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CONTRACT SPECIFICATIONS

DEPARTMENT OF TRANSPORTATION
& PUBLIC WORKS
DESIGN AND ENGINEERING DIVISION

BID DOCUMENTS

TRANSIT FACILITIES IMPROVEMENTS PER RECERTIFICATION REQUIREMENTS

CONTRACT NO. CICC 7360 PLAN

RPQ NO.: IRP346A(1)-DTPW25-CT

VOLUME II OF II

DTPW Capital Improvements
Engineer: Laura Hernandez

RPQ ISSUE DATE: March 19, 2026



RPQ NO.: IRP346A(1)-DTPW25-CT

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS

BID DOCUMENTS

METRORAIL REFURBISHMENT PROJECT VIZCAYA AND COCONUT GROVE STATIONS

PROJECT NO. IRP346A(1)-DTPW25-CT

VOLUME II OF II MANUALS

TECHNICAL SPECIFICATIONS

ADDITIONAL PROJECT REQUIREMENTS

STANDARD CONSTRUCTION GENERAL

CONTRACT CONDITIONS AND ATTACHMENTS

MIAMI-DADE TRANSIT CONSTRUCTION SAFETY MANUAL & REQUIREMENTS

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS ADJACENT

CONSTRUCTION MANUAL ADJACENT CONSTRUCTION MANNUAL

DRAWINGS

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS

TECHNICAL SPECIFICATIONS

**TRANSIT FACILITIES IMPROVEMENTS PER
RECERTIFICATION REQUIREMENTS**

CONTRACT No. IRP346A(1)-DTPW25-CT

Building Locations:

**3300 NW 32 Avenue (Buildings 6, 7, 9, & 12)
360 NE 185 Street (Buildings 1, 2, 3, 4, 6, 8, & 9)**

September 2025



VOLUME I

DIVISION 1 - General Requirements

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DIVISION 1 - General Requirements

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ADDITIONAL PROJECT REQUIREMENTS

1. STANDARD CONSTRUCTION GENERAL CONTRACT CONDITIONS AND ATTACHMENTS (FORMS ARE TO BE COMPLETED BY SELECTED CONTRACTOR DURING CONSTRUCTION)
2. MIAMI-DADE TRANSIT CONSTRUCTION SAFETY MANUAL AND ATTACHMENTS
3. DTPW ADJACENT CONSTRUCTION MANUAL

SECTION 01 11 00

SUMMARY OF WORK

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work to be performed under this Contract shall be as shown on the Contract Drawings, as specified in the Specification with special provisions and in accordance with the Contract documents and the following requirements. This section includes general requirements applicable to the Contract. This section, alone, does not represent the complete work.

- B. The work, in general, consists of the rehabilitation of the existing buildings located at 3300 NW 32 Avenue Buildings 6, 7, 9, & 12) and 360 NE 185 Street (Buildings 1, 2, 3, 4, 6, 8, & 9). The work includes but is not limited to, furnishing all supervision, labor, materials, equipment, tools, services, and all incidentals for the concrete repairs, joint repairs, structural steel restoration, lighting repairs, and misc. electrical repairs, where applicable, in compliance with the Florida Building Code, 8th Edition (2023).

- C. This project will be performed at locations identified in part B.

- D. The Project for Bidding will be divided into the following Bid Items as presented in the Bid Form.

1. Bid item 1 - General Requirements:

This Bid Item includes all items relevant to the General Requirements and Conditions of the Contract and all Division 01 items.

This Bid Item shall be Lump Sum in accordance with Article 9, Contract Prices, Bid Form as contained in the General Conditions.

2. Bid Item 2 - Mobilization

Refer to Section 01 71 13.

3. Bid Item 3 to 12 - Improvements:

This Bid Item includes all work and costs associated with the furnishing all supervision, labor, materials, equipment, tools, services, and all incidentals for the concrete repairs, joint repairs, structural steel restoration, lighting repairs, light pole repairs, and fire alarm repairs in compliance with the Florida Building Code, 8th Edition (2023) and the latest FDOT Design Standards.

This Bid Item shall be Lump Sum and per unit price per the Bid Form in accordance with Article 9, Contract Prices, Bid Form as contained in the General Conditions.

- E. The work includes the required coordination with Miami-Dade County. The work includes the preparation and securing all required approvals/permits. All pedestrian traffic/flow must comply with the Americans with Disabilities Act (ADA).
- F. For a detailed description of the scope of services, refer to the Contract Documents. The Construction documents comprising the Contract Documents are complementary and indicate the construction and completion of the Work. Anything mentioned in the Contract Specifications and not shown on the Contract Drawings or shown on the Contract Drawings and not mentioned in the Contract Specifications, shall be of like effect as if shown or mentioned in both.
- G. As required by agencies/County requirements, work may require to be done at odd or night hours. Such costs shall be considered as incidental to the construction and no extra compensation will be allowed. Work Restrictions shall be as noted herein:
 - a. Comply with all authorities having jurisdiction.
 - b. Contractor to submit requested on-site work hours for both during work week and weekends. Owner will review and advise available hours. Hours may be adjusted in

review with the owner for conditions arising from owner or contractor needs.

c. Coordinate with Owner all operations that may result in high levels of noise and vibration, odors, or other disruption to surrounding residence and businesses. Restrictions may apply. Contractor must comply with County Ordinance regarding noise.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

PART 4 - MEASUREMENT AND PAYMENT

NOT USED

END OF SECTION

SECTION 01 14 13

SITE AND WORK RESTRICTIONS

PART 1: GENERAL

1.01 DESCRIPTION

- A. This Section includes specifications for the general requirements and procedures for access to the various areas within the site to perform the required construction operations to complete the facility as depicted in the Contract Documents. The Contractor is to coordinate through MDC on access and coordination issues. It is important that Contractors do not interfere with the Department of Transportation and Public Works (DTPW) operations. As a result, there are restrictions on access and times of work; made part of this Contract. The Facility shall always remain operational.
- B. Any work that affects the mainline operations and/or Metrorail/Metrobus patrons require a minimum of two weeks' advance notice to DTPW; such work needs to be performed after revenue service or as directed by DTPW.

1.02 SUBMITTAL REQUIREMENTS

The construction project schedule submitted by the Contractor under Section 01 32 16 shall take the restrictions described herein into account and shall demonstrate the sequencing of the Work so as not to impact the contract duration.

The Contractor shall submit any required notice, request for access and other procedural process as contained herein or referenced herein per the minimum lead times indicated in the procedure.

Where construction impacts DTPW Facility entrances/exits and the public, Contractor must submit plans showing temporary pedestrian and vehicular traffic circulation for the impacted areas. Barricades

and signing necessary to direct the employees, public and the vehicles through the construction zone is required as part of the submittal. Provide, erect and maintain effective barricades, danger signs or any other visual warnings for the protection of the Work and the safety of the public throughout the area for the duration of the Contract.

1.03 RESTRICTION ON CONTRACTOR'S ACTIVITIES

- A. Contractors shall refer to the latest edition of DTPW Adjacent Construction Safety Manual, made a part of this contract, for work restrictions and safety standards, guidelines and requirements.
- B. DTPW operations shall be maintained throughout this Contract. The Contractor shall in any way curtail or handicap normal operational characteristics of the facility except as requested and authorized by DTPW.
- C. Best efforts will be exercised by the Contractor to schedule all construction work which may have any impact on the operations of the facility during the Non-Peak Operating Hours or Non-Revenue Hours.
- D. As per the DTPW Adjacent Construction Safety Manual, DTPW will provide escorts and/or spotters as required by the Contractor to meet the project work restriction requirements or as DTPW may deem necessary. DTPW will do its best in providing the requested escorts/spotters, but the availability of escorts/spotters for different locations at the same time may be very limited.
- E. The Contractor shall coordinate all construction schedule activities with DTPW's Construction Manager to minimize or eliminate disruptions.

1) Definitions

MDC Representative - The authorized, onsite MDC representative(s) responsible for coordinating all work-related activities.

2). Authority

The safety of Metrorail patrons and property shall be a primary consideration during construction. Therefore, any direction given by the duly designated MDC representative regarding pedestrian traffic and/or safety shall be considered final and is to be followed immediately. If the Contractor has an objection to the request, the Contractor shall obey the request and subsequently seek relief under the applicable Contract Sections.

3). Delays in Vacating Premises

It is essential that MDC operations are not disrupted. All Contractor personnel (including suppliers, subcontractors, vendors, etc.) shall cease Work within (15) fifteen minutes after receipt of directions by the Engineer or MDC authorized representative.

4). Special Events

Certain special events require extended and/or more frequent service e.g. football games, concerts, etc., and may force DTPW to revise the Revenue Service schedule and time constraints cited in this Section. The Contractor shall expect and plan for one special event per month and reflect the impact of these special events on the phasing plan and in the project schedule. This parameter does not mean that two or more special events will not actually occur for one month but that the Contractor at bid time needs to consider that, on average, there will be only one special event per month.

5). DTPW Work Conditions and Flagging Requirements

Within a zone thirty feet from the furthest outside edges of an active

guideway girder, no crane booms, manlifts or other equipment, or personnel, may be above the elevation of top of the girder while the train is passing. Work may be performed at the discretion of and only after prior approval by DTPW's Construction Manager/spotter, after the Engineer's consultation with MDC, in the intervals between Metrorail trains. The Contractor will be required to attend the DTPW Track Allocation weekly meeting at Lehman Center (6601 N.W. 72 Avenue, 2nd Floor Conference Room A) that takes place every Tuesday from 2:00 PM to 4:00 PM to request and obtain approval to perform Work according to this paragraph and any other special conditions, as applicable and required. This request shall include written details, including but not limited to, placement of cranes, materials, form work, personnel, and equipment; the sequence and timing of the work, and any other factor which may be construed by the Engineer, upon consultation with the MDC representative, to affect transit safety or revenue service.

The integrity of the existing facilities and their operations shall be always maintained by the Contractor.

The provisions of the latest edition of the DTPW Adjacent Construction Safety Manual shall apply without modification.

6). Special Work Protection

Any Work which could potentially cause objects to fall, drip or in any way endanger the safety of the DTPW employees or the public, at the sole discretion of the Engineer, shall require protection such as barriers, nets, tarps, plywood, etc. The Special Work Protection must reflect the Contractors Work activities and shall be designed by a Professional Structural

Engineer and submitted to DTPW for approval. The minimum of 6 weeks prior to performing any such work, the Contractor shall present this plan for the Special Work Protection to the Engineer, for approval.

7). Personnel Access to Controlled Areas

Contractor access to areas requiring special allocation is prohibited unless prior approval is granted by the DTPW. Contractor's personnel will be required to attend the DTPW Orientation and Guideway Safety Class and always have proper ID on site.

8). Corrosion & Stray Current Protection

The Contractor should be aware that since, Metrorail transit cars are powered by direct current (DC) electricity, direct current can enter the earth through unintentional leakage from the DTPW negative ground return system. The leakage or stray current may flow to the discharge from underground metallic elements (i.e. steel reinforcing, pipelines, grounding systems, etc.) which are in contact with any electrolyte, including earth, in the vicinity of the DTPW System. Because stray current may be corrosive to metal at locations where it flows into an electrolyte, the Contractor is cautioned to investigate the site for stray current and to provide the means for stray current mitigation when warranted.

9). Foreign Objects on Existing Facility

At no time will the Contractor be allowed to throw or discard any objects, construction materials, debris, scaffolds, etc., within the facility. Appropriate measures will be employed by the Contractor to ensure that the facility is always kept free of foreign objects.

10). End of Day Inspections and Other Inspections of Guideway

The Contractor is required to inspect at the end of each day the Work Site and clean and secure the site and materials that may pose a danger to DTPW Employees or the facility. Prior to any hurricane or other major storms, the Contractor and the Engineer shall inspect the Contractor's Work Site and the Contractor shall immediately secure any materials that in the sole opinion of the Engineer may pose a danger to Metrorail trains or facilities.

11). Emergencies

Notwithstanding any of the above, in the event of an emergency, the contractor shall be instructed to vacate the work area by the engineer or the MDC representative. Any such direction shall require immediate action by the contractor. prior to vacating the area, the Contractor shall clear the work area of all materials, equipment, etc.

- F. Submit a complete construction staging plan within seven days after the effective date of Notice to Proceed, a layout of the proposed construction staging areas including fences, roads, parking, buildings, storage areas and equipment necessary for the timely prosecution of the work.
- G. The construction staging plan shall be approved by the engineer.
- H. Contractor is required to comply with the Miami-Dade County (MDC) and municipal ordinances in setting construction dates, times and construction noise. If required, the contractor shall obtain municipal and/or mdc approval of construction dates, times and construction noise outside the normal permitted by the municipality and/or MDC.

- I. Existing utilities have been identified in the contract plans to the extent possible and as deemed necessary. The Contractor is responsible for calling Sunshine 811.com to locate utilities prior to digging. The Contractor shall use special caution in all areas of excavation. Within the limits of the Project, the contractor shall soft dig to ensure that any existing utilities that may be present can be identified without impacting on the services it provides. If a utility is identified, the Contractor shall coordinate with the Engineer for resolution prior to any construction taking place.
- J. The contractor shall not use private property for access, storage or any other construction activity unless the Contractor obtains specific rights from the property owner on his/her own terms, separate from the Contract with DTPW.

PART 2: PRODUCTS (NOT USED)

PART 3: EXECUTION (NOT USED)

PART 4: MEASUREMENT AND PAYMENT

4.01 MEASUREMENT:

Work under this Section will not be separately measured for payment.

4.02 PAYMENT:

Work under this Section will be paid for as part of the Contract lump sum price for Bid Item No. 1, General Requirements.

END OF SECTION

SECTION 01 21 00

ALLOWANCES

PART 1 - GENERAL

1.01 DESCRIPTION

This section specifies allowances to be used in the Contract.

1.02 ALLOWANCE ACCOUNT FOR UNFORESEEN CHANGES

A contingency has been established for the purpose of funding portions of the work which are unforeseeable at the time of execution of the Contract, such as, additional repair areas, or for special work deemed desirable by the County to be incorporated into the Contract.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

PART 4 - MEASUREMENT / PAYMENT

Not Used.

END OF SECTION

SECTION 01 26 13

REQUEST FOR INFORMATION (RFI)

PART 1: GENERAL

1.01 DESCRIPTION

- A. This section covers Request for Information (RFI) from the Contractor. RFI in this section is defined as: the solicitation by the Contractor for clarifications, interpretations, verifications and/or corrections of the Contract Documents. The Contractor shall carefully study and compare all drawings, Contract Specifications and other instructions; shall verify all figures on the Contract Drawings before laying out the Work; shall notify the Engineer of all errors, inconsistencies, or omissions which he may discover; and obtain specific instructions in writing before proceeding with the Work. The Contractor shall not take advantage of any apparent error or omission which may be found in the Contract Drawings or Contract Specifications, but the 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 constructed through failure to notify the Engineer and to request specific instructions.
- B. The Contractor shall comply with this section for all such requests for information. All costs incurred by the Contractor in preparing these requests shall be borne by the Contractor and are part of this contract.
- C. Any delays or impacts caused by the Contractor's failure to conform to the requirements of this section shall be solely the Contractor's responsibility and shall not be cause for any time extension and/or additional compensation.

PART 2: PRODUCTS

2.01 MATERIALS:

NONE REQUIRED.

PART 3: EXECUTION

3.01 REQUEST FOR INFORMATION REQUIREMENTS:

A. The Contractor is responsible for reviewing all Contract documents related to a particular work product well in advance of the performance of such work in accordance with Article 2: INTERPRETATIONS of the General Conditions. This review shall be planned to allow sufficient time to obtain resolution of any required RFI, as defined in this section.

B. RFI Requirements.

All RFI's shall be submitted to the Engineer in the format with this section or in a pre-approved format equivalent to this section inclusive of the information identified on the specified form.

All RFI's shall be signed by the Contractor's Project Manager or by a designated alternate (i.e., the Quality Assurance Representative).

- a. Date submitted.
- b. Contract number and title.
- c. Contractor's name.
- d. Description of the request, including any supportive drawings, sketches or additional information.
- e. List of schedule activities which may be impacted by the request and a brief explanation as to why there would be a schedule impact and specific date constraints.
- f. Clear description of what response the Contractor is expecting.

All RFIs shall be signed by the Contractor's project manager. RFIs must not be submitted solely to gain time and justify delay.

C. RFI Processing Procedure.

1. Upon receipt of the RFI, the Engineer shall promptly date stamp the request. The Engineer is required to keep a log of all RFIs including receipt date and date returned to the Contractor.
2. The Engineer shall review the request to determine if further information is required from the Contractor, once the RFI is resubmitted by the Contractor, the RFI shall be restamped. The Engineer will coordinate a response and transmit the answer to the RFI to the Contractor.

D. Time allowed for processing RFIs.

Although every attempt will be made to expeditiously resolve all RFIs, MDC shall have ten (10) working days to respond to an RFI, from the date the RFI is received by the Engineer, including all necessary information needed to formulate a response. Failure by the Contractor to allow sufficient time for MDC to formulate a response to an RFI, as specified in this section, shall not constitute grounds for a delay claim from the Contractor.

PART 4: MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

Work under this Section will not be separately measured for payment.

4.02 PAYMENT

Work under this section will be paid for as part of the Contract Lump Sum price for Bid Item No. 1, General Requirements.

END OF SECTION



**METRO-DADE TRANSIT AGENCY
REQUEST FOR INFORMATION (RFI)**

DATE: _____

RFI No. _____

CONTRACT No. _____ CONTRACT TITLE: _____

CONTRACTOR: _____

DESCRIPTION OF REQUEST:
(ATTACH ADDITIONAL SHEETS AS REQUIRED)

DRAWING No. _____

SPEC REFERENCE: _____

CPM ACTIVITIES OF POTENTIAL IMPACT & TIME CONTRAINTS:

END PRODUCT REQUESTED:

SUBMITTED BY: _____
(CONTRACTOR - PROJECT MANAGER)

DATE

REVIEWED BY: _____
TITLE

DATE

DATE RETURNED TO CONTRACTOR: _____

*** BY HIS SIGNATURE, THE CONTRACTOR AFFIRMS THAT HE HAS REVIEWED THE CONTRACT DOCUMENTS AND THAT THE INFORMATION REQUESTED CANNOT BE OBTAINED FROM SUCH A REVIEW.**

DC204.pm5, 7-13-85

SECTION 01 32 16

PROJECT SCHEDULE

PART 1: GENERAL

1.01 DESCRIPTION

- A. This section covers the preparation of a schedule in the form of a bar chart. (The Contractor will be allowed to use his preferred scheduling system, if approved by the Engineer. If the Contractor wishes to propose his own system, he shall so request prior to the required submittal time-tables listed in this section.)
- B. Final Schedule:
1. A bar chart schedule shall be used by the Contractor to control the progress and time fixed for completion of this project. This system shall be implemented by the Contractor. Prior to approval of the final construction schedule, the Contractor shall provide MDC with letters from all his subcontractors and suppliers indicating that they have reviewed the Contractor's schedule and concur with the sequence of events, activity durations and rates of production implied therein.
 2. All work shall be done in accordance with the schedule and all costs incurred by the Contractor to correctly implement the schedule shall be borne by the Contractor and are a part of this contract.
 3. The schedule must be updated monthly and submitted with the Contractor's pay request. No payment will be made to the Contractor unless this monthly updated schedule and progress report is submitted with the Contractor's pay request. Even if no invoice is submitted in a particular month, the Contractor shall submit monthly schedule updates and progress reports to the satisfaction of the Engineer.

PART 2: PREPARATION

2.01 PREPARATION OF FINAL SCHEDULE:

A. Preparation:

1. Within five (5) days after the date of Notice to Proceed (NTP), the Contractor shall submit a comprehensive and detailed Final Schedule, as pre-approved at the clarification meeting during the contract award process, hereinafter referred to as the final schedule. Work performed prior to NTP shall not be allowed under this Contract.
2. When completed, the bar chart diagram shall represent the Contractor's own plan for the project as well as the sequence of each operation and all the involved parties. The schedule shall also identify the project's critical path. It shall be the responsibility of the Contractor to ensure that all of this work is described by the diagram and that the diagram does correctly represent the sequence in which he plans to do his work and the time in which he expects to do it.
3. As a minimum, the final schedule will cover the following areas:
 - Shop drawing preparation, review and approval,
 - Procurement, delivery and installation of major equipment, material and/or long-lead items,
 - Permit acquisition activities,
 - Material samples, as applicable,
 - Material delivery,
 - Testing,
 - All major work elements, as approved by the Engineer,
 - Substantial Completion,
 - Punch list activities,
 - Rates of Production, etc.
4. The final schedule will be printed on a 11" x 17" sheet suitable for reproduction. The Contractor will submit 3 copies of this schedule.
5. A written narrative on separate 8 1/2" x 11" sheets will be included with the contractor's final schedule. This narrative will describe the contractor's general approach for performing the work and any additional or unusual requirements

not clearly represented in the schedule including, but not limited to, equipment to be used and the time equipment is to be on-site, anticipated delivery dates for material and/or equipment, crews and crew sizes, estimated quantities and rates of production. The narrative shall explain the basis for the contractor's determination of durations for major work items and describe his approach for meeting the interim and final completion dates in his schedule. The narrative shall also address workdays per week, hours per shift, rain days, holidays or any other non-work periods that the contractor is assuming in the planning of the work. Activities which may be expedited by the use of overtime or additional shifts shall be identified. Sequencing and other restraints such as manpower, material or equipment shall be identified and explained. A form to be used by the Contractor to prepare his baseline narrative is included as Attachment 1 to this section.

6. When completed, the final schedule shall be submitted to the Engineer for approval. The Contractor shall incorporate the Engineer's schedule review comments within 10 days after receipt. The Engineer shall be the final authority in deciding the acceptability of the schedule. Upon approval by the Engineer, this shall become the Final Schedule for the contract (Baseline Schedule). No deviations from the final schedule will be allowed without the approval of MDC.
7. The Contractor shall identify all available float or slack time in his schedule in a format suitable to the Engineer. Float or slack time is not for the exclusive use or benefit of either the Contractor or MDC. Float or slack time is considered project float as it is for the benefit of both parties. As such, it is not to be used exclusively by either party, but is to be used by the party that needs it first. No more than 15% to 25% of the activities in the contractor's schedule may be on or near the critical path. ("Near the critical path" is defined as any activity having float of 10 days or less)

2.02 MONTHLY SCHEDULE UPDATES

1. The Contractor shall submit monthly schedule updates to show progress or delays against the baseline, as applicable, on all activities in progress. Such progress shall be shown in a format suitable to the Engineer. Three 11" x 17" copies of the updated schedule shall be submitted by the Contractor.
2. The Contractor shall submit an updated narrative in the form of monthly progress reports in a format acceptable to the Engineer. Such reports shall include sections for describing "progress this period", "planned progress for next period", "problems and solutions" (including a listing of all delayed activities, the reasons for delay and proposed recovery actions) and "changes since last period". Any special concerns and or questions regarding the schedule should also be included in the progress report. Information included in the updated narrative will not relieve the Contractor of the notice requirements contained in Article 40 of the Contract's General Conditions. As applicable, signed material delivery tickets indicating when material was delivered on-site or to the fabrication plant will be provided with the narrative on a monthly basis. A form to be used by the Contractor to prepare his monthly update narrative is included as Attachment 2 to this section.
3. The Contractor shall submit on a weekly basis a simplified two-week look-ahead bar chart schedule showing all anticipated work scheduled to take place during the next 14 calendar days. This two-week look-ahead schedule shall be based on the approved baseline schedule.

PART 3: PAYMENT

3.01 PAY REQUESTS

1. The Contractor's pay request shall include an update of the final schedule. The contractor will not be eligible to receive payment until his contract baseline schedule and schedule of values is approved and no payment will be made to the

Contractor unless this schedule update and schedule of values is submitted with the pay request.

2. 5% of each Contractor's pay request amount will be retained in accordance with Article 30, Paragraph B of the General Conditions.
3. All Contractor pay requests will be submitted in a form suitable to MDC based on a County approved schedule of values.

3.02 FINAL PAYMENT

Final payment shall be made in accordance with Article 35 of the General Conditions.

PART 4: MEASUREMENT AND PAYMENT

4.01 MEASUREMENT:

Work under this Section will not be separately measured for payment.

4.02 PAYMENT

Work under this section will be paid for as part of the Contract Lump Sum price for Bid Item No. 1, General Requirements.

END OF SECTION

ATTACHMENT 1

BASELINE NARRATIVE FORM FOR BAR CHART SCHEDULES

Contract Title: _____

Contract No.: _____

Contractor: _____

Baseline and/or Update No.: _____

1. **Contractor's general approach for completing the work**

(Including but not limited to any additional or unusual requirements not clearly represented in the schedule, the basis for the contractor's determination of durations for major work items and his approach for meeting the interim and final completion dates in his schedule.) **Use additional sheets if necessary.**

2. **Equipment to be used** (Including time that the equipment is to be on-site.) **Use additional sheets if necessary.**

ATTACHMENT 1

BASELINE NARRATIVE FORM FOR BAR CHART SCHEDULES

Contract Title: _____

Contract No.: _____

Contractor: _____

Baseline and/or Update No.: _____

3. Anticipated delivery dates for material/equipment. Use additional sheets if necessary.

4. Crews and Crew Sizes. Use additional sheets if necessary.

5. Rates of Production and Estimated Quantities. Use additional sheets if necessary.

6. Work Days per week/Hours per Shift. Use additional sheets if necessary.

ATTACHMENT 1

BASELINE NARRATIVE FORM FOR BAR CHART SCHEDULES

Contract Title: _____

Contract No.: _____

Contractor: _____

Baseline and/or Update No.: _____

7. Non-Work Periods assumed in the planning of the work
(Including holidays, rain days and any other non-work period assumed by the contractor.) **Use additional sheets if necessary.**

8. Activities which may be expedited by the use of overtime or additional shifts. **Use additional sheets if necessary.**

ATTACHMENT 1

BASELINE NARRATIVE FORM FOR BAR CHART SCHEDULES

Contract Title: _____

Contract No.: _____

Contractor: _____

Baseline and/or Update No.: _____

9. **Sequencing and other restraints affecting the work** (Including manpower, material and equipment restraints.) **Use additional sheets if necessary.**

ATTACHMENT 2

MONTHLY SCHEDULE UPDATE NARRATIVE FORM FOR BAR CHART SCHEDULES

Contract Title: _____

Contract No.: _____

Contractor: _____

Baseline and/or Update No.: _____

1. **Progress This Period** (Including all activities started, completed or in progress and signed material delivery tickets indicating when material was delivered on-site or to the fabrication plant as applicable). **Use additional sheets if necessary.**

2. **Planned Progress for Next Period.** **Use additional sheets if necessary.**

ATTACHMENT 2

MONTHLY SCHEDULE UPDATE NARRATIVE FORM FOR BAR CHART SCHEDULES

Contract Title: _____

Contract No.: _____

Contractor: _____

Baseline and/or Update No.: _____

3. **Problems and Solutions** (Including a listing of all delayed activities, the reasons for delay and proposed recovery actions.) **Use additional sheets if necessary.**

4. **Changes Since Last Period.** **Use additional sheets if necessary.**

ATTACHMENT 2

MONTHLY SCHEDULE UPDATE NARRATIVE FORM FOR BAR CHART SCHEDULES

Contract Title: _____

Contract No.: _____

Contractor: _____

Baseline and/or Update No.: _____

5. Special Concerns and/or Questions regarding the Schedule. Use additional sheets if necessary.

SECTION 01 32 33

CONSTRUCTION PHOTOGRAPHS

PART 1: - GENERAL

1.01 DESCRIPTION OF WORK

- A. The Contractor shall provide still color photographs of all construction areas prior to start of work and take construction record color photographs periodically during the course of the Work.

1.02 PHOTOGRAPHY REQUIRED

- A. Progress photographs shall be submitted to the Engineer with each Application for Payment.
- B. Photographs shall be taken at each of the major stages of construction listed below:
 - 1. Prior to commencement of any demolition /removal work.
 - 2. Of existing improvements that are to remain, prior to commencement of work adjacent thereto.
 - 3. Of existing improvements upon completion of adjacent work.
 - 4. Of existing structures that are to be relocated, both before and after relocation.
 - 5. Upon completion of foundations of new structure.
 - 6. Upon completion of structural framing of new structure.
 - 7. Upon enclosure of new structure.
 - 8. Upon completion of construction of new structure.
 - 9. Upon completion of facilities ready for installation of equipment.
 - 10. Upon completion of installation of equipment and facilities.
 - 11. Upon completion of all work and finishes.
- C. Views and Quantities Required:
 - 1. Two views of each item listed above.

2. Five views of overall project sites monthly, as directed by the Engineer.
3. Provide three prints of each view.
4. Aerial views of site(s) monthly.

D. Digital Files:

1. The Contractor shall provide a CD containing the monthly progress photo digital files that shall be cataloged and indexed in chronological order and shall be accompanied by a typed table of contents with the relevant descriptions. This CD shall accompany the photographs submitted with the monthly Pay Request.
2. The Contractor shall furnish additional prints to Owner and the Engineer at commercial rates applicable at time of purchase.

1.03 COSTS OF PHOTOGRAPHY

- A. The Contractor shall pay the cost for specified photography and prints. Parties requiring additional photography or prints will pay photography directly.

PART 2: - PRODUCTS

2.01 PRINTS

A. Color:

1. Digital in PDF format.
2. Size: 8-inch x 10-inch.

B. Identify each photograph, listing

1. Name and number of Project
2. Orientation of view
3. Date and time of exposure

PART 3: - EXECUTION

3.01 TECHNIQUE

A. Factual Presentation.

- B. Correct exposure and focus.
 - 1. High resolution and sharpness
 - 2. Maximum depth-of-field
 - 3. Minimum distortion

3.02 VIEWS REQUIRED

- A. Photograph from locations to adequately illustrate condition of construction and state of progress.
 - 1. At successive periods of photography, take at least one photograph from the same overall view as previously.
 - 2. Consult with the Engineer at each period of photography for instructions concerning views required.

3.03 DELIVERY OF PRINTS

- A. Deliver digital copies to the Engineer to accompany each Application for Payment.

PART 4: MEASUREMENT AND PAYMENT

4.01 MEASUREMENT:

Work under this Section will not be separately measured for payment.

4.02 PAYMENT:

Work under this Section will be paid for as part of the Contract Lump Sum price for Bid Item No. 1, General Requirements.

END OF SECTION

SECTION 01 33 23

SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

PART 1: GENERAL

1.01 DESCRIPTION:

- A. This section specifies preparing and submitting shop drawings, product data, and samples required under the contract.
- B. Dates for submission, and dates on which approved shop drawings, product data, and samples for each product will be needed, shall be designated in the Contractor's Schedule.

1.02 SHOP DRAWINGS:

Furnish all shop drawings that are necessary to complete the scope of work in compliance with the design shown on the plans. Prepare all shop drawings using the same units of measure as those used in the contract drawings. Prepare or reproduce drawings on permanent material made for that purpose, such as tracing cloth, plastic, mylar, or xerographic bond paper. Shop drawings sheet size shall be 22 by 34 inches. Changes in products, for which shop drawings have been accepted, will not be permitted unless those changes have been accepted, in writing by the Engineer, as provided in Section 01 62 00, SUBSTITUTIONS AND PRODUCT OPTIONS.

1.03 QUALITY ASSURANCE:

Shop drawings shall be prepared to a high standard of quality, and to the satisfaction of the County. Drawing level control shall be established and implemented to ensure documentation is controlled for specified applications on contract.

1.04 PRODUCT DATA:

- A. Provide original documents or clearly legible photographic or xerographic copies of documents other than drawings, such as trade literature, catalogue information, calculations, manuals, etc. Clearly label and number each sheet in the submittal to indicate the total number of sheets in the series (i.e., 1 of 12, 2 of 12, 12 of 12).

Prepare all documents using the same units of measure as those used in the contract drawings. Bind and submit all documents with a cover sheet. List on the cover sheet the complete Contract number, a title referencing the submittal item(s), the name of the firm and person(s) responsible for the preparation of the document, the contractor's approval stamp with the data and initials, and, when applicable, the signature and embossed seal of the Specialty Engineer.

- B. Manufacturers' standard schematic drawings shall be modified to delete information which is not applicable to the project. Standard information shall be supplemented to include additional information applicable to the project.
- C. Manufacturers' standard catalog cuts, brochures, diagram, schedules, performance charts, illustrations, calculations, and other descriptive data shall be modified to delete information which is not applicable to the project. Dimensions, clearances, performance characteristics and capacities, and wiring diagrams and controls shall be shown.
- D. Certificates of Compliance shall be submitted for those products for which no samples and test results are specified. Certificates shall state that the product complies with the requirements of the respective specification section, and shall be signed by a representative of the product manufacturer. A copy of the certificate shall accompany the product for which the certificate is prepared.

1.05 SAMPLES:

- A. Samples shall be of sizes and quantities to clearly illustrate full color range and functional characteristics of products and materials, and shall clearly show attachment devices. After review and approval by the Engineer, samples may be used in construction of the project if samples are not damaged and are properly dispositioned for use. Changes in products for which samples have been accepted will not be permitted unless those changes have been approved, in writing, by the Engineer.
- B. Samples and sample installation shall be erected at the job site at locations acceptable to the Engineer and

shall remain in place or available until completion of the project.

1.06 DADE COUNTY PRODUCT CONTROL APPROVAL:

The Contractor shall submit all required Dade County Product Approvals, as applicable, in accordance with this section and the Florida Building Code.

1.07 CONTRACTOR RESPONSIBILITIES:

Shop drawings, product data, and samples shall be reviewed, stamped and signed as approved, by the Contractor's designated authority prior to submission to the Engineer. Each submittal shall be coordinated with the requirements of the work. Returned marked-up submittals shall be reviewed and those requiring changes shall be changed and shall be resubmitted.

- A. Field measurements, catalog numbers, and similar data shall be verified.
- B. Work, for which submittals are required, shall not be started until submittals bearing the Engineer's stamp and signature indicating review and approval has been received.
- C. Before submitting samples, assure that products of which samples will be submitted will be available in the quantities required by the project.
- D. The responsibility for errors and omissions in submittals shall not be relieved by the Engineer's review and approval of submittals.
- E. Responsibility for deviations in submittals from requirements of the Contract Documents shall not be relieved by the Engineer's review and approval of those submittals, unless the Engineer gives written approval of specific deviations.
- F. The Contractor shall verify that the product or system submitted for review has been approved by Dade County Product Control, if applicable, prior to making the initial submittal. Products which require Dade County Product Control approval and are not so approved shall be rejected by the Engineer. Product approval shall not be requested or initiated during the shop drawing review process, but shall be requested and obtained prior to the Contractor's bid submittal.

1.08 SUBMISSION REQUIREMENTS:

Submittals, excepting test results, shall be made in not less than 45 days before work covered by the submittals is scheduled to be performed. Allow fifteen (15) working days for review of shop drawing submittal by the Engineer. Test results shall be submitted within five (5) days after each test has been completed. Office samples shall be shipped prepaid. Submittals require approval of the Engineer prior to work covered by the submittals being scheduled to be performed.

A. Quantities to be submitted shall be as follows:

1. One reproducible sepia and three prints of shop drawings at each submittal until approved by the Engineer. If shop drawings are not approved, the marked up sepia and one marked up copy will be returned.
2. Unless otherwise indicated, after approval by the Engineer submit one reproducible transparency and two opaque diazo prints of shop drawings.
3. Three copies of manufacturers' standard schematic drawings.
4. Three copies of manufacturers' calculations and three copies of manufacturers' standard data.
5. Three samples as specified in each of the specification sections, unless otherwise specified.
6. Three copies of each test result.
7. Three copies of each Certificate of Compliance.
8. Three copies of the Dade County Product Control Notice of Acceptance, if applicable.

B. Submittals shall be accompanied by two transmittal forms containing the following information:

1. Date submitted to the Engineer;
2. Project title and Contract Number;

3. Supplier's, manufacturer's and subcontractor's name, address and telephone number;
 4. Number and title of each shop drawing, product data, and sample submitted;
 5. Notification of known deviations from the drawings and the specification sections; and
 6. Dade County Product Approval number, if applicable.
 7. Other pertinent data.
- C. Submittals shall include a white space, three by four inches, in the lower right corner just above the title block, in which the Engineer may indicate the action taken. Submittals, as applicable, shall show as a minimum the following information:
1. Date and revision dates.
 2. Project title, drawing title and number and MDT Contract Number
 3. The names of the Contractor's engineer, Subcontractor, lower tier Subcontractor, supplier, manufacturer and the name of the detailer or person(s) responsible for the drawing.
 4. Consecutively number each sheet in the submittal series, and indicate the total number in the series (i.e., 1 of 12, 2 of 12, ... 12 of 12).
 5. Identification of product by description, model number, style number, serial number, or lot number.
 6. Location of the item(s) within the project.
 7. Relation to adjacent structure or materials.
 8. Field dimensions, clearly identified as such.
 9. Applicable specification section numbers.
 10. Applicable standards, such as ASTM number and Federal Specification number.
 11. Identification of known deviations from the drawings and specification sections.

12. Contractor's stamp, signed, and dated certifying review of submittal, verification of field measurements, and approval for compliance with the drawings and specification sections, and, when applicable, the signature and embossed seal of the Specialty Engineer.
13. Include in submittals a reference to supporting Subcontract drawing.
14. The Engineer will request a re-submittal when any of this minimum information is not included.

