Owner, the Contractor will submit written confirmation from all his Subcontractors agreeing to work within the timeframes specified in the Contractor's approved schedule.
- F. Contractor's Superintendent: The Contractor shall provide a superintendent at the site at all times who is competent in the type of work being performed to act as the Contractor's agent, and shall give that superintendent the full authority to receive instruction from the Field Representative or Architect/Engineer and to execute the order or directions of the Field Representative or Architect/Engineer, including the prompt supply of all materials, tools, equipment, labor, and incidentals that may be required. The Contractor shall furnish such superintendence regardless of the amount of work that is subcontracted, and the superintendent shall read, speak, write and understand English. The Contractor shall also maintain at least one other employee on the work site during Project working hours who speaks and understands English. This superintendent shall be responsible for keeping written daily logs of the work on the project.
- G. The competency of the superintendent shall be demonstrated through licensure or certification in contracting, engineering, trade or experience as applicable to the work being performed. Proof of licensure, certification or qualification of the superintendent must be provided to the Owner at the pre-construction conference and is subject to the approval of the Architect/Engineer or Field Representative after Contractor receipt of said requirements.
- H. In the event that the Field Representative or Architect/Engineer determines, through the course of the actual work progress, that the superintendent lacks the knowledge or expertise necessary to execute the work in an efficient and competent manner, in keeping with all current codes and best practices, the Field Representative or Architect/Engineer shall notify the Contractor in writing and the superintendent shall be replaced by the Contractor with a person acceptable to the Field Representative or Architect/Engineer within five (5) working days.
- I. The Contractor's failure to replace the superintendent in the time allotted shall be cause for the Owner to suspend work with such delays chargeable to the Contractor as Liquidated Damages as specified elsewhere in this contract.

- J. The Contractor shall maintain a daily accounting of his daily manpower, by trade and position, and provide this information to the Field Representative on a weekly basis.

END OF ARTICLE

6. SUBCONTRACTORS

(June 12, 2012)

- A. The Contractor will be permitted to subcontract portions of the Work to competent Subcontractors. Such Subcontractors shall hold valid current certificate(s) of competency for the type of work to be performed, in accordance with the qualifications requirements as set forth in the Florida Statutes and the Code of Miami- Dade County.
- B. Nothing contained herein shall create any contractual relationship between the Owner and any level of Subcontractor, materialman or supplier.
- C. All work performed for the Contractor by a Subcontractor shall be pursuant to an appropriate agreement between the Contractor and the Subcontractor which shall contain provisions that:
 - 1) Preserve and protect the rights of the Owner and any of its authorized representatives under the Contract, including but not limited to, the Architect/Engineer and Field Representative, with respect to the Work to be performed under the subcontract so that the subcontracting thereof will not prejudice such rights;
 - 2) Require that such Work be performed in accordance with the requirements of the Contract Documents including the Contractor's approved schedule;
 - 3) Require submission to the Contractor of applications for payment under each subcontract to which the Contractor is a part, in reasonable time to enable the Contractor to apply for payment in accordance with any and all payment provisions of the Contract Documents;
 - 4) Require that all claims for additional costs, extensions of time, damages for delays or otherwise with respect to subcontracted portions of the Work shall be submitted to the Contractor (via any Subcontractor or Sub-subcontractor or Supplier where appropriate) in sufficient time so that the Contractor may comply in the manner provided in the Contract Documents for like claims by the Contractor upon the Owner;
 - 5) Require specific consent to all relevant provisions of the Contract Documents; and
 - 6) Incorporate all flow-down clauses specifically called for in the Contract, as directed.
- D. Contractor Participation: The Contractor shall perform not less than 25 percent of the Work, not inclusive of materials purchased, with his own organization. If the Contractor is a joint venture, the requirement shall be satisfied by any one, or a combination of any of the joint venture partners. Where a percentage of a Bid Item is subcontracted, the dollar value of that percentage subcontracted will be based on the estimated cost of such Bid Item, determined from information submitted by the Contractor, subject to approval by the Owner. The materials produced by other than the Contractor's forces shall be considered as being subcontracted. If, during the progress of the Work, the Contractor requests a reduction in such participation percentage, and the Owner determines that, due to the special nature of the conditions of the Work at the time, it would be to the Owner's advantage, the percentage of the Work required to be performed by the Contractor may be reduced, provided written approval of such reduction is obtained by the Contractor from the Owner. The Contractor shall not proceed with any such reductions until his request is approved in writing by the Owner or his authorized designee.

Under no circumstances shall less than ten percent (10%) of the Work be performed with the Contractor's own forces. E. Work Performed by Equipment-Rental Agreement:

- 1) The amount of work performed under equipment rental agreements shall not be considered Subcontractor work. However, for work to be performed by equipment-rental agreement, the Contractor shall notify the Architect/Engineer in writing of such intention before using the rented equipment, and shall indicate whether the equipment is being rented on an operated or non-operated basis. The Contractor's written notice shall contain a listing and description of the equipment and a description of the particular work to be performed with such equipment. As an exception to the above requirements for a written notice to the Architect/Engineer, such notice will not be required for equipment to be rented (without operators) from an equipment dealer or from a firm whose principal business is the renting or leasing of equipment.
- 2) The operators of rented equipment, whether rented on an operated or a non-operated basis, will be subject to wage rate requirements applicable to the Project. If equipment is being rented without operators, the Contractor shall be required to carry the operators on his own payroll. When equipment is rented on an operated basis, the Contractor, when required by the Contract or requested by the Architect/Engineer, shall submit payrolls from the lessor with the names of the operators shown thereon.

F. No work is to be performed at the Work site until the Contractor is in compliance with the Insurance Specifications, has furnished satisfactory evidence of required insurance to the Owner and obtained all required permits. G. Approval of Subcontractor:

- 1) Prior to entering into any subcontract for Work to be performed on the Project, the Contractor shall secure the approval of the Owner regarding the prospective subcontractor's qualifications, employment data and compliance with DBE program requirements. The forms used to provide the required information shall be the same as those included in the Forms for Bidding. The Owner will review the submittal from each Subcontractor, and will furnish written notification to the Contractor concerning approval of the award of the subcontract. If the Owner objects to the proposed award or fails to respond to the Contractor within five (5) business days of the complete submittal of the required information, the Contractor may furnish written notice of another subcontractor for consideration. The Owner may, at its discretion, waive or reduce subcontractor information submittal requirements as it deems appropriate.
- 2) In accordance with Ordinance 97-104, codified in Miami-Dade County Code Sections 2-8.1 and 10-33.01, the Contractor shall not, without written consent of the Owner, either replace any subcontractor or permit any such subcontract to be assigned or transferred, or allow that portion of the Work to be performed by anyone other than the approved subcontractor, except he may perform the work himself with qualified personnel upon written notice to the Owner in accordance with applicable law.

END OF ARTICLE

7. PROSECUTION OF THE WORK

(June 12, 2012)

A. Workmanship and Unauthorized Work

- 1) Work under this Contract shall be performed in a skillful and workmanlike manner. Unless otherwise indicated in the Contract Documents, the Contractor shall be solely responsible for means and methods and for the coordination of all trades through completion of the Work and without damage to the existing or newly installed components and surfaces. The Architect/Engineer or Field Representative may, in writing, require the Contractor to remove from the work any employee the Architect/Engineer or Field Representative determines incompetent, careless or otherwise objectionable. Such request shall be at no cost to the Owner.
- 2) Unauthorized Work: Work performed beyond the lines and grades shown on the Contract Drawings and approved Shop Drawings or established by the Owner, and Extra Work done without a Work Order or Change Order, will be unauthorized work and the Contractor will receive no compensation therefor. If required by the Owner, unauthorized work shall be remedied, removed or replaced by the Contractor at the Contractor's expense. Upon failure of the Contractor to remedy, remove or replace unauthorized work, the Owner may at its discretion, remedy, remove or replace the unauthorized work and the Contractor shall bear the responsibility for any and all costs and for delays resulting from such work.
- 3) The entire work and each part thereof, unless otherwise specified in the Contract Documents, shall be placed at the location, elevation, grade and gradient specified, and in proper alignment and adjustment. The Contractor shall provide all frames, forms, falsework, shoring, guides, anchors and temporary structures required to ensure these results.
- 4) No deviation from the approved Contract Documents shall be permitted without the prior written approval of the Architect/Engineer and/or Owner, by Work Order or Change Order, which approved deviation(s) shall be documented to the extent required by the Contract Documents.
- 5) The Contractor shall, at all times, employ sufficient labor and equipment for prosecuting the work to full completion in the manner and time required by the Contract Documents. All workers shall have sufficient skill and experience to properly perform the work assigned to them. Workers engaged in special work or skilled work shall have sufficient experience in such work and in the operation of the equipment required to perform the work satisfactorily.
- 6) All proposed equipment shall be of sufficient size and in such mechanical condition as to meet requirements of the work, producing a satisfactory quality of work. Equipment used on any portion of the work shall be such that no damage to previously completed work, adjacent property, or existing facilities will result from its use.

- 7) When the Contract Documents specify the use of certain methods and equipment, such methods and equipment shall be used unless others are authorized in writing by the Architect/Engineer by Work Order or Change Order. If the Contractor desires to use a method or type of equipment other than specified in the Contract, he may request permission from the Architect/Engineer to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed and of the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing work in conformity with Contract requirements. If, after trial use of the substituted methods or equipment, the Architect/Engineer determines that the work produced does not meet Contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining work with the specified methods and equipment. The Contractor shall remove any deficient work and replace it with work of specified quality, or take such other corrective action as the Architect/Engineer may direct, at no additional cost to the Owner. No change will be made to the Contract price or the Contract Time as a result of authorizing a change in methods or equipment under this article.
- 8) The Contractor shall give constant attention to the work to facilitate the progress thereof, and he shall cooperate with the Architect/Engineer and its Field Representatives and with other Contractors in every way possible.
- 9) The Contractor warrants to the Owner that all materials and equipment furnished under this Contract will be new unless otherwise specified, and that the work will be of good quality, free from faults and defects in materials and workmanship for a period of one year from the date of Substantial Completion, unless otherwise required under this Contract. Work not conforming to these standards may be considered defective. If required by the Architect/Engineer, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

B. Material

- 1) Unless otherwise indicated in the Contract Documents, equipment, material and products incorporated in the Work covered by this Contract shall be new and of the grade specified for the purpose intended. Unless otherwise specifically indicated, reference to equipment, material, product, or patented process by trade name, make, or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition. The Contractor may, at his option and, subject to the approval of the Architect/Engineer, use any equipment, material, article, or process which is equivalent to that named, subject to the requirements of these Contract Documents or propose a substitute equipment, material, article or process as indicated below. The Contractor shall at all times comply with established Green Building or LEED standards, if applicable, and as established in the Contract Documents. Proposed alternative equipment, material, products, or patented processes shall be considered equivalent if the Architect/Engineer determines that the proposed alternative is functionally equal to and/or sufficiently similar to that specified in the Contract Documents.

- 2) The Architect/Engineer shall be the sole judge of the quality, suitability and cost of the proposed alternative equipment, material, article or process. A proposed alternative shall be considered equivalent and/or functionally equal to that specified in the Contract Documents if, in the exercise of reasonable judgment, the Architect/Engineer determines that the proposed alternative is at least equal in materials of construction, quality, durability, appearance, strength and design characteristics, will reliably perform at least equally well the function and achieve the results imposed by the design concept and has a proven record of performance and availability.
- 3) If the Architect/Engineer determines that a proposed alternative does not qualify as equivalent or functionally equal, the alternative may be proposed for consideration as a substitute subject to the Contractor submitting sufficient information as provided below to allow the Architect/Engineer to determine that the proposed alternative is essentially equivalent to or better than the specified item and is an acceptable substitute for that said specified item.
- 4) The burden of proving the quality, suitability and cost of an alternative shall be borne by the Contractor. All information required by the Architect/Engineer in judging an alternative shall be supplied by the Contractor at the Contractor's expense. The Architect/Engineer's costs in evaluating a proposed alternative, irrespective of its acceptance, will be reimbursed by the Contractor to the Owner. In the case of approved alternatives, the Contractor shall also reimburse the Owner for the Architect/Engineer's costs to revise the Contract Documents.
- 5) The Contractor certifies that, if approved and incorporated into the Work, there will be no increase in cost to the Owner or in Contract Time and the proposed alternative shall conform substantially to the detailed requirements of the item specified in the Contract Documents.
 - a. Where use of an alternative material involves redesign of or changes to other parts of the Work, the cost and the time required to affect such redesign or change will be considered in evaluating the suitability of the alternative material. All costs pertaining to redesign and changes in other parts of the Work, including remedial work to completed work, shall be at the Contractor's expense.
 - b. No action relating to the approval of alternative materials will be taken until the request for approval of the alternative materials is made in writing by the Contractor accompanied by complete data as to the quality, suitability and cost of the materials proposed. Such request shall be made at least 60 days before the early start date of the activity. Any delays in receiving approval shall be the responsibility of the Contractor.
 - c. The Architect/Engineer will examine and review the proposed alternative with the Owner and return it, within twenty-one (21) calendar days from the date of its receipt at the Architect/Engineer's office, to the Contractor noted with the final decision. If the final decision approves either an equal or a substitution, the approval must also contain the Owner's written approval.

When requested by the Architect/Engineer, the Contractor shall resubmit such Shop Drawings, descriptive data and samples as may be required.

- d. Where classification, rating, or other certification by a body such as, but not limited to, Underwriters' Laboratories Inc. (UL), National Electrical Manufacturer's Association (NEMA), or American Railway Engineering Association (AREA) is a part of the specification for any material, proposals for use of alternative materials shall be accompanied by reports from the listed body, or equivalent independent testing laboratory, indicating compliance with Contract Documents requirements. Testing required proving equality of the material proposed shall be at the Contractors expense.
 - e. Approval of an alternative material will be only for the characteristics and use named in such approval, and shall not change or modify any Contract requirement, or establish approval for the material to be used on any other Project for the Owner.
- 6) Source of Supply and Quality of Materials: The Contractor shall furnish all materials and products required to complete the Work except those designated to be furnished by the Owner.
- a. Notwithstanding prior inspection and approval by the Architect/Engineer, only materials conforming to the requirements of the Contract Documents shall be incorporated in the Work.
 - b. The materials shall be manufactured, handled and incorporated so as to ensure completed work in accordance with the Contract Documents.
- 7) Defective Materials: Contractor-furnished materials not conforming to the requirements of the Contract Documents will be rejected, whether in place or not. Rejected material shall be removed immediately from the Work site. No rejected material, the defects of which have been subsequently corrected, shall be used in the Work. The Owner may cause the removal and replacement of rejected material and the cost thereof will be deducted from any monies due or to become due to the Contractor.
- 8) Handling of Materials: Materials shall be transported, handled and stored by the Contractor in a manner which will ensure the preservation of their quality, appearance and fitness for the Work. Materials shall be stored in a manner to facilitate inspection.
- 9) The Owner will have no responsibility to the Contractor concerning local material sources.
- a. The Contractor shall make all necessary arrangements with the owners of material sources. The Contractor shall pay all costs in connection with making such arrangements, exploring, developing and using material sources, whether or not indicated, except such costs as the Owner expressly agrees in writing to assume.
- 10) Disposal of Material Outside the Work Site: Unless otherwise specified in the Contract Documents, the Contractor shall make his own arrangements for properly disposing of waste and excess materials outside the Work Site and he shall pay all costs therefore.

Contractor shall comply with all local, state and federal requirements when disposing of waste and excess materials.

- a. Prior to disposing of material outside the Work Site, the Contractor shall obtain written permission from the owner on whose property the disposal is to be made. The Contractor shall file with the Architect/Engineer said permit, or a certified copy thereof, together with a written release from the property owner absolving the Owner from any and all responsibility in connection with the disposal of material on said property.

11) Property Rights in Materials: The Contractor shall have no property right in materials after they have been attached or affixed to the Work or the soil, or after payment has been made by the Owner to the Contractor for materials delivered to the site of the Work, or stored subject to or under the control of the Owner, as provided in these Contract Documents. However, the Contractor shall be responsible for the security of the material on-site until Final Acceptance by the Owner.

C. Methods of Sampling and Testing

- 1) Sampling and testing of all materials shall be as set forth in the Contract Documents. Except for quality control testing and any other testing that may be the direct responsibility of the Contractor as set forth in the Contract Documents, the testing of samples and materials will be made at the expense of the Owner by the project testing laboratory. The Contractor shall furnish the required samples without charge. Any and all fees for non-conforming materials or work shall be solely borne by the Contractor. The Contractor shall give sufficient notification to the Field Representative of the placing of orders for or receipt of materials to permit testing.
- 2) The Field Representative may inspect, at its source, any specified material or assembly to be used in the Work. Manufacturing plants may be inspected from time to time for the purpose of determining compliance with specified manufacturing methods or materials to be used in the Work and to obtain samples required for its acceptance of the material or assembly

Should the Field Representative conduct plant inspections, the following shall exist:

- a. The Field Representative shall have the cooperation and assistance of the Contractor and the producer with whom he has contracted for materials.
 - b. The Field Representative shall have full entry at all reasonable times to such parts of the plant that concern the manufacture or production of materials being furnished.
 - c. If required by the Field Representative, the Contractor shall arrange for adequate office or working space that may be reasonably needed for conducting plant inspections. Office or working space should be conveniently located with respect to the plant.
- 3) It is understood and agreed that the Owner shall have the right to retest any material which has been tested and approved at the source of supply after it has been delivered to

the site. The Field Representative shall have the right to reject only material which, when retested, does not meet the requirements of the Contract Documents. In such an event, the cost of re-testing shall be borne by the Contractor if it results in a rejected material.

- 4) All inspections and testing of materials, assemblies and equipment will be performed in Miami-Dade County. If the Contractor's material or manufacturing sources are such that inspections or tests cannot be made in Miami-Dade County, all traveling and lodging expenses in connections with such inspections and testing shall be borne by the Contractor.

D. Meetings

- 1) A pre-construction conference will be held prior to the issuance of the Notice to Proceed to discuss the work to be performed under this contract. The Contractor and its major Subcontractors shall be required to attend this meeting. The Contractor will be advised of the time, date and location of the meeting.
- 2) The Contractor shall attend weekly construction coordination meetings at a time and place to be designated by the Architect/Engineer. These meetings are intended to determine job progress, identify job problems, assist in solving and preventing job problems, and promote coordination with all entities involved in the Contract and with other Owner Contractors. The Contractor shall cause Subcontractors and suppliers to attend as he deems advisable, or as requested by the Architect/Engineer. Unless otherwise provided for in these Contract Documents, the Contractor shall be responsible for generating and distributing meeting minutes for all such meetings.

E. Permits and Compliance with Laws

- 1) Unless otherwise provided for in these Contract Documents, the Contractor shall be responsible for obtaining necessary licenses and permits and for complying with applicable Federal, State, County and Municipal laws and latest codes and regulations in connection with the prosecution of the Work. (For payment of permit(s), see Special Provisions). No time extensions will be allowed for delays in obtaining the required permits unless revisions directly caused by the Owner or its agents are required to the Contract Drawings due to changes in codes, regulations and applicable contract standards during the contract term. See Special Provisions for additional permit requirements.
- 2) The Owner will not pay or reimburse the Contractor for any penalties relating to his permits or fees as a result of the Contractor's failure to timely obtain all his permits, inspections, approvals, etc.
- 3) The Contractor shall observe and comply with all applicable Federal, State, County and other laws, codes, ordinances, rules and regulations of the Federal, State and County governments, all authorities having jurisdiction, and any and all programs developed in compliance therewith, in any manner affecting the conduct of the Work.
- 4) Dewatering of excavations shall be performed in accordance with the applicable provisions of the Department of Environmental Resources Management (DERM), Florida Department of Environmental Protection (DEP), U.S. Environmental Protection Agency (USEPA) and the South Florida Water Management District (SFWMD) Dewatering Permits and/or any and all authorities having jurisdiction and any other

requirements specified in the Contract Documents. The means and methods of dewatering shall be determined by the Contractor who shall bear the full cost of same as part of the contract price.

- 5) All construction activities shall be subject to the pollution prevention requirements established under the National Pollutant Discharge Elimination System (NPDES) program under the Clean Water Act regulating storm water discharge from construction sites.
- 6) Upon completion of all of the work contemplated under the Contract Documents, the Contractor shall obtain and deliver to the Field Representative such Certificate(s) of Occupancy or Certificate(s) of Completion as required by the Florida Building Code and/or authority having jurisdiction.
- 7) The Contractor shall be subject to and comply with all the provisions of Miami-Dade County Code Section 2-8.4.1, which provides that, whenever any individual or corporation or other entity attempts to meet its contractual obligations with the County through fraud, misrepresentation or material misstatement, the County shall, whenever practicable, terminate the Contract. The Contractor is further directed to Section 10-38 of the Miami-Dade County Code which provides for the debarment of County contractors.

F. Coordination and Access

- 1) Other Contracts: The Owner may undertake or award other contracts for additional work, and the Contractor shall fully cooperate and coordinate with other Contractors and the Owner and carefully fit his own work to such additional work. The Contractor shall not perform any act which will interfere with the performance of work by any other contractor or by the Owner. The Contractor shall be responsible for obtaining all necessary scheduling details from other Contractors and these requests must be provided, in writing, to the Owner. The Architect/Engineer shall have the authority to resolve conflicts related to coordination between Contractors.
- 2) In the event of interference between the work of the Contractor and other contractors working concurrently at the Site, the Field Representative will instruct the Contractor as to which work has priority in performance and such instructions shall be binding upon the Contractor.
- 3) Utility companies, railroads, and municipal agencies having facilities within the limits of the Work shall have access to their facilities at all times for inspection and repair.

G. Rights in Land and Improvements

The Contractor shall make no arrangements with any person to permit occupancy or use of any land, structure or building within the Work Site for any purpose whatsoever, either with or without compensation, in conflict with any agreement between the Owner and any property owner, former property owner or tenant of such land, structure or building. The Contractor shall not occupy Owner-owned property outside the Work Site without obtaining prior written approval from the Owner.

H. Interference With Existing Utilities

- 1) Attention of the Contractor is specifically directed to the need for careful control of all aspects of his work to prevent damage to cables, ducts, water mains, sewers, fire mains, telephone cables, fuel lines, radar cables, and any other existing overhead or underground utilities and structures.
- 2) Before commencing work in any given area, the Contractor shall contact utility companies to identify any potential conflicts. Further, the Contractor shall also carefully review the Plans, survey and search the site for utility locations, and determine possible utility conflicts. All known above and underground utilities, including, but not limited to, electrical, telephone, communications, lighting cables, fuel lines, sewer, drainage and water pipes, and other existing structures are shown on the Plans for reference purposes only, but no guarantee is expressed or implied that the information is accurate. It shall be the sole responsibility of the Contractor to ascertain and/or verify the location of any and all such utilities or structures using magnetic and electronic detectors and by hand excavation or other appropriate measures before performing any work that could result in damage to such existing utilities or structures. The Contractor shall make a thorough search of the particular location for underground utilities or structures whether or not shown on the drawings, before excavation work is commenced in any particular location. To this end the Contractor shall provide and maintain throughout the term of the Contract, electronic and magnetic detecting devices capable of locating underground utilities or structures. The Contractor shall, after locating primary and critical existing utilities, mark their location with indelible material or other means satisfactory to the Field Representative and maintain above ground physical identification during the work.
- 3) In the event of damage to, or accidental disruption of utilities or other facilities as a result of the Contractor's operations, the Contractor shall take immediate steps to repair or replace all damage and to restore all services. Further, the Contractor shall engage any additional outside services which may be necessary to prosecute repairs on a continuous "around the clock" basis until services are restored. The Contractor shall also provide and operate any supplemental temporary services to maintain uninterrupted use of the facilities. All costs involved in making repairs and restoring disrupted service resulting from the Contractor's work shall be borne by the Contractor and the Contractor shall be fully responsible for any and all claims resulting from the damage.

I. Protection of Existing Facilities, Vegetation, Structures, Utilities and Improvements

- 1) The Contractor shall preserve and protect existing vegetation such as trees, shrubs, and grass on or adjacent to the work site which are not indicated to be removed and which do not unreasonably interfere with the construction Work and he shall replace in kind the vegetation, shrubs and grass damaged by him at his own expense.
- 2) The Contractor shall protect from damage all utilities, foundations, walls or other parts of adjacent, abutting or overhead buildings, railroads, bridges, structures, surface and subsurface structures at or near the site of the Work and shall repair or restore any damage to such facilities, except utilities, resulting from failure to comply with the requirements of this Contract or the failure to exercise reasonable care in the performance of the Work. If, after receipt of notification from the Architect/Engineer, the Contractor fails to or

refuses to repair any such damage promptly, the Owner may have the necessary Work performed and charge the cost thereof to the Contractor.

- 3) At points where the Contractor's operations are adjacent to utility facilities, damage to which might result in expense, loss, disruption of service or other undue inconvenience to the public or to the owners, Work shall not be commenced until all arrangements necessary for the protection thereof have been made by the Contractor. The Contractor shall be solely and directly responsible to the owners and operators of such utilities for any damage, injury, expense, loss, inconvenience, or delay, caused by the Contractor's operations.
 - a. Where public utilities or their appurtenances interfere with permanent construction, unless otherwise specified, work involved in permanently relocating or otherwise altering such public utilities and their appurtenances will not be a part of this Contract but will be done by utility owners at no cost to the Contractor. If the Contractor wishes to have utilities temporarily relocated, he shall make necessary arrangements with utility owners and reimburse them at his own expense for cost of the Work. The Contractor shall keep the Architect/Engineer advised of temporary relocation arrangements.
 - b. The Contractor shall not repair or attempt to repair utility damage but shall immediately contact the utility owner. The Contractor shall obtain the name, address and telephone number of each utility company that the work will affect and the person in such utility company to contact. He shall submit to the Architect/Engineer said names, addresses and telephone numbers.
- 4) The Contractor shall comply with the latest version of the Florida Building Code or the Code under which the Contract Documents were approved, whichever is applicable at the time the Work is performed.
- 5) In order to safeguard the owners and tenants of abutting property and at the same time prevent unjust or fraudulent claims against the Contractor the Government, State, the Owner and the Architect/Engineer in respect thereto, the Contractor shall cause a detailed examination of abutting property to be made before construction is begun. The owner or tenant of each parcel or structure or his or their duly authorized representative will be invited to be present during the examination by a notice in writing delivered by the Contractor to a person in charge of the premises or structure, or by the mailing of the notice to the owner at the premises. The Architect/Engineer will attend while the Contractor makes the detailed examination. A complete record including photographs of the existing conditions of each parcel or structure shall be made in triplicate, signed by the Contractor, Owner and the Architect/Engineer and one copy will be delivered to the Owner, one to the Architect/Engineer and one will be retained by the Contractor. At such time as the Architect/Engineer may direct, or upon the filing of the verified statement by the owner, tenant, lessee, operator or occupant of the building structure, and in any event, upon the completion of any work that in the opinion on the Architect/Engineer might affect the abutting property, the Contractor will make another detailed examination of such abutting property. A complete record of the then existing conditions of said property will be made in triplicate, signed by the Contractor and one copy will be delivered to the

Owner, one to the Architect/Engineer and one will be retained by the Contractor. In any action, which may be brought by any owner, tenant, lessee, operator or occupant of abutting property to recover under the provisions of this article or any paragraph hereof, the record of the existing conditions of each parcel will be prima facie evidence of the conditions thereof at the time of the making of the examination.

- 6) The Contractor shall maintain access to fire hydrants and fire alarm boxes throughout the prosecution of the Work. Hydrants, alarm boxes and standpipe connections shall be kept clear and visible at all times unless approved otherwise. If visibility cannot be maintained, the Contractor shall provide clearly visible signs showing the location of the fire hydrant, fire alarm box or standpipe connection. The Contractor shall promptly notify the authority having jurisdiction of any impairment to any fire systems.

J. Damage to the Work and Responsibility for Materials

- 1) The Contractor shall be responsible for materials delivered and work performed until completion and Final Acceptance of the entire construction thereof, except those materials and work which may have been accepted under the applicable sections of this article and shall take all necessary steps to protect the Work, from all causes, at his expense.
- 2) The Contractor shall bear the risk of injury, loss or damage to any and all parts of the Work for whatever cause, whether arising from the execution or from the non-execution of the Work, except as provided for in this article. The Contractor shall rebuild, repair or restore work and materials which have been damaged or destroyed from any cause before Completion and Acceptance of the Work and shall bear the expense thereof. The Contractor shall provide security including, but not limited to, security guards, temporary drainage systems and erection of temporary structures and temporary fencing as necessary to protect the Work and materials from damage.
- 3) The Contractor shall be responsible for materials not delivered to the site for which any progress payment has been made to the same extent as if the materials were so delivered.
- 4) The Contractor's responsibility for material shall be the same for Owner-furnished material, upon receipt of said material from the Owner, under this Contract as for Contractor-furnished material.
- 5) Relief from Maintenance and Responsibility: The Contractor may request, in writing, from the Owner, that the Owner relieve the Contractor of the duty of maintaining and protecting certain portions of the Work, as described in this paragraph, which have been completed in all respects in accordance with the requirements of the Contract. Such action by the Owner will relieve the Contractor of responsibility for injury or damage to said completed portions of the Work resulting from use by the Owner or the public for any cause, but not from injury or damage resulting from the Contractor's own operations or negligence. Portions of the Work for which the Contractor may be relieved of the duty of maintenance and protection, as provided in this paragraph, include the following:
 - a. Early possession by the Owner of any portion of the Work, in accordance with the Contract Documents.

- b. This Paragraph 5 does not relieve the Contractor of responsibility for repairing or replacing defective work or materials in accordance with the Contract requirements.

K. Emergencies

- 1) In an emergency affecting the safety of life, the Work, or adjacent property, the Contractor shall notify the Field Representative and the Architect/Engineer as early as possible that an emergency exists. In the meantime, without special instruction from the Architect/Engineer as to the manner of dealing with the emergency, the Contractor shall act at his own discretion to prevent such threatened loss or injury. As emergency work proceeds, the Field Representative and the Architect/Engineer may issue instructions, which the Contractor shall follow. The compensation to which the Contractor is entitled on account of emergency work, if any, shall be limited to emergencies not caused by actions or inactions of the Contractor determined in accordance with the Contract Documents, where applicable.
- 2) For purposes of this article, an emergency is defined as an act or event that has already occurred, not caused by actions or inactions of the Contractor, which, if no immediate action is taken may affect the safety of life, the work, or adjacent property. This article does not apply to steps taken by the Contractor to protect the Work, adjacent structures, utilities, existing vegetation, etc. under other sections of the Contract Documents. Furthermore, this article does not apply to preparations the Contractor may make prior to storms or hurricanes or other acts of God.

L. Accident Prevention

- 1) Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:
 - a. All persons on the Site or who may be affected by the Work;
 - b. All the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and other property at the Site or adjacent thereto, including trees, shrubs lawns, walks, pavements, roadways, structures, utilities, and underground facilities not designated for removal, relocation, or replacement in the course of construction.
- 2) Contractor shall comply with all applicable laws and regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss and shall erect and maintain all necessary safeguards for such safety and protection.
- 3) Upon notification from the Owner or its representative(s), the Contractor shall promptly correct any deficiencies affecting the safety and well being of the construction workers and the public that have been identified by the notice.
- 4) Should a situation of imminent danger be identified, work in the affected area must be suspended immediately until the condition has been corrected. Imminent danger is

defined as the exposure or vulnerability to harm or risk that is impending or about to occur as defined by the Field Representative or the Architect/Engineer. The Contractor will not be entitled to future claims alleging impacts caused by the Owner stoppage of the Work due to safety reasons.

M. Warranty of Work

- 1) Except where longer periods of warranty are indicated for certain items, the Contractor warrants the Work under the Contract to be free from faulty materials and workmanship for a period of not less than one (1) year from the date of Substantial Completion. This one-year period shall be covered by the Surety Performance Bond as specified in this Contract, except that in the case of defects or failure in a part of the work which the Owner takes possession of prior to Substantial Completion, such a period shall commence on the date the Owner takes possession. Upon receiving notification from the Owner or any public body, to whom the ownership of the Work has been transferred or who has agreed to maintain the Work, the Contractor shall immediately remedy, repair, or replace, without cost to the Owner or other notifying party and to the entire satisfaction of the notifying party, defects, damages, or imperfections due to faulty materials or workmanship appearing in said Work within said period of not less than one year. Remedial work shall carry the same warranty as the original work starting with the date of acceptance of the replacement or repair. Payment to the Contractor will not relieve him of any obligation under the Contract.
- 2) The Contractor, at no additional expense to the Owner, shall also remedy damage to equipment, the site, or the buildings or the contents thereof, which is the result of any failure or defect in the Work, and restore any Work damaged in fulfilling the requirements of the Contract. Should the Contractor fail to remedy any such failure or defect within ten (10) days after receipt of notice thereof, the Owner will have the right to replace, repair, or otherwise remedy such failure or defect and deduct all costs from the Contractor's pay request or Performance Bond if final payment has been made.
- 3) The Contractor will correct all latent defects discovered within ten (10) years after Substantial Completion provided that the Owner shall notify the Contractor of each latent defect within the time specified by law. The Contractor, without prejudice to the terms of the Contract, shall be liable to the Owner for all damages sustained by the Owner resulting from latent defects, fraud, or such gross mistakes as may amount to fraud, discovered after the stated guarantee and warranty periods have expired. If the Contractor fails to act within ten (10) days, the Owner reserves the right to have the work performed by others at the expense of the Contractor, and the Contractor agrees to pay the Owner the reasonable cost associated with procurement, implementation and management thereof upon demand. The Owner shall also be entitled to reasonable attorney's fees, necessarily incurred upon the Contractor's refusal to pay the above costs.
- 4) Subcontractors', manufacturers' and suppliers' warranties and guaranties, expressed or implied, with respect to any part of the Work and any material used therein shall be deemed obtained and shall be enforced by the Contractor for the benefit of the Owner provided that, if directed by the Owner, the Contractor requires such subcontractors,

manufacturers and suppliers to execute such warranties and guaranties, in writing, directly to the Owner.

- 5) The rights and remedies of the Owner provided in this article are in addition to and do not limit any rights and remedies afforded by the Contract or by law.
- 6) Nothing in the above intends or implies that this warranty shall apply to work that has been abused or neglected by the Owner, its agents or other public body, utility or railroad to which ownership has been transferred.

END OF ARTICLE

8. CONTRACT TIME

(June 12, 2012)

A. Notice to Proceed

- 1) The Owner may issue authorization to obtain permits to the Contractor after the Contractor has executed the Contract and has delivered the specified bonds and certificates of insurance in forms acceptable to the Owner, for the limited purpose of obtaining all necessary permits to complete the work. If the Contractor is unable to obtain all necessary permits within 30 days, through no fault of the Contractor, the Owner has the option, but not the obligation, to terminate the Contract, without fault to the Contractor or the Owner, effective immediately upon written notice by the Owner or give the Contractor additional time to obtain the permits. Upon the Contractor providing satisfactory evidence of obtaining the permits, the Owner will issue Notice to Proceed. Except as specifically authorized in writing by the Owner, the Contractor is not authorized to perform work (other than obtaining permits) under the Contract until the effective date of the Notice to Proceed, upon which the Contractor shall commence work and shall diligently prosecute the Work to completion within the time limits specified. The Contract time commences on the date shown on the Notice to Proceed.
- 2) Any Work Performed by the Contractor (other than obtaining permits) prior to Notice-To-Proceed shall be at the Contractor's own risk and shall not be considered as the basis for any claim.

B. Schedules

- 1) The Contractor shall provide, maintain, and periodically update schedules in strict accordance with the Contract Documents. The Special Provisions shall contain specific requirements for the form, content and date of submission of the baseline schedule and all schedule updates.
- 2) The Contractor shall prosecute the Work in accordance with the approved baseline Schedule or most recently approved revision to the baseline schedule. In the event that progress along the critical path is delayed, the Contractor shall revise his planning to include additional forces, equipment, shifts or hours as necessary to meet the time or times of completion specified in this Contract at no additional cost to the Owner. In addition, the Contractor shall revise his schedule to reflect these recovery actions and submit it to the Owner for review and approval it being understood that such approval

will be as to the format and composition of the schedule and not the Contractor's means and methods. Additional costs resulting therefrom will be borne by the Contractor. Delayed progress is defined as:

- a. A delay in the start or finish of any activity on the critical path (critical path is defined as the path with the least amount of float) of the approved baseline schedule or most recently approved revision to the baseline; or
 - b. A delay in the start or finish of any non-critical activity which consumes more than the available float shown on the approved baseline schedule or most recently approved revision to the baseline, thereby making the activity critical and late; or
 - c. A projected completion date shown on a schedule update which is later than the contractual completion date; or
 - d. Any combination of the above.
- 3) Failure of the Contractor to comply with the requirements under this provision will be grounds for determination that the Contractor is not prosecuting the Work with such diligence as will ensure completion within the Contract Time. Upon such determination, the Owner may terminate the Contractor's right to proceed with the Work, or any separate part thereof, in accordance with the Contract Documents. If in the Contractor's estimation, the cause(s) of delay are beyond the Contractor's control, the Contractor shall adhere to the sections of the Contract Documents related to extensions of time, claims and others as appropriate.
- 4) The Contractor shall be responsible for scheduling and coordinating the work of all crafts and trades, subcontractors and suppliers, required to perform the Work and to complete the Work within the prescribed time. Any inefficiency or loss of productivity in the labor, materials, or special equipment of the Contractor or its subcontractors of any tier, from any cause, shall be the responsibility of the Contractor. No reimbursement of these or any other costs can be requested by or granted to the Contractor or any of its subcontractors of any tier for inefficiency or loss of productivity in labor, materials, or special equipment, except as specified in the paragraph in this article dealing with Liquidated Indirect Costs, for delays in the performance and completion of the Work directly caused by the Owner or its authorized representatives. Other than the exception described above, additional costs may only be paid to the Contractor as a result of additional Work added to the Contract scope of work. C. Extensions of Time and Classification of Types of Delays
- 1) Once a delay has been identified and it has been established through a scheduling analysis that a delay affects the Project's end date or contractually mandated milestone date, the delay must be classified to determine responsibility and to compute damages, if any. Before the Contractor can submit a request for time extension, claim or any request for additional compensation involving or related to time, the Contractor must classify the delay(s) in accordance with the following classifications. These delay classifications shall be used by the Owner and the Contractor in resolving any time-related disputes. Delays fall into three basic categories: non-excusable, excusable, and compensable.

- a. Non-excusable delays are those delays to the critical path which were foreseeable at the time of contract award or delays caused by the Contractor due to the Contractor's fault or negligence or his/her own inefficiencies or problems, due to his/her inability to coordinate subcontractors and/or other flaws in his/her planning. In these types of delays the Contractor is not entitled to extra time or compensation and the Owner may be allowed to assess Liquidated Damages or actual damages, depending on the contract provisions.
- b. Excusable delays are those delays to the critical path beyond the Contractor's control and without the active interference of the Owner, such as extreme weather (force majeure), strikes and delays caused by third parties (i.e. not the Contractor or the Owner). Contractors are granted a time extension but no additional compensation for the extended time of performance for excusable delays.
- c. Compensable delays are delays to the critical path caused by active interference or participation of the Owner or Owner's consultant. Examples of compensable delays are failure of the Owner to provide right-of-way, introducing late design changes, late review of shop drawings by the Owner or his Architect/Engineer and failure of the Owner to coordinate the work of various prime Contractors. In the case of a compensable delay, the compensation for the extended period of performance may cover, in addition to the direct cost due as a result of the changes, Liquidated Indirect Costs as specified in the Contract Documents.
- d. Concurrent delays involve two or more delays to the critical path occurring at the same time, either of which, had it occurred alone, would have affected the end date of the Project. In that event, the Contractor's sole remedy is a time extension and relief of Liquidated Damages with no compensation for extended cost for the concurrency delay period.
- e. The compensability of concurrent delays depends on the types of delays involved. The following shall determine the effects of concurrent delays on time extensions and compensable costs:
 - i. EXCUSABLE DELAY CONCURRENT WITH A NON-EXCUSABLE DELAY. For excusable delays concurrent with non-excusable delays, the Contractor is entitled to a time extension only. For example, it rains the day footings are to be excavated (excusable delay) but the excavation equipment was down for repairs (non-excusable delays).
 - ii. NON-EXCUSABLE DELAY CONCURRENT WITH A COMPENSABLE DELAY. For non-excusable delays concurrent with compensable delays, the Contractor is entitled to a time extension only. For example, if the Owner introduces a design change for a beam but the Contractor has failed to submit the shop drawings for said beam in a timely manner. This would be an example of a non-excusable delay (late shop drawings) concurrent with a compensable delay (Owner introducing design change).
 - iii. EXCUSABLE DELAY CONCURRENT WITH A

COMPENSABLE DELAY. For excusable delays concurrent with compensable delays, the Contractor is entitled to a time extension only. For example, the Owner does not provide the necessary right-of-way to begin construction (compensable delay) but the Contractor's forces are on strike (excusable delay).

- 2) Time Extensions: The Contractor may be granted an extension of time and will not be assessed Liquidated Damages for any portion of the delay in completion of the Work, arising from acts of God, acts of the public enemy, fires, floods, epidemics, quarantine restrictions, freight embargoes, strikes, labor disputes, or weather more severe than the norm, provided that the aforesaid causes were not foreseeable and did not result from the fault or negligence of the Contractor, and provided further that the Contractor has taken reasonable precautions to prevent further delays owing to such causes, and has given to the Architect/Engineer immediate verbal notification, with written confirmation within 48 hours, of the cause or causes of delay. Within thirty (30) days after the end of the delay, the Contractor shall furnish the Architect/Engineer with detailed information concerning the circumstances of the delay, the number of days actually delayed, the appropriate Contract Document references, and the measures taken to prevent or minimize the delay. All requests for extension of time shall be submitted in accordance with the Contract Documents. Failure to submit such information will be sufficient cause for denying the delay claims. The Owner will ascertain the facts and the extent of the delay and its findings thereon will be final and conclusive subject to the dispute provisions in the Contract Documents. The extensions of time granted for these reasons shall be considered excusable and shall not be the basis for any additional compensation.

- a. Weather more severe than the norm shall apply only as it affects particular portions of the Work and operations of the Contractor, as determined by the Architect/Engineer. Weather more severe than the norm is defined as any situation exceeding the mean data as recorded by The National Climatic Data Center, Asheville, North Carolina and published by the National Oceanic and Atmospheric Administration (This data is taken from the table of normals, means, and extremes in the latest version of the "Local Climatological Data, Annual Summary with Comparative Data, Miami, Florida"). For the calculation of delays due to rain, precipitation of 0.01 inches or more a day shall be considered to be a rain day if the rain actually prevented the Contractor from performing work. The effects of weather less severe than the norm may be taken into account in granting time extensions at the Owner's sole discretion.
- b. An extension of time will not be granted for a delay to the critical path caused by a shortage of materials, except Owner-furnished materials, unless the Contractor furnishes to the Architect/Engineer documentary proof that he has diligently made every effort to obtain such materials from every known source within reasonable reach of the Work. The Contractor shall also submit proof, in the form of a CPM network analysis data, that the inability to obtain such materials when originally planned, did in fact cause a delay in final completion of the Work which could not be compensated for by revising the

sequence of his operations. Only the physical shortage of material will be considered under these provisions as a cause for extension of time. No consideration will be given to any claim that material could not be obtained at a reasonable, practical, or economical cost, unless it is shown to the satisfaction of the Architect/Engineer that such material could have been obtained only at exorbitant prices, entirely inconsistent with current rates taking into account the quantities involved and the usual practices in obtaining such quantities.

- 3) Delays Caused by Consultant and/or the Owner: If the Contractor's performance of the Work along the critical path is delayed by any condition or action directly caused by the Owner, and which was not foreseeable by the Contractor at the time the Contract was entered into, the Contractor shall, provide notification in accordance with the Contract Documents, of any such delay and of the anticipated results thereof. The Contractor shall cooperate with the Owner and use its best efforts to minimize the impact on the schedule of any such delay. In instances where a Contract change extends the Contract beyond the completion date, the Contractor may claim Liquidated Indirect Costs as specified in the paragraph in this article dealing with Liquidated Indirect Costs. These delays shall be considered compensable, except for the period in which these delays may be concurrent with Contractor-caused delays. If a delay on the part of the Owner is concurrent, that is, if it occurs at the same time as a Contractor-caused delay, the Owner-caused delay shall be considered an excusable delay for the portion of the Owner-caused delay which is concurrent with the Contractor-caused delay.
- 4) Delays Beyond Contractor's Control Not Caused by Consultant and/ or the Owner: If Contractor's performance of the Work along the critical path is delayed by any conditions beyond the control and without the fault or negligence of Contractor and not caused by the Owner, and which was not foreseeable by Contractor at the time this Contract was entered into, Contractor shall, provide immediate verbal notification with written notification in accordance with the Contract Documents, of any such delay and of the anticipated results thereof. Within two (2) calendar days of the termination of any such delay, Contractor shall file a written notice with the Architect/Engineer specifying the actual duration of the delay. If the Owner determines that the delay was beyond the control and without the fault or negligence of the Contractor and not foreseeable by the Contractor at the time this Contract was entered into, the Owner will determine the duration of the delay and may extend the time of performance of this Contract provided, however, that Contractor shall cooperate with the Owner and use its best efforts to minimize the impact on the schedule of any such delay. These delays shall be considered excusable and the Contractor shall not be entitled to, and hereby expressly waives recovery of, any damages suffered by reason of the delays contemplated by this paragraph and extension of time shall constitute Contractor's sole remedy for such delays.
- 5) In addition to the delays in the Work specified in this section, delays in the Work directly caused by an act or omission by an owner of an adjoining property will not be considered an Owner-controlled delay. An owner of an adjoining property is a person, firm, corporation, partnership, or other organization who either owns or occupies, or both, structures or parcels or both, immediately adjacent to the Work Site. Extension of time

for those delays will be considered excusable and shall be treated as specified in this article, provided that:

- a. The Contractor has, in accordance with this article, given to the Architect/Engineer immediate verbal justification, with written confirmation within forty-eight (48) hours of the delay; and
 - b. The Contractor establishes, to the satisfaction of the Architect/Engineer, that:
 - i. The delay was caused directly by an act or omission by the owner of the adjoining property; and
 - ii. The Contractor has taken reasonable precautions and has made substantial effort to minimize the delay.
- 6) A Change Order will be furnished to the Contractor within a reasonable period of time, after approval by the BCC, of a request for extension of time, specifying the number of days allowed, if any, and the new dates for completion of the Work or specified portions of the Work. All requests for time extension shall be in accordance with the Contract Documents. With the exception of time extensions covered under the time contingency allowance in the contract, only the BCC shall grant final written approval of all Change Orders, including additional money or extensions of time. All change orders shall be in full accord with the Contract Documents.
 - 7) For the proper format to be used in submitting requests or claims for time extensions, refer to applicable sections of the Contract Documents.
 - 8) Extensions of time shall be in accordance with Section 9-3 of the Code of Miami-Dade County, as applicable.

D. Substantial Completion and Final Acceptance

- 1) The following items must be satisfied before Substantial Completion, as defined in the Contract Documents, will be approved:
 - a. All Work must be completed to the satisfaction of the appropriate permitting agencies having jurisdiction over the Work. The Contractor must furnish the Owner with a "Certificate of Occupancy" or a "Certificate of Completion", as applicable, from the permitting agency unless circumstances arise outside the contract scope that prohibits such certificates from being issued (i.e. utility connections).
 - b. All operational systems which may include but not be limited to: electrical systems, security systems, irrigation systems and fire systems, must be completed in accordance with the Contract Documents, tested and approved.
 - c. All plumbing, heating, ventilation, and air conditioning systems must be completed, tested and approved. Whenever the scope of work includes a facility or building, an HVAC test and balance report must be submitted and approved as a condition precedent to Substantial Completion.
 - d. The punch list may not be so extensive or of a nature that the Contractor's completion will significantly interfere with the Owner's beneficial use of the facility.

- 2) When the Contractor believes that all the Work or designated portion thereof required by the contract is substantially completed, the Contractor shall submit to the Field Representative and the Architect/Engineer a request for Substantial Completion inspection. The Contractor, the Field Representative, the Architect/Engineer, sub-consultants, and the Owner shall meet at the Project site for the purpose of making a combined inspection of the Work. During this inspection, any item of work remaining to be done or Work to be corrected shall be noted on a Punch List. If the Field Representative and/or the Architect/Engineer and the Owner indicate on this inspection report that the Work is substantially complete, a Certificate of Substantial Completion will be issued to the Contractor. The Certificate of Substantial Completion shall establish the date of Substantial Completion and shall have attached the Punch List reflecting any items to be completed or corrected, but which do not prevent beneficial use and occupancy, and shall state the date by which the Punch List is to be completed. The completion time for the Punch List shall not be greater than sixty (60) days from the date of issuance of the Certificate of Substantial Completion.
- 3) If any of the conditions listed in this article are not met and the Work has not been completed, or the Contractor determines that the final Punch List cannot be completed within sixty (60) days, a Certificate of Substantial Completion shall not be issued. The Contractor shall continue work, reducing the number of items on the Punch List that were not met. Additional inspections shall be scheduled as necessary until Substantial Completion is declared. However, costs incurred by the Owner for any inspections beyond a second inspection will be charged back to the Contractor.
- 4) In the event the Contractor fails to achieve Substantial Completion within the period specified in the Contract for completion, the Contractor shall be liable for Liquidated Damages and the Owner has, as its option, the right to, after ten (10) calendar days notice to the Contractor, have the work performed by others and backcharge the Contractor for all Direct and Indirect Costs related to performing this work. In the event that the Owner chooses to have the work completed by others, there shall not be any further non-excusable delays charged to the Contractor beyond the ten (10) days following notice to the Contractor. However, the Contractor shall not be relieved of any nonexcusable delays incurred through the date of termination. The Punch List and the Contract shall remain open until all the Work is complete and accepted. The current retainage will be used to offset any Liquidated Damages and any backcharges, after which, any surplus retainage will be released to the Contractor. If the retainage is insufficient to cover the Liquidated Damages and any backcharge, the Owner will bill the Contractor for the balance and the Contractor shall promptly remit to the Owner an amount equal to the billing.
- 5) Final Completion: When the Owner or Architect/Engineer considers all Work indicated on the Punch List to be complete, the Contractor shall submit written certification that:
 - a. Work has been inspected for the compliance with the Contract Documents.
 - b. Work has been completed in accordance with the Contract Documents, and that deficiencies listed within the Certificate of Substantial Completion and its attachments have been corrected.
 - c. Work is completed and ready for final inspection.

- 6) Should the Owner and/or Architect/Engineer inspection find that Work is incomplete, he will promptly notify the Contractor in writing listing all observed deficiencies. The Contractor shall be responsible for all Direct and Indirect Costs to the County resulting from the Contractor's failure to complete the Punch List items within the time allowed for completion.
- 7) The Contractor shall remedy deficiencies and send a second certification. Another inspection will be made that shall constitute the final inspection. Provided that work has been satisfactorily completed, the Architect/Engineer will notify the Contractor in writing of Final Acceptance as of the date of this final inspection.
- 8) Prior to Final Acceptance, the Contractor shall deliver to the Field Representative complete As-Built, all approved Shop Drawings, maintenance manuals, pamphlets, charts, parts lists and specified spare parts, operating instructions and other necessary documents required for all installed materials, equipment, or machinery, all applicable warranties and guarantees, and the appropriate Certificate of Occupancy.
- 9) Upon notification of Final Acceptance to the Contractor, the Architect/Engineer will request and consider closeout submittals from the Contractor including but not limited to the final Contractor's Affidavit and Release of All Claims.
- 10) The Contractor, without prejudice to the terms of the Contract, shall be liable to the Owner for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the Owner's rights under any warranty or guaranty.
- 11) Re-Inspection Fees: Should the status of completion of the Work require reinspection of the Work by the Owner and the Architect/Engineer due to failure of the Work to comply with the Contractor's representations regarding the completion of the Work, the Owner will deduct from the final payment to the Contractor, fees and costs associated with re-inspection services in addition to scheduled Liquidated Damages.

E. Use and Possession

The Owner shall have the right to beneficially occupy, take possession of or use any completed or partially completed portions of the Work. Such possession or use will not be deemed an acceptance of work not completed in accordance with the Contract. While the Owner is in such possession, the Contractor, notwithstanding the provisions of the Contract Documents, will be relieved of the responsibility for loss or damage to the Work other than that resulting from the Contractor's fault or negligence or breach of warranty. If such prior possession or use by the Owner delays the progress of the Work or causes additional expense to the Contractor, a Contract change in the Contract price or the time of completion will be made and the Contract will be modified in writing accordingly.

F. Liquidated Damages and Liquidated Indirect Costs

- 1) The parties to the Contract agree that time, in the completion of the Work, is of the essence. The Owner and the Contractor recognize and agree that the precise amount of actual damages for delay in the performance and completion of the Work is impossible to determine as of the date of execution of the Contract and that proof of the precise amount will be difficult. Therefore, the Contractor shall be assessed Liquidated Damages on a daily basis for each Day that individual milestones, both interim and cumulative as

specified in the Contract Documents, are not timely achieved or that Contract Time is exceeded due to a non-excusable delay. These Liquidated Damages shall be assessed, not as a penalty, but as compensation to the Owner for expenses which are difficult to quantify with any certainty and which were incurred by the Owner due to the delay. The amount of Liquidated Damages assessed shall be an amount, as stipulated in the Contract Documents, per day for each calendar day that individual milestones as specified in the Contract are not timely achieved or that the Project is delayed due to a non-excusable delay.

- 2) The Owner and the Contractor recognize and agree that the precise amount of the Contractor's Indirect Costs for delay in the performance and completion of the Work is impossible to determine as of the date of execution of the Contract, and that proof of the precise amount will be difficult. Therefore, Liquidated Indirect Costs recoverable by the Contractor shall be assessed on a daily basis for each Day the Contract Time is delayed due to compensable delay. These Liquidated Indirect Costs shall be paid to the Contractor in full satisfaction of all costs and damages caused by compensable excusable delays, except for Direct Costs. There shall be no Liquidated Indirect Costs payable for time directly related to Extra Work for which a Change Order has been issued.
- 3) The amount of Liquidated Indirect Costs recoverable shall be an amount, as stipulated in the Contract Documents per day for each day the Contract is delayed due to compensable excusable delay. For lump sum contracts, the daily amount of Liquidated Indirect Costs will be calculated by dividing the total amount in the Contractor's approved Schedule of Values for General Requirements by the Contract duration (in days) after deducting any general conditions costs directly paid by the Owner during the execution of the Project. The amount of the Liquidated Indirect Costs calculated in accordance with this formula shall be stated in the Notice-to-Proceed. For unit price contracts, the daily amount of Liquidated Indirect Costs will be calculated as defined in the formula below:
- 4) In the event the Contractor fails to perform any other covenant or condition (other than time-related) of this Contract relating to the Work, the Contractor shall become liable to the Owner for any actual damages which the Owner may sustain as a result of such failure on the part of the Contractor. The Owner reserves the right to retain these amounts from monies due the Contractor.
- 5) Nothing in this article shall be construed as limiting the right of the Owner to terminate the Contract and/or to require the Surety to complete said Project and/or to claim damages for the failure of the Contractor to abide by each and every one of the terms of this Contract as set forth and provided for in the Contract Documents.

END OF ARTICLE

9. PROGRESS PAYMENTS

(June 12, 2012)

A. Payments

- 1) The Contractor shall receive and accept compensation provided for in the Contract as full payment for furnishing all materials, for performing all work under the Contract in a complete and acceptable manner, and for all risk, loss, damage, or expense of whatever character arising out of the nature of the work or the prosecution thereof.
- 2) The Owner will make progress payments monthly as the work proceeds. Unless the Special Provisions provide for the payment to be determined by using a cost-loaded CPM, the Contractor shall, within 15 days after Notice-to-Proceed, furnish a Schedule of Values for review and approval by the Owner consisting of a detailed cost breakdown of each lump sum bid item in the bid form in such detail as the Architect/Engineer shall request, showing the amount included therein for each principal category of the work, to provide the basis for determining the amount of progress payments. Unit price bid items shall be paid for in accordance with the Bid Form. The Schedule of Values shall clearly indicate the amount to be paid by the Contractor to each individual Subcontractor.
 - a. The unit prices shall be in proper balance and shall be subject to approval by the Owner. In the preparation of estimates, the Owner, at its sole discretion, may authorize material delivered on the site and preparatory work done to be taken into consideration. Material delivered to the Contractor at locations other than the Work Site may also be taken into consideration under this article when the Contractor furnishes satisfactory evidence that it will be utilized on the work covered by this Contract.
- 3) In making such progress payments, a maximum of five-percent (5%) or a minimum of two and a half-percent (2.5%), as may be amended in the Contract Documents, of the estimated amount shall be retained from each progress payment made to the Contractor until Fifty-Percent (50%) Completion of the work has been established. Fifty-Percent (50%) completion is defined as the point in time when at least 50% of the Work under contract has been physically and satisfactorily completed in accordance with the intent of the Contract Documents as determined by the Architect/Engineer. At this point, the retainage amount withheld from each subsequent progress payment shall be reduced by 50% or not to exceed two and a half-percent (2.5%) and the accumulated excess amount of retainage will be released to the Contractor, unless such amount is the subject of a good faith dispute, the subject of a claim brought pursuant to Florida Statute 255.05, or otherwise the subject of a claim or demand by the Owner or Contractor. If, at the discretion of the Owner, any time after FiftyPercent (50%) Completion of the work has been established, the Owner finds that satisfactory progress is being made, it may authorize any of the remaining progress payments to be made in full. Also, whenever the Work is Substantially Complete, the Owner, if it considers the amount retained to be in excess of the amount adequate for its protection, may release to the Contractor all or a portion of such excess amount.

- 4) Material and work covered by progress payments shall become the sole property of the Owner. This provision shall not be construed as relieving the Contractor from the sole responsibility for material and work upon which payments have been made, the restoration of damaged work or as waiving the right of the Owner to require the fulfillment of the terms of the Contract.
- 5) Progress payments will be made in accordance with the Miami-Dade County Code, Florida Statute, s. 218.70 Florida Prompt Payment Act, and Florida Statute, s. 218.735.
 - a. The Contractor's attention is directed to Florida Statute, s. 218.735, revising provisions regarding timely payment, revising deadlines for the payment of contractors, subcontractors, sub-subcontractors, material-men and suppliers. The contractor shall remit payment due to subcontractors within ten (10) days after the contractors' receipt of payment. The subcontractor shall remit payment due to subsubcontractors and suppliers within seven (7) days after the subcontractors' receipt of payment. Dispute resolution is provided within the Statute.
- 6) No progress payments will knowingly be made for work not in accordance with this Contract.
- 7) Applications for progress payments shall be in the format as prescribed by the Owner. These applications shall be supported by evidence, which is required by this article. Each application for payment shall clearly indicate the amount to be paid to the Contractor as well as the amount to be paid to each of the Contractor's Subcontractors and suppliers. The Contractor shall certify that the work for which payment is requested has been done and that the materials listed are stored where indicated. Those items on the progress payment application that, in accordance with the applicable sections of the Contract Documents, compensate for Force Account Work, for materials not yet incorporated in the work, or for work under change orders negotiated on a costreimbursable basis will, under procedures of the Owner, be subject to the Owner's audit review of the Contractor's records supporting the payment application. Audits will be performed so as not to interfere with timely processing of applications for payment. If audit indicates the Contractor has been overpaid under a previous payment application, that overpayment will be credited against current progress payment applications. For a period of five years from Final Acceptance of the Contract, the Contractor shall maintain and make available for audit inspection and copying by the Owner, State and the Government and their authorized representatives, all records subject to audit review.
- 8) The Owner, at its discretion, may authorize payment for materials not yet incorporated into the Work, whether or not delivered to the Work Site. The value of materials on hand but not incorporated into the Work will be determined by the Field Representative, based on actual invoice costs to the Contractor, and such value will be included in a monthly application for payment only if the materials have been properly stored on the Site, provided that such materials meet the requirements of the Contract Documents, and are delivered to acceptable locations on Site or in bonded warehouses that are acceptable to the Owner. Such delivered costs of stored or stockpiled materials may be included in the next application for payment after the following conditions are met:

- a. The material has been stored and stockpiled in a manner acceptable to the Field Representative at or on the Work site or in a secure storage facility within Miami-Dade County or other location as approved by the Architect/Engineer. If such materials are stored outside Miami-Dade County, the Contractor shall accept responsibility for and pay all personal and property taxes that may be levied against the Owner by any state or subdivision thereof on account of such storage of such material. The Owner will permit the Contractor, at his own expense, to contest the validity of any such tax levied against the Owner and in the event of any judgment or decree of a court against the Owner, the Contractor agrees to pay same.
- b. The Contractor has furnished the Field Representative with acceptable evidence of the quantity and quality of such stored or stockpiled materials.
- c. The Contractor has furnished the Field Representative with satisfactory evidence that the materials and transportation costs have been paid including but not limited to certified bills of sale for such materials and insurance certificates or other instruments, in writing, and in a form as required by the Owner. The Architect/Engineer may allow only such portion of the amount represented by these bills as, in his opinion, is consistent with the reasonable cost of such materials.
- d. The Contractor has furnished the Owner legal title (free of debts, claims, liens, mortgages, taxes or encumbrances of any kind) to the material so stored and stockpiled and subject only to the Owner's payment for the materials as reflected in the application for payment. All such materials so accepted shall become the property of the Owner. The Contractor at his own expense shall mark such material as the property of the Owner and shall take such other steps, if any, the Owner may require or regard as necessary to vest title in the Owner to such material.
- e. The Contractor has furnished the Owner evidence that the material so stored or stockpiled is insured against loss by damage to or disappearance of such materials at any time prior to use in the work. The cost of the material included in an application for payment which may subsequently become lost, damaged or unsatisfactory shall be deducted from succeeding applications for payment irrespective of the cause and whether or not due to the negligence, carelessness or fault of the Owner.
- f. It is understood and agreed that the transfer of title and the Owner's payment for such stored or stockpiled materials shall in no way relieve the Contractor of its responsibility for furnishing and placing such materials in accordance with the requirements of the Contract Documents and does not waive Owner's right to reject defective material when it is delivered to the Site until such material is delivered to the Site and satisfactorily incorporated into the work.
- g. In no case will the amount in an application for payment for material on hand exceed the Contract price for such material, the Contract price for the Contract

item in which the material is intended to be used or the value for such material established in the approved Schedule of Values. Payment for material furnished and delivered as indicated above will be based on 100 percent of the cost to the Contractor and retention will be withheld as specified in the Contract Documents. In any event, partial payments for materials on hand will not exceed seventy percent (70%) of the item's Bid Price, including taxes and shipping, or the agreed amount within the Schedule of Values.

- h. No partial payment will be made for stored or stockpiled living or perishable plant materials.
 - i. The Contractor shall bear all costs associated with the partial payment of stored or stockpiled materials in accordance with the provisions of this Article.
 - j. Materials may be subject to being purchased by the Owner directly under the County's "Direct Material Purchase Program" and installed by the Contractor, as applicable, in accordance with the Special Provisions.
- 9) Payment of the Contract lump sum price for General Requirements, if applicable, will be made in the following manner:
 - a. The General Requirements Lump Sum amount, including cost for bonds and insurance, shall be paid in proportion to the total percent of completion. The Owner will consider requests for payment for bonds and insurance under the General Requirements after receipt of certified invoices from the Contractor showing that the Contractor has paid them.
 - b. The Owner reserves its right to withhold payment for General Requirements, in whole or in part, at the Owner's sole discretion, in accordance with Paragraph 11 below.
- 10) If any claim is filed against the project for labor, materials, supplies or equipment which the Owner has determined to have been incorporated on the site and the Contractor has not paid for, the Owner will have the right to retain from payments otherwise due the Contractor, in addition to other amounts properly withheld under this article or under other provisions of the Contract, an amount equal to such amounts claimed.
- 11) In addition to the provisions of this article and other relevant sections of the Contract Documents, payment may also be withheld proportionately for the following reasons:
 - a. Reasonable doubt that the Work can be completed for the unpaid balance of the Contract Sum,
 - b. Reasonable indication that the Work will not be completed within the Contract Time,
 - c. Damage to another Contractor,
 - d. Unsatisfactory prosecution of the Work by the Contractor,
 - e. Failure of the Contractor, or his Subcontractors, to pay wage rates, when applicable as required by the Contract.

- f. In the event the Surety on the Performance and Payment Bond provided by the Contractor becomes insolvent, or is placed in the hands of a receiver, or has its right to do business in the State of Florida suspended or revoked as provided by law. In this case, payment will continue when the Contractor provides a good and sufficient Bond(s) as required by the Contract Documents, in lieu of the Bond(s) so executed by such Surety.
 - g. If any work or material is discovered which, in the opinion of either the Architect/Engineer or the Field Representative, is defective, or should a reasonable doubt arise on the part of either the Architect/Engineer or the Field Representative as to the integrity of any part of the work completed previous to the final acceptance and payment. In this case, there will be deducted from the first application for payment subsequent to the discovery of such work, an amount equal in value to the defective or questioned work, and this work will not be included in any subsequent applications for payment until the defects have been remedied or the causes for doubt removed.
- 12) The Contractor shall submit with each monthly invoice the certified payroll forms for all employees on the job in accordance with applicable Responsible Wages and Benefits (Ordinance No. 90-143 and codified in Miami-Dade County Code Section 2-11.16). Failure to provide this information will cause
the Field Representative and/or Architect/Engineer to return the invoice to the Contractor until such time as the Contractor properly submits the information.
- 13) Failure to comply with the insurance requirements listed in the Contract Documents may result in the Owner's withholding or delaying payment to the Contractor.

B. Taxes

- 1) Except as may be otherwise provided for in the Contract Documents, the price or prices bid for the Work shall include full compensation for all federal, state, local and foreign taxes, fees and duties that the Contractor is or may be required to pay and the Contractor shall be responsible for the payment thereof during the prosecution of the work.
- 2) The Contractor's attention is directed to the fact that materials and supplies necessary for the completion of this Contract are subject to the Florida Sales and Use Tax, in accordance with Section 212.08, Florida Statutes, as amended. The Contractor shall not collect taxes upon making delivery to the Owner.
- 3) The Owner, at its sole discretion, upon request of the Contractor and where appropriate, may furnish to the Contractor appropriate evidence to establish exemption from any taxes, fees or duties which may be applicable to the agreement and from which the Owner is exempt.

C. Payments to Subcontractors and Suppliers

- 1) The Contractor shall pay all Subcontractors for and on account of work performed by such Subcontractors in accordance with the terms of their respective subcontracts and in accordance with Ordinance Nos. 94-40, and 0229, Miami-Dade County Code Section 10-33.02 and Florida Statute s. 218.735.

- 2) Before the Contractor can receive any payment, except the first payment, for monies due him as a result of a percentage of the work completed, he must provide the Architect/Engineer with duly executed release of claim from all subcontractors and suppliers who have performed any work or supplied any material on the project as of the date, stating that said subcontractors or suppliers have been paid their proportionate share of all previous payments. In the event such affidavits cannot be furnished, the Contractor may, at the Owner's sole discretion after the Contractor demonstrates justifiable reasons, submit an executed Consent of Surety to Requisition using the form provided in the Contract Documents identifying the subcontractors and the amounts for which the Statement of Satisfaction cannot be furnished.
- 3) The Contractor's failure to provide a Consent of Surety to Requisition Payment will result in the amount in dispute being withheld until (1) the Statement of Satisfaction is furnished, or (2) Consent of Surety to Requisition Payment is furnished. The Subcontractor(s) shall submit with each monthly invoice the Certified Payroll forms for all employees on the job in accordance with applicable Provisions. Failure to provide this information will cause the Architect/Engineer to return the invoice to the Contractor until such time as the Contractor properly submits the information.

D. Contract Prices – Bid Form

- 1) Payment for the various Bid Items listed in the Bid Form shall constitute full compensation for furnishing plant, labor, equipment, appliances and materials and for performing operations required to complete the Work in conformity with the Contract Documents. All costs for work shown or indicated by the Contract Documents, although not specifically provided for by a Bid Item in the Bid Form, shall be included in the most appropriate Bid Item price for the items listed. Except for the relief provided by the applicable section of the Contract Documents governing Differing Site Conditions, the Contractor will not be entitled to additional compensation for providing an activity or material necessary for the completion of the Work in accordance with the Contract even though the activity or material is not included in a specific Bid Item or indicated in the Contract Documents.

E. Final Payment

- 1) After the Work has been accepted by the Owner, subject to the provisions of the Contract Documents, a final payment will be made as follows:
 - a. Prior to Final Acceptance of the Work, the Contractor shall prepare and submit a proposed final application for payment to the Architect/Engineer showing the proposed total amount due the Contractor, segregated as to Bid Item quantities, force account work, and other bases for payments; deductions made or to be made for prior payment; amounts to be retained; any claims the Contractor intends to file at that time or a statement that no claims will be filed; and any unsettled claims, stating amounts. Prior applications and payments shall be subject to correction in the proposed final application for payment. Claims filed with the final application for payment must be otherwise timely under these General Conditions.

- b. The Owner will review the Contractor's proposed final application for payment and necessary changes or corrections will be forwarded to the Contractor. Within 10 days thereafter, the Contractor shall submit a final application for payment incorporating changes or corrections made by the Architect/Engineer together with additional claims resulting therefrom. Upon approval by the Owner, the corrected proposed final application for payment will become the approved final application for payment.
 - c. If the Contractor files no claims with the final application for payment and no claims remain unsettled within 30 days after final inspection of the Work by the Architect/Engineer and the Owner, and agreements are reached on all questions regarding the final application for payment, the Owner, in exchange for an executed release of all claims and properly executed close-out documents specified in Paragraph 3 below, will pay the entire sum found due on the approved final application for payment.
 - d. Upon final determination of any and all claims, the Owner, in exchange for properly executed close-out documents specified in Paragraph 3 below, will pay the entire sum found due on the approved final application for payment, including the amount, if any, allowed on claims.
 - e. The release from the Contractor will be from any claims arising from the Work under the Contract. If the Contractor's claim to amounts payable under the Contract has been authorized by the Owner for assignment pursuant to the relevant sections of the Contract Documents, a release may be required from the assignee.
 - f. Final payment will be made within 30 days after approval of the final notice and resolution of Contractor's claims, or 30 days after Final Acceptance of the Work by the Owner, whichever is later. If a final application for payment has not been approved within 30 days after final inspection of the Work, the Owner shall make payment of sums not in dispute without prejudice to the rights of either the Owner or the Contractor in connection with any disputed items.
 - g. Prior to payment of a claim settlement, the claim may be audited by the Owner and may be subject to approval by the funding agencies.
 - h. Final payment made in accordance with this article will be conclusive and binding against both parties to the Contract on all questions relating to the amount of work done and the compensation paid therefore.
- 2) With the final application for payment, the Contractor shall return and submit final releases of claim from himself, from each Subcontractor of record and from other Subcontractors or material suppliers who may have notified the Owner that they were furnishing labor or materials for this project. These releases from Subcontractors and suppliers shall be final, originals, notarized and executed on the form provided by the Owner and included in the Contract Documents, all in accordance with all applicable Florida Statutes. In addition, the Contractor shall execute and return to the Owner all the

enclosed close-out documents. In the event that all of the above releases cannot be furnished, the Contractor may, at the Owner's sole discretion after the Contractor demonstrates justifiable reasons, submit a Consent of Surety to Final Payment in a form acceptable to the Owner, recognizing lack of such releases of claim. Furthermore, the Contractor and the Surety shall agree in writing, in a form acceptable to the Owner, to indemnify, defend and hold harmless the Owner from any claims of Subcontractors and suppliers who refuse to execute final releases.

- 3) The making of final payment shall constitute a waiver of all claims by the Owner except those arising from:
 - a. Faulty or defective Work appearing after Final Completion;
 - b. Failure of the Work to comply with the requirements of the Contract Documents, discovered after Final Completion;
 - c. The performance of audits to seek reimbursement of any overpayments discovered as a result of an audit as provided in the Contract Documents;
 - d. The enforcement of those provisions of the Contract Documents which specifically provide that they survive the completion of the Work;
 - e. The enforcement of the terms of the Payment and Performance Bonds against the Surety;
 - f. Terms of all warranties/guarantees required by the Contract Documents.
- 4) The acceptance of final payment shall constitute a waiver of all claims by the Contractor.

END OF ARTICLE

10. CHANGES

(June 12, 2012)

A. Changes

- 1) The Owner reserves the right to, at any time, without notice to the sureties and without invalidating the Contract, by written notice or order designated as a Change Notice or Change Order, make any change in the Work within the general scope of the Contract including but not limited to changes:
 - a. In the Contract Documents;
 - b. In the method or manner of performance of the Work;
 - c. In Owner-furnished facilities, equipment, materials, services, or site or;
 - d. Directing acceleration in performance of the Work.
- 2) In the event the Owner exercises its right to change, delete or add work under the Contract, such work will be ordered and paid for as provided for in the Contract Documents.
- 3) Changes in the work may be initiated by the issuance of a Change Notice by the Architect/Engineer. The Contractor shall submit a proposal to the Architect/Engineer and the Owner for their review, in accordance with the Contract Documents, within a reasonable time after receipt of a Change Notice. The Contractor shall maintain this proposal, for acceptance by the Owner, for a minimum of 90 calendar days after submittal. The cost or credit to the Owner for any change in the work shall be determined in accordance with the provisions of the Contract Documents. The Contractor shall not be compensated for effort expended in preparing and submitting price quotes.
- 4) In the event the Contractor fails to provide the full cost and time estimate for the change work or refuses to execute a full accord Change Order, the Owner will, at its sole discretion, (1) determine the total cost and time impacts of the change and compensate the Contractor and/or extend the Contract Time, if applicable, through a unilateral Change Order signed only by the Owner; or (2) direct the Contractor to proceed with the Work under the Force Account provisions of this article. Failure of the Contractor to submit his total and final estimated cost and time impact within the time period specified on the Change Notice form shall constitute a waiver by the Contractor to claim additional costs or time beyond that which has been determined by the Owner. Any disputes arising out of an Owner determination shall be resolved in accordance with the disputes provisions in the Contract Documents. Pending the Owner's final decision, the Contractor shall proceed diligently with the performance of the Work under the Contract.
- 5) Changes in the work covered by Unit Prices, as stated in the Contract Documents shall be all inclusive. These prices will include all Direct and
Indirect Costs and means and methods of execution. To be compensable, units must be measured daily by the Contractor and approved in writing by the Owner or his authorized representative.

- 6) The following mark-ups on Extra Work shall apply to all changes in the Work performed under this article:
 - a. For Extra Work performed by the Contractor's own forces, the Contractor agrees that his proposed cost to perform said Extra Work will in no event include a rate for overhead in excess of fifteen percent (15%).
 - b. For Extra Work performed by a Subcontractor's forces, the Contractor agrees that his proposed cost to perform said Extra Work will in no event include Overhead in excess of fifteen percent (15%). The Contractor may then add five percent (5%) times the Subcontractor's or sub-tier Subcontractor's actual Direct Cost as direct compensation for the Contractor's Overhead and all other costs associated with the Subcontractors Work at all tiers.
- 7) Increases to the Contract Amount shall be authorized by a Change Order executed by the Contractor, the Contractor's Surety and the Owner and approved by the BCC. Decreases to the Contract amount shall be by Change Order or Work Order as determined by the Owner and shall also be subject to BCC approval when the decrease results from a reduction in the scope of the work.
- 8) A cost of bonds for Change Orders that impact the Contract price shall be established by the Contractor's actual reimbursement costs, as approved by the Owner, based on the original Contract Amount and the original amount reimbursed to the Contractor for bonds at the commencement of the Work. This cost of bonds shall be added to all credit amounts allowed by the Owner. For Change Orders paid under the Allowance Account, no additional bond cost will be allowed unless the Allowance Account is not included in the original Contract Amount. In this case, additional bond costs for these Change Orders will be considered.
- 9) Any claim for payment of Extra Work that is not covered by a Change Order or Work Order will be rejected by the Owner.

B. Allowance Accounts

- 1) Certain portions of work which may be required to be performed by the Contractor under this Contract are either unforeseeable or have not yet been designed, and the value of such work, if any, is included in the Contract as a specific line item(s) entitled "Allowance Account(s)".
 - a. The Allowance Account (General) can be used to reimburse the Contractor for (1) furnishing all labor, materials, equipment and services necessary for modifications or Extra Work required to complete the Project because of unforeseeable conditions and; (2) for performing construction changes required to resolve: oversight in design, Owner oversight, unforeseen conditions, revised regulations, technological and product development, operational changes, schedule requirements, program interface, emergencies and delays; and for making final adjustment to estimated quantities shown on the Schedule of Values or amounts bid in the Bid Form to conform to actual quantities installed.
 - b. Other Allowance Account(s) (Dedicated) may be used as specified in the Contract Documents to fund specific items of work at the sole discretion of

the Owner. These dedicated allowance accounts shall be used only for the purposes approved pursuant to a written Work Order issued by the Owner or his authorized representative.

- 2) At such time as work is to be performed under the Allowance Account(s), if any, the work shall be incorporated into the Schedule and the Schedule of Values, and shall in all respects be integrated into the construction as a part of the Contract as awarded.
- 3) The Work Order for the required work will be issued by the Owner or Architect/Engineer upon receipt from the Contractor of a satisfactory proposal for performance of the work, and the acceptance thereof by the Architect/Engineer and the Owner. If the Contractor and the Owner are unable to agree upon an amount of compensation or; if the nature of the work is such that a Unit Price or Lump Sum price is not economically practical or if the change work is deemed essential to the Project and actual conditions require work to be swiftly conducted to avoid or minimize delays, the Work Order may be issued to perform the work on a Force Account basis. In the event that an equitable adjustment for the said change work cannot be arrived at, either by mutual agreement or under the dispute provisions of the Contract Documents, the compensation hereunder will be the total compensation for this work.
- 4) No Work Orders shall be issued against an Allowance Account if such Work Orders in the aggregate exceed the authorized amount of that Allowance Account, provided however that such excess may be authorized by appropriate Change Order.
- 5) The unexpended amounts under the allowance accounts shall remain with the Owner and the Contractor shall have no claim to the same.

C. Deletion or Addition of Work

- 1) In the event the Owner exercises its right to delete any portion(s) of the work contemplated herein, such deletion will be ordered and the Contract Total Amount and Time may be adjusted as provided for in these Contract Documents by Change Order or by Work Order, as appropriate. The Contractor shall be reimbursed for any actual reasonable expenses incurred prior to the notice of deletion of work as a result of preparing to perform the work deleted. In the event of a dispute between Owner and Contractor as to the adjustment to the amount of time, the dispute shall be handled in accordance with these General Conditions.
- 2) Deleted Work - Lump Sum Bid Item(s): The Contractor shall credit the Owner for the reasonable value of the deleted work determined from the approved Schedule of Values, subject to approval by the Architect/Engineer. If the reasonable value of the deleted work cannot be readily ascertained from the Schedule of Values submitted in accordance with these General Conditions, or if requested by the Architect/Engineer, the Contractor shall supply all data required by the Architect/Engineer, including the actual agreements executed by the Contractor with the Subcontractors and suppliers affected by the deleted work, to substantiate the amount of the credit to be given the Owner. The Contractor shall also submit for the Owner's approval a revised schedule of values reflecting the work remaining under the Contract following the deletion.
- 3) No payment(s) shall be made to the Contractor by the Owner for loss of anticipated profit(s) from any deleted work.

- 4) In the event the Owner exercises its right to add to any portion of the work contemplated herein, such addition will be ordered and the Contract Total Amount and Contract Time will be adjusted as provided for in these Contract Documents, by Change Order or by Work Order as appropriate. In the event of a dispute between Owner and Contractor as to the adjustment to the Amount or the Time, the dispute shall be handled in accordance with the Contract Documents.

D. Increased or Decreased Quantities (Unit Prices)

- 1) This section applies to Owner-initiated additions or deletions from the Work and to the unit prices contained within this contract and controls payments or credits for variations between estimated and actual quantities required to complete the Work, even though the additions or deletions may be distinct or separate structures or activities and regardless of the fact that the addition or deletion is a result of field adjustments, site conditions, a design change or any other cause. Increases or decreases will be determined by comparing the actual quantity required to the Architect/Engineer's estimated quantity in the Bid Form.
- 2) If the actual quantity of Bid Item varies from the Architect/Engineer's quantity estimate by 25% or less, payment for the Bid Item will be made at the Contract unit price. If the actual quantity varies from the Bid quantity by more than 25%, the compensation payable to the Contractor will be the subject of review by the Contractor and the Architect/Engineer and a Contract adjustment will be made by means of a Change Order in accordance with the Contract Documents to credit the Owner with any reduction in unit prices or to compensate the Contractor for any increase in unit price resulting from variations between estimated and actual quantities. The unit price to be re-negotiated shall be only for that quantity above 125% or below 75% of the original bid quantities.
- 3) The Contractor shall submit to the Architect/Engineer all data required to substantiate the amount of compensation requested therefore. In no event shall the Contractor be entitled to compensation greater than the aggregate amount of all the Unit Prices times the original bid quantities of Work reflected in the Bid Form.
- 4) No compensation will be made in any case for loss of anticipatory profits, loss of bonding capacity or consequential damages.

E. Extra Work

- 1) Except as otherwise expressly provided above, all additional work ordered, work changed or work deleted shall be authorized by Work Order(s) or Change Order(s). All changed or added work so authorized shall be performed by the Contractor at the time and in the manner specified. The Change Order shall include, as a minimum:
 - a. Scope of work to be added, deleted or modified;
 - b. Cost of work to be added, deleted or modified;
 - c. The Contract time extension or reduction in contract time in the case of deleted work required to perform the work to be added, deleted or modified;

- d. Full release of claims associated with the Contract through the date of the change order, or a reservation of claims identified as to each claim reserved, the scope of the work, the maximum cost of the work, and the maximum number of days of Contract time requested, shall be specified.

The Work Order shall include, at a minimum:

- a. Scope of work to be added, deleted or modified;
- b. Cost of work to be added, deleted or modified;
- c. The Contract time extension required to perform the work to be added, deleted or modified;
- d. Full release of claims associated with the work order work, or a reservation of claims identified as to each claim reserved, the scope of the work, the maximum cost of the work, and the maximum number of days of Contract time requested, shall be specified.

2) If Work is ordered, changed, or deleted which is not covered by Unit Prices, then, the Owner and the Contractor shall negotiate an equitable adjustment to the Contract Price for the Direct Costs for the performance of such work in accordance with this article. Indirect Costs for Work ordered, changed or deleted may be reimbursed for Excusable and Compensable Delay as defined in these Contract Documents.

- a. In order to reimburse the Contractor for additional Direct Costs, either by Work Order, Change Order or any other means, the Contractor must have additional work added to the Contract Scope of Work. The additional cost of idle or inefficient labor, from any cause, or the additional cost of labor made idle or inefficient from any cause will not be considered a reimbursable additional Direct Cost. Special equipment or machinery, which is made idle or inefficient by the Work ordered, changed or deleted, may be reimbursable if approved by the Architect/Engineer as an unavoidable cost to the Contractor, caused by the Owner.
- b. Costs of special equipment or machinery, not already mobilized on the site, approved by the Architect/Engineer, shall be calculated using the current issue of the Associated Equipment Distributors (AED) Manual plus any required mobilization. The selection of which of the AED rates (daily, weekly, monthly) to be used to calculate these costs shall be as follows:
 - i. Between one (1) day and seven (7) days, use the daily rate.
 - ii. Between seven (7) days and thirty (30) days, use the weekly rate.
 - iii. Greater than thirty (30) days, use the monthly rate.
- c. For less than one (1) day hourly rates, use the daily rate divided by eight (8).
- d. For overtime hourly rates use the daily rate divided by eight (8), the weekly rate divided by forty (40), or the monthly rate divided by one hundred and seventy-six (176) as appropriate.

- e. Costs for Special Equipment and Machinery already mobilized on the site, shall not exceed the monthly rate stated in the AED Manual, divided by one hundred and seventy-six (176), per hour that the Special Equipment and Machinery is in use on the work plus any required re-mobilization.
- f. The cost calculation shall not combine rates within the range of a time extension. It shall use decimals of the time extension rate that the extension falls under. For example, the cost calculation for a piece of Special Equipment with an approved delay of forty five (45) days shall be one and one-half (1.5) months times the monthly rate, not one (1) month at the monthly rate, plus two (2) weeks at the weekly rate, plus one (1) day at the daily rate.
- g. Rental for special equipment and machinery, not already mobilized to the site, shall be an amount equal to the appropriate daily, weekly, or monthly rental rate for such equipment, in accordance with the current issue of Associated Equipment Distributors' (AED) "Compilation of Nationally Averaged Rental Rates and Model Specifications for Construction Equipment" (notwithstanding the caveats contained therein that such rental rates are not for use by government agencies) for each and every rental period (in weeks, days, or months as applicable) that the special equipment or machinery is in use on the work plus any required mobilization. Payment for special equipment and machinery already mobilized to the site shall not exceed the monthly rate stated in the AED standards divided by one hundred and seventy six (176) to establish a per hour rate that the special equipment and machinery is in use on the Work, plus any required remobilization.
- h. For indirect costs, the Contractor shall be allowed a percentage markup as set forth in Paragraph G. 2 below.

F. Differing Site Conditions

- 1) The Contractor shall immediately, and before such conditions are disturbed, notify the Architect/Engineer in writing of: (1) subsurface or latent physical conditions at the site differing materially from those indicated in the Contract Documents, or (2) unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract.
- 2) The Architect/Engineer will promptly investigate the conditions, and if such conditions materially differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the work under the Contract, a Contract change may be made and the Contract modified in writing in accordance with the Contract Documents.
- 3) No claim of the Contractor under this article will be allowed unless the Contractor has given the notice required in the Contract Documents.
- 4) No claim by the Contractor for a Contract change hereunder will be allowed if asserted after final payment under this Contract.

- 5) If the Owner is not given written notice prior to the conditions being disturbed, the Contractor will be deemed to have waived his right to assert a claim for additional time and compensation arising out of such changed conditions.

G. Force Account

- 1) If the Owner and the Contractor cannot reach agreement on an equitable adjustment to the Contract Price for any work as prescribed above, then the Extra Work will be performed on a Force Account basis as directed by the Architect/Engineer and paid for as specified below.
- 2) The following percentages will be allowed as mark-ups over Direct Costs for all negotiated adjustments to the Contract Amount or for work performed on either a negotiated lump sum basis or a Force Account basis:
 - a. Extra Work Performed directly by Contractor's Own Forces: The Contractor may add up to a maximum fifteen percent (15%) mark-up on the actual Direct Cost of the Extra Work, subject to review and approval by the Architect/Engineer, as direct compensation for Overhead. A 10% mark-up will be added to all negotiated credit amounts for deleted work not performed to cover Overhead.
 - b. Extra Work Performed by a Subcontractor or any Sub-tier Subcontractor: The Subcontractor may add up to a maximum fifteen percent (15%) mark-up on the actual Direct Cost of the Extra Work as direct compensation for Overhead. The Contractor may add a five percent (5%) mark-up on the Subcontractor's actual Direct Cost as Contractor's Overhead. A 10% additional credit will be added to all Subcontractor negotiated credit amounts for deleted work not performed to cover quality control, supervision, coordination, overhead, small tools and incidentals.
- 3) In the event Extra Work is performed on a Force Account basis, then the Contractor and the Subcontractor(s), as appropriate, shall maintain itemized daily records of costs, quantities, labor and the use of authorized Special Equipment or Machinery. Copies of such records, maintained as follows, shall be furnished to the Architect/Engineer daily for approval, subject to audit.
 - a. Comparison of Record: The Contractor, including its Subcontractor(s) of any tier performing the work, and the Architect/Engineer shall compare records of the cost of force account work at the end of each day. Agreement shall be indicated by signature of the Contractor, the Subcontractor performing the work, and the Architect/Engineer or their duly authorized representatives.
 - b. Statement: No payment will be made for work performed on a force account basis until the Contractor has furnished the Architect/Engineer with duplicate itemized statements of the cost of such force account work detailed as follows:
 - i. Name, classification, date, daily hours, total hours, rate and extension for each laborer, tradesman, and foreman.

- ii. Designation, dates, daily hours, total hours, rental rate, and extension of each unit of special machinery and equipment.
- iii. Quantities of materials, prices, and extensions.
- iv. Transportation of materials.

The statements shall be accompanied and supported by a receipted invoice of all materials used and transportation charges. However, if materials used on the force account work are not specifically purchased for such work but are taken from the Contractor's stock, then in lieu of the invoices the Contractor shall furnish an affidavit certifying that such materials were taken from its stock, that the quantity claimed was actually used, and that the price and transportation claimed represent the actual cost to the Contractor.

- c. Authorization of Special Equipment and Machinery: No compensation for special equipment or machinery shall be made without written authorization from the Architect/Engineer. The Architect/Engineer shall review and evaluate any special equipment or machinery proposed by the Contractor for use on a force account basis. As part of its evaluation, the Architect/Engineer shall determine whether any of the special equipment or machinery being proposed by the Contractor will be concurrently used on the Project, including approved changes, or on other force account work on the Project. If the Architect/Engineer determines that such a concurrent use of special equipment or machinery is being proposed by the Contractor, prior to the authorization of such special equipment or machinery, the Architect/Engineer and thereto Contractor shall establish a straight-line prorated billing mechanism based on the actual percentage of time that the equipment or machinery is required to be used on the force account work(s).

Special equipment or machinery which is approved for use by the Architect/Engineer shall be reviewed and accounted for on a daily basis as provided in the Comparison of Record and Statement paragraphs of this section of the Contract.

- d. Inefficiency in the Prosecution of the Work: If in the Owner's or Architect/Engineer's opinion, the Contractor or any of its Subcontractors, in performing Force Account Work, is not making efficient use of labor, materials or equipment or is proceeding in a manner which makes Force Account Work unnecessarily more expensive to the Owner, the Owner or Architect/Engineer may, in whole or part, direct the Contractor in the deployment of labor, material and equipment. By way of illustration, inefficiency may arise in the following ways, including but not limited to: (1) the timing of the Work, (2) the use of unnecessary labor or equipment, (3) the use of a higher percentage of journeymen than in non-force

account Work, (4) the failure to procure materials at lowest price, or (5) using materials of quality higher than necessary.

H. Contractor Proposals - General

- 1) The Contractor may at any time submit to the Architect/Engineer for his review proposed modifications to the Contract Documents, including but not limited to, changes in the Contract Time and/or Contract Amount, supported by a cost/price proposal. Upon acceptance of the proposed modifications by the Owner, a Work Order or Change Order will be issued. Denial of a proposed modification will neither provide the Contractor with any basis for claim for damages nor release the Contractor from contractual responsibilities. A Contract change in the form of a Contract price reduction will be made if the change results in a reduction of the cost of performance and the Contractor will not be entitled to share in said savings unless the proposal is made in accordance with Paragraph I of this article. Except as provided in Paragraph I below, the Contractor will not be compensated for any direct, incidental or collateral benefits or savings the Owner receives as a result of the proposal.

I. Value Engineering Change Proposals: The Contractor may submit to the Architect/Engineer one or more cost reduction proposals for changing the Contract requirements. The proposals shall be based upon a sound study made by the Contractor indicating that the proposal:

- a. Will result in a net reduction in the total Contract amount;
- b. Will not impair any essential function or characteristic of the Work such as safety, service life, reliability, economy of operation, ease of maintenance and necessary standardized features;
- c. Will not require an unacceptable extension of the Contract completion time; and
- d. Will require a change in the Contract Documents and such change is not already under consideration by the Owner.
 - i. The Owner may accept in whole or in part any proposal submitted pursuant to the previous paragraph on Value Engineering Change Proposals by issuing a Change Order which will identify the proposal on which it is based. The Change Order will provide for a Contract change in the Contract price and will revise any other affected provisions of the Contract Documents. The equitable adjustment in the Contract price will be established by determining the net savings resulting from the accepted change. The net savings resulting from the change will be shared between the Contractor and the Owner on the basis of 50 percent for the Contractor and 50 percent for the Owner and will be limited to one Value Engineering Change Proposal per Change Order. Net savings will be determined by deducting from the proposal's estimated gross savings (1) the Contractor's costs of developing and implementing the proposal (including any amount attributable to a subcontractor) and (2) the estimated amount of increased costs to the Owner resulting from the change, such as

evaluation, implementation, inspection, related items, and Owner - furnished material. Estimated gross savings will include Contractor's labor, material, equipment, overhead, profit and bond. The Contract price will be reduced by the sum of the Owner's costs and share of the net savings. For the purposes of this article, the applicable provisions of the Contract Documents shall be used to determine the equitable adjustment to the Contract price.

- ii. The Owner will not be liable for delay in acting upon, or for failure to act upon, any proposal submitted pursuant to of this article. The decision of the Owner as to the acceptance or rejection of any such proposal under the Contract will be final. The submission of a proposal by the Contractor will not in itself affect the rights or obligations of either party under the Contract.
- iii. The Contractor shall have the right to withdraw part or all of any proposal he may make under Paragraph 2 of this article at any time prior to acceptance by the Owner. Such withdrawal shall be made in writing to the Architect/Engineer. Each such proposal shall remain valid for a period of 60 days from the date submitted. If the Contractor wishes to withdraw the proposal prior to the expiration of the 60 day period he will be liable for the cost incurred by the Owner in reviewing the proposal.
- iv. The Contractor shall specifically identify any proposals under Paragraph 2 of this article with the heading "Value Engineering Change Proposal", or the proposal will be considered as made under Paragraph 1 of this article.