1.09 RESUBMISSION REQUIREMENTS:

Resubmittals shall be submitted by the Contractor so as to avoid delays to the project.

- A. Initial Shop Drawings: Shall be revised as required and resubmitted as specified for initial submittal. Changes which are made, other than those requested by the Engineer, shall be so indicated.
- B. New Product Data and Samples: Shall be resubmitted as specified for initial submittal.

1.10 DISTRIBUTION OF SUBMITTALS AFTER REVIEW:

Approved shop drawings and product data bearing the Engineer's stamp and signature will be distributed by the Engineer to the Contractor's field office. The Contractor shall distribute copies to concerned lower tier subcontractors, suppliers, and fabricators; and to concerned members of the Contractor's work force.

1.11 ENGINEER'S DUTIES:

- A. Submittals will be reviewed and marked.
- B. Submittals will be reviewed for conformance to the requirements of the Drawings and Specification sections. Review will not relieve the contractor from his responsibility for the accuracy of the submittals or for the conformity of the submittals to the requirements of the drawings and specification sections.
- C. Review of a separate item will not constitute review of an assembly in which the item functions.

- D. Stamp, date and signature will be affixed, and will certify that the submittal has been reviewed.
- E. The Engineer will return to the Contractor one sepia and one print or one copy of product data within the time frames specified in Article 1.08, SUBMISSION REQUIREMENTS.

PART 2: PRODUCTS

2.01 PRODUCTS:

No products are required except as indicated in PART I: GENERAL.

PART 3: EXECUTION

3.01 EXECUTION:

No execution is required except as indicated in PART I: GENERAL.

PART 4: MEASUREMENT AND PAYMENT

4.01 MEASUREMENT:

Work under this Section will not be separately measured for payment.

4.02 PAYMENT:

Work under this Section will be paid for as part of the Contract Lump Sum price for Bid Item No. 1, General Requirements.

END OF SECTION

SECTION 01 33 30

WORKING DRAWINGS

PART 1: GENERAL

1.01 DESCRIPTION:

This Section specifies the preparation and submission of working drawings and associated calculations required by the specifications sections or to erect temporary structures to facilitate construction.

1.02 WORKING DRAWINGS:

Working drawings shall be identified by reference to drawing page numbers and specification section numbers. Working drawings shall be prepared, seal-stamped, dated and signed by the Contractor's engineer, of the involved discipline, registered as a professional engineer in the State of Florida.

1.03 QUALITY ASSURANCE:

All working drawings shall be prepared to a high standard of quality, and to the satisfaction of the County. Drawing level control shall be established and implemented to ensure documentation is controlled for specified applications on contract.

1.04 ASSOCIATED CALCULATIONS:

Calculations shall be prepared, seal-stamped, dated and signed by the Contractor's engineer, of the involved discipline, registered as a professional engineer in the State of Florida. Calculations shall be identified by reference to Contract Drawing page numbers and specification section numbers.

1.05 CONTRACTOR RESPONSIBILITIES:

Working drawings and associated calculations prepared by any subcontractor shall be reviewed, signed and dated as approved by the Contractor, prior to submission. Each submittal shall be coordinated with the requirements of the work.

A. Field measurements and field construction criteria shall be verified by the Contractor.

- B. Work, for which working drawings and associated calculations are required, shall not begin until those drawings and calculations bearing the stamp and signature, indicating Contractor Engineer's review, have been received.
- C. Submittals shall not relieve the Contractor of the responsibility for safe and effective design of structures for which the working drawings and associated calculations are submitted. MDC and the Engineer shall in no way be liable to the Contractor and others for any consequences arising from work described in this section and shall not review and or approve the working drawings.

1.06 SUBMISSION REQUIREMENTS:

- A. Working drawings and associated calculations shall be submitted in sufficient time and not less than 45 days before work represented by those drawings and calculations is scheduled to be performed.
- B. Submittals shall be accompanied by two Transmittal Forms containing the following information:
 - 1. Submittal date.
 - 2. Project title and number.
 - 3. Contractor's name and address.
 - 4. Number of each working drawing and associated calculation submitted.
 - 5. Notification of known deviations from Construction Documents.
 - 6. Other pertinent data.

PART 2: PRODUCTS

2.01 PRODUCTS:

No products are required except as indicated in PART 1: GENERAL.

PART 3: EXECUTION

3.01 EXECUTION:

No execution is required except as indicated in PART 1:
GENERAL.

PART 4: MEASUREMENT AND PAYMENT

4.01 MEASUREMENT:

Work under this Section will not be separately measured for payment.

4.02 PAYMENT:

Work under this Section will be paid for as part of the Contract lump sum price for Bid item No. 1, General Requirements.

END OF SECTION

SECTION 01 35 00

TRENCH SAFETY DESIGN

PART 1: GENERAL

1.01 SECTION INCLUDES:

All geotechnical, structural or other design considerations necessary for trench safety design.

1.02 REFERENCES:

Department of Labor criteria and OSHA Safety and Health Standards (29 CFR 1926/1010), and the State of Florida trench safety criteria.

1.03 SYSTEM DESCRIPTION:

Design Requirements. Designer shall have sufficient professional engineering competence to designate necessary geotechnical investigation, interpret geotechnical information, and formulate structural design. Performance Requirements. Provide for safety of all personnel and the public present in or adjacent to any trench constructed under the scope of this contract.

1.04 QUALITY INSURANCE:

Qualification. Designer to have completed a minimum of 20 trench safety designs in the last two (2) years and have had no trench safety design failures. Regulatory Requirement. Conform to any local, State, and Federal laws, rules, regulations, and ordinances covering design and trench safety designs.

PART 2: PRODUCTS
(NOT USED)

PART 3: EXECUTION

3.01 FIELD QUALITY CONTROL

Inspect the Work with sufficient regularity to assure compliance with trench safety design.

PART 4: MEASUREMENT AND PAYMENT

4.01 MEASUREMENT:

Work under this Section will not be separately measured for payment.

4.02 PAYMENT:

Work under this Section will be paid for as part of the Contract Lump Sum price for Bid Item No. 1, General Requirements.

END OF SECTION

SECTION 01 43 00

QUALITY ASSURANCE REQUIREMENTS

1.0: QUALITY ASSURANCE PLAN

The Contractor shall develop an effective Quality Assurance Plan (QAP) for the project to assure adequate quality throughout all phases of the Contract Work and shall describe the methods used and means employed for the implementation of the plan. The Contractor's QAP shall, at minimum contain the fifteen (15) quality elements as identified in the Federal Transit Administration (FTA) Quality Management System (QMS) Guidelines. The QAP shall ensure compliance with the requirements of the contract documents within the Contractor's and supplier's organizations.

A QAP template shall be attached to the contract documents to be used as guidance in the development of the Contractor's QAP for this project.

2.0: ORGANIZATION:

- 2.1 Personnel performing Quality Assurance/Quality Control (QA/QC) functions shall have sufficient, well-defined responsibility, authority and the organizational freedom to identify and evaluate quality problems, and to initiate, recommend or provide solutions.
- 2.2 The Contractor's QAP shall be subject to verification at any time. Verification may include but not be limited to:
 1. Surveillance of the operations.
 2. Auditing of records and activities.
 3. Inspection to measure quality of items and/or works to ensure compliance with requirements.
 4. Review of Quality Records to ensure proper records keeping of activities affecting quality. These records shall be available for review at any time.

3.0: APPLICABILITY

The responsibility for providing QA/QC disciplines to verify that the work is performed in accordance with the Contract document rests with the Contractor. The Contractor's QAP shall be used to control quality throughout the duration of the project. Any inspections, audits or tests provided by MDC or designee shall not relieve the Contractor of the responsibility of providing work that strictly complies with the Contract requirements.

4.0: REQUIREMENTS

The Contractor's QAP shall be in-line with the FTA QMS Guidelines and shall also include:

- 4.1 An organizational chart indicating lines of authority and reporting relationship including QA/QC personnel.
- 4.2 Detailed Quality Procedures and Inspection Forms.

1. All quality assurance/quality control procedures and inspection forms should be included as part of the Contractors QAP submittal.
2. Additional information may be required to assure acceptability of the Contractor's QAP.
- 4.3 Records for all material tests, audits, and inspections performed, including data on conforming as well as nonconforming items shall be maintained by the Contractor at the job site current, up to date, and available for MDC inspection at any time throughout the contract work.
- 4.4 Test Records and Calibration Identification status of testing equipment required for the project shall be maintained by the Contractor and available for inspection at any time throughout the contract work.
- 4.5 A copy of the Contractors QAP shall be submitted within five (5) days after Notice to Proceed (NTP) for review and approval.

5.0: NONCONFORMANCE AND REPAIR ACTION

- 5.1 The Contractor shall maintain an effective system for controlling nonconforming material, including procedures for its identification, segregation, and disposition.
- 5.2 All nonconforming material shall be positively identified to prevent unauthorized use, shipment, or intermingling with conforming material. Disposition for the use or repair of nonconforming material shall require the approval of the MDC.
- 5.3 The Contractor shall be responsible for all costs associated with the removal of components and/or devices and the costs associated with their reinstallation and/or repair.

6.0: MATERIALS TESTING SERVICE

Testing will be in accordance with the contract documents, if applicable.

7.0: MEASUREMENT AND PAYMENT

7.1 MEASUREMENT

Work under this section will not be separately measured for payment.

7.2 PAYMENT

Work under this section will be paid for as part of the Contract Lump Sum price for Bid Item No.1, General Requirements.

END OF SECTION

PROJECT QUALITY ASSURANCE PLAN

PROJECT TITLE

PROJECT/CONTRACT NUMBER

COMPANY NAME

REVISION DATE

PROJECT QUALITY ASSURANCE PLAN

SIGNATURE SHEET

This Quality Assurance Plan dated (*input revision date identified on page 1*):
_____ was prepared or revised in accordance with the project/contract requirements.

Prepared by (Quality Representative Signature): _____ Date: _____

Approved by (Project Manager Signature): _____ Date: _____

PROJECT QUALITY ASSURANCE PLAN

REVISION LOG

Any changes to this document will be re-submitted for review and approval by Miami-Dade County (MDC).

REVISION DATE	AFFECTED PAGES	REASON FOR CHANGE
<i>SAME DATE AS IDENTIFIED ON PAGE 1:</i>	<i>ALL PAGES</i>	<i>INITIAL ISSUE</i>

PROJECT QUALITY ASSURANCE PLAN

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APPENDICES

PROJECT QUALITY ASSURANCE PLAN

1. MANAGEMENT RESPONSIBILITY

The successful implementation of this Quality Assurance Plan (QAP) for this project rests on the level of commitment by top management that ensures that the quality elements are understood, implemented, maintained, and continually being evaluated and improved to sustain quality throughout all phases of the project. The QAP shall include project-specific quality objectives and document how the quality requirements for the project will be achieved and implemented.

Contractor input:

STATEMENT OF COMMITMENT to QUALITY:

(Input quality statement)

_____ (Approved by highest level of management) DATE: _____

In this section, identify management's commitment to quality, and ensure that the commitment is understood, implemented, and maintained. Personnel assigned to this project shall be identified in an organizational chart format. Those personnel responsible for assuring quality must be independent of those having direct responsibility for the work being performed:

ORGANIZATIONAL CHART

(Insert the company's organizational chart)

PROJECT QUALITY ASSURANCE PLAN

Roles & Responsibilities: Include in this section assigned personnel duties and responsibilities within this project that are identified in the organizational chart.

Contractor input:

In this section, document the roles and responsibilities of key personnel (by functional position only) assigned to the project:

Example Positions:

Project Manager:

Quality Assurance Representative:

Inspection Personnel:

PROJECT QUALITY ASSURANCE PLAN

2. Documented Quality Management System (QMS)

The Quality Assurance Plan (QAP) applies to all quality activities performed under the contract. In order to ensure continued adherence to the standard practices, procedures and policies established for the project, periodic reviews, revisions, and redistribution of this QAP shall be performed.

Documentation records testifying to the satisfactory execution of the required activities for the project (i.e. construction, inspections, & testing) are readily available and delivered to authorized personnel as directed. An integral part of this project is the list of instructions, procedures, drawings, specifications, inspection test reports, and quality assurance reports to be prepared, submitted, or made available for review or approval, in accordance with contract requirements.

Contractor input:

In this section, document the method of ensuring that all key documents (i.e. quality plans, procedures, and instructions) are developed, reviewed and updated. Also, any plan or procedure should include a statement of purpose, scope, and should contain any references to applicable codes, standards, or specifications to ensure compliance to contract requirements.

PROJECT QUALITY ASSURANCE PLAN

3. Design Control: (if applicable)

Note: If the design process does not apply, you may put “N/A” in this section.

The Contractor shall establish and maintain QA/QC procedures to control and verify the design in order to ensure that the design criteria, technical and relevant regulatory requirements are in compliance with Contract Documents and FTA guidelines for this project. Design control includes associated quality control and assurance procedures to demonstrate and ensure that the design requirements are understood, planned, verified, executed and that changes are reviewed and approved throughout the design process and project completion as applicable. The Final Design establishes criteria for the inspection and testing on items that affect safety, reliability, service life, and ADA requirements.

Contractor input:

In this section, document the design process, including quality control reviews for assuring design integrity is established throughout all phases of development, and what methods will be used to control the design within the key elements identified below:

Note: Key elements of the design process include, but not limited to:

- Design Planning:
- Design Input:
- Design Output:
- Design Verification:
- Design Validation:
- Design Changes:

PROJECT QUALITY ASSURANCE PLAN

4. Document Control

Procedures shall be established and maintained for the control of project documents and data. Quality procedures shall describe methods for review and approval of project documents by authorized personnel, distribution, storage and retrieval of documents, correction and deletion of documents, and control of changes to these documents. These controls are required to be implemented in order to provide project participants and organizations with access to the latest version of each document.

Contractor input:

In this section, identify which documents will be controlled and the process to ensure that they are maintained and current throughout the project:

Example of Documents:

- *Contractors Project Quality Assurance Plan (QAP)*
- *Contractors Inspection Procedures.*
- *Contract Documents.*
- *Drawings*

PROJECT QUALITY ASSURANCE PLAN

5. Purchasing (If applicable)

Note: If the purchasing process does not apply, you may put “N/A” in this section

The purpose of this element is to ensure that purchasing requirements are clearly understood by the contractor, consultant, or supplier, and that that proper quality elements are made part of the contract.

Procedures shall be established and maintained to ensure that purchased services or products conform to specified technical requirements. Purchasing requirements apply to all Contractors and Suppliers.

Receiving Inspection

A procedures for on-site inspection, handling and receiving of all materials shall be established and included in the Contractor’s QA Plan. The receiving inspection of all materials shall include the Contractor’s QA/QC staff at their facility, and any nonconforming materials shall be identified and documented.

Approved Supplier List

The Contractor shall develop and maintain an approved Supplier list and make it available for review and approval by the Project Sponsor. The Contractor shall have a process in place to review the supplier’s ability to meet requirements prior to awarding a purchase order.

Contractor input:

In this section, document the purchasing process and how all products are received, inspected, accepted, stored and maintained.

Important Note: The Contractor must comply to all Buy America requirements if the Project is Federally Funded, if applicable. This section shall also identify the verification and control of purchased materials to ensure that these requirements are met.

PROJECT QUALITY ASSURANCE PLAN

6. Product Identification and Traceability (If applicable)

Note: If the product identification and traceability process does not apply, you may put “N/A” in this section.

The purpose of product identification and traceability is to ensure the control of materials, parts, components, equipment, and products, and the identification and traceability of these materials to prevent the use of incorrect or defective items. They also ensure that only correct and acceptable items are used or installed. These requirements apply to all materials, parts, components, equipment, and products, including partially fabricated or assembled components, produced for incorporation into the project.

Identification

All materials, supplies, and components that are intended for use in this Project shall be identified from the time of initial fabrication, or receipt, up to and including installation or end use. Items shall be identified by positive markings and/or certifications. They shall be segregated and/or stored with identification data to ensure control and proper identification as applicable.

Item identification methods include use of physical markings. If physical markings are either impractical or insufficient, other appropriate means of identification such as physical separation, container labels, barcodes or tags shall be employed.

Traceability

Item identification methods ensure that traceability is established and maintained in a manner that allows an item to be traced to applicable drawings, specifications, specific test report, purchase order, or other documents during all stages of production, delivery, and installation or end use.

Contractor input:

In this section, document how materials, components, equipment, and products will be identified:

Important Note: The Contractor must comply to all Buy America requirements if the Project is Federally Funded. This section shall also identify the verification and control of purchased materials to ensure that these requirements are met.

PROJECT QUALITY ASSURANCE PLAN

7. Process Control

To achieve accuracy and consistency, the Contractor shall identify and plan the installation and/or construction (if applicable), and testing processes that directly affect quality and ensure these processes are performed under controlled conditions. Controlled conditions shall include the following:

- Personnel qualifications and certifications requirements.
- Documented work instructions, including acceptance criteria, where such are needed to ensure quality.
- Implementing documents defining the manner of design and/or construction process.
- Use of suitable products for design; installation and testing ~~and/or construction~~ equipment, and a suitable working environment.
- Compliance with referenced standards/codes, quality plans, and/or documented procedures.
- Monitoring and controlling of processes parameters and documenting product characteristics during installation, and testing.
- When required, changes to processes must be controlled

A major issue in process control is to ensure that work is performed in the proper sequence.

Contractor input:

In this section, document how the process will be controlled to ensure accuracy and consistency.

PROJECT QUALITY ASSURANCE PLAN

8. Inspection and Testing

Activities affecting quality shall be inspected and documented by experienced personnel who are independent of those performing the work. Inspections and tests shall be performed in accordance with approved documents to determine that contract activities meet the established requirements of the specifications.

Contractor input:

In this section, identify the types of inspections and/or testing to be performed and the procedures/forms to be used to perform the inspections and/or testing:

PROJECT QUALITY ASSURANCE PLAN

9 Inspection, Measuring, and Test Equipment

All equipment used in the inspection, measuring, and testing shall be identified, calibrated, and maintained under controlled conditions. Provisions shall be established for re-calibration of such equipment in a timely manner. The equipment to be used shall meet the National Institute of Standards and Technology (NIST) standards of accuracy for the measurements and tests required.

Contractor input:

In this section, document which inspection, measuring, and test equipment will be identified, calibrated and maintained to ensure its suitability for use. Also, identify the calibration intervals or frequency for each equipment that is subject to calibration:

PROJECT QUALITY ASSURANCE PLAN

10 Inspection and Test Status

A means should be provided for identifying the inspection and test status of the work during the installation and/or construction process (if applicable). The purpose of this section is to ensure that only work that has passed the required inspections and tests is accepted.

The test and inspection status should be identified by means of markings, stamps, tags, labels, routing cards, inspection records, test software, physical location, or other suitable means.

Contractor input:

In this section, document the method to be used to identify the inspection and testing status on the work to be performed:

PROJECT QUALITY ASSURANCE PLAN

11 Nonconformance

At a minimum, nonconformances should be controlled through immediate identification and segregation/containment. When segregation is not possible, nonconforming items should be clearly identified as such. Nonconforming work should be identified, documented, and evaluated to determine appropriate disposition.

The document should identify the authority responsible to make decisions and act with respect to the nonconformance, and should be traceable to any corrective action to prevent recurrence. Those activities affected by the nonconforming work should be immediately notified.

Contractor input:

In this section, document the method to be used to identify, document, evaluate and address nonconforming conditions. It is highly recommended that a “log of nonconformances” is kept and that it includes the corrective actions to address the nonconformances:

PROJECT QUALITY ASSURANCE PLAN

12 Corrective Action

The corrective action plans should include the investigation of the root cause of any nonconforming work and the preventive action needed to prevent recurrence.

Contractor input:

In this section, document the method to be used to implement a corrective action plan to address all nonconformances. It's highly recommended that a log be kept to track all nonconformances and the proposed corrective action plans as necessary:

PROJECT QUALITY ASSURANCE PLAN

13 Quality Records

Procedures should be established and maintained for all quality records. These procedures should identify which records should be kept, responsibility for production and collection, and responsibility for indexing, filing, storage, maintenance, and disposition of all quality records.

Additionally, any electronic data should be regularly backed up, and backups should be stored offsite in a manner to ensure their safety from deterioration and/or damage.

Contractor input:

In this section, identify which quality records will be controlled, the authority responsible for the records, and the process to ensure that records are maintained, stored and dispositions appropriately:

Example of Quality Records:

- *Approved quality plans and procedures*
- *Inspection Reports*
- *Test Data*
- *Calibration Records*
- *Nonconformance Reports*
- *Corrective Action Reports*
- *Audit Reports*
- *Training Records*
- *Design review records and submittals*
- *Product Certification*

PROJECT QUALITY ASSURANCE PLAN

14 Quality Audits (if applicable)

Note: If quality audits does not apply, you may put “N/A” in this section

Quality audits are not the same as financial audits. A quality audit program should be established to ensure that the elements of the contractor’s quality program are functioning as intended.

Quality audits should be performed by the Contractor’s qualified quality personnel, and should be independent, scheduled, and performed to standards and/or checklists. A final report that identifies the audit results should be generated, distributed, and a log developed to track both the findings and corrective action plans.

Contractor input:

In this section, document the quality audit program that should include an audit schedule, the activities to be audited and how the contractor will address the audit findings:

PROJECT QUALITY ASSURANCE PLAN

15 TRAINING

The contractor should establish and maintain procedures for identifying the training needs and provide for the training of all personnel performing the activities affecting quality.

Records of the training, and evaluations, qualifications, and quality related certifications should be maintained. A training matrix can be used as an effective tool for determining which personnel require what type of training. It is also important that effectiveness of training be evaluated to ensure that it has achieved or failed its objectives.

Contractor input:

In this section, document the training program, personnel qualification and any certification needed as necessary:

PROJECT QUALITY ASSURANCE PLAN

APPENDICES

Contractor input:

In this section, the Contractor may include any references, procedures, process flow charts, forms and acronyms/definitions that apply to this project:

SECTION 01 45 23

TESTING LABORATORY SERVICES

PART 1: GENERAL

1.01 REQUIREMENTS INCLUDED: MDC will select and pay for an independent Testing Laboratory to perform the required testing. The Contractor will ensure all material test reports supplied by the Testing Laboratory are complete, accurate, and document acceptable test results for all material samples selected and tested.

- A. The Contractor shall cooperate with the laboratory to facilitate the execution of the Laboratory required services.
- B. Employment of a laboratory by MDC shall in no way relieve the Contractor of its obligation to perform the Work.

1.02 SCOPE OF WORK:

The Independent Testing Laboratory shall perform all tests required by the Contract Documents, applicable codes, Manufacture's recommendations, governing laws, rules and regulations and those tests required for approvals by public agencies and authorities.

1.03 LIMITATIONS OF AUTHORITY OF TESTING LABORATORY:

- A. The Laboratory is not authorized to:
 - a. Release, revoke, alter or enlarge on the requirements of the Contract Documents.
 - b. Approve or accept any portion of the Work.
 - c. Perform any duties of the Contractor.

1.04 CONTRACTOR'S RESPONSIBILITIES:

- A. Notify laboratory sufficiently in advance of operations to allow for laboratory assignment of personnel and scheduling of tests.

- a. When tests or inspections cannot be performed after such notice, reimburse Owner for laboratory personnel and travel expenses incurred due to Contractor's negligence.
- B. Cooperate with laboratory personnel; provide access to Work, and to Manufacturer's operations.
- C. Secure and deliver to laboratory adequate quantities of representational samples of materials proposed to be used and which require testing.
- D. Provide to the Engineer a preliminary design mix proposed to be used for concrete, and other materials mixes which require control by testing laboratory as specified in the Contract.
- E. Furnish incidental labor and facilities:
 - a. To provide access to Work to be tested.
 - b. To obtain and handle samples at Project site or at source of product to be tested.
 - c. To facilitate inspections and tests.
 - d. For storage and curing of test samples.
- F. The Contractor shall review all material test reports received from the Testing Laboratory for completion of testing data with acceptable test results for material samples selected and tested. Ensure that any failures recorded in the test reports are resolved by appropriate methods to assure testing compliance with the contract documents.
- G. The Contractor shall maintain at the job site and throughout the construction project, records for all material samples selected with results by the Testing Laboratory for quality control verification of final test results received from the laboratory. A record control system shall be established for the review, maintenance and filing of all Testing Laboratory Reports received during the construction phase.
- H. Employ and pay for services of a separate, equally qualified independent testing laboratory (approved by MDT) to perform additional inspections, sampling and testing required:

- a. For Contractor's convenience.
 - b. When initial tests by MDC's testing Laboratory indicate Work does not comply with Contract Documents and the Contractor wants a second opinion.
- I. Make arrangements with laboratory and pay for additional samples and tests required for Contractor's convenience.
 - J. Pay for removal costs of rejected materials, reinstallation of new materials and the costs of other corrective action.

PART 2: PRODUCTS

No Product required.

PART 3: EXECUTION

See PART 1.

PART 4: MEASUREMENT AND PAYMENT

4.01 MEASUREMENT:

4.02 PAYMENT:

The work of MDC's Testing Laboratory will be paid by MDC unless additional costs are incurred by the Laboratory due to the Contractor's negligence.

END OF SECTION

SECTION 01 52 00

TEMPORARY FACILITIES

PART 1: GENERAL

1.01 DESCRIPTION: This Section specifies furnishing, installing, operating, maintaining and removing temporary facilities required for the prosecution of the work.

1.02 QUALITY ASSURANCE:

- A. Temporary electrical power and lighting shall be provided in accordance with the applicable requirements of OSHA, Part 1926, Safety and health Regulations for Construction and installed in accordance with the NEC and all other applicable local and National Codes.
- B. Temporary Sanitary Facilities, first aid services and fire protection shall be provided in accordance with the applicable requirements of OSHA, Part 1926, Safety and Health Regulations for Construction.

PART 2: PRODUCTS

2.01 ELECTRICAL MATERIALS: As required, UL listed.

2.02 SANITARY FACILITIES: As required.

2.03 FIRST AID SERVICES:

- A. Supplies: Not less than one 16-unit first aid kit for each 50 persons, or fraction thereof, employed at the Work site.
- B. Personnel: Not less than one certified person for each 50 persons, or fraction thereof, employed at the Work site. Provide each member of the first aid staff with a hard hat with the first aid emblem affixed to the rear of the hat. First aid personnel may be assigned other duties not interfering with their duties as first aid personnel.

2.04 FIRE PROTECTION MATERIALS: As required.

2.05 PROJECT SIGN

Refer to Section 01 58 13 - Project Construction Signs

PART 3: EXECUTION

3.01 ELECTRICAL POWER AND LIGHTING:

- A. Locate and arrange electrical components so that they will not interfere with operations. Adequately support and protect from damage.
- B. Maintain system in an operable condition. Promptly replace burned-out lamps, damaged conduits, defective wiring and other nonoperating or defective components.
- C. Remove temporary electrical power and lighting systems when the permanent electrical power and lighting systems have been approved for use in place of the temporary systems.

3.02 SANITARY FACILITIES:

- A. Locate the facilities in a manner and at locations to remain accessible, functional and secluded from public observation, insofar as practicable to do so. Relocate portions of the facilities as required as the activity center of the construction advances.
- B. Anchor portable facilities to prevent dislocation.
- C. Service toilet facilities as often as necessary to prevent accumulation of wastes and unsanitary conditions. In no event shall toilet facilities be serviced less frequently than twice each seven days.
- D. Permanent sanitary facilities constructed as a part of the Work shall not be used as temporary facilities. Evidence of use of permanent sanitary facilities by construction personnel shall constitute reason for rejection of such facilities.

3.03 FIRST AID FACILITIES:

- A. Instruct construction personnel as to the location of the first aid facilities.
- B. Check first aid kits at least weekly and replace expended items.

3.04 FIRE PROTECTION: Locate the system in a manner and at locations to remain accessible, functional and readily identifiable during the entire period of construction. Relocate portions of the system as required when the activity center of the construction advances. Instruct construction personnel as to the location and proper use of each item of the temporary fire protection system.

3.05 PROJECT SIGNS:

- A. Install, maintain and remove temporary project signs as indicated by the Engineer.
- B. Anchor signs in a manner so as to prevent destruction and overturning due to high winds.
- C. Install temporary project signs at the locations indicated by the Engineer. Maintain signs in a neat and clean condition. Remove and replace damaged or deteriorated signs.

3.06 STAGING AREA PLAN:

- A. Contractor is responsible to submit a full proposed staging plan as required by the RPQ. Staging area(s) identified by the Contractor is at no additional cost to MDC.

PART 4: MEASUREMENT AND PAYMENT

4.01 MEASUREMENT:

Work under this Section will not be separately measured for payment.

4.02 PAYMENT:

Work under this Section will be paid for as part of the Contract lump sum price for Bid Item No. 1, General Requirements.

END OF SECTION

SECTION 01 55 26
MAINTENANCE OF TRAFFIC AND PUBLIC STREETS

PART 1: GENERAL

1.01 SCOPE OF WORK

The Contractor shall be responsible for the maintenance of traffic and detour of traffic of public, state and municipal streets and traffic control as specified hereinafter. The Contractor shall be responsible for obtaining an approved Maintenance of Traffic (MOT) Plan from the appropriate Agency Having Jurisdiction (AHJ), depending on the roadway jurisdiction. The MOT plan, provided by the Contractor, shall include provisions for pedestrian and bicycle traffic and flow as well as vehicular traffic.

This section includes furnishing all necessary labor, materials, tools, and equipment including, but not limited to, signs, barricades, traffic drums, cones, flashers, construction fencing, flag persons, warning devices, temporary pavement markings, delineators, etc. to control vehicular, pedestrian and bicycle traffic through and adjacent to the Project area. The cost of any required uniformed Off Duty Police Officers shall be paid by the Allowance Account Bid Item.

1.02 REGULATIONS

As used herein, any reference to Miami-Dade County, its departments, or its published regulations, permits and data, shall be synonymous and interchangeable with other recognized governing bodies over particular areas or streets, or their departments, published regulations, permit or data. The Contractor shall abide by all applicable laws, regulations, and codes thereof pertaining to Maintenance of Traffic (MOT) on public streets, detour or traffic, traffic control and other provisions as may be required for this project. The Contractor is responsible for securing the required approvals/permits for the MOT plan.

1.03 MAINTENANCE OF TRAFFIC PLAN - Minimum Requirements

- A. Traffic shall be maintained in accordance with the requirements of the State of Florida Department of Transportation (FDOT), the above noted standards and requirements set forth by the AHJ over the roadway. No street shall be completely blocked, nor blocked more than one-half at any time, keeping the other one-half open for traffic, without specific approval. Detouring shall be limited to construction hours and normal traffic patterns shall be re-established at the end of each workday.
- B. The MOT plan shall be signed and sealed by a Professional Engineer registered in the State of Florida.
- C. The Contractor is responsible to incorporate safe pedestrian and bicycle flow/movements along streets impacted by the Project in the MOT plan. A safe walk/bike route within the vicinity of the construction zone shall be maintained at all times. If the current walking surface cannot be maintained, then a temporary walkable surface shall be created. The safe walk route shall be separated from the construction activity during the entire length of the Project with proper pedestrian openings at designated crossings in compliance with FDOT Design Standards and/or as set forth by the AHJ as well as meeting all the Americans with Disabilities Act (ADA) requirements.
- D. The Contractor shall ensure all personnel involved in traffic control are trained and capable of communicating with the public during closures and detours.
- E. All construction equipment activity adjacent to a designated walk/bike route shall cease operating unless satisfactorily barricaded from the walk/bike route. Contractor is responsible for the control of water runoff, dust and any other special requirements for safe movement of pedestrians and bicyclists and vehicular traffic.
- F. It shall be the Contractor's responsibility to install any necessary pavement, road rock, pavement markings and signage and/or any pedestrian signalization and/or signal modification to accommodate an existing or alternate walk/bike route throughout the entire length of the Project.
- G. It shall be the Contractor's responsibility to provide uniformed Off Duty Police Officers to maintain and regulate the flow of traffic through the construction area and/or to cross pedestrians and bicyclists. Locations and conditions

requiring uniformed Off Duty Police Officers and/or flag persons shall be as directed by the AHJ and the County. The number of hours on duty necessary for the maintenance of regulation of traffic flow shall be subject to Police approval as well as AHJ and the County. The cost of such Off Duty Police Officers shall be paid from the Allowance Account Bid item.

- H. If required by traffic control permits or agencies, the Contractor shall work odd or night hours, as required for traffic control reasons and the cost of such work shall be considered as incidental to the construction and no extra compensation will be allowed.
- I. Planning, maintenance and control of traffic shall be provided at the Contractor's expense. All costs of maintaining the vehicle, pedestrian and bicycle traffic throughout the work are the Contractor's responsibility.
- J. The MOT plan shall take into account maintaining access to businesses and residences in the vicinity of the construction work zone and shall include, if necessary, proposed temporary commercial and industrial loading and unloading zones. The Contractor shall provide necessary access to all affected properties during construction.
- K. It shall be the Contractor's responsibility to notify Department of Transportation and Public Works (DTPW) through the Engineer, if construction will impact any bus route. If deemed necessary, a meeting will be held to determine all bus routes and to make any necessary arrangements for rerouting.
- L. The Contractor shall provide and maintain in a safe condition access to streets, businesses, parking lots, and residences. The Contractor shall provide the signs to advise motorists, pedestrian and bicyclists of the proper access to streets, businesses, parking lots and residences.
- M. The Contractor will provide emergency access to all residences and businesses at all times. Residential and business access will be restored and maintained at all times outside the Contractor's normal working hours.

- N. Excavated or other materials stored adjacent to or partially upon a roadway pavement shall be adequately marked for traffic safety at all times.
- O. The Contractor shall be responsible for the provision, installation and Maintenance of all traffic control and safety devices, in accordance with specifications outlined in the permit(s). In addition, the Contractor shall be responsible for providing the Engineer with all approved MOT plans for lane closures and/or detours for acceptance. These MOT plans shall be produced by an individual employed by the Contractor and certified as "Work Zone Traffic Safety supervisor" by the International Municipal Signal Association.
- P. Where excavations are to be made in the vicinity of signalized intersections, the Contractor is alerted that vehicle loop detectors may have been embedded in the pavement. Verify these locations by inspecting the work site and by contacting the AHJ. Any loop detectors that are damaged, whether shown on the Plans or not, shall be repaired or replaced by the Contractor, at his expense and to the satisfaction of the AHJ.
- Q. The Contractor shall notify the Florida Department of Transportation (FDOT), District Six (6) and Miami-Dade County Department of Transportation and Public Works (DTPW) in advance of the construction date and minimum of fourteen (14) days in advance of any lane closures and/or detours.
- R. Temporary pavement shall be required over all cuts in pavement areas, and where traffic is to be routed over the swale or median areas. When the temporary pavement for routing traffic over the swale or median is no longer necessary, it shall be removed and the swale or median areas restored to their previous condition.
- S. Pavement markings damaged during construction shall be repaired promptly by the Contractor, as required, by the AHJ. In addition, the Contractor shall be responsible for the resetting of all traffic control and informative signing removed during construction.
- T. DTPW has signed a Construction Agreement with the Florida Department of Transportation to obtain authorization to enter FDOT's right of way to perform construction activities

necessary for the construction of the project. The Contractor shall follow all provisions stipulated in this Agreement to obtain authorization to work within FDOT's right of way.

1.04 MAINTENANCE OF TRAFFIC FOR BYPASS PUMPING (NOT USED)

1.05 LANE CLOSURES

A. Where construction of the project shall involve lane closures of public streets, the following shall apply:

1. Lane closures shall be in accordance with Agreements executed with AHJ. The Contractor shall provide a minimum of fourteen (14) days notice of any required lane closure to Traffic Engineer FDOT, District 6 and/or AHJ, for authorization.

1.06 SUBMITTALS

A. The Contractor shall submit to the Engineer and to AHJ, Maintenance of Traffic (MOT) plans for review and approval, in order for Lane Closure Permit to be issued.

1.07 NOTIFICATIONS

- A. The Contractor is responsible for notifying the Miami-Dade County Fire and Rescue Department whenever roads are impassable.
- B. The Contractor will immediately notify the Engineer of any vehicular or pedestrian/bicycle safety problem incurred as a result of the construction of the Project.
- C. The Contractor will notify individual owners, owner's agents and tenants of buildings adjacent to worksite in writing at least seventy-two (72) hours in advance of any disruption to their access and/or use of public ways adjacent to the buildings or prohibiting the stopping and parking of vehicles.

PART 2: PRODUCTS (Not Used)

PART 3: EXECUTION (Not Used)

PART4: MEASUREMENT AND PAYMENT

4.01 MEASUREMENT:

Work under this Section will not be separately measured for payment.

4.02 PAYMENT:

Except for the payment of the Off-Duty Police Officers, work under this section will be paid for as part of the Contract Lump Sum price for Bid Item No. 1, General Requirements.

END OF SECTION

SECTION 01 56 23

TEMPORARY BARRIERS

PART 1: GENERAL

1.01 DESCRIPTION

This Section specifies furnishing, installation maintenance, relocation and removal of temporary pedestrian barricades.

PART 2: PRODUCTS

2.01 MATERIALS

Temporary pedestrian barricades, as approved by the Engineer.

PART 3: EXECUTION

3.01 Submit plan showing number and location of the pedestrian barricades for approval by the Engineer.

3.02 Contractor is to assure no public access inside of traffic barricades.

PART 4 MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

Work under this Section will not be separately measured for payment.