- 2) The Contractor, in connection with each proposal for a Contract Change Notice under this article, shall furnish the following information:
- a. A description of the difference between the existing Contract requirement and the proposed change, and the comparative advantages and disadvantages of each, justification when a function or characteristic of an item is being altered, and the effect of the change on the performance of the end item;
 - b. An analysis and itemization of the requirements of the Contract which must be changed if the Value Engineering Change Proposal is accepted and a recommendation as to how to make each such change
(e.g., a suggested specification revision);
 - c. A separate detailed cost estimate for both the existing Contract requirement and the proposed change to provide an estimate of the reduction in costs, if any, that will result from acceptance of the Value Engineering Change Proposal taking into account the costs of development and implementation by the Contractor;

- d. A prediction of any effects the proposed change would have on collateral costs to the Owner such as government-furnished property costs, costs of related items, and costs of maintenance and operation;
 - e. A statement of the time by which a Contract modification accepting the Value Engineering Change Proposal must be issued so as to obtain the maximum cost reduction, noting any effect on the Contract completion time or delivery schedule; and
 - f. Identification of any previous submission of the Value Engineering Change Proposal to the Owner, including the dates submitted, the numbers of the contracts involved, and the previous actions by the Owner.
- 3) The Contractor waives any and all claims relating to any delay that may arise out of a Value Engineering Change Proposal.

END OF ARTICLE

11. CLAIMS AND DISPUTES

(June 12, 2012)

A. Notice of Claims

- 1) The Contractor will not be entitled to additional time or compensation otherwise payable for any act or failure to act by the Owner, the happening of any event or occurrence, or any other cause, unless he shall have given the Architect/Engineer a written notice of claim therefore as specified in this article.
- 2) The Contractor shall provide immediate verbal notification with written confirmation within forty-eight (48) hours of any potential claims and of the anticipated time and/or cost impacts resulting thereof. The written notice of claim shall set forth the reasons for which the Contractor believes additional compensation and/or time will or may be due, the nature of the costs involved and the approximate amount of the potential claim.
- 3) It is the intention of this article, that differences between the parties arising under and by virtue of the Contract shall be brought to the attention of the Architect/Engineer at the earliest possible time in order that such matters may be settled, if possible, or other appropriate action promptly taken.
- 4) The notice requirements of this article are in addition to those required in other articles of these Contract Documents.
- 5) The Contractor shall segregate all costs associated with each individual claim including but not limited to labor, equipment, material, subcontractor and supplier costs, and all other costs related to the claim. In the event that the Contractor has multiple claims, the Contractor will segregate each claim individually including the respective costs

associated with each claim. Failure to segregate claims and their respective costs will be grounds for the Owner's rejection of the claim. No "total cost claims" shall be allowed under this Contract.

- 6) The Contractor must maintain a cost accounting system as a condition for making a claim against the Owner. The cost accounting system must segregate the costs of the work under the Contract (non-claims-related) from claims-related and other Contractor costs through the use of a job cost ledger and be otherwise in compliance with general accounting principles.
- 7) If the Owner decides to pay all or part of a claim for which notice was not timely made, the Owner does not waive the right to enforce the notice requirements in connection with any other claim.
- 8) Inasmuch as the notice of claim requirements of this article are intended to enable the Architect/Engineer to investigate while facts are fresh and to take action to minimize or avoid a claim which might be filed thereafter, the Contractor's failure to make the required notice on time is likely to disadvantage the Owner. Therefore, a claim that does not comply with the notice requirements above shall not be considered unless the Contractor submits with his claim proof showing that the Owner has not been prejudiced by the Contractor's failure to so comply and, in the event the Owner has been prejudiced by the Contractor's failure to submit a timely notice of claim, the Owner will reduce any equitable adjustment claimed by the Contractor to reflect the damage.

B. Claim Submittals

- 1) Claims or requests for equitable adjustments filed by the Contractor shall be filed in full accordance with this article no later than 30 calendar days after the act giving rise to the claim and in sufficient detail to enable the Owner to ascertain the basis and amount of said claims. In the case of continuing or ongoing claim events, the Contractor shall be allowed to periodically amend his claim to more accurately reflect the impact of said claim, until the end of the claim event. No claims for additional compensation, time extension or for any other relief under the Contract shall be recognized, processed, or treated in any manner unless the same is presented in accordance with this Article. Failure to present and process any claim in accordance with this Article shall be conclusively deemed a waiver, abandonment or relinquishment of any such claim, it being expressly understood and agreed that the timely presentation of claims, in sufficient detail to allow proper investigation and prompt resolution thereof, is essential to the administration of this Contract.
- 2) The Owner will review and evaluate the Contractor's claims. It will be the responsibility of the Contractor to furnish, when requested by the Architect/Engineer, such further information and details as may be required to determine the facts or contentions involved in his claims. The cost of claims preparation or Change Order negotiations shall not be reimbursable under this Contract.
- 3) Any work performed by the Contractor prior to Notice-to-Proceed (NTP) shall not be the basis for a claim from the Contractor of any kind.
- 4) Each claim must be certified by the Contractor as required by the Miami-Dade Code, False Claims Act (see Code Section 21-255, et seq.), and accompanied by all materials

required by Miami-Dade County Code Section 21-257. A "certified claim" shall be made under oath by a person duly authorized by the claimant, and shall contain a statement that:

- a. The claim is made in good faith;
 - b. The claim's supporting data is accurate and complete to the best of the person's knowledge and belief;
 - c. The amount of the claim accurately reflects the amount that the claimant believes is due from the Owner; and
 - d. The certifying person is duly authorized by the claimant to certify the claim.
- 5) In order to substantiate time-related claims (delays, disruptions, impacts, etc.), the Contractor shall, if applicable and as determined by the Owner, submit, in triplicate, the following information:
- a. Copy of Contractor's notice of claim in accordance with this article. Failure to submit the notice is sufficient grounds to deny the claim.
 - b. The approved, as-planned Schedule in accordance with the applicable section of the Contract Documents and computer storage media, if applicable.
 - c. The as-built Schedule reflecting changes to the approved schedule up to the time of the impact in question and computer storage media if applicable.
 - d. The basis for the duration of the start and finish dates of each impact activity and the reason for choosing the successor and predecessor events affected in the schedule shall be explained. Also, the basis for the duration of any lead/lags inserted into the schedule and the duration in related activity duration shall be explained.
 - e. A marked-up as-built Schedule indicating the causes responsible for changes between the as-planned and as-built schedule and establishing the required cause and effect relationships.
 - f. After indicating specific time related changes on the as-built schedule, the documentation must be segregated into separate packages with each package documenting a specific duration change identified previously. This documentation package shall include Change Orders, Change Notices, Work Orders, written directions, meeting minutes, etc., related to the change in duration.
 - g. Any loss of efficiency, acceleration, disruption and loss of productivity claims shall be compensated as part of the Liquidated Indirect Costs paid for compensable, excusable delays and mark-up on Direct Cost of changes as allowed by the Contract. Total cost and modified total cost claims will not be accepted and the Contractor agrees to waive the right to seek recovery by these methods. The claimed delay shall not result from a cause specified in the Contract Documents as a non-excusable delay.

- h. The Contractor assumes all risk for the following items, none of which shall be the subject of any claim and none of which shall be compensated for except as they may have been included in the compensation described under Liquidated Indirect Costs: (1) home office expenses or any Direct Costs incurred allocated from the headquarters of the Contractor; (2) loss of anticipated profits on this or any other project, (3) loss of bonding capacity or capability; (4) losses due to other projects not bid upon; (5) loss of business opportunities; (6) loss of productivity on this or any other project; (7) loss of interest income on funds not paid; (8) costs to prepare, negotiate or prosecute claims and (9) costs spent to achieve compliance with applicable laws and ordinances (excepting only sales taxes paid shall be reimbursable expense subject to the provisions of the Contract Documents).
 - i. All non-time-related claim items for additional compensation for Direct Costs shall be properly documented and supported with copies of invoices, time sheets, rental agreements, crew sheets and the like.
 - j. Cost information shall be submitted in sufficient detail to allow for review. The basis for the budgeted or actual costs shall include manhours by trade, labor rates, material and equipment costs etc. These costs shall be broken down by pay item and Construction Specification Institute (CSI) Division.
 - k. The documentation for budgeted cost shall, as a minimum, include:
 - i. Copies of all the Contractor's bid documents, bid quotes, faxed quotes, etc.
 - ii. Copies of all executed subcontracts.
 - iii. Other related budget documents as requested by the Architect/Engineer.
 - l. The documentation for actual cost shall, as a minimum, include:
 - i. Time Sheets.
 - ii. Materials invoices
 - iii. Equipment invoices
 - iv. Subcontractors' payments
 - v. Other related documents as required by the Architect/Engineer.
 - m. The Contractor shall make all his books, employees, work sites and records available to the Owner or its representatives for inspection and audit.
 - n. No payment shall be made to the Contractor by the Owner for loss of anticipated profit(s) from any deleted work.
- 6) As indicated above, the Architect/Engineer and the Field Representative shall be allowed full and complete access to all personnel, documents, work sites or other information

reasonably necessary to investigate any claim. Within sixty (60) days after a claim has been received, the claim shall either be rejected with an explanation as to why it was rejected or acknowledged. Once the claim is acknowledged, the parties shall attempt to negotiate a satisfactory settlement of the claim, which settlement shall be included in a subsequent Work Order or Change Order. If the parties fail to reach an agreement on a recognized claim, the Owner shall pay to the Contractor the amount of money it deems reasonable, less any appropriate retention, to compensate the Contractor for the recognized claim.

- 7) Failure of the Contractor to make a specific reservation of rights regarding any such disputed amounts in the body of the Change Order which contains the payment shall be construed as a waiver, abandonment, or relinquishment of all claims for additional monies resulting from the claims embodied in said Change Order. However, once the Contractor has properly reserved rights to any claim, no further reservations of rights shall be required and the Contractor shall not be required to repeat the reservation in any subsequent change order. Prior reservation of rights may however be modified, by express reference, in subsequent change orders. Notwithstanding the aforementioned, at the time of final payment under the Contract, the Contractor shall specify all claims which have been denied and all claims for which rights have been reserved in accordance with this section. Failure to so specify any particular claim shall be constructed as a waiver, abandonment, or relinquishment of such claim.

C. Disputes

- 1) The following provisions shall govern disputes under this Contract unless the Special Provisions to this Contract contain the requirement for the use of an alternate dispute resolution method. For example, for large projects of great complexity, a Dispute Review Board (DRB) may be employed by the Owner to settle disputes in lieu of the Department Director or OOM designee as specified below. In this case, the DRB alternative shall be specified by the individual department in the Special Provisions and, if utilized, shall supersede this dispute provision.
 - a. In the event the Contractor and Owner are unable to resolve their differences concerning any determination made by the Architect/Engineer or Owner on any dispute or claim arising under or relating to the Contract (referred to in this Section as a "Dispute"), either the Contractor or Owner may initiate a dispute in accordance with the procedure set forth in this article. Exhaustion of these procedures shall be a precondition to any lawsuit permitted hereunder.
 - b. For contracts with a value of \$5 million or less, all Disputes under this Contract shall be decided by the Department Director or his designee. For contracts valued at more than \$5 million, Disputes shall be decided by a designee appointed by the Office of the Mayor (OOM). Decisions rendered by the Department Director or OOM designee shall not be binding but shall be admissible in a court of competent jurisdiction.
 - c. As soon as practicable, the Department Director or OOM designee shall adopt a schedule for the Contractor and Owner to file written submissions stating their

respective positions and the bases therefore. The written submissions shall include copies of all documents and sworn statements in affidavit form from all witnesses relied on by each party in support of its position. Within 20 working days of the date on which such written submissions are filed, the Department Director or OOM designee shall afford each party an opportunity to present a maximum of one hour of argument. The Department Director or OOM designee may decide the Dispute on the basis of the affidavits and other written submissions if, in his opinion, there is no issue of material fact and the party is entitled to a favorable resolution pursuant to the terms of this Contract. As part of such decision, the Department Director or OOM designee shall determine the timeliness and sufficiency of each notice of claim and claim at issue as provided in this article. The Department Director or OOM designee shall have the authority to rule on questions of law, including disputes over contract interpretation, and to resolve claims, or portions of claims, via summary judgment where there are no disputed issues of material fact. Furthermore, the Department Director or OOM designee is authorized by both parties to strike elements of claims seeking relief or damages not available under the contract (such as, but not limited to, claims for lost profits, off-site overhead, loss of efficiency or productivity claims or claim's preparation costs) by summary disposition.

- d. In the event that the Department Director or OOM designee determines that the affidavits or other written submissions present issues of material fact, he shall allow the presentation of evidence in the form of lay or expert testimony directed solely to the issues which he may specifically identify to require factual resolution. The testimonial portion of the process shall not exceed one day in duration per side, including opening statements and closing arguments, if allowed by the Department Director or OOM designee at his reasonable discretion.
- e. No formal discovery shall be allowed in connection with any proceeding under this article. Notwithstanding the foregoing, both parties agree that all of the audit, document inspection, information and documentation requirements set forth elsewhere in this contract shall remain in force and effect throughout the proceeding. The Department Director or OOM designee shall not schedule the hearing until both parties have made all their respective records available for inspection and reproduction and the parties have been afforded reasonable time to analyze the records. The continued failure of a party to comply with the document inspection, examination, or submission requirements set forth in this contract shall constitute a waiver of that party's claims and/or defenses, as applicable. Hearsay evidence shall be admissible but shall not form the sole basis for any finding of fact. Failure of any party to participate on a timely basis, to cooperate in the proceedings, or to furnish evidence in support or defense of a claim shall be a criteria in determining the sufficiency and validity of a claim.
- f. The Department Director or OOM designee shall issue a written decision within 15 working days after conclusion of any testimonial proceeding and, if no testimonial proceeding is conducted, within 45 days of the filing of the last written submission. This written decision shall set forth the reasons for the disposition of the claim and a

breakdown of any specific issues or subcontractor claims. As indicated previously, the decision of the Department Director or OOM designee is not binding on the parties, but will be admissible in a court of competent jurisdiction.

- g. If either party wishes to protest the decision of the Department Director or OOM designee, such party may commence an action in a court of competent jurisdiction, within the periods prescribed by law, it being understood that the review of the court shall be limited to the question of whether or not the Department Director or OOM designee's determination was arbitrary and capricious, unsupported by any competent evidence, or so grossly erroneous to evidence bad faith.
- h. Pending final decision of a dispute hereunder, the Contractor shall proceed diligently with the performance of the Contract and in accordance with the Architect/Engineer's interpretation. Any presentation or request by the Contractor under this article will be subject to the same requirements for Submittal of Claims in this article.

D. Terminations

1) Termination for Convenience

- a. The Owner may at its option and discretion terminate the Contract, in whole or, from time to time in part, at any time without any default on the part of the Contractor by issuing a written Notice of Termination to the Contractor and its Surety, specifying the extent to which performance of work under the Contract is terminated and the date upon which such termination becomes effective, at least ten (10) days prior to the effective date of such termination.
- b. In the event of Termination for Convenience, the Owner shall pay the Contractor for all labor performed, all materials and equipment furnished by the Contractor and its Subcontractors, materialmen and suppliers and manufacturers of equipment less all partial payments made on account prior to the date of cancellation as determined by the Field Representative and approved by the Architect/Engineer. The Contractor will be paid for:
 - i. The value of all work completed under the Contract, based upon the approved Schedule of Values and/or Unit Prices,
 - ii. The value of all materials and equipment delivered to but not incorporated into the work and properly stored on the site,
 - iii. The value of all bonafide irrevocable orders for materials and equipment not delivered to the construction site as of the date of cancellation. Such materials and equipment must be delivered to the Owner to a site or location designated by the Department prior to release of payment for such materials and equipment.
 - iv. The values calculated under i., ii. and iii. above shall be as determined by the Field Representative and approved by the Architect/Engineer.
- c. In the event of termination under this article, the Contractor shall not be entitled to any anticipated profits for any work not performed due to such termination.

- d. In the event of termination under this article, the Owner does not waive or void any credits otherwise due the Owner at the time of termination, including Liquidated Damages, and back charges for defective or deficient work.
- e. Upon termination as indicated above, the Field Representative shall prepare a certificate for Final Payment to the Contractor.

2) Termination for Default of Contractor

- a. The Contract may be terminated in whole or, from time to time in part, by the Owner for failure of the Contractor to comply with any requirements of the Contract Documents including but not limited to:
 - i. Failure to perform the work or failure to provide sufficient workers, equipment or materials to assure completion of work in accordance with the terms of the Contract, and the approved Schedule, or
 - ii. Failure to provide the Schedule for the Project by the date due, or
 - iii. Failure to provide adequate shop drawings by the dates indicated in the approved Schedule for the Project, or
 - iv. Failure to replace the superintendent in the time allotted, if required, or
 - v. Performing the work unsuitably or neglecting or refusing to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable, after written directions from the Field Representative, or
 - vi. Violating the terms of the Contract or performing work in bad faith, or
 - vii. Discontinuing the prosecution of the work, or
 - viii. Failure to resume work which has been discontinued within a reasonable time after notice to do so, or
 - ix. Abandonment of the Contract, or
 - x. Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency, or failure to maintain a qualifier, or
 - xi. Allowing any final judgment to stand against him unsatisfied for a period of 10 days, or
 - xii. Making an assignment for the benefit of creditors, or
 - xiii. For any other cause whatsoever, fails to carry out the work in an acceptable manner or to comply with any other Contract requirement.
- b. Before the Contract is terminated, the Contractor and its Surety will be notified in writing by the Architect/Engineer or the Field Representative of the

conditions which make termination of the Contract imminent. The Contract will be terminated by the Owner ten

(10) days after said notice has been given to the Contractor and its Surety unless a satisfactory effort acceptable to the Owner has been made by the Contractor or its Surety to correct the conditions. If the Contractor fails to satisfactorily correct the conditions giving rise to the termination, the Owner may declare the Contract breached and send a written Notice of Termination to the Contractor and its Surety.

- c. The Owner reserves the right, in lieu of termination as set forth in this article, to withhold any payments of money which may be due or become due to the Contractor until the said default(s) have been remedied. In the event of Termination for Default, the Owner also reserves the right, in cases where the damages calculated by the Owner are expected to exceed the amount the Owner anticipated recovering from the Surety, to withhold amounts for work already performed.
- d. In the event the Owner exercises its right to terminate the Contract for default of the Contractor as set forth herein, the Owner shall have the option of finishing the work, through any means available to the Owner, or having the Surety complete the Contract in accordance with its terms and conditions. In case that the Owner decides to have the Surety take over the remaining performance of the Work, the time or delay between Notice of Default and start of work by the Surety is a non-excusable delay. If the Surety fails to act promptly, but no longer than thirty (30) calendar days after the Owner notifies the Surety of the Owner's decision to have the Surety complete the work, or after such takeover fails to prosecute the Work in an expeditious manner, the Owner may exercise any of its other options including completing the Work by whatever means and method it deems advisable. No claims for loss of anticipated profits or for any other reason in connection with the termination of the Contract shall be considered.
- e. Payments for the various Bid Items listed in the Bid Form will constitute full compensation for all expenses incurred in consequence of discontinuance of all or any portion of the Work except as provided in this section of the Contract Documents. In no event will compensation be made for anticipatory profits or consequential damages as a result of a discontinuance of all or any portion of the Work.
- f. The Contractor shall immediately upon receipt communicate any Notice of Termination for Default issued by the Owner to the affected Subcontractors and suppliers at any tier.
- g. If, after Notice of Termination of the Contractor's right to proceed under the provisions of this article, it is determined for any reason that the Contractor was not in default under the provisions of this article, or that the Contractor was entitled to an extension of time under the Contract Documents, the rights and obligations of the parties shall be the same as if the Notice of Termination

had been issued pursuant to the section of this article dealing with Termination for Convenience.

3) Termination for National Emergencies

- a. The Owner shall terminate the Contract or portion thereof by written notice when the Contractor is prevented from proceeding with the construction Contract as a direct result of an Executive Order of the President of the United States with respect to the prosecution of war or in the interest of national defense.
- b. When the Contract, or any portion thereof, is terminated before completion of all items of work in the Contract, payment will be made for the actual number of units or items of work completed at the Contract price or as mutually agreed for items of work partially completed or not started. No claims or loss of anticipated profits or for any other reason in connection with the termination of the Contract shall be considered.

4) Implementation of Termination

- a. If the Owner cancels or terminates the Contract or any portion thereof, the Contractor shall stop all work on the date and to the extent specified in the Notice of Termination and shall:
 - i. Cancel all orders and Subcontracts, to the extent that they relate to the performance of the work terminated and which may be terminated without costs;
 - ii. Cancel and settle other orders and Subcontracts, except as may be necessary for completion of such portion of the Work not terminated, where the cost of settlement will be less than costs which would be incurred were such orders and subcontracts to be completed, subject to prior approval of the Field Representative;
 - iii. Settle outstanding liabilities and claims arising out of such termination of orders and subcontracts, with the approval or ratification of the Owner, to the extent it may require, which approval or ratification shall be final for the purposes of this Article;
 - iv. Transfer title and deliver to the Owner, in the manner, at the time, and to the extent, if any, directed by it, in accordance with directions of the Field Representative, all fabricated or un-fabricated parts, all materials, supplies, work in progress, completed work, facilities, equipment, machinery or tools acquired by the Contractor in connection with the performance of the work and for which the Contractor has been or is to be paid;
 - v. Assign to the Owner in the manner, at the times and to the extent directed by it, all of the right, title, and interest of the Contractor under the orders and subcontracts so terminated, in which case the Owner will have the right, at its discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts;

- vi. Deliver to the Field Representative As-Built Documents, complete as of the date of cancellation or termination, plans, Shop Drawings, sketches, permits, certificates, warranties, guarantees, specifications, three (3) complete sets of maintenance manuals, pamphlets, charts, parts lists, spare parts (if any), operating instructions required for all installed or finished equipment or machinery, and all other data accumulated by the Contractor for use in the performance of the work.
- vii. Perform all work as may be necessary to preserve the work then in progress and to protect materials, plant and equipment on the site or in transit thereto. The Contractor shall also take such action as may be necessary, or as the Architect/Engineer may direct, for the protection and preservation of the property related to this Contract which is in the possession of the Contractor and in which the Owner has or may acquire an interest.
- viii. Complete performance of each part of the work not terminated by the Notice of Termination;
- ix. Use his best efforts to sell, in the manner, at the time, to the extent, and at the price or prices directed or authorized by the Owner, property of the types referred to above; provided, however, that the Contractor (a) shall not be required to extend credit to any purchaser, and (b) may acquire any such property under the conditions prescribed by and at a price or prices approved by the Owner; provided, further, that the proceeds of any such transfer or disposition will be applied in reduction of any payments to be made by the Owner to the Contractor under this Contract or will otherwise be credited to the price or cost of the work covered by this Contract or paid in such other manner as the Owner may direct;
- x. Termination of the Contract or a portion thereof shall neither relieve the Contractor of its responsibilities for the completed work nor shall it relieve its Surety of its obligation for and concerning any just claim arising out of the work performed.
- xi. In arriving at the amount due the Contractor under this article, there will be deducted, (1) any claim which the Owner may have against the Contractor in connection with this Contract and (2) the agreed price for, or the proceeds of sale of materials, supplies or other items acquired by the Contractor or sold, pursuant to the provisions of this article, and not otherwise recovered by or credited to the Owner.

5) Suspension of Work

- a. The Owner reserves the right to temporarily suspend execution of the whole or any part of the Work without compensation to the Contractor.
- b. In case the Contractor is actually and necessarily delayed by any act or omission on the part of the Owner, as determined by the Owner in writing, the

time for completion of the Work shall be extended by the amount of the time of such delay as determined by the Owner, and an allowance may be made for actual direct costs, if any, which may have been borne by the Contractor. Such requests for additional time and/or compensation must be made in accordance with the applicable sections of the Contract Documents.

- c. Only the actual delay necessarily resulting from the causes specified in this Article, shall be grounds for extension of time. In case the Contractor is delayed at any time or for any period by two or more of the causes specified in this Article, the Contractor shall not be entitled to a separate extension for each one of the causes but only one period of extension will be granted for the delay.
- d. In case the Contractor is actually and necessarily delayed in the performance of the Work from one or more of the causes specified in this Article, the extension of time to be granted to the Contractor shall be only for such portion of the Work so delayed. The Contractor shall not be entitled by reason of such delay to an extension of time for the completion of the remainder of the Work. If the Contractor shall be so delayed as to a portion of the Work he shall nevertheless proceed continuously and diligently with the prosecution of the remainder of the Work. No demand by the Contractor that the Owner determine and certify any matter of extension of time for the completion of the Work or any part thereof will be of any effect whatsoever unless the demand be made in writing at least 30 days before the completion date of the Work or any part thereof for which Liquidated Damages are established when meeting those dates is claimed to have been delayed by a suspension under this Article. Owner's determination as to any matter of extension of time for completion of the Work or any part thereof shall be binding and conclusive upon the Contractor.
- e. Permitting the Contractor to finish the Work or any part thereof after the time fixed for completion or after the date to which the time for completion may have been extended or the making of payments to the Contractor after any such periods shall not operate as a waiver on the part of the Owner of any rights under this contract.
- f. The Contractor shall insert in each subcontract a provision that the Subcontractor shall comply immediately with a written order of the Owner to the Contractor to suspend the Work, and that they shall further insert the same provision in each subcontract of any tier.

END OF ARTICLE

12. MISCELLANEOUS PROVISIONS

(June 12, 2012)

A. Third Party Beneficiary

No contractual relationship will be recognized under the Contract other than the contractual relationship between the Owner and the Contractor. There shall be no third party beneficiary to this Contract.

B. Venue

Any litigation which may arise out of this Contract shall be commenced either in the Eleventh Judicial Circuit Court in and for Miami-Dade County, Florida, or in the United States District Court, Southern District of Florida.

C. Governing Laws

- 1) The Contractor shall, during the term of this Contract and in the prosecution of the work, be governed by the statutes, regulatory orders, ordinances and procedures of the United States of America, the State of Florida and Miami- Dade County including but not limited to the Florida Building Code and the provisions of the Code of Miami-Dade County governing Disadvantaged Business Enterprises (DBEs) as applicable.
- 2) Not Used.
- 3) In addition, the Contractor agrees to abide by all federal, state, and County procedures, as may be amended from time to time, regarding how documents to which the Contractor has access are handled, copied, and distributed, particularly documents that contain sensitive security information.

D. Successors and Assigns

The Owner and the Contractor each bind themselves, their partners, successors, assigns and legal representatives to the other party hereto and to the partners, successors, assigns and legal representatives of such other party in respect to all covenants, agreements and obligations contained in the Contract Documents. The Contractor shall not assign the Contract or sublet it as a whole without the written consent of the Owner, nor shall the Contractor assign any moneys due or to become due the Contractor hereunder, without the previous written notice to the Owner. Consent will not be given to any proposed assignment which would relieve the Contractor or his Surety of their responsibilities under the Contract.

E. Written Notice

- 1) Written notice to the Contractor shall be deemed to have been duly served if delivered in person to the individual or member of the firm or to any officer of the corporation for whom it was intended or if delivered at or sent by registered or certified mail to the last business address known to those who give the notice.
- 2) Written notice to the Owner shall be deemed to have been duly served if delivered in person, delivered at or sent by registered or certified mail to the individual identified in the Special Provisions.

F. Indemnification

- 1) In consideration of this Agreement, and to the maximum extent permitted by Chapter 725, Florida Statutes, as may be amended, the Contractor agrees to indemnify, protect, defend, and hold harmless the Government, State, County, their elected officials, officers, employees, consultants, and agents from claims, liabilities, damages, losses, and costs including, but not limited to reasonable attorney's fees at both the trial and appellate levels to the extent caused by the negligence, recklessness, or intentionally wrongful conduct of the Contractor and other persons employed or utilized by the Contractor in the performance of the Work.
- 2) The indemnification obligation under this clause shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the Contractor and/or any Subcontractor under worker's compensation acts, disability benefit acts, or other employee benefit acts.
- 3) In the event that any claims are brought or actions are filed against the Owner with respect to the indemnity contained herein, the Contractor agrees to defend against any such claims or actions regardless of whether such claims or actions are rightfully or wrongfully brought or filed. The Contractor agrees that the Owner may select the attorneys to appear and defend such claims or actions on behalf of the Owner. The Contractor further agrees to pay at the Contractor's expense the attorneys' fees and costs incurred by those attorneys selected by the Owner to appear and defend such claims or actions on behalf of the Owner. The Owner, at its sole option, shall have the sole authority for the direction of the defense, and shall be the sole judge of the acceptability of any compromise or settlement of any claims or actions against the Owner.
- 4) To the extent this indemnification clause or any other indemnification clause in this Agreement does not comply with Chapter 725, Florida Statutes, as may be amended, this provision and all aspects of the Contract Documents shall hereby be interpreted as the parties' intention for the indemnification clauses and Contract Documents to comply with Chapter 725, Florida Statutes, as may be amended.
- 5) This Section shall survive expiration or termination of this Agreement.

G. Audit Rights

- 1) Access to Records
 - a. The Contractor shall, during the term of this Contract and for a period of five years thereafter, allow the Owner and its duly authorized representatives to inspect all payroll records, invoices for materials, books of account, job cost ledgers, Project correspondence and Project-related files and all relevant records pertinent to the Contract.
 - b. The Owner retains the right to audit accounts and access all files, correspondence and documents in reference to all work performed under this Contract. The Owner shall be provided full access upon request to all documents, including those in possession of Subcontractors or suppliers during the work and for a period of five years after the completion of the Work. In case of any litigation regarding this Project, such rights shall extend until final settlement of such litigation. Failure to allow the Owner access shall be deemed a waiver of Contractor's claims.

- c. The Contractor shall maintain a banking account within Miami-Dade County for all payments to laborers, Subcontractors and vendors furnishing labor and materials under this Contract. All records shall be maintained in Miami-Dade County for the term of this Contract.

2) Inspector General

- a. According to Section 2-1076 of the Code of Miami-Dade County, Miami-Dade County has established the Office of the Inspector General (IG) which may, on a random basis, perform audits, inspections, and reviews of all, on any County/Trust contracts, throughout the duration of said contracts. This random audit is separate and distinct from any other audit by the County. To pay for the functions of the Office of the Inspector General, any and all payments to be made to the Contractor under this contract will be assessed one quarter (1/4) of one (1) percent of the total amount of the payment, to be deducted from each progress payment as the same becomes due unless this Contract is federally or state funded where federal or state law or regulations preclude such a charge or where such a charge is otherwise precluded by Special Condition. The Contractor shall, in stating its agreed prices, be mindful of this assessment which will not be separately identified, calculated or adjusted in the proposal or Bid Form.
- b. The Miami-Dade Office of the Inspector General is authorized to investigate County affairs and empowered to review past, present and proposed County and Public Health Trust programs, accounts, records, contracts and transactions. In addition, the Inspector General has the power to subpoena witnesses, administer oaths, require the production of witnesses 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 the Contract Documents and applicable law. The Inspector General shall have the power to audit, investigate, monitor, oversee, inspect and review operations, activities, performance and procurement process including but not limited to Project design, bid specifications, (bid/proposal) submittals, activities of the (Contractor/ Vendor/ Consultant), its officers, agents and employees, lobbyists, County and Public Health Trust staff and elected officials to ensure compliance with the Contract Documents and to detect fraud and corruption.
- c. Upon ten (10) days written notice to the Contractor, the Contractor shall make all requested records and documents available to the Inspector General for inspection and copying. The Inspector General is empowered to retain the services of independent private sector inspectors general to audit, investigate, monitor, oversee, inspect and review operations, activities, performance and procurement process including but not limited to Project design, bid specifications, (bid/proposal) submittals, activities of the (Contractor/ Vendor/ Consultant), its officers, agents and employees, lobbyists, County staff and elected officials to ensure compliance with the Contract Documents and to detect fraud and corruption.

- d. The Inspector General shall have the right to inspect and copy all documents and records in the (Contractor/Vendor/Consultant's) possession, custody or control which in the Inspector General'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 from and with successful subcontractors and suppliers, all Project-related correspondence, memoranda, instructions, financial documents, construction documents, (bid/proposal) and contract documents, back-change 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.
- e. The Contractor shall make available at its office at all reasonable times the records, materials, and other evidence regarding the acquisition (bid preparation) and performance of this contract, for examination, audit, or reproduction, until three (3) years after final payment under this contract or for any longer period required by statute or by other clauses of this contract. In addition:
 - i. If this contract is completely or partially terminated, the Contractor shall make available records relating to the work terminated until three (3) years after any resulting final termination settlement; and
 - ii. The Contractor shall make available records relating to appeals or to litigation or the settlement of claims arising under or relating to this contract until such appeals, litigation, or claims are finally resolved.
- f. The provisions in this section shall apply to the (Contractor/Vendor/Consultant), its officers, agents, employees, subcontractors and suppliers. The (Contractor/Vendor/Consultant) shall incorporate the provisions in this section in all subcontracts and all other agreements executed by the (Contractor/Vendor/Consultant) in connection with the performance of this contract.
- g. Nothing in this section shall impair any independent right to the Owner to conduct audits or investigative activities. The provisions of this section are neither intended nor shall they be construed to impose any liability on the Owner by the (Contractor/Vendor/Consultant) or third parties.

H. Severability

- 1) In the event any article, section, sub-article, paragraph, sentence, clause or phrase contained in the Contract Documents shall be determined, declared or adjudged invalid, illegal, unconstitutional or otherwise unenforceable, such determination, declaration or adjudication shall in no manner affect the other articles, sections, sub-articles,

paragraphs, sentences, clauses or phrases of the Contract Documents, which shall remain in full force and effect as if the article, section, sub-article, paragraph, sentence, clause or phrase declared, determined or adjudged invalid, illegal, unconstitutional or otherwise unenforceable was not originally contained in the Contract Documents.

I. Payment and Performance Bonds

1) The Contractor shall, as a condition of contract, provide to the County two separate bonds, one bonding payment and one bonding performance. Each bond shall be for no less than 100% of the total maximum contract amount. The payment bond and performance bond shall be in the forms requested under Sections 713.23 and 255.05, respectively, of the Florida Statutes. These bonds shall be in substantial compliance with the requirements of the forms attached hereto as _____.

a. The bonds shall 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:

<u>Bond (Total Contract) Amount</u>	<u>Best's Rating</u>
\$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
\$5,000,000 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 Statutes shall be in effect and surety companies not otherwise qualifying 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 Invitation to Bid is issued.
- b. Certifying 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 Treasury under 31 U.S.C. 93049308.

Surety insurers 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 amounts shall not exceed the underwriting limitations as shown in this circular.

3) For Contracts in excess of \$500,000 the provisions of the Contract Documents will be adhered to, plus the surety insurer must have been listed on the U.S. Treasury list for at

least three consecutive years, or currently hold a valid Certificate of Authority of at least 1.5 million dollars and listed on the Treasury list.

- 4) Payment and Performance Bonds guaranteed through U.S. Government Small Business Administration or Contractors Training and Development Inc. will also be acceptable.
- 5) The attorney-in-fact or other officer who signs Payment and Performance Bonds for a surety company must file with such Bonds a certified copy of his/her power of attorney authorizing him/her to do so.
- 6) The cost of the Bonds shall be included in the Bid.
- 7) The required Bonds shall be written by or through and shall be countersigned by, a licensed Florida agent of the surety insurer, pursuant to Section 624.425 of the Florida Statutes.
- 8) The Bonds shall be delivered to the Contracting Officer in accordance with the instructions within the Notice of Award.
- 9) In the event the Surety on the Payment and Performance Bonds given by the Contractor becomes insolvent, or is placed in the hands of a receiver, or has its right to do business in its State of domicile or the State of Florida suspended or revoked as provided by law, the Owner shall withhold all payments under the provisions of these Contract Documents until the Contractor has given good and sufficient Bonds in lieu of Bonds executed by such Surety.
- 10) Cancellation of any Bonds, or non-payment by the Contractor of any premium for any Bonds required by this Contract, shall constitute a breach of this Contract. In addition to any other legal remedies, the Owner at its sole option may terminate this Contract or pay such premiums, and deduct the costs thereof from any amounts that are or may be due to the Contractor.

J. Insurance

The Contractor shall maintain the insurance set forth in the Special Provisions throughout the performance of this Contract until the Work has been completed by the Contractor and accepted by the Owner.

K. Conflict of Interest

- 1) The Contractor or his employees shall not enter into any Contract involving services or property with a person or business prohibited from transacting such business with Miami-Dade County pursuant to Section 2-11.1 of the Code of Miami-Dade County, Florida, known as the Miami-Dade County Conflict of Interest and Code of Ethics Ordinance.
- 2) In the event the Contractor, or any of its officers, partners, principals or employees are convicted of a crime arising out of, or in connection with, the work to be done or payment to be made under this Contract, this Contract, in whole or any part thereof may, at the discretion of the Owner, be terminated without prejudice to any other rights and remedies of the Owner under the law.

- 3) In accordance with the Code of Miami-Dade County, no officer or employee of Miami-Dade County during his tenure or for two years thereafter shall have any interest, direct or indirect, in this Contract or the proceeds thereof.

L. Rights in Shop Drawings

- 1) Shop Drawings submitted to the Architect/Engineer by the Contractor, pursuant to the Work, may be duplicated by the Owner and the Owner may use and disclose, in any manner and for any purpose Shop Drawings delivered under this Contract.
- 2) This paragraph shall be included in all subcontracts hereunder at all tiers.

M. Patent and Copyright

- 1) If the Contractor is required or desires to use any design, device, material, or process covered by letters of patent or copyright, he shall provide for such use by suitable legal agreement with the patentee or owner. The Contractor and the surety shall indemnify and save harmless the Owner, the Field Representative, and the Architect/Engineer from any and all claims for infringement by reason of the use of any such patented design, device, material or process, or any trademark or copyright, and shall indemnify the Owner for any costs, expenses, and damages which it may be obliged to pay by reason of an infringement, at any time during the prosecution or after the completion of the work.
- 2) The Contractor shall warrant that the materials, equipment or devices used on or incorporated in the Work shall be delivered free of any rightful claim of any third party for infringement of any United States patent or copyright. The Contractor shall defend, or may settle, at his expense, any suit or proceeding against the Owner or the Architect/Engineer so far as based on a claimed patent or copyright infringement which would result in a breach of this warranty, and the Contractor shall pay all damages and costs awarded therein against the Owner or the Architect/Engineer due to such breach. The Contractor shall report to the Architect/Engineer, promptly and in reasonable written detail, each notice or claim of patent or copyright infringement based on the performance of this Contract of which the Contractor has knowledge. In the event of any claim or suit against the Owner on account of any alleged patent or copyright infringement arising out of the performance of this Contract or out of the use of any supplies furnished or work or services performed hereunder, the Contractor shall furnish to the Owner when requested, all evidence and information in possession of the Contractor pertaining to such suit or claim. Such evidence and information shall be furnished at the expense of the Contractor.
- 3) The Contractor shall bear all costs arising from the use of patented materials, equipment, devices or processes used on or incorporated in the Work. In such case materials, equipment, devices or processes are held to constitute an infringement and their use enjoined, the Contractor, at his expense shall:
 - a. Secure for the Owner the right to continue using said materials, equipment, devices or processes by suspension of the injunction or by procuring a license or licenses; or
 - b. Replace such materials, equipment, devices or processes with noninfringing materials, equipment, devices or processes; or

- c. Modify them so that they become non-infringing or remove the enjoined materials, equipment, devices or processes and refund the sum paid therefore without prejudice to any other rights of the Owner.
- 4) The preceding paragraph shall not apply to any materials, equipment or devices, specified by the Owner or the Architect/Engineer or manufactured to the design of the Owner or the Architect/Engineer or in accordance with the details contained in the Contract Documents; and as to any such materials, equipment or devices the Contractor assumes no liability whatsoever for patent or copyright infringement and the Owner will hold the Contractor harmless against any infringement claims arising therefrom.
- 5) Patent rights to patentable invention, item or ideas of every kind or nature arising out of the Work, as well as information, designs, specifications, knowhow, data and findings shall be made available to the Government for public use, unless the Owner shall, in specific cases where it is legally permissible, determine that it is in the public interest that it not be so made available.
- 6) The sense of this article shall be included in all subcontracts. The foregoing states the entire liability of the Contractor for patent or copy infringement by use of said materials, equipment or devices.

N. Historical, Scientific and Archaeological Discoveries

All articles of historical, scientific or archaeological interest uncovered by the Contractor during progress of the Work shall be preserved and reported immediately to the Architect/Engineer. Further operations of the Contractor with respect to the find, including disposition of the articles, will be decided by the Owner.

O. Use of Owner's Name in Contractor Advertising or Public Relations

The Owner reserves the right to review and approve Owner-related copy prior to publication. The Contractor shall not allow Owner-related copy to be published in Contractor's advertisement or public relations programs until submitting the Owner-related copy and receiving prior approval from the Owner. The Contractor shall agree that published information on the Owner or the Owner's program shall be factual and in no way imply that the Owner endorses the Contractor's firm, service or product. The Contractor shall insert the substance of this provision, including this sentence, in each subcontract and supply Contract or purchase order.

END OF ARTICLE

13. ATTACHMENTS

(June 12, 2012)

END OF ARTICLE

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS

HIGH MAST POLE LIGHT REFURBISHING AT

WILLIAM LEHMAN CENTER

PROJECT NO. IRP101

RPQ NO. TP-00000014313

STANDARD GENERAL CONTRACT CONDITIONS

ATTACHMENT “ A “

Certificate of Acceptance for Substantial Completion

Certificate of Final Acceptance

CERTIFICATE OF ACCEPTANCE FOR SUBSTANTIAL COMPLETION

RPQ No.: _____

Date : _____

Description : _____

Address : _____

Contractor : _____

Consultant : _____

Surety : _____

*The work performed under the subject Contract has been reviewed, and subject to the Contract requirements of **Article 29, Substantial Completion, Final Inspection and Acceptance**, all remaining work has been found to be Substantially Completed as of _____ .*

*A **Punch List** of items to be completed or corrected, is appended hereto.*

*In the event that the Work, including the Punch List items, is not corrected by the Contract Completion date, the Contract stipulations regarding **Liquidated Damages** will be imposed until such time as the work is certified by the County's Resident Engineer or its Consultant and the Director, MDT to be complete in all respects and a **Certificate of Final Acceptance** is issued.*

(COMPANY SEAL)

Signed : _____

Contractor

Recommended : _____

Resident Engineer/Project Manager

Recommended : _____

Chief, Construction

Certificate of Final Acceptance

RPQ No.:

Description:

Address:

Contractor:

Consultant:

Surety:

The **UNDERSIGNED** hereby certify that, to the best of our knowledge and belief, based on observations of the punch list work required under the terms of the Agreement, we have found that the Work items identified in the **PUNCH LIST**, dated _____ (**"PUNCH LIST"**) were completed as of _____. We therefore recommend that the **FINAL ACCEPTANCE DATE** be established as: _____

Notwithstanding the above, this Certificate shall not be construed as a finding regarding whether work performed on this Contract was done in accordance with all applicable Contract requirements, and the County expressly reserves all of its rights and claims under the Contract, or otherwise, to seek recovery or indemnity for any defects in materials, equipment, or workmanship, or for non-conformance with any Contract requirements.

Recommended : _____

Resident Engineer/Project Manager

Recommended : _____

Chief, Construction

:

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS

HIGH MAST POLE LIGHT REFURBISHING AT WILLIAM
LEHMAN CENTER

PROJECT NO. IRP101

RPQ NO. TP-00000014313

STANDARD GENERAL CONTRACT CONDITIONS

ATTACHMENT “ B “

Contractor Release

Agreement on Final Quantities and Amounts

Final Affidavit

Labor Standards Provisions Final Certificate

Memorandum of Understanding

Certificate of Sub-Contractor Status

Final Release of Lien

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS

CONTRACTOR RELEASE

RPQ No.:

KNOW ALL MEN BY THESE PRESENTS : Pursuant to the terms of the Contract and in consideration of the sum of _____ paid by the ***Miami-Dade County*** under the Contract, the undersigned Contractor does, and by the receipt of said sum shall, for itself, its successors and assigns, remise, release and forever discharge MDC, its officers , agents and employees, of and from all liabilities, obligations, and claims whatsoever, in law and in equity, under or arising out of said Contract.

IN WITNESS WHEREOF, this release has been executed this _____ day of _____, 20____

(COMPANY SEAL)

Contractor

Signature

WITNESS :

Print Name : _____

Print Title : _____

NOTE : In the case of a corporation, witnesses are not required , but the ***CERTIFICATE*** below must be completed.

CERTIFICATE

I, _____, certify that I am the ***Secretary*** of the corporation named as Contractor in the foregoing release; that _____ who signed said release on behalf of the Contractor, was then _____ of said Corporation; that said release was duly signed for and on behalf of said corporation under the authority of its governing body, and within the scope of its corporate powers.

(CORPORATE SEAL)

Signature

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS

AGREEMENT

ON

FINAL QUANTITIES AND AMOUNTS

RPQ No.:

The Contractor and Resident Engineer agree that the **QUANTITIES** as shown on the **FINAL PAY REQUEST No.** are **EQUITABLY** paid for by application of the agreed **LUMP SUM PRICES**.

It is finally agreed that the right in the Contract clause to request negotiation of a different amount is **WAIVED** by the Contractor and the Authorized Representative of the Contracting Officer.

(Company Seal)

Contractor

Signature

Date

Resident Engineer

Date

Print Name

Print Name

Print Title

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS

FINAL AFFIDAVIT

RPQ No.:

The undersigned Contractor, _____, certifies and warrants to ***Department of Transportation and Public Works*** that _____ has paid in full and completely discharged any and all claims, demands, obligations and liabilities of _____ in connection with or arising out of ***RPQ No.*** _____, including without limitation, all claims for labor performed and materials, supplies, equipment and other items furnished or used in connection with performance of said Contract.

(COMPANY SEAL)

Contractor : _____

Signature : _____

Print Name : _____

Print Title : _____

Date : _____

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS

LABOR STANDARDS PROVISIONS

FINAL CERTIFICATE

RPQ No.:

The undersigned Contractor, _____, hereby certifies that all laborers, mechanics, apprentices and trainees employed by him or by any Subcontractor performing work under the Contract on the project have been paid **wages at rates no less than those required by the Contract provisions**, and that the work performed by each laborer, mechanic, apprentice or trainee conformed to the classifications set forth in the Contract or training program provisions applicable to the wage rate paid.

EXCEPTION (S) :

Contractor : _____

(COMPANY SEAL)

Signature : _____

Print Name : _____

Print Title : _____

Date : _____

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS

MEMORANDUM OF UNDERSTANDING

RPQ No.:

WHEREAS, _____, (hereafter referred to as the " Contractor ") and the ***Miami-Dade Transit***, the parties hereto, have mutually agreed to the **total Contract amount** in the sum of _____ and a final payment of _____ for a **COMPLETE CLOSE-OUT** of ***RPQ No.***

It is understood and expressly agreed that :

- (1) This Memorandum of Understanding is subject to the recommendations of the Assistant Director and the Director of Miami-Dade Transit.
- (2) In consideration of the payment by MDT of a **total Contract amount** of _____, (inclusive of all finalized Change Orders), the Contractor hereby withdraws with prejudice all Claims, Disputes, and Appeals of the Contractor or any of its Subcontractors or Suppliers under the subject Contract. MDT likewise, withdraws with prejudice, all Claims and/or Backcharges it has against the Contractor.
- (3) The retention withheld in ***Pay Request No.*** _____ is _____ and will be paid in full. Therefore, the Contractor acknowledges the final payment of _____ in ***Pay Request No.*** _____ as the outstanding balance due to date on the Contract.
- (4) MDT reserves the right to complete an audit upon the request of the Assistant Director, Engineering Services when warranted.
- (5) All terms and conditions of the Contract otherwise remain unchanged including the Contractor's liabilities for warranties, latent defects and the like.
- (6) The execution of this Memorandum and payment in accordance with these terms, and the finalized Contract Change Orders, shall constitute a full accord and satisfaction of all Claims and all rights of the parties against each other, except for claims of the Owner for latent defects discussed after the date of this Memorandum or for warranty items.

Memorandum of Understanding

Page 2

(COMPANY SEAL)

Contractor : _____

Signature : _____

Print Name : _____

Print Title : _____

Date : _____

RECOMMENDED

By : _____

Resident Engineer/Project Manager

By : _____

Chief, Construction Division

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS

CERTIFICATE OF SUB-CONTRACTOR STATUS

This is to certify that the following is a complete list of sub-contractors who worked on

RPQ No.:

Name	Description of work	Original Contract Amount	Paid to date	Amount Owed

(COMPANY SEAL)

Contractor

Signature

Print Name & Title

Date

ALL SUBCONTRACTORS WORKING ON THIS PROJECT MUST COMPLETE THIS FORM.

FINAL RELEASE OF LIEN

KNOW ALL PERSONS BY THESE PRESENTS:

That the undersigned, for and in consideration of the payment of the sum of _____ and _____ /100 dollars (\$_____) paid by the _____ receipt of which is hereby acknowledged, hereby releases and quit claims to the said _____ it successors and assigns, and _____ the owner, all liens, lien rights, claims or demands of any kind whatsoever, which the undersigned now has or might have against the building or premises legally _____ described _____ as _____ on _____ account of labor performed and/or material furnished for the construction of any improvements thereon. That all labor and materials used by the undersigned in the erection of said improvements have been fully paid for.

IN WITNESS THEREOF, I have hereunto set my hand seal this _____ day of _____, 20____.

WITNESSES:

_____ (SEAL)

By _____

State of _____)

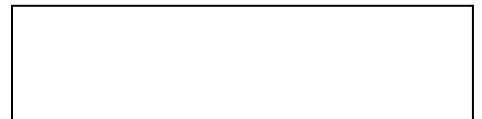
) ss

County of _____)

The foregoing instrument was acknowledged before me this _____ day of _____, 20____ by _____ on behalf of _____ [] who is personally known to me or [] who has produced _____ as identification and who [] did [] did not take an oath.

Notary Signature: _____

Notary Seal:



Type or Print Name: _____

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS

HIGH MAST POLE LIGHT REFURBISHING AT WILLIAM
LEHMAN CENTER

PROJECT NO. IRP101

RPQ NO. TP-00000014313

STANDARD GENERAL CONTRACT CONDITIONS

ATTACHMENT "C"

Sub-Contractor's/Supplier's Release of Claim

Consent of Surety Company to Requisition Payment

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
SUBCONTRACTOR'S / SUPPLIER'S RELEASE OF CLAIM

NOTE: The General Contractor shall attach this statement, completed by each Subcontractor whose work appears on the prior requisition for payment or has work in place since the last requisition for payment.

Project No.: _____ Date: _____

Project Title: _____

Subcontractor:

Requisition No.: _____ From: _____ To: _____

Before me, the undersigned authority, authorized to administer oaths and take acknowledgments appeared: _____ who, after being first duly sworn, upon oath, deposes and says that pursuant to the provisions of his contract for said project, all money due him under prior requisitions for payment have been paid to him by _____, the General Contractor.

(COMPANY SEAL)

Legal Name of Subcontractor

Title

Signature

State of _____)

) ss

County of _____)

The foregoing instrument was acknowledged before me this _____ day of _____, 20____ by _____ on behalf of _____.

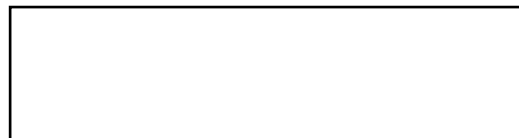
[] who is personally known to me or [] who has produced _____ as identification and who [] did [] did not take an oath.

Notary Signature: _____

Type or Print Name: _____

Notary Seal:

RPQ No.: TP-00000014313



CONSENT OF SURETY COMPANY TO REQUISITION PAYMENT



PROJECT No. _____

PROJECT TITLE: _____

PROJECT LOCATION: _____

TO: _____ Re: PAY REQUEST No. _____ DATE: _____

IN THE AMOUNT OF: _____

CONTRACTOR: _____ RPQ No. _____

THE UNDERSIGNED SURETY COMPANY _____,
(INSERT NAME OF SURETY COMPANY)

_____, ON BOND OF
(ADDRESS)

THE CONTRACTOR LISTED ABOVE, HEREBY APPROVES THIS PAYMENT TO THE CONTRACTOR AND AGREES THAT THE PAYMENT TO THE CONTRACTOR SHALL NOT RELIEVE THE SURETY COMPANY OF ANY OF ITS OBLIGATIONS TO MIAMI-DADE COUNTY, INCLUDING THE SECURITY FROM ANY AND ALL LIENS, CLAIMS OR DEMANDS WHATSOEVER THAT MAY NOW EXIST OR BE MADE IN THE FUTURE BY ANY SUB-CONTRACTOR OR MATERIAL SUPPLIERS AGAINST THIS PROJECT AND CONTRACT.

THIS CONSENT OF SURETY RECOGNIZES THAT CLAIMS HAVE BEEN MADE BY THE FOLLOWING SUB-CONTRACTORS AND MATERIAL SUPPLIERS AGAINST THE CONTRACT IN THE AMOUNTS LISTED BELOW:

_____	\$ _____
_____	\$ _____
_____	\$ _____
_____	\$ _____
_____	\$ _____
_____	\$ _____
_____	\$ _____
_____	\$ _____

SURETY RECOGNIZES THAT RELEASES OF LIEN OR RELEASES AND ASSIGNMENT OF CLAIM HAVE NOT BEEN REQUESTED OR RECEIVED FROM ALL THE SUB-CONTRACTORS AND MATERIAL SUPPLIERS FOR THIS FACILITY.

IN WITNESS THEREOF,

THE SURETY COMPANY HAS HEREUNTO SET ITS HAND THIS _____ DAY OF _____, 20____.

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS

HIGH MAST POLE LIGHT REFURBISHING AT WILLIAM
LEHMAN CENTER

PROJECT NO. IRP101

RPQ NO. TP-00000014313

STANDARD GENERAL CONTRACT CONDITIONS

ATTACHMENT “D”

“Contractor Agent to Accept Service”



DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS

CONTRACTOR AGENT TO ACCEPT SERVICE

RPQ No.: _____

DATE: _____

CONTRACT TITLE: _____

CONTRACTOR: _____

NOTICE TO PROCEED (NTP) DATE: _____

CONTRACTOR ADDRESS: _____

CONTRACTOR TELEPHONE No.: _____

AGENT'S NAME: _____

AGENT'S TITLE: _____

AGENT'S ADDRESS: _____

AGENT'S TELEPHONE No. _____

Contractor Corporate Representative

Submitted By: _____

SIGNATURE

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS

HIGH MAST POLE LIGHT REFURBISHING AT WILLIAM
LEHMAN CENTER

PROJECT NO. IRP101

RPQ NO. TP-00000014313

STANDARD GENERAL CONTRACT CONDITIONS

ATTACHMENT "E"

Force Account Daily Report:
Labor, Material & Equipment

FORCE ACCOUNT DAILY REPORT:

DATE: _____

CONTRACTOR: _____



CONTRACT No. _____ REPORT No. _____

CONTRACT CHANGE NOTICE / MDT LETTER: _____ PAGE No. _____ of _____

IMPORTANT-THIS FORM MUST BE SIGNED AND SUBMITTED NOT LATER THAN THE DAY FOLLOWING DATE WORK WAS PERFORMED.

The following work was performed this date requiring the use of the Labor Force, Materials, Equipment, Special Forces and Services listed hereon:

Description of work performed:

LABOR					EQUIPMENT					
NAME	CRAFT	HRRAT	HOURS	TOTALS	MAKE	MODEL	DESCRIPTION	HOURS	RATE	EXT.

CERTIFIED CORRECT BY:

DATE

MATERIAL INVOICE ON UNIT PRICES TO BE PROVIDED.

QUAN.	UNIT	DESCRIPTION	MATERIALS	RECAP
				LABOR
				MATERIALS
				EQUIPMENT

CERTIFIED CORRECT BY: _____ DATE _____

TOTAL THIS SHEET

FOR ENGINEER'S USE

APPROVED AS TO SUBSTANCE

BY: _____
RESIDENT ENGINEER DATE

EXTENSION OF LABOR, MATERIAL & EQUIPMENT VERIFIED BY:

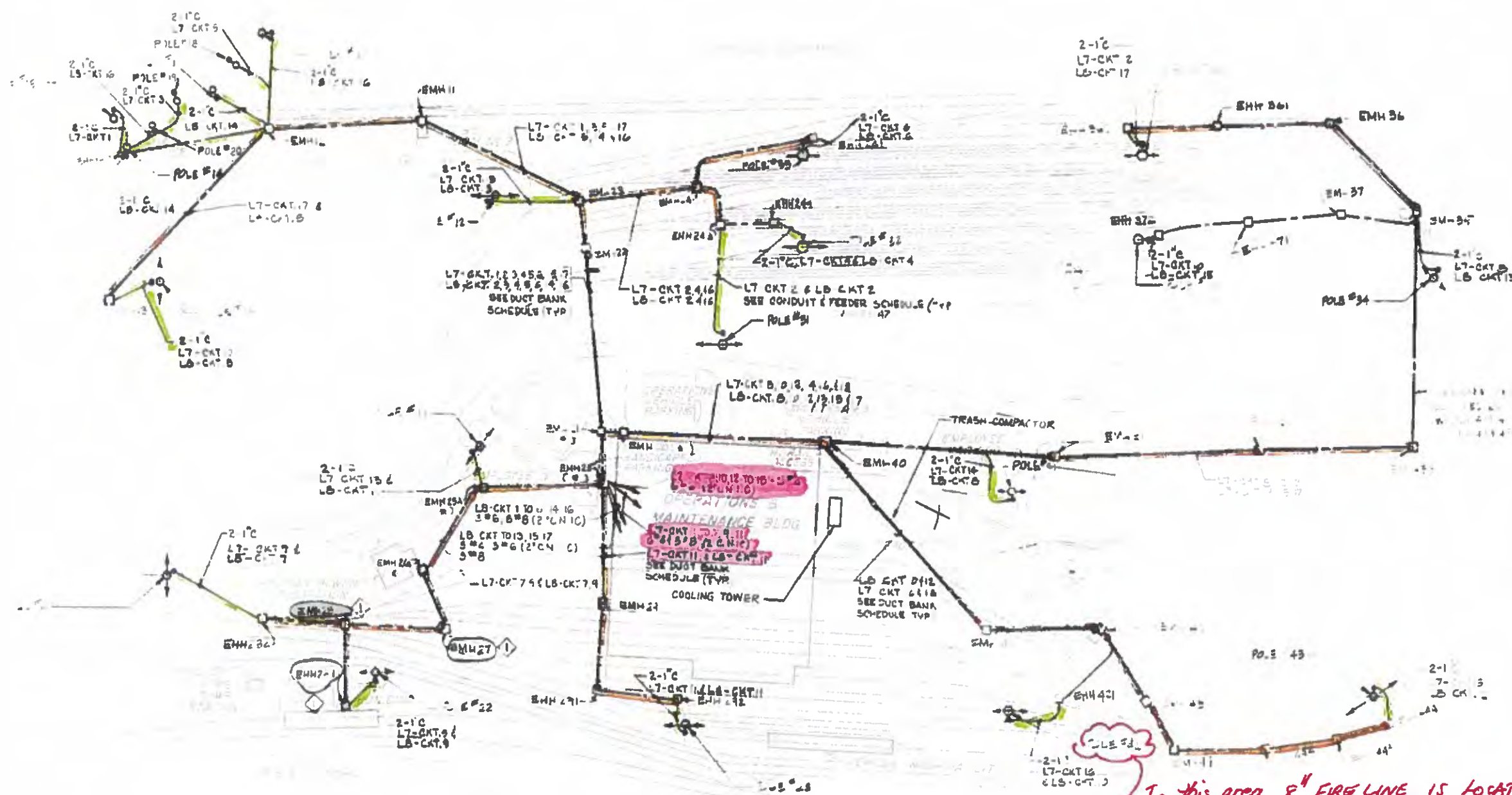
INSPECTOR DATE

RPQ NO. TP-00000014313

**DRAWINGS
&
AS-BUILT SKETCHES**



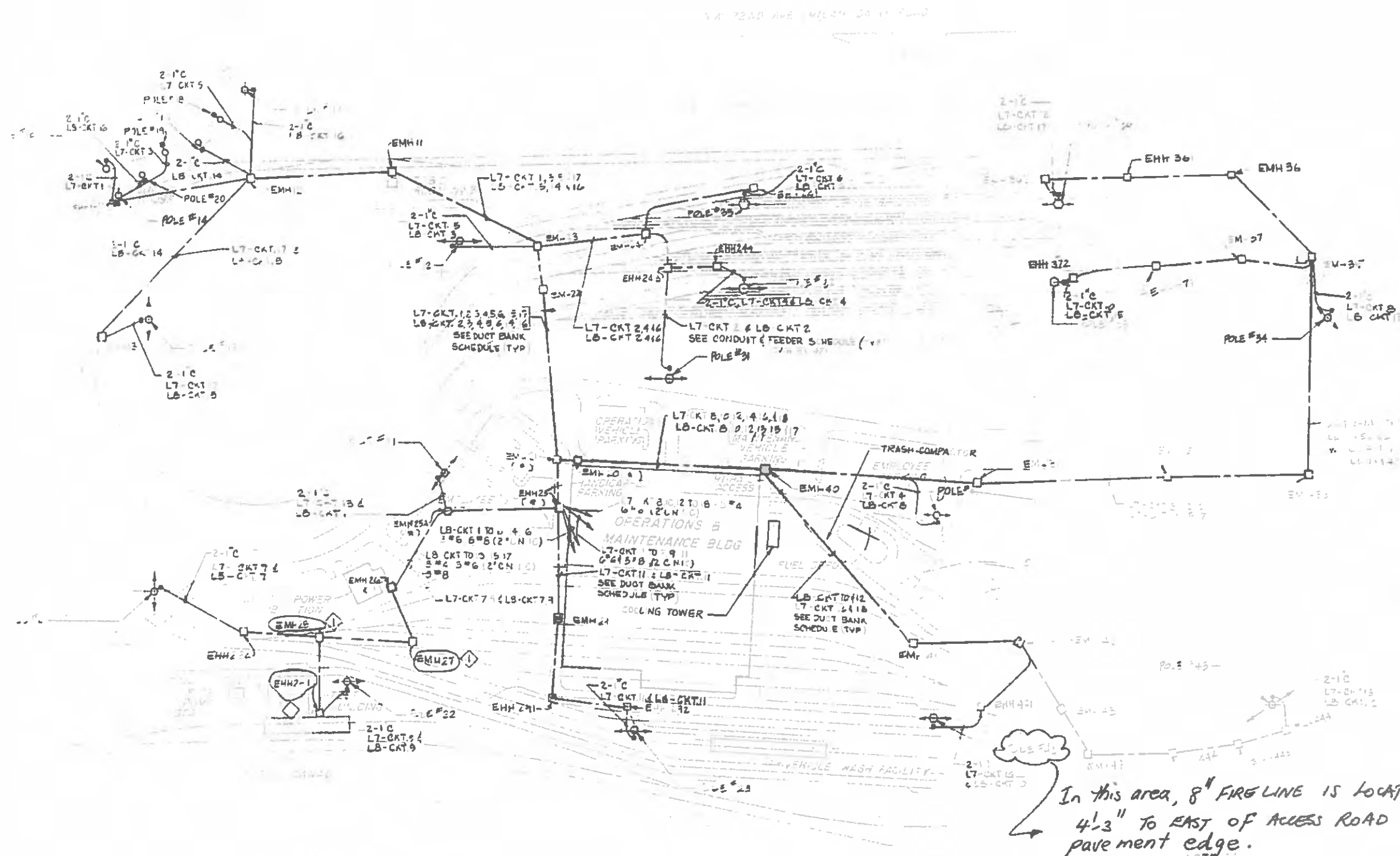
RPQ NO. TP-00000014313



LIGHTING LAYOUT

In this area, 8" FIRE LINE IS LOCATED
4'-3" TO EAST OF ACCESS ROAD
pave ment edge.

REVISIONS				Dade County Transportation Improvement Program				PALMETTO YARD SITE FACILITIES ELECTRICAL SITE PLAN SHEET 3			
NO	DATE	BY	APP	THE KAISER TRANSIT GROUP	THE KAISER TRANSIT GROUP	THE KAISER TRANSIT GROUP	THE KAISER TRANSIT GROUP	SCALE	DATE	DATE	DATE
1	10/1/80	WJ		APPROVED	DATE 9/19/80	DATE 9/19/80	DATE 9/19/80	1"=100'	EE105-1	Y-231-173	



In this area, 8" FIRE LINE IS LOCATED
4' 3" TO EAST OF ACCESS ROAD
pavement edge.

DESIGNED BY <u>W. J. Smith</u> DATE <u>10-17-80</u> DRAWN BY <u>W. J. Smith</u> DATE <u>10-17-80</u> CHECKED BY <u>W. J. Smith</u> DATE <u>10-17-80</u> APPROVED BY <u>W. J. Smith</u> DATE <u>10-17-80</u> Dade County Transportation Improvement Program PALMETTO YARD SITE FACILITIES									
THE KAISER TRANSIT GROUP a joint venture KAISER ENGINEERS DIVISION OF HENRY J. KAISER COMPANY HARRY WEEDS & ASSOCIATES LTD. THE KAISER TRANSIT GROUP a joint venture POST, SUCKLEY, SCHUB & JUNGKAM, INC. CARR SMITH AND ASSOCIATES, INC. SCHMIDTKE CORRIADINO ASSOCIATES									
APPROVED BY <u>W. J. Smith</u> DATE <u>10-17-80</u> APPROVED BY <u>W. J. Smith</u> DATE <u>10-17-80</u>									

- Ready
- Pending

- Ready
- Pending



by Danny Garcia

DRAWING INDEX

UNIT 3 DIST. 132
D.F. 1/2003/210
S.F. 1/2003/15

YALMETTO

STRUCTURAL (CONTINUED)

SHEET NUMBER	DRAWING NUMBER	DRAWING TITLE
155	SE 301	WALL ELEVATIONS SHEET 1
156	SE 302	WALL ELEVATIONS SHEET 2
157	SE 303	WALL ELEVATIONS SHEET 3
158	SE 304	WALL ELEVATIONS SHEET 4
159	SE 305	WALL ELEVATIONS SHEET 5
160	SE 306	WALL ELEVATIONS SHEET 6
161	SE 351	COLUMN SCHEDULE
162	SE 352	BEAM SCHEDULE SHEET 1
163	SE 353	CONNECTION DETAILS SHEET 1
164	SE 354	CONNECTION DETAILS SHEET 2
165	SE 355	STAIR NUMBER 1 SECTIONS AND DETAILS
166	SE 356	STAIR NUMBER 2 SECTIONS AND DETAILS
167	SE 357	STAIR NUMBER 3 SECTIONS AND DETAILS
168	SE 358	STAIR NUMBER 4 SECTIONS AND DETAILS
169	SE 359	STAIR NUMBER 5 AND 6 SECTIONS AND DETAILS
170	SE 360	CRANE GIRDER SECTIONS AND DETAILS
171	SE 361	CRANE GIRDER SECTIONS AND DETAILS SHEET 1
172	SE 362	WALL SECTIONS AND DETAILS SHEET 1
173	SE 363	WALL SECTIONS AND DETAILS SHEET 2
174	SE 364	WALL SECTIONS AND DETAILS SHEET 3
175	SE 365	WALL SECTIONS AND DETAILS SHEET 4
176	SE 366	WALL SECTIONS AND DETAILS SHEET 5
177	SE 367	WALL SECTIONS AND DETAILS SHEET 6
178	SE 368	WALL SECTIONS AND DETAILS SHEET 7
179	SE 369	WALL SECTIONS AND DETAILS SHEET 8
180	SE 401	VEHICLE WASH FACILITY FOUNDATION AND FLOOR PLAN
181	SE 501	VEHICLE WASH FACILITY ROOF FRAMING PLAN
182	SE 502	VEHICLE WASH FACILITY SECTIONS AND DETAILS
183	SE 503	VEHICLE WASH FACILITY SECTIONS AND DETAILS
184	SE 601	MISCELLANEOUS STRUCTURES GUARD HOUSE
185	SE 602	MISCELLANEOUS STRUCTURES TRAIN CONTROL AND COMMUNICATION BUILDING
186	SE 603	MISCELLANEOUS STRUCTURES FIRE PUMP STATION

MECHANICAL

SHEET NUMBER	DRAWING NUMBER	DRAWING TITLE
205	ME 112	MEZZANINE FLOOR PLAN - HVAC SHEET 1
206	ME 113	MEZZANINE FLOOR PLAN - HVAC SHEET 2
207	ME 114	MEZZANINE FLOOR PLAN - HVAC SHEET 3
208	ME 115	MEZZANINE FLOOR PLAN - HVAC SHEET 4
209	ME 116	MEZZANINE FLOOR PLAN - HVAC SHEET 5
210	ME 117	MEZZANINE FLOOR PLAN - HVAC SHEET 6
211	ME 118	MEZZANINE FLOOR PLAN - HVAC SHEET 7
212	ME 119	MEZZANINE FLOOR PLAN - HVAC SHEET 8
213	ME 120	MEZZANINE FLOOR PLAN - HVAC SHEET 9
214	ME 121	MEZZANINE FLOOR PLAN - HVAC SHEET 10
215	ME 122	MEZZANINE FLOOR PLAN - HVAC SHEET 11
216	ME 123	MEZZANINE FLOOR PLAN - HVAC SHEET 12
217	ME 124	MEZZANINE FLOOR PLAN - HVAC SHEET 13
218	ME 125	MEZZANINE FLOOR PLAN - HVAC SHEET 14
219	ME 126	MEZZANINE FLOOR PLAN - HVAC SHEET 15
220	ME 127	MEZZANINE FLOOR PLAN - HVAC SHEET 16
221	ME 128	MEZZANINE FLOOR PLAN - HVAC SHEET 17
222	ME 129	MEZZANINE FLOOR PLAN - HVAC SHEET 18
223	ME 130	MEZZANINE FLOOR PLAN - HVAC SHEET 19
224	ME 131	MEZZANINE FLOOR PLAN - HVAC SHEET 20
225	ME 132	MEZZANINE FLOOR PLAN - HVAC SHEET 21
226	ME 133	MEZZANINE FLOOR PLAN - HVAC SHEET 22
227	ME 134	MEZZANINE FLOOR PLAN - HVAC SHEET 23
228	ME 135	MEZZANINE FLOOR PLAN - HVAC SHEET 24
229	ME 136	MEZZANINE FLOOR PLAN - HVAC SHEET 25
230	ME 137	MEZZANINE FLOOR PLAN - HVAC SHEET 26
231	ME 138	MEZZANINE FLOOR PLAN - HVAC SHEET 27
232	ME 139	MEZZANINE FLOOR PLAN - HVAC SHEET 28
233	ME 140	MEZZANINE FLOOR PLAN - HVAC SHEET 29
234	ME 141	MEZZANINE FLOOR PLAN - HVAC SHEET 30
235	ME 142	MEZZANINE FLOOR PLAN - HVAC SHEET 31
236	ME 143	MEZZANINE FLOOR PLAN - HVAC SHEET 32
237	ME 144	MEZZANINE FLOOR PLAN - HVAC SHEET 33
238	ME 145	MEZZANINE FLOOR PLAN - HVAC SHEET 34
239	ME 146	MEZZANINE FLOOR PLAN - HVAC SHEET 35
240	ME 147	MEZZANINE FLOOR PLAN - HVAC SHEET 36
241	ME 148	MEZZANINE FLOOR PLAN - HVAC SHEET 37
242	ME 149	MEZZANINE FLOOR PLAN - HVAC SHEET 38
243	ME 150	MEZZANINE FLOOR PLAN - HVAC SHEET 39
244	ME 151	MEZZANINE FLOOR PLAN - HVAC SHEET 40
245	ME 152	MEZZANINE FLOOR PLAN - HVAC SHEET 41
246	ME 153	MEZZANINE FLOOR PLAN - HVAC SHEET 42
247	ME 154	MEZZANINE FLOOR PLAN - HVAC SHEET 43
248	ME 155	MEZZANINE FLOOR PLAN - HVAC SHEET 44
249	ME 156	MEZZANINE FLOOR PLAN - HVAC SHEET 45
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252	ME 159	MEZZANINE FLOOR PLAN - HVAC SHEET 48
253	ME 160	MEZZANINE FLOOR PLAN - HVAC SHEET 49
254	ME 161	MEZZANINE FLOOR PLAN - HVAC SHEET 50
255	ME 162	MEZZANINE FLOOR PLAN - HVAC SHEET 51

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257	EES 02	DIAGRAM SYMBOLS AND NOTES
258	EES 03	SCHEMATIC CONTROL DIAGRAMS - 1
259	EES 04	SCHEMATIC CONTROL DIAGRAMS - 2
260	EES 05	SCHEMATIC CONTROL DIAGRAMS - 3
261	EES 06	SCHEMATIC CONTROL DIAGRAMS - 4
262	EES 07	SCHEMATIC CONTROL DIAGRAMS - 5
263	EES 08	SCHEMATIC CONTROL DIAGRAMS - 6
264	EES 09	SCHEMATIC CONTROL DIAGRAMS - 7
265	EES 10	SCHEMATIC CONTROL DIAGRAMS - 8
266	EES 11	SCHEMATIC CONTROL DIAGRAMS - 9
267	EES 12	SCHEMATIC CONTROL DIAGRAMS - 10
268	EES 13	SCHEMATIC CONTROL DIAGRAMS - 11
269	EES 14	SCHEMATIC CONTROL DIAGRAMS - 12
270	EES 15	SCHEMATIC CONTROL DIAGRAMS - 13
271	EES 16	SCHEMATIC CONTROL DIAGRAMS - 14
272	EES 17	SCHEMATIC CONTROL DIAGRAMS - 15
273	EES 18	SCHEMATIC CONTROL DIAGRAMS - 16
274	EES 19	SCHEMATIC CONTROL DIAGRAMS - 17
275	EES 20	SCHEMATIC CONTROL DIAGRAMS - 18
276	EES 21	SCHEMATIC CONTROL DIAGRAMS - 19
277	EES 22	SCHEMATIC CONTROL DIAGRAMS - 20
278	EES 23	SCHEMATIC CONTROL DIAGRAMS - 21
279	EES 24	SCHEMATIC CONTROL DIAGRAMS - 22
280	EES 25	SCHEMATIC CONTROL DIAGRAMS - 23
281	EES 26	SCHEMATIC CONTROL DIAGRAMS - 24
282	EES 27	SCHEMATIC CONTROL DIAGRAMS - 25
283	EES 28	SCHEMATIC CONTROL DIAGRAMS - 26
284	EES 29	SCHEMATIC CONTROL DIAGRAMS - 27
285	EES 30	SCHEMATIC CONTROL DIAGRAMS - 28
286	EES 31	SCHEMATIC CONTROL DIAGRAMS - 29
287	EES 32	SCHEMATIC CONTROL DIAGRAMS - 30
288	EES 33	SCHEMATIC CONTROL DIAGRAMS - 31
289	EES 34	SCHEMATIC CONTROL DIAGRAMS - 32
290	EES 35	SCHEMATIC CONTROL DIAGRAMS - 33
291	EES 36	SCHEMATIC CONTROL DIAGRAMS - 34
292	EES 37	SCHEMATIC CONTROL DIAGRAMS - 35
293	EES 38	SCHEMATIC CONTROL DIAGRAMS - 36
294	EES 39	SCHEMATIC CONTROL DIAGRAMS - 37
295	EES 40	SCHEMATIC CONTROL DIAGRAMS - 38
296	EES 41	SCHEMATIC CONTROL DIAGRAMS - 39
297	EES 42	SCHEMATIC CONTROL DIAGRAMS - 40
298	EES 43	SCHEMATIC CONTROL DIAGRAMS - 41
299	EES 44	SCHEMATIC CONTROL DIAGRAMS - 42
300	EES 45	SCHEMATIC CONTROL DIAGRAMS - 43
301	EES 46	SCHEMATIC CONTROL DIAGRAMS - 44
302	EES 47	SCHEMATIC CONTROL DIAGRAMS - 45
303	EES 48	SCHEMATIC CONTROL DIAGRAMS - 46
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305	EES 50	SCHEMATIC CONTROL DIAGRAMS - 48
306	EES 51	SCHEMATIC CONTROL DIAGRAMS - 49
307	EES 52	SCHEMATIC CONTROL DIAGRAMS - 50
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Dade County Transportation Improvement Program

THE KAISER TRANSIT GROUP • joint venture

THE KAISER TRANSIT GROUP • joint venture
Kaiser Engineering
Division of Kaiser & Associates, Inc.
Kaiser Construction Company
Kaiser Construction Company

OPERATIONS AND MAINTENANCE FACILITIES
DRAWING INDEX - SHEET 2

NONE

C1004

Y-241-03

DRAWING INDEX

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310	EE 154	RECEPTACLE AND POWER PLAN - SHEET 14
311	EE 155	ELECTRICAL EQUIPMENT ROOM - EQUIPMENT LAYOUT
312	EE 156	ELECTRICAL DUCT HEATER PLAN SHEET 1
313	EE 157	ELECTRICAL DUCT HEATER PLAN SHEET 2
314	EE 158	ELECTRICAL DUCT HEATER PLAN SHEET 3
315	EE 161	MISCELLANEOUS SYSTEMS PLAN SHEET 1
316	EE 162	MISCELLANEOUS SYSTEMS PLAN SHEET 2
317	EE 163	MISCELLANEOUS SYSTEMS PLAN SHEET 3
318	EE 164	MISCELLANEOUS SYSTEMS PLAN SHEET 4
319	EE 165	MISCELLANEOUS SYSTEMS PLAN SHEET 5
320	EE 166	MISCELLANEOUS SYSTEMS PLAN SHEET 6
321	EE 167	MISCELLANEOUS SYSTEMS PLAN SHEET 7
322	EE 168	MISCELLANEOUS SYSTEMS PLAN SHEET 8
323	EE 169	MISCELLANEOUS SYSTEMS PLAN SHEET 9
324	EE 170	MISCELLANEOUS SYSTEMS PLAN SHEET 10
325	EE 171	MISCELLANEOUS SYSTEMS PLAN SHEET 11
326	EE 172	MISCELLANEOUS SYSTEMS PLAN SHEET 12
327	EE 173	MISCELLANEOUS SYSTEMS PLAN SHEET 13
328	EE 174	MISCELLANEOUS SYSTEMS PLAN SHEET 14
329	EE 181	GROUNDING LAYOUT - SHEET 1
330	EE 182	GROUNDING LAYOUT - SHEET 2
331	EE 183	LIGHTNING LAYOUT - SHEET 1
332	EE 184	LIGHTNING LAYOUT - SHEET 2
333	EE 185	PANEL SCHEDULES - SHEET 1
334	EE 186	PANEL SCHEDULES - SHEET 2
335	EE 187	PANEL SCHEDULES - SHEET 3
336	EE 188	PANEL SCHEDULES - SHEET 4
337	EE 189	PANEL SCHEDULES - SHEET 5
338	EE 190	PANEL SCHEDULES - SHEET 6
339	EE 191	PANEL SCHEDULES - SHEET 7
340	EE 192	PANEL SCHEDULES - SHEET 8
341	EE 193	PANEL SCHEDULES - SHEET 9
342	EE 194	PANEL SCHEDULES - SHEET 10
343	EE 195	SWITCHBOARD, TRANSFORMER AND TRANSFER SWITCH SCHEDULES
344	EE 196	CONDUIT AND FEEDER SCHEDULE SHEET 1
345	EE 197	CONDUIT AND FEEDER SCHEDULE SHEET 2
346	EE 198	CONDUIT AND FEEDER SCHEDULE SHEET 3
347	EE 201	SPEAKER INSTALLATION DETAILS
348	EE 202	GROUNDING AND LIGHTNING DETAILS
349	EE 203	STINGER AND COLLECTOR DETAILS - SHEET 1
350	EE 204	STINGER AND COLLECTOR DETAIL - SHEET 2
351	EE 205	TRACTION POWER SUBSTATION VOI-LIGHTING PLAN AND ONE-LINE DIAGRAM
352	EE 401	TRACTION POWER SUBSTATION VOI-LIGHTING PLAN AND ONE-LINE DIAGRAM
353	EE 402	TRACTION POWER SUBSTATION VOI-POWER AND MISCELLANEOUS SYSTEMS PLANS
354	EE 403	TRACTION POWER SUBSTATION VOI-LIGHTNING AND GROUNDING PLANS
355	EE 404	TRACTION POWER SUBSTATION VOI-TRACTION POWER PLAN
356	EE 501	VEHICLE WASH FACILITY - ONE-LINE DIAGRAM AND LIGHTING PLAN
357	EE 502	VEHICLE WASH FACILITY - RECEPTACLE AND POWER PLAN
358	EE 503	VEHICLE WASH FACILITY - MISCELLANEOUS SYSTEMS PLAN
359	EE 504	VEHICLE WASH FACILITY - GROUNDING AND LIGHTNING PLAN
360	EE 601	TRAIN CONTROL AND COMMUNICATIONS BUILDINGS - LIGHTING, POWER AND MISCELLANEOUS SYSTEMS
361	EE 602	FIRE PUMP STRIATION AND GUARHOUSE
362	EE 611	ELECTRICAL SITE PLAN

ELECTRICAL (CONTINUED)

SHEET NUMBER	DRAWING NUMBER	DRAWING TITLE
363	EE 621	ELECTRIFICATION & PRIMARY POWER DUCT BANK & CONDUIT L/O SHT. 1
364	EE 622	ELECTRIFICATION & PRIMARY POWER DUCT BANK & CONDUIT L/O SHT. 2
365	EE 623	ELECTRIFICATION & PRIMARY POWER DUCT BANK & CONDUIT L/O SHT. 3
366	EE 631	TRAIN CONTROL & COMMUNICATIONS DUCT BANK & CONDUIT L/O SHT. 1
367	EE 632	TRAIN CONTROL & COMMUNICATIONS DUCT BANK & CONDUIT L/O SHT. 2
368	EE 633	TRAIN CONTROL & COMMUNICATIONS DUCT BANK & CONDUIT L/O SHT. 3
369	EE 634	TRAIN CONTROL & COMMUNICATIONS DUCT BANK & CONDUIT L/O SHT. 4
370	EE 641	HANDHOLE SCHEDULE SHEET 1
371	EE 642	HANDHOLE SCHEDULE SHEET 2
372	EE 651	HANDHOLE SCHEDULE SHEET 1
373	EE 652	HANDHOLE SCHEDULE SHEET 2
374	EE 661	ELECTRIFICATION & PRIMARY POWER DUCT BANK SCHEDULE
375	EE 671	TRAIN CONTROL & COMMUNICATIONS DUCT BANK SCHEDULE
376	EE 681	HANDHOLE & HANDHOLE DETAILS SHT. 1
377	EE 682	HANDHOLE & HANDHOLE DETAILS SHT. 2
378	EE 691	CONSTRUCTION DETAILS
379	EES 90	CORROSION CONTROL DETAILS

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380	MA 100	WHEEL TRUNING MACHINE GENERAL ARRANGEMENT
381	MA 200	CAR HOIST & TURNABLES GENERAL ARRANGEMENT
382	MA 201	MANUAL TURNABLE
383	MA 202	TRUCK REPAIR HOIST GENERAL ARRANGEMENT
384	MA 203	CAR HOIST AND BODY SUPPORT SYSTEM
385	MA 205	TRUCK HOIST CYLINDER AND CAR HOIST GUIDE CYLINDER
386	MA 206	HYDRAULIC ELEVATOR CYLINDER CATHODIC PROTECTION (FRP CRASING)
387	MA 300	VEHICLE WASH FACILITY FLOOR PLAN

Dade County Transportation Improvement Program

7/2/84-12/84									
DESIGNED BY									
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RECEPTACLE OUTLETS

- SINGLE RECEPTACLE TYPE "B"
- DUPLEX RECEPTACLE TYPE "A"
- SPECIAL PURPOSE RECEPTACLE. SUBSCRIPTS HAVE FOLLOWING MEANINGS:
WA-60A, 450V, 50 POWER RECEPTACLE
PJ-30A, 450V, 50 PORTABLE JACK
DC-100A, 700VDC, PIT OUTLET
DUPLEX RECEPTACLE WITH INTERLOCK
GROUND FAULT INTERRUPTER
- FLOOR BOX WITH SINGLE RECEPTACLE
- FLOOR BOX WITH DUPLEX RECEPTACLE
- FLOOR BOX WITH SERVICE FITTING
- FLOOR BOX PUBLIC PAY TELEPHONE
- FLOOR BOX PUBLIC TELEPHONE
- UNDERFLOOR UNIT WITH OUTLETS AS INDICATED

ALL WALL RECEPTACLES SHALL BE MOUNTED 10" A.F.F. UNLESS OTHERWISE INDICATED

SWITCH OUTLETS

- \$ SINGLE-POLE TOGGLE SWITCH
- \$2 DOUBLE-POLE TOGGLE SWITCH
- \$3 THREE-WAY TOGGLE SWITCH
- \$4 FOUR-WAY TOGGLE SWITCH
- \$K KEY OPERATED TOGGLE SWITCH
- \$D TOGGLE SWITCH WITH DIMMER LAMP
- \$600 DIMMER SWITCH WATTAGE AS NOTED
- \$M MANUAL WIRING SWITCHES WITH OVERLOAD PROTECTION
- \$15 MOTOR DISCONNECT TOGGLE SWITCH
- \$15 EMERGENCY SIZE IN AMPS
- \$ EMS EMERGENCY MANUAL STOP SWITCH
- \$0 SUBSCRIPT "A" DENOTES SWITCH CIRCUIT

ALL SWITCH OUTLETS SHALL BE MOUNTED 4' 0" A.F.F. UNLESS OTHERWISE INDICATED

TELEPHONE SYSTEMS

- △ EMERGENCY TELEPHONE OUTLET
- △ PUBLIC TELEPHONE OUTLET
- △ PATRON ASSISTANCE TELEPHONE OUTLET
- △ PUBLIC PAY TELEPHONE OUTLET
- △ TELEPHONE BACK BOARD

ALL TELEPHONE OUTLETS SHALL BE MOUNTED 6" A.F.F. UNLESS OTHERWISE INDICATED

LIGHTING FIXTURE OUTLETS

- a WALL INCANDESCENT OR HIGH INTENSITY DISCHARGE FIXTURE, LETTER DESIGNATES SWITCH CONTROL
- a FLOUORESCENT LIGHTING FIXTURE
- EXIT SIGN-ARROWS INDICATE DIRECTION DARKENED AREAS INDICATE FACE
- JUNCTION BOX
- FLOODLIGHT, ARROW INDICATES DIRECTION OF BEAM
- FLOUORESCENT LIGHTING FIXTURE FED FROM AN EMERGENCY SOURCE
- INCANDESCENT OR HIGH INTENSITY DISCHARGE FIXTURE FED FROM AN EMERGENCY SOURCE
- POLE MTD LIGHTING STANDARD, SINGLE FIXTURE
- POLE MTD LIGHTING STANDARD, TWIN FIXTURES

TYPE "A" FIXTURE, SEE LUMINAIRE PALETTE. MOUNTING HEIGHT FROM FINISHED FLOOR TO BOTTOM OF FIXTURE.

PANELBOARDS, ETC.

- LIMITING, IDENTIFIED FUSE IN DISCONNECT SWITCH INDICATES HEIGHT OF THE PANEL
- LIGHTING PANEL IDENTIFIED FUSE IN DISCONNECT SWITCH
- POWER OR DISTRIBUTION PANELBOARD
- LIGHTING CONTACTOR
- ELECTRICAL MANHOLE
- ELECTRICAL HANDHOLE
- MAGNETIC MOTOR CONTROLLER SUBSCRIPT INDICATES NEMA SIZE
- 3 POLE DISCONNECT SWITCH OR ENCLOSED CIRCUIT BREAKER, UPPER NUMERAL INDICATES SWITCH SIZE OR FRAME SIZE, LOWER NUMERAL INDICATES FUSE SIZE OR TRIP SIZE, A LOWER NUMERAL OF "0" INDICATES A NON-FUSE TRIP SWITCH
- COMBINATION MAGNETIC MOTOR CONTROLLER WITH FUSIBLE DISCONNECT, SUBSCRIPT INDICATES NEMA SIZE
- COMBINATION MAGNETIC MOTOR CONTROLLER WITH NON-FUSIBLE DISCONNECT, SUBSCRIPT INDICATES NEMA SIZE
- COMBINATION MAGNETIC MOTOR CONTROLLER WITH CIRCUIT BREAKER, SUBSCRIPT INDICATES NEMA SIZE
- MOTOR WITH IDENTIFICATION INSERT INDICATES HORSEPOWER, OR WATTAGE WHEN OUTSIDE
- TRANSFORMER, WITH IDENTIFICATION
- HIGH RATION STATION, STOP OR AS NOTED
- PUSH BUTTON STATION START-STOP OR AS NOTED
- CONTROL RELAY

- PUSH BUTTON STATION FORWARD-REVERSE STOP, OR AS NOTED
- SELECTOR SWITCH
- SWITCHBOARD OR MOTOR CONTROL CENTER AS NOTED
- GROUND PLATE
- PULL BOX

CONDUCTORS AND RACEWAY

- RACEWAY CONCEALED IN FLOOR SLAB OR UNDERGROUND (BURNING HEAVY)
- RACEWAY CONCEALED IN CEILING OR WALL
- RACEWAY EXPOSED
- BRANCH CIRCUIT HOME RUN TO PANEL, LL2, NUMERALS IDENTIFY CIRCUIT, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

WIRE AND RACEWAY SIZE FOR #10 AND LARGER

- PA-RACEWAY IDENTIFICATION BETWEEN OUTLETS AND TERMINATION POINT (SEE FINAL SUB-UP TO TERMINAL CABINET, PANELBOARD, SWITCHBOARD, ETC.)
- SYSTEMS IDENTIFICATION ABBREVIATIONS SHALL BE C-COMMUNICATION
- AL-CLOCK
- EC-EMERGENCY CIRCUIT
- F-ELECTRICAL FEEDER
- FC-FARE FARE CONTROL
- FA-FIRE ALARM
- FC-FARE COLLECTION
- DDC-DOOR LOCK CONTROL
- IA-INTRUSION ALARM
- IC-INTERCOM
- ET-EMERGENCY TRIP, CCTV-CLOSED CIRCUIT TV
- RACEWAY TURNED UP OR TOWARDS VIEWER
- RACEWAY TURNED DOWN OR AWAY FROM VIEWER
- RACEWAY CAPPED
- UNDERGROUND DUCT BLOCK INDICATE TYPE, SIZE AND NUMBER OF CONDUITS BY CROSS SECTION IDENTIFICATION OFF EACH RUN PER E.F. 507
- FLEETING RACEWAY CONNECTION
- FLEETING GROUNDING CONDUCTOR
- FLEETING GROUNDING CONDUCTOR
- INSULATED GROUNDING CONDUCTOR
- INSULATED GROUNDING CONDUCTOR
- LIGHTNING PROTECTION SYSTEM AIR TERMINAL & RACE PLATE LETTER NEXT TO BASE PLATE INDICATES DATE TYPE 12 INDICATES TERMINAL LENGTH
- LIGHTNING PROTECTION SYSTEM GROUND CONDUIT

SOUND SYSTEM

- AMPLIFIER
- INTERIOR SPEAKER BLACKBOX
- EXTERIOR SPEAKER BLACKBOX
- AMBIENT SOUND MONITOR
- HORN TYPE SPEAKER OUTLET
- INTERCOM

PANELBOARD DESIGNATIONS

- U1, U2, ETC. LIGHTING PANELBOARD, 480V/477V
- D1, D2, ETC. DISTRIBUTION PANELBOARD, 480V/477V
- P1, P2, ETC. POWER PANELBOARD, 480V/477V
- LU1, LU2, ETC. LIGHTING RECEPTACLE & MISC. 1P POWER 208Y/120V
- DO1, DO2, ETC. DISTRIBUTION PANELBOARD, 480V/477V

A LETTER "E" PRECEDING THE ABOVE DESIGNATIONS INDICATES PANELBOARD FED FROM EMERGENCY SOURCE

FIRE, INTRUSION, AND CLOCK SYSTEMS

SEE DRAWING EES 06 FOR SYMBOLS.

MISCELLANEOUS

- CCTV CAMERA OUTLET
- TRAIN DESTINATION SIGN
- CCTV MONITOR
- BUZZER
- BELL
- UNIT HEATER
- WAYSIDE SIGNAL LIGHT
- MOTORIZED DAMPER
- IMPEDANCE BOND
- PHOTO CELL
- THERMOSTAT
- CLOCK OUTLET
- TRACTION POWER EMERGENCY TRIP STATION (ETS)
- TIME SWITCH
- WIREWAY
- CABLEWAY

ABBREVIATIONS

ALL ABBREVIATIONS SHALL COMPLY WITH ANSI STANDARD Y11 ABBREVIATIONS, EXCEPT AS NOTED

- AF - ABOVE FINISHED FLOOR
- ATS - AUTOMATIC TRANSFER SWITCH
- CJ - CONDUIT ONLY
- CTSC - CABLE TRANSMISSION SYSTEM CABINET
- GPS - GALVANIZED RIGID STEEL CONDUIT
- HCA - HAND-OFF-AUTOMATIC INTERLOCK
- IC - INTERCOM
- NIC - NOT IN THIS CONTRACT
- NMC - NON-METALLIC CONDUIT
- PVC - POLYVINYL CHLORIDE CONDUIT
- TBS - TRACTION POWER SUB-STATION
- 5F - SPARE CONDUIT
- MCC - MOTOR CONTROL CENTER
- SCIC - SUPERVISORY CONTROL INTERFACE TERMINAL CABINET
- TC - TRAIN CONTROL & COMMUNICATIONS ROOM
- WP - WEATHER PROOF
- WT - WATER TIGHT
- IFMR - TRANSFORMER GROUND
- C - CONDUIT
- STS - STATION



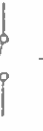
Dade County Transportation Improvement Program

METROPOLITAN DADE COUNTY
OFFICE OF TRANSPORTATION
ADMINISTRATION

THE KAISER TRANSPORT GROUP - a joint venture
Kaiser Engineers, Architects & Planners, Inc.
Kaiser Engineers, Architects & Planners, Inc.
Kaiser Engineers, Architects & Planners, Inc.