4.02 PAYMENT

Work under this Section will be paid for as part of Contract lump sum price for Bid Item No. 1, General Requirements.

END OF SECTION

SECTION 01 57 13

TEMPORARY EROSION AND SEDIMENT CONTROL

PART 1 - GENERAL

1.01 DESCRIPTION

This Section includes specifications for the prevention of erosion of excavated areas, embankments, stockpiled earth materials, and other erodible areas, and the control of runoff sediment from siltation and pollution of the drainage systems. Refer to Contract Specification Section 31 25 00 for further erosion and Sediment Control requirements. The Work shall include the following:

- A. Placement of temporary control measures for erosion protection during the life of the Contract, to control water pollution, through the use of mulch, grass, baled straw or hay bale check dams, stone filter pads, dewatering basins, silt fabric fences, inlet filters, and other Best Management Practices (BMPs) as shown on the plans and as required herein.
- B. Coordination of the temporary pollution control or erosion protection provisions with the permanent erosion control features.
- C. Placement of all soil erosion and sediment control facilities prior to any earthwork operation and installation of proposed structures or utilities.

1.02 SUBMITTALS

- A. Erosion and Sediment Control Plan: Submit to the Engineer for approval, as required herein, within 30 days of Notice to Proceed.
 - 1. The Contractor shall follow the plan and sequence of construction shown on the Contract Drawings or its own approved plan. If the Contractor chooses to modify the plan shown on the Contract Drawings or its own approved plan, it shall submit a revised plan to the Engineer and the jurisdictional agency for review.

2. If the Contractor chooses to follow the sequence of construction as shown on the Contract Drawings, no submittal for approval is required. If the Contractor chooses or is required to develop its own sequencing plan for construction, a revised erosion and sediment control plan shall be submitted to the Engineer and the jurisdictional agency for review.
 3. On plans submitted for review, indicate complete design and construction details and locations of all proposed temporary control structures, barriers, berms, sediment retention basins, and any other salient features.
 4. Approval of the Contractor's proposed plan shall not relieve the Contractor of responsibility for designing, constructing, operating, and maintaining erosion and sediment control facilities in a safe and systematic manner, and for repairing any damage to the control structures and equipment caused by floods or excessive storm runoff or other unforeseen circumstance.
- C. Submit to Engineer: manufacturer's literature and test results on filter fence fabric, inlet protection, triangular silt dike, debris barrier, seed mixes, mulch, and other necessary erosion control measures.

PART 2 - PRODUCTS

2.01 MATERIALS

The materials used for temporary erosion control shall comply with the standards adopted by the jurisdiction in which the facilities are being constructed. The Contractor shall be responsible for obtaining all such standards and for compliance with such standards as applicable.

PART 3 - EXECUTION

3.01 GENERAL REQUIREMENTS

A. Comply with applicable Federal, State and local laws,

orders, and regulations concerning the prevention, control, and abatement of water pollution.

B. The placement of temporary erosion control measures shall comply with the standards adopted by the jurisdiction in which the facilities are being constructed.

C. In case of damage immediately make all repairs and replacements necessary at no additional cost to MDC.

3.02 TEMPORARY EROSION CONTROL SUPERVISOR

Designate a Temporary Erosion and Sedimentation Control (TESC) Supervisor, to be responsible for inspecting the TESC measures and insuring that the Contractor's operations are at all times in compliance.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT:

A. Work under this Section will not be separately measured for payment.

4.02 PAYMENT:

A. Work under this Section will be paid for as part of the Contract lump sum price for Bid Item No. 1, General Requirements.

END OF SECTION

SECTION 01 57 15

CONSTRUCTION NOISE VIBRATION AND POLLUTION CONTROL

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This Section specifies the project controls to be observed to eliminate or minimize environmental impact caused by construction activities.
- B. Refer to section 01 57 13 Temporary Erosion and Sediment Control for further requirements.

1.02 NOISE POLLUTION QUALITY ASSURANCE

- A. Contractor shall comply with the Miami-Dade County Code of Ordinances regarding Noise Pollution.
- B. Daytime refers to the period from 7:00 A.M. TO 10:00 P.M. local time, daily, except Sundays and legal holidays. Nighttime refers to the period from 10:00 P.M. to 7:00 A.M. local time,
- C. Public exposure to sound levels due to construction noise will be measured at the closest point adjacent to the site of Work in normal use by the public while construction Work is in progress.
- D. Sound levels for construction noised affecting building structures and their occupants will be measured at a point five feet from the face of the building structure adjacent to the Contractor's operations and plant.

TABLE 1: Continuous Noise
Maximum Allowable Continuous Noise Level, (dBA)

<u>Affected Structure</u>	<u>Day Time</u>	<u>Nighttime</u>
Residential: Quiet Residential Areas	75	65
Arterial of Multi-Family Residential Areas	75	65

Primarily Residential, some Commercial 85 65

SECTION 15716

	<u>At All Times</u>
Primarily Commercial, some Residential	80
Commercial Areas	80
Industrial Areas	90

TABLE 2: Intermittent Noise
Maximum Allowable Intermittent Noise Level, (dBA)

<u>Affected Structure</u>	<u>Daytime</u>	<u>Nighttime</u>
Residential: Quiet Residential Areas	80	70
Arterial or Multi-Family Residential Areas	80	70
Primarily Residential, some Commercial	85	75

	<u>At All Times</u>
Primarily Commercial, some Residential	90
Commercial Areas	105
Industrial Areas	110

TABLE 3 Equipment Noise Emission Restrictions

<u>Location</u>	<u>Noise Limit</u>
Equipment other than highway Trucks including hand tools, Heavy equipment and pile drivers.	115 dBA

PART 2 - PRODUCTS

2.01 No products are required other than those necessary to establish and maintain the environmental impact controls. The noise monitoring equipment shall be supplied by the Contractor and approved by the Engineer.

PART 3 - EXECUTION

3.01 NOISE POLLUTION:

A. General

1. Eliminate or minimize noise caused by construction activities. Provide construction machinery and equipment with efficient noise suppression devices for the protection of employees and the public. Schedule operations to maintain the noise levels and the schedule for implementation of those actions.

B. Monitoring

1. Monitor noise levels of construction activities to assure compliance with the limits indicated. Inform the Engineer of the proposed actions and equipment for monitoring noise levels within the limits indicated.

2. Perform noise measurements using the A-scale of a standard sound level meter at slow response.

3. Noise restrictions:

a. Prevent noise emanating from construction activities, measured at the points as specified in Article 1.02. C from exceeding the impact noise levels indicated in Tables 1, 2 and 3.

b. Prevent noise levels at the affected structures from exceeding those specified in Tables 1 and 2.

c. In areas as specified in Article 1.02 C prevent noises from stationary sources, parked, mobile sources, or combination of any sources producing repetitively scheduled or long-term noise lasting more than a few hours from exceeding the limits specified in Table 1.

d. Prevent noises from non-stationary mobile equipment or from sources of non-scheduled, intermittent, non-repetitive, short-term noises not lasting more than a

few hours, from exceeding the limits specified in Table 2.

C. Noise Abatement Measures

1. Utilize noise abatement measures listed below to minimize the noise levels in areas outside the construction limits:
 - a. Utilize shields, impervious fences, and sound barriers to inhibit transmission of noise.
 - b. Utilize sound retardant housings or enclosures around noise producing equipment.
 - c. Utilize effective intake and exhaust mufflers on internal combustion engines and compressors.
 - d. Line or cover hoppers, storage bins, and chutes with sound deadening material.
 - e. Minimize use of air or gasoline driven saws.
 - f. Conduct truck loading, unloading, and hauling operations so that noise is kept to a minimum.
 - g. Route construction equipment and vehicles carrying spoil, concrete, or other materials over streets that will cause the least disturbance to residents in the vicinity of the work. Advise the Engineer in writing of the proposed haul routes prior to securing a permit from the local authority.
 - h. Locate stationary equipment to minimize noise impact on community, subject to approval of the Engineer.

3.02 WATER POLLUTION

- A. Comply with the pollution control ordinance of the Miami-Dade County Environmental Resources Management (DERM), the water pollution rules of the South Florida Water Management District (SFWMD), and State of Florida Department of Environmental Protection (DEP).
- B. Provide grease traps, dikes, curb walls, sumps, and pipes to prevent harmful runoffs to natural or man-made streams, ponds, or water impoundments.
- C. Demolish preventative measures when no longer required. Remove debris and restore site to original condition.

3.03 AIR POLLUTION

A. Motor Emissions

1. Use emission control devices on gasoline or diesel construction equipment and prohibit idling and unnecessary operation of equipment to prevent and control air pollution in accordance with criteria issued by the Environmental Protection Agency.

B. Dust Control

1. Maintain work and access areas free from dust. Use covered loaded trucks, sprinkled calcium chloride, water or light bitumen application on dust generating surfaces. Have sufficient equipment on site to accomplish dust control as work proceeds.
2. Control clearing, grubbing, and demolition work to minimize dust.
3. Where demolition of existing structures containing asbestos material is necessary, take precautions in accordance with federal, state, and local regulations.

C. Burning

1. Conduct burning of trees, shrubs, rubbish or other material in accordance with the State of Florida and Dade County laws, ordinances, and regulations to minimize air pollution.
2. Inform the Engineer how governing air pollution criteria will be met.
3. If unsatisfactory construction procedures and operations pertaining to air pollution are followed, the Engineer may suspend the performance of construction until unsatisfactory conditions have been corrected.

3.04 SPILLAGES

- A. Store petroleum and by-products used during construction at a safe distance from streams and canals. Collect and dispose spilled material to prevent dispersion.

3.06 CLEANING

- A. Maintain work site in accordance with local ordinances and antipollution laws applicable to Work Site cleanliness, and in a neat, orderly and hazard-free condition until final acceptance of the Work. Areas adjacent to the Work Site shall be kept free from waste material, debris and rubbish caused by construction activities.
- B. Artificially ventilate spaces that are not naturally ventilated when volatile and noxious substances are being used in those spaces.
- C. Rubbish, volatile wastes, and other construction wastes shall be neither burned nor buried on the Work Site, and shall not be disposed of into storm drains, sanitary drains, streams or other waterways. Store volatile wastes in covered metal containers, and remove from Work Site daily or as directed by the Engineer.
- D. Perform cleaning every workday for duration of the Work, Structures, grounds, and areas of the Work Site, public, and adjacent private properties shall be maintained free of waste materials and rubbish gathered by construction operations. Place waste materials and rubbish in on-site containers.
- E. Remove or secure loose material on exposed surfaces at the end of each day's Work or more often to maintain Work Site in hazard-free condition. Prevent dislodgement of materials due to wind and other forces.
- F. Wet down dry materials and rubbish to lay dust and prevent blowing dust.
- G. Empty on-site waste containers whenever necessary to avoid trash overflow. Dispose of contents at either public or private dumping areas.
- H. Control the handling of materials, debris and rubbish; do not drop or throw from heights.
- I. Immediately remove spillages of construction-related materials from hauling routes.
- J. Remove grease, dust, dirt, stains and other foreign materials from exposed finished surfaces.

K. Continue cleaning operations until final project acceptance.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT:

A. Work under this Section will not be separately measured for payment.

4.02 PAYMENT:

A. Work under this Section will be paid for as part of the Contract lump sum price for Bid Item No. 1, General Requirements.

END OF SECTION

SECTION 01 58 13
PROJECT CONSTRUCTION SIGNS

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Project Signs will be provided by Miami-Dade County Internal Services Department (ISD) at no cost to the Contractor.
- B. The type, location, and number of signs required per each work site shall be at the discretion of the Engineer.

1.2 JOB CONDITIONS

- A. No work shall commence until the Project Signs are secured in place, as directed by the Engineer.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 MAINTAIN AND RELOCATE PROJECT SIGNS

- A. The Contractor shall maintain and relocate Project Signs throughout the duration of the Contract, as directed by the Engineer and at no additional cost to MDC.
- B. The Contractor shall install relocated Project Signs as required by the Engineer. All materials and work necessary to secure, brace, mount, place and maintain the Project Signs will be provided at Contractor's expense.
- C. The Contractor shall notify the Engineer immediately if at any time, during the Contract Duration, a Project Sign becomes damaged, defaced, or unreadable. If the Engineer determines that a replacement sign is required, the Engineer will request it from ISD.

PART 4 - MEASUREMENT AND PAYMENT

4.01 Measurement :

Work under this Section will not be separately measured for payment.

4.02 Payment :

Work under this Section will be paid for as part of the Contract lump sum price for Bid Item No. 1, General Requirements.

END OF SECTION

SECTION 01 62 00

SUBSTITUTIONS AND PRODUCT OPTIONS

PART 1: GENERAL

1.01 DESCRIPTION:

- A. This Section specifies the procedures to be followed for preparing, submitting, amending and updating of lists of products proposed to be incorporated in the work.

PART 2: product

2.01 SELECTED PRODUCTS:

- A. Within ten (10) days after the effective date of NTP, submit digital copies of the list of selected products. Arrange the list in the order of each Section's appearance in the specification.
 1. For products specified only by reference standards, any product satisfying those standards may be selected. Show name and address of manufacturer; trade name, model number or catalog designation of the product; manufacturer's reference standards and pertinent performance and test data.
 2. For products specified by naming one product or by naming several products, this establishes a product standard. Any other product, which is equal in the opinion of DTPW and EOR may be furnished. A request must be submitted to the DTPW as required for substitutions, for acceptance of products not specifically named.
 3. Approve Equal: Where named products or sources are accompanied by the term "or equal" or other language of similar effect, provide one of the specified products, or submit a request for substitution for a product not named, in accordance with the requirements of Section 01 62 00 - Substitutions and Product Options, which the Contractor judges to be of equal or better quality.

4. Amend and update list as changes concerning the information become known.

PART 3: EXECUTION

3.01 LIST OF SUBSTITUTE PRODUCTS AND METHODS:

- A. Formal requests from the Contractor will be considered by the Engineer for substitution of products and methods in place of those specified, but only if these requests are submitted within ten (10) days after effective date of NTP. No substitutions request will be considered after ten (10) days. Acceptance of substitute products and methods shall be only for the characteristics and use named in the acceptance, and shall be interpreted neither as a modification to the Specification and Drawing requirements nor to establish acceptance of products and methods for other portions of the Transit System. The Engineer shall judge the quality and suitability of the substitute product and method and his decision shall be final. Where use of a substitute product and method involves redesign of other parts of the work, the cost and time required to affect that redesign will be considered in evaluating the suitability of the substitute product and method.

- B. Submit digital copies of list of substitute products and methods, including the following information:
 - 1. Complete data substantiating compliance of the proposed substitution with the requirements of the Specifications and Drawings.

 - 2. For products:
 - a. Product identification, including manufacturer's name and address

 - b. Manufacturer's literature, including product description, performance and test data and pertinent reference standards

 - 3. For construction methods:
 - a. Detailed description of proposed method

b. Working drawings
illustrating methods

4. Itemized comparison of proposed substitution with product specified. Comparison shall include cost, differences in estimated life, estimated maintenance, availability of spare parts and repair services, energy consumption, performance capacity, salvageability, manufacturer's warranties and other material differences.

5. Data relating to changes in construction schedule.

6. Accurate cost data on proposed substitution in comparison with product and method specified except that cost data will not be required on substitutes proposed as equal, equivalent or superior to specified brand names and for which no request is made for price adjustment to the sub-contract.

7. Equitable adjustment and credit that the Contractor proposes to offer work if the substitutions are not equal, equivalent or superior to specified brand names.

C. In making request for substitution,
Contractor shall verify:

1. That he has personally investigated the proposed product and method and that to the best of his knowledge, information and belief, the product and method is either equivalent or superior to that product and method specified and that he will update information as new or different data become known to him.

2. That he will furnish the same guarantee for substitution as he would for the product and method specified.

3. That he will coordinate installation of the accepted substitution into the work and will make those changes required for the work to be complete and operable.

4. That cost data is complete and includes related costs and excludes cost of engineering redesign.
 5. That he waives claims for additional time and costs related to the substitution, which become apparent.
- D. Amend and update list as changes concerning information on the list become known to him.
- E. Substitutions will not be considered, if indicated or implied on Shop Drawings or Product Data submittal for which no formal request for substitution has been submitted. Requests for substitutions will not be considered if acceptance will require substantial revisions of drawings and specifications or both.

PART 4: MEASUREMENT AND PAYMENT

4.01 MEASUREMENT:

- A. Work under this section will not be separately measured for payment.

4.02 PAYMENT:

- A. Work under this Section will be paid for as part of the Contract lump sum price for Bid Item No. 1, General Requirements.

END OF SECTION

SECTION 01 71 13

MOBILIZATION

PART 1: GENERAL

1.01 DESCRIPTION: This Section specifies the mobilization of the construction field office and equipment at the worksite for material and supplies necessary for the prosecution of the Work, but not to be incorporated in the work; for construction of temporary buildings and facilities; for personnel services for Work preparatory to commencing and for demobilization and removal of the field office. Mobilization also includes the following:

A. Costs of bonds and insurance required by the Contract Documents.

1.02 SUBMITTALS: Submit within seven days after the effective date of Notice to Proceed, a layout of the proposed construction field office and site including fences, roads, parking, staging areas, buildings and storage areas.

PART 2: PRODUCTS

2.01 FIELD OFFICE AND EQUIPMENT: Construction field office and construction equipment, shall be of the capacity, type, quality, function and in the quantity necessary for the timely prosecution of the Work.

PART 3: EXECUTION

3.01 GENERAL: Construction field office, equipment, material, supplies, temporary building facilities and other items necessary for mobilization shall be available at the Work site at the times they are to be built, used, installed or operated.

3.02 Field Office: Refer to Section 01 58 00.

PART 4: MEASUREMENT AND PAYMENT

4.01 MEASUREMENT:

Work under this Section will not be separately measured for payment.

4.02 PAYMENT:

Work under this Section will be paid for as part of Contract lump sum price for Bid Item No. 2, Mobilization.

END OF SECTION

SECTION 01 73 29

CUTTING AND PATCHING

PART 1: GENERAL

1.01 REQUIREMENTS INCLUDED

A. Contractor responsibility: All cutting, fitting and patching, including attendant excavation and backfill, required to complete the work to:

1. Make its several parts fit together properly.
2. Uncover portions for the work to provide for the installation of ill-timed work.
3. Remove and replace defective work.
4. Remove and replace work not conforming to requirements of Contract Documents.
5. Remove samples of installed work as specified for testing.
6. Remove routine penetrations of non-structural surfaces for installation of piping and electrical conduits.

1.02 SUBMITALS

A. Submit a written request to the Engineer well in advance of executing any cutting or alteration which affects:

1. Work of the Owner or any separate contractor.
2. Structural value or integrity of any element of the Project.

3. Integrity or effectiveness of weather-exposed or moisture resistant elements or systems.
4. Efficiency, operational life, maintenance or safety of operational elements.
5. Visual qualities of sight-exposed elements.

B. Include with each request:

1. Identification of the Project.
2. Description of affected work.
3. The necessity for cutting alteration or excavation.
4. Effect on work of Owner or any separate contractor, or on structural or weatherproof integrity of Project.
5. Description of proposed work:
 - a. Scope of cutting, patching, alteration, or excavation.
 - b. Trades who will execute the work.
 - c. Products proposed to be used
 - d. Extent of refinishing to be done.
6. Alternatives to cutting and patching.
7. Cost proposal, when applicable.
8. Written permission of any separate contractor whose work will be affected.

C. Should conditions of Work or schedule indicate a change of products from original installation, submit request for substitution.

- D. Submit written notice to the Engineer designating the date the time the work will be uncovered.

PART 2: PRODUCTS

2.01 MATERIALS

- A. Comply with specifications and standards for each specific products involved.

PART 3: EXECUTION

3.01 INSPECTION

- A. Inspection existing conditions of Project, including elements subject to damage or movement during cutting or patching.
- B. After uncovering work, inspect conditions affecting installation of Products, or performance of work.
- C. Report unsatisfactory or questionable conditions to Engineer in Writing; do not proceed with work until the Engineer has provided further instruction.

3.02 PREPARATION

- A. Provide adequate temporary support as necessary to assure structural value or integrity of affected portion of work.
- B. Provide devices and methods to protect other portions of Project from damage.
- C. Provide protection from elements for that portion of the Project which may be exposed by cutting and patching work, and maintain excavations far from water.

3.03 PERFORMANCE

- A. Executive cutting and demolition by methods which will prevent damage to other work, and

which will provide proper surfaces to receive installation of repairs.

- B. Execute excavating and backfilling by methods which will prevent settlement or damage to other work.
- C. Employ original Installer or Fabricator to perform cutting and patching for:
 - 1. Weather-exposed or moisture-resistant elements.
 - 2. Sight-exposed finished surfaces.
- D. Execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances and finishes.
- E. Restore work which has been cut or removed, install new products to provide complete work in accord with requirements of Contract Documents.
- F. Fit work airtight to pipes, sleeves, ducts, conduit and other penetration through surfaces.
- G. Refinish entire surfaces as necessary to provide an even finish to match adjacent finishes:
 - 1. For continuous surfaces, refinish to nearest intersection.
 - 2. For an assembly, refinish entire unit

PART 4 - MEASUREMENT AND PAYMENT

4.01 Measurement :

Work under this Section will not be separately measured for payment.

4.02 Payment:

Work under this Section will be paid for as part of the Contract lump sum price for Bid Item No. 1, General Requirements.

END OF SECTION

SECTION 01 74 00

CLEANING

PART 1: GENERAL

1.01 DESCRIPTION: This Section specifies the maintenance of the work site in a clean, orderly hazard-free condition.

1.02 QUALITY ASSURANCE:

- A. Conduct cleaning and disposal operations in accordance with local ordinances and anti-pollution laws. Rubbish, volatile wastes, and other construction wastes shall be neither burned nor buried on the work site, and shall not be disposed of into storm drains, sanitary drains, streams or other waterways.
- B. Final cleaning shall be accomplished either by workmen experienced in cleaning operations or by professional cleansers.

PART 2: PRODUCTS

2.01 CLEANING MATERIALS: Cleaning materials shall be as recommended by the manufacturer of the surface to be cleaned.

PART 3: EXECUTION

3.01 SAFETY REQUIREMENTS:

- A. Maintain work site in accordance with local ordinances and anti-pollution laws applicable to work site cleanliness, and in a neat, orderly and hazard-free condition until final acceptance of the work. Catwalks, accessible underground structures, work site sidewalks and walkways adjacent to the work site shall be kept free from hazards caused by construction activities.
- B. No volatile substances are to be used on the job site.
- C. Prevent accumulation of waste, which creates hazardous conditions.
- D. Artificially ventilate spaces, which are not naturally ventilated when noxious substances are being used in those spaces.

3.02 INTERIM CLEANING:

- A. Perform cleaning every workday for duration of the work. Structures, ground, and areas of the work site and public and private properties shall be maintained free from accumulations of waste materials and rubbish caused by construction operations on the work site. Waste material will be removed from the work site daily.
- B. Remove or secure loose material on open decks and on other exposed surfaces at end of each day's work or more often to maintain work site in hazard-free condition. Prevent dislodgment of materials due to wind and other forces.
- C. Empty on-site waste containers whenever necessary so that trash overflow does not occur. Legally dispose of contents at either public or private dumping areas.
- D. Control the handling of materials, debris and rubbish; do not drop or throw from heights.
- E. Immediately remove spillage's of construction-related materials from hauling routes.
- F. Perform cleaning operations dust and other contaminants resulting from cleaning processes will not fall on structures or pedestrian traffic below.

3.03 FINAL CLEANING:

- A. In preparation for substantial completion, conduct final inspection of exposed interior and exterior surfaces and of concealed spaces.
- B. Remove grease, dust, dirt, stains, labels, fingerprints and other foreign materials from finished surfaces.
- C. Maintain cleaning operations until project has been finally accepted.
- D. All skylights shall be professionally cleaned on both interior and exterior.

3.04 DAMAGE TO EXISTING FINISHES:

- A. Repair any concrete damaged.

SECTION 01 78 00

CONTRACT CLOSE-OUT

PART 1: GENERAL

1.01 SUBSTANTIAL COMPLETION

- A. Substantial Completion shall be determined in accordance with Article 29 of the General Conditions and this Section. Should a conflict arise between the General Conditions and this Section, the General Conditions shall take precedence.

1.02 FINAL CONSTRUCTION REVIEW

- A. When Contractor considers work is complete, he shall submit a written certification that work is acceptable and that:
 - 1. Contract Documents have been reviewed.
 - 2. Work has been reviewed for compliance with Contract Documents.
 - 3. Work has been completed in accordance with Contract Documents.
 - 4. Equipment and systems have been tested in the presence of the Engineer and are operational.
 - 5. Work is completed and ready for final Construction Review.
- B. The Engineer will make a Construction Review to verify status of completion with reasonable promptness after receipt of such certification.
- C. Failure of the Engineer to Reject Work During Construction: If, during construction operations or during inspections for substantial or final completion, the Engineer should fail to reject defective Work or materials, whether from lack of discovery of such defect or for any other reason, such initial failure to reject shall in no way prevent his later rejection when such defect is discovered, or obligate the Owner to final acceptance, and the Contractor shall make no claim for

losses suffered due to any necessary removals or repairs of such defects.

1.03 CONTRACTOR'S CLOSE-OUT SUBMITTALS

- A. Upon receipt of notice of acceptability from the Engineer, the Contractor shall furnish evidence of compliance with requirements of governing authorities and Contract Documents to the Engineer, as follows:
1. As-built drawings and other project record Documents: As specified in Section 01 78 39.
 2. Operating and Maintenance Data, Instructions to Owners Personnel: As specified and in accordance with the requirements of the individual Sections of the Specifications.
 3. Warranties and Bonds: As specified in Section 01 78 33 and in accordance with the requirements of the individual Sections of the Specifications.
 4. Spare parts and Maintenance Materials: To requirements of various Sections.
 5. Evidence of Payment to subcontractors, material men and equipment suppliers and releases of liens.

1.04 FINAL ADJUSTMENTS OF ACCOUNTS

- A. Final Payment shall be determined in accordance with Article 35 of the General Conditions.

1.05 FINAL CHANGE ORDER

- A. The Engineer will prepare a final Change Order, reflecting approved adjustments to the Contract Sum which were not previously made by Change Orders.

PART 2: PRODUCTS

2.01 PRODUCTS:

No products are required except as indicated in PART 1: GENERAL.

PART 3: EXECUTION

3.01 EXECUTION:

Prior to final payment, the Contractor shall complete and execute the Close-Out forms in Attachment "B" to the General Conditions.

PART 4: MEASUREMENT AND PAYMENT

4.01 MEASUREMENT:

Work under this Section will not be separately measured for payment.

4.02 PAYMENT:

Work under this Section will be paid for as part of the Contract Lump Sum price for Bid Item No. 1, General Requirements.

END OF SECTION

SECTION 01 78 33

WARRANTIES AND BONDS

PART 1: GENERAL

1.01 DESCRIPTION OF WORK

- A. The warranties provided by the Contractor shall be for the longest period, starting on the date of final acceptance, of those specified on paragraphs 1-01 A., 1 through 3 below:
1. One year from final acceptance on all the work as specified in the General Conditions, or;
 2. Warranty period(s) as specified by the approved material or equipment manufacturers, or;
 3. Longer warranty period(s) as specified in the Technical Specifications.
- B. The Contractor shall provide certifications and other commitments, extended warranties and agreements for continuing services as specified elsewhere in the Contract Documents.
- C. Reinstated warranty as applicable, see 1-04, B.

1.02 DISCLAIMERS AND LIMITATIONS

Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the work that incorporates the products, nor does it relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

1.03 DEFINITIONS

Standard product warranties are reprinted written warranties published by the individual manufacturers for particular products and are specially endorsed by the manufacturer to the Owner.

1.04 WARRANTY REQUIREMENTS

- A. Related Damages and Losses: When correcting warranted Work that has failed, remove and replace other Work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted Work.
- B. Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.
- C. Replacement Cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective work regardless of whether the Owner has benefited from use of the Work through a portion of its anticipated useful service life.
- D. Owner Recourse: Written warranties made to the owner are in addition to implied warranties, and shall not limit the duties, obligations, rights and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitations on time in which the Owner can enforce such other duties, obligations, rights or remedies.
- E. Rejection of Warranties: The COUNTY reserves the right to reject warranties and to limit selections to products with acceptable warranties and to limit selections to products with warranties not in conflict with requirements of the contract Documents.
- F. The Owner reserves the right to refuse to accept Work for the Project where a special warranty, certification, or similar commitment is required on such Work or part of the work, until evidence is presented that entities required to countersign such commitments are willing to do so.
- G. All warranties including standard one year warranty, shall start at date of substantial completion of the Contract, or when work of an area is substantially

completed, accepted and taken over for use by the Owner. Ensure that all warranties comply with this stipulation prior to submission of same.

- H. The Owner will give prompt notice in writing to the Contractor of any defects noted during the warranty periods requesting him to promptly remedy such defects.
- I. Prior to final acceptance, the Contractor shall formally assign to the Owner all extended warranties given by subcontractors for their work on the project, and such subcontractor shall be formally advised of the assignment.

1.05 SUBMITTALS

- A. Submit written warranties to the Engineer prior to the date of the final acceptance inspection
- B. When a special warranty is required to be executed by the Contractor, or the Contractor and a subcontractor, supplier or manufacturer, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties. Submit a draft to the Engineer for approval prior to final execution.
- C. Submit a list of all warranty items within 90 days after notice to proceed Refer to individual Sections of Division 2 through 16 for specific content requirements, and particular requirements for submittal of specific warranties.
- D. Prior to final acceptance compile two copies of each required warranty, and bond properly executed by the Contractor, or by the Contractor, subcontractor, supplier or manufacturer. Organize the warranty documents into an orderly sequence based on the table of contents of the Project Manual, and submit under Section 01 78 39 - Project Record Documents.
- E. Bind warranties and bonds in heavy-duty, commercial quality, durable 3-ring vinyl covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2 inch by 11 inch paper.

- F. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product, and the name, address and telephone number of the installer.
- G. Identify each binder on the front and the spine with the typed or printed title, "WARRANTIES AND BONDS", the project title or name, and the name of the Contractor.
- H. When operating and maintenance manuals are required for warranted construction, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

PART 2: PRODUCTS

2.01 PRODUCTS:

No products are required except as indicated in PART 1: GENERAL.

PART 3: EXECUTION

3.01 EXECUTION:

No execution is required except as indicated in PART 1: GENERAL.

PART 4: MEASUREMENT AND PAYMENT

4.01 MEASUREMENT:

Work under this Section will not be separately measured for payment.

4.02 PAYMENT:

Work under this Section will be paid for as part of the Contract Lump Sum price for Bid Item No. 1, General Requirements.

END OF SECTION

SECTION 01 78 39

PROJECT RECORD DOCUMENTS

PART 1: GENERAL

1.01 DESCRIPTION

This Section specifies the maintaining, marking, recording and submitting of project record documents.

A. DEFINITIONS:

Conformed Contract Documents: The conformed documents provided to the Contractor at the time the construction contract was executed, prior to the start of construction.

Contractor Document Transmittal (CDT): Drawings, catalog cuts, samples or other documents submitted by the contractor for County and consultant review and approval showing in detail how the contractor proposes to carry out the work.

As-Builts: During construction, a set of blue line conformed drawings and specifications, kept current by the contractor by marking in red all "as-built" construction conditions and changes arising out of RFIs, clarifications, directed field changes and sketches. At the conclusion of construction activities the Contractor shall prepare the As-Built set of drawings. The information contained in these blue lines and specifications shall be incorporated into the Compact Disk (CD) containing the latest conformed drawings including revisions made by the Engineer of Record during construction. The revised CADD drawings which include the information incorporated from the blue lines and specifications become As-Builts.

Shop Drawings: See Contractor Document Transmittals.

1.02 SUBMITTALS

Upon completion of the work, the Contractor shall submit the As-Builts to the Engineer in time to be used for the final inspection and acceptance and for verification by the Engineer. Availability of As-Builts shall be prerequisite to scheduling a final inspection of this Contract. Non-availability of As-Builts or inaccuracies therein may be

grounds for cancellation and postponement of any scheduled final inspection by the Engineer until such time as the discrepancy has been corrected. Upon completion of the work, the As-Builts shall become the property of MDC. The Contractor will transmit the As-Builts to the Resident Engineer with an attached Project Records "As-Built" Drawings Index Form uniquely identifying and describing each document.

Specifically, the following documents shall be submitted by the Contractor after construction is completed, but prior to submitting the request for final inspection:

- A. The Contractor shall submit two CDs labeled "As-Builts," one in PDF format and the other in CADD format. The Contractor shall date and mark each drawing as "As-Built" using the revision block, and each drawing should be electronically signed by the Contractor certifying the accuracy and validity of the information contained therein. The Contractor shall also submit two printouts from the CD containing the As-Builts, and one set of blue lines and specifications to reflect change notices, change orders, requests for information and field changes in red. The information regarding field conditions/changes is to be maintained in the set of blue line record drawings and a set of specifications during construction. Prior to Contract completion, MDC will provide the Contractor with a CD containing the latest conformed drawings, including revisions made by the Engineer of Record. At the end of construction the "as-built" conditions are incorporated into the latest conformed drawings provided by MDC. These final CADD drawings become As-Builts.
- B. The Contractor's Engineer shall sign each blue line drawing certifying the accuracy and validity of the as-built information contained therein.

1.03 QUALITY ASSURANCE

Project record documents shall conform to a high standard of quality, similar to that set forth in the National CADD Standard ANSI and ISO, or other relevant lower tier specification defining drafting quality and electronic file formatting.

PART 2: PRODUCTS

2.01 PRODUCTS:

No products are required except as indicated in PART 1: GENERAL.

PART 3: EXECUTION

3.01 MAINTENANCE OF DOCUMENTS:

The Contractor shall maintain at field office, one copy of each of the following:

A. Contract Documents

1. Conformed Contract Drawings and Conformed Specifications.
2. Construction Safety Manual.
3. Change Orders, Change Notices and other modifications to the Contract.
4. Engineer Field Order or written instruction.
5. Approved shop drawings, product data and samples.
6. Field test reports/records.
7. Updated set of record drawings (blue lines) marked in red to show field changes.
8. Request for information (RFI).
9. All directed Field Changes and sketches.

B. Equal Employment and Affirmative Action Records.

3.02 RECORDING "AS-BUILT" DRAWINGS

A flowchart explaining this process is included with this section.

A. Record information concurrently with construction progress on a conformed set of blue lines and specifications. During construction, this set of blue lines and specifications are known as "As-Built" drawings.

B. Do not conceal any work until the required information is recorded.

- C. Drawings: legibly mark in red to record actual construction depicting the as-constructed configurations resulting from field and/or design changes:
 - 1. Horizontal and vertical location of underground utilities and appurtenances, referenced by dimensions to permanent, visible and accessible features of the structure.
 - 2. Location of internal utilities, electrical conduits and appurtenances, referenced by dimensions to permanent, visible and accessible features of the structure.
 - 3. Field changes of dimension and detail.
 - 4. Details not on original conformed Contract Drawings.
 - 5. Changes made by Change Notice or by Change Order.
- D. Legibly mark up each section of specifications to record:
 - 1. Manufacturer, trade name, catalogue number, and supplier of each product and item of equipment actually installed.
 - 2. Changes made by Change Notice or by Change Order.
- E. Any changes due to RFIs, clarifications and field sketches shall be incorporated into the record drawings by affixing sketches and other 8 1/2" x 11" sheets to the blue lines. This information will be incorporated into the CD containing the latest conformed drawings once construction is complete.
- F. Do not use the record drawing set for construction progress purposes.

3.03 DOCUMENT MAINTENANCE:

- A. Provide files and racks for storage of documents to maintain in clean, dry and legible condition.
- B. Do not use record documents for construction purposes.
- C. Make documents available for inspection by the Engineer, MDC, Federal Government and State Government.