ELECTRICAL STANDARD
PLAN SYMBOLS AND ABBREVIATIONS

EES01-A1 Y-241-256

ELECTRICAL SCHEMATIC DIAGRAM SYMBOLS		SINGLE LINE DIAGRAM SYMBOLS	
REPRESENTS	REPRESENTS	REPRESENTS	REPRESENTS
 TRANSFORMER  PUSHBUTTON SWITCH, MOMENTARY CONTACT, N.C.  PUSHBUTTON SWITCH, MOMENTARY CONTACT, N.O.  MECHANICAL CONNECTION  SINGLE POLE CIRCUIT BREAKER SIZE AS NOTED.  MAGNETIC MOTOR STARTER COIL.  MAGNETIC MOTOR STARTER COIL.  NORMALLY OPEN CONTACT, AUX. OR RELAY, TIME NEXT TO THE SYMBOL INDICATES TIMED CONTACT, TIME CLOSING ON ENERGIZING (OPENS INSTANTLY ON DE-ENERGIZING)  TO NEXT TO THE SYMBOL INDICATES TIMED CONTACT, CLOSING INSTANTLY ON ENERGIZING (TIME OPENING ON DE-ENERGIZING)  ANY NOTATION NEXT TO THE SYMBOL SHALL BE IDENTIFICATION FOR THE CONTACT  NORMALLY CLOSED CONTACT AUX. OR RELAY, TIME NEXT TO THE SYMBOL INDICATES TIMED CONTACT, OPENS INSTANTLY ON ENERGIZING (TIME CLOSING ON DE-ENERGIZING)  TO NEXT TO THE SYMBOL INDICATES TIMED CONTACT, TIME OPENING ON ENERGIZING (CLOSING INSTANTLY ON DE-ENERGIZING)  ANY NOTATION NEXT TO THE SYMBOL SHALL BE IDENTIFICATION FOR THE CONTACT  OVERLOAD RELAY CONTACTS.  OVERLOAD HEATER.  FUSE WITH RATING.  GROUND CONNECTION.  PILOT LIGHT R-RED, G-GREEN, A-AMBER, W-WHITE 5/16" Ø VALVE NORMALLY CLOSED (OPENS WHEN ENERGIZED)  LIMIT SWITCH, NORMALLY OPEN.  LIMIT SWITCH, NORMALLY CLOSED.  LIMIT SWITCH, N.O. HELD CLOSED BY ACTUATOR  LIMIT SWITCH, N.C. HELD OPEN BY ACTUATOR  PRESSURE SWITCH, NORMALLY OPEN, CLOSING ON RISING PRESSURE.  PRESSURE SWITCH, NORMALLY CLOSED, OPENS ON RISING PRESSURE.  FLOW SWITCH, NORMALLY OPEN, CLOSING WITH FLOW.  FLOW SWITCH, NORMALLY CLOSED, OPENS WITH FLOW.  TEMPERATURE SWITCH NORMALLY OPEN, CLOSING ON RISING TEMPERATURE (COOLING THERMOSTAT).  PUSHBUTTON MAINTAINED CONTACT, ONE DOUBLE CIRCUIT	 TEMPERATURE SWITCH, NORMALLY CLOSED, OPENS ON RISING TEMPERATURE (HEATING THERMOSTAT)  LEVEL SWITCH, NORMALLY OPEN, AT LOW LEVEL, CLOSING ON RISE.  LEVEL SWITCH, NORMALLY CLOSED AT LOW LEVEL, OPENS ON RISE  SELECTOR SWITCH, HAND-OFF-AUTOMATIC, OR AS NOTED K-KEY OPERATED (STANDARD OR HEAVY DUTY INDUSTRIAL CONTROL).  SELECTOR SWITCH (WAFFER TYPE).  COIL, OPERATING.  SINGLE POLE SINGLE THROW SWITCH.  SINGLE POLE DOUBLE THROW SWITCH.  MULTICONDUCTOR CABLE.  SHIELDED 2 CONDUCTOR CABLE WITH SHIELD GROUNDING.  COAXIAL CABLE.  DISCONNECTING DEVICE.  CONDUCTORS, CONNECTED.  CONDUCTORS, NOT CONNECTED  UNDERVOLTAGE RELAY  SOLID STATE OVERCURRENT TRIP DEVICE WITH LONG & SHORT TIME & INTEGRAL GROUND FAULT PROTECTION  OUTLINE OF EQUIPMENT (SHOWN LIGHT)  OUTLINE OF ROOM IN WHICH THE EQUIPMENT IS HOUSED  TERMINAL STRIP  WIRING TERMINAL.  BATTERY  AUDIBLE SIGNAL.  CONTROL RELAY COIL.  LIGHTING CONTACTOR COIL.  RUNNING TIME METER	 CIRCUIT BREAKER  GROUND.  LIGHTNING ARRESTER  OVERLOAD RELAY  DRAW-OUT AIR CIRCUIT BREAKER 3 POLES  3 POLE COMBINATION MAGNETIC MOTOR STARTER WITH CIRCUIT BREAKER OR FUSIBLE DISCONNECT, NUMERICAL INDICATES NEMA SIZE FVNR UNLESS NOTED.  DC SWITCHGEAR POSITIVE BUS FAULT CASE GROUND DETECTION  LOCKOUT RELAY  3 POLE MAGNETIC MOTOR STARTER NUMERICAL INDICATES NEMA SIZE FVNR UNLESS NOTED  DRAW-OUT MOLDED CASE CIRCUIT BREAKER FRAME SIZE INDICATED ABOVE LINE AND TRIP TRIP VALUE BELOW  CIRCUIT BREAKER MAGNETIC ONLY FRAME SIZE INDICATED ABOVE LINE AND TRIP VALUE BELOW  CIRCUIT BREAKER THERMAL MAGNETIC FRAME SIZE INDICATED ABOVE LINE AND TRIP VALUE BELOW  DISCONNECT SWITCH, NON-FUSED  DISCONNECT SWITCH, FUSED.  TRANSFORMER WITH IDENTIFICATION.  POTENTIAL TRANSFORMER WITH RATIO & RATIO AS INDICATED	 CURRENT TRANSFORMER WITH NUMBER & RATIO AS INDICATED  MOTOR WITH IDENTIFICATION, NUMBER WITHIN SYMBOL INDICATES HP  NETWORK PROTECTOR  BUS  REACTOR  SPACE HEATER WITH RATING AND IDENTIFICATION.  METER, LETTER WITHIN SYMBOL INDICATES TYPE: A AMMETER V VOLTMETER W KILOWATT METER H KW-HOUR METER D DEMAND METER P POWER FACTOR METER  AMMETER  VOLTAGE  AMMETER  AMMETER  AMMETER  AMMETER  AMMETER  AMMETER  AMMETER  AMMETER  AMMETER  AMMETER  AMMETER  AMMETER  AMMETER  AMMETER  AMMETER  AMMETER  AMMETER  AMMETER  AMMETER  AMMETER  AMMETER  AMMETER  AMMETER  AMMETER  AMMETER  AMMETER  AMMETER  AMMETER  AMMETER  AMMETER  AMMETER  AMMETER  AMMETER  AMMETER  AMMETER  AMMETER  AMMETER

000456

Dade County Transportation Improvement Program

METROPOLITAN DADE COUNTY
OFFICE OF TRANSPORTATION
ADMINISTRATION

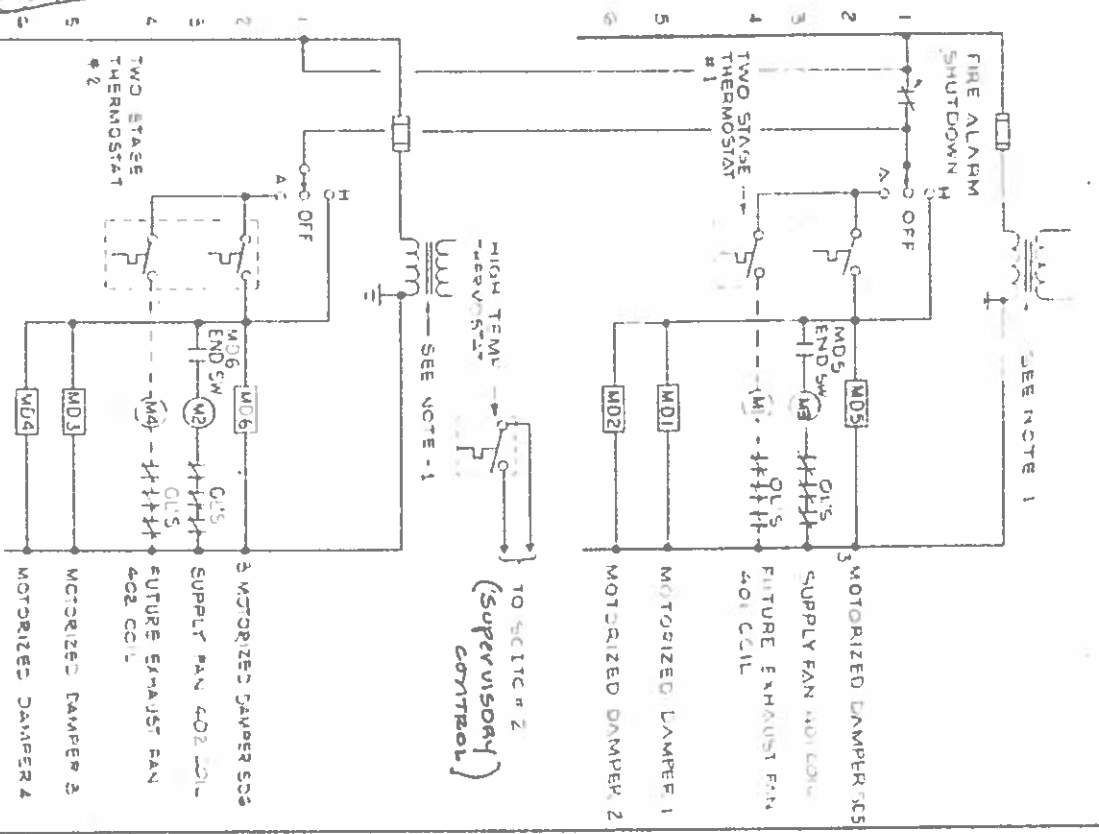
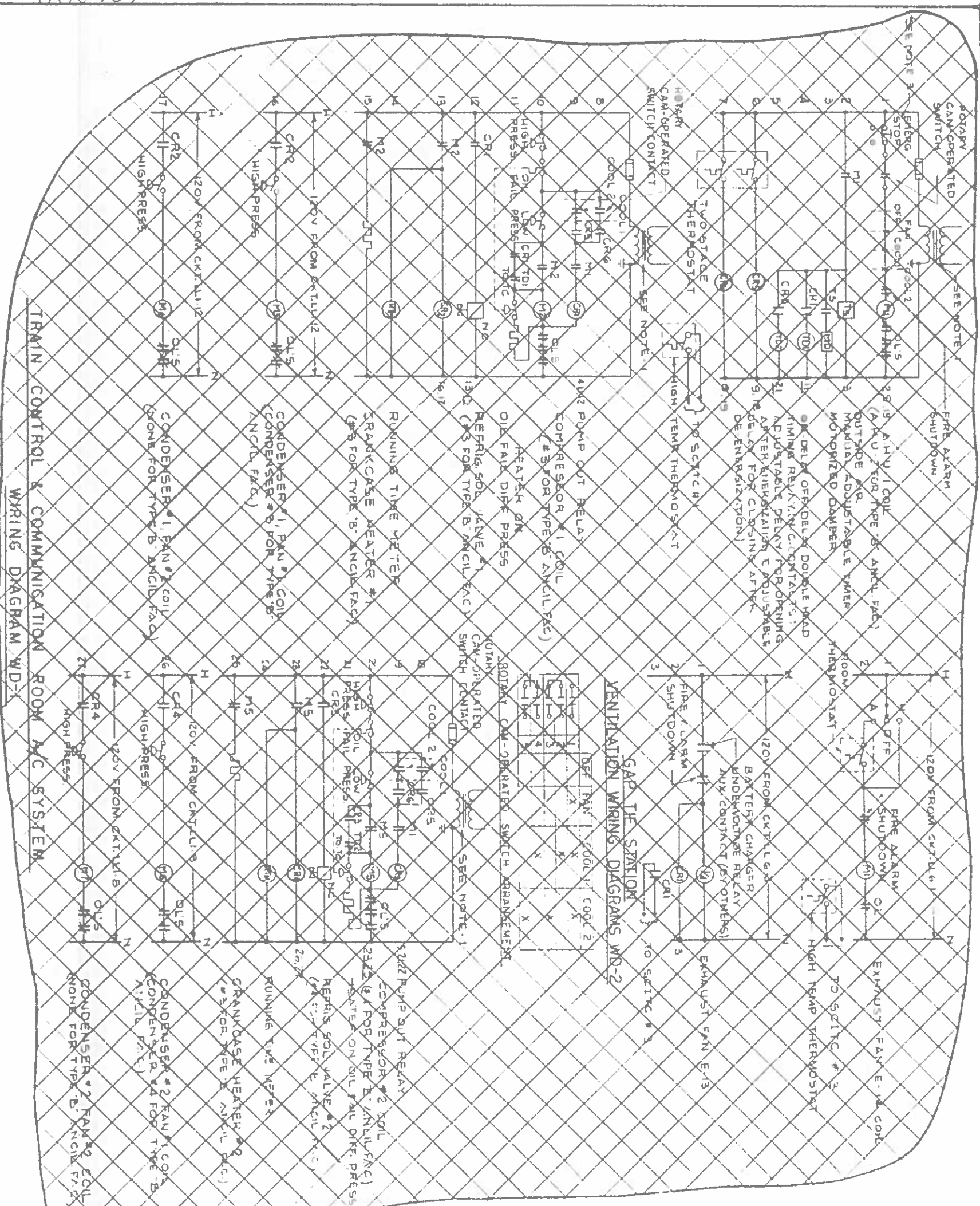
THE KAISER TRANSPORT GROUP a joint venture
KAISER ENGINEERS
DIVISION OF KAISER ENGINEERING
HARRY WIESS & ASSOCIATES LTD.
PORT, BUREAU, SCHEIDT & JOHNSON INC.
CANNON, SMITH AND ASSOCIATES, INC.
SOMMERVILLE CONSULTING ASSOCIATES

ELECTRICAL STANDARD
DIAGRAM SYMBOLS & NOTES
EES02-A1 Y-241-297

DETAIL DESIGNATION:
FOR DETAIL DESIGNATION USE THE SAME SYMBOLS AS FOR DETAIL DESIGNATION BUT USE NUMBERS INSTEAD OF LETTERS AND THE AREA DETAIL INSTEAD OF SECTION.
SECTION DESIGNATION:
CAPITAL LETTERS, USE ALPHABET IN SECTIONS WITH NO. 10 AND 11. ALL LETTERS ARE USED IN TWO LETTERS AS A, B, C, D AND E AND F.
SECTION:
SCALE 1/2" = 1'-0"
IN THE CASE WHERE THE SECTIONS ARE CUT AND SHOWN IN THE SAME SHEET, SHOW ONLY A CASE.
SECTION:
SCALE 1/2" = 1'-0"
IN THE CASE WHERE THE SECTIONS ARE CUT AND SHOWN IN THE SAME SHEET, SHOW ONLY A CASE.
SECTION:
SCALE 1/2" = 1'-0"
IN THE CASE WHERE THE SECTIONS ARE CUT AND SHOWN IN THE SAME SHEET, SHOW ONLY A CASE.



000459



TRACTION POWER SUBSTATION

VENTILATION WIRING DIAGRAM WD-3

NOTES

1- 250V AC CONTROL POWER TRANSFORMER INTEGRAL WITH EACH TRACTION TRANSFORMER SHALL BE SIZED TO SUPPLY THE NECESSARY POWER TO COILS, SOLENOID VALVES, MOTORIZED DAMPERS ETC.

2- FOR SEQUENCE OF OPERATIONS SEE MECHANICAL DRAWINGS.

ME 401.

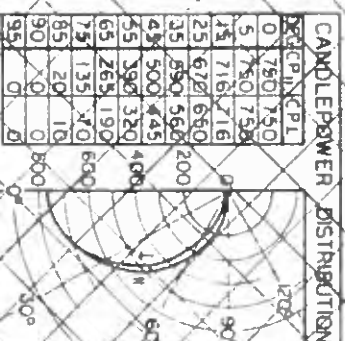
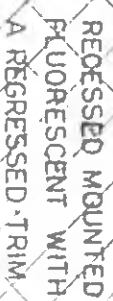
3- EXHAUST STOP PUSH BUTTON SHALL BE OF THE PUSH TO STOP TYPE AND SHALL BE INSTALLED IN MCC.

4- ALL CONTROL ELECTRIMETAL RESULTS & RECORDS CAN SWICH SHOW ON ONE OF TWO CONTROL DIAGRAMS SHALL BE IN MCC SECTION NO. SEE ESSCE

OMIT (N.I.C.)

HALF SIZE

[illegible]



COEFFICIENTS OF UTILIZATION	
FLOOR SINKING WELLS	
0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
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92	92
93	93
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98	98
99	99
100	100

TYPE	DESCRIPTION	LAMP
M	REFESSED MOUNTED, FOUR FEET LONG, FLUORESCENT, WITH A WHITE DIFFUSING LENS PROVIDED AT 227 VOLTS AND REQUIRING 100 WATTS, NOMINAL INPUT FOR INTERIOR APPLICATION.	2-FLOW

✓ 5M1-
(N15)

NOTES:
1. SEE NOTE 1, DWG. EES 70.

Dade County Transportation Improvement Program

**METROPOLITAN DADE COUNTY
OFFICE OF TRANSPORTATION**

ELECTRICAL STANDARD

TYPES M, N, O

CANDLEPOWER DISTRIBUTION

DEGREE CPT	0	30°	60°	90°
5	2431	2416		
15	2337	2381		
25	2163	2316	820	
35	1899	2167		
45	1395	694	120	
55	543	787		
65	277	329		
75	16	138		
85	56	48		
95	0	0		

CP

DEGREE CPT

COEFFICIENTS OF UTILIZATION	
FLOOR	20
CEILING	.50 .30 .50 .30 .50 .30
WALLS	.50 .30 .50 .30 .50 .30
—	.72 .70 .70 .65 .68 .65
—	.65 .61 .61 .58 .61 .58
—	.61 .58 .58 .55 .58 .55
—	.58 .55 .55 .52 .55 .52
—	.55 .52 .52 .49 .52 .49
—	.52 .49 .49 .46 .49 .46
—	.49 .46 .46 .43 .46 .43
—	.46 .43 .43 .40 .43 .40
—	.43 .40 .40 .37 .40 .37
—	.40 .37 .37 .34 .37 .34
—	.37 .34 .34 .31 .34 .31
—	.34 .31 .31 .28 .31 .28
—	.31 .28 .28 .25 .28 .25
—	.28 .25 .25 .22 .25 .22
—	.25 .22 .22 .19 .22 .19
—	.22 .19 .19 .16 .19 .16
—	.19 .16 .16 .13 .16 .13
—	.16 .13 .13 .10 .13 .10
—	.13 .10 .10 .07 .10 .07
—	.10 .07 .07 .04 .07 .04
—	.07 .04 .04 .01 .04 .01
—	.04 .01 .01 .00 .01 .00
—	.01 .00 .00 .00 .00 .00
—	.00 .00 .00 .00 .00 .00

NOTES:
1-COEFFICIENTS OF UTILIZATION TABLE IS FOR A LAMP
FIXTURE, MULTIPLY A FACTOR F₁ 1.0 FOR 2 LAMPS
(1) FOR 2 LAMPS
2 SPACING TO MOUNTING HEIGHT RATIO SHALL NOT
EXCEED 1.0 TO ONE FOR A LAMP FIXTURE 3 1.5
TO ONE FOR 2 LAMP FIXTURE.

TYPE	DESCRIPTION	LAMP
N-1	RECESSED 2' x 3' HEAT EXTRACTION FLUORESCENT FOR LAY-IN T-BAR MOUNTING WITH REGRESSED PRISMATIC ACRYLIC LENS AND WITH HINGED, LATCHED AND FLUSH WHITE FINISHED, ALUMINUM DOOR FRAME PROVIDED FOR OPERATION AT 277 VOLTS	4-F40WW
N-2	LUMINAIRE AS DESCRIBED BY "N-1", EXCEPT WITH 2 LAMPS.	2 F40WW
N-3	LUMINAIRE AS DESCRIBED BY "N-1", EXCEPT WITH 3 LAMPS.	3 F40WW
N-4	LUMINAIRE AS DESCRIBED BY "N-2", EXCEPT WITH DIMMING BALLAST.	2-F40WW

A circular stamp with the words "HALF SIZE" in the center. The text is arranged with "HALF" on the top line and "SIZE" on the bottom line. The stamp is slightly faded and has a textured, circular border.

M Lee 0124/77			
Approved	DATE		
<i>S. Lee</i>	01/24/77		
Reviewed	DATE		
<i>S. Lee</i>	01/24/77		
Checked	DATE		
Approved	DATE		
<i>S. Lee</i>	01/24/77		

P.E. # 15762

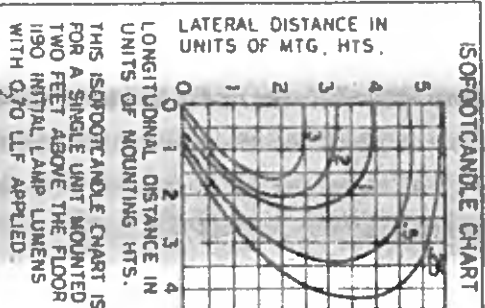
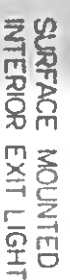
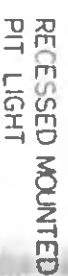
APPROVED	DATE
<i>[Signature]</i>	3-7-84

THE KAISER TRANST GROUP • Joint venture
Kaiser Engineering
Division of Kaiser • Largest Customer
Heavy Metals & Associates Ltd.
Kaiser Transist

SALES	2 - 26 - 80

NOT TO SCALE

DATE	EES 79-8	Y-241-261



TYPE	DESCRIPTION	LAMP



TYPE	DESCRIPTION	LAMP
Q-1	FLAT WALL MOUNTED EXIT SIGN WITH DOWN LIGHT AND DIRECTIONAL ARROWS AS INDICATED. PROVIDED FOR OPERATION AT 120 VOLTS.	2-2016 1/2 b/c/f 44
Q-2	LUNARE AS DESCRIBED BY "Q1" EXCEPT PROVIDED FOR BRACKET MOUNTING WITH SINGLE OR DOUBLE FACE AS INDICATED.	2-2016 1/2 b/c/f 4
Q-3	LUNARE AS DESCRIBED BY "Q1" EXCEPT PROVIDED FOR CEILING MOUNTING WITH SINGLE OR DOUBLE FACE AS INDICATED.	2-2016 1/2 b/c/f 4



TYPE	DESCRIPTION	LAMP
R-1	FLAT WALL MOUNTED EXIT SIGN WITH DIRECTIONAL ARROWS AS INDICATED. LISTED "SUITABLE FOR WET LOCATIONS"; PROVIDED FOR OPERATION AT 120 VOLTS.	2-2016 1/2 DC/CF
R-2	LUMINAIRE AS DESCRIBED BY "R-1" EXCEPT PROVIDED FOR BRACKET MOUNTING WITH SINGLE OR DOUBLE FACE AS INDICATED.	2-2016 1/2 DC/CF
R-3	LUMINAIRE AS DESCRIBED BY "R-1" EXCEPT PROVIDED FOR CEILING MOUNTING WITH SINGLE OR DOUBLE FACE AS INDICATED.	2-2016 1/2 DC/CF

NOTES:
1. SEE NOTE 1, DWG. EES 76.

SMITH
(M.I.C.)



Dade County Transportation Improvement Program

**METROPOLITAN DADE COUNTY
OFFICE OF TRANSPORTATION
ADMINISTRATION**

THE KAISER TRANSIT GROUP • Joint venture

KACER ENGINEERS
Division of KACER & KACER COMPANY
1000 WEST 10TH AVENUE, SUITE 100
DENVER, CO 80202
(303) 733-1100

POST, BUCKLEY, BOHLEN & STEWART INC.
CLAY SMITH AND ASSOCIATES, INC.
1000 WEST 10TH AVENUE, SUITE 100
DENVER, CO 80202
(303) 733-1100

SCHWARTZ, COHEN & ASSOCIATES
1000 WEST 10TH AVENUE, SUITE 100
DENVER, CO 80202
(303) 733-1100

ELECTRICAL STANDARD
LUMINAIRE PALETTE LAYOUT
TYPES P, Q, R

TYPES P, Q, R

NOT TO SCALE

INDEXED
EES 80-A Y-241-202

NAME	W. Lee	DATE	3/14/79
NO. ORDERED	1	DATE	4/5/79
QUANTITY	1	DATE	4/1/79
CHARGE		DATE	

ISSUED FOR BIDS	APR 11 1968	BY	APP	NO
		CHIEF		1617

**Dade County Traffic
Metropolitan Dade
Office of Transport
Administration**

TRANSPORTATION IMPROVEMENT DISTRICT
COUNTY OF
THE KAISER TRANS
KEITH DICKMERS
DIRECTOR OF K&T TRADING COMPANY
HARRY WELLS & ASSOCIATES LTD

Joint Program

JOINT GROUP a joint venture

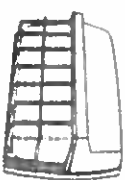
POST BUCKLEY, SCHULZ & ALTMAN, INC.
CLARK BENTLEY AND ASSOCIATES, INC.
SCHWENKELT CONSULTING ASSOCIATES

JOINT 2 - 26 - 80

EL
LUM

SCALE NOT TO SCALE

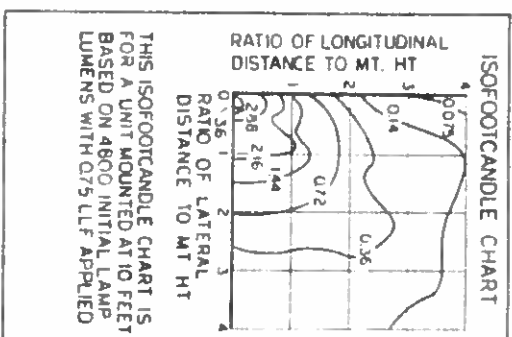
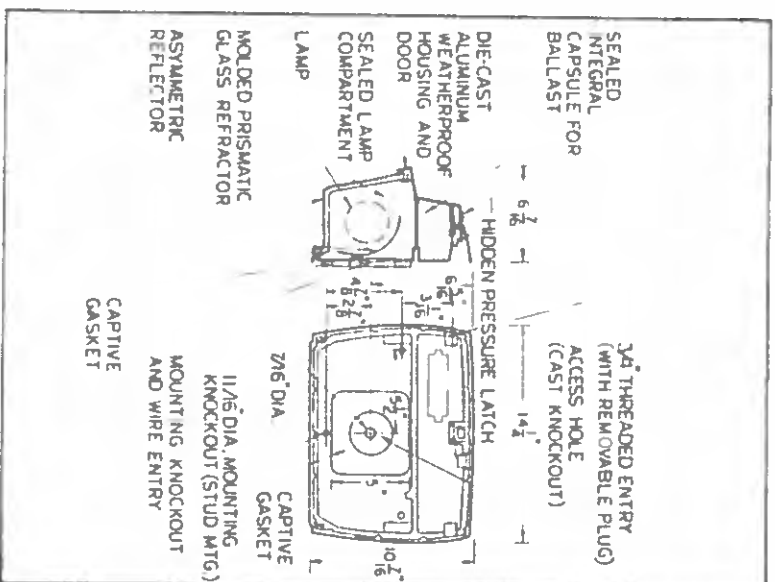
ELECTRICAL STANDARD INAIRE PALETTE LAYOUT TYPES P, Q, R	DATE EES 80 - A Y-241-262



WALL MOUNTED
AREA LIGHT



~~RECESSED MOUNTED
DOWNLIGHT~~



SPACING TO MOUNTING HEIGHT
RATIO SHALL NOT EXCEED FIVE
TO ONE.

COEFFICIENTS OF UTILIZATION
LATERAL DISTANCE IN
UNITS OF MTG. HTS.

	1	2	3	4	5
FRONT SIDE	.23	.39	.48	.53	.56

TYPE	DESCRIPTION	LAMP
S	WALL MOUNTED LUMINAIRE WITH ASYMMETRICAL DISTRIBUTION FOR SECURITY AND EGRESS LIGHTING.	2500/CL/MCS (120 V)
		28

CANDLE POWER DISTRIBUTION

DEG CP	0	10	20	30	40	50	60	75	85	90	95	0
0	1020	5000	15 880	25 690	35 445	45 260	55 150	65 80	75 40	85 5	90 0	95 0

COEFFICIENTS OF UTILIZATION

FLOOR CEILING WALLS	20				30				50			
	0	10	20	30	0	10	20	30	0	10	20	30
1	32	34	51	50	49	48	48	46	32	45	45	34
2	48	46	42	41	43	41	41	41	31	38	38	28
3	41	38	44	41	38	37	37	34	27	32	32	24
4	36	35	38	35	35	34	34	32	24	28	28	21
5	32	32	35	32	32	31	31	29	23	26	26	19
6	30	30	33	30	30	29	29	27	21	24	24	18
8	31	29	31	28	30	27	27	25	19	22	22	17
9	28	26	29	25	28	25	25	23	17	20	20	15
10	26	23	26	23	25	23	23	21	15	18	18	14

BASED ON 4400 INITIAL LAMP LUMEN WITH 0.67 LK APPLIED SPACING TO MOUNTING HEIGHT RA SHALL NOT EXCEED 0.95 TO ONE.

TYPE

T

RECESSED MOUNTED DOWNLIGHT WITH LOW APERTURE BRIGTHNESS 18000/FOOT/FOOT PROVIDED FOR OPERATION AT 27V VOLTS AND REQUIRING 18 WATTS MAXIMUM INPUT.

DESCRIPTION

REFRACTOR PRESENT LENS, REFLECTOR SPECULAR SHEET ALUMINUM WITH ANODIC COATING

BAFFLE DIECAST ALUMINUM STEPPED RECESSED TRIM FRAME

LAMP

OMIT
(A.I.S.)

NOTES:
1. SEE NOTE 1, DWG. EES 7B.

Dade County Transportation Improvement Program

**METROPOLITAN DADE COUNTY
OFFICE OF TRANSPORTATION
ADMINISTRATION**

THE KAISER TRANSIT GROUP a joint venture

Kaiser Engineers
Division of Kaiser Engineers Company
NORTH WILKIE & ASSOCIATES LTD.

POST, BUCKLEY, BOWEN & ZEPHERIAN, INC.
CLARK SMITH AND ASSOCIATES, INC.
SCHWENKELER CONSULTING ASSOCIATES

ELECTRICAL STANDARD
LUMINAIRE PALETTE LAYOUT
TYPES S, T, U

TYPES S, T, U

[illegible]

SUBMITTER'S SIGNATURE	DATE
<i>[Signature]</i>	3-7-80

DATE 2-26-80

NOT TO SCALE

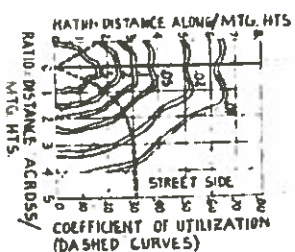
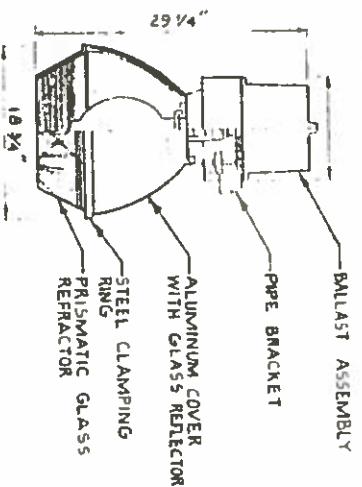
EES 81 - A	Y-241-263





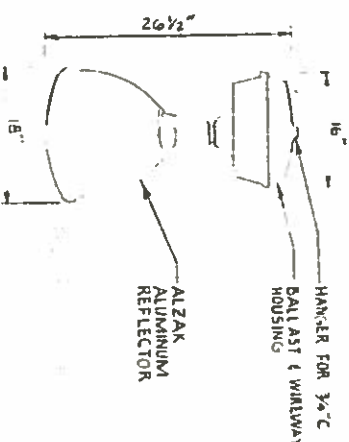
POLE MOUNTED
AREA LIGHT

YA

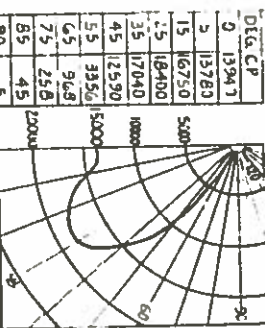


PENDANT MOUNTED
INDUSTRIAL HIGH
PRESSURE SODIUM

YB



CANDLE POWER DISTRIBUTION



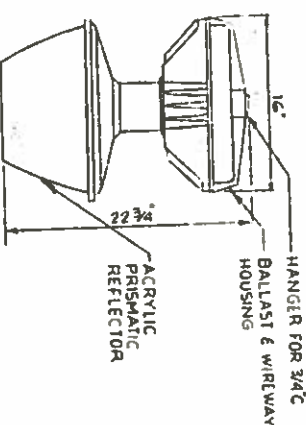
BASED ON 50,000 INITIAL LAMP LUMENS WITH 0.69 LLF APPLIED

COEFFICIENTS OF UTILIZATION				
FLOOR	20	30	40	50
CEILING	70	50	30	10
WALLS	70	50	30	10
RA	70	50	30	10
1	93.90	88.17	83.83	81.80
2	87.83	79.80	76.74	74.72
3	81.75	71.73	69.65	67.64
4	76.68	66.66	64.58	62.57
5	70.62	60.60	58.51	56.51
6	65.57	55.55	53.46	51.45
7	60.51	50.49	48.40	46.39
8	56.46	46.44	44.35	42.34
9	51.41	41.39	39.30	37.29
10	47.37	37.35	35.26	33.25

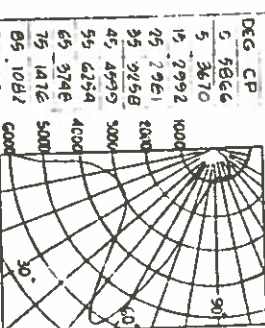


PENDANT MOUNTED
INDUSTRIAL HIGH
PRESSURE SODIUM

YC



CANDLE POWER DISTRIBUTION



BASED ON 25,500 INITIAL LAMP LUMENS WITH 0.69 LLF APPLIED

COEFFICIENTS OF UTILIZATION				
FLOOR	20	30	40	50
CEILING	70	50	30	10
WALLS	70	50	30	10
RA	70	50	30	10
1	81.82	76.76	72.70	68.65
2	76.71	71.65	67.59	63.54
3	70.61	65.56	61.50	57.45
4	64.51	59.46	55.40	51.35
5	58.41	53.36	49.30	45.25
6	52.31	47.26	43.20	39.15
7	46.21	41.16	37.10	33.05
8	40.11	35.06	31.00	26.95
9	34.01	28.96	24.90	20.85
10	27.91	22.86	18.80	14.75

TYPE

DESCRIPTION

LAMP

YA-1

HIGH PRESSURE SODIUM HIGH MAST LUMINAIRE WITH A LONG AND NARROW BEAM PATTERN FOR MOUNTING ON A RING TYPE LOWERING DEVICE ON A 100' HIGH POLE. PROVIDED FOR OPERATION AT 480 VOLTS FUSED PRIMARY

6-LU1000

YA-2

PRESSURE SODIUM HIGH MAST LUMINAIRE WITH AN ASYMMETRICAL BEAM PATTERN FOR MOUNTING ON A 60' HIGH POLE. PROVIDED FOR OPERATION AT 480 VOLTS FUSED PRIMARY

1-LU1000

TYPE

DESCRIPTION

LAMP

YB-1

SINGLE UNIT LUMINAIRE WITH 100% DOWNLIGHT AND WITH OPEN ALZAK ALUMINUM REFLECTOR. PROVIDED FOR OPERATION AT 277 VOLTS

1-LU400

YB-2

LUMINAIRE AS DESCRIBED BY "YB-1" EXCEPT WITH ENCLOSED GLASS LAMINATED REFLECTOR.

1-LU400

TYPE

DESCRIPTION

LAMP

YC

SINGLE UNIT LUMINAIRE WITH ACRYLIC PRISMATIC REFRACTOR. PROVIDED FOR OPERATION AT 277 VOLTS

1-LU450

Dade County Transportation Improvement Program

THE KAISER TRANST GROUP a joint venture

THE KAISER TRANST GROUP a joint venture
KAISER ENGINEERS
1000 N. W. 10th Avenue, Suite 1000
Miami, Florida 33136
HARRY W. REED & ASSOCIATES, LTD.
1000 N. W. 10th Avenue, Suite 1000
Miami, Florida 33136

PALMETTO YARD
OPERATIONS & MAINTENANCE FACILITIES
LUMINAIRE PALETTE LAYOUT
TYPES YA, YB, YC

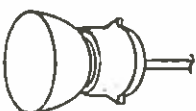


REVISION	DATE	BY	CHKD	DATE
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2	10-11-79			
3	10-11-79			
4	10-11-79			
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6	10-11-79			
7	10-11-79			
8	10-11-79			
9	10-11-79			
10	10-11-79			

REVISION
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BY
CHKD
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REVISION
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CHKD
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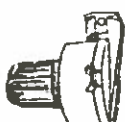
GENERAL AREA LIGHT

YD



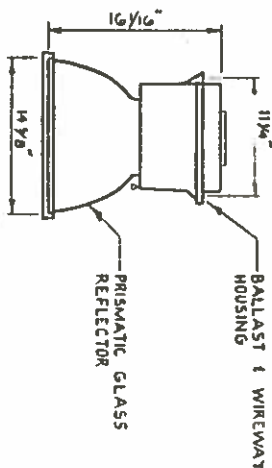
OUTDOOR AREA LIGHT

YE

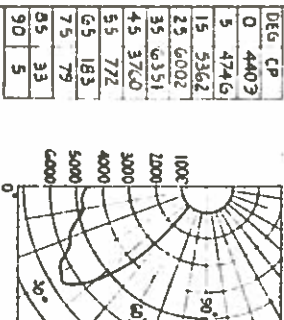


VAPOR-TIGHT

YF



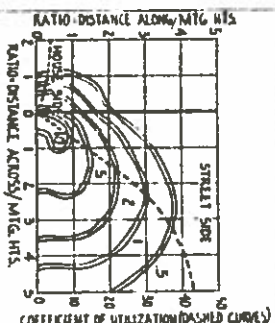
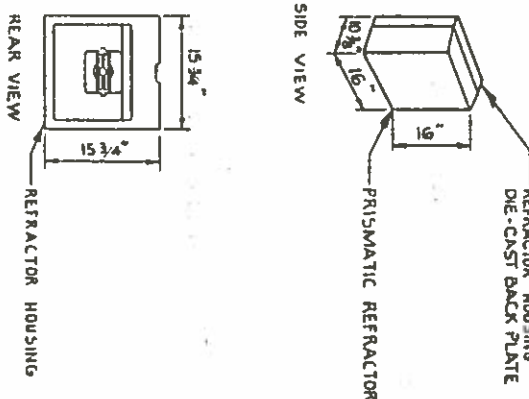
CANDLE POWER DISTRIBUTION



BASED ON 16,000 INITIAL LAMP LUMENS WITH 0.69 LLF APPLIED

COEFFICIENTS OF UTILIZATION

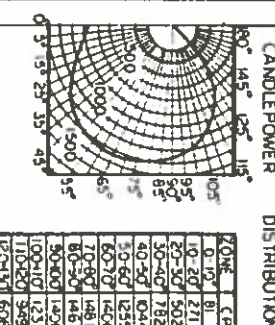
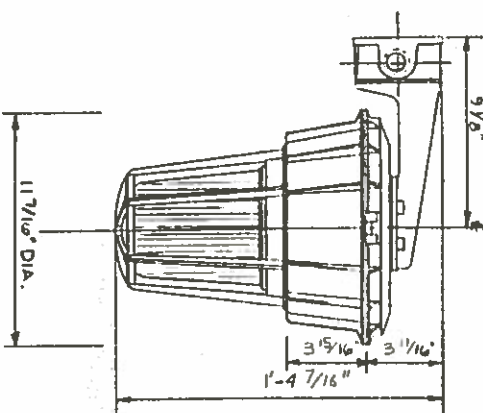
	20	30	40	50	60	70	80	90	100
FLOOR	20	30	40	50	60	70	80	90	100
CEILING	70	50	40	30	20	10	5	2	1
WALLS	50	30	20	10	5	2	1	0.5	0.2
RCR	1	2	3	4	5	6	7	8	9
1	85	83	81	79	77	75	73	71	69
2	78	75	72	70	67	64	61	58	56
3	72	68	65	62	59	56	53	50	47
4	66	62	58	55	52	49	46	43	40
5	61	56	52	49	46	43	40	37	34
6	56	51	47	44	41	38	35	32	29
7	51	46	42	39	36	33	30	27	24
8	46	41	37	34	31	28	25	22	19
9	42	37	33	30	27	24	21	18	15
10	38	33	29	26	23	20	17	14	11



BASED ON 14,000 INITIAL LAMP LUMENS WITH 0.91 LLF APPLIED.

COEFFICIENTS OF UTILIZATION

	20	30	40	50	60	70	80	90	100
FLOOR	20	30	40	50	60	70	80	90	100
CEILING	70	50	40	30	20	10	5	2	1
WALLS	50	30	20	10	5	2	1	0.5	0.2
RCR	1	2	3	4	5	6	7	8	9
1	85	83	81	79	77	75	73	71	69
2	78	75	72	70	67	64	61	58	56
3	72	68	65	62	59	56	53	50	47
4	66	62	58	55	52	49	46	43	40
5	61	56	52	49	46	43	40	37	34
6	56	51	47	44	41	38	35	32	29
7	51	46	42	39	36	33	30	27	24
8	46	41	37	34	31	28	25	22	19
9	42	37	33	30	27	24	21	18	15
10	38	33	29	26	23	20	17	14	11



BASED ON 14,000 INITIAL LAMP LUMENS WITH 0.91 LLF APPLIED.

COEFFICIENTS OF UTILIZATION

	20					30				
FLOOR	20	30	40	50	60	70	80	90	100	
CEILING	70	50	40	30	20	10	5	2	1	
WALLS	50	30	20	10	5	2	1	0.5	0.2	
RCR	1	2	3	4	5	6	7	8	9	
1	85.78	78.75	73.75	75.72	72.70	66.66	67.63	59.64	60.59	
2	77.66	67.63	59.64	60.59	51.56	56.52	53.48	55.51	51.47	
3	68.64	58.61	51.56	52.51	43.48	48.44	45.40	47.37	43.34	
4	60.61	51.56	43.48	44.43	35.40	40.36	37.32	39.29	35.26	
5	54.58	45.43	37.32	38.27	29.24	34.20	31.16	33.13	29.10	
6	49.54	40.39	32.28	33.23	24.20	29.16	26.12	28.09	24.06	
7	45.50	36.35	28.24	29.19	20.16	25.12	22.08	24.05	20.02	
8	42.46	33.31	25.20	26.15	17.12	22.08	19.04	21.01	17.00	
9	39.42	30.27	22.16	23.11	14.08	19.04	16.00	18.00	14.00	
10	36.38	27.23	19.12	20.07	11.04	16.00	13.00	15.00	11.00	

Housing: DIE CAST COPPER FREE ALUMINUM
ALL EXPOSED HARDWARE STAINLESS STEEL

TYPE

DESCRIPTION

LAMP

PENDANT MOUNTED LUMINAIRE WITH OPEN BOTTOM PRISMATIC GLASS REFLECTOR WITH SPUN-OUT ALUMINUM COVER. PROVIDED FOR OPERATION AT 277 VOLTS.

TYPE

DESCRIPTION

LAMP

SINGLE WALL MOUNTED LUMINAIRE WITH BLACK ANODIZED REFRACTOR HOUSING. PROVIDED FOR OPERATION AT 277 VOLTS. FUSED PRIMARY

TYPE

DESCRIPTION

LAMP

ENCLOSED & GASKETED WALL MOUNTED METAL HALIDE LUMINAIRE WITH PRISMATIC GLOBE & GUARD. PROVIDED FOR OPERATION AT 277 VOLTS.



Dade County Transportation Improvement Program

THE KAISER TRANSIT GROUP a joint venture

THE KAISER TRANSIT GROUP a joint venture
KAISER ENGINEERS
SERVICES OF KAISER ENGINEERS
HARRY WELSH & ASSOCIATES LTD.

OPERATIONS & MAINTENANCE FACILITIES
LUMINAIRE PALETTE LAYOUT
TYPES YD, YE, YF

REVISIONS

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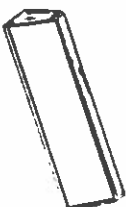
DATE

DATE



SURFACE MOUNTED
FLUORESCENT SUITABLE
FOR "INDOOR / OUTDOOR"

YG



SURFACE MOUNTED
FLUORESCENT

YH



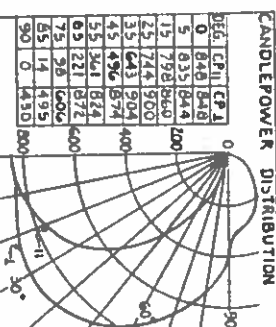
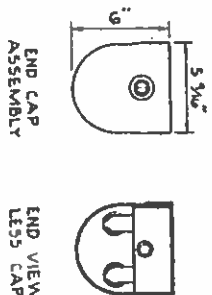
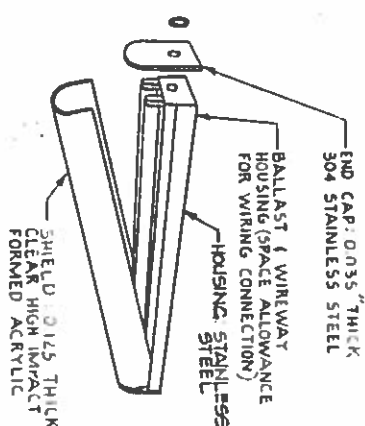
TYPE 1



TYPE 2

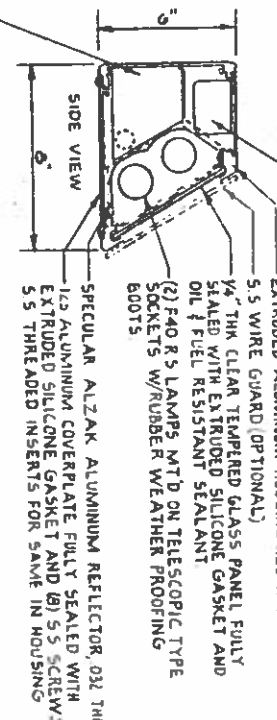
SURFACE MOUNTED
INCANDESCENT PIT
WARNING LIGHT

YJ



COEFFICIENTS OF UTILIZATION									
FLOOR	CEILING	WALLS	RCR	1	2	3	4	5	6
100	100	100	100	100	100	100	100	100	100
50	50	50	50	50	50	50	50	50	50
25	25	25	25	25	25	25	25	25	25
10	10	10	10	10	10	10	10	10	10
5	5	5	5	5	5	5	5	5	5
2	2	2	2	2	2	2	2	2	2
1	1	1	1	1	1	1	1	1	1

430MA 2F40 RS WEATHER
SEALED BALLAST 0° 277V



NOTE:
ALL ELECTRICAL SPLICES TO BE WATER TIGHT
ALL FASTENERS TO BE OF STAINLESS STEEL (S.S.)
FIXTURE TO BEAR UL WET LOCATION LABEL.
EXTRUDED ALUMINUM HOUSING, 1/25 THK MIN.
5.5 WIRE GUARD (OPTIONAL)
1/4" THK CLEAR TEMPERED GLASS PANEL FULLY
SEALED WITH EXTRUDED SILICONE GASKET AND
OIL & FUEL RESISTANT SEALANT
(2) F40 RS LAMPS MTD ON TELESCOPIC TYPE
SOCKETS W/ RUBBER WEATHER PROOFING
BOOTS
SPECULAR ALZAK ALUMINUM REFLECTOR, 0.31 THK
1/25 ALUMINUM COVERPLATE FULLY SEALED WITH
EXTRUDED SILICONE GASKET AND (B) 5.5 SCREWS
5.5 THREADED INSERTS FOR SAME IN HOUSING
18 GA. # 30-4 5.5 SOCKET PLATE
ACCESS PLATE & GLASS RETAINING
ANGLE, ALL BRUSH FINISH

TYPE

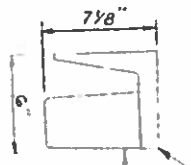
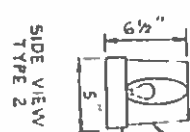
DESCRIPTION

LAMP

YH

SURFACE MOUNTED EXTRUDED ALUMINUM FIXTURE
SUITABLE FOR WET LOCATION WITH TEMPERED GLASS
PANEL AND GUARD PROVIDED FOR OPERATION AT
277 VOLTS

2 - F40 WW



PARABOLIC REFLECTOR
SCREW CLAMP BAND
SIDE VIEW
TYPE 2

WALL MOUNT BRACKET
RED PRISMATIC MOUNTED LEXAN
CYLINDER
SIDE VIEW
TYPE 1

TYPE

DESCRIPTION

LAMP

YJ-1

SURFACE MOUNTED PIT WARNING LIGHT WITH SOLID RED LEXAN
CYLINDER SATIN ALUMINUM FINISH PROVIDED FOR OPERATION
AT 120 VOLTS

1-15A15

YJ-2

SURFACE MOUNTED PIT WARNING RED ROTATING LIGHT WITH
RED DOME AND ROTATING PARABOLIC REFLECTOR PROVIDED
FOR OPERATION AT 120 VOLTS.

1-25A

TYPE

DESCRIPTION

LAMP

YG-1

SURFACE MOUNTED 4' LONG FLUORESCENT WITH CLEAR
"U"-SHAPED ACRYLIC SHIELD PROVIDED FOR OPERATION AT
277 VOLTS AND SUITABLE FOR WET LOCATIONS.

2 - F40 WW

YG-2

LUMINAIRE SIMILAR TO "YG-1" EXCEPT PROVIDED FOR OPERATION
AT 120 VOLTS.

2 - F40 WW

YG-3

LUMINAIRE AS DESCRIBED BY "YG-1" EXCEPT WITHIN
INTEGRAL EMERGENCY BATTERY PACK

2 - F40 WW

YG-4

LUMINAIRE AS DESCRIBED BY "YG-2" EXCEPT WITH
INTEGRAL EMERGENCY BATTERY PACK.

2 - F40 WW

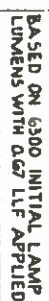
Dade County Transportation Improvement Program

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KAISER ENGINEERS
DIRECTOR OF TRANSPORTATION
HART WILSON & ASSOCIATES LTD.

OPERATIONS & MAINTENANCE FACILITIES
LUMINAIRE PALETTE LAYOUT
TYPES YG, YH, YJ

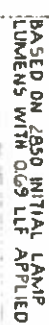




7	21	24	20	27	21	17	27	21	17
10	26	22	18	27	21	17	27	21	17



9	43	20	24	20	23	20
10	22	20	23	20	21	18



10 99.14.11 18 14.11 28.13.11

TYPE	DESCRIPTION	LAMP
YK	SEMI-RECESSED 8 ^{3/8"} x 4'-0-5/8" HEAT EXTRACTION FLUORESCENT FOR ~~277~~ VOLTED MODULE WITH CLEAR ACRYLIC PLASTIC LEND. PROVIDED FOR OPERATION AT 277 VOLTS.	2-F40CW

TYPE	DESCRIPTION	LAMP
YL	PENDANT MOUNTED FLUORESCENT WITH REFLECTOR AND HINGED LOUVER, EIGHT FOOT UNITS WITH 6-40W LAMPS PROVIDED FOR OPERATION AT 277 VOLTS.	6-F 40CW

TYPE	DESCRIPTION	LAMP
YM	PENDANT MOUNTED INCANDESCENT WITH GLASS GLOBE AND DOME REFLECTOR. PROVIDED FOR OPERATION AT 120 VOLTS	1-225A

“00”

Under Description of Semi-Recessed/Vaulted Fluorescent delete "30 x 60 Vaulted Module" and revise to read "60 x 60 Vaulted Module"

RECEIVED BY	DATE	NO.	SITE	BY	DATE	APPROVED FOR RECORDING
M. H. Brown	11-5-79					
RECEIVED	DATE					
M. H. Brown	11-7-79					
RECEIVED	DATE					
P. J. J. J.	10-18-79					
CHECKED	DATE					
M. H. Brown	8-7-80					
RECEIVED	DATE					

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KANSAS ENGINEERS
Division of Kaiser Transit Company
HARRY WILDER & ASSOCIATES LTD.

PORT, RAILWAY, SOUVEN & STEVEDORE INC.
CARR SMITH AND ASSOCIATES INC.
SCHWENKELER CONSULTING ASSOCIATES

PALMETTO YARD
OPERATIONS & MAINTENANCE FACILITIES
LUMINAIRE PALLETTE LAYOUT
TYPES YK YL YM

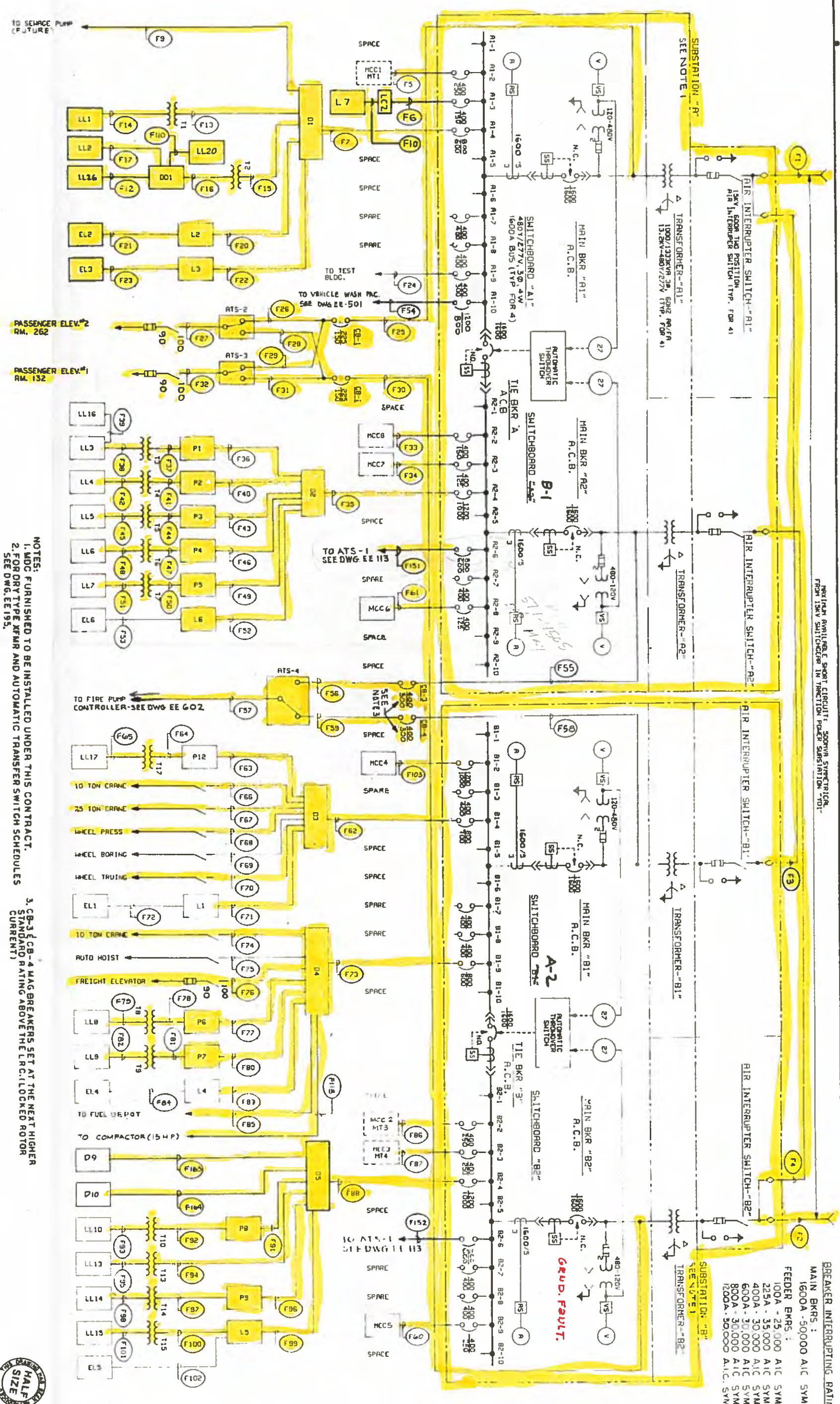


MAXIMUM AVAILABLE SHORT CIRCUIT: 5000A SYMCTICA
FROM 15KV SWITCHGEAR IN INJECTION PUMP SUBSTATION "D1"

BREAKER INTERRUPTING RATING

MAIN BKRS :
1600A - 50000 AIC SYM.

FEDER BKRS :
100A - 25,000 AIC SYM
225A - 35,000 AIC SYM
400A - 30,000 AIC SYM
600A - 30,000 AIC SYM
800A - 30,000 AIC SYM
1200A - 30,000 AIC SYM.



- NOTES:
- 1. MDC FURNISHED TO BE INSTALLED UNDER THIS CONTRACT.
 - 2. FOR DRY TYPE XFMR AND AUTOMATIC TRANSFER SWITCH SCHEDULES SEE DWG. EE 195.
 - 3. CB-3 & CB-4 MAG BREAKERS SET AT THE NEXT HIGHER STANDARD RATING ABOVE THE L.R.C. (LOCKED ROTOR CURRENT)



Dade County Transportation Improvement Program

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KAISER ENGINEERS
BROWN & CALDWELL
HARRY WELLS & ASSOCIATES LTD.

OPERATIONS & MAINTENANCE FACILITIES
MAIN ONE-LINE DIAGRAM

DATE 5-23-80

DATE 5-27-80

SCALE NONE

DATE Y-24-266

105	8/1/79																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			</

CONNECTION TO TPSS
BY THIS CONTRACTOR
(TYPICAL)

YO-172-14
2000A

700 VDC STINGER POWER SUPPLY 4000A

YO-172-15
2000A

LOCATED IN
YARD TRACTION POWER
SUBSTATION (TPSS) N.I.C.

LOCATED IN TEST BUILDING

TPP1

TPP2

TPN1

TPN2

TPN3

TPN4

TPN5

TPN6

TPN7

TPN8

TPN9

TPN10

TPN11

TPN12

TPN13

TPN14

TPN15

TPN16

TPN17

TPN18

TPN19

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TPN300

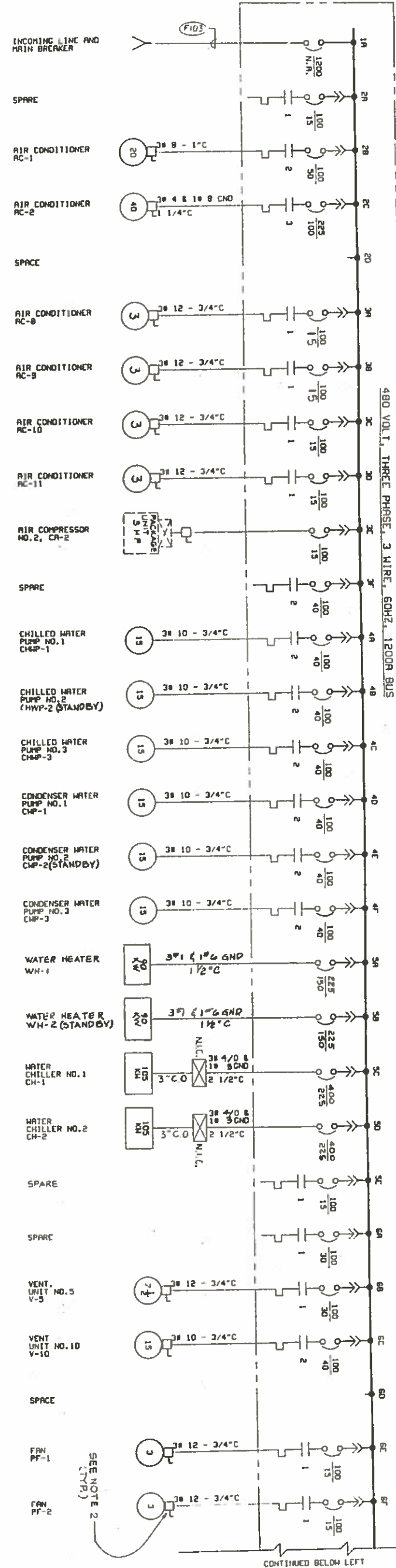
TPN301

TPN302

TPN303

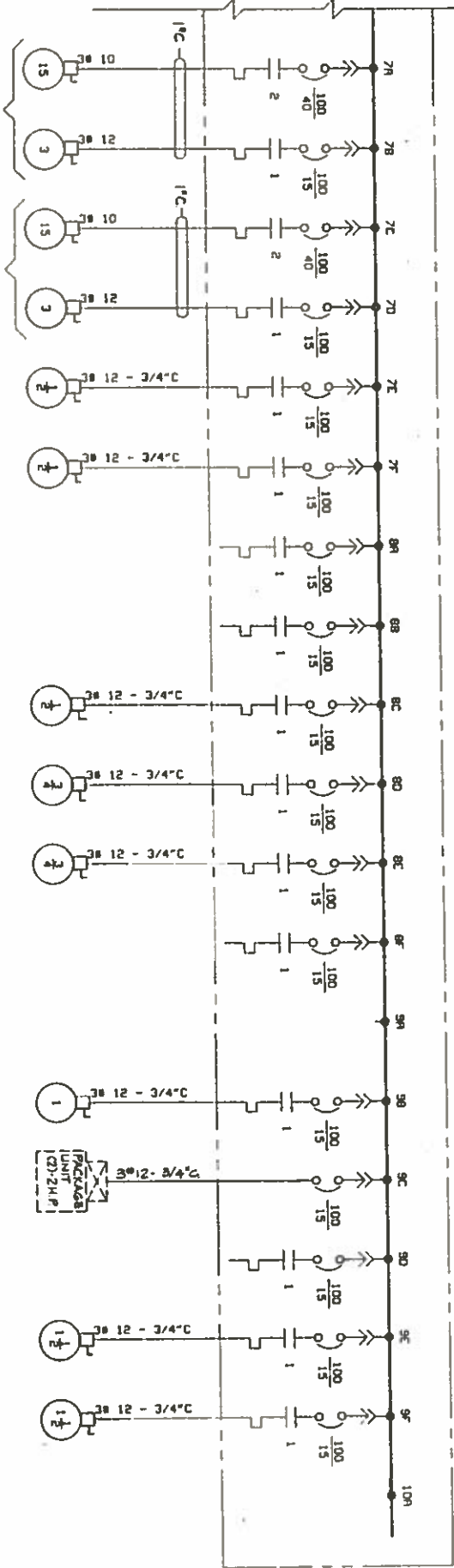


MOTOR CONTROL CENTER NO. 4



NOTE:
1. SEE DRAWING EE 105 FOR M.C. LAYOUT.
2. ALL DISCONNECT SWITCHES SHOWN ARE PART OF THE EQUIPMENT.

CONTINUED ABOVE RIGHT



ONE LINE DIAGRAM

DESIGNED BY	DATE
ADP	1/1/74
CHECKED BY	DATE
W. H. Smith	1/1/74
DATE	
NO.	DATE
BY	DATE
APPROVED BY	DATE
FOR	DATE
REVISION	DATE

Dade County Transportation Improvement Program

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PORT, SECURITY, SCADA & JOURNALING
CABLE, BENTON & ASSOCIATES, INC.
SCHEIDT, COOPER & ASSOCIATES, LTD.

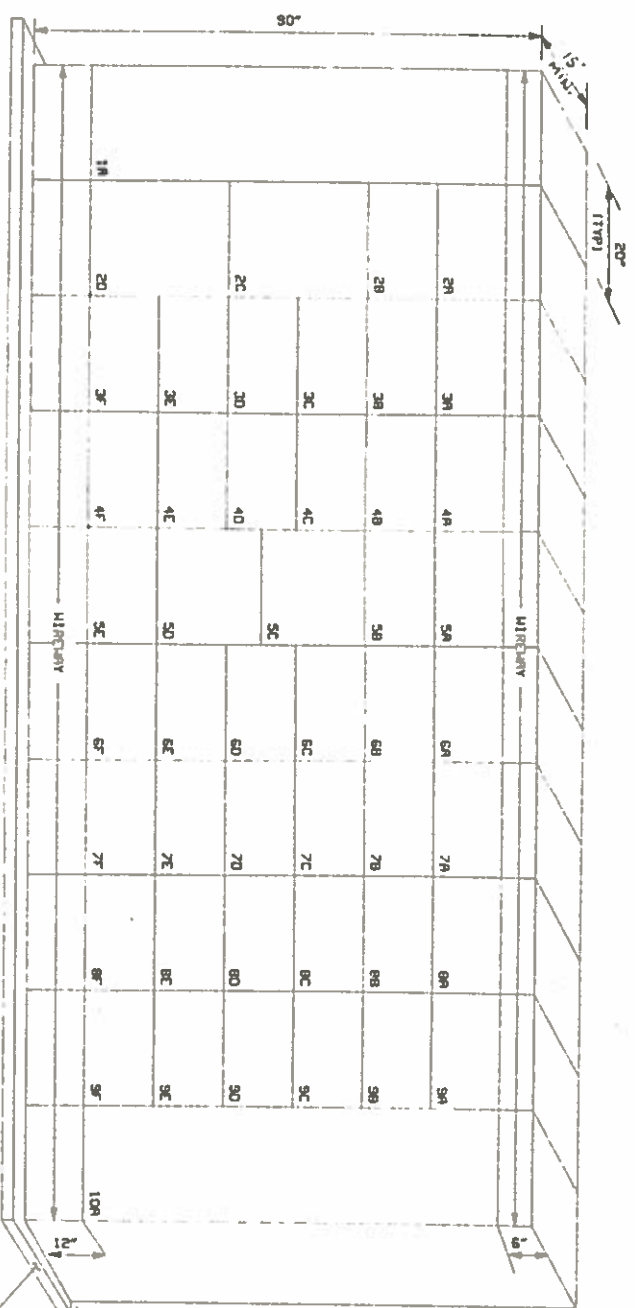
OPERATIONS & MAINTENANCE FACILITIES
480V MOTOR CONTROL CENTER MCC 4
ONE-LINE DIAGRAM SHEET 1

DATE 5-23-80

DATE 5-27-80

DATE EE 104

DATE Y-241-271



CONCRETE PRO
SEE STRUCTURAL
DWG. SE 002

MCC - 4 FRONT ELEVATION

N.T.S.

NOTE:
1. SEE DRAWING ET-104 FOR MCC ONE LINE DIAGRAM.

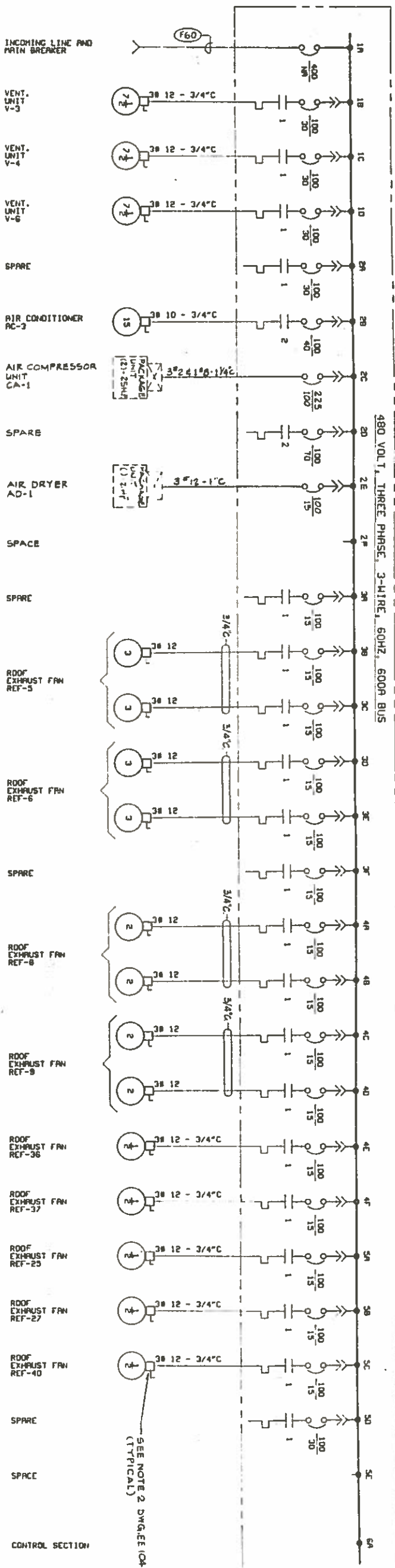
MOTOR CONTROL CENTER SCHEDULE
MCC - 4 (EE 152)

MAIN BUS RATING: 1200 AMP.
GROUND BUS: 300 AMP.
CIRCUIT BREAKING: 22,000 AMP.
SERVICE: 480V, 3Ø, 3W

UNIT	EQUIPMENT DESCRIPTION	LOAD				CIRCUIT BREAKER				STARTER			REMARKS		
		HP	FLA	KVA	PV	KVARS	POLES	INVERTING RATE	SIZE	NO. CONTACTS					
1A	INCOM. LINE & MAIN BRK.	-	-	-	-	-	3	1200	1A	22,000	-	-			
2A	SPRNG	20	27	18.8	0.75	10.4	3	100	15	22,000	1	HOA	2	2	EE151
2B	RC-1	20	27	18.8	0.75	10.4	3	100	50	22,000	2	HOA	2	2	EE151
2C	RC-2	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2D	SPRNG	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2E	RC-3	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2F	RC-4	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2G	RC-5	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2H	RC-6	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2I	RC-7	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2J	RC-8	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2K	RC-9	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2L	RC-10	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2M	RC-11	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2N	RC-12	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2O	RC-13	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2P	RC-14	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2Q	RC-15	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2R	RC-16	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2S	RC-17	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2T	RC-18	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2U	RC-19	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2V	RC-20	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2W	RC-21	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2X	RC-22	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2Y	RC-23	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2Z	RC-24	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2AA	RC-25	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2AB	RC-26	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2AC	RC-27	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2AD	RC-28	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2AE	RC-29	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2AF	RC-30	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2AG	RC-31	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2AH	RC-32	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2AI	RC-33	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2AJ	RC-34	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2AK	RC-35	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2AL	RC-36	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2AM	RC-37	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2AN	RC-38	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2AO	RC-39	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2AP	RC-40	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2AQ	RC-41	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2AR	RC-42	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2AS	RC-43	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2AT	RC-44	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2AU	RC-45	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2AV	RC-46	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2AW	RC-47	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2AX	RC-48	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2AY	RC-49	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2AZ	RC-50	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2BA	RC-51	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2BB	RC-52	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2BC	RC-53	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2BD	RC-54	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2BE	RC-55	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2BF	RC-56	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2BG	RC-57	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2BH	RC-58	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2BI	RC-59	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2BJ	RC-60	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2BK	RC-61	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2BL	RC-62	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2BM	RC-63	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2BN	RC-64	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2BO	RC-65	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2BP	RC-66	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2BQ	RC-67	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2BR	RC-68	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2BS	RC-69	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2BT	RC-70	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2BU	RC-71	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2BV	RC-72	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2BW	RC-73	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2BX	RC-74	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2BY	RC-75	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2BZ	RC-76	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2CA	RC-77	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2CB	RC-78	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2CC	RC-79	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2CD	RC-80	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2CE	RC-81	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2CF	RC-82	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2CG	RC-83	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2CH	RC-84	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2CI	RC-85	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2CJ	RC-86	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2CK	RC-87	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2CL	RC-88	40	52	36.2	0.75	20.03	3	225	100	22,000	2	HOA	2	2	EE151
2CM															



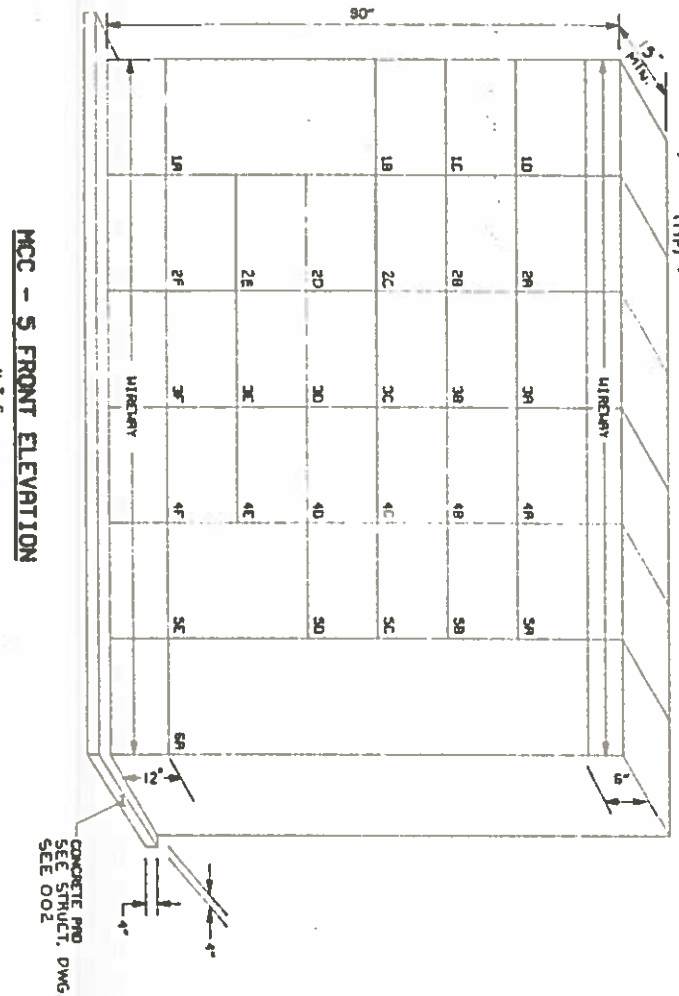
MOTOR CONTROL CENTER NO. 5



ONE LINE DIAGRAM

MOTOR CONTROL CENTER SCHEDULE
MCC - 5 (EE 153)

MAIN BUS RATING: 500 AMP.
GROUND BUS: 300 AMP.
SHORT CIRCUIT BREAKING: 22,000 AMP
SERVICE: 480V, 3Ø, 3W



MOTOR CONTROL CENTER SCHEDULE														MAIN BUS RATING: 600 AMP.	
MCC - 5 (EE 153)														MCC BUS RATING: 22,000 AMP	
SERVICES: 480V, 3Ø, 3W															
UNIT	EQUIPMENT DESCRIPTION	LOAD				CIRCUIT BREAKER				STARTER		REMARKS			
		HP	FLA	KVA	PF	FLS	TRIP	AMP	TRIP	SIZE	RAT. DEVS				
1A	INCOM. LINE & MAIN BRK	-	-	-	-	3	400	100	22,000	1	40A	2	EE 153		
1B	V-3	7.5	11	7.67	.875	4.24	3	100	30	22,000	1	40A	2	EE 153	
1C	V-4	7.5	11	7.67	.875	4.24	3	100	30	22,000	1	40A	2	EE 153	
1D	V-6	7.5	11	7.67	.875	4.24	3	100	30	22,000	1	40A	2	EE 153	
2A	SPARE	-	-	-	-	3	100	30	22,000	1	40A	2	EE 153		
2B	AC-3	15	21	14.6	.875	8.08	3	100	40	22,000	2	40A	2	EE 153	
2C	CH-1	20/25	6.8	47.4	.875	24.22	3	225	100	22,000	-	-	-	EE 153	
2D	SPACE	-	-	-	-	3	100	15	22,000	-	-	-	-	EE 153	
2E	AD-1	2	3.4	2.5	.85	1.43	3	100	15	22,000	-	-	-	EE 153	
2F	SPACE	-	-	-	-	3	100	15	22,000	1	40A	2	2	EE 153	
2G	REF-36	3	4.8	3.25	.85	2.01	3	100	15	22,000	1	40A	2	EE 153	
2H	REF-37	3	4.8	3.25	.85	2.01	3	100	15	22,000	1	40A	2	EE 153	
2I	REF-27	3	4.8	3.25	.85	2.01	3	100	15	22,000	1	40A	2	EE 153	
2J	REF-40	3	4.8	3.25	.85	2.01	3	100	15	22,000	1	40A	2	EE 153	
2K	SPACE	-	-	-	-	3	100	15	22,000	1	40A	2	2	EE 153	
2L	REF-36	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
2M	REF-37	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
2N	REF-27	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
2O	REF-40	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
2P	SPACE	-	-	-	-	3	100	15	22,000	1	40A	2	2	EE 153	
2Q	REF-36	3	4.8	3.25	.85	2.01	3	100	15	22,000	1	40A	2	EE 153	
2R	REF-37	3	4.8	3.25	.85	2.01	3	100	15	22,000	1	40A	2	EE 153	
2S	REF-27	3	4.8	3.25	.85	2.01	3	100	15	22,000	1	40A	2	EE 153	
2T	REF-40	3	4.8	3.25	.85	2.01	3	100	15	22,000	1	40A	2	EE 153	
2U	SPACE	-	-	-	-	3	100	15	22,000	1	40A	2	2	EE 153	
2V	REF-36	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
2W	REF-37	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
2X	REF-27	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
2Y	REF-40	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
2Z	SPACE	-	-	-	-	3	100	15	22,000	1	40A	2	2	EE 153	
3A	REF-36	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
3B	REF-37	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
3C	REF-27	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
3D	REF-40	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
3E	SPACE	-	-	-	-	3	100	15	22,000	1	40A	2	2	EE 153	
3F	REF-36	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
3G	REF-37	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
3H	REF-27	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
3I	REF-40	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
3J	SPACE	-	-	-	-	3	100	15	22,000	1	40A	2	2	EE 153	
3K	REF-36	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
3L	REF-37	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
3M	REF-27	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
3N	REF-40	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
3O	SPACE	-	-	-	-	3	100	15	22,000	1	40A	2	2	EE 153	
3P	REF-36	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
3Q	REF-37	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
3R	REF-27	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
3S	REF-40	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
3T	SPACE	-	-	-	-	3	100	15	22,000	1	40A	2	2	EE 153	
3U	REF-36	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
3V	REF-37	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
3W	REF-27	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
3X	REF-40	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
3Y	SPACE	-	-	-	-	3	100	15	22,000	1	40A	2	2	EE 153	
3Z	REF-36	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
4A	REF-37	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
4B	REF-27	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
4C	REF-40	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
4D	SPACE	-	-	-	-	3	100	15	22,000	1	40A	2	2	EE 153	
4E	REF-36	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
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4I	SPACE	-	-	-	-	3	100	15	22,000	1	40A	2	2	EE 153	
4J	REF-36	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
4K	REF-37	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
4L	REF-27	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
4M	REF-40	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
4N	SPACE	-	-	-	-	3	100	15	22,000	1	40A	2	2	EE 153	
4O	REF-36	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
4P	REF-37	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
4Q	REF-27	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
4R	REF-40	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
4S	SPACE	-	-	-	-	3	100	15	22,000	1	40A	2	2	EE 153	
4T	REF-36	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
4U	REF-37	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
4V	REF-27	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
4W	REF-40	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
4X	SPACE	-	-	-	-	3	100	15	22,000	1	40A	2	2	EE 153	
4Y	REF-36	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
4Z	REF-37	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
5A	REF-27	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
5B	REF-40	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
5C	SPACE	-	-	-	-	3	100	15	22,000	1	40A	2	2	EE 153	
5D	REF-36	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
5E	REF-37	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
5F	REF-27	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
5G	REF-40	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
5H	SPACE	-	-	-	-	3	100	15	22,000	1	40A	2	2	EE 153	
5I	REF-36	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
5J	REF-37	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
5K	REF-27	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
5L	REF-40	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
5M	SPACE	-	-	-	-	3	100	15	22,000	1	40A	2	2	EE 153	
5N	REF-36	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
5O	REF-37	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
5P	REF-27	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
5Q	REF-40	2	3.4	2.30	.85	1.43	3	100	15	22,000	1	40A	2	EE 153	
5R	SPACE	-	-	-	-	3	100	15	22,000	1	40A	2	2	EE 153	
5S	REF-36	2													



MCC - 6 FRONT ELEVATION

11

CONCRETE PAD
SEE STRUCT
DWG SE 002

Dade County Transportation Improvement Program

THE KAISER TRANSIT GROUP a joint venture

THE KAISER TRANSIT GROUP • joint venture

KAISSER ENGINEERS
DIVISION OF KAISSER COMPANY
MAINT. WELDING & ASSOCIATES LTD.

PORT, RAILWAY, DOCK & STEVEDORE, INC.
CARR SMITH AND ASSOCIATES, INC.
BOWEN/LEWIS - CONSULTING ASSOCIATES

**PALMETTO YARD
OPERATIONS & MAINTENANCE FACILITIES
480V MOTOR CONTROL CENTER MCC 6
LAYOUT AND ONE-LINE DIAGRAM SHEET 4**

MOTOR CONTROL CENTER SCHEDULE
MCC - 6 (EE 153)

MCC - 6 (EE 153)

MAIN BUS RATING: 600 AMP,
GROUND BUS: 300 AMP,
SHORT CIRCUIT RATING: 22,000 AMP
SERVICE: 480V, 3Ø, 3W

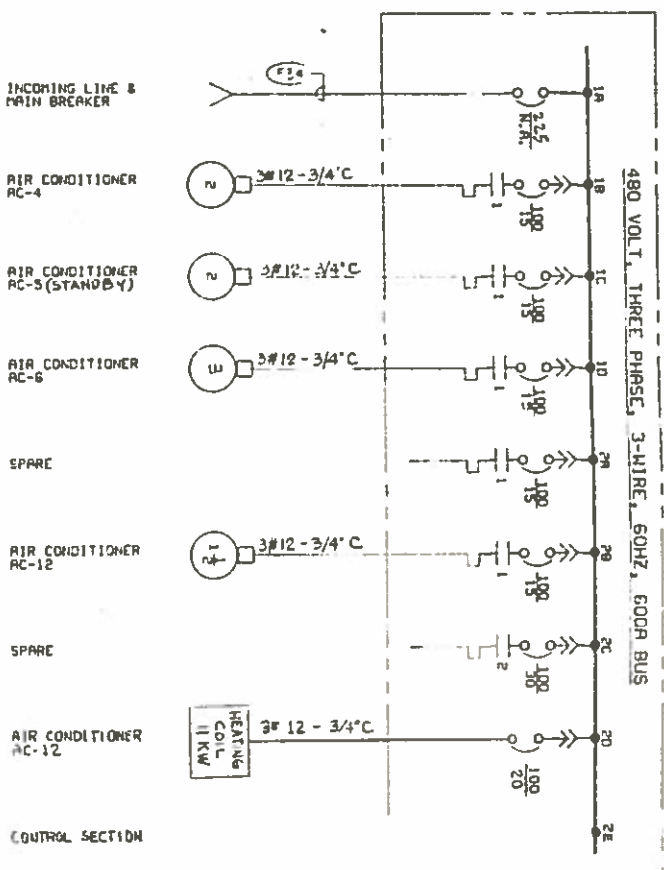
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A.B. 5.	1/11/57					
CHARTER	DATE					
A.N. 12/12	1/11/57					
CHARTER	DATE					
RECEIVED	DATE					
1/12/57						

Dade County Transportation Improvement Program		THE KAISER TRANSIT GROUP • joint venture	
SUBJECT TO <i>Shelley</i>	DATE 5-24-80	THE KAISER TRANSIT GROUP • joint venture KAISER ENGINEERS DIVISION OF KIMLEY-HORN COMPANY 14001 WILSON & ASSOCIATES LTD. 14001 WILSON & ASSOCIATES LTD.	APPROVED BY <i>W.C. Carrington</i>
		PORT, BACILEY, JOHNS & ASSOCIATES, INC. 14001 WILSON & ASSOCIATES, INC. 14001 WILSON & ASSOCIATES, INC.	DATE 5-27-80

SCALE NOT TO SCALE	DRAWING EE 107	Y-24-274

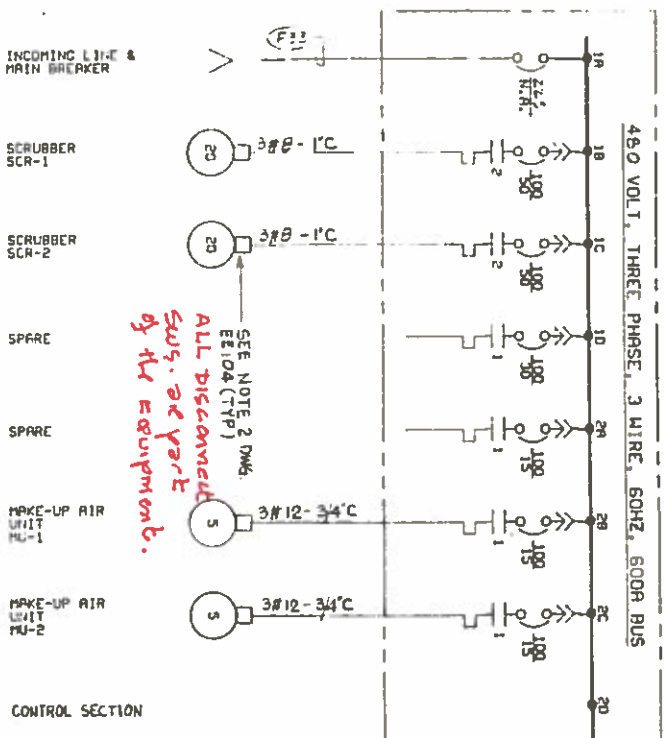


MOTOR CONTROL CENTER NO. 2

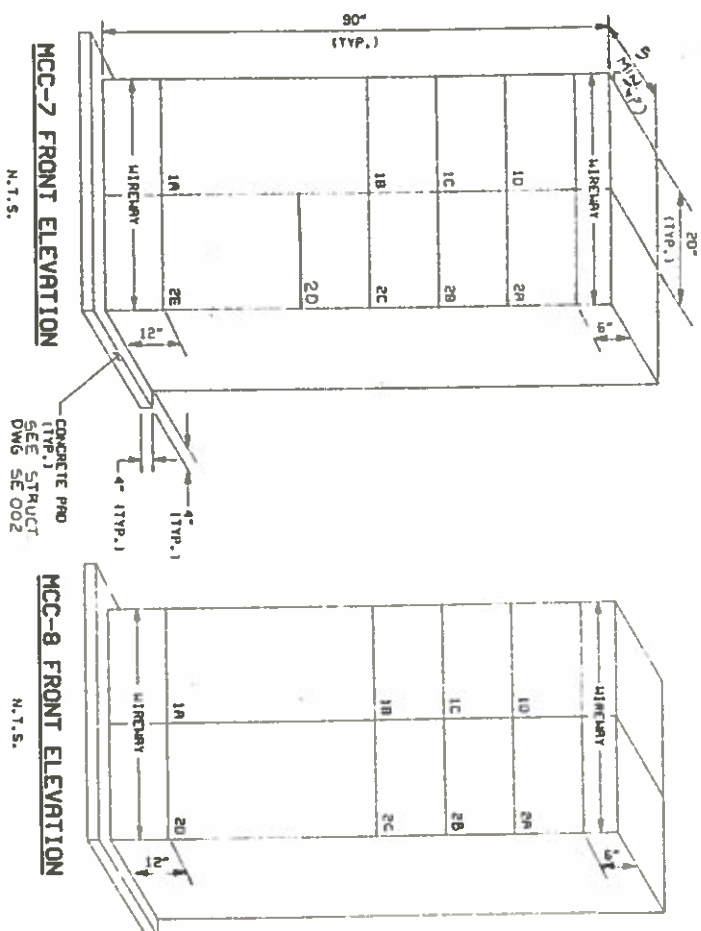


ONE-LINE DIAGRAM

MOTOR CONTROL CENTER NO. 8



ONE-LINE DIAGRAM



MOTOR CONTROL CENTER SCHEDULE

MCC-8

UNIT	EQUIPMENT DESCRIPTION	LOAD			CIRCUIT BREAKERS			STARTER		REMARKS
		H.P.	FLA	KVA	POLES	TRIP	SYN. A.I.C.	SIZE	REMARKS	
1A	INCOM. LINE & MAIN BRK	-	-	-	3	2.5	NR	22,000	-	-
1B	SCR-1	20	27	18.8	3	100	50	22,000	2	EE 149
1C	SCR-2	20	27	18.8	3	100	50	22,000	2	EE 149
1D	SPARE	-	-	-	3	100	30	22,000	1	-
2A	SPARE	-	-	-	3	100	15	22,000	1	-
2B	MU-1	5	7.6	5.15	3	100	15	22,000	1	EE 149
2C	MU-2	5	7.6	5.15	3	100	15	22,000	1	EE 149
2D	CONTROL SECTION	-	-	-	-	-	-	-	-	-
CONNECTED LOAD		69.2	47.9	870	27.18					

MOTOR CONTROL CENTER SCHEDULE

MCC-7 (EE 154)

UNIT	EQUIPMENT DESCRIPTION	LOAD			CIRCUIT BREAKERS			STARTER		REMARKS
		H.P.	FLA	KVA	POLES	TRIP	SYN. A.I.C.	SIZE	REMARKS	
1A	INCOM. LINE & MAIN BRK	-	-	-	3	2.5	NR	22,000	-	-
1B	AC-4	2	3.4	2.30	3	100	15	22,000	1	EE 154
1C	AC-5 (STANDBY TO AC-4)	2	3.4	2.30	3	100	15	22,000	1	EE 154
1D	AC-6	3	4.6	3.15	3	100	15	22,000	1	EE 154
2A	SPARE	-	-	-	3	100	15	22,000	1	EE 154
2B	AC-12	1 1/2	2.6	1.76	3	100	30	22,000	1	EE 154
2C	SPARE	-	-	-	3	100	15	22,000	1	EE 154
2D	AC-12 HEATING COIL (100W)	13.2	11.0	1.0	3	100	20	22,000	1	EE 154
2E	REF-23 CONTROL SECT	-	-	-	-	-	-	-	-	-
2F	REF-90 CONTROL SECT	-	-	-	-	-	-	-	-	-
TOTAL LOAD		27.4	20.61	5.96						
CONNECTED LOAD		24.0	18.31	5.55						

Dade County Transportation Improvement Program

THE KAISER TRANSIT GROUP a joint venture

THE KAISER TRANSIT GROUP a joint venture
KAISER ENGINEERS
CHAMBERLAIN, CONNOLLY & ASSOCIATES LTD.

PALMETTO YARD
OPERATIONS & MAINTENANCE FACILITIES
480V MOTOR CONTROL CENTER MCC 7 & 8
LAYOUT & ONE-LINE DIAGRAM SHEET 5

APPROVED BY: [Signature]
DATE: 10/1/89
A.P.S. 10/1/89
DATE: 10/1/89
CHECKED BY: [Signature]
DATE: 10/1/89

NO.	DATE	BY	REVISION
1	10/1/89	AP	ISSUED FOR EXCISE

THE KAISER TRANSIT GROUP a joint venture
KAISER ENGINEERS
CHAMBERLAIN, CONNOLLY & ASSOCIATES LTD.