PART 4: MEASUREMENT AND PAYMENT

4.01 MEASUREMENT:

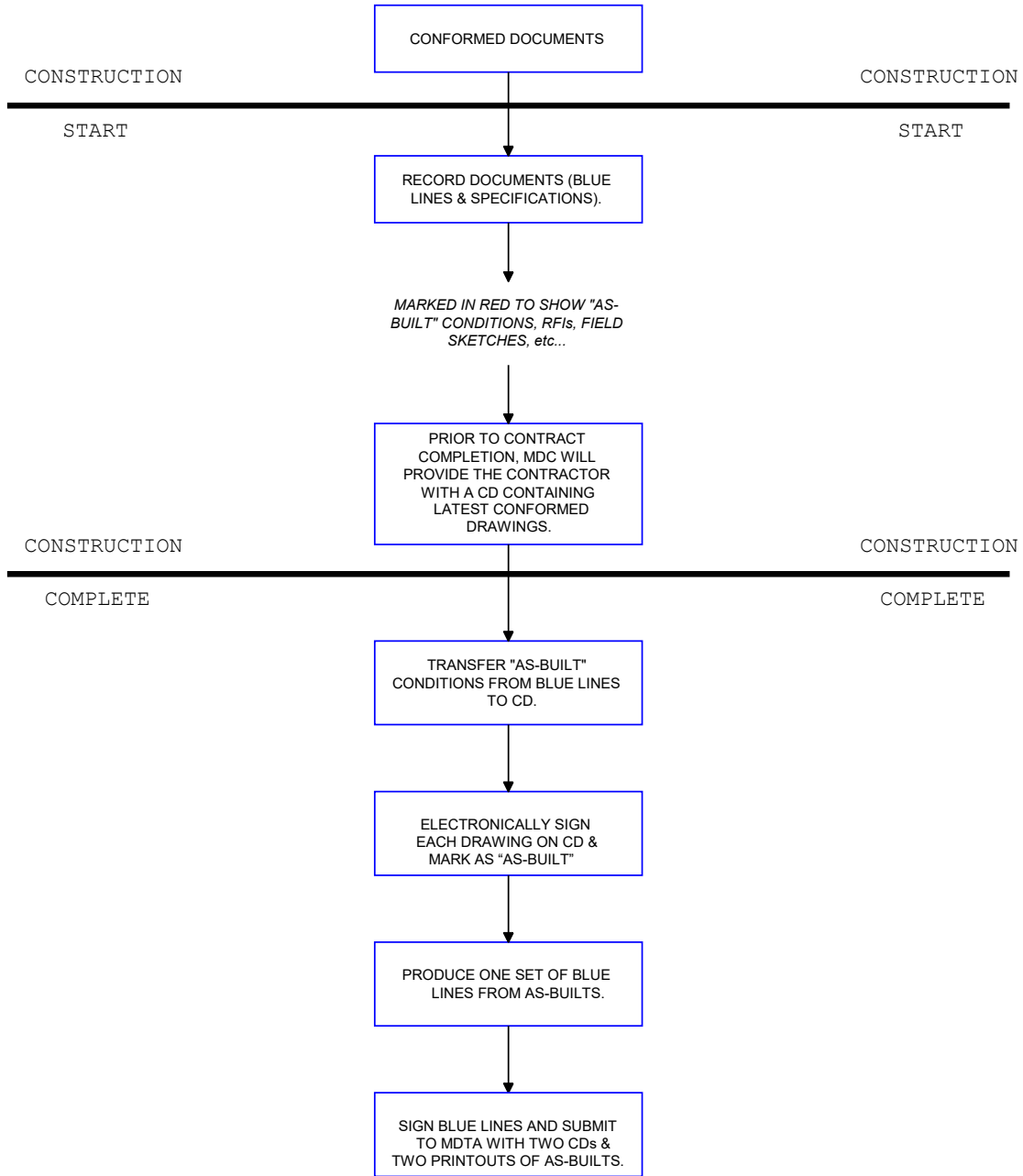
Work under this Section will not be separately measured for payment.

4.02 PAYMENT:

Work under this Section will be paid for as part of the Contract Lump Sum price for Bid Item No. 1, General Requirements.

END OF SECTION

PROJECT RECORD DOCUMENTS



0172DR2.vsd, B-20-95

Additional Project Requirements

STANDARD CONSTRUCTION
GENERAL CONTRACT CONDITIONS
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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 Contract No. IRP346A(1)-DTPW25-CT

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.

Engineer of Record: The Professional Engineer or Engineering Firm registered in the State of Florida that develops the criteria and concept for the project, performs the analysis, and is responsible for the preparation of the Plans and Specifications. The Engineer of Record may be Departmental in-house staff, or a consultant retained by the Department. Contractor shall not employ the Engineer of Record as Contractor's Engineer of Record or as a Specialty Engineer.

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.

Fragnet: 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 Non-excusable 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.

Specialty Engineer:

- a) A Professional Engineer registered in the State of Florida, other than the Engineer of Record or his subcontracted consultant, who undertakes the design and drawing preparation of components, systems, or installation methods and equipment for specific temporary portions of the Work or for special items of the permanent works not fully detailed in the plans and required to be furnished by Contractor such as but not limited to pot bearing designs, non-standard expansion joints, mechanically stabilized earth wall designs and other specialty items. The Specialty Engineer may also provide designs and details for items of the permanent work declared by the FDOT Construction Office to be “minor” or “non-structural”. The Specialty Engineer may be an employee or officer of Contractor or a fabricator, an employee or officer of an entity providing components to a fabricator, or an independent consultant.
- b) For items of work not specifically covered by Rule 14-75, F.A.C., a Specialty Engineer is qualified if he has the following qualifications:
 - 1) Registration as a Professional Engineer in the State of Florida.
 - 2) The education and experience necessary to perform the submitted design as required by the Florida Board of Professional Engineers.

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 to 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 CSBE 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 filling 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.

N. Sustainable Building / Infrastructure Program (As Applicable)

- 1) Projects that involve the planning, design, construction, management, renovation, maintenance and decommissioning of infrastructure or buildings owned, financed, or operated by the County shall comply with the requirements of the County's Sustainable Buildings Program. All activity as a result of this contract shall comply with Chapter 2, Article I, Sec. 2-1, Rules 5.09 through 5.10, and Chapter 9, Article III, Sec. 9-71 through 9-75, and Implementing Order (IO) 8-8 of the Code of Miami-Dade County which established a County policy to incorporate, wherever practical, Green Building Practices. These sections of the code, together with the IO, are referred to as the Sustainable Buildings Program.
- 2) The primary mechanisms for determining compliance with the Sustainable Buildings Program shall be the current LEED rating system (for Buildings) and the Envision rating system (for Infrastructure), except as noted elsewhere in IO 8-8. If an alternative rating system is requested to demonstrate compliance, substitutions of standard, compliance interpretations, and exemptions may be sought, as detailed in IO 8-8. Compliance shall be determined by completing a formal certification process with the U.S. Green

Building Council, or as otherwise directed by the County's Sustainability Manager.

- 3) If the project is a building that is a Public Project:
 - a. For all New Construction Public Projects, the minimum rating shall be LEED Silver in the version most recently adopted by USGBC for all project phases, and the Section VII Prescriptive Path elements shall be required. Except as provided in IO 8-8 Section VI(A)(3).
 - b. For Public Projects that are not New Construction but meet LEED prerequisites, the minimum rating shall be LEED Silver in the version most recently adopted by USGBC for all project phases, and the Section VII Prescriptive Path elements shall be required. Except as provided in IO 8-8 Section VI(A)(3).
 - c. For Public Projects that are not New Construction and do not meet LEED prerequisites as determined by the Sustainability Manager, the Public Project shall adhere to Maximum Measures, and the IO 8-8 Section VII Prescriptive Path elements shall be required. Except as provided in IO 8-8 Section VI(A)(3).
- 4) If the project is a for infrastructure that is a Public Project:
 - a. For Infrastructure Public Projects that are subject to this IO with project costs greater than two million dollars (\$2,000,000), the minimum rating shall be Envision Silver, per the version most recently adopted by the Institute for Sustainable Infrastructure, and the required Section VII Prescriptive Path elements in I.O. 8-8.
 - b. For Infrastructure Public Projects with project costs less than two million dollars (\$2,000,000), the following requirements shall be met per I.O. 8-8:
 - 1) Maximum Measures
 - 2) Section VII Prescriptive Path elements

O. Buy American

- 1) Contractor must comply with the requirements of Miami Dade County Code, Section 2-8.2.6.1, Buy American Iron and Steel Products Procurement Program:
 - a. The Buy American legislation requires that iron and steel products utilized in certain Miami-Dade County public improvement projects be produced in the United States. This requirement shall not apply if:
 - i. The project is federal funded.
 - ii. Iron and steel products are not produced in the United States in sufficient and reasonably available quantities or of a satisfactory quality; or
 - iii. Upon a written recommendation of the County Mayor approved by a majority vote of the Board members present, compliance with this requirement is not consistent with the best interests of the public.

- 1) Upon a written recommendation of the County Mayor approved by a majority vote of the Board members present, compliance with this requirement is not consistent with the best interests of the public.

P. Employment Eligibility Verification

- 1) The Contractor shall utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the Contractor during the term of the Contract and shall expressly require any subcontractors performing work or providing services pursuant to the Contract to likewise utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the subcontractor during the Contract term.
- 2) Miami-Dade County reserves the right, at any time, to request supporting documentation, as evidence of services provided and demonstration of compliance with the above requirements.

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) calendars 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 non-excusable 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-Builts, 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 re-inspection 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 Fifty-Percent (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 sub-subcontractors 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 cost-reimbursable 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 the 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 02-29, 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 re-mobilization.
- h. For indirect costs, the Contractor shall be allowed a percentage mark-up 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 man-hours 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.
- 1. 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 Community Small Business Enterprises (CSBEs) as applicable.
- 2) Specifically, the Contractor and his Subcontractors shall comply with Miami-Dade County Resolution Nos. R-1386-09 and R-138-10 governing the treatment of CSBE firms.
- 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. 9304-9308.

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 non-infringing 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, know-how, 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

STANDARD GENERAL CONTRACT CONDITIONS ATTACHMENTS

Certificate of Acceptance for Substantial Completion

Certificate of Final Acceptance

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

Sub-Contractor's/Supplier's Release of Claim

Consent of Surety Company to Requisition Payment

Contractor Agent to Accept Service

Force Account Daily Report:
Labor, Material & Equipment

CERTIFICATE OF ACCEPTANCE FOR SUBSTANTIAL COMPLETION

Contract 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, DTPW 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

Contract No.:

Description:

Address:

Consultant:

Contractor:

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**

CONTRACTOR RELEASE

Contract 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

Contract 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

Print Name

Print Title

Date

Resident Engineer

Date

Print Name

**DEPARTMENT OF TRANSPORTATION
AND
PUBLIC WORKS**

FINAL AFFIDAVIT

Contract 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 ***Contract 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

Contract 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

Contract No.:

WHEREAS, _____, (hereafter referred to as the " Contractor ") and the *Department of Transportation and Public Works*, 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 *Contract 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 Department of Transportation and Public Works.
- (2) In consideration of the payment by DTPW 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. DTPW 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) DTPW 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.

(COMPANY SEAL)

Contractor : _____

Signature : _____

Print Name : _____

Print Title : _____

Date : _____

RECOMMENDED

By : _____
Resident Engineer/Project Manager

By : _____
Chief, Construction Division

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:



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____.

SURETY COMPANY

ATTEST:
(SEAL)

SIGNATURE OF AUTHORIZED REPRESENTATIVE

TITLE



DEPARTMENT OF TRANSPORTATION
AND
PUBLIC WORKS

CONTRACTOR AGENT TO ACCEPT SERVICE

Contract No.: _____

DATE: _____

CONTRACT TITLE: _____

CONTRACTOR: _____

NOTICE TO PROCEED (NTP) DATE: _____

CONTRACTOR ADDRESS: _____

CONTRACTOR TELEPHONE No.: _____

CONTRACTOR E-MAIL ADDRESS: _____

AGENT'S NAME: _____

AGENT'S TITLE: _____

AGENT'S ADDRESS: _____

AGENT'S TELEPHONE No. _____

AGENT'S E-MAIL ADDRESS _____

Contractor Corporate Representative

Submitted By: _____

SIGNATURE

CONTRACTOR



**FORCE ACCOUNT DAILY REPORT:
LABOR, MATERIAL & EQUIPMENT**

DATE: _____

CONTRACTOR: _____

CONTRACT No. _____ REPORT No. _____

CONTRACT CHANGE NOTICE / DTPW 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.
NO INVOICE OLDER THAN 30 DAYS ACCEPTED.

ALL EQUIPMENT RATES ARE ADJUSTED TO REFLECT CALIFORNIA BLUE BOOK

QUAN.	UNIT	DESCRIPTION	MATERIALS	RECAP
				LABOR
				MATERIALS
				EQUIPMENT

CERTIFIED CORRECT BY: _____ DATE _____

TOTAL THIS SHEET

FOR ENGINEER'S USE

APPROVED AS TO SUBSTANCE

EXTENSION OF LABOR, MATERIAL & EQUIPMENT VERIFIED BY:

BY: _____
RESIDENT ENGINEER DATE _____

INSPECTOR _____ DATE _____



Construction Safety Manual

January 2025

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS

MIAMI, FLORIDA

CONSTRUCTION SAFETY MANUAL

Revision No. 7


January 2025



02/27/2025

Date

Approved By: German Arenes,
Assistant Director DTPW
Capital Programs Office



2-24-25

Date

Approved By: Eric J. Muntan,
Chief DTPW
Office of Safety and Security



Department of Transportation and Public Works

Policy Statement

It is the policy of the Department of Transportation and Public Works (DTPW) and Miami-Dade County (MDC) to maintain a safe working environment for all employees and the public. The Construction Safety Program has been designed in accordance with the William-Steiger Occupational Safety and Health Act of 1970. The success of the safety program requires the full support of every employee and contractor working on the DTPW system.

Regardless of the urgency or monetary cost of a job; all safety precautions must be observed. Prevention of personal injury or damage to property and equipment must always remain paramount in the minds of every employee and contractor.

PREFACE

THE CONSTRUCTION SAFETY MANUAL (CSM) is one of the Miami-Dade County (MDC) Contract Documents. Contractors are required to assure that all employees, subcontractors, and their suppliers/vendors, while on the work site and in the conduct of MDC contractors, comply with the provisions of the CSM and the minimum standards set forth under the William-Steiger Occupational Safety and Health Act of 1970 and as amended, the Construction and General Industry Standards (29CFR1926/1910), and all other applicable Federal, State and Local laws. The Contractors are expected to be familiar with the contents applicable to their operations. The provisions set forth in this CSM will be strictly enforced. Non-compliance with the CSM will be treated the same as non-compliance with any contract provision. Willful or repeated noncompliance shall result in the suspension of part or all work.

Safety at the work site shall be the sole responsibility of the Contractor. The CSM shall be used as a guide in developing the Contractor's Accident Prevention Program. The Contractor shall assume full responsibility for compliance with all applicable Federal, State and Local safety related regulations and for complying with this Construction Safety Manual during the performance of all activities.

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A. DEFINITIONS

The following definitions apply for the purpose of this Construction Safety Manual.

ACCIDENT - An unforeseen event or occurrence which causes death, injury or damage to property.

ACCIDENT PREVENTION PROGRAM (APP) - A program designed to provide for the protection to life and health of employees and other persons; and for the prevention of damage to property, materials, supplies and equipment. The Contractor's APP shall be developed by the Contractor using the Contractor's Safety Manual as a guide. Once approved by MDC, the Contractor's APP shall be used by the Contractor and his subcontractors to insure the safe prosecution of the work.

ALARM CONDITION - Any abnormal condition that requires the attention or intervention of responsible personnel or an individual monitoring the transit system operations.

ANOMALY - Deviation from nominal performance, which does not cause a significant, effect on system performance but does warrant investigation and/ or repair.

AUDIT - Formal or official examination and verification.

AUTOMATIC - A term applied to a system, subsystem, or device which has the inherent capability to function without direct manual participation.

CENTRAL CONTROL - That place where train control or train supervision is accomplished for the entire Metrorail and Metromover system, the train command center.

CENTRAL DISPATCH - That place where bus, rail or mover supervision or dispatcher is accomplished for the entire transit system.

COMPETENT PERSON - A person who is capable of identifying existing or predicting hazards in the surroundings, or working conditions which are unsanitary, hazardous or dangerous to employees and who has authorization to take prompt corrective measures to eliminate them.

CONSTRUCTION SAFETY - The optimum degree of safety within the constraints of construction effectiveness, time and cost through specific application of safety management throughout all phases of the construction.

CONSTRUCTION SAFETY MANUAL (CSM) - This manual, issued as a contract document by the Department of Transportation and Public Works (DTPW), to be used as a guide by the Contractors in developing the Accident Prevention Program.

CONTRACTOR'S AUTHORIZED SAFETY REPRESENTATIVE - The person designated as authorized safety representative who will be responsible for work site safety and for reporting all insurance claims. On contracts of over \$5 million in award amount this person shall have full-time safety responsibility, unless deemed by the Office of Safety and Security that due to the nature of the work, part-time oversight is adequate. On contracts of under \$5 million award amount, the person may have part time safety responsibility, unless deemed by the Office of Safety and Security that the nature of the work necessitates full-time safety oversight. Whether part-time or full-time, this person shall NOT report to the Contractor's superintendent.

CONTRACT DRAWINGS - The plans, profiles, typical cross-sections, general cross-section, elevations, schedules and details which show locations, character and dimensions of the work.

CONTRACTING OFFICER - The Director, Department of Transportation and Public Works.

CONTRACTOR - The individual, firm, partnership, corporation, or combination thereof, private, municipal, or public, including joint ventures which, as an independent contractor, has entered into a contract with MDC, who is referred to throughout the Contract Documents by singular in number and masculine in gender.

DEGRADATION - Falling from an initial level to a lower level in quality or performance.

EMERGENCY - A situation which is life threatening or which can cause serious damage on or in the immediate vicinity of any transit facility, structure, bus or train.

EMPLOYEE - A person employed by the Contractor or Subcontractor.

ENGINEER - MDC or its authorized representatives, including but not limited to the Resident Engineer; the Contracting Officer's Representatives and the Engineer of Record.

EQUIPMENT FAILURE - The state in which equipment no longer meets the minimum acceptable specified performance and cannot be restored through operator adjustment or control.

FTA - Federal Transit Administration, formerly UMTA.

FAILURE - An inability to perform an intended function.

HAZARD - Any real or potential condition that can cause injury or death; or damage to or loss of equipment or property.

HAZARD MANAGEMENT (LOSS CONTROL) - An element of the system safety management function that evaluates the safety effects of potential hazards considering acceptance, control, or elimination of such hazards with respect to expenditure or

resources. (The feasibility of hazard elimination must be considered in light of financial, legal, and human considerations).

HAZARD SEVERITY - A qualitative measure of the worst potential consequences that could be caused by a specific hazard.

Category I - Catastrophic. May cause death, serious injury/illness or major system loss.

Category II - Critical. May cause injury/illness, or major system damage.

Category III - Marginal. May cause minor injury/illness, or minor system damage.

Category IV - Negligible. Will not result in injury/illness, or system damage.

HAZARD INDEX - A quantitative measure, combining the numerical probability of occurrence with a hazard severity.

HAZARD RESOLUTION - The analysis and subsequent actions taken to reduce, to the lowest level practical, the risk associated with an identified hazard.

HAZARD PROBABILITY - The probability that a hazard will occur during the planned life of the system. Hazard probability may be expressed in quantitative or qualitative terms. An example of a hazard probability ranking system is:

- A Frequent
- B Reasonably Probable
- C Occasional
- D Remote
- E Improbable

IMMINENT DANGER - Refers to any condition or practice where there is reasonable certainty that a danger exists that can be expected to cause death or serious physical harm and/or serious property damage immediately or before the danger can be eliminated through normal enforcement procedures.

INCIDENT - An unforeseen event or occurrence which does not necessarily result in injury or property damage.

MAINTENANCE - All actions necessary for retaining an item in or restoring it to an operable condition.

MALFUNCTION - Any anomaly or failure wherein the system, subsystem, or component fails to function as intended.

MDC - Miami-Dade County - DTPW is a Department of Miami-Dade County (MDC). MDC is governed by an Executive Mayor, elected countywide, and a Board of County Commissioners (BCC), elected by districts (13). The DTPW Director reports to the Miami-Dade County Mayor. According to Miami-Dade County Administrative Order

No. 3-8 (effective 7/7/1981), under the authority of Sections 4.01 and 4.02 of the Miami-Dade County Charter - The Transportation Coordinator is empowered to enforce a Policies and Procedures Manual for Procurement and Construction Management which is consistent with this and other Administrative Orders, the Dade County Code and other applicable laws, regulations and contract agreements, and to approve and issue the procedures necessary for its implementation.

DTPW - Department of Transportation and Public Works, Miami-Dade County, located at Overtown Transit Village, 701 NW 1st Court 17th Floor, Miami, FL 33136

MISHAP - An unplanned event or series of events that result in death, injury, occupational illness, or damage to or loss of equipment or property. (See also ACCIDENT).

OFFICE OF SAFETY AND SECURITY (OSS) - Department of Transportation and Public Works, Miami-Dade County, located at 111 NW 1 Street, 4th Floor, Miami, Florida 33128.

OPERATOR - That person having direct and immediate control of the movement of a vehicle or machinery.

OPERATING TIME - The time period between turn-on and turn-off of a system, subsystem, component or part during which time operation is as specified. Total operating time is the summation of all operating time periods.

OSHA - The Occupational Safety and Health Administration. An agency of the U.S. Government which sets standards to provide for the safety of employees in the workplace. The area office is located in Plantation, Florida, phone (954) 424-0242.

PERSONAL PROTECTIVE EQUIPMENT (PPE) - Equipment designed and worn to provide protection against hazard to some part of an employee's body. Example of PPE are safety glasses, respirators, hard hats, gloves etc. All PPE used at DTPW work sites must comply with applicable OSHA standards.

POWER RAIL - A rail mounted on insulators alongside the running surfaces, which provides Metromover traction power for train propulsion.

PROCEDURES - Established methods to perform a series of tasks.

RELIABILITY - The probability that the system or subsystem will perform satisfactorily for a given period of time when used under stated conditions.

REPAIR - The maintenance activity, which restores a failed item to operable state.

RISK - An expression of possible loss over a specific period of time or number of operational cycles. It may be indicated in terms of hazard severity and probability.

RISK MANAGEMENT - The Internal Services Department, Risk Management Division, Miami-Dade County, is located at 111 NW 1st Street, Suite 2340, Miami, Florida 33128; phone 305-375-4280.

RULE - A law or order authoritatively governing conduct or action.

SAFE - Secure from danger or loss.

SAFETY - A reasonable degree of freedom from those conditions that can cause injury or death to personnel; damage to or loss of equipment or property; and freedom from danger.

SAFETY CHECKLIST - A list for examining the safety aspect of equipment, procedures and personnel.

SAFETY DEVICES - Protective devices, which do not alter the fundamental nature of a hazard but which, do control the extent of the hazard in some manner.

SAFETY CRITICAL - A designation placed on a system, subsystem, element component device, or function denoting that satisfactory operation of such is mandatory to assurance of patron, personnel, equipment, or facility safety. Such a designation dictates incorporation of special safety design features.

SAFETY MANAGEMENT - An element of management that establishes safety programs requirements and ensures the planning, implementation and accomplishment of task and activities to achieve work place safety.

SAFETY PROGRAM - The combined task and activities of safety management and safety engineering that enhance operational effectiveness by satisfying the safety requirements in a timely, cost-effective manner throughout all phases of the work.

SAFETY SUBCONTRACTOR - A subcontractor who satisfies the Florida Department of Labor and Employment Security Industrial Safety and Health Program, Chapter 38F-44, and is duly approved by MDC.

SECURITY PROGRAM - A security program proactively manages risks with the overall goal of optimizing security for customers, employees, and assets. This optimization is achieved through the synergistic relationship of planning, operations, physical security, and equipment and technology. The inter-relationship of these elements allows for a means of managing risks or vulnerabilities allowing for mitigation or elimination.

SECURITY PROGRAM PLAN (SPP) - A program designed to provide guidelines to implement security procedures and describe the contractors' commitments and specific actions proposed to provide a secure project site. The Contractor's SPP shall be developed by the Contractor using the Contractor's Safety Manual as a guide. Once approved by MDC, the Contractor's SPP shall be used by the Contractor and his subcontractors to insure the safe prosecution of the work.

SERVICE CONTRACTS/CONTRACTOR - Those operations that are providing any services, or repair, replacement or maintenance functions that are indigenous to the construction process on the work site.

STATE - The State of Florida.

SUBCONTRACTOR - Any person, firm or corporation, other than the employees of the Contractor, who contracts with the Contractor to furnish labor and/or materials under this Contract. The contractor shall be responsible for ensuring that their subcontractors comply with this manual.

SUPPLIER/VENDOR - Those entities whose sole responsibility to the project is the delivery of goods or materials, exclusive of direct labor.

SYSTEM - A composite of people, procedures and equipment operating in a specific environment to accomplish a specific mission or task.

THIRD RAIL - A rail mounted on insulators alongside the running rail which provides Metrorail traction power for train propulsion.

TRANSIT SYSTEM - A transportation system comprised of fleets of motor buses and electrically propelled transit vehicles and all of their operational/support personnel and systems (e.g. maintenance facilities, tracks, structures, etc.) utilized for the mass movement of passengers within a metropolitan area.

UNUSUAL OCCURRENCE - An unforeseen event or incident which does not necessarily result in injury or property damage.

UNSAFE CONDITIONS - Any condition which if not corrected will endanger human life or property.

WARNING DEVICES - Sensors that monitor or detect conditions and provide visible and/or audible alerting signals as desired for selected events.

WORK SITE - The area enclosed by the limit of work indicated in the Contract Documents and boundaries of local streets and public easements in which the Contractor is to perform the work under the Contract. It shall also include areas obtained by the Contractor for use in connection with the Contractor, when contiguous to the limit of work.

B. CONTRACTOR'S ACCIDENT PREVENTION PROGRAM (APP) & SECURITY PROGRAM (SPP) PLANS

1) OBJECTIVES OF THE ACCIDENT PREVENTION PROGRAM

- to achieve an injury-free experience for the Project.
- to achieve maximum property conservation.
- to reduce direct and indirect costs.

Accomplishing the above objectives will provide for:

- a) A greater efficiency as a result of a safer working environment.
- b) A reduction of the construction work interruptions which develop when unsafe environments are created and when accidents occur.

2) METHODS OF ATTAINING OBJECTIVES:

Effectiveness of the Accident Prevention Program depends on the comprehensive participation and cooperation extended by all participants in support of the basic requirements listed below.

The Contractor's Authorized Safety Representative shall be informed immediately of any recognized hazards or potential hazards, related to health & safety, which may impact on the effectiveness of the Project's Accident Prevention Program that cannot be handled promptly as set forth herein, and report such to the Engineer.

The major accident prevention requirements are:

- a) Initiation and maintenance of programs, plans, training, etc. as necessary to comply with the requirements of this manual, and applicable Federal, State and Local standards.
- b) Allocating manpower, as required, for professional safety personnel assistance.
- c) Planning and coordinating all work to avoid personnel injury, property damage and loss of productive time.
- d) Establishing and maintaining a system for prompt detection, reporting, and correction or control of unsafe practices and unsafe conditions.
- e) Assuring the availability, and enforcing the use of appropriate personal protective equipment.

- f) Establishing and maintaining an effective and comprehensive system of tools and equipment inspection and maintenance including records required by applicable regulations or internal directives. The tool and equipment inspection and maintenance program shall include all employee-owned items brought onto the work site.
- g) Establishing and supporting an educational and job skill-training program designed to foster and maintain accident prevention knowledge and cooperation at all levels of employment by:
 - 1. providing for new employee's orientations.
 - 2. conducting targeted subject safety meetings.
 - 3. posting adequate safety and health requirements for all operations.
 - 4. maintaining a list of adequately trained and licensed employees authorized to operate specific equipment.
 - 5. maintaining a list of the trained and certified crane operators.
 - 6. maintain a list of employees who have been certified in accordance with Florida Department of Transportation to perform flagging operations and placement of traffic signs or devices (cones, barricades, warning signs, etc.).
 - 7. maintain a list of "Competent Person" employees who satisfy OSHA standard requirements to perform specific functions under the OSHA standards. A partial list of standards that require a competent person is included in appendix G of this CSM.
 - 8. investigating all accidents to determine causes (s) and taking prompt, reasonable and prudent necessary action to eliminate or control responsible factors.
- h) Providing visitor control and hazard protection.
- i) Providing work site security.
- j) Establishment and maintenance of a first aid and/or medical facility.
- k) Controlling the safe placement of materials or equipment received, or used, consistent with the traffic control pattern established and progression of construction on the work site.

- l) Providing maintenance of traffic control plans and procedures consistent with the work to be performed in accordance with the Contract Documents.
- m) Providing work site fire prevention/protection in coordination with local authorities and applicable standards.
- n) Establishment and maintenance of an effective program in accordance with Federal, State and Local regulations for the storage, use, and disposal of hazardous substances.
- o) Conducting accident/incident investigations.

3) MDC AND THE ENGINEER:

- a) The Engineer will:
 - 1. Receive from the Contractor an Accident Prevention Program and Security Program Plan no later than 25 days after approval of Award Recommendation by the Board of County Commissioners and no less that 15 days before the projected date for notice to proceed of the Contract. The Contractor shall assume full responsibility for compliance with all applicable Federal, State and Local safety related regulations and for complying with this Construction Safety Manual during the performance of all work performed prior to the approval of the Contractor's Accident Prevention Program and Security Program Plan. (See definition of Accident Prevention and Security Program).
 - 2. verify that Contractor plans and executes the work in compliance with the stated objectives of the Accident Prevention Program, Security Program Plan and applicable regulations.
 - 3. authorize work site inspections by MDC representatives to monitor Contractor compliance with this manual.
 - 4. require prompt remedial action to correct substandard or illegal safety and/or health conditions reported or observed by MDC representatives.
 - 5. verify that the Contractor has adequate fire prevention/ protection equipment; contained in ready-operating status at all times.

6. verify that the Contractor has temporary lighting and power systems during the construction phase set up and utilized in such a manner as to reduce hazards to a minimum.
7. ascertain that trained first aid personnel are available and certified for their work.
8. verify that good housekeeping procedures are maintained at all times by the Contractor and subcontractors.
9. establish procedures for the reporting of all fire incidents or damages as stated herein.
10. instruct the Contractor to establish an identification program for all employees at the work site.
11. verify that the Contractor reports all accidents immediately, as required by this manual and State and Federal regulations.
12. instruct the Contractor that employee access to unauthorized or restricted areas on Metromover or Metrorail property requires that the Contractor provide prior notification to, and receive authorization from Central Control.
13. establish procedures for timely reporting/notification to OSS for accidents and injuries.

4) CONTRACTOR: The Contractor Shall:

- a) Submit in writing to the Engineer an Accident Prevention Program and Security Program Plan for approval no later than 25 days after approval of Award Recommendation by the Board of County Commissioners and no less than 15 days before the projected date for notice to proceed of the contract. Provide the name, qualifications, and a "24 hour" phone number of the Contractor's Authorized Safety Representative who shall devote his time to the work site as defined by the definitions section of this Construction Safety Manual. No work on the work site shall begin until MDC approves the Contractor's authorized safety representative. The Contractor shall assume full responsibility for compliance with all applicable Federal, State and local safety related regulations and for complying with this Construction Safety Manual during the performance of all work performed prior to the approval of the Contractor's Accident Prevention Program. (See definition of Accident Prevention and Security Program). For furnish and install equipment contracts (non-construction), the stated approval period will commence ten (10) days prior to the beginning of work on the work site.

- b) Substantiate in writing to the Engineer that the Contractor's Authorized Safety Representative possesses at least two years of construction safety experience, is a managerial supervisory capacity, related to the work contemplated under this Contract.
- c) Maintain responsibility for project safety on the work site for his own or subcontractor's employees at any time, under any circumstances.
- d) After approval of the Contractor's Authorized Safety Representative, the Contractor, his Authorized Safety Representative and the Engineer will be required to attend a meeting with the DTPW staff. At that time, a formal presentation and discussion of the Accident Prevention Program will be conducted.
- e) Follow all of the requirements and procedures of the Accident Prevention Program.
- f) Promptly provide the Engineer with a detailed written submission of the safety and/or health hazards not consistent to his work at the work site and a detailed program to control all such hazards. Such program must be consistent with the Accident Prevention Program and conform in all respects to all legal and safety requirements, including those of OSHA and Federal, State, and Local regulations. All such programs must be approved by the Engineer prior to the commencement of this work.
- g) Require each new employee, before he starts work, to be oriented by his supervisor on the safety and health rules, procedures, and requirements established for the work task (s) to be performed and procedures to be adhered to. Tool-box safety meetings are not an acceptable substitute for new employee orientation. The name of the employee and orientation date shall be on record at the work site.
- h) Provide an overall traffic control plan for pedestrians, vehicular traffic and construction operations; and establish a general visitor control program.
- i) Set up and implement a program to protect persons and property in the event of emergencies.
- j) Complete supervisory investigation reports of all injuries.
- k) Require supervisory employees and subcontractors to attend monthly supervisor's safety meetings.
- l) Schedule weekly "tool-box" safety sessions to be held by the job foremen for all employees. A record including date, employee attendance, and subject covered shall be kept of these meetings for the duration of the Construction

Project. The Engineer shall be advised of the time and location of the scheduled meetings. (See Appendix B for suggested format). The meeting should be used to review safety and health rules and procedures, applicable Federal, State or Local standards, and to discuss any problems related to safety at the work site. This would include information as to storage, use and disposal of hazardous materials at the work site.

- m) Schedule and preside at safety meetings to be held monthly at which appropriate supervisory staff of the Contractor and subcontractors will be required to attend. The Engineer shall be advised of the time and location of the scheduled meetings.
- n) Take immediate action to correct unsafe practices and unsafe conditions.
- o) Report to the Engineer and observed conditions or violations of job safety regardless of weather they are within the observer's power or responsibility to correct.
- p) Assure that supervisory employees at all levels have a good working knowledge of applicable safety and health standards as they pertain to their areas of supervisory control and encourage all supervisory personnel and employees to improve their accident prevention awareness.
- q) Provide the establishment of first aid facilities for treatment of employees.
- r) Obtain a personal copy of the OSHA Construction Industry Standards 29CFR1926 and OSHA General Industry Standards 29CFR1910 to be available for the Contractor's reference as required by this manual. (The OSHA standards may be obtained free, or at a minimal cost, by contacting the OSHA area office, phone (954) 424-0242, in Plantation).
- s) Ensure that prior to accessing restricted areas on Metrorail or Metromover property; he has provided proper notifications to and received proper authorization from Central Control through the Engineer.
- t) Ensure that during all times that employees are at the work site, an acceptable and reliable means of communication with local emergency response personnel is available.
- u) In addition to complying with this manual, comply with all applicable safety & health governmental standards including the OSHA Construction Industry Standards 29CFR1926/1910, the Florida Right to Know Law, the Federal Hazard Communication Act, Florida Worker's Compensation Laws, etc. Maintain the necessary documentation, program, and/or training required by such standards.

- v) Ensure all of his subcontractors, and subcontractor's employees, comply with the requirements of this Manual and applicable Federal, State and Local regulations.
- w) Comply with the current edition of the Florida Building codes unless specifically exempt, in writing by the Engineer.

5) **EMERGENCIES**

For the purposes of the Accident Prevention Program, emergencies are classified as follows:

- a) A fire, or major hazardous material leak or spill, requiring the response of the local fire or environmental protection department.
- b) Unplanned collapse of equipment used in the course of construction.
- c) Unplanned collapse of a substantial part of any structure at the work site.
- d) Any serious accident involving an employee.
- e) Any serious accident involving a member of the public.
- f) Any other occurrence which would require immediate protection of life or property.

6) **HOW TO REPORT AN ACCIDENT TO THE DTPW ENGINEER:**

- a) The Contractor and all other participants in the Program shall instruct their employees and all other concerned personnel in how to report an accident which must include, at a minimum, the following procedures:
 1. Report the matter immediately to the supervisor who shall arrange for first aid or other required emergency medical treatment.
 2. In the event of serious injury or a death, in the absence of emergency first aid facilities on the work site, the supervisor of the injured employee is to arrange for necessary treatment. There shall be full compliance with all requirements of the Contractor's insurance carrier(s) with regard to accident reporting.
 3. The emergency phone number is: **911**

4. Within eight (8) hours after the death of any employee as a result of a work-related incident and/or within twenty-four (24) hours after the in-patient hospitalization of one or more employees or an employee's amputation or an employee's loss of an eye, as a result of a work-related incident, the Contractor's Authorized Safety Representative shall, shall notify:
 - a. Office of the Area OSHA Director (954) 424-0242.
 - b. The project Engineer.
5. The employer of any injured employee shall be required to complete the Notice of Injury Form, as required by State of Florida Worker's Compensation Division. (See appendix A).
6. The employer of any injured employee shall be required to record all work related injuries as required by OSHA 29CFR1904.
7. The supervisor of the injured employee shall be responsible to immediately report the injury to the Engineer, to fill out the Supervisor's Report of Accident (Appendix A), and make it and the notice of Injury report available to the Engineer.
8. All participants in this Accident Prevention Program shall cooperate fully in the investigation of any accident and/or occurrence.
 - b) The contractors and other participants in the Accident Prevention Program shall instruct employees and all other concerned personnel of the following procedures if there is loss or damage to property of others, including damage to equipment or tools being used at the work site.
 1. Promptly report the loss or damage to the office of the Contractor's Authorized Safety Representative.
 2. In the event of a substantial loss or damage to the property of others, the Contractor is to immediately notify the Contractor's Authorized Safety Representative and the Engineer.
 3. There shall be full compliance with all requirements of the Contractor's insurance carrier (s) with regard to property loss and damages.

DTPW SECURITY REQUIREMENTS

All Contractors are required to submit for review and approval a Security Program Plan (SPP), as defined in this Manual. This SPP shall provide guidelines to implement security procedures and describe the contractors' commitments and specific actions proposed to provide a secure project site. The Security Program Plan shall include, at a minimum:

- Procedures for inspecting/controlling perimeter security.
- Procedures for restricting who may visit the project site.
- Procedure for performing internal background checks.
- Procedure for overseeing security with respect to deliveries and other short-term visitors.
- Acknowledgement that the contractor and its sub-contractors will following Transit Administration Policy (TAP) POL-SS-015 Contractor/Subcontractor Issuance of Identification Badge Policy in this Manual.
- Procedure for ensuring contractor and its sub-contractors are following TAP POL-SS-015.
- Procedure for conducting periodic security meetings. These meetings shall discuss/include, at minimum, threats or vulnerabilities identified by the contractor, sub-contractor, and/or any of its respective personnel. These threats or vulnerabilities shall be documented as deficiencies and a plan of corrective action will be prepared and tracked until the deficiency is eliminated or satisfactorily mitigated.
- Procedures for monitoring world-wide security threats and national security warnings and alerts.
- Emergency security procedures.
- Procedures for preparing, issuing, and reporting security incidents.