DATE: 5-22-80

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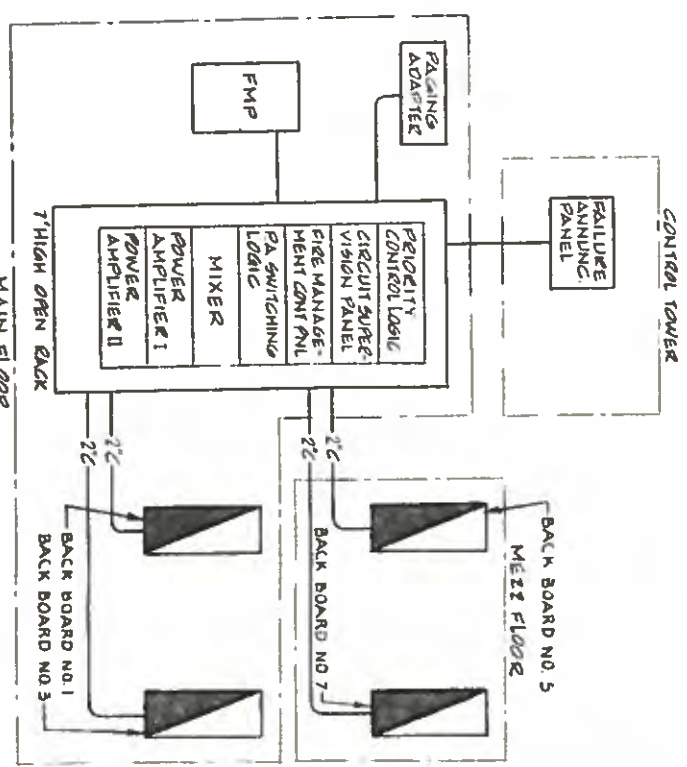
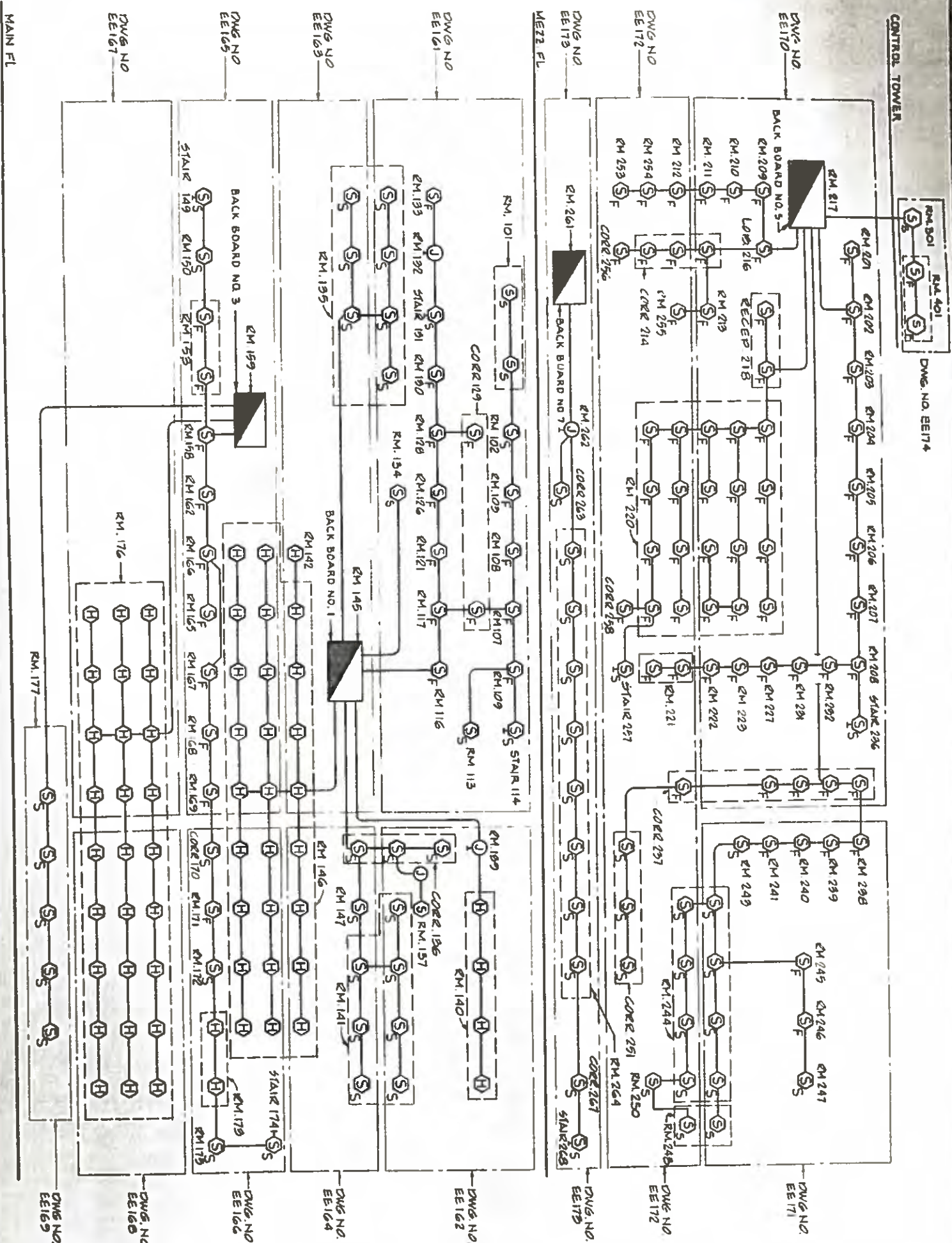
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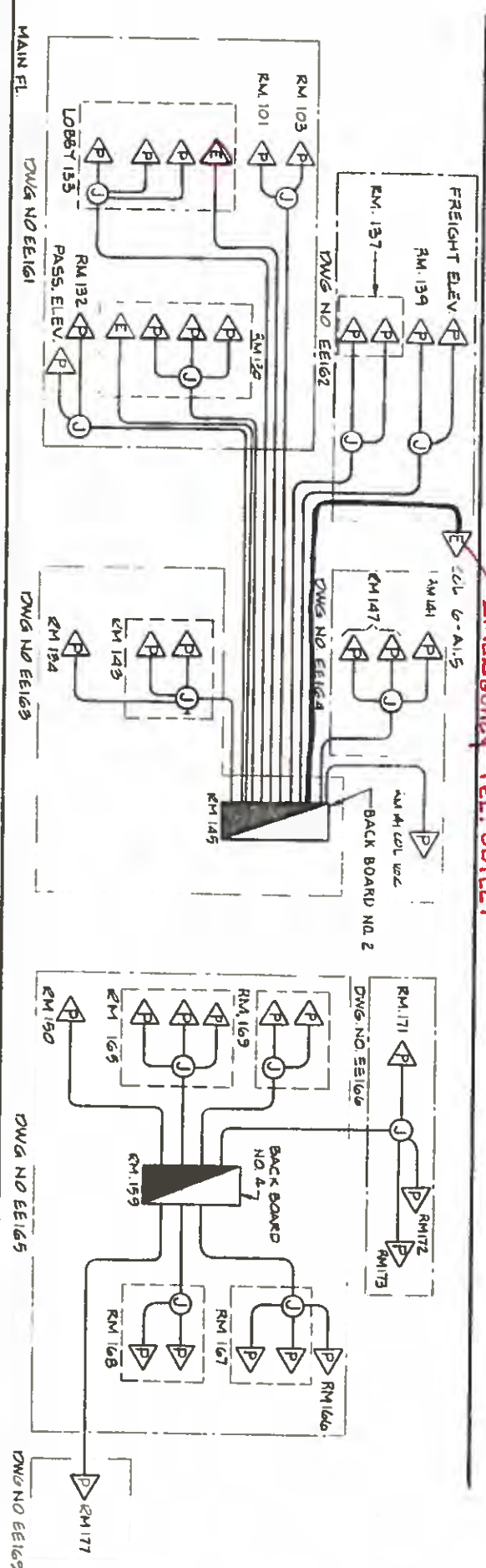
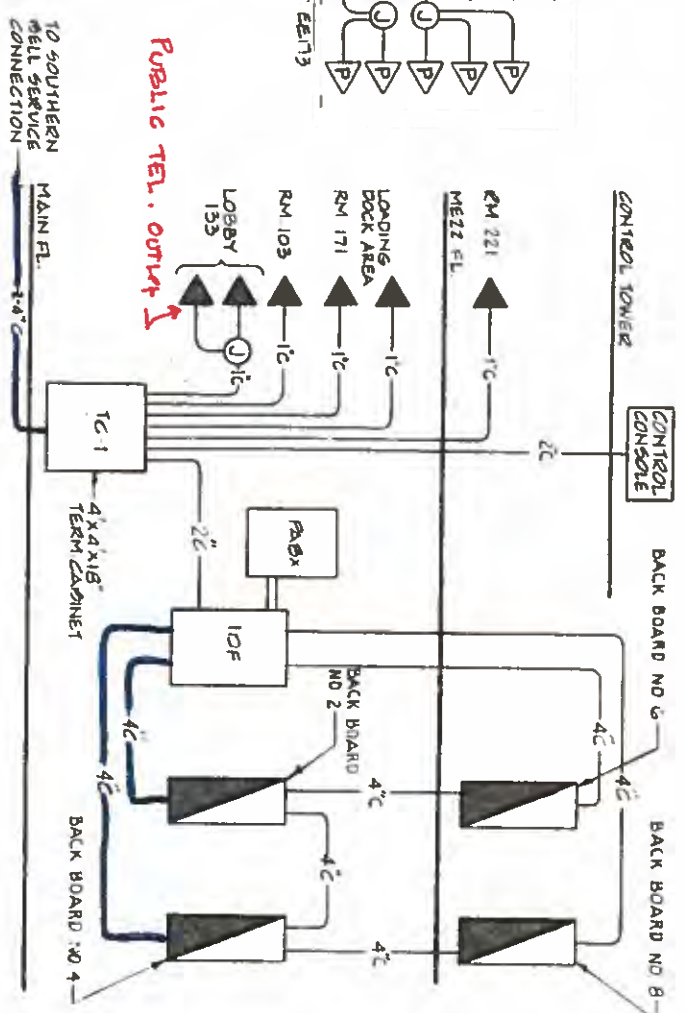
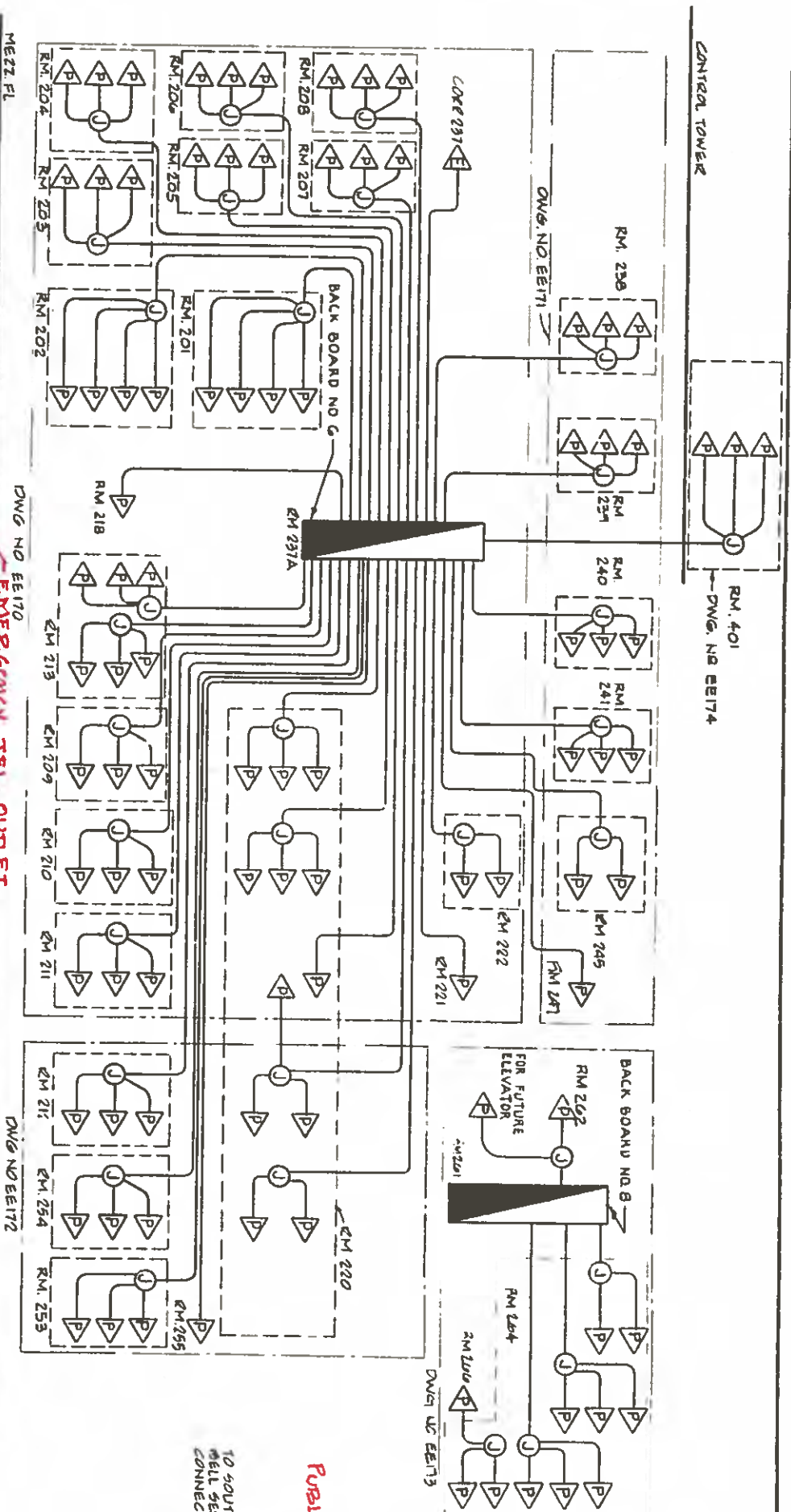
DATE: 5-22-80



NOTE: 1. HORN TYPE SPEAKER OUTLET.
2. INTERIOR SPEAKER BACKBOX.

NOTES:
1. WITH SOUND CONDUITS & F. PACEWAYS - J. J. LEST
2. BONES AND PACEWAYS, EXCEPT AS INDICATED

Dade County Transportation Improvement Program		THE KAISER TRANSIT GROUP a joint venture		THE KAISER TRANSIT GROUP a joint venture		PALMETTO YARD OPERATIONS & MAINTENANCE FACILITIES PUBLIC ADDRESS RISER DIAGRAM	
DATE: 5-27-80		DATE: 5-27-80		DATE: 5-27-80		DATE: 5-27-80	
DRAWN: EE 110		CHECKED: Y-241-277		DATE: 5-27-80		DATE: 5-27-80	
SCALE: NONE		SCALE: NONE		SCALE: NONE		SCALE: NONE	



NOTES:

1. INDIVIDUAL PABX TELEPHONE OUTLET CONDUITS SHALL BE 1" AND CONDUITS FROM A JUNCTION BOX TO TELEPHONE BACK BOARD SHALL BE 1/2" UNLESS OTHERWISE INDICATED

2. WORK SHOWN CONSISTS OF WIREWAYS, OUTLET BOXES AND BACKBOARDS EXCEPT AS INDICATED.

<i>[Signature]</i> APPROVED DATE 11-1-79 <i>[Signature]</i> REVIEWED DATE 11-1-79 CHANGED DATE 10/2/80		DATE 5-1-80 NO. 5-1-80 BY SEA APV. REVISIONS	
THE KAISER TRANSIT GROUP a joint venture		THE KAISER TRANSIT GROUP a joint venture	
OPERATIONS & MAINTENANCE FACILITIES TELEPHONE RISER DIAGRAM		PALMETTO YARD	



2 CONDUCTORS SHALL BE FORMED AND HELD IN PLACE WITH SELF LOCKING NYLON CABLE TIES.



PALMETTO YARD

OPERATIONS & MAINTENANCE FACILITIES SUPERVISORY CONTROL

THE KAISER TRANSIT GROUP • joint venture

KAISER ENGINEERS
DIVISION OF HEWITT & LARSEN COMPANY
HAWTHORNE, N.J. 07042

POST, BUCKLEY, SCHUM & JENSEN, INC.
CAMP SMITH AND ASSOCIATES, INC.
ROCKFORD, ILL. 60087

5-27-00

EE 112

Y-241-279

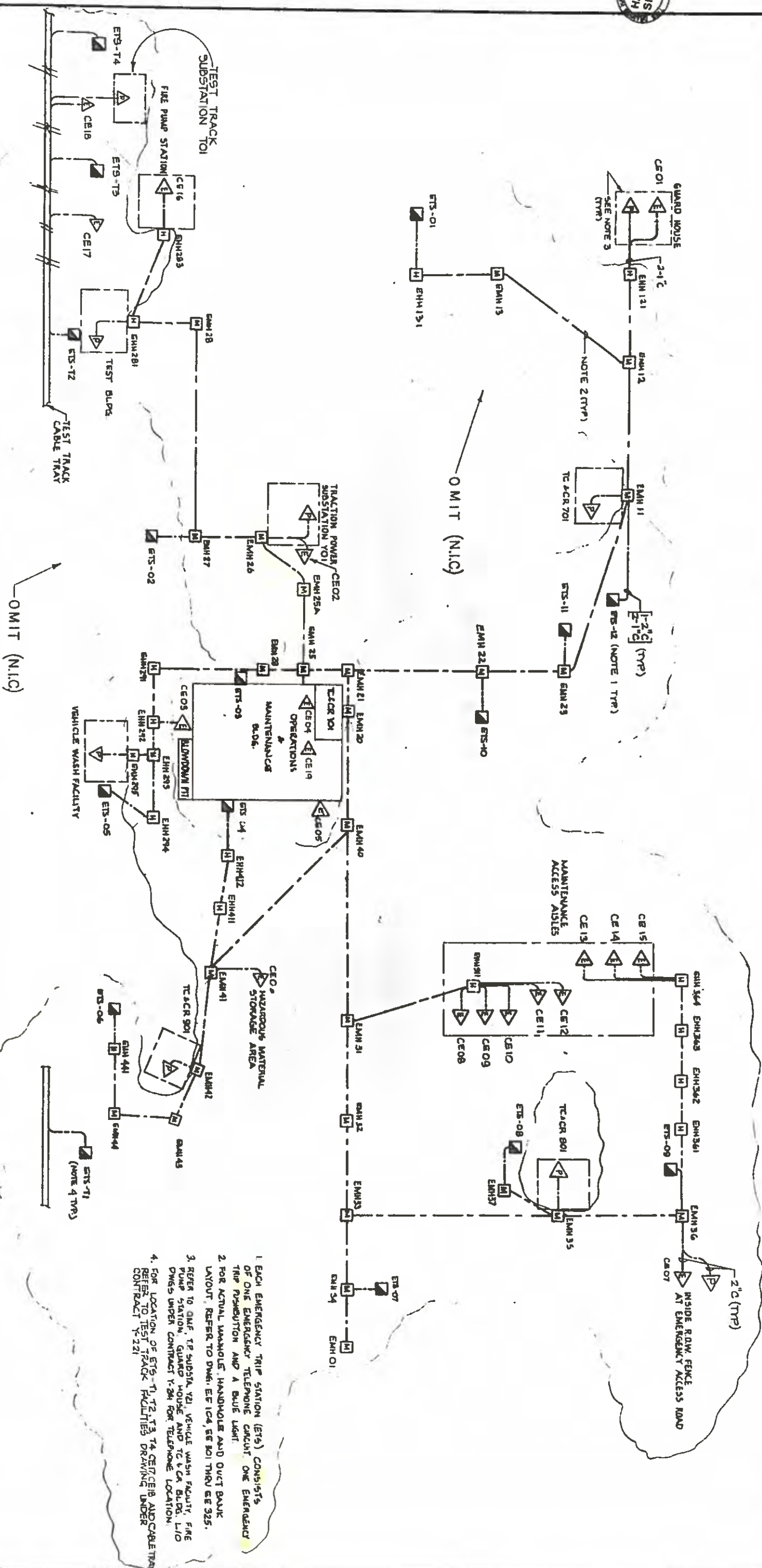


Dade County Transportation Improvement Program

THE KAISER TRANSIT GROUP • joint ventures

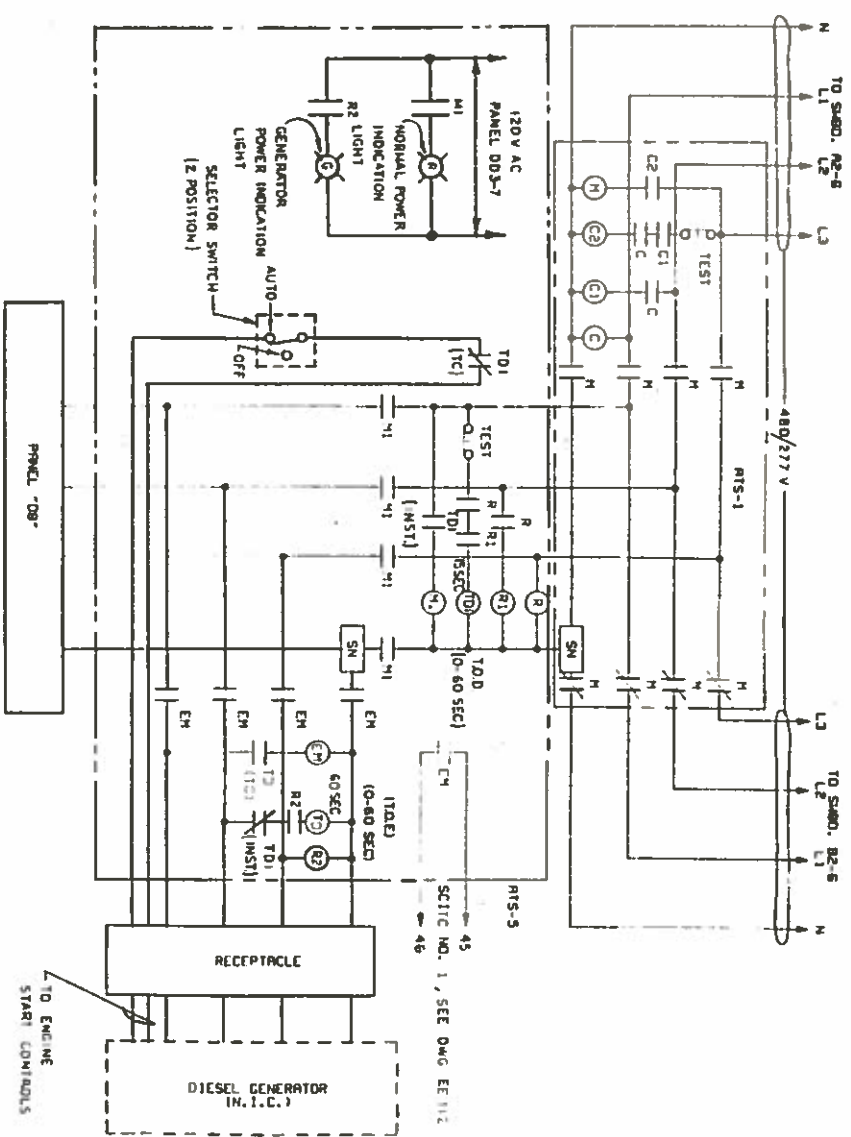
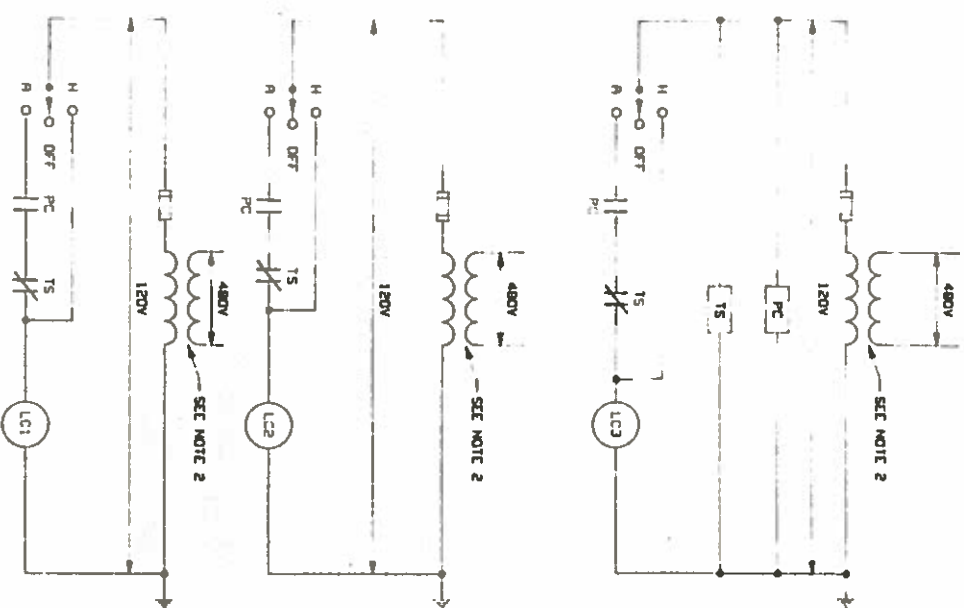
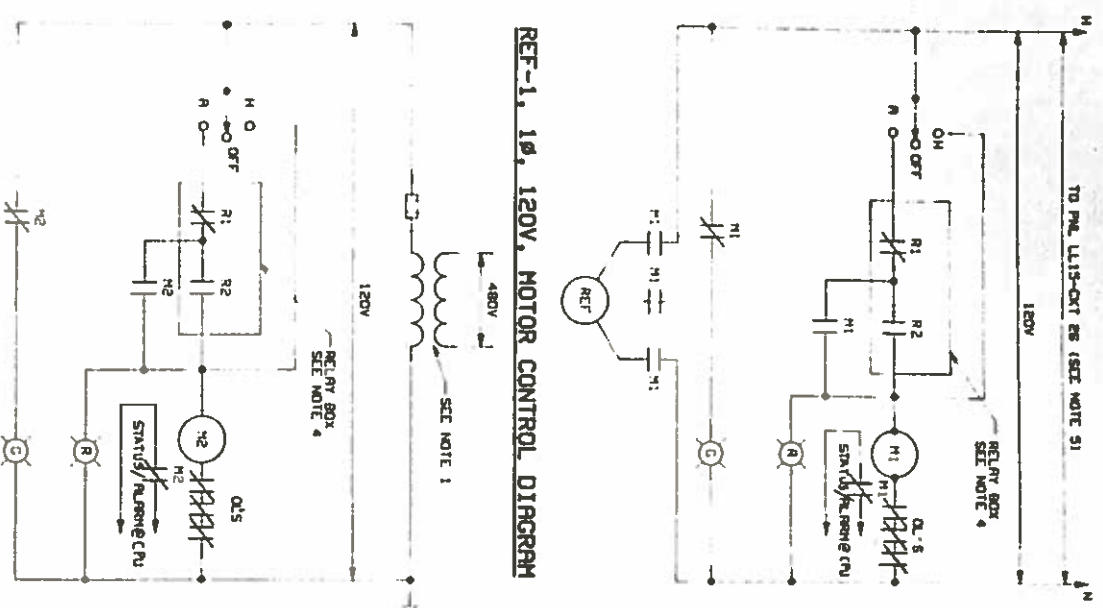
**PALMETTO YARD
OPERATIONS & MAINTENANCE FACILITIES
EMERGENCY GENERATOR ONE-LINE DIAGRAM**

[illegible]



1. EACH EMERGENCY TRIP STATION (ETS) CONSISTS OF ONE EMERGENCY TELEPHONE CABLE, ONE EMERGENCY TRIP DISCUSSION AND A BLUE LIGHT.
2. FOR ACTUAL MAINTENANCE AND OVERTHAUL LAYOUT, REFER TO DWG. E-104, SEE 301 THRU 325.
3. REFER TO DWG. TP SUBSIA, Y21, VEHICLE WASH FACILITY, FINE PUMP STATION, GUARD HOUSE AND TC & CA BLDG. L/O DWGS UNDER CONTRACT Y-241 FOR TELEPHONE LOCATION.
4. FOR LOCATION OF ETS-11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, REFER TO TEST TRACK FACILITIES DRAWING UNDER CONTRACT Y-221.

Dade County Transportation Improvement Program										PALMETTO YARD									
THE KAISER TRANSIT GROUP • joint venture										OPERATIONS & MAINTENANCE FACILITIES									
THE KAISER TRANSIT GROUP • joint venture										COMMUNICATION BLOCK DIAGRAM									
DESIGNED FOR BUILDING										DATE: 5-21-80									
DATE: 5-21-80										DRAWN: EE 114									
DATE: 5-21-80										CHECKED: Y-241-281									
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- CONTROL OPERATION:

1. UPON LOSS OF PRIMARY POWER FROM SWITCHBOARD A2-6, ATS-1 WILL AUTOMATICALLY TRANSFER THE POWER FROM SWITCHBOARD B2-6.
 2. IF BOTH SWITCHBOARD A2-6 AND B2-6 FAILS AND SELECTOR SWITCH IN ATS-3 IS ON AUTO POSITION, "TO" RELAY WILL BE DE-ENERGIZED AFTER 15 SECONDS, CLOSING CONTACT "TO" TO START THE GENERATOR AUTOMATICALLY.
 3. "TO" RELAY WILL ENERGIZE AFTER 60 SECONDS TO ALLOW THE DIESEL GENERATOR TO ACHIEVE FULL OUTPUT CAPABILITY. THE ENERGIZATION OF RELAY "TO" IN TURN ENERGIZES "EM" RELAY TO PROVIDE TRANSFER OF THE LOAD THRU PANEL DB.
 4. AS SOON AS PRIMARY POWER IS BACK AT NORMAL OPERATING CONDITION, RELAY "TO" WILL BE DE-ENERGIZED. THUS DE-ENERGIZING RELAYS "EM" AND "TD", WHICH DISCONNECTS THE LOAD FROM THE DIESEL GENERATOR.
 5. DIESEL GENERATOR CAN BE TURNED OFF MANUALLY AFTER NORMAL PRIMARY POWER INDICATION RED LIGHT IS LIT.
1. 480V-120V CONTROL POWER TRANSFORMER INTERLOCK WITH EACH STRAY.
 2. 480V-120V CONTROL TRANSFORMER INTERLOCK WITH EACH LIGHTING CONTACTOR.
 3. LIGHTING CONTACTOR SHALL BE MATED AS FOLLOWS:
L1-L2-3P-480V-1,200V.
L1-L2-3P-480V-1,200V.
L1-L2-3P-480V-1,200V.
 4. RELAY BOX TO BE FURNISHED AND WIRED BY HVAC CONTROL VENDORS.
 5. CONTROL DISCREPANCY SHOWN IS FOR ROOF EXHAUST FAN MOTOR (FE-11). ALL OTHERS SINGLE PHASE 120 VOLTS. MOTOR CONTROL DISCREPANCY IS SIMILAR.

OUTSIDE LIGHTING PANEL WIRING DIAGRAM

Dade County Transportation Improvement Program

THE KAISER TRANSIT GROUP a joint venture

THE KAISER TRANSIT GROUP a joint venture

KAISSER ENGINEERING
DIVISION OF KIEWIT & KAISSER COMPANY
MARTIN WEINER & ASSOCIATES LTD.

PORT, RAILCITY, ROMANA & JENSEN, INC.
CLARK SMITH AND ASSOCIATES, INC.
BOWEN/ELLER CONSULTING ASSOCIATES

**PALMETTO YARD
OPERATIONS & MAINTENANCE FACILITIES
SCHEMATIC CONTROL DIAGRAMS II**

[illegible]



KEY PLAN
NO SCALE

PALMETTO YARD

**OPERATIONS & MAINTENANCE FACILITIES
LIGHTING PLAN - SHEET 2**

THE KAISER TRANSIT GROUP a joint venture

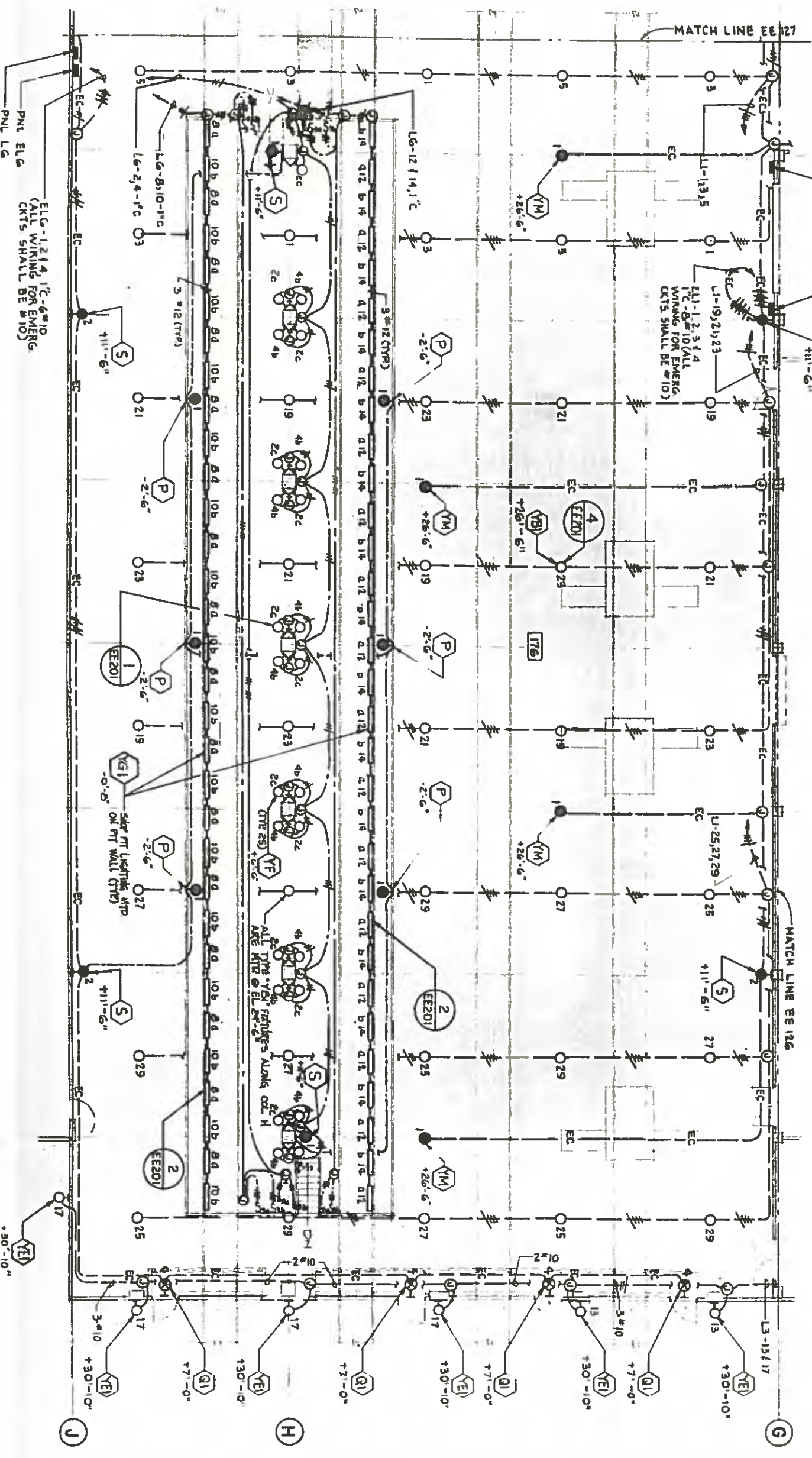
Kaiser Engineers
Division of Kaiser A. Lamer Company
14401 Wilshire Blvd., Suite 1000
Beverly Hills, CA 90210
Tel: 310/274-1100

Port, Supply, Storage & Terminal, Inc.
2000 Wilshire Blvd., Suite 1000
Beverly Hills, CA 90210
Tel: 310/274-1100

Intermodal Consulting Associates
14401 Wilshire Blvd., Suite 1000
Beverly Hills, CA 90210
Tel: 310/274-1100

OPERATIONS & MAINTENANCE FACILITY LIGHTING PLAN - SHEET 2	PALMETTO YARD	DATE: 6-1-00	DESIGNER: EE 122	PROJECT: X241-284

PE # 2073



1	2	3	4	5
EE 121	EE 122	EE 123	EE 124	EE 125
EE 126	EE 127	EE 128	EE 129	EE 130

KEY PLAN
NO SCALE



MAIN FLOOR PLAN — LIGHTING LAYOUT

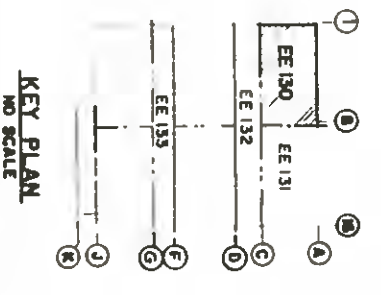
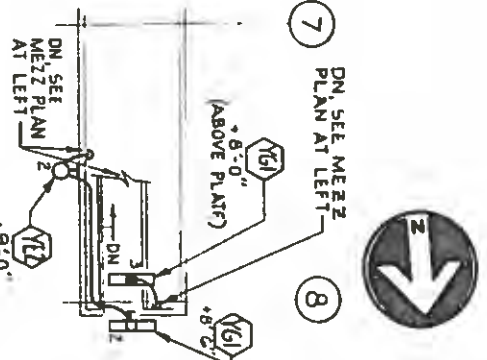
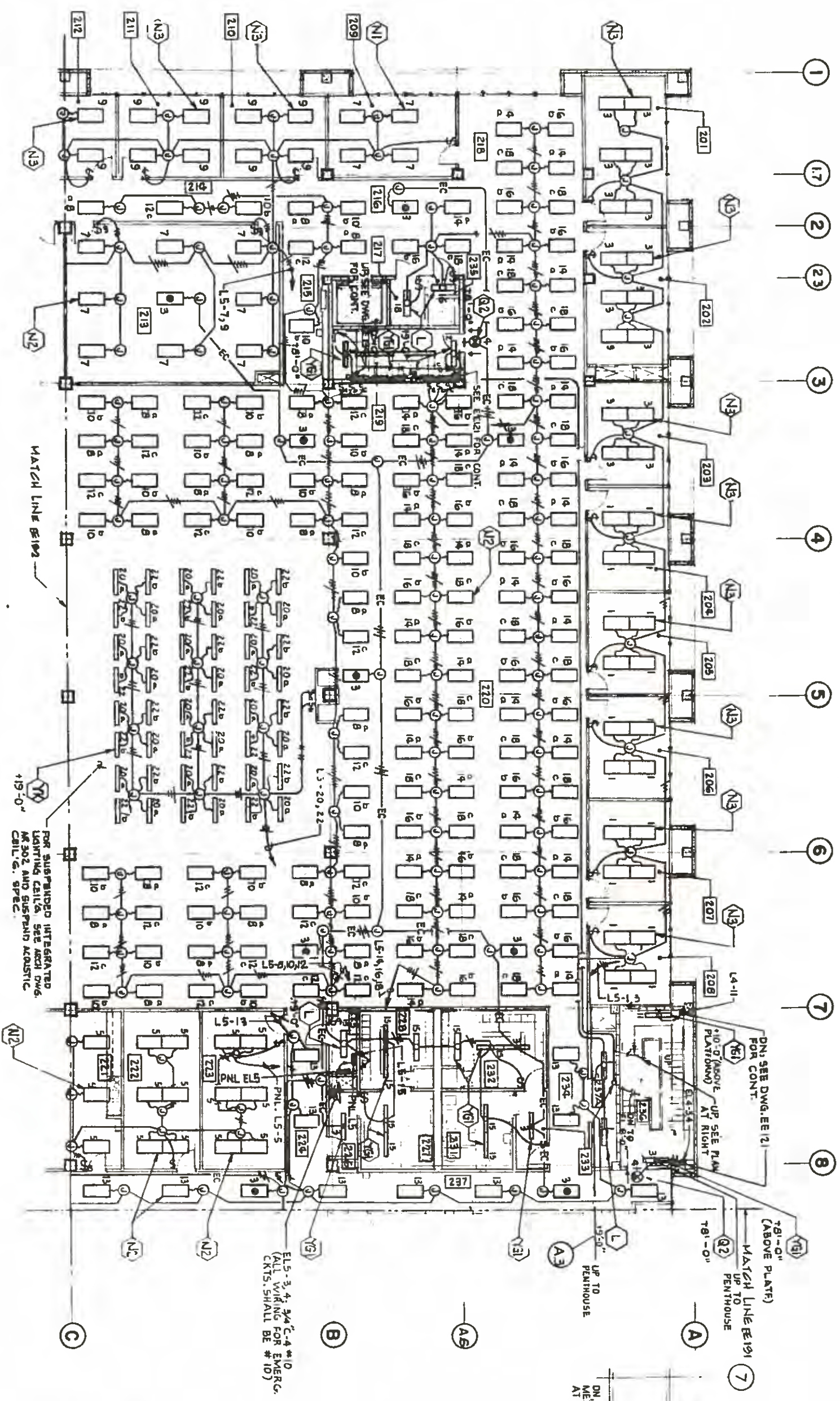
Dade County Transportation Improvement Program

THE KAISER TRANSIT GROUP • Joint venture

THE KAISER TRANSIT GROUP • Joint venture
KAISER ENGINEERING & ARCHITECTURE, INC.
Kaiser Engineers & Architects, Inc.
Kaiser Engineers & Architects, Inc.

PALMETTO YARD
OPERATIONS & MAINTENANCE FACILITIES
LIGHTING PLAN — SHEET 8

REVISION	DATE	BY	CHKD	APPD
1	10-1-79	W. J. B. / J. B. B.		
2	10-1-79	W. J. B. / J. B. B.		
3	10-1-79	W. J. B. / J. B. B.		
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MEZZANINE FLOOR PLAN-LIGHTING LAYOUT

Dade County Transportation Improvement Program

THE KAISER TRANSIT GROUP - a joint venture

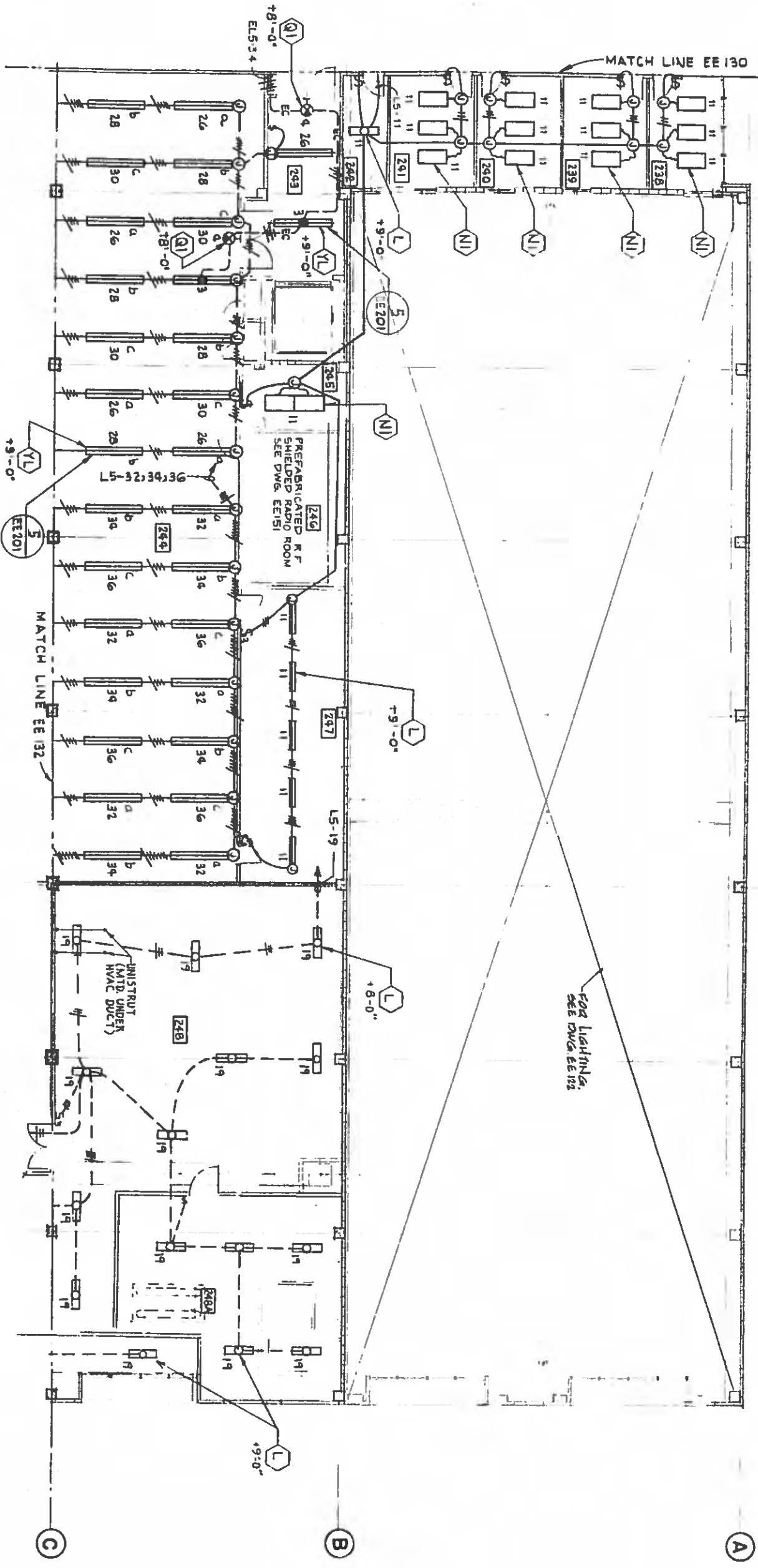
THE KAISER TRANSIT GROUP - a joint venture
Kaiser Engineers & Architects, Inc.
Kaiser Engineers & Architects, Inc.
Kaiser Engineers & Architects, Inc.

PALMETTO YARD
OPERATIONS & MAINTENANCE FACILITIES
LIGHTING PLAN - SHEET 10

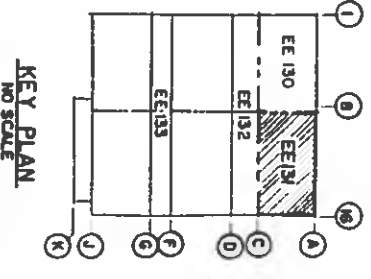
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100	10-1-79	W. J. H. / J. H. B.		

DATE: 5-12-80
DRAWN: J. H. B.
CHECKED: J. H. B.
APPROVED: J. H. B.