The following is an excerpt from TAP POL SS-015. TAPs are reviewed and revised, if necessary, on an annual basis and it is the responsibility of the contractor to follow all requirements as listed in the latest TAP related to the respective functions.

7.0 Requirements

- 7.1 DTPW facilities, which are considered critical infrastructure and essential to security and public safety includes, but are not limited to, Metrorail and Metromover stations, anywhere above or beneath the guideway and the thirty feet extension in either direction immediately adjacent to the Metrorail or Metromover superstructure, anywhere within a DTPW Park & Ride lot or garage, bus terminals, DTPW maintenance facilities, and storage yards. To obtain a new or renewed DTPW Contractor/Subcontractor Photo ID card, the following process must be followed:
 - 7.1.1 The DTPW Project Manager shall submit an e-mail to the DTPW Human Resources Recruitment Section advising that they have a contractor/subcontractor requiring a DTPW Contractor/Subcontractor Photo ID.

7.1.2 The DTPW Human Resources Recruitment Section will require the following information in the e-mailed request:

- Name of the Contractor/Subcontractor/Company.
- Name of the Company's/Contractor's/Subcontractor's **EMPLOYEE** requiring the DTPW Contractor/Subcontractor Photo ID.
- Title/name of the DTPW project the Company/Contractor/Subcontractor employee will be performing services on/for; and
- The name(s) of the DTPW Project Manager(s) with whom the DTPW Human Resources Recruitment section and the Office of Safety and Security personnel should communicate regarding the DTPW Contractor/subcontractor Photo ID and status.

7.1.3 In addition to the information in section 7.1.1 the electronic mail request must also include the following Chart of Account information:

Chart of Account Information
Name of Contractor Employee:
Company/Contractor/Vendor Name:
Fund: ET001
Department: TP19010000
Account: 5330160000
Grant: <i>if applicable</i>
Project: <i>if applicable</i>
Activity: <i>if applicable</i>

7.1.4 The DTPW Office of Safety and Security Section will provide an available appointment schedule. The appointment is to schedule the contractor's/subcontractor's employee, for whom the DTPW contractor/subcontractor Photo ID has been requested, for finger printing and background check.

7.1.5 The Office of Safety and Security will provide an appointment and copy the DTPW Human Resources Recruitment section.

7.1.6 The DTPW Office of Safety and Security **should not** contact the contractor/subcontractor. It is the Project Manager's responsibility to communicate this information either to the contract company or directly to the contractor's/subcontractor's personnel, as appropriate.

7.1.7 The contractor/subcontractor is expected to show up at the appointment date and time provided due to the limited amount of availability. The contractor's/subcontractor's employee will visit the DTPW Office of Safety and Security on the appointed date and time to be processed for fingerprinting and background check.

7.1.8 Once the DTPW Human Resources Recruitment section receives the results of the background/fingerprint check from the Florida Department of Law Enforcement, they will notify the DTPW Office of Safety and Security, who will send a representative to pick up the actual results for review.

- 7.1.9 The DTPW Office of Safety and Security will review the results of the background check performed and decide as to the contractor's/subcontractor's employee eligibility to receive a DTPW Contractor/Subcontractor Photo ID. The DTPW Office of Safety and Security will have sole discretion on approving or denying the request for a DTPW Contractor/Subcontractor Photo ID based on the results of the background check.
- 7.1.10 After review and determination, the DTPW Office of Safety and Security will contact the DTPW Project Manager and advise of the results (approval or denial). If approved, the Office of Safety & Security will contact the DTPW Project manager to schedule the contractor's/subcontractor's employee for an appointment to issue the DTPW Contractor/Subcontractor Photo ID.
- 7.1.11 If the review results in a denial of the issuance of a DTPW Contractor/Subcontractor Photo ID, the DTPW Project Manager will also be notified of this denial and the reasons for it.

Requests for a DTPW **Contractor/Subcontractor** Photo ID may be denied for the following reasons:

- Any forcible felony (or any felony conviction within the previous ten (10) years), sexual, or domestic violence conviction
- Been discharged from the military under any conditions other than honorable.
- Any history of irresponsible behavior including but not limited to an unreasonable driving record, or a problem employment record as determined by the county contract administrator or designee.
- Any criminal activity listed in 49 US Code of Federal Regulations (CFR) section 1542.209, Disqualifying Criminal Offenses and 19 CFR 122.183, Denial of Access.

8.0 Display of ID card

- 8.0.1 All contractor's and subcontractor's personnel **must always** display their DTPW Contractor/Subcontractor Photo ID prior to entry, and at all times, while on DTPW property.
- 8.0.2 Contractor's and subcontractor's personnel are subject to identification checks by any authorized DTPW agent at any time while on DTPW property. **THE CONTRACTOR'S/SUBCONTRACTOR'S EMPLOYEE SHALL COMPLY WHEN ASKED TO IDENTIFY THEMSELVES.**
- 8.0.3 Any personnel not in possession of their ID card will be denied access to DTPW property, or if already on property, will immediately be escorted off DTPW property until such time as he/she can display proper DTPW Contractor/Subcontractor Photo ID.
- 8.0.4 DTPW Contractor/Subcontractor Photo ID may be confiscated at any time by DTPW contracted security, the DTPW supervising project manager, or the Office of Safety and Security personnel.

- 8.0.5 The DTPW Contractor/Subcontractor Photo ID may not be utilized for free transit except in the performance of the duties under which the Contractor/Subcontractor has been retained.
- 8.0.6 The DTPW Contractor/Subcontractor Photo ID is the property of DTPW and shall be returned to the DTPW Project Manager or the DTPW Office of Safety and Security upon completion of the assignment for which the credential was originally issued.

9.0 Limit of Duration of Contractor/Subcontractor Photo ID card

- 9.0.1 The DTPW Project Manager shall submit the contract name, contract number, and anticipate end of the contract for which the contractor employee is being provided the Contractor/Subcontractor ID.
- 9.0.2 DTPW Contractor/Subcontractor Photo ID Cards shall be valid for the term of the contract for which the contractor employee is receiving the Contractor/Subcontractor ID. This date will be printed on the Contractor/Subcontractor ID.
- 9.0.3 If the contract exceeds the original end-date provided by the DTPW Project Manager, the DTPW Project Manager must submit another electronic mail to the DTPW Office of Safety & Security, Inventory Control Specialist, with the new, anticipated contract end date. This action will result in the Contractor/Subcontractor being processed for a new Contractor/Subcontractor photo ID card, meaning that the Contractor/Subcontractor employee must repeat the process of fingerprinting and background check. This will require the DTPW Project Manager to schedule appointments with the Contractor/Subcontractor for fingerprinting.
- 9.0.4 Any contractor or subcontractor who fails to comply with Section 9.0.3, above, will be strictly prohibited from entering any DTPW property until such time as a new Contractor/Subcontractor Photo ID card has been issued to him/her.

10.0 Distribution and Implementation

- 10.1 Hard copy original of this policy will be stored in the DTPW Safety & Security files and a PDF copy shall be posted on the DTPW Employee Hub/TransitNet website.

A. DTPW Contractor Access to DTPW Facilities

1. Contractor's must be in possession of a photo identification card issued by DTPW noting them as CONTRACTOR's (*refer to TAP POL-SS-015 Contractor/Subcontractor Issuance of Identification Badge Policy as referenced in this Manual*).
2. Contractor's requiring access to critical areas **MUST BE ACCOMPANIED BY A DTPW EMPLOYEE (escort) WITH AUTHORIZED ACCESS TO THAT AREA AT ALL TIMES. AT NO TIME MAY A CONTRACTOR BE LEFT UNSUPERVISED IN ANY CRITICAL OR SENSITIVE AREA.**

These areas include, but are not limited to, bus and mover central control, bus dispatch, William Lehman Yard Tower, traction power substations, switchgear rooms, train control rooms, electrical rooms, telephone rooms, computer server rooms, video monitoring areas, and communications rooms.

3. All DTPW employees who are involved in any way with contractor employees are to ensure that these security requirements are provided to those employees. DTPW project managers and/or employees are to also assist contractors in meeting those requirements.

B. Termination of Contractor Services:

1. Contractor employees are to retain their Contractor Photo Identification Card until such time as the services or project for which the Card was issued is completed or the contract is completed, suspended or terminated. This anticipated date will be printed on the Contractor Photo Identification Card. Upon completion of the project or contract, all photo identification cards issued to contractor personnel shall be returned to DTPW. The DTPW project manager/staff person assigned to escort the contractor, or responsible for the management of the project, shall assume responsibility for collecting these cards and returning them to the DTPW Office of Safety and Security. The Contractor Photo Identification Card may also be returned to the DTPW, Office of Safety and Security.

C. Security of DTPW Credentials Issued to Contractor Personnel:

Loss or theft of a DTPW Contractor Photo Identification Card shall be reported immediately as indicated below.

1. Report Procedures:

- a. The contractor employees will notify the DTPW project manager/supervisor/liaison that the identification card has been lost. The DTPW project manager/supervisor/liaison shall request a police case number if appropriate.
- b. The DTPW Supervisor shall forward a memorandum through the chain of command to the Personnel Department, no greater than 24 hours after the initial report of loss, reflecting the following:
 1. Contractor/Firm Name, employees name and assignment.
 2. Circumstances of the loss or theft.
 3. Police Case Number, if applicable; and
 4. DTPW supervisor's approval of issuance of a duplicate identification card. A Non-Refundable replacement shall apply.
 5. The contractor employee will have to comply with all of the requirements outlined in *TAP POL-SS-015 Contractor/Subcontractor Issuance of Identification Badge Policy*

VISITOR IDENTIFICATION

A. Definition:

Visitors are defined as:

- Persons who do not possess the appropriate credentials to identify themselves as employees, agents, or contractors of DTPW (i.e., Employee Photo Identification Card).

B. Registration:

1. Visitors at any DTPW facility will be required to register at the security desk and obtain a visitor's pass. The pass will be displayed conspicuously on their outermost clothing, at the upper chest area while in the facility.
2. DTPW Employees shall not allow any unauthorized persons to enter any DTPW facility, including yard gates, buildings, or other secure entrances. As necessary, DTPW employees may direct visitors to the security desk or, as necessary, request intervention by security personnel. A DTPW employee entering an area is to ensure that each secured door is closed behind them and that no one else enters.

C. Logbook and DTPW Visitor's Log:

1. Desk/Entrance personnel will maintain the DTPW Visitor's Log and Post Logbook. Visitors will not be permitted to make entries.
2. Before issuing a pass, desk personnel will record the following information: visitor's name, driver's license number, purpose of visit, name of DTPW escort, arrival time and the date of visit on the Miami-Dade Transit Visitor's Log. The security officer shall then initial the entry.
3. The security officer shall then exchange a Visitor's Badge for any acceptable form of identification. (acceptable forms of identification are outlined in Section E. **Acceptable Forms of Identification** below).
4. Upon return of the pass, desk personnel will return the visitor's identification and record the visitor's departure time on the DTPW Visitor's Log and the Post Logbook.

D. Acceptable Forms of Identification:

All visitors are required to present one of the acceptable identifications as noted below. **NO OTHER FORMS OF IDENTIFICATION ARE ACCEPTABLE:**

- Driver license ("International Driver's Licenses" **ARE NOT** valid forms of identification);
- Federal, state, or local GOVERNMENT issued photo identification cards; or
- Any form of official government photographic identification; or United States issued passport.

Any one of these forms of identification is acceptable and will be retained by the security officer until the return of the visitor's pass.

NOTE: PRIVATE AND/OR CORPORATE IDENTIFICATION BADGES SHALL NOT SUBSTITUTE AS ACCEPTABLE FORMS OF IDENTIFICATION.

E. Group Tour Identification:

1. **Group Tours must be pre-approved by the DTPW, Office of Safety and Security.** The individual in charge of a group tour shall furnish required information, identification, and a roster of the group by name. The roster will be stapled to the DTPW Visitor's Log and the Post Log-Book as a permanent attachment. The name of the individual in charge of the group, the name of the escort, and any relevant information, will be entered in the logbook.
2. Visitor's Badges for each member of the tour will be issued to the individual in charge with verbal instructions that all members of the group must remain together while at the DTPW facility. The security officer will verify the number of people in the group before issuing a pass and again upon return of the passes.
3. The DTPW liaison assigned to the group is responsible for ensuring that all guests on DTPW property remain together. The liaison must also ensure that all group parties are accounted for at the end of any tour/visit.
4. Because only a limited supply of Visitor's Badges are maintained at DTPW facilities, DTPW divisions anticipating extraordinarily large groups should notify the DTPW Office of Safety and Security at least 7-business days PRIOR to the visit to ensure that there is a sufficient number of Visitor Identification badges available.

F. Parcel Inspections:

The security officer is authorized to inspect and retain any parcel that visitors may have in their possession. If the visitor or employee refuses to permit inspection, a pass will not be issued nor shall access be granted. A representative of the office, which the visitor desires to visit, will be required to meet the visitor at the entrance and provide the security officer with required information. The security officer will decide to allow entrance or contact his supervisor for resolution.

G. Access To DTPW Facilities - GENERAL:

1. Visitors, with proper identification, who request entry to any DTPW Facility/building between the hours of 5:00 p.m. and 8:00 a.m. must wait at the security desk until the office to be visited can provide an escort.
2. The following procedures apply to visitors in need of access to two or more floors to perform maintenance, repairs, and other activities:
 - a. During normal business hours, contracted security staff will verify a

- visitor's request for a pass by contacting the DTPW employee the visitor is requesting to see.
- b. After normal business hours, pre-planned activity requires notification of the DTPW Office of Safety and Security to coordinate the activities/visit with the contracted security staff. If the after-hours visitor requires access to sensitive/access-controlled areas and no such unit personnel are available; access may be denied the visitor.
 - c. All maintenance, service, and repair activities will be coordinated through the requesting division or their designee. All service, repair, work order, or delivery receipts will be signed and retained by the requesting division or their designee.
3. **Emergency service personnel, i.e., law enforcement, fire and/or medical personnel responding to emergencies SHALL NOT require any form of pass or Visitor's Badge. The requesting party shall notify the duty officer and have a representative stand-by to escort responding units.**
4. At termination of each shift, the security officer will account for all passes and submit a summary (by floor/location/office/etc.) of outstanding passes to the new, incoming security officer.
5. When a pass is outstanding for more than eight hours, the security officer will attempt to locate the visitor to whom the pass was issued.
- The security officer will contact his/her supervisor to advise that a VISITOR's PASS is unaccounted for.
 - The security officer will then conduct a physical search of the complex for the visitor.
- a. If the visitor cannot be located, the security officer will submit complete details to their shift supervisor and the DTPW Office of Safety and Security for investigation. Any identification left by the visitor will be handled as FOUND PROPERTY and delivered to the DTPW Office of Safety and Security as soon as practicable.
 - b. A representative of the DTPW Office of Safety and Security will attempt to locate the visitor, recover the visitor's pass, and investigate circumstances of the incident.
6. Any employee who observes an individual in a facility without an appropriate visitor pass or DTPW Employee Photographic Identification Card, will be responsible for assisting and/or escorting the individual to the security desk **OR** contacting the facility security officer for intervention.
7. When a visitor is observed in an area not authorized by his/her pass, the observing employee will escort the visitor to the authorized destination or to the security officer **OR** contact the facility security officer for intervention.

H. Package and Equipment Deliveries:

1. All deliveries to DTPW facilities should be addressed to a specific division or individual within the department and must be logged in at the security control point for each facility.
2. Prior to allowing entrance of any deliverable item, the addressee of the item will be contacted to ascertain if the respective recipient is expecting the delivery and will accept delivery. Individuals who arrive at an DTPW facility with deliverable items that are not accepted by a specific individual, or a representative of their requested receiver, will be denied entry.
3. Should bulk items require maneuvering by the delivery personnel, that individual shall be escorted at all times while on DTPW property. The DTPW escort shall then ensure the delivery person has left DTPW property and not left any unauthorized items behind.
4. Personal items such as food deliveries and/or any other personal deliverable items must be met at the security control point by the addressee. **FOOD DELIVERIES ARE NOT ALLOWED ON DTPW PROPERTY.** The intended recipient must coordinate and meet any food delivery person at the general entrance to the facility.
5. **DTPW and/or its contracted security personnel reserves the right to inspect any vehicle entering or exiting any DTPW facility.**

I. Food Deliveries:

1. Any visitor who comes to our facilities for food delivery, or any other personal type delivery, shall be met at the facility entrance by the employee who ordered the delivery. The delivery person shall NOT be allowed into the facility under any circumstances.

J. Remote Button/Access Control:

In instances where remote entry buttons are used at secure facilities, the entry button is NOT be utilized **unless** there is direct observation of the person entering. Direct observation includes direct visual observation or observation of closed-circuit television monitors only.

C. GENERAL SAFETY AND HEALTH PROVISIONS

- 1) The Contractor shall ensure employees do not work under conditions, which are unsanitary, hazardous, or dangerous to their health or safety.
- 2) The Contractor shall initiate and maintain such programs as may be necessary to comply with this manual, and all applicable government regulations.
- 3) Such programs shall provide for the frequent and regular inspections of the job sites, materials, and equipment to be made by competent persons designated by the Contractors; and shall include a program for the performance of work, to promote its orderly and expeditious progress and ensure its safe completion within the prescribed time.
- 4) The use of any machinery, tool, material or equipment not in good working order, or which has had a safety feature removed or tampered with, is prohibited. Such machine, tool, material or equipment shall either be identified as unsafe by tagging or locking the controls to render them inoperable or shall be physically removed from the work site.
- 5) The Contractors shall permit only those employees qualified by training or experience to operate equipment and machinery Applicable laws requiring employee to have a current license or certification (i.e., Class A Commercial Drivers License, etc.) to operate equipment are to be complied with.
- 6) The Contractor shall be solely responsible for the performance of the work in a manner, which will not create safety hazards, objectionable noise or other nuisance to the public.
- 7) Employees of the Contractor or subcontractors who are found to be intoxicated or appear to be under the influence of alcohol or drugs (other than as prescribed by a doctor) while on the work site shall be removed from the work site by the Contractor for the duration of the Contract. Employees who are found to be in possession of alcohol or drugs (other than as prescribed by a doctor) at the work site shall be removed from the work site by the Contractor for the duration of the Contract. An employee who is under a doctor's care and taking prescription drugs should inform his supervisor of same to determine if restrictions should be imposed.
- 8) Prior to the start of, and during the course of, any work, above or below ground level, the Contractor shall make a through survey of the entire work site to determine the type and locations of all utilities or other lines on the work site. The Contractors must verify this information by notifying the Underground Utilities Notification Center at 1-800-432-4770, other utilities not members of the Underground Utilities Notification Center, and notify the

Engineer.

- 9) The Contractor shall instruct employees as to any precautions and procedures to be followed while working in the proximity of any utility or power line.
- 10) The Contractor shall develop and have readily available at the work site an emergency plan with the locations of any utility or line shut-offs or disconnects so that if any emergency arises, immediate action may be taken.
- 11) The Contractor will be required to identify and provide a notification procedure for all contingencies where cutting off a utility could adversely affect any operation or render inoperative any protective apparatus in the surrounding area.
- 12) All structural repairs, alterations or reconstruction of any equipment used on the work site shall be certified in accordance with all applicable laws and regulations.
- 13) Portable toilets shall be chemical type or equal and shall be located convenient to work crews and maintained in proper sanitary conditions at all times.
- 14) Construction operations will normally be confined to those hours between dawn and dusk. Any work done other than during daylight hours must be approved by the Engineer. In requesting approval during other than daylight hours, the Contractor must present a written statement outlining the special precautions to be taken to control the extraordinary hazards presented by night work. This program shall include, but not limited to such items as supplementary lighting of work areas, illuminated barricades, proper supervision, availability of medical facilities, and security precautions.
- 15) Emergency lighting facilities, (i.e. battery operated or equivalent) shall be required in all construction areas where normal light failures would cause employees to be subjected to hazardous conditions. Such systems shall be maintained monthly.
- 16) Employees required to enter into confined or enclosed spaces shall be instructed as to the nature of the hazards involved, the precautions to take, and the use of protective and emergency equipment. The Contractor shall comply with all regulations applicable for working in dangerous or potentially dangerous areas.
- 17) The use of torpedo or salamander type heaters are prohibited.
- 18) No open burning of any kind shall be permitted without permits from appropriate local authorities and the Engineer.
- 19) Flammable storage cabinets shall be labeled in conspicuous lettering "Flammable - Keep Fire Away" and "No Smoking".

D. MEDICAL SERVICES AND FIRST AID

- 1) At least one person who has valid certificates in first-aid training from either the U.S. Bureau of Mines, the American Red Cross, or equivalent training that can be verified by documentary evidence, shall be available at the work site to render first-aid. Further, a minimum ratio of one such qualified person to 50 employees shall be maintained throughout the course of the construction. A suitable emblem shall be affixed to the qualified person's hard hat, or other suitable means of identification shall be used.
- 2) First-aid supplies, approved by a physician licensed to practice in the State of Florida, shall be accessible for immediate use. One 16-unit first-aid kit (or equivalent) shall be provided for each 50 persons or fraction thereof.
- 3) First-aid kit (s) shall be provided in a weatherproof container with individual sealed packages for each type item. The kits shall be checked by the Contractor before being sent out on each job and at least weekly on each job to ensure that the expended items are replaced.
- 4) A telephone shall be made available at the site before construction begins. Telephone numbers and locations of emergency facilities including emergency hospitals, physicians, ambulance service, police and fire department, as well as the complete street address of the work site, shall be posted in conspicuous locations at the work site, and at all telephone locations. The communication system for contacting necessary ambulance service or other emergency response personnel shall be operable at all times personnel are on the work site.
- 5) The location and number of approved stretchers provided for each contract shall be submitted to MDC for approval immediately after work commences on site. They will be maintained, properly protected and easily accessible at all times.
- 6) The Contractors, his supervisors and foreman, shall assure that any of his employees who suffers a job-related injury shall receive first aid and medical attention consistent with and as required by law.
- 7) The Contractor's first aid facility shall maintain a daily log of all injuries, both first aid and doctor cases. The log shall contain information to reflect the date, name of employee, employer, craft, supervisor, type of injury, how accident happened, time, disposition of patient and name of attendant.
- 8) The Contractor shall ensure that all OSHA and State of Florida record-keeping and reporting requirements are met.

E. DRINKING WATER

- 1) An adequate supply of potable water shall be provided in all places of employment.
- 2) Portable water containers shall be capable of being tightly closed and be equipped with a tap.
- 3) A common drinking cup is prohibited. Disposable cups shall be furnished.
- 4) Unused disposable cups shall be kept in a sanitary container, and a receptacle shall be provided for used cups.
- 5) All containers utilized for potable water shall be labeled as "Potable/Drinking Water Only".

F. PERSONAL PROTECTIVE AND LIFE SAVING EQUIPMENT

1) **GENERAL**

- a) The Contractor is responsible for requiring and enforcing the wearing of appropriate personal protective equipment in all operations where there is an exposure to hazardous conditions.
- b) The Contractors is to comply with all OSHA regulations (29CFR1926 Subpart E) regarding personal protection devices and life saving equipment.
- c) All persons on the Work Site shall utilize the proper foot protection which meets ANSI 241 (toe), 241.2 (metatarsal) and 241.4 (electrical) standards.
- d) All persons on the Work Site shall utilize hand and body protection which meets ANSI/ISEA 105 and ASTM F23 standards.

2) **HEAD PROTECTION**

- a) All persons on the Work Site shall be protected by NON-METALLIC protective helmets, which meet ANSI 289.2 standards. Helmets for the protection of employees against impact and penetration of falling and flying objects shall meet the specifications contained in ANSI 289.1 Safety Requirements for Industrial Head Protection. Bump caps are not acceptable.
- b) All Work Sites shall have posted approved signs alerting all persons that hard hats are required on the site. The use of hard hats at the Work Site will be strictly enforced.

3) RESPIRATORY PROTECTION

- a) Whenever feasible administrative and/or engineering controls fail or are inadequate to prevent harmful exposures to employees; the Contractor shall provide and require the use of appropriate respiratory protective devices in accordance with OSHA, 29 CFR 1910.134.
- b) Respiratory protective devices must be approved by the U.S. Bureau of Mines or acceptable to the U.S. Department of Labor for the specific contaminant to which the employee is exposed.
- c) Employers must have a written respiratory protection program as defined in 29 CFR 1910.134.
- d) Employees required to use respiratory protective equipment must be trained in the use and limitations of such equipment, fit tested annually and medically approved to wear respiratory protection as required by 29 CFR 1910.134.
- e) Respiratory protective equipment shall be inspected regularly and maintained in good condition. Defective or worn parts shall be replaced.

4) HEARING PROTECTION

- a) Feasible engineering or administrative controls shall be utilized to protect employees against sound levels in excess of those shown in the table below.
- b) When engineering or administrative controls fail to reduce sound levels within the limits of the Table below, protective hearing devices in accordance with OSHA (29CFR1926.101) shall be provided and used.
- c) Exposure to impulsive or impact noise should not exceed 140-db peak sound pressure level.
- d) In all cases, where the sound levels exceed the values shown in the Table below, a continuing, effective hearing conservation program shall be administered.
- e) PERMISSIBLE NOISE EXPOSURE TABLE (Source: OSHA, 29CFR1926.52)

<u>Duration per day, hours</u>	<u>Sound level dBA slow response</u>
8	90
6	92
4	95
3	97
2	100
1 -1/2	102

Duration <u>per day</u> , hours	Sound level dBA slow <u>response</u>
1	105
1 / 2	110
1 / 4 or less	115

- f) Plain cotton is not an acceptable protective device. Hearing protection shall be used only when it meets OSHA requirements and is suitable to correct the exposure.

1. EYE AND FACE PROTECTION

- a) Eye and face protection shall be provided and worn when machines or operations present potential eye or face injury.
- b) Eye and face protective equipment shall meet the requirements of ANSI Z87.1 - 2003, "Occupational and Educational Eye and Face Protection".
- c) Employees involved in welding operations shall be furnished with a welding helmet with minimum grade 10 shade filter lens for shielded arc welding or cutting. Welding goggles with a minimum grade 4 shade filter lens may be worn only for oxyacetylene gas welding or burning.
- d) Employees exposed to laser beams must be furnished suitable laser safety goggles. which will protect for the specific wavelength of the laser and be of optical density (0.0) adequate for the energy involved.

2. SAFETY NETS

- a) Safety nets shall be provided when workplace are over roads, guideways, or more than 25 feet above other surfaces where the use of ladders, scaffold catch platforms, temporary floors, safety lines, or safety belts is impractical. Safety net systems shall conform to OSHA 29 CFR 1926 502.
- b) Where nets are required, operations shall not be undertaken until the net is in place and has been tested & inspected by the Resident Engineer.

3. SAFETY BELTS, LIFELINES AND OTHER PERSONAL FALL ARREST SYSTEMS

- a) Approved personal fall arrest systems (in accordance with OSHA; 29 CFR 1926.104 and 29 CFR 1926.502) shall be worn by those employees whose

work exposes them to falling from the perimeter of a structure or through shaftways and openings. Protection must also be provided for employees who are exposed to the hazard of falling into/onto dangerous equipment,

- b) Employers must provide a training program for employees who might be exposed to fall hazards. The training shall include how to recognize such hazards and how the employees can minimize their exposure to such hazards. The training shall, at a minimum, comply with 29 CFR 1926.503. Re-training or refresher training must also be provided when necessary. Records of such training must be available for inspection by DTPW.

4. WORKING OVER OR NEAR WATER

- a) Employees shall be provided with a U.S Coast Guard approved life jacket or buoyant work vest.
- b) Prior to and after each use, the buoyant work vest or life jacket shall be inspected for defects which would alter their strength or buoyancy. Defective units shall not be used and be removed from the job site.
- c) Ring buoys with at least 90 feet of line shall be provided and available for emergency rescue operations. Distance between ring buoys shall not exceed 200 feet.
- d) At least one lifesaving skiff shall be immediately available at locations where employees are working over or adjacent to water.

G. SIGNS, SIGNALS, BARRICADES AND TRAFFIC CONTROL

- 1) All traffic signs or devices used for protection of construction workmen or the public shall conform to the State of Florida Department of Transportation's "Roadway and Traffic Design Standards" and applicable permit(s) conditions. All work areas on or around highways, roads and streets shall follow approved maintenance of traffic plans.
- 2) Barricades, cones and/or similar protective devices shall be used whenever men or equipment are exposed to traffic or similar hazards.
- 3) When traffic lanes are closed due to work activity, advance warning signals and high level warning devices shall be used as described in the State of Florida Department of Transportation's "Roadway and Traffic Design Standards" and applicable permit(s) conditions. All work areas on or around highways, roads and streets shall follow approved maintenance of traffic plans.

- 4) Flagmen and signalmen will be properly trained, certified, wear high-visibility clothing (as required by FDOT FTDS600) and use appropriate procedures following the current FDOT manual. Where flaggers are used, a flagger symbol or legend sign must also be used.
- 5) All employees within 15 feet of the edge of the travelway and/or where employees are exposed to roadway traffic shall be required to wear a high visibility vest vest/garment, per FDOT manual.
- 6) Whenever and wherever possible and necessary, line voltage (12 volt) protected lights shall be used to mark fences and barricades and other such encroachments onto public streets or sidewalks. Warning lights shall be in accordance with FDOT RTDS 600.
- 7) Where covered sidewalks are required they shall be provided with permanent lights to provide sufficient illumination for safe use by the public day or night. All bulbs shall be cage-protected.
- 8) Public walkways shall be kept clean and free of hazards at all times. When an existing pedestrian way or bicycle way is located within a traffic control work zone, accommodations must be maintained and include provisions for the disabled. Only approved temporary traffic control devices may be used to delineate a temporary traffic control zone for pedestrian and bicycle ways. Advanced notification of sidewalk closures and detours shall be provided by appropriate signs.
- 9) Where the Contractor is required to provide public walkway, they shall have abrasive, non-slip surface.
- 10) Where access to bus stop is disturbed or obstructed by the Contractors operations, safe access will be maintained or the bus stop relocated as directed by the Engineer. Coordination for maintaining or relocating bus stops with the appropriate agencies is the sole responsibility of the Contractors.
- 11) When steel plates or similar covers are used on public ways to cover excavations they shall be substantially secured to prevent movement imposed by traffic. Covers shall have non-slip surface, conforming to OSHA Specifications.
- 12) When such covers are located where there is pedestrian exposure, they shall be tapered at all sides with cut-back cold mix or similar material to eliminate tripping hazards. Covers shall have non-slip surface.
- 13) Free access shall be maintained to every fire extinguisher, fire hydrant, fire alarm box, fire escape and standpipe connection, street and traffic light control box. When required, hydrants shall be extended by suitable tube or piping to an

accessible point as approved by the Engineer. No obstructions shall be allowed at any time within 15 feet of a fire hydrant. Where materials are placed in the vicinity of a fire hydrant or a fire alarm box or fire extinguisher, and to such a height as to prevent the same from being readily seen, the position of such hydrant or fire alarm box or fire extinguisher shall be indicated by suitable signals, both day and night.

- 14) The Contractor shall erect and maintain fences and barricades to enclose the Contractor's work area, and provide watchmen where required to prevent unauthorized access.
- 15) No work shall be allowed above or below an active traffic lane. Contractor shall establish a work zone including appropriate lane closures following FDOT RTDS 600 series.

H. MATERIAL HANDLING- (STORAGE, USE AND DISPOSAL)

- 1) All materials stored in tiers shall be secured to prevent sliding, falling or collapse.
- 2) Reinforcing steel shall not be used as a lifting ("Pick") point on any load nor as a guy line anchor.
- 3) Hooks, except special sliding choker hooks shall be securely moused when in use, or shall be provided with a functioning safety latch.
- 4) Scrap material of any kind, type or nature shall be placed daily into appropriate containers specifically supplied for this purpose. Containers shall be removed from the Work Site when full.
- 5) Loose material on open decks or other exposed locations shall be removed or secured at the end of each day to eliminate dislodgment by wind or other causes.
- 6) Compatibility of stored materials and storage methods will comply with all applicable OSHA, Fire Department and environmental agency standards.
- 7) Employees required to handle, use or dispose of hazardous materials shall be instructed regarding the safe handling, proper procedures, potential hazards, personal hygiene, and personal protective equipment required.
- 8) Disposal of materials shall be in accordance with all applicable Federal, State and Local regulations. All applicable recordkeeping and reporting requirements will be met by the Contractors.

I. **TOOLS - HAND AND POWER**

1) General

- a) Keep the work area clear of clutter
- b) Keep the work area well lighted
- c) Maintain and keep tools sharpened, oiled and stored in a safe place
- d) Supervisors instruct employees on using equipment and safe work practices before using equipment
- e) Inspect tools, cords and accessories prior to use
- f) Repair or replace problem equipment immediately
- g) Use 3-prong electrical plugs, double insulated tools and safety switches
- h) Machine guards must be in place and not removed
- i) Do not wear loose clothing or jewelry when operating equipment
- j) Install and repair equipment only if you are qualified to do so
- k) Use the right tool for the job (i.e. do not use a pipe wrench as a hammer)
- l) Carry a sharp tool pointed downward or place it in a tool belt/box
- m) Protect sharp blades with a shield/sheath
- n) Store tools in draws or chests with cutting edge down
- o) Proper personal protective equipment shall be worn
- p) All power hand tools shall be equipped with a "dead man" control where the power is shut down when the operator releases the tool
- q) Never leave a running tool unattended
- r) Tools of a non-sparking material and/or intrinsically safe tools must be used if fire or explosion hazards exist
- s) All fuel operated tools shall be sloped and allowed to cool prior to being refueled, serviced, or maintained and proper ventilating used when used in enclosed spaces
- t) Power grinding machines shall have proper grounding. Work rests must be kept at a distance not to exceed 1/8" from the wheel surface
- u) Avoid repetitive motion, hold tools in a neutral position

2) "Lock on" buttons on all hand held power drills are prohibited.

3) Powder Actuated Tools

- a) High velocity tools are prohibited. Only low velocity piston drive tools are permitted.
- b) Only employees who have been trained in the operation of the particular tool in use shall be allowed to operate a power actuated tool. ANSI STANDARD A10.3-1970.
- c) Firing of the tools shall be dependent upon at least two separate and distinct operations of the operator, with the final firing movement being separate from the operation of bringing the tool into firing position. The tool shall be so

designed so as not to be operable other than when being held against a work surface with a force of at least five pounds greater than the total tool weight. Caution must be exercised to ascertain that the proper color coded charge, for the materials involved, is utilized.

- d) In case of misfire, the operator shall hold the tool in the operating position for at least 30 seconds. He shall then try to operate the tool a second time. He shall wait again 30 seconds, holding the tool in the operating position. Then he shall proceed to remove the explosive load in strict accordance with the manufacturer's instructions. Misfired cartridges shall be placed carefully in a metal container filled with water and returned to the supervisor for disposal.
- 4) Grinding wheels shall not be operated at speeds in excess of the manufacturer's RPM rating as labeled on the wheel.
 - 5) Face and eye protection or safety goggles shall be worn by all employees using grinding wheels, jackhammering, slag chipping, powder actuated tools or similar operations.
 - 6) Radial Saws
 - a) The upper hood shall completely enclose the upper portion of the blade down to a point that will include the end of the saw arbor. The slides of the lower exposed portion of the blade shall be guarded to the full diameter of the blade by a device that will automatically adjust itself to the thickness of the stock.
 - b) Radial saw for ripping shall be provided with non-kickback finger or dogs approved by the manufacturer.
 - c) The saw and table shall be designed to prevent the blade from traveling beyond front of table.
 - d) Installation shall be in such a manner so that the front end of the unit be slightly higher than the rear, so as to cause the cutting head to return gently to the starting position when released by the operator.
 - 7) Table saws shall be equipped with a functioning hood, guard, anti-kickback device and splitter.
 - 8) Only power saws specifically designed by the manufacturer for cutting concrete block, or similar materials, shall be used for this purpose.
 - 9) Cutting shall be done with water spray and the operator shall wear a face shield.

- 10) All hose couplings or any pneumatic or hydraulic equipment or tools shall be equipped with appropriate safety clips or retainers and shall be properly installed and maintained.
- 11) All appropriate machine and tool guarding devices shall be provided, shall be operational, and shall be use when the equipment is in operation.

J. WELDING AND CUTTING

- 1) Contractors shall instruct employees in the safe and proper use of cutting and welding equipment prior to using that equipment.
- 2) Oxygen and fuel gas pressure regulators, including their related gauges, shall be in proper working order while in use. Each regulator shall be provided with an anti-flashback device for protection against excessive oxygen back pressure in the fuel gas supply.
- 3) A minimum of one 10-pound all-purpose (ABC) dry chemical fire extinguisher shall be kept within 10 feet of any cutting or welding operation. The extinguisher shall be kept in a conspicuous place, free of any obstructions.
- 4) Proper personal protective equipment shall be worn while welding and cutting.
- 5) Welding screens shall be used in areas where prefabrication work is to be performed.
- 6) Oxygen and fuel gas regulators and hoses shall be maintained and in proper working order while in use.
- 7) All oxygen cylinders and fittings shall be kept free of grease and oil.
- 8) Do not weld without the approved goggles, hood and jacket/apron.
- 9) Always use approved gloves when welding.
- 10) Do not weld or burn in an area where fellow employees are working, without protective barriers, non-combustible flameproof screens/shields (blankets, covers, curtains etc.).
- 11) Do not weld where flammable or combustible material, such as waste, rags, paper, etc. can be ignited by the sparks or molten metal.
- 12) Do not weld in any location where open flame is not permitted.
- 13) Do not weld on a wooden bench or other structure that can burn.

- 14) Do not use leaky regulators, hose or other defective gas welding tools.
- 15) Do not use leaky gas cylinders.
- 16) Do not operate gas welding or cutting torches at pressure in excess of prescribed maximum.
- 17) Do not change or adjust pressure on regulators with torch valve closed.
- 18) Do not leave valves of gas cylinders open when not in use.
- 19) Do not leave valve key on gas cylinders when not in use.
- 20) Always remove all scale, rust, grease, protective surface coatings, oil and other foreign matter from metals before welding.
- 21) Always keep welding bench clear of dirt.
- 22) Always locate electric welding machine where it is protected from dirt, dust and harmful fumes.
- 23) Always see that the material being electrically welded is well grounded, and the ground connection from machine is tight.
- 24) Avoid fires on personal clothing from sparks or hot metal.
- 25) Always use protective clothing (welders legging, aprons, sleeves, jacket, etc.) when welding or burning.
- 26) Oxygen must not be used near flammable or combustible materials, such as grease, oil, etc., or any substance likely to cause fire.
- 27) Do not weld or cut in confined spaces without adequate ventilation.
- 28) Protect welding hose from being burned, trampled on or run over. Do not leave hose where it may be tripped over.
- 29) Valves on acetylene and oxygen tanks must be tightly closed when work is completed.
- 30) Carrying a lighted torch while climbing is forbidden.
- 31) Put rod stubs in a container. Stubs thrown on the floor become a slipping hazard.
- 32) Do not direct the flow of oxygen, from the torch, at clothing to remove dust, etc. This is a fire hazard.

- 33) Always have good ventilation when welding and gas cutting.
- 34) In the open air, when welding, cutting or heating metals having toxic substance(s), such as zinc, lead, cadmium, or chromebearing metals, approved respirator shall be used
- 35) When required have a certified fireguard while burning or welding. Fireguard must have a functional fire extinguisher present.
- 36) Use caution when removing eye protection. Hot slag may pop during cooling.
- 37) Remove manifold and replace protective caps on cylinders before storing welding unit (overnight, etc.).
- 38) Manifold hoses must be equipped with flash arrestors.

K. COMPRESSED GAS CYLINDERS

- 1) Valve protection caps shall be in place when compressed gas cylinders are transported, moved, or stored.
- 2) Cylinder valves shall be closed when work is finished and when cylinders are empty or are moved.
- 3) Compressed gas cylinders shall be secured in an upright position at all times, except when cylinders are actually being hoisted or carried.
- 4) Cylinders shall be kept at a safe distance or shielded from welding or cutting operations. Cylinders shall not be placed where they can contact an electrical circuit.
- 5) You are forbidden to lift or transport gas cylinders with hoisting equipment. · Rough handling of loaded or empty gas cylinders is dangerous. Install protective caps onto cylinders before moving same. Transport cylinders on handcarts equipped with chains and secure the cylinder during movement. Do not accept cylinders, which do not have a protective cap.
- 6) Grease or oil on acetylene cylinders or oxygen cylinders is forbidden. It is extremely dangerous.
- 7) Avoid freezing acetylene cylinders.
- 8) Always remove leaky gas cylinders to open air, place them clear of flammable material or anything that might ignite them.

- 9) Always secure cylinders in an upright position. When a cylinder is empty, it must be marked "empty" and stored separately from full cylinders.
- 10) Protect cylinders from excessive heat. Do not store near steam pipes, furnaces, etc.
- 11) Oxygen cylinders should not be stored with acetylene or other highly combustible materials, including welding units. A minimum of 20 feet must be maintained from combustible and flammable gases.
- 12) All cylinders must be transported and stored with the protective cap securely in place. Never store cylinders with regulators/manifolds attached.
- 13) All cylinders must be clearly labeled as to content.

L. ELECTRICAL

- 1) Extension cords and temporary lighting electrical cords shall conform to the current edition of the National Electrical Code table 400.11. "Hard Usage" or "Extra Hard Usage", and shall be protected against all types of abrasion and damage.
- 2) All male plugs and female receptacle connections shall have cords physically interlocked to prevent accidental or unintentional separation and provide complete and positive continuity and grounding.
- 3) All power cords connected to panels of breaker boxes shall be connected using plugs. No direct wiring is permitted.
- 4) Temporary (extension) cords used to supply tools shall be limited to a maximum length of 200 feet, except that additional length may be used if supplemental positive equipment grounding is maintained within 200 feet of the tool or power use.
- 5) All portable power generators shall be grounded.
- 6) Ground-Fault Circuit Protection:
 - a) Ground-Fault Circuit interrupters will be installed on all 120 volts, single-phase, 15 and 20 ampere receptacles, on the Work Site.
 - b) An assured equipment grounding conductor program may be substituted for ground-fault circuit protectors, only after the following has been provided.

- c) Submit a written program, developed by a licensed electrician, including specific procedures adopted by the Contractor to the Engineer and MDC Risk Management.

- 7) All Work Site conditions will comply with requirements in OSHA 1926 Subpart K.

- 8) Before starting work on electrical equipment and lines, inspections and tests must be made to determine if they are alive or dead.

- 9) Use only tools or devices provided and see that they are in good condition.

- 10) Never touch two parts at different potentials or a single exposed live part at a dangerous potential to ground unless employee is insulated from other conducting surfaces, including ground.

- 11) Standing with hands behind back, with back toward generator or switchboard, is prohibited.

- 12) Employees working near live equipment and lines must protect themselves from tripping, slipping or falling, or from touching equipment or lines with body, tools or material.

- 13) Work on or about electrical circuit, apparatus or equipment only if qualified and with a thorough knowledge of its operating voltage and service, and then only when authorized by the immediate supervisor.

- 14) Do not use appliance, device, tool, flashlight, material or equipment that is not designed and approved for the maintenance and operation of the circuit on which it is to be used.

- 15) Insulation, weather proofing or covering on electrical wire, apparatus or equipment must not be depended upon for protection against shock.

- 16) Do not use bolt, rivet, cotter key or other object as a jumper in place of fuse.

- 17) Do not place clothing, lunch, tools, clothes hanger, or other unauthorized items in or about the power or control cabinet, switch box, battery box or on top of electrical apparatus.

- 18) Place "DO NOT OPERATE" warning tag on switch, set to de-energize line, apparatus or equipment. "Lock Out" procedures are preferred where feasible. At all times, when working on equipment that has the potential to cause harm or create a hazard, "Lockout/Tagout projection Televisions" procedure shall be followed. Lockout/Tagout procedure requires each employee to place a lock (if possible) or a safety tag on the energy source of any equipment that has the

potential to cause harm if the equipment is activated while it is being worked on. Refer to OSHA Standard 1910.147, "Control of Hazardous Energy".

- 19) Consider every circuit to be alive.
- 20) Use extreme care when using "snakes" in preparation of installing wire or cable. The coiled "snake" may fly loose and strike a person or electrified equipment.
- 21) Do not allow wet clothing, raincoats, etc., to come in contact with electrified equipment.
- 22) Do not lubricate electrical apparatus with power on.
- 23) Do not use water to put out electrical fires.
- 24) Do not change any wire or connections with power on.
- 25) Do not shift brushes in electrical motors with power on.
- 26) Do not leave the secondary of a current transformer open-circuited, or open up the secondary with power on.
- 27) Never wear ring(s) or jewelry on fingers on person when working near or handling electrical equipment.
- 28) Inspect all temporary cords and plug equipment for damage prior to use. Cords with damaged insulation, covers, plugs or missing grounding pins are not to be used.
- 29) Do not pass temporary cords through door openings or other areas where they are likely to be cut.
- 30) When temporary cords are used, care must be taken to ensure a trip hazard is not created.
- 31) Portable extension lights shall be visually inspected by employees using them. Lamp guards must be in place on all extension lamps.
- 32) Electrical plugs of portable extension cords, or cords attached to any electrical apparatus, shall be disconnected by grasping the plug and not by pulling the cord.

LADDERS AND SCAFFOLDS

- 1) Ladders:
 - a) The use of ladders with broken or missing rungs or steps, broken or split side rails, or with other faulty or defective construction is prohibited. When ladders with such defects are discovered, they shall immediately be withdrawn from service.
 - b) Portable ladders shall be placed on a substantial base at a 4-1 pitch, have cleat access at top and bottom, extend a minimum of 36 inches above the landing, and be secured against movement while in use.
 - c) Portable metal ladders shall not be used for electrical work or where they may contact electrical conductors.
 - d) Job-made ladders shall be constructed for this intended use. Cleats shall be inset into side rails $\frac{1}{2}$ inch, or filler blocks used. Cleats shall be uniformly spaced, 12 inches, top-to-top.
 - e) Wooden ladders must not be painted. Split or rotted conditions would not be easily seen and constitute a hazard.
 - f) The foot of a ladder shall be placed $\frac{1}{4}$ of its length away from vertical plane of its support and must be secured to prevent all possibility of slipping.
 - g) Before climbing ladders, see that your shoes are free and clean of slippery substances. Watch out for broken rungs.
 - h) Face the ladder while climbing either up or down.
 - i) Never place a ladder in front of an unlocked door.
 - j) Employees must not reach out from a ladder more than an arm's length.
 - k) Ladders must be inspected by employees using them daily. Defective ladders are to be marked and kept separate from serviceable equipment and must be repaired before using.
 - l) Do not "walk" a ladder while on it.
 - m) Do not jump from or slide down any portion of any kind of ladder.

- n) When getting off a ladder, make certain of secure footing and avoid stepping on loose stones, debris or into a depression before releasing handhold on the ladder.
 - o) A stepladder must be fully opened and spread properly before being used. Never stand on the top step of a stepladder.
 - p) When carrying tools or other objects up a ladder presents a hazard, they should be raised with a rope and bucket.
 - q) Two or more persons should raise, extend, shorten or move extension ladders. Never use the top section of an extension ladder as a single ladder, since it has no safety feet.
 - r) Always rope off the area directly beneath ladders.
 - s) Never leave extended ladders unattended. Remove ladders when there is a temporary stoppage of work.
- 2) Scaffolds:
- a) Platforms shall be tightly planked for the FULL width of the scaffold except for any necessary entrance opening. Platforms shall be secured in place, with proper guardrail and toe boards.
 - b) Workmen shall not be allowed to climb or stand in cross bracing, or scaffold bucks.
 - c) Adjustment screws on scaffold legs shall not be extended beyond the manufacturer's recommendations, or two-thirds of the threaded length, whichever is shorter.
 - d) Casters shall be properly designed for strength and dimensions to support four times the maximum intended load. All casters shall be provided with a positive locking device to hold the scaffold in position. Casters shall be provided with a positive means of attachment to the scaffold legs.
 - e) Scaffold support bearing shall not be comprised of concrete block or similar materials and footed securely on a solid, stable base.
 - f) Materials shall not be stored on scaffolds in excess of the supplies needed for the immediate operation.
 - g) The edges of scaffolds shall be protected with railings and toe boards.

- h) When using rollers for moveable scaffolds, lock or secure wheels.
- i) Do not use bent or twisted members on scaffolds.
- k) Always remove a scaffold as soon as there is no more need for it. A scaffold is a constant hazard.
- l) Always rope off the area directly beneath scaffolds.
- m) Use extreme caution and use approved fall protection equipment on elevated surfaces lacking side rail and/or approved guard.

FLOORS, WALL, OPENINGS AND STAIRWAYS

- 1) One-half inch mild plow steel cables or equivalent, or ¼ inch alloy steel chains may be used on bridge or guideway decks, open floor edges, and similar applications, in lieu of standard wooden top midrails. Such cables or chains shall be firmly anchored and kept taut. All connections or cables shall be looped and clamped. Standard toeboards shall be used in such instances.
- 2) Floor openings shall be guarded by a standard railing and toeboards or cover. In general, the railing shall be provided on all exposed sides, except at entrances to stairways. Temporary floor openings shall have standard railings.
- 3) Every open-sided floor or platform, six feet or more above adjacent floor or ground level, shall be guarded by a standard railing, or the equivalent, on all open sides except where there is entrance to a ramp, stairway, or fixed ladder.
- 4) Runways four feet or higher shall have standard railings on all open sides except runways more than 18 inches wide used exclusively for special purposes may have the railing on one side omitted where operating conditions necessitate.

RAILING

- 1) A standard railing shall consist of top rail, intermediate rail and posts, and have a vertical height of approximately 42 inches from upper surface of top rail to the floor, platform, etc.
- 2) The top rail of a railing shall be smooth-surfaced, with a strength to withstand at least 200 pounds. The intermediate rail shall be approximately halfway between the top rail and floor.

- 3) A stair railing shall be of construction similar to a standard railing, but the vertical height shall be not more than 34 inches nor less than 30 inches from upper surface of top rail of tread, in line with face of riser at forward edge of tread.
- 4) A standard toeboard shall be at least four inches in height, and may be of any substantial material either solid or open, with openings not to exceed one inch in greatest dimension.

CRANES, DERRICKS, HOISTS, ELEVATORS, PILE DRIVERS, & CONVEYORS

- 1) Prior to commencement of any work using any hoisting equipment on the Work Site, the Contractor will provide the Engineer with a valid certification of compliance for shore-based, or water borne equipment meeting all the provisions of OSHA 29CFR 1919.
- 2) Record Keeping Requirements:
 - a) Supervision of all testing, examinations, inspections, heat treatments and record keeping procedures shall be carried out by such persons as are so designated in OSHA 29CFR 1919.
 - b) Certificates issued by an accredited person (agency) shall be signed and all register entries made only by persons authorized by such accredited person (agency).
 - c) Certification shall not be issued until all conditions cited for correction on the semi-annual certification report form have been corrected in a manner satisfactory to the certifying agency.
 - d) In the event deficiencies remain uncorrected, no certification shall be issued.
 - e) An accredited person (agency) shall maintain records of all work performed including reports of work or tests performed by others (nondestructive testing, heat treating, etc.), in relation to each certification. Such records shall be available for examination upon request by MDC Risk Management, the Engineer or their authorized representatives.
 - f) A copy of each certificate relating to semi-annual examination and/or unit proof load test shall be available with each crane or derrick.
- 3) A checklist will be prepared and submitted to the Engineer by the Contractor for any lift where the load exceeds 80% of the load chart capacity for the crane or derrick, or, where the lift involves the use of two or more cranes. (See Appendix C).

- a) No lifts meeting the above criteria will be made without prior submission of a Critical Lift Checklist.
 - b) Where erection drawings are prepared for submittal to the Engineer, Appendix C, will not be required if all the information contained therein is shown on the drawing submitted.
 - c) Prior to making the lift, the conditions shown on the drawing submitted will be verified by the Contractor's representative at the Work site. Any deviations from the erection drawing submitted will be reviewed and verified as safe by the Contractor's representative.
- 4) Operation of boom equipment, or other equipment such as forklifts, backhoes, and the handling of any load in the proximity of electrical transmission lines is forbidden within a minimum of 10 feet. Further, if such equipment is positioned so that it is possible by rotation or any other movement, whether anticipated or not, to possibly contact high voltage, de-energizing of the lines, restraints, "hold-backs", or other positive physical means will be required. (Note: "High Voltage" is defined as voltage in excess of 400 volts).
 - 5) All cranes shall be equipped with spirit level, or equivalent, to indicate the level of the crane fore and aft, and across the width. As nearly as possible, the crane shall be operated in level position.
 - 6) After normal working hours and during other extended periods of non-usage, crane booms shall be lowered to a horizontal position to minimize the chance of movement due to wind. If this cannot be accomplished, load lines shall be securely fastened to a substantial anchoring point.
 - 7) Except for floor-controlled overhead track cranes, a bell or other effective audible warning signal shall be provided for each crane equipped with power traveling mechanism, which shall be automatically engage and immediately audible when the crane begins to travel.
 - 8) All pinch points drive mechanisms, and other hazardous moving parts shall be effectively guarded. (See Appendix C for suggested checklist).
 - 9) Conveyor Systems
 - a) Conveyor systems shall be equipped with an automatic audible warning signal sounded immediately **BEFORE** starting up the conveyor.
 - b) Whenever a conveyor is equipped with a catwalk, a safety cable shall be installed on the conveyor to stop it instantly in an emergency, so as it cannot be started until the actuating switch has been reset to the "On" position. The

cable shall not be less than 12 inches nor more than 18 inches above the conveyor belt and shall extend the entire length of the conveyor.

- 10) Catwalks shall be kept clean and free of tripping hazards.
- 11) Any anticipated use of helicopters for lifting operations shall require advance notice and approval by the Engineer and MDC Risk Management.
- 12) No person will be allowed to ride on a suspended load or hook for any reason.
- 13) **No** person shall be allowed to stand or pass under the elevated portion of any equipment whether loaded or empty.
- 14) Pile driving loftsmen shall use safety belts when working at elevations outside loft platforms. When the leads are to be rotated or moved, the loftsmen shall descent from the leads.
- 15) Exhaust pipes, steam lines, and other hot surfaces, located where employees could contact them, shall be effectively guarded or insulated.
- 16) Do not operate cranes or hoisting machines unless qualified to do so.
- 17) Do not stand under load being moved by crane.
- 18) Always test crane brakes and limit switches before operating on your tour of duty.
- 19) Always be sure that path of crane travel is clear of people or alerted by signal alarm in advance of moving load and while crane is in motion.
- 20) Always be sure that hooks, chains or cables are secure and properly placed before raising load.
- 21) Always be sure that loose parts are removed from load before raising it.
- 22) Only the operator is permitted to be in the operators cab while crane is in operation, except when authorized maintenance is being performed or a new operator is being trained.
- 23) Hoisting hooks, chains or cables are to be visually inspected daily for flaws, cracks, etc., by employees using them and defects reported to their immediate supervisor. A monthly inspection with a certification record which includes the inspection date and signature of individual inspector must also be done.
- 24) Do not lift load with twists or kinks in the chain, rope or sling.

- 25) Operators of cranes that are moving loads in close proximity of exposed current carrying devices, are required to maintain a safe operating distance at least 10 feet from such devices to avoid contact with hoisting cables, blocks, hooks, etc.
- 26) Know the load rating of equipment when starting to raise an unusual or heavier than normal load (Load should not exceed limits of crane). Test brakes when load is a few inches from floor or ground.
- 27) When hoisting unusual material or machinery, attach a chain or cable well above the center of gravity to prevent the load from tilting or falling over when lift is made
- 28) When hoisting long shaped objects, a red tag line or other method of control is required to prevent load from turning end on end.
- 29) No employee shall ride or hang onto tongs, slings, hooks or load of hoisting equipment.
- 30) Before removing sling or chain from load, observe arrangement of load to be sure it has settled securely.
- 31) Keep from positioning yourself between the load being handled and a fixed object, (wall, stanchion or car) to avoid being pinned.
- 32) Leaving any hoisting equipment with a suspended load unattended, is forbidden.
- 33) Before hoisting a load, one (1) person must be designated to give signals, and all persons involved in the hoisting operation shall be notified who has been designated.
- 34) Before pulling a hoisting rope, wire, cable, chain or other such tackle, secure a firm footing, assume a braced position, and move clear in the event of adverse action.
- 35) Use both hands, when climbing into or leaving the crane cab. Lift tools and materials to the cab with a hand line.
- 36) If repairs to crane cause it to be laid up for a long period of time, lock the main switch in the open position to prevent use.
- 37) Make sure the controllers are in the "Off" position before opening or closing the main switch.
- 38) If power should go off, move the controllers to the "Off" position at once. Wait until power is restored before operating controllers again.

- 39) Never depend upon a limit switch to stop hoisting motor. Use your controls. Do not attempt to use two controls at the same time when approaching limits.
- 40) Whenever leaving the crane, place all controllers in the "Off" position, open the main switch and set the brakes.
- 41) When hoist operator's view is obstructed in the direction of movement, assign an employee to precede the hoist and warn others of its approach.
- 42) Do not shorten, repair or splice hoisting chain with wire, nails, bolts or other objects.
- 43) Use standard hoisting hand signals.
- 44) Do not make side pulls with a hoist, which will misalign the rope. It may cause the load to swing sideways or damage the rope itself.
- 45) Do not operate crane (move load) while the load is being raised or lowered.
- 46) Approved fire extinguishers are required in overhead cabs.
- 47) Any construction activity, including crane movement, occurring within 30' of the drip line of a Metromover or Metrorail guideway will also be subject to compliance with Department of Transportation and Public Works Adjacent Construction Manual requirements and OSS approval.

Q. WIRE ROPES, CHAINS, AND ROPES

- 1) Wire ropes, chains, ropes, and other rigging equipment shall be inspected prior to use and as necessary to assure their safety. Defective gear shall be tagged and removed from service.
- 2) Job or shop hooks and links, or makeshift fasteners, formed from bolts, rods, etc., or other such attachments, shall not be used.
- 5) The proper type of chain is to be used for the particular application (overhead lifting, transport, cargo securement, etc)
- 6) Any attachment, such as hooks or links, are to have a rated "working load limit" at least equal to the chain/rope with which it is used.
- 3) When U-bolts are use for eye splices, the U-bolt shall be applied so that the "U" section is in contact with the dead end of the rope.

- 4) When U-bolt wire rope clips are used to form eyes, the following table shall be used to determine the number and spacing of clips.

NUMBER AND SPACING OF U-BOLT WIRE ROPE CLIPS

Improved plow steel, rope diameter inches	<u>Number of clips</u>		Minimum Spacing (inches)
	Drop forged	Other material	
1/2.....	3	4	3
5/8	3	4	3-3/4
3/4.....	4	5	4-1/2
7/8.....	4	5	5-1/4
1.....	5	6	6
1-1/8.....	6	6	6-3/4
1-1/4.....	6	7	7-1/2
1-3/8.....	7	7	8-1/4
1-1/2.....	7	8	9

- 7) Slings are to be tagged for simple inclusion of sling type, working load limit, reach, serial number, chain size and grade.
- 8) State and federal regulations regarding size and number of chain systems required for securing loads on trucks are to be adhered too.

R. MOTOR VEHICLES AND MECHANIZED EQUIPMENT

- 1) All equipment that is left unattended adjacent to a roadway in normal use shall have appropriate lighted barricades placed around the location of the equipment
- 2) Loaders, backhoes, bulldozer and other similar equipment shall have their blades or buckets fully lowered and engines shut-off when left unattended.
- 3) All vehicles and equipment shall be checked at the beginning of each shift to ensure that the equipment is in proper operating condition and that accessories that affect safe operations are free from defects.
- 4) Heavy equipment, machinery, or parts thereof, shall be blocked to prevent falling or shifting before employees are permitted to work under or between them.
- 5) All equipment and vehicles with cabs shall have safety glass or equivalent windshields that are free of cracks and defects. Broken or cracked glass shall be replaced.

- 6) No person shall be allowed to ride in or on any equipment or vehicle except in seats, which are provided by the manufacturer.
- 7) Only trained, qualified and/or licensed persons are to operate equipment/vehicles.
- 8) All vehicles are required to have visual and audio back-up alarms.

S. EXCAVATION, TRENCHING AND SHORING

- 1) The Contractor shall call the Engineer who will call the Underground Utilities Notification Center at 1-800-432-4770 prior to any excavation regarding utilities. All initial excavation, which is done to expose all subsurface utilities, shall be done by hand to prevent damage. When exposed, they shall be protected at all times by suitable bridging, boxing, hangers or other supports during the prosecution of the work.
 - a) To provide access in emergencies, and for routine inspections of valves on water, gas or other mains, and to electrical power, communications, signal alarm and other service boxes, junction boxes and manhole that are decked over; trap door of a suitable size with suitable identifying steel plates securely attached thereto, shall be provided at all times in the decking.
 - b) The Contractors shall have a copy of the water main and gas drawings, clearly marked, to show the valves that control flow in the area and at the construction site. At least two valves in all directions outside the net lines shall be shown. The Contractor's superintendent shall mark and keep clear the location of valves for ready identification, should trouble develop.
- 2) Walkways shall be kept clean and free of all hazards at all times.
- 3) Internal combustion engines used in confined areas, such as in excavations or utility vaults where natural ventilation is limited, shall have exhaust fumes dispelled with forced ventilation or equivalent means.
- 4) All excavations and similar work areas where an exposure to the public or work personnel exists shall be promptly and completely fenced or barricaded, as shown in the Contact Drawings, except in those areas temporarily required to be open for the conduct of the work, then these openings shall be guarded to prevent access.
- 5) Adjustment screws on cross braces or trench jacks shall not be extended beyond the manufacturer's recommendations or 2/3 of the threaded length, whichever is more restrictive.

- 6) No one shall be permitted to climb or work from cross bracing.
- 7) Supervision - Excavation work shall at all times be under the immediate supervision of someone with authority to modify the shoring system or work methods, as necessary, to provide greater safety. He shall frequently examine the material under excavation and improve the shoring or methods beyond the minimum requirements, as necessary, to insure protection of workmen from moving material.
- 8) Removal of Shoring - No part of the shoring system of any excavation shall be removed until proper steps have been taken to avoid hazard to workmen from moving material. If a newly installed masonry or concrete wall is to be depended upon for this protection, it must have attained adequate strength to sustain resulting pressures.
- 9) Access and Egress - Convenient and safe means shall be provided for workmen to enter and leave the excavated area. This shall consist of a standard stairway, ladder, or ramp securely fastened in place at suitably guarded or protected locations where men are working and shall not require movement farther than 25 feet to reach such egress.
- 10) Blasting will not be permitted on the Work Site without prior approval of the Engineer and MDC Risk Management.
- 11) If any excavation (s) are required or requested to be left open by a utility company (s), municipality (s), or governmental agency, the excavations (s) will remain the sole responsibility of the Contractor for proper barricading and protection.

T. LASERS

- 1) Only qualified and trained employees shall be assigned to install, adjust, and operate laser equipment.
- 2) Employees shall wear proper eye protection where there is potential exposure to laser light greater than 0.005 watts (5 milliwatts).
- 3) Beams shutters or caps shall be utilized, or the laser turned off, when laser transmission is not actually required. When the laser is left unattended for a substantial period of time, such as during lunch hour, over-night, or at change of shifts, the laser shall be turned off and shall be secured in a manner, which will preclude indiscriminate or unauthorized activation.
- 4) Employees shall not be exposed to light intensities above: direct staring - 1 microwatt per square centimeter; incidental observing - 1 milliwatt per square

centimeter: diffused reflected light - 21/2 watts per square centimeter.
Employees shall not be exposed to microwave power densities in excess of 10 milliwatts per square centimeter.

- 5) The Engineer shall be notified of the location, time and qualifications of person or persons operating the laser.

U. ROLLOVER PROTECTIVE STRUCTURES, OVERHEAD PROTECTION AND REVERSE WARNING ALARMS

- 1) On **ALL** rubber-tired or crawler scrapers, bulldozers, front-end loaders, backhoes, motor graders, industrial tractors and forklift trucks, Rollover Protective Structures (ROPS) and Falling Object Protective Structures (FOPS) are required. (Note: See OSHA for structural performance standards).
- 2) On equipment where ROPS are required (above), seat belts shall be installed and worn by operators.
- 3) In lieu of a signalman, all bi-directional earthmoving, haulage or compacting equipment, and all trucks with a body capacity of 1-1/2 yards or more used to haul dirt, rock, concrete or other material shall be equipped with an automatically operated reverse signal alarm (such as buzzer, horn or bell) which is audible from a distance of 100 feet from the rear of the vehicle in operation. It shall be the duty of the contractor to inform his suppliers of these requirements.

V. CONCRETE

- 1) All equipment and materials used in concrete construction and masonry work shall meet the applicable requirements for design, construction, inspection, testing, maintenance and operations as provided in OSHA.
- 2) Employees working more than six feet above adjacent working surfaces, placing and tying reinforcing steels in walls, piers, columns, etc., shall be provided with a personal fall arrest system (29CFR 1926.502), or equivalent device.
- 3) Employees shall not be permitted to work above vertically protruding reinforcing steel unless it has been protected to eliminate the hazard of implement.
- 4) Guying - Reinforcing steel for walls, piers, column and similar vertical structures shall be guyed and supported to prevent collapse.
- 5) Wire mesh rolls - Wire mesh rolls shall be secured at each end to prevent dangerous recoiling action.

- 6) Pumpcrete systems - Pumpcrete or similar systems using discharge pipes shall be provided with pipe supports designed for 100 percent overload. Compressed air hose in such systems shall be provided with positive fail-safe joint connectors to prevent separation of sections when pressurized. Safety chains shall be provided on all line two inches in diameter or larger.
- 7) Concrete buckets equipped with hydraulic or pneumatically operated gates shall have positive safety latches or similar safety devices installed to prevent aggregate and loose material from accumulating on the top and sides of the bucket.
- 8) Riding of concrete buckets for any purpose shall be prohibited, and vibrator crews shall be kept out from under concrete buckets suspended from cranes or cableways.
- 9) When discharging on a slope, the wheels of ready-mix trucks shall be locked and the brakes set to prevent movement. The use of chocks is also required.
- 10) Nozzlemen applying a cement, sand, and water mixture through a pneumatic hose shall be required to wear protective head and face equipment.
- 11) When temporary storage of reinforcing rods, materials, or equipment on top of formwork becomes necessary, these areas shall be strengthened to meet the intended loads.
- 12) The sills for shoring shall be sound, rigid, and capable of carrying the maximum intended load.
- 13) All shoring equipment shall be inspected prior to erection to determine that it is as specified in the shoring layout. Any equipment found to be damaged should not be used for shoring.
- 14) Erected shoring equipment shall be inspected immediately prior to, during, and immediately after the placement of concrete. Any shoring equipment that is found to be damaged or weakened shall be immediately reinforced or reshored.
- 15) Reshoring shall be provided when necessary to safety support slabs and beams after stripping or where such members are subjected to superimposed loads due to construction work done.
- 16) Metal tubular frames used for shoring shall not be loaded beyond the safe working load recommended by the manufacturer.
- 17) All locking devices on frames and braces shall be in good working order; coupling pins shall align the frame or panel legs; pivoted cross braces shall have

their center pivot in place; and all components shall be in a condition similar to that of original manufacture.

- 18) When checking the erected shoring frames with the shoring layout, the spacing between towers and cross brace spacing shall not exceed that shown on the layout, and all locking devices shall be in the closed position.
- 19) Devices for attaching the external lateral stability bracing shall be securely fastened to the legs of the shoring frames.
- 20) Formwork and shoring shall be designed, erected, supported, braced, and maintained so that it will safely support all vertical and lateral loads that may be imposed upon it during placement of concrete.
- 21) Working drawing showing the jack layout, formwork, shoring, working decks, and scaffolding, shall be available at the Work Site for review by the Engineer.
- 22) Stripped forms and shoring shall be removed and stockpiled promptly after stripping. In all areas which persons are required to work or pass, protruding nails, wire ties, and other form accessories not necessary to subsequent work shall be pulled, cut, or other means taken to eliminate the hazard.
- 23) Imposition of any construction loads on the partially completed structure shall not be permitted unless such loading has been considered in the design and approved by the Engineer.
- 24) Jacks and vertical supports shall be positioned in such a manner that the vertical loads are distributed equally and do not exceed the capacity of the jacks.
- 25) When checking the erected shoring towers with the shoring layout, the spacing between posts shall not exceed that shown on the layout, and all interlocking of tubular members and tightness of couples shall be checked.
- 26) All baseplates, shore heads, extension devices, or adjustment screws shall be in firm contact with the footing sill and the form material and shall be snug against the posts.
- 27) For stability, single post shores shall be horizontally braced in both the longitudinal and transverse directions, and diagonal bracing shall also be installed. Such bracing shall be installed as the shores are being erected.
- 28) All baseplates or shore heads of single post shores shall be in firm contact with the footing sill and the form materials.
- 29) Whenever single post shores are used in more than one tier, the layout shall be approved by the Engineer.

- 30) When formwork is at an angle, or sloping, or when the surface shored is sloping, the shoring shall be designed for such loading.
- 31) Adjustment of single post shores to raise formwork shall not be made after concrete is in place.
- 32) Fabricated single post shores shall not be used if heavily rusted, bent, dented, rewelded, or having broken weldments or other defects.
- 33) Timber shall not be used if it is split, cut, has sections removed, is rotted, or is otherwise structurally damaged.
- 34) Nails used to secure bracing or adjustable timber single post shores shall be driven home and the point of the nail bent over if possible. Double head nails will be permitted.

W. DEMOLITION

- 1) All sidewalks and walkways open to the public shall have abrasive non-skid surface and shall be kept clean and free of tripping hazards at all times.
- 2) "NO PARKING" zones with appropriate signs and barricades shall be displayed adjacent to buildings being demolished.
- 3) Water or other means of dust control shall be used where dust presents a health or environmental hazard, property damage potential, or nuisance.
- 4) See this Manual's section for Rollover and Falling Object Protection Structures, which also applies to demolition equipment.
- 5) Provide adequate protection to prevent damage to pipes, conduits, wires, cables, or structures above or below ground, which are not designated for removal.
- 6) Overhead protection shall be erected over sidewalks and shall extend at least ten feet beyond the building lines along direction of the sidewalks. Overhead planking shall be a minimum of three-inch full dimension lumber placed on adequately designed, metal or timber frames.
- 7) Substantial catch platforms shall be erected around all sides of the building prior to any demolition. Design must be approved by the Engineer.
- 8) Solid barriers of $\frac{3}{4}$ inch exterior fire rated B/D Plywood at least eight feet high shall be erected around the structure at ground or sidewalk level to protect the public. The barriers shall be framed with, at a minimum, 2"x3" fire rated studs 16" on center.

- 9) Full time flagman shall be provided to assist truck egress and ingress.
- 10) All mechanical, electrical, air conditioning, ducting, skylights, windows, and any other equipment, material or objects on roofs or walls of adjoining or adjacent structures to buildings under demolition shall be adequately protected from falling material and activity of wrecking crews and equipment.
- 11) No mechanical equipment (i.e. headache ball, impact equipment other than hand held) shall be used within six feet of any adjoining structure.
- 12) Employees engage in the demolition or removal of any pipes, structures or machinery covered or insulated with asbestos shall conform with all federal, state and local codes, rules, regulations and requirements including but not limited to:
 - a) 29CFR 1926.1101
 - b) 40CFR 61, Subpart M
 - c) Florida Statute 469.001-469.099
 - d) Miami-Dade Environmental Resources Management
- 13) Employees engage in the demolition, removal or disturbance of any listed hazardous substance shall conform with all applicable federal, state and local codes, rules, regulations and requirements.

X. ADVERSE WEATHER CONDITIONS

- 1) Disassemble all scaffolds, loose formwork, radio antennas and secure properly.
- 2) All items that cannot be secured shall be stored inside secured storage areas or buildings.
- 3) All crane booms shall be lowered to ground level and secured to prevent movement.
- 4) All office trailers shall be tied down in compliance with MDC Tie Down Ordinance No. 77-1 upon original installation. All tie down straps, ground anchors, piers, etc., shall be checked for condition and operation.
- 5) All exposed glass on the Work Site shall be protected by a solid, rigid covering.
- 6) All free standing walls shall be shored from both sides.

- 7) Before employees are dismissed from the Work Site, the Contractors shall make a thorough inspection to verify all necessary precautions have been taken, and report to the engineer for any further instructions.
- 8) All precautions for construction sites during hurricane conditions, as required by the Florida Building Codes (Appendix D) shall be met.
- 9) All contractors shall develop a project specific hurricane plan. This plan will include a detailed description of all hurricane preparation activities for each DTPW phase of hurricane readiness including:
 - a) Phase A - Pre-Season Preparedness
 - b) Phase B - Hurricane Advisory (48 hours prior to landfall)
 - c) Phase C - Hurricane Watch (24-48 hours prior to landfall)
 - d) Phase D - Hurricane Warning (24 hours prior to landfall)
 - e) Phase E - Landfall
 - f) Phase F - Recovery/Post Hurricane
- 10) Progression through the DTPW phases of hurricane readiness will be declared by the DTPW Hurricane Disaster Preparedness Coordinator (Coordinator). The Coordinator may accelerate preparedness levels based on prevailing conditions and expectations. The time of day the storm is expected to arrive, along with the Miami-Dade Emergency Operations Center levels of activation, are some of the factors that are considered. The DTPW readiness phase will be communicated through the Resident Engineer or other DTPW contract representative.

Y. HOUSEKEEPING

- 1) All refuse piles shall be removed from the Work Site immediately.
- 2) Stored and stacked materials shall be kept orderly, properly stacked, choked, and secured.
- 3) Any protruding nails, etc., shall be bent, removed or clinched immediately.
- 4) Oil, grease, and water spills shall be cleaned up immediately.
- 5) Loose materials, tools, or equipment shall be kept off stairs, out of walkways, ramps, platforms at all times when not in use.