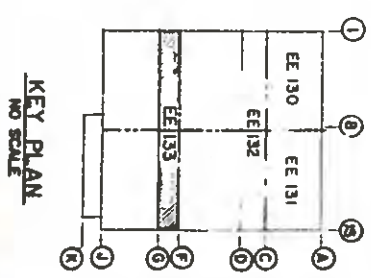
SCALE: 1"=0'
SHEET: EE 130
PROJECT: 104-292



MEZZANINE FLOOR PLAN - LIGHTING LAYOUT



Dade County Transportation Improvement Program	
THE KAISER TRANSIT GROUP a joint venture	
THE KAISER TRANSIT GROUP a joint venture Kaiser Engineering Kaiser Construction Kaiser Electric & Mechanical Kaiser Environmental & Engineering Kaiser Industrial & Process Kaiser Marine & Offshore Kaiser Mining & Metallurgical Kaiser Power & Energy Kaiser Telecommunications Kaiser Transportation Kaiser Water & Wastewater Kaiser Wood & Paper	
OPERATIONS & MAINTENANCE FACILITIES - LIGHTING PLAN - SHEET 11	
DATE: 11-1-77 DRAWN: J. J. J. CHECKED: J. J. J. APPROVED: J. J. J.	DATE: 5-27-80 DRAWN: J. J. J. CHECKED: J. J. J. APPROVED: J. J. J.
SCALE: 1/4" = 1'-0"	SCALE: 1/4" = 1'-0"
PROJECT: EE 131	PROJECT: Y241-293



PALMETTO YARD

**OPERATIONS & MAINTENANCE FACILITIES
LIGHTING PLAN - SHEET 13**

THE KAISER TRANSPORT GROUP a joint venture

KAISER TRANSPORT
DIVISION OF KIMBERLY-CLARK COMPANY
HAWTHORNE, NEW JERSEY 07040

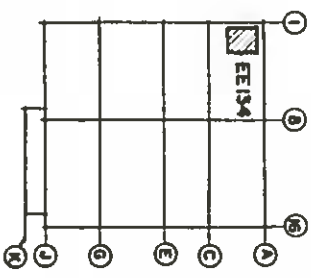
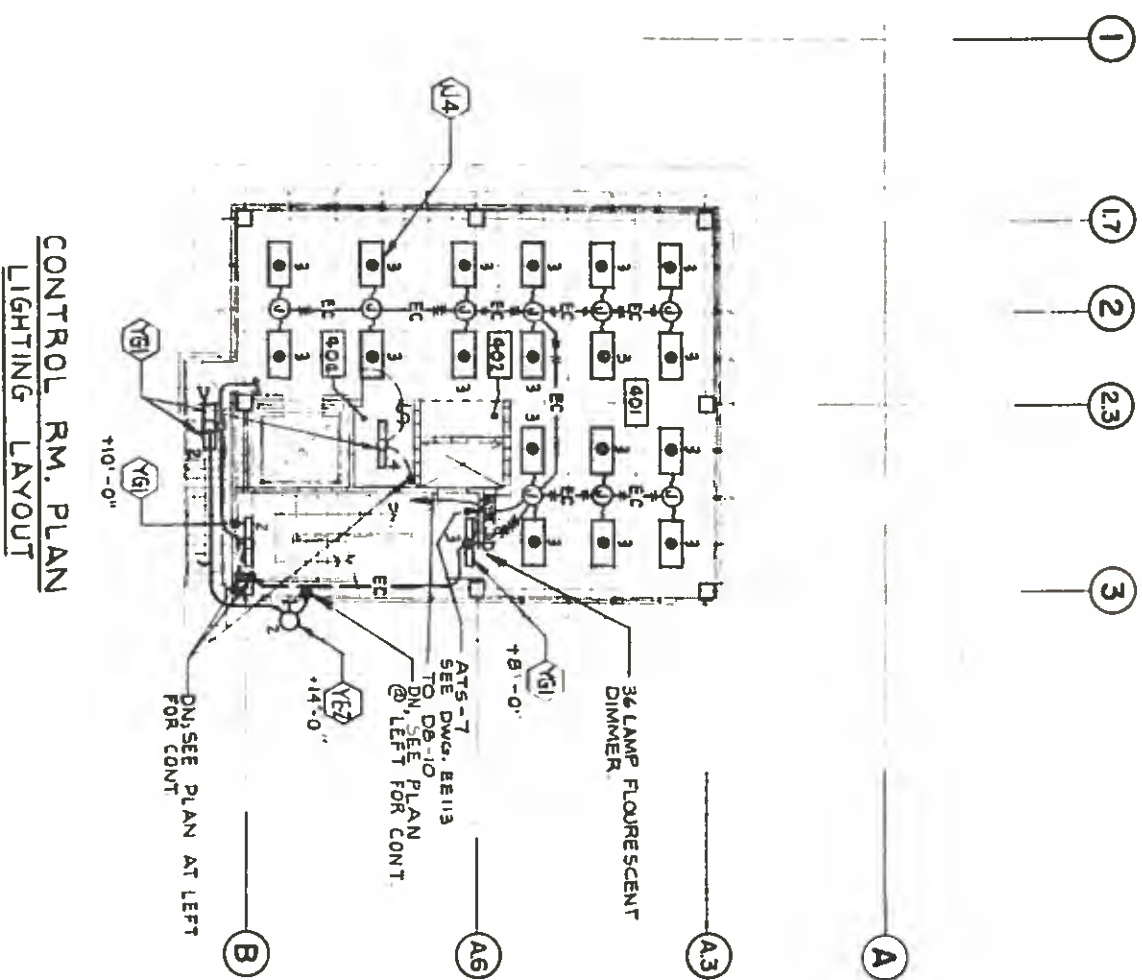
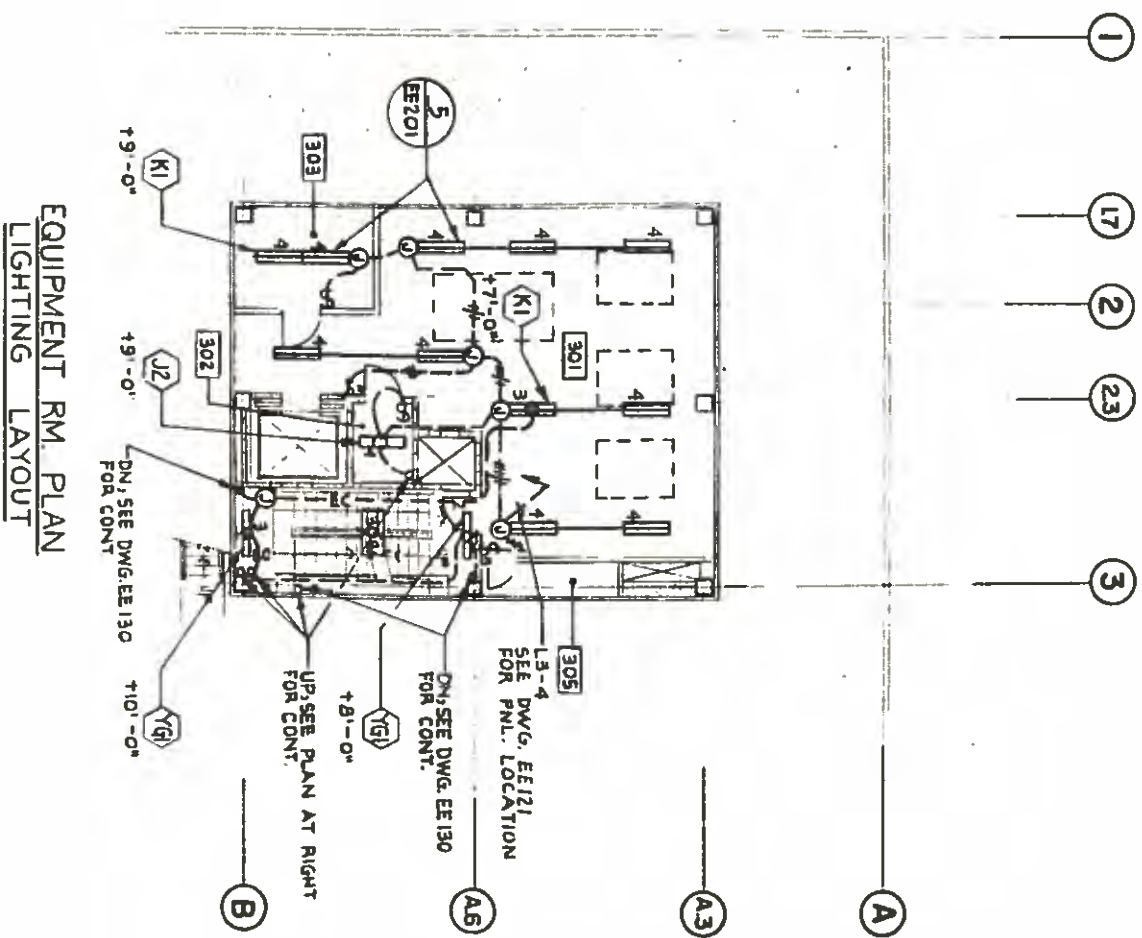
PORT SECURITY, DESIGN & CONSTRUCTION, INC.
CAREER OPPORTUNITIES
SCHWABER, CONRAD & ASSOCIATES

RECEIVED	DATE
<i>W. H. H. H.</i>	5-22-80

SEARCHED	INDEXED
SERIALIZED	FILED
MAR 27 1980	
FBI - ALBANY	

0' - 1' - 0"	EE 133

Y241295



KEY PLAN
NO SCALE



Dade County Transportation Improvement Program

THE KAISER TRANSIT GROUP • joint ventures

THE KAISER TRANSIT GROUP a joint venture

**PALMETTO YARD
OPERATIONS & MAINTENANCE FACILITIES
LIGHTING PLAN - SHEET 14**

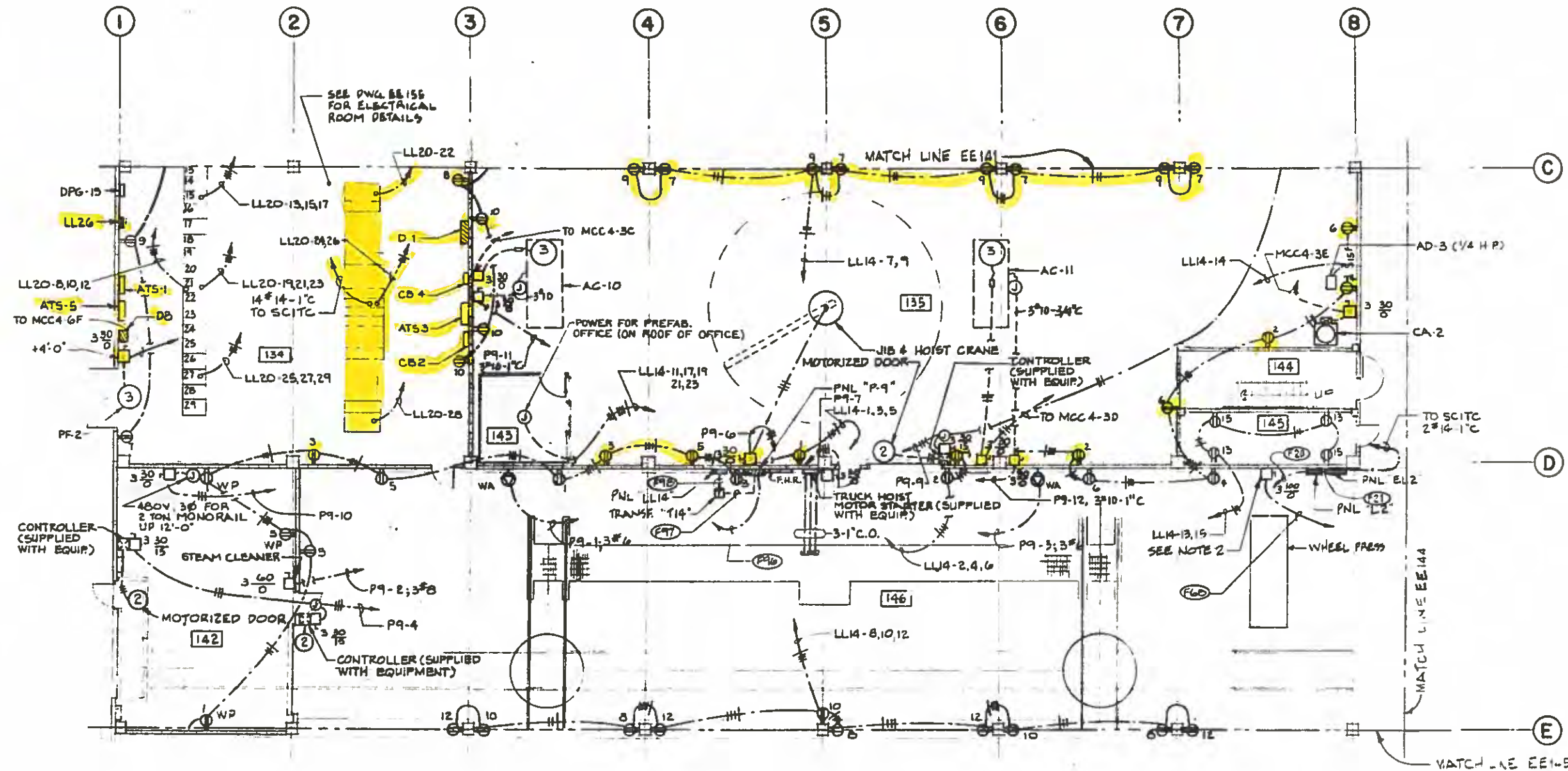
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NOTE: FOR NOTES SEE DWG. EE 41

**PALMETTO YARD
OPERATIONS & MAINTENANCE FACILITIES
RECEPTACLE & POWER PLAN - SHT. 2**

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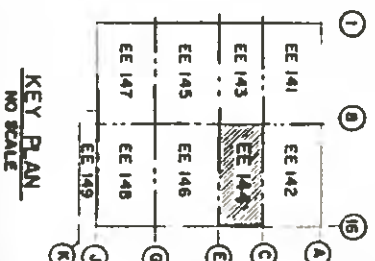
NOTE: FOR NOTES SEE DWG. EE 141

	I	S	15	
		EE 141	EE 142	A
		EE 143	EE 144	C
		EE 145	EE 146	E
		EE 147	EE 148	G
		EE 149		J
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NOTE: FOR NOTES SEE PWG. ELM



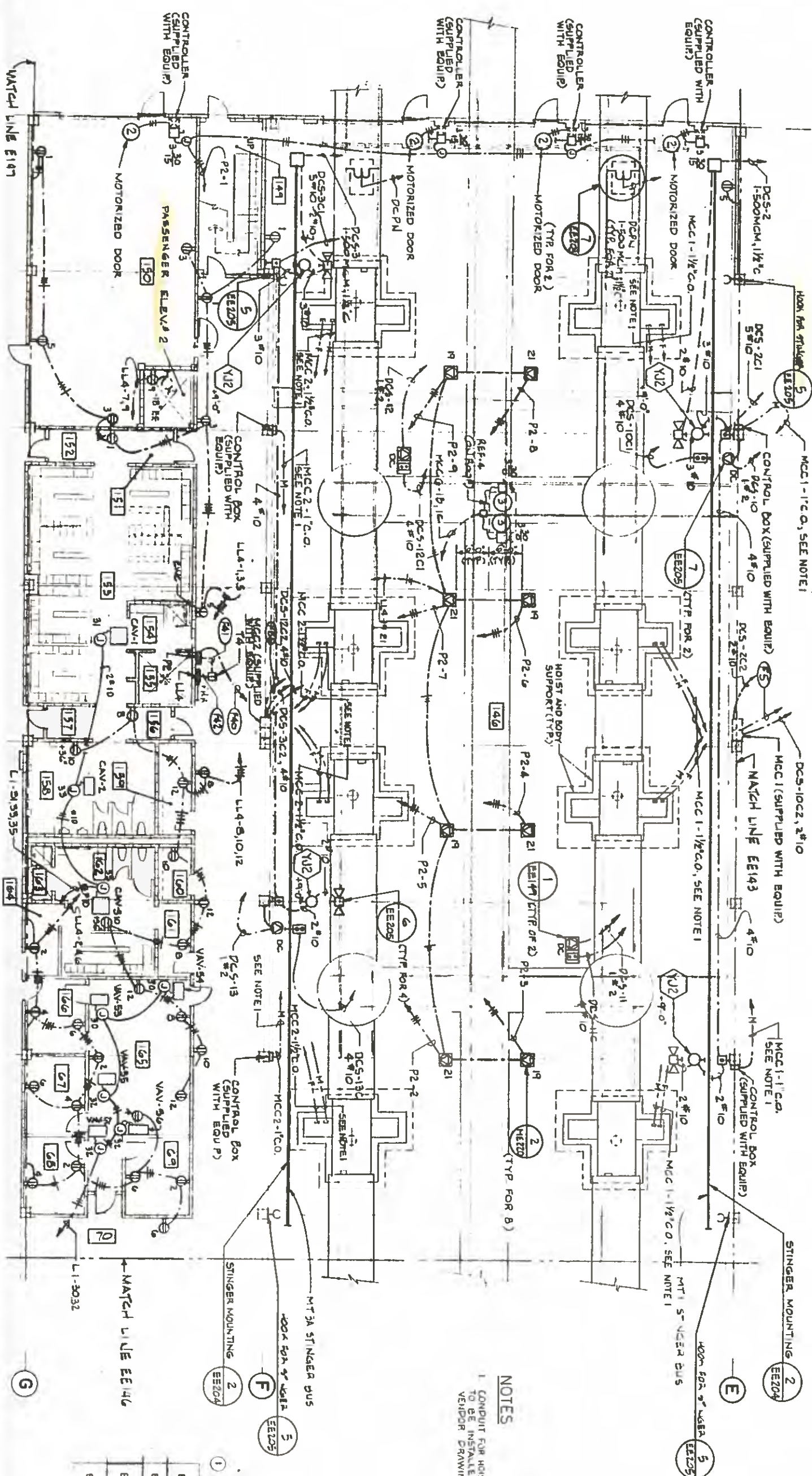
KEY PLAN
NO SCALE



THE KAISER TRANSIT GROUP • Joint venture

**PALMETTO YARD
OPERATIONS & MAINTENANCE FACILITIES
RECEPTACLE & POWER PLAN - SHT. 4**

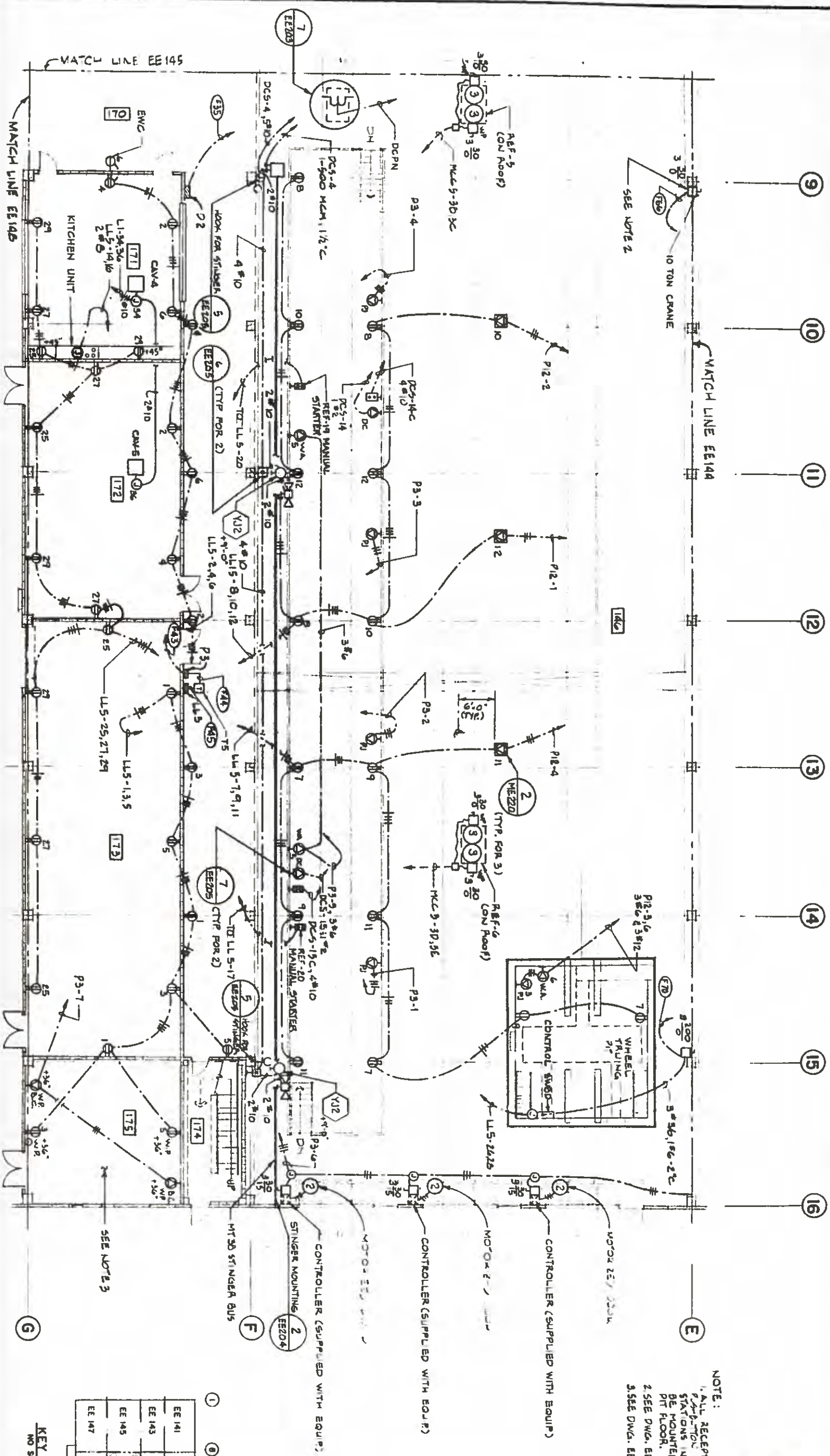
OPERATIONS & MAINTENANCE FACILITIES RECEPTACLE & POWER PLAN - SHT. 4	PALMETTO YARD
DATE: 11-1-00	DESIGN: EE 144
	Y24-300



NOTES
1. CONDUIT FOR HOIST CONTROL WIRING TO BE INSTALLED PER APPROVED VENDOR DRAWING

KEY PLAN
NO SCALE

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445	452	46



NOTE:
1. ALL RECEPICLES, 6
1/2" DIA-
BE MOUNTED IN PIT AREA SHALL
BE MOUNTED + 3'-6" ABOVE
PIT FLOOR.
2. SEE DWG. EE-41, NOTE 2
3. SEE DWG. EE-41, NOTE 1



MAIN FLOOR PLAN - POWER LAYOUT

Dade County Transportation Improvement Program

THE KAISER TRANSIT GROUP • Joint venture

THE KAISER TRANST GROUP • joint venture

**PALMETTO YARD
OPERATIONS & MAINTENANCE FACILITIES
RECEPTACLE & POWER PLAN - SHT. 6**

EE 141	EE 142
EE 143	EE 144
EE 145	EE 146
EE 147	EE 148

KEY PLAN
NO SCALE



1-2	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/17	11/1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Dade County Transport

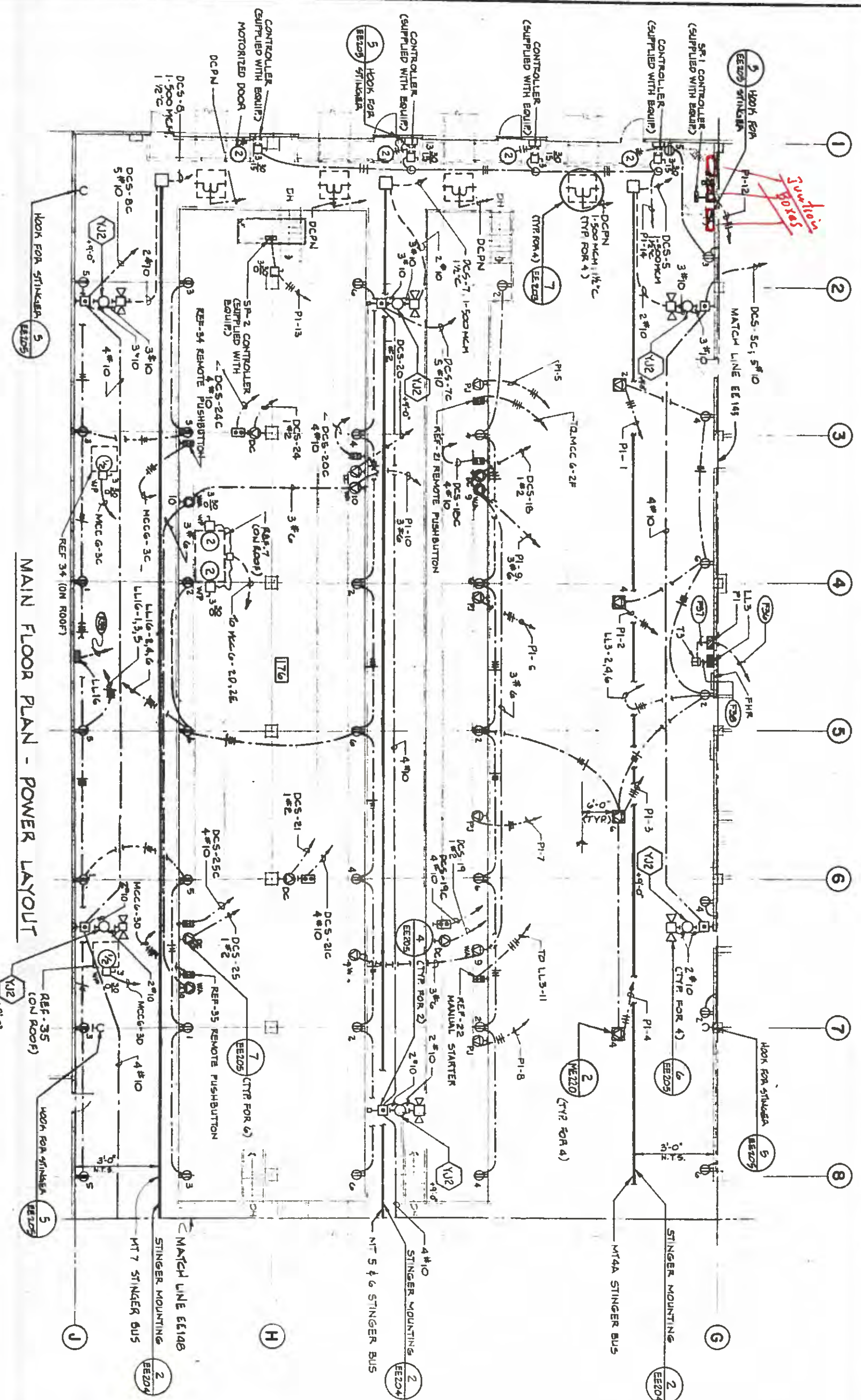
THE KAISER TRANSIT GROUP • Local Routes

COMPANY NO.	DATE
644 <i>P. H. H. H. H.</i>	5-12-10

THE KAISER TRUST GROUP a joint venture
 LEASER ASSOCIATES
 TRUSTEES BY ORDER ALBANY COMPANY
 HANLEY STONE & ASSOCIATES LTD.
 101, BUCKLEY ROAD, ABERMOUTH, NEWCASTLE
 10, CHURCH AND ABERCROMBIE, LTD.
 SCHWIMMER CONSULTING ASSOCIATES

DATE 5.27.80

PALMETTO YARD OPERATIONS & MAINTENANCE FACILITIES RECEPTACLE & POWER PLAN - SHT. 6	11'-0"	EE 146	Y241-302



1	0	10	15
EE 141	EE 142		
EE 143	EE 144		
EE 145	EE 146		
EE 147	EE 148		
EE 149			

KEY PLAN
NO SCALE



Dade County Transportation Improvement Program

THE KAISER TRANSIT GROUP • Joint venture

THE KAISER TRANSIT GROUP • Joint venture
Kaiser Engineers
Kaiser Electric & Mechanical
Kaiser Construction
Kaiser Construction Associates

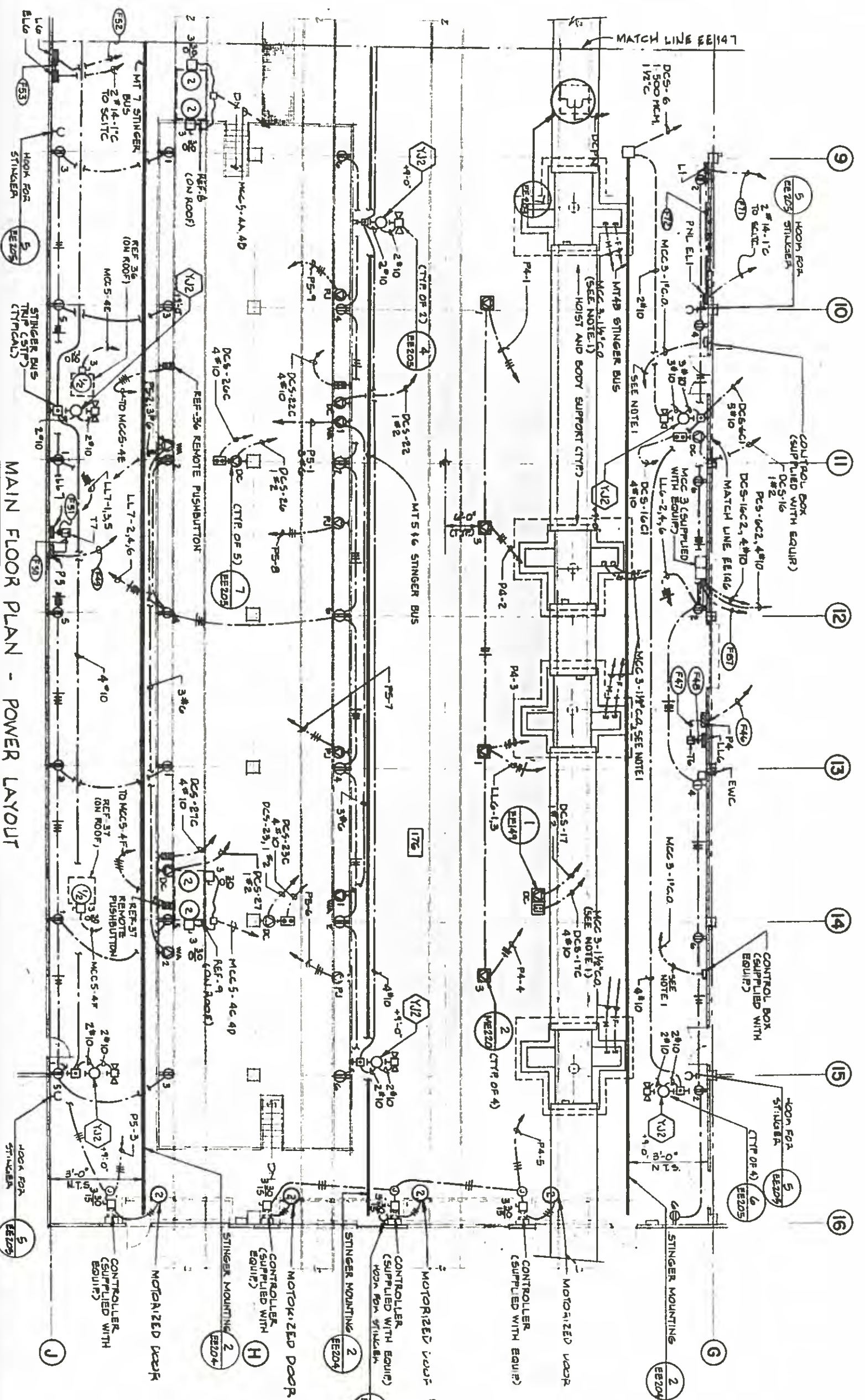
PALMETTO YARD
OPERATIONS & MAINTENANCE FACILITIES
RECEPTACLE & POWER PLAN - SH. 7

1/2" = 1'-0"
1/4" = 1'-0"
1/8" = 1'-0"
1/16" = 1'-0"
1/32" = 1'-0"
1/64" = 1'-0"
1/128" = 1'-0"
1/256" = 1'-0"
1/512" = 1'-0"
1/1024" = 1'-0"
1/2048" = 1'-0"
1/4096" = 1'-0"
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NOTES

1. SEE DWG EE145, NOTE 1



MAIN FLOOR PLAN - POWER LAYOUT

KEY PLAN
NO SCALE

1	9	8
EE 141	EE 142	
EE 143	EE 144	
EE 145	EE 146	
EE 147	EE 148	
EE 149		
1	9	8



Dade County Transportation Improvement Program

THE KAISER TRANSIT GROUP • joint venture

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Kaiser Engineering & Construction, Inc.
Kaiser Electric & Mechanical, Inc.
Kaiser Construction Associates, Inc.

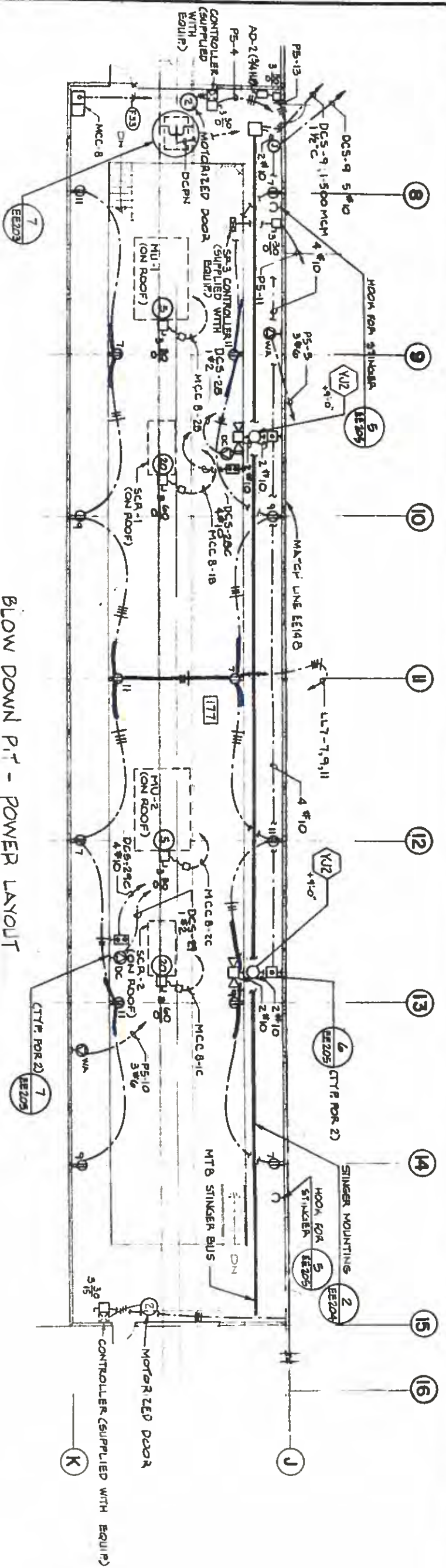
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OPERATIONS & MAINTENANCE FACILITIES
RECEPTACLE & POWER PLAN - SHT. 8

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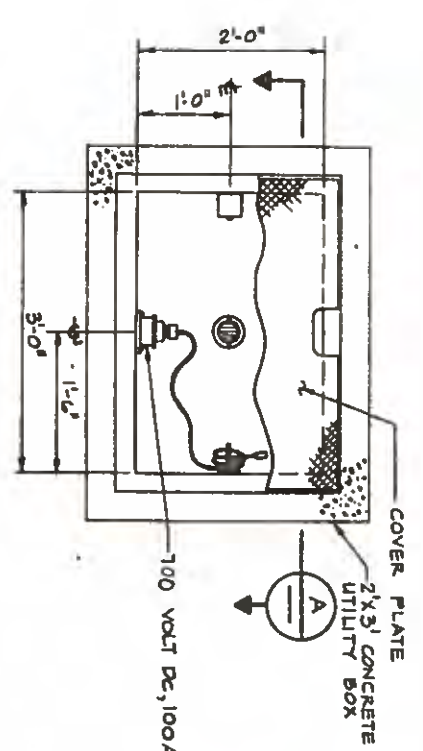
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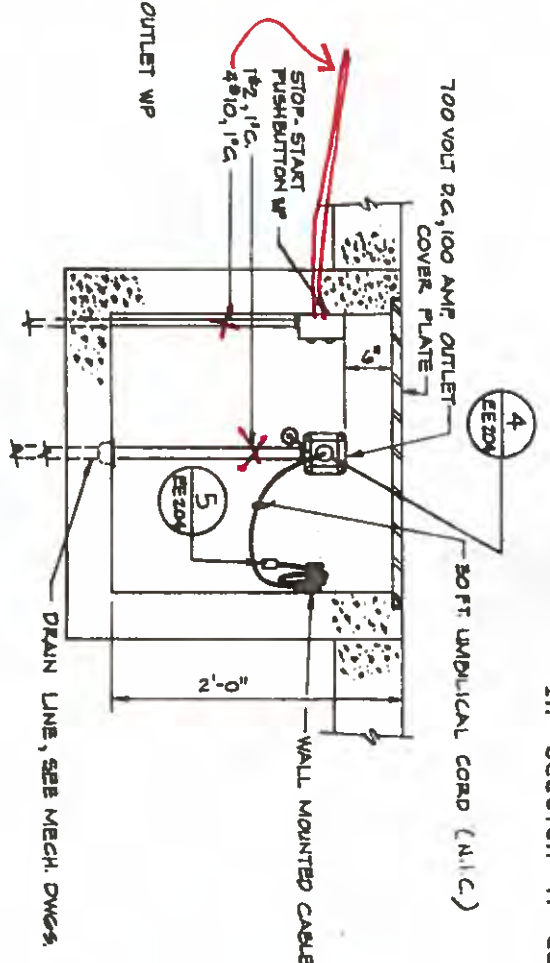
BLOW DOWN PIT - POWER LAYOUT

Drawing EE 149:

In Section A delete "(N.I.C.)" after "wall mounted cable support."



DETAIL 1
N.T.S.



SECTION A
N.T.S.

KEY PLAN
NO SCALE

1	8	16
EE 141	EE 142	
EE 143	EE 144	
EE 145	EE 146	
EE 147	EE 148	



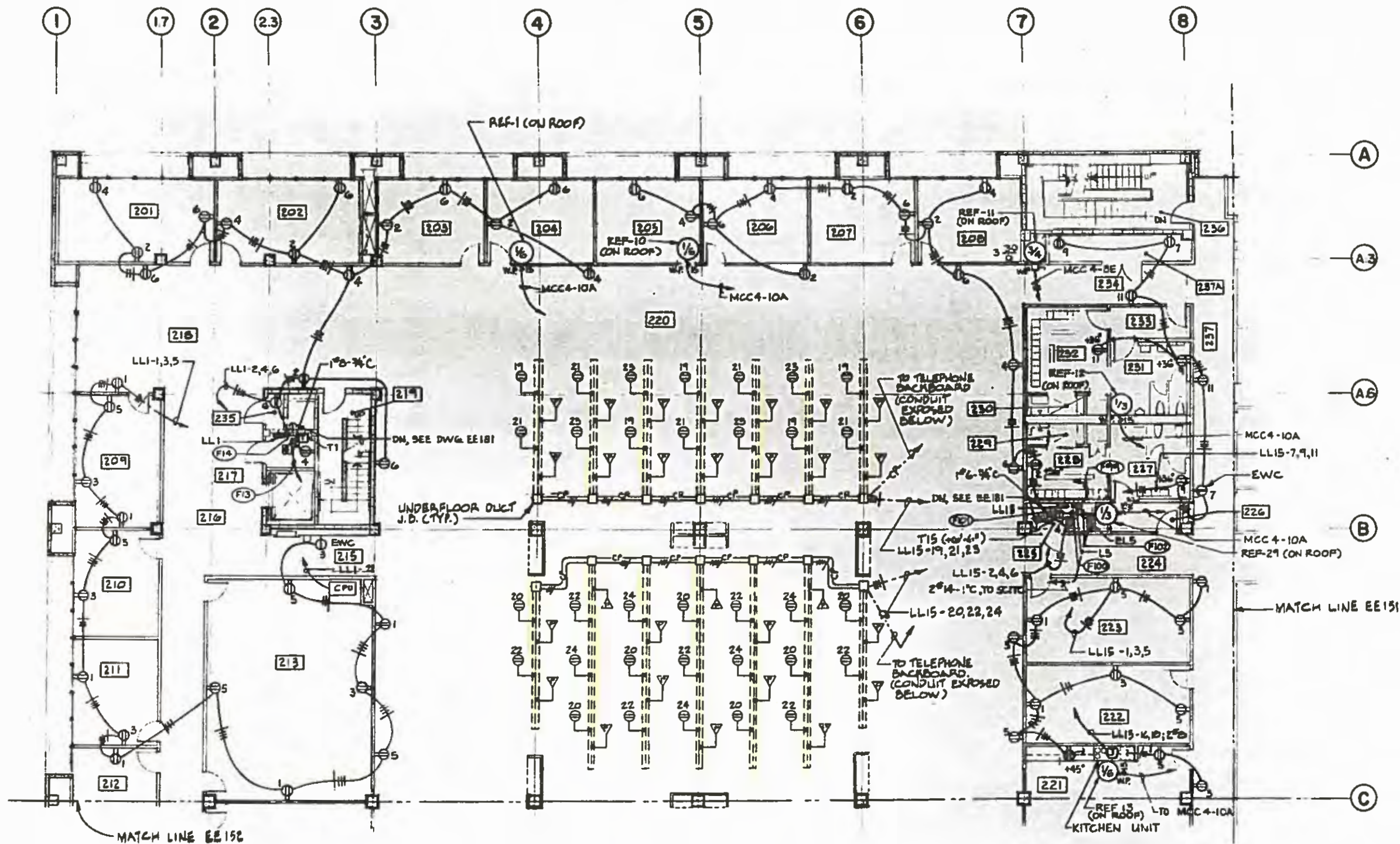
Dade County Transportation Improvement Program

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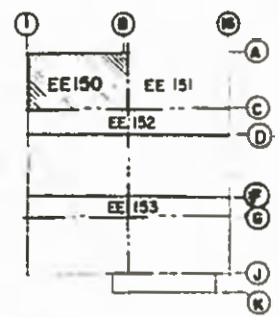
THE KAISER TRAST GROUP • Joint venture
Kaiser Engineers & Architects, Inc.
Kaiser Engineers & Architects, Inc.
Kaiser Engineers & Architects, Inc.

PALMETTO YARD
OPERATIONS & MAINTENANCE FACILITIES
RECEPTACLE & POWER PLAN SHT. 9

1/2" = 1'-0"	1/4" = 1'-0"	1/8" = 1'-0"	1/16" = 1'-0"	1/32" = 1'-0"	1/64" = 1'-0"	1/128" = 1'-0"	1/256" = 1'-0"	1/512" = 1'-0"	1/1024" = 1'-0"	1/2048" = 1'-0"	1/4096" = 1'-0"	1/8192" = 1'-0"	1/16384" = 1'-0"	1/32768" = 1'-0"	1/65536" = 1'-0"	1/131072" = 1'-0"	1/262144" = 1'-0"	1/524288" = 1'-0"	1/1048576" = 1'-0"	1/2097152" = 1'-0"	1/4194304" = 1'-0"	1/8388608" = 1'-0"	1/16777216" = 1'-0"	1/33554432" = 1'-0"	1/67108864" = 1'-0"	1/134217728" = 1'-0"	1/268435456" = 1'-0"	1/536870912" = 1'-0"	1/1073741824" = 1'-0"	1/2147483648" = 1'-0"	1/4294967296" = 1'-0"	1/8589934592" = 1'-0"	1/17179869184" = 1'-0"	1/34359738368" = 1'-0"	1/68719476736" = 1'-0"	1/137438953472" = 1'-0"	1/274877907344" = 1'-0"	1/549755814688" = 1'-0"	1/1099511629376" = 1'-0"	1/2199023258752" = 1'-0"	1/4398046517504" = 1'-0"	1/8796093035008" = 1'-0"	1/17592186070016" = 1'-0"	1/35184372140032" = 1'-0"	1/70368744280064" = 1'-0"	1/140737488560128" = 1'-0"	1/281474977120256" = 1'-0"	1/562949954240512" = 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MEZZANINE FLOOR PLAN - POWER LAYOUT



KEY PLAN
NO SCALE

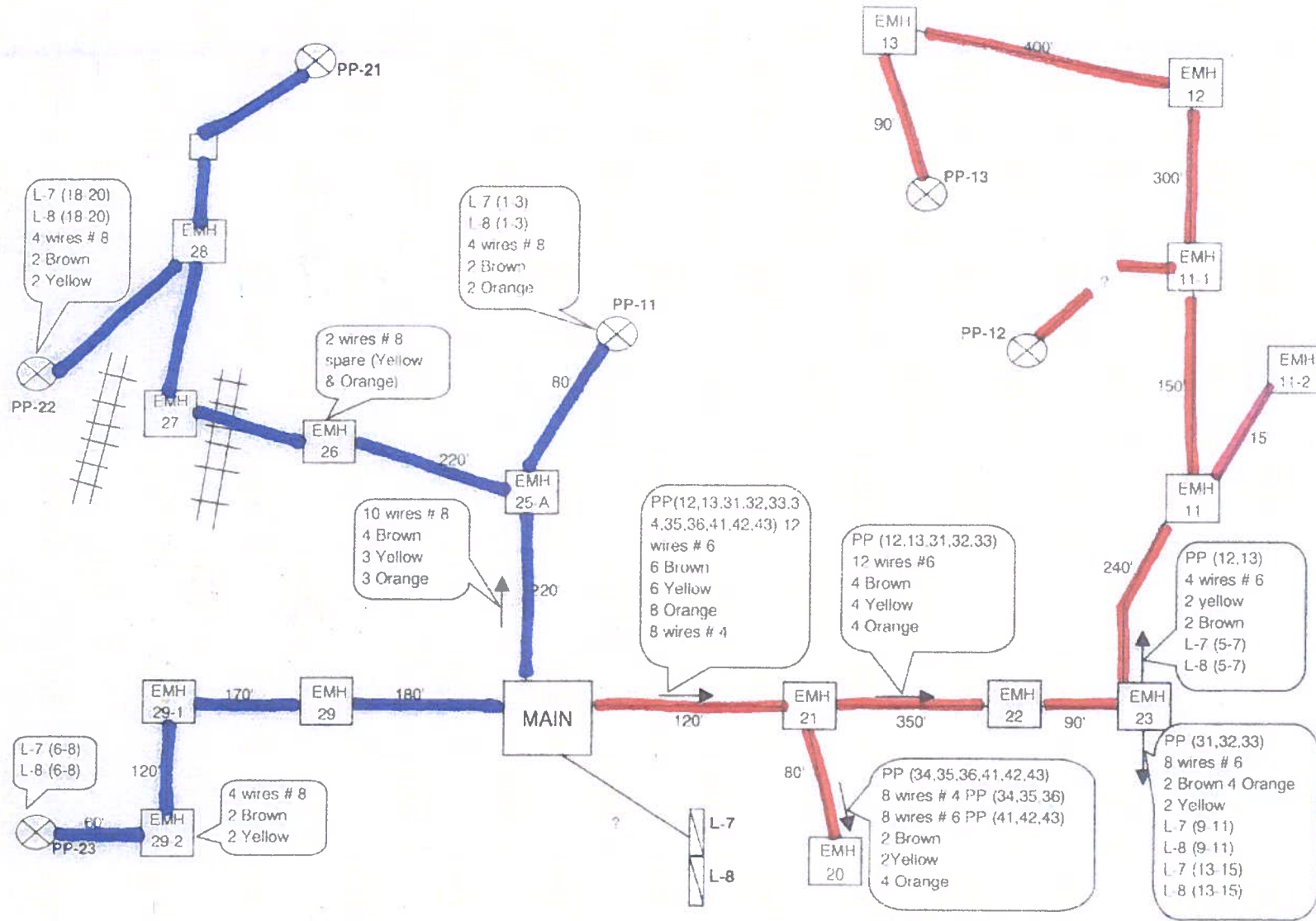


Dade County Transportation Improvement Program THE KAISER TRANSIT GROUP a joint venture KAISER ENGINEERING ROBERT W. KAY & ASSOCIATES, INC. ROBERT W. KAY & ASSOCIATES, INC.				PALMETTO YARD OPERATIONS & MAINTENANCE FACILITIES RECEPTACLE & POWER PLAN - SHT. 10			
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SHEET NO. 10 PROJECT NO. Y241-306				SCALE: 1" = 0' SHEET NO. EE 150			

William Lehman

Ready
Pending

6/29/2005



All Tech Electric, Inc.

by Danny Garcia