- 6) Depressions and pot-holes in vehicle or walkway surfaces on the Work Site shall be properly filled and graded immediately.
- 7) Walkways, vehicle travel ways, ramps, railings, and stairways, shall be kept free from debris, properly installed and maintained.
- 8) Smoking or the use of open flames within 25 feet of flammable storage areas or fueling areas shall not be permitted.
- 9) Flammable storage areas shall be properly posted "**NO SMOKING**", provided with adequate fire extinguishers and free of combustible materials.
- 10) All sanitary facilities used on the Work Site shall be maintained on a daily basis.
- 11) All structures shall have a minimum of a 5-foot perimeter clearance that is to be free from any combustible debris or materials.

Z. HAZARDOUS SUBSTANCES

- 1) The Contractor shall develop, implement and maintain a written Hazard Communication/Right-to-Know Program and comply with all applicable requirements of OSHA Hazard Communication Standard 29CFR1910.1200.
- 2) The Contractor shall ensure that each container of hazardous substances in the workplace is labeled, tagged, or marked with the following information:
 - a) identify of the hazardous substance (s) contained therein
 - b) appropriate hazard warnings
- 3) The Contractor's written hazard communication program shall describe how the criteria for labeling; Material Safety Data Sheets (MSDS); employee information and training will be met and also include:
 - a) A list of the hazardous chemicals known to be present and their locations at the Work Site.
 - b) The methods the employer will use to inform employees of the hazards of non-routine tasks & the hazards associated with hazardous substances contained in unlabeled pipes in their work areas.
- 4) The Contractor shall maintain copies of the required Safety Data Sheet (SDS) for each hazardous substance in the workplace, and shall ensure that they are readily accessible during each work shift to employees. (The Contractor may obtain the SDS for a product by requesting it from the product's manufacturer, distributor, or importer.

- 5) Where employees must travel between workplaces during a workshift, i.e., their work is carried out at more than one geographical location, the SDS may be kept at a central location at the primary workplace facility. In this situation, the employer shall ensure that employees can immediately obtain the required information in an emergency.
- 6) SDS shall also be made readily available to fire & emergency response personnel, the Engineer and MDC Rick Management.
- 7) Contractors shall provide their employees with the following:
 - a) Information and training on hazardous chemicals in their work area at the time of their initial assignment, and whenever a new hazard is introduced into their work area.
 - b) Any operations in there work area where hazardous chemicals are present.
 - c) The location and availability of the written hazard communication program, including the required list (s) of hazardous chemicals and material safety data sheets.
 - d) Information as to the employees' rights under the Florida Right-to-Know Law:
 1. The right to know of the listed toxic substances present in the workplace.
 2. The right to obtain a copy of the Safety Data Sheet for each listed toxic substance present.
 3. The right to refuse to work, under specified circumstances, with a listed substance, if not provided a copy of the Safety Data Sheet for that substance within 5 of the requesting employee's working days after submitting a written request to the employee's employer.
 4. The right to instruction, within 30 days of employment, and at least annually thereafter, on the adverse health effects of each listed toxic substance with which they work in the workplace, how to use each substance safety, and what to do in case of any emergency.
 5. The right to obtain further information on the properties and hazards of listed toxic substances from the Toxic Substance Information Center (1-800-367-4378).
 6. The right to protection against discharge, discipline, or discrimination for having exercised any of these rights.
- 8) The Contractor shall post the State of Florida Right-to-Know Poster at the Work Site. The poster and information/assistance in complying with the Right-to-Know Law is available from the Toxic Substance Information Center (1-800-367-4378). As soon as any environmental item is discovered, the Contractor shall immediately inform the Resident Engineer and the DTPW Senior Professional Engineer (Environmental).

APPENDICES

- Appendix A - State of Florida, First Report of Injury or Illness; Supervisor's Report;
OSHA 300 & 300A
- Appendix B - Tool Box Safety Meeting Document, Suggested Format
- Appendix C - Safety Inspection Checklist For Crane Inspection & Critical Lifts
- Appendix D - Special Hurricane Precautions
- Appendix E - OSHA General Industry and Construction Standards Requiring a
Competent Person

APPENDIX A

INSTRUCTION - FIRST REPORT OF INJURY OR ILLNESS LES FORM DWC - 1

EMPLOYER -You are required by law to report all industrial accidents to the Division of Workers' Compensation within seven days of your first knowledge of the accident. A civil penalty of up to \$500 is provided for failure. Fully complete this form, using the employee's description of the accident, signs it, have the employees sign it and mail the original to the Division. Copies marked for the employee and your carrier (insurance company) must be sent to them.

If, for any reason, the employee cannot or will not sign the notice, **do not delay your report.**

EMPLOYEE -You are required by law to report your accident to the Worker's Compensation Division. Enter your description of the accident on this form, have your employer complete the form, then both of you should sign. If your employer refuses to sign or complete the report you should complete it. Send the original to the division, a copy to your employer.

For assistance, or for answers to questions on Workers' Compensation, call the toll free number shown on the form.

DISTRIBUTION: Part 1 - Division Copy
 Part 2 - Carrier Copy
 Part 3 - Employer Copy
 Part 4 - Employer Copy

APPENDIX A

FIRST REPORT OF INJURY OR ILLNESS

**FLORIDA DEPARTMENT OF FINANCIAL SERVICES
DIVISION OF WORKERS' COMPENSATION**

For assistance call 1-800-342-1741
or contact your local EAO Office
Report all deaths within 24 hours 1-800-219-8953 or (850) 922-8953

RECEIVED BY CLAIMS-HANDLING ENTITY	SENT TO DIVISION DATE	DIVISION RECEIVED DATE

PLEASE PRINT OR TYPE

EMPLOYEE INFORMATION

NAME (First, Middle, Last)	Social Security Number	Date of Accident (Month-Day-Year)	Time of Accident <input type="checkbox"/> AM <input type="checkbox"/> PM
HOME ADDRESS Street/Apt #: City: State: Zip:	EMPLOYEE'S DESCRIPTION OF ACCIDENT (Include Cause of Injury)		
TELEPHONE Area Code Number ()			
OCCUPATION	INJURY/ILLNESS THAT OCCURRED	PART OF BODY AFFECTED	
DATE OF BIRTH / / SEX <input type="checkbox"/> M <input type="checkbox"/> F			

EMPLOYER INFORMATION

COMPANY NAME: D. B. A.: Street: City: State: Zip:	FEDERAL I.D. NUMBER (FEIN)	DATE FIRST REPORTED (Month/Day/Year)
TELEPHONE Area Code Number ()	NATURE OF BUSINESS	POLICY/MEMBER NUMBER
EMPLOYER'S LOCATION ADDRESS (If different) Street: City: State: Zip: LOCATION # (If applicable)	DATE EMPLOYED ____/____/____	PAID FOR DATE OF INJURY <input type="checkbox"/> YES <input type="checkbox"/> NO
PLACE OF ACCIDENT (Street, City, State, Zip) Street: City: State: Zip: COUNTY OF ACCIDENT	LAST DATE EMPLOYEE WORKED ____/____/____	WILL YOU CONTINUE TO PAY WAGES INSTEAD OF WORKERS' COMP? <input type="checkbox"/> YES
	RETURNED TO WORK <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, GIVE DATE ____/____/____	LAST DAY WAGES WILL BE PAID INSTEAD OF WORKERS' COMP ____/____/____
	DATE OF DEATH (If applicable) ____/____/____	RATE OF PAY <input type="checkbox"/> HR <input type="checkbox"/> WK \$ PER <input type="checkbox"/> DAY <input type="checkbox"/> MO
	AGREE WITH DESCRIPTION OF ACCIDENT? <input type="checkbox"/> YES <input type="checkbox"/> NO	Number of hours per day _____ Number of hours per week _____ Number of days per week _____
Any person who, knowingly and with intent to injure, defraud, or deceive any employer or employee, insurance company, or self-insured program, files a statement of claim containing any false or misleading information commits insurance fraud, punishable as provided in s. 817.234. Section 440.105(7), F.S. I have reviewed, understand and acknowledge the above statement. _____ EMPLOYEE SIGNATURE (If available to sign) _____ DATE _____ EMPLOYER SIGNATURE _____ DATE	NAME, ADDRESS AND TELEPHONE OF PHYSICIAN OR HOSPITAL AUTHORIZED BY EMPLOYER <input type="checkbox"/> YES <input type="checkbox"/> NO	

CLAIMS-HANDLING ENTITY INFORMATION

<input type="checkbox"/> 1(a) Denied Case - DWC-12, Notice of Denial Attached	<input type="checkbox"/> 2. Medical Only which became Lost Time Case (Complete all required information in #3)
<input type="checkbox"/> 1(b) Indemnity Only Denied Case - DWC-12, Notice of Denial Attached	Employee's 8 TH Day of Disability ____/____/____ Entity's Knowledge of 8 TH Day of Disability ____/____/____
<input type="checkbox"/> 3. Lost Time Case - 1st day of disability ____/____/____ Full Salary in lieu of comp? <input type="checkbox"/> YES Full Salary End Date ____/____/____ Date First Payment Mailed ____/____/____ AWW ____ Comp Rate ____	
<input type="checkbox"/> T.T. <input type="checkbox"/> T.T. - 80% <input type="checkbox"/> T.P. <input type="checkbox"/> I.B. <input type="checkbox"/> P.T. <input type="checkbox"/> DEATH <input type="checkbox"/> SETTLEMENT ONLY	
Penalty Amount Paid in 1 st Payment \$ ____ Interest Amount Paid in 1 st Payment \$ ____	

REMARKS:	INSURER NAME FL DFS, DIV OF RISK MANAGEMENT
INSURER CODE #	CLAIMS-HANDLING ENTITY NAME, ADDRESS & TELEPHONE STATE OF FLORIDA DEPT OF FINANCIAL SERVICES, DIV. OF RISK MANAGEMENT PO BOX 8020 TALLAHASSEE FL 32314-8020 (850) 413-3123
EMPLOYEE'S CLASS CODE	
EMPLOYER'S NAICS CODE	
SERVICE CO/TPA CODE #	CLAIMS-HANDLING ENTITY FILE #

APPENDIX B

APPENDIX C

APPENDIX C: SAFETY INSPECTION CHECKLIST
 Page 1 of 3

TITLE: JOB SITE ERECTION - Crane Inspection

AREA INSPECTED: _____

INSPECTED BY: _____ DATE: _____

INSPECTOR SIGNATURE: _____

PCI SAFETY MANUAL REFERENCE SECTIONS: _____

* Check items to be inspected in your area - disregard others not applicable

*	OK	ITEM INSPECTED	NOT OK	COMMENTS
		The Crane Crew: Is the operator and crew properly trained and medically fit to perform their job?		
		Operating is a full time job - does the operator pay strict attention to his duties?		
		Do crane personnel wear hard hats when away from the crane?		
		Is the operator aware of the regulations involving working close to high voltage lines and electrical equipment?		
		High Voltage, even from a distance source, can be induced in metal parts of the crane. Is the operator aware of these situations?		
		Does the operator know the weight of each piece before he picks it?		
		Does the crane crew know the manufacturer's proper recommendations for making short moves on the job site?		
		Does the crew get help when lifting heavy items?		
		Does the crew periodically check for level?		
		Do they check outriggers for stability?		
		Do they check the boom angel indicator and other electronic load equipment for accuracy?		
		Does the operator allow anyone to ride the load or the hooks?		
		The Ground Crew (hooking up product) Does the ground crew have, maintain and use proper safety equipment?		
		Are they familiar with the product erection sequence?		

APPENDIX C: SAFETY INSPECTION CHECKLIST

Page 2 of 3

TITLE: JOB SITE ERECTION - Crane Inspection (continued)

AREA INSPECTED: _____

INSPECTED BY: _____ **DATE:** _____

INSPECTOR SIGNATURE: _____

PCI SAFETY MANUAL REFERENCE SECTIONS: _____

- **Check items to be inspected in your area - disregard others not applicable**

*	OK.	ITEM INSPECTED	NOT OK.	COMMENTS
		(Continue) Are they familiar with the crane signals and general operation of the crane?		
		Do they know how to properly hook pieces and provide aerial stability?		
		Do they know how to properly use tag lines?		
		Are tag lines in good condition, strong enough?		
		Long Enough?		
		Two-way communication between the operator and erection foreman are becoming more common to provide safety on the job. Does the crew know how to operator and maintain the system? Are spare parts available for quick repair?		
		Is the crane swing radius roped off to prohibit the crane (during swing) from causing damage or hurting someone? Is entire swing checked? Including counterweights?		
		The Machine: Is the crane operated within all capacities?		
		Is the machine inspected daily?		
		Are the required crane inspections recorded?		
		Are all controls properly identified?		
		Are warning devices operative?		
		Is an operator's manual available to the crew for easy reference?		
		Are load charts, operating signals and other important information posted and/or readily available?		

APPENDIX C: SAFETY INSPECTION CHECKLIST
Page 3 of 3

TITLE: JOB SITE ERECTION - Crane Inspection (continued)

AREA INSPECTED: _____

INSPECTED BY: _____ **DATE:** _____

INSPECTOR SIGNATURE: _____

PCI SAFETY MANUAL REFERENCE SECTIONS: _____

- **Check items to be inspected in your area - disregard others not applicable**

*	OK	ITEM INSPECTED	NOT OK.	COMMENTS
		(continued)		
		Are brakes within operating limits?		
		Are clutch and brakes surfaces dry?		
		Are all protective panels and guards in place?		
		Are electrical systems in good condition?		
		Are all of the sheaves properly aligned so as to reduce rope wear during work?		
		Is cable in good condition?		
		Are hooks in good condition?		
		Have hooks been inspected by magnetic particle inspection?		
		Are there safety latches on hooks?		
		Are fuel tanks in good condition and without leaks?		
		Are fire extinguishers available and routinely inspected?		
		<u>Slings</u>		
		Are slings in good conditions? Is safety factor of 5 maintained?		
		Are slings stored properly?		
		Are sling inspected reports maintained?		
		Are "U" bolt wire rope clips correctly Placed?		
		Are all other lifting devices in good condition?		

CHECK LIST FOR CRITICAL LIFTS

NOTE: THIS FORM IS TO BE COMPLETED WHEN THE LOAD EXCEEDS 80% OF THE LOAD CHART FOR THE CRANE OR DERRICK OR WHERE THE PICK INVOLVES THE USE OF TWO OR MORE CRANES.

DATE: _____

(1) SUPERVISOR RESPONSIBLE FOR LIFT: _____

(2) DESCRIPTION OF ITEM TO BE LIFTED AND ESTIMATED WEIGHT:

(3) EQUIPMENT AND LIFT RELATIONSHIP:

(A) OPERATING RADIUS..... _____

(B) BOOM LENGTH..... _____

(C) ALLOWABLE LOAD (FROM LOAD CHART)..... _____

(D) RATIO OF LIFT TO ALLOWABLE LOAD..... _____

(E) CLEARANCE TO SURROUNDING FACILITIES..... _____

(F) SLING ANGLE..... _____

(4) CONDITION OF HOISTING EQUIPMENT AND RIGGING:

(A) HAS ALL EQUIPMENT BEEN REINSPECTED FOR THIS LIFT? YES NO

(5) STABILITY OF GROUND AREA:

(A) CHECK SOIL BEARING ALLOWABLE LOAD (COMMENTS):

(B) WILL MATS BE NEEDED? YES NO

CHECK LIST FOR CRITICAL LIFTS (cont.)

(B) ANY UNDERGROUND INSTALLATIONS NEEDING SPECIAL ATTENTION?
 YES NO

(C) WILL IT BE NECESSARY FOR THE CRANE TO WALK WITH THE LOAD?
 YES NO

IF THE ANSWER IS "YES", ANSWER QUESTIONS E, F, & G.

(E) IS AREA SURFACE LEVEL AND STABLE WHERE THE CRANE WILL BE WALKING
 YES NO

(F) HAVE FACILITIES BEEN PROVIDED TO KEEP THE LOAD RADIUS FROM CHANGING?
 YES NO

(G) HAVE ALL OVERHEAD FACILITIES BEEN CHECKED FOR CLEARANCE IN THE AREA WHERE THE CRANE WILL BE MOVING?

(6) DOES THE OPERATOR HAVE THE NECESSARY EXPERIENCE ON THE CRANE AND ON THIS TYPE OF LIFT?
 YES NO

(7) IF LIFT INVOLVES USE OF TWO CRANES ANSWER THE FOLLOWING:

A) HAVE OPERATORS WORKED TOGETHER BEFORE? YES NO

B) WHO WILL COORDINATE INSTRUCTIONS TO OPERATORS? _____

BY: _____
CONTRACTOR'S SUPERINTENDENT

APPENDIX D

APPENDIX D

SPECIAL HURRICANE PRECAUTIONS

During such periods of time as are designated by the United States Weather Bureau as being a hurricane warning or alert, all construction materials or equipment shall be secured against displacement by wind forces; provided that where a full complement of personnel is employed or otherwise in attendance, or engaged for such protection purposes, normal construction procedures or uses of materials or equipment may continue allowing such reasonable time as may be necessary to secure such materials or equipment before winds of hurricane force are anticipated. Construction materials and equipment shall be secured by guying and shoring, by tying down loose materials equipment and construction sheds.

APPENDIX E

APPENDIX E

OSHA General Industry and Construction Standards Requiring a Competent Person

The following OSHA standards require a competent person to perform specific functions under the standard. Standards are arranged numerically within the categories of General Industry and Construction. This list of standards requiring a competent person is to be used as a reference tool and does not supercede OSHA requirements.

General Industry (1910)

- 1910.66, Powered platforms for building maintenance.
- 1910.66 App C, Powered Platforms, Manlifts, and Vehicle-Mounted Work Platforms, Personal Fall Arrest System (Section I - Mandatory; Sections II and III - Non-Mandatory).
- 1910.109, Explosives and blasting agents.
- 1910.139, Respiratory protection for **M**. tuberculosis.
- 1910.183, Helicopters.
- 1910.184, Slings.
- 1910.268, Telecommunications.

Construction (1926)

- 1926.20, General safety and health provisions.
- 1926.53, Ionizing radiation.
- **1926.62, Lead.**
- 1926.101, Hearing Protection.
- 1926.251, Rigging equipment for material handling.
- 1926.354, Welding, cutting, and heating in way of preservative coatings.
- 1926.404, Wiring design and protection.
- 1926.451, Scaffolds.
- 1926.454, Scaffolds, Training requirements.
- 1926.500, Fall Protections, Scope, application, and definitions applicable to this subpart.
- 1926.502, Fall protection systems criteria and practices.
- 1926 Subpart M App C, Personal Fall Arrest Systems - Non-Mandatory Guidelines for Complying with 1926.502(d).
- 1926 Subpart M App E, Sample Fall Protection Plan - Non-Mandatory Guidelines for Complying with 1926.502(k).
- 1926.503, Fall Protection, Training Requirements.
- 1926.550, Cranes and derricks.
- 1926.552, Material hoists, personnel hoists, and elevators.
- 1926 Subpart P App A, Excavations, Soil Classification.
- 1926 Subpart P App B, Excavations, Sloping and Benching.
- 1926.651, Specific Excavation Requirements.
- 1926.652, Excavations, Requirements for protective systems.
-

- 1926.705, Concrete and Masonry Construction, Requirements for lift-slab operations.
- 1926.752, Steel Erection, Bolting, riveting, fitting-up, and plumbing-up .
- 1926.800, Underground Construction .
- 1926.803, Underground Construction, Caissons, Cofferdams, and Compressed Air, Compressed air.
- 1926.850, Demolition, Preparatory operations.
- 1926.859, Mechanical demolition.
- 1926.900, Blasting and the Use of Explosives.
- 1926.1053, Ladders.
- 1926.1060, Stairways and Ladders, Training requirements.
- 1926.1101, Asbestos.
- 1926.1101 App F, Work practices and engineering controls for Class I Asbestos Operations - non-mandatory.
- 1926.1127, Cadmium.



**DEPARTMENT OF
TRANSPORTATION AND
PUBLIC WORKS
ADJACENT CONSTRUCTION MANUAL**

July 2017

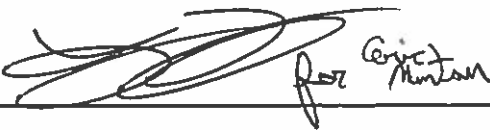
**DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
ADJACENT CONSTRUCTION MANUAL**

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS

OFFICE OF SAFETY AND SECURITY

MIAMI, FLORIDA

July 2017



A handwritten signature in black ink, appearing to read "Eric Muntan", is written over a horizontal line. The signature is stylized and includes a small "for" written above the main name.

**Approved By:
Eric Muntan
Chief, DTPW
Office of Safety and Security**

8-4-17

Date

**DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
ADJACENT CONSTRUCTION MANUAL**

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DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS ADJACENT CONSTRUCTION MANUAL

1.0 Introduction

This manual was prepared in the interest and for the guidance of those who may want to construct a non-Department of Transportation and Public Works (DTPW) physical structure (incl. any excavation, demolition or use of DTPW real property) on, adjacent to, or over, an existing DTPW facility and/or property. The purpose of this Manual is to provide uniform minimum standards and criteria for the construction, development and maintenance of all properties that have or may enter the **Safety Zone** (defined in Appendix A and C) that has been established for all DTPW property and extending on either side of the Metrorail and/or Metromover systems. This includes any equipment, regardless of distance from the guideway, which static or operational failure could directly or indirectly affect DTPW operations or structures.

These standards are intended to provide the basic guidance for the construction, development and maintenance of property adjacent to the operating guideway systems so as to:

1. Protect the safety of the general public and DTPW Employees.
2. Protect the guideway system and the DTPW property from physical damage.
3. Preserve the level of service and operational schedules so as to cause the least disruption for the ridership and use of the DTPW system.

This manual outlines the design guidelines and criteria to follow for the design and submittal of construction plans and specifications to DTPW for review prior to construction of the project. It is the general policy of DTPW to review designs for construction projects adjacent to or on DTPW property on a case-by-case basis to ensure that DTPW facilities are not damaged by the proposed construction, and that DTPW operations are not impacted during or after the adjacent construction.

DTPW maintains half-size "as-built" drawings in its Engineering, Planning & Development (EP&D) Library. Half-size copies of any of the drawings on file are available at printing costs. The full-size drawings on file are available at printing costs. The full-size drawings are normally in archival storage. Full size drawings may be obtained by special request. The Manager, DTPW Document Control, may be contacted (telephone: (786) 469-5268) for an appointment to review the drawings and to order prepaid copies as required.

The criteria provided herein are general in nature and for the sole purpose of providing a selective overview of the design requirements. Specific designs performed in the past by DTPW's consultants may not necessarily be in total conformance with this manual. It is considered to be the Developer's responsibility to obtain the original design computations, where available, from DTPW to completely understand the original design intent in order to accurately assess the impact of their proposed construction on the DTPW structures and facilities. A map of the DTPW Metrorail and Metromover system is provided in Section 2.0 (below) for use in locating "as-built" drawings.

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2.0 System Maps (Rail & Mover)

2.1 Metrorail System



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2.2 Metromover System



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3.0 General Procedures for Adjacent and Transit Right-of-Way Construction Activity

Developers or agencies contemplating any construction activity adjacent to or on Department of Transportation and Public Works (DTPW) facility, structure or property, including any excavation, maintenance, restoration, demolition or use of DTPW real property, should provide, for review, three (3) copies of their drawings and three (3) copies of their calculations, showing the relationship between their project and the DTPW facilities.

Sufficient drawings and details should be submitted to facilitate DTPW's review of the effects that the proposed project may or may not have on the DTPW facilities. A DTPW review requires internal circulation of the construction drawings to concerned departments. Drawings normally required for review are:

- Site Plan
- Drainage Area Maps and Drainage Calculations
- Architectural drawings (basement plans through top floor)
- Sections showing foundations and DTPW Structures
- Structural drawings (provide relative sections showing DTPW)
- Column load tables
- Pertinent drawings detailing an impact on DTPW facilities
- A copy of the geotechnical report

If uncertainty exists on the possible impacts a project may have on the DTPW facilities, and before making a formal application for a review of a construction project adjacent to the DTPW System, the developer or his agent may contact the **Chief, Right-of-Way and Utilities Division** should be contacted at **(786) 469-5244**.

Sheeting and shoring drawings should be accompanied by calculations. The drawings and calculations should contain comments, details, notes, and instructions describing the proposed sequence of construction.

When the design of foundations and site work of the project has progressed to the point considered complete and ready for review, the drawings and calculations, as applicable, should be sent to:

**Chief
Right-of-Way and Utilities
Department of Transportation and Public Works
701 N.W. 1st Court, Suite 1500
Miami, FL 33136**

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS ADJACENT CONSTRUCTION MANUAL

A period of 15 working days should be allowed for review of the drawings and calculations. Fifteen (15) days should be allowed for each successive review as required. Additional review time may be required for complex projects.

Reimbursement is required for the cost of providing support services for adjacent construction and joint development projects where access is required into the operating Metrorail/Metromover system; or the system is impacted. As part of the review procedure, and before any work may proceed, the developer will be required to sign a letter accepting this obligation.

The applicant must receive written approval for the design of a given project by the DTPW Chief, Right-of-Way & Utilities or DTPW Fire/Life Safety Technical Committee Chairperson (as applicable), prior to the start of construction.

Project Documents shall be reviewed and accepted by the appropriate DTPW Divisions for possible impact on DTPW facilities and operations, including all elements associated with the construction of the project and any temporary protection system needed to preserve the system safety.

Each "Part" of the project's design shall be reviewed and approved by the DTPW Design and Engineering Division (DED). A few of the more common "Parts" of a project are considered to be sheeting and shoring, overhead protection, dust protection, dewatering, temporary use of public space for construction activities.

The DTPW review process is outlined in Figure 1 below

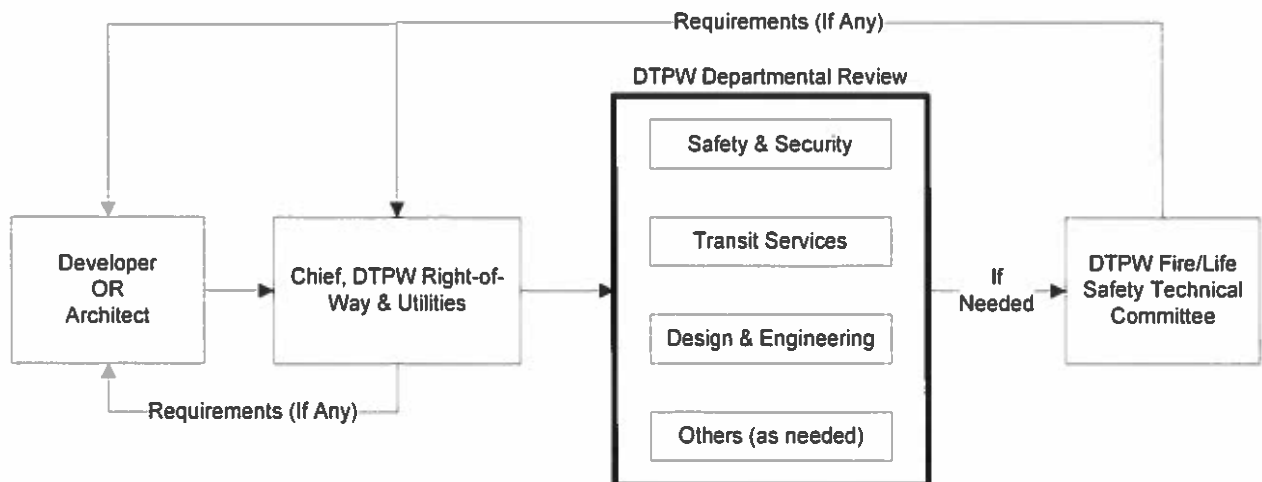


Figure 1

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS

ADJACENT CONSTRUCTION MANUAL

3.1 Fire/Life Safety

DTPW Office of Safety and Security is charged with the responsibility to chair the DTPW Fire/Life Safety Technical Committee which was formed in 1978 to guide Department of Transportation and Public Works (DTPW), rapid transit operations, in developing and following emergency procedures and operational procedures to ensure all fire/life safety related equipment is in proper order and all associated personnel are appropriately trained; to prescribe testing and inspection procedures for fire/life safety equipment in accordance with appropriate codes; to assist the DTPW in developing and implementing a comprehensive joint training program for fire/rescue personnel and DTPW employees; and, to interpret and apply fire/life safety codes, criteria and standards to the design of the fixed guideway systems.

The DTPW Fire/Life Safety Technical Committee acts on behalf of the DTPW Director in accordance with the above to interpret and apply fire/life-safety requirements incorporated in the Florida Building code; National Fire Protection Association Codes and Standards; State Statutes and Fire Marshal's Office; South Florida Fire Protection Code; DTPW Criteria and Standards; other applicable codes, standards and criteria; and, as required, to develop, and verify implementation of, design standards for the DTPW to protect life and property. The Committee works closely with Transit Engineering for design of fire/life safety features and test and maintenance of alarm systems. For test and maintenance of fire suppression systems, the Committee works with facilities maintenance organizations.

As required by the current System Safety Program Plan, the Fire/Life Safety Technical Committee addresses fire/life safety concerns, as described above, for all phases of DTPW Metrorail, Metromover, Metrobus and Special Transportation Services Operations. The Committee also serves as liaison with all Miami-Dade County jurisdictions for development and coordination of emergency response procedures and annual emergency response drills.

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4.0 DTPW Review Policy

All design work will be reviewed based upon the assumption that the design will meet the applicable code adopted in the jurisdiction as well as the DTPW Design Criteria and DTPW Standard Specifications. The DTPW design concepts, as set forth herein, generally represent the design approach used by DTPW in the design of its facilities. The effect of adjacent construction upon DTPW structures should be examined based upon the same approach.

Permits, where required by the local jurisdiction, shall be the responsibility of the developer.

Monitoring of the temporary support of excavation structures for adjacent construction shall be required in all cases for excavations within the influence line of DTPW structures (Appendix B). The extent of the monitoring will vary from case to case. Structural design computations maybe required for the adjacent construction. When requested by DTPW, the calculations submitted for review shall include the following:

- A concise statement of the problem and the purpose of the calculation.
- Input data, applicable criteria, clearly stated assumptions and justifying rationale.
- References to articles, manuals and source material should be furnished with the calculations.
- References to pertinent codes and standards.
- Sufficient sketches or drawing references for the work to be easily understood by an independent reviewer. Diagrams indicating data (such as loads and dimensions) shall be included along with adequate sketches of all details not considered standard by DTPW.
- The source or derivation of all equations shall be shown where they are introduced into the calculations.
- Numerical calculations shall clearly show all English units.
- Identify results and conclusions.
- Calculations shall be neat, orderly, and legible.

Drawings should be drawn, to scale, showing the location and relationship of the proposed adjacent construction to existing DTPW structures at various stages of new construction along the entire adjacent alignment. The stresses and deflections induced in the existing DTPW structures should be provided.

The short-term and long-term effects of the new loading due to the adjacent construction on the DTPW structures should be provided. The soil parameters and other pertinent geo-technical criteria contained herein should be used to analyze the existing DTPW structures.

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS ADJACENT CONSTRUCTION MANUAL

DTPW structures shall be analyzed for differential pressure loadings caused by dewatering the adjacent construction site.

A system of earth retaining structures is required for new excavations adjacent to DTPW structures. Design calculations and drawings stamped and prepared by a Registered Professional Engineer experienced in this type of work, and registered in the state where the work will be performed, are required.

All DTPW underground concrete structures are designed using the ACI Alternate Design Method (working stress design) to curtail excessive deflections and cracking. DTPW underground structures shall be fully reevaluated, for the effects caused by the adjacent construction, using working stress techniques.

4.1 REVIEW SUBMITTALS - DRAWING CRITERIA

General

All designs for the protection, support (sheeting and shoring) and underpinning of existing DTPW structures shall be reviewed by DTPW's Design and Engineering Division (DED). The investigation of the feasibility of various underpinning and dewatering schemes for structures constructed adjacent to DTPW facilities shall be investigated by the developer. The developer's engineer should make recommendations concerning the best underpinning design for a particular structure.

The developer's contract drawings and specifications shall require his construction contractor to maintain, protect and be responsible for the safety, stability and integrity of all adjacent DTPW structures which may be affected by his work.

Drawing Details

The following information shall be included in the drawings submitted for review of an adjacent construction project:

- Dimensioned clearances, both horizontal and vertical, between the adjacent developer's construction and DTPW structures, track, roadways, parking areas and utilities.
- Details of the proposed modifications to DTPW's roadways, parking areas, and busways. Include sections and details showing the relationship of existing facilities and proposed facilities.
- Cross sections with the existing and proposed contours and limits of grading work shown in relation to the property lines and the impact or lack thereof on DTPW facilities. Where grading changes are required in DTPW property, provide the dimensions and square footage of the area required for construction easements.
- Hydrologic and hydraulic calculations showing the impacts on the DTPW drainage system are required if storm drainage from the proposed development is to be discharged into the existing DTPW drainage system. Appropriate sedimentation

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and erosion control measures should be included upstream of the discharge point onto DTPW property.

- Where modifications to DTPW utilities are required by adjacent construction, submit for review cross sections, plan and profiles, specifications and design calculations concerning the utility modifications. Details for maintaining electrical and water service to DTPW Stations should be shown when required.
- Where construction will impact a DTPW station entrance and the public, include in the submittal plans for temporary pedestrian and vehicular traffic circulation for the area around the station entrance. Where construction will be adjacent to or above a Metrorail/Metromover station entrance, protection will be required over the escalators in accordance with Section "Overhead Protection" of this Manual. Provide the construction plans, the shop drawings or the working drawings showing the phasing of adjacent construction as well as the construction details for overhead protection, pedestrian barricades, and sidewalk protection. Requests for relocation of bus stops and bus shelters shall be clearly shown on the plans. Barricades and signing necessary to direct the public through the construction zone will be required. Lighting will be required as part of all overhead protection structures.
- Provide construction protection details to preclude impacts on DTPW landscaping, street furniture, pylons, bus shelters and light fixtures.

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5.0 DTPW Operational Requirements

DTPW shall have the right to stop any work or construction activities that effects the safety of the DTPW patrons and or facilities or normal DTPW operations. DTPW will exercise reasonable advance notice, except for any matters related to immediate system concerns which will require no advance notice.

Construction work which may have any impact on the Metrorail/Metromover Systems may be scheduled during the Non-Peak Operating Hours or Non-Passenger Hours. Non- Peak Operating Hours are defined as weekdays prior to 6:30 A.M. or after 7:00 P.M. and between 10 A.M. and 3 P.M.; and all day Saturday and Sunday. Non-Passenger hours are defined as Monday through Sunday 12:30 A.M. to 4:30 A.M. Passenger hours may change without notice.

Construction work that may impact weekend or special operational conditions will be limited. Schedule requirements will be addressed on a project by project basis where the individual scheduling need of the project can be evaluated with respect to the operations of the DTPW system.

5.1 General Conditions for Construction Adjacent to the Metrorail or Metromover Guideway/Facilities

- A. Clear access is required on a 24 hour basis for ingress and egress for transit patrons, fire and rescue personnel, and maintenance personnel.
- B. A contact person will be named by the Contractor to act as liaison with the DTPW Office of Safety and Security for all matters related to safety of the DTPW System. A contact person shall also be named (may be the same person) to act as liaison with the DTPW Metrorail/Metromover Operations Division for all matters related to operation of the Transit System.
- C. DTPW shall have the right to review all plans and any construction with reasonable advance notice, except for any matters related to immediate system safety concerns which will require no advance notice.
- D. No construction elevators or cranes will be erected on the Metrorail/Metromover guideway side of the building/structure being constructed or demolished.
- E. The Metrorail/Metromover guideway shall not be used to support and/or brace construction scaffolding or equipment.
- F. For any activity within the **Safety Zone**, the following requirements may apply pending DTPW review.
- G. At least forty-eight hours notice describing the nature of the work shall be provided to the DTPW prior to commencement of work.
- H. The contractor will provide special protection, such as netting, barricades, walks, screens, scaffolds, etc., acceptable to DTPW, to help ensure the safety

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- of DTPW property, patrons and employees. No work shall be permitted unless such protection is provided as determined necessary by DTPW.
- I. Best efforts will be used to schedule all construction work which may have any impact on the Metrorail/Metromover System during the Non-Peak Operating Hours or Non-Passenger Hours. Non-Peak Operating Hours are defined as weekdays prior to 6:30 A.M.; after 7:00 P.M. and between 10 A.M. and 3 P.M.; and all Saturdays and Sundays. Non-Passenger Hours are defined as Monday through Sunday 12:30 A.M. to 5:00 A.M. or such other hours as may be designated by the County as Non-Passenger hours. Passenger hours will change as required by DTPW.
 - J. No crane lifts, other crane operations or any other operation shall be performed within the **Safety Zone** (Appendix A and C) without prior approval (in writing) from DTPW. This paragraph shall apply where any part of the load or crane (incl. counter weight), construction equipment or operation that is above the surface of the guideway running pad/rail.
 - K. For any construction activity within the **Safety Zone** (Appendix A and C) or that may encroach into the Safety Zone, DTPW may deem, as necessary, at the contractor's expense, a DTPW employee or DTPW authorized contractor or consultant (Monitor), to coordinate the contractor's activities with Central Control. This employee will be responsible for monitoring construction activities and communicating with DTPW Central Control. DTPW will determine, in the reasonable exercise of its discretion, the number of hours the above-mentioned employee is needed. The construction contractor will reimburse DTPW for costs arising from the provision of the above-mentioned employee which will be charged at the current rate.
 - L. DTPW may, at its discretion, modify any of the above conditions or impose additional conditions, to help ensure the safety of the public, and its patrons, employees or property.

5.2 DTPW Monitor and Contractor Coordination

A. Start-up

There will be continued meetings between representatives from DTPW, and Contractor/Developer's project manager, DTPW crane Monitors, the Contractor's crane operators and the form-work Contractor prior to the commencement of the phase work by the tower cranes and any other equipment or operation, adjacent to the DTPW Metromover/Metrorail Guideway System. In addition, DTPW Monitors and the contractor equipment/crane operators will continue to meet daily, at the beginning of the work day, of the project to establish a working relationship of the daily routines in and around the DTPW safety zone.

No construction work requiring a DTPW Monitor will commence until the Contractor provides the DTPW Monitor a functional Contractor radio, and sign off for same as per contractor procedures. Upon arrival at the project site, the DTPW Monitor will

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immediately contact the DTPW Central Control Facility, to advise of his/her presence at the project site.

If, at any time during the construction project, a new crane operator is brought on-site to operate any crane, he/she must be apprised of all of the rules and regulations outlined in this Plan by the Contractor's/Developer's Project Manager.

B. Special Provisions – Pre-Task Plan

At the discretion of DTPW, based on construction project proximity to DTPW system and scope of work, DTPW may assign a DTPW manager to log in arrival of DTPW Monitor(s), at the construction site. The assigned DTPW manager will contact the Contractor Senior Superintendent to request and receive a Contractor radio and meet with the Contractor Senior Superintendent and Contractor trade partner /Superintendent or Foreman to go over planned work. The Contractor Senior Superintendent, Contractor Trade Superintendent/Foreman, the DTPW Monitor and the assigned DTPW manager will complete and sign the Contractor Pre-Task Plan (PTP) Form, as specified in the DTPW Adjacent Construction Manual. Until this revised PTP form is accurately and completely filled out, scheduled work warranting a DTPW Monitor shall not proceed. After the PTP form is completed, if PTP is deemed by DTPW, the assigned DTPW manager and the DTPW Monitor shall walk to the selected area to commence monitoring duties, performing a radio check with the operator or crew on the other end of the Contractor radio. If the radio check is successful, the DTPW Monitor will use the DTPW radio to communicate to the Rail Central Control Facility to advise that the Contractor will commence with construction work.

C. Commencement of Work

Once receiving authorization from the appropriate Rail Traffic Controller, the DTPW Monitor will use the Contractor radio to communicate to the work crew that it is now permissible to begin work. The Contractor representative and the DTPW Monitor will sign the provided Central Control log form (as specified in the DTPW Adjacent Construction Manual), with the corresponding approval code, to confirm hearing the verbal approval from the Rail Central Control Facility over the DTPW radio before commencing with work. This log records the code, date, time, location, equipment being used, person giving code and DTPW Monitor receiving code.

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6.0 Construction Activity Considerations

The Contractor shall comply with the following requirements:

- The Contractor shall assume full responsibility for the compliance with all applicable Federal, State and local regulations and for complying with this Manual for construction adjacent to the right-of-way during the performance of all work.
- Provide an overall maintenance of traffic (MOT) control plan for pedestrians, vehicular traffic and construction operations. Establish a general visitor control program if required.
- Maintain responsibility for project safety on the work site for the company employees as well as its' subcontractor employees.
- Require each of the Contractor's personnel that may need access on the guideway, to attend the DTPW Orientation and Guideway Safety Class. The Contractor shall reimburse costs of these classes to the DTPW.

6.1 DTPW Personnel/Public/Property Safety & Security

6.1.1 Mechanical Criteria

Existing services to DTPW facilities, including chilled water and condenser water piping, potable and fire water, fire standpipes and storm and sanitary sewers, are not be interrupted nor disturbed without written approval of DTPW.

Clear access for the fire department to the DTPW fire standpipe system and guideways shall be maintained at all times. Construction signs shall be provided to identify the location of DTPW fire standpipes. Call **DTPW Office of Safety and Security (305-375-4240)** 48 hours in advance of any approved interruption to fire standpipe water service.

Modifications to existing DTPW mechanical systems and equipment, required by new connections into the DTPW System, will only be permitted with prior review and approval by DTPW.

The adjacent construction developer will be required to submit the design calculations, drawings, specifications, catalog cuts and any other information necessary to fully describe the proposed modification.

At the option of DTPW, the adjacent construction developer will be requested to perform the field tests necessary to verify the adequacy of the modified system and the equipment performance. Where a modification is approved, the developer shall be held responsible to maintain original operating capacity of the equipment and the system impacted by the modification.

6.1.2 Corrosion & Stray Current Protection

The developer should be aware that, since Metrorail/Metromover transit cars are powered by direct current (DC) electricity, direct current can enter the earth through

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unintentional leakage from the DTPW negative ground return system. The leakage or stray current may flow to the discharge from underground metallic elements (i.e. steel reinforcing, pipelines, grounding systems, etc.) which are in contact with any electrolyte, including earth, in the vicinity of the DTPW System. Because stray current may be corrosive to metal at locations where it flows into an electrolyte, the developer is cautioned to investigate the site for stray current and to provide the means for stray current mitigation when warranted.

Further information concerning stray current mitigation can be obtained by contacting The National Association of Corrosion Engineers (NACE), P.O. BOX 218340, Houston, Texas 77812, telephone (713) 492-0535.

6.1.3 Electrical System Interference

No interference to existing DTPW duct banks for the following electrical services shall be allowed:

- 13.8 K.V. service from Florida Power & Light
- 480 V. Florida Power & Light or from DTPW substations
- 480 V service to lighting in Parking Lots, Kiss and Ride areas, and 120 V service to Bus Shelters.

If any of the listed duct banks are affected by the adjacent construction, all information shall be submitted to the DTPW and utility company for review and approval.

No interference to existing DTPW duct banks for the following services shall be allowed:

- Telephone cables from Bell South
- DTPW train control and communications cables

Redesign of Facilities

The design for relocation or modification to existing DTPW parking lots, or Kiss & Ride areas and bus shelters shall be done in accordance with DTPW Design Criteria, Directive Drawings and Standard Specifications. To minimize interruption of DTPW operations, a phasing plan shall be developed and submitted for approval.

Proposed relocation of light fixtures, if any, shall be submitted for DTPW approval.

Existing ground-grids and ground conductors from ground-grids to DTPW facilities shall not be disturbed. No digging or cutting into existing DTPW facilities (ductbanks, wall, floor or ceiling) shall be permitted.

Access to personnel and equipment hatches for underground facilities shall not be blocked. In case any structure is built over an equipment access hatch, adequate passageway for entry of a heavy truck and clearance for the use of a crane to lower equipment from the truck into the hatch shall be provided.

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In case any structure is built adjacent to DTPW at-grade facilities (traction power substations, tiebreaker stations, train control or communications rooms), passageways for heavy trucks and adequate clearance for the use of cranes to move equipment from trucks into and out of the equipment hatches shall be provided.

Emergency access gates for at-grade or aerial sections of DTPW rail shall not be blocked. Adequate passage from the gates to public streets shall be provided.

6.1.4 Modifications/Direct Connections to a DTPW Station

Connections to Metrorail/Metromover Facilities shall be designed, built and paid for by the person requesting the connection in accordance with DTPW Design Criteria or through a Direct Connection Agreement. Below are the items that shall be considered in the design of the connections.

The connection shall have a bronze flexible gate installed between the two passageways. The gate or grate shall be keyed on both sides with separate locks. To open the gate both locks will have to be open. Where the connection has 24-hour manned security on the non-DTPW side of the connection, glass doors may be used in lieu of a gate. If doors are used, each door shall be locked from both sides.

When required, a Closed-Circuit Television (CCTV) will be installed at the developer's expense and connected to the DTPW Kiosk. Power for the cameras shall be run from the CCTV to the station power room. The existing conduit runs and spare breaker locations can be found in the DTPW "As Built" drawings. It is the developer's responsibility to have this research performed by a competent professional. Intrusion alarms shall be installed on the gate or door and control wires installed between the gate or door and the communications room by the developer's contractor. Final connection will be made by DTPW to the DTPW security system.

Finishes on the interior of the DTPW side of the connection shall be to DTPW standards and specifications.

Lights in the new passageway shall be run to the developer's power room and included in the development's emergency power panel.

In the event that a Direct Connection is to be maintained by DTPW then the design will be in accordance with DTPW Design Criteria and construction would be required to meet DTPW's standard construction specifications. Normally the Direct Connection passageway is designed to be compatible with the building of which they are constructed as a part.

Before removing the knock-out panel the contractor shall have an approved dust protection system in place and fully functional. Typically, a dust protection system shall consist of a stationary partition that isolates the knock-out panel from the station. The dust partition shall be constructed using only fire rated materials. All joints shall be sealed with tape. Construction of the partition shall be during non-passenger hours.

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Adjacent construction with a connecting passageway(s) to DTPW facilities will require special features to isolate one facility from the other for fire-safety, and may include automatic fire doors and dampers, sprinkler systems, smoke removal and ventilation systems and detection and alarm systems as required by the local fire code.

6.1.5 Signs, Signals, Barricades and Traffic Control General Requirements

1. All traffic signs or devices used for protection of construction workmen or the public shall conform to the State of Florida Manual on Traffic Control and Safe Practices on Street and Highway Construction.
2. Barricades, cones and/or similar protective devices shall be used whenever men or equipment are exposed to traffic or similar hazards.
3. When traffic lanes are closed due to work activity, advance warning signals and high level warning devices shall be used as described in the State of Florida Manual on Traffic Control and Safe Practices on Street and Highway Construction.
4. Flagmen and signalmen will be properly trained and use appropriate procedures, using the current FDOT manual.
5. All employees working adjacent to traffic shall be required to wear reflective vest, per FDOT manual.
6. Whenever and wherever possible and necessary, line voltage (12 volt) protected lights shall be used to mark fences and barricades and other such encroachments onto public streets or sidewalks.
7. Where covered sidewalks are required they shall be provided with permanent lights to provide sufficient illumination for safe use by the public day or night. All bulbs shall be cage-protected.
8. Public walkways shall be kept clean and free of hazards at all times.
9. Where the Contractors are required to provide public walkway, they shall have abrasive non-slip surface.
10. Where access to bus stop is disturbed or obstructed by the Contractors operations, safe access will be maintained or the bus stop relocated as directed by DTPW. Coordination for maintaining or relocating bus stops with the appropriate agencies is the sole responsibility of the Contractors.
11. When steel plates or similar covers are used on public ways to cover excavations they shall be substantially secured to prevent movement imposed by traffic. Covers shall have non-slip surface, conforming to OSHA Specifications.

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12. When such covers are located where there is pedestrian exposure, they shall be tapered at all sides with cut back cold mix or similar material to eliminate tripping hazards. Covers shall have non-slip surface.
13. Free access shall be maintained to every fire extinguisher, fire hydrant, fire alarm box, fire escape and standpipe connection, street and traffic light control box. When required, hydrants shall be extended by suitable tube or piping to an accessible point as approved by DTPW. No obstructions shall be allowed at any time within 15 feet of a fire hydrant. Where materials are placed in the vicinity of a fire hydrant or a fire alarm box or fire extinguisher, and to such a height as to prevent the same from being readily seen, the position of such hydrant or fire alarm box or fire extinguisher shall be indicated by suitable signals, both day and night.
14. The Contractor shall erect and maintain fences and barricades to enclose the Contractor's work area, and provide watchmen where required to prevent unauthorized access.

6.1.6 Material Handling (Storage, Use and Disposal) General Requirements

1. All materials stored in tiers shall be secured to prevent sliding, falling or collapse.
2. Reinforcing steel shall not be used as a lifting ("Pick") point on any load or as a guy line anchor.
3. Hooks, except special sliding choker hooks shall be securely moused when in use, or shall be provided with a functioning safety latch.
4. Scrap material of any kind, type or nature shall be placed daily into appropriate containers specifically supplied for this purpose. Containers shall be removed from the work site when full.
5. Loose material on open decks or other exposed locations shall be removed or secured at the end of each day to eliminate dislodgment by wind or other causes.
6. Compatibility of stored materials and storage methods will comply with all applicable OSHA, Fire Department and environmental agency standards.
7. Employees required to handle, use or dispose of hazardous materials shall be instructed regarding the safe handling, proper procedures, potential hazards, personal hygiene, and personal protective equipment required.
8. No explosive or flammable materials shall be stored under the guideways.
9. Disposal of materials shall be in accordance with all applicable Federal, State and Local regulations. All applicable recordkeeping and reporting requirements shall be met by the Contractors.

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6.1.7 Adverse Weather Conditions General Requirements

1. Disassemble all scaffolds, loose formwork, radio antennas and secure properly.
2. All items that cannot be secure shall be stored inside secured storage areas or buildings.
3. All crane booms shall be lowered to ground level and secured to prevent movement.
4. All office trailers shall be tied down in compliance with MDC Tie-Down Ordinance No. 77-1 upon original installation. All tie down straps, ground anchors, piers, etc., shall be checked for condition and operation.
5. All exposed glass on the Work Site shall be protected by a solid, rigid covering.
6. All free standing walls shall be stored from both sides.
7. Before employees are dismissed from the Work Site, the Contractors shall make a through inspection to verify all necessary precautions have been taken.
8. All precautions for construction sites during hurricane conditions, as required by the Florida Building Code shall be met.

6.1.8 Housekeeping General Requirements

1. All refuse piles shall be removed from the Work Site immediately.
2. Stored and stacked materials shall be kept orderly, properly stacked, choked, and secured.
3. Any protruding nails, etc., shall be bent, removed or clinched immediately.
4. Oil, grease, and water spills shall be cleaned up immediately.
5. Loose materials, tools, or equipment shall be kept off stairs, out of walkways, ramps, platforms at all times when not in use.
6. Depressions and pot-holes in vehicle or walkway surfaces on the Work Site shall be properly filled and graded immediately.
7. Walkways, vehicle travel ways, ramps, railings, and stairways, shall be kept free from debris, properly installed and maintained.
8. Smoking or the use of open flames within 25 feet of flammable storage areas or fueling areas shall not be permitted.

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9. Flammable storage areas shall be properly posted **“NO SMOKING”**, provided with adequate fire extinguishers and free of combustible materials.
10. All sanitary facilities used on the Work Site shall be maintained on a daily basis.
11. All structures shall have a minimum of a 5-foot perimeter clearance that is to be free from any combustible debris or materials.

6.1.9 Overhead Protection

Overhead protection from falling objects shall be provided over DTPW facilities whenever there is a possibility, due to the nature of a construction operation, that objects could fall in or around DTPW guideway, at-grade sections, DTPW facilities, DTPW station entrances and areas designated for public access to DTPW facilities. Erection of the overhead protection for these areas shall be done in strict accordance with the requirements of this Manual and applicable standards cited herein.

The design live load for all overhead protection shall be in compliance with the minimum required by the current Florida Building Code and/or other(s) enforceable code. Overhead protection design shall include provision for impact loading when located adjacent to demolition projects or construction / maintenance projects where it is foreseeable that construction debris could fall on or near DTPW Facilities. Overhead protection for impact loading must be designed for a minimum of 300 pounds per square foot and to resist the force of impact of the largest foreseeable member or building element as taken from the elevation of that element. All overhead protection shall be designed by a licensed professional engineer. The design wind load on the temporary structures shall be in accordance with the calculated loads for components and claddings per the latest edition of the ASCE 7 Code.

Overhead protection over sidewalks and pedestrian areas shall be constructed of fire resistant materials. The vertical clearance between walking surface and the lowest projection of the overhead protection shall be 6'- 8". Construction materials and equipment shall not be stored on the completed walkway and pedestrian areas of the overhead protection roofs. A clear path from any DTPW emergency exit to the public street shall be maintained at all times.

The contractor will provide special protection, such as netting, barricades, walks, screens, scaffolds, etc., acceptable to DTPW, to help ensure the safety of DTPW property, patrons and employees. No work shall be permitted unless such protection is provided as determined necessary by DTPW. Erection of protective structures shall not be done during normal passenger hours unless by written authorization through DTPW.

Lighting of overhead protection at sidewalks and pedestrian areas is required and shall be provided under the overhead protective to maintain a minimum level of ten (10) foot candles at the walking surface. The temporary lighting will be maintained by the contractor.

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With written DTPW authorization, the Overhead or Fall Protection structure may be constructed over the right of way and the guideway, if designed for the use for which it is intended, as well as in accordance with the above minimum design load requirements. The shield shall be constructed or installed during non-passenger hours. Once installed, limited work may proceed above the overhead protection during non-passenger hours.

6.1.10 Cranes and Swing Stage Scaffolding

General Requirements

The erection or staging of cranes, construction elevators and man lifts, swing stage or scaffolding, debris chutes or gantries shall not be performed within the 30 feet of the guideway drip line during passenger hours, without an authorized DTPW "Monitor" under radio communication with Central Control, on site.

Crane lifts located within 30 feet of the DTPW guideway drip line are permitted during non-peak passenger operating hours only when coordinated by an authorized DTPW crane Monitor or DTPW authorized employee under radio communication with Central Control on site. Under no conditions will loads be permitted to be swung over or within 5 feet of the guideway.

Crane lifts and exterior building operation conducted from swing stage that are located within the DTPW Right of Way or within 30 feet of the guideway drip line are permitted only during non-peak operating hours and only when coordinated by an authorized DTPW Monitor under radio contact with Central Control.

No construction elevators or cranes will be erected on the Metrorail / Metromover guideway side of the building /structure.

The contractor must ensure that all cranes are operated only by trained, experienced and competent operators who hold either an Operating Engineers, Local Union, Verification of Competence and Experience or equivalent licensure.

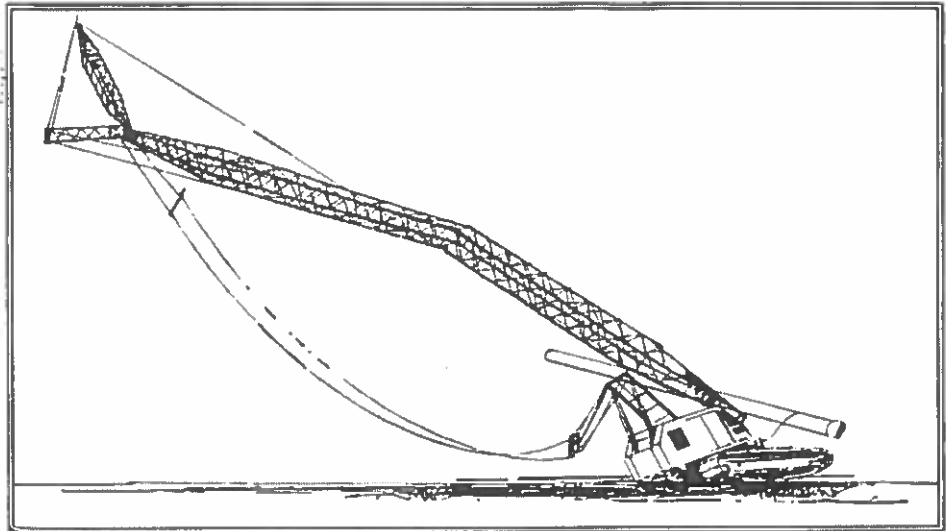
The contractor must also ensure that the men who direct, rig and handle loads are adequately trained, able to establish load weights, judge distance, heights and clearance and capable of selecting tackle and lifting gear suitable for the loads lifted.

All crane/scaffolding operations within the DTPW Right of Way and 30 feet of the guideway drip line are subject to inspection by the DTPW Design and Engineering Division, Metromover Maintenance Division and DTPW Office of Safety and Security. Cranes operated within DTPW Right of Way and Safety zones shall have complete maintenance, repair and inspection logs present on the machine and available for review. DTPW reserves the right to refuse the operation of any machine that the structural condition or stability of the machine is questioned regarding the task attempted by the contractor.

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MOBILE CRANES

Over 50% of all
Crane Accidents
are “caused”
when the
machine is
improperly set
up.



The size, boom length and capacity of all cranes operated on projects within the DTPW Right of Way and Protective Safety Zones must be clearly shown on a site plan as part of an DTPW Access Permit application. The swing radius of the machine must be shown on the site plan with respect to the location of DTPW facilities.

Adequate care must be demonstrated by the contractor to DTPW representatives when setting up cranes and booms. Cranes shall be erected in strict conformance with the manufacturer's specifications and standard of good construction practice. Outriggers and support shall be adequately cribbed and blocked so as to properly brace the crane frame.

Adequate swing clearance shall be provided at the counterweight of the crane cab. At no time shall the counterweight swing clearance be less than 5 feet from the DTPW guideway drip line, without an authorized DTPW crane Monitor or employee under radio communication with Central Control on site. Overturning boom stops are required on all cranes when the boom angle exceeds 50 degrees from horizontal.

Mechanical swing limit switches and stops may be required to limit crane swing over and adjacent to the DTPW guideway and DTPW facilities. At no time will loads be allowed to be swung over the DTPW guideway, DTPW Stations or DTPW facilities.

Sheet pile and driven pile crane operations should be erected so that the crane and boom are situated perpendicular to the DTPW guideway. Staging and erection of piling should be adequately restrained or stayed such that the piling cannot topple into DTPW facilities during setup operations.

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Tower Cranes

Tower cranes may be employed on projects that are adjacent to the DTPW facilities and guideway systems and that are tall enough, have sufficient jib length to reach a distance of 30 feet from the guideway drip line or that loads could be swung over DTPW facilities, are regulated by this manual. In general all tower cranes with base of tower located at a distance from the DTPW guideway drip line less than the height of the tower crane are subject to the restrictions in operation of this chapter.

Tower cranes are subject to wind movement and must be able to weather-vane during periods of high wind. Weather-vaning tower cranes, when cranes are not in use, are allowed to swing over DTPW guideway or facilities during passenger hours.

Tower cranes are subject to fatigue cracking and failure at the tower and jib connections. A certified structural inspection log of the Crane tower, jib, cables and haulage assemblies must be provided to DTPW on all tower cranes located in areas that they could affect DTPW facilities.

6.1.11 Excavations, Foundations and Sheet Piling

Until provisions for permanent support have been made, all excavations shall be properly guarded and protected so as to prevent the same from becoming dangerous to life and property and shall be sheet piled, braced and/or shored, where necessary, to prevent the adjoining earth from caving in; such protection to be provided by the person causing the excavation to be made. No excavation, for any purpose, shall extend within five (5) feet of the angle of repose of any soil bearing footing or foundation unless such footing or foundation is first properly underpinned or protected against settlement.

The design of all soils excavations, stabilization, modifications, underpinning or laterally protected with sheet piling shall be designed by a licensed professional engineer known to the Building Official to be qualified to evaluate the bearing capacity of soils. This design shall include a Geotechnical Soils investigation such that the registered Professional Engineer shall submit to the Building Official a letter attesting that the site has been observed and the foundation conditions are similar to those upon which the designed is based. The letter shall be signed and bear the impress seal of the engineer or architect, as applicable. Geotechnical soils sampling shall be conducted at sufficient frequency to ensure that the soils conditions on the project site are representative of the design conditions.

Angle of Repose

The angle of repose of all support soils within the DTPW Right of Way and safety zones shall be considered as 1:1 ratio. No excavation, for any purpose, shall extend within five (5) feet of the angle of repose of any DTPW soil bearing footing or foundation unless the design capacity of that footing is evaluated by the design Engineer of Record and his recommendations are approved by DTPW with respect to the design engineers modifications. Refer to Appendix B for clarification.

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Pilings

Sheet pilings, driven pilings, auger cast pilings or other operations that create significant soils vibration shall be closely monitored with seismic accelerometers to verify the energy transmitted into the DTPW structures is less than 0.22 inches per second. Additional detailed survey analysis may be required to verify that no settlement has occurred in the course of the work.

Excavators

Excavation equipment operated within the DTPW Right of Way and Safety Zones must take extra care to avoid causing damage to DTPW facilities. Track excavators have similar swing geometry problems as mobile cranes and are capable of causing significant damage if improperly operated. Similarly, improper operation of wheel loaders, excavators, dump trucks and vibratory rollers can cause impact and vibration damage to structures.

The contractor must ensure that all heavy excavation equipment is operated only by trained, experienced and competent operators who hold either an Operating Engineers, Local Union, Verification of Competence and Experience or equivalent licensure.

Excavations may be conducted within the DTPW Right of Way and Safety Zones only during non-passenger hours. Excavation operations within the DTPW Right of Way and Safety Zones require a trained DTPW Monitor, in radio communication with DTPW Central Control, during all excavation operations.

Protection of underground site utilities is the responsibility of the contractor. All utilities must be located by an approved utilities locator service prior to the start of any excavation or piling activities.

DTPW may, at its discretion, modify any of the above conditions or impose additional conditions, to help ensure the safety of the public, and its patrons, employees or property.

6.1.12 Demolition

No Demolition of structures adjacent to DTPW facilities by blasting shall be permitted. During piece-by-piece demolition, it is essential that the DTPW escalators, and/or other DTPW equipment be protected from dust generated by the demolition. The DTPW equipment must be covered with polyethylene sheets during demolition to prevent dust from entering the equipment. Guideway protection diagrams and location plans shall be submitted by the contractor when appropriate or requested by DTPW. Such plans shall clearly show the alignment of the DTPW right-of-way together with the setback dimensions of the portions of the building to be demolished.

Application

This section is intended to apply to all activity on the exterior of buildings located within the Safety Zone including maintenance, inspections, probing, demolition operations and shall comply with the American National Standard (ANSI) A 10.6 standard for demolition

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operations. In cases of practical difficulty and unnecessary hardship, or where other extenuating circumstances exist, DTPW may grant exceptions to the requirements stated herein, or may permit alternative methods, but only when it is clearly evident that equivalent protection is thereby secured.

Demolition Plan

The contractor must submit a detailed demolition plan to DTPW Engineering for review as part of the permit application package. This Demolition plan must include the scope of proposed demolition, location plan and building elevation of the proposed demolition work detailing the setback distance to DTPW facilities. Additionally the anticipated contractor means and methods, anticipated protective methods, equipment list including sizing of all demolition equipment should be supplied in the demolition submittal plan. The plan shall describe the type of construction (concrete, steel frame, masonry, etc.) and the overall construction configuration.

Guideway protection diagrams and location plans shall be submitted by the contractor when appropriate and requested by DTPW. Such plans shall clearly show the alignment of the DTPW right-of-way together with the setback dimensions of the portions of the building to be demolished.

Protection

During demolition, it is essential that the DTPW facilities be protected from dust generated by the demolition. The DTPW stations, escalators, train control and traction power rooms/buildings must be covered with polyethylene lined sheets during demolition to prevent dust from entering the DTPW switch gear and equipment.

Structural Condition and Analysis Survey

Prior to starting any demolition operation within the safety zone, an engineering survey of the structure shall be made to determine the condition at all locations of the exterior walls adjacent to the DTPW system. The purpose of the survey is to determine the condition of the framing, floors, and walls so that actions can be taken, if needed to prevent premature collapse of any portion of the structure. Such survey shall be made on the outside utilizing swing stages with full rail protection. The survey shall consist of documenting all locations displaying loose, cracked, and/or deteriorated stucco, tile, or other building facade materials in which such condition could result in falling debris.

An exterior crack survey may be required as part of the engineering survey of building to be demolished. A crack survey should be prepared locating all significant cracks including a location sketch, description, width, estimated recent activity, and the existence of previous repairs. Cracks of any significance shall be physically marked so that future observation may be made with telescopic equipment at the ground level. A stucco condition survey locating all significant irregularities in the stucco facade including bulges, micro/map cracking, hollow and de-bonded areas, discoloration due to water absorbance effervesce scaling, or other abnormalities should be included in the crack / engineering survey.

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Guideway Protection Diagrams and Location Plans shall be submitted by the contractor when appropriate and requested by DTPW. Such plans shall clearly show the alignment of the DTPW right-of-way together with the setback dimensions of the portions of the building to be demolished.

Similarly a window / wall opening survey of the condition of window vents, plywood covers, sill stability, and other characteristics from which conclusions can be made as to the security of such openings. Where a hazard exists from fragmentation of glass or instability of the window frame/vent, all glazed openings shall be removed or protected.

Scheduling

Exterior building element demolition activities located within the safety zone are permitted only during non-passenger operating hours and only when coordinated by an authorized DTPW "Monitor" under radio communication with Central Control on site.

Protective Measures

Remove all loose materials by hand which are in imminent danger of falling. The removal of such loose materials must also include a temporary repair or stabilization at any location where the removal results in an opening or area, which can allow water to penetrate resulting in further or future deterioration.

Pedestrian Site Security and Safeguards

Prior to the engineering survey of the building exterior and other invasive activities, it is necessary to fully protect the public and in particular, DTPW facilities. Every sidewalk, train guideway, station platform, stairs, escalator, or public thoroughfare adjacent to or near enough to be affected by the operations on the building shall be closed, relocated or protected as specified in overhead protection above.

Demolition Observer

Provide a full time observer who is classified as a qualified person and who is capable of recognizing changes in the building facade and appearance. The purpose of this person is to provide warnings to the DTPW operators in the event of a sudden change in the building's outward appearance or stability so that service on a rail section may be discontinued. The observer shall remain at the site at all times DTPW is in operation and providing service to the public

Periodic Demolition Reports

A certification shall be provided by a licensed engineer after each periodic inspection stating that the building components are secure and that it is safe to operate the DTPW system in that location.

Demolition Means and Methods

No wall sections shall be permitted to stand alone without lateral bracing. Additionally, all walls shall be left in a stable condition at the end of each shift. Masonry walls or other sections of masonry shall not be permitted to fall upon the floors of the building unless qualified persons have determined the impact of such masses will not exceed the safe carrying capacities of the floors.

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Chutes

Materials shall be dropped only through chutes to any point lying outside the exterior walls of the building and chutes at any angle exceeding 45 degrees from the horizontal shall be entirely enclosed. Also, chutes shall be designed and constructed to eliminate hazards of impact of materials or debris

Particle Velocity and Seismograph Reports

When required, the contractor shall measure and furnish reports of particle velocity caused by impacts in accordance with provisions in Appendix E of this document.

Additional Requirements

DTPW may, at its discretion, modify any of the above conditions or impose additional conditions, to help ensure the safety of the public, and its patrons, employees or property.

6.1.13 Exterior Building Maintenance

Pressure Washing

Painting

Window Washing

Sandblasting

Stucco Damage Repair

Other Maintenance Operations

Structural/ Non-Structural Inspections

General

In general, some routine maintenance activities associated with the exterior building envelope of buildings may not require a building permit. However, to adequately ensure the safety of the DTPW system, provisions are made in this manual detailing specific requirements and limitations of allowed building maintenance activities within the DTPW Safety Zone. A DTPW Access Permit is required on all exterior building maintenance activities for buildings located within the Safety Zone.

Access to exterior building components located within the Safety Zone including window cleaning operations and roofing operations is prohibited during DTPW passenger hours without a DTPW Monitor. The simple DTPW policy is that "there shall not be any exterior building maintenance activity at or above the elevation of the DTPW guideway during normal passenger operations without a DTPW Monitor".

Maintenance

This section is intended to apply to all activity on the exterior of buildings located within the Safety Zone including maintenance, inspections, probing, stucco repair, painting and waterproofing operations. In cases of practical difficulty and unnecessary hardship, or where other extenuating circumstances exist, DTPW may grant exceptions to the requirements stated herein, or may permit alternative methods, but only when it is clearly evident that equivalent protection is thereby secured.

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Small Particle Protection

Routine exterior building cleaning is required to some extent on most structures. Much of this work is commonly accomplished by access to the building exterior via either swing stage or boson chair. Access on building exteriors located within the safety zones is prohibited during passenger hours without a DTPW Monitor.

Pressure cleaning and sandblasting activities produce over spray, dirt and particle fallout below the work area. DTPW guideway, stations and facilities must be adequately protected from the fallout of the dirt, particles, sand, loose paint, etc. prior to the start of any exterior building cleaning activity. Such protection may be in the form of polyurethane lines, canvas tarps or other catchment devices. Design of required protection must be approved by DTPW.

Stucco probing and repair, painting and waterproofing activities produce falling debris. DTPW guideway and DTPW Facilities must be adequately protected with overhead protection as described in this manual as part of the DTPW Work Order for stucco repair and painting activities.

DTPW may, at its discretion, modify any of the above conditions or impose additional conditions, to help ensure the safety of the public, and its patrons, employees or property.

DTPW Operations and Scheduling

DTPW shall have the right to stop any work or construction activity that affects the safety of DTPW patrons and or facilities or normal DTPW operations. DTPW will exercise reasonable advance notice, except for any matters related to immediate system safety concerns which will require no advance notice.

Construction work which may have any impact on the Metrorail/Metromover System may be scheduled during the Non-Peak Operating Hours or Non-Passenger Hours. Non- Peak Operating Hours are defined as weekdays prior to 6:30 A.M. or after 7:00 P.M. and between 10 A.M. and 3 P.M.; and all day Saturday and Sunday. Non-Passenger hours are defined as Monday through Sunday 12:30 A.M. to 4:30 A.M. or such other hours as may be designated by the County as Non-Passenger Hours. Passenger hours may change without notice as needed by DTPW.

Weekends / Holidays & Special Events

Construction work that may impact weekend or special operational conditions will be limited. Schedule requirements will be addressed on a project to project basis where the individual scheduling needs of the project can be evaluated with respect to the operations of the DTPW systems.

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APPENDIX A: GLOSSARY

The following terms shall, for the purpose of this Manual, have the meanings respectively ascribed to them:

- ACCIDENT -** An unforeseen event or occurrence that causes death, injury or damage to property. Any abnormal condition that requires the attention or intervention of responsible personnel or an individual monitoring the transit system operation.
- ALARM CONDITION -** Deviation from nominal performance, which does not cause a significant, effect on system performance but does warrant investigation and/or repair. Sanctioned or accepted by the building official and Department of Transportation and Public Works.
- AUTOMATIC -** A term applied to a system, subsystem, or device, which has the inherent capability to function without direct manual participation.
- CATCH PLATFORM -** A temporary structure erected around or attached to, and abutting a building for the purpose of safeguarding the employees, and the public, by catching and retaining falling objects or debris.
- CENTRAL CONTROL -** That place where train control or train supervision is accomplished for the entire Metro-rail and Metro-mover system; the train command center.
- CONSTRUCTION SAFETY -** The optimum degree of safety within the constraints of construction effectiveness, time and cost through specific application of safety management throughout all phases of the construction.
- CONSTRUCTION SAFETY MANUAL -** Issued as a contract document by Department of Transportation and Public Works (DTPW), to be used as a guide by the Contractor in developing his Accident Prevention Program.
- DTPW ACCESS PERMIT -** Issued written authorization from DTPW for work in the DTPW Right of Way and DTPW Safety Zones. Construction Work Orders are specific with regard to the scope, extent, additional requirements or limitations, and allowable

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schedule of approved work to be completed in the DTPW Right of Way and Safety Zones.

CONTRACT DRAWINGS -	The plans, profiles, typical cross-sections, general cross-sections, elevations, schedules and details which show locations, character and dimensions of the work.
CONTRACTOR'S AUTHORIZED SAFETY REPRESENTATIVE -	The person designated as authorized safety representative who will be responsible for work site safety and for reporting all insurance claims.
CONTRACTOR-	The individual, firm, partnership, corporation, or combination thereof, private, municipal, or public, including joint ventures, which, as an independent contractor, has entered into a contract with MDC, who is referred to throughout the Contract Documents by singular in number and masculine in gender.
CHUTE-	A trough or tube used to guide and transport sliding objects, materials, or debris from a higher to a lower level.
DEGRADATION -	Falling from an initial level to a lower level in quality or performance.
DEMOLITION -	Dismantling, razing, destroying, or wrecking any fixed building or structure or any part thereof.
EMERGENCY -	A situation which is life threatening or which can cause serious damage on or in the immediate vicinity of any transit facility, structure, bus or train.
EMPLOYEE -	A person employed by the Contractor or Subcontractor.
EQUIPMENT FAILURE -	The state in which equipment no longer meets the minimum acceptable specified performance and cannot be restored through operator adjustment or control.
FTA -	Federal Transit Administration, formerly UMTA.
FAILURE -	An inability to perform an intended function within specified tolerances.

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HAZARD - Any real or potential condition that can cause injury or death; or damage to or loss of equipment or property.

HAZARD MANAGEMENT (LOSS CONTROL) - An element of the system safety management function that evaluates the safety effects of potential hazards considering acceptance, control, or elimination of such hazards with respect to expenditure or resources. (The feasibility of hazard elimination must be considered in light of financial, legal, and human considerations).

HAZARD SEVERITY – A qualitative measure or the worst potential consequences that could be caused by a specific hazard.

Category I Catastrophic May cause death, serious injury/illness or major system loss.

Category II Critical May cause injury/illness, or major system damage.

Category III Marginal May cause minor injury/illness, or minor system damage.

Category IV Negligible Will not result in injury/illness, or system damage.

HAZARD RESOLUTION - The analysis and subsequent actions taken to reduce, to the lowest level practical, the risk associated with an identified hazard.

IMMINENT DANGER - Refers to any condition or practice where there is reasonable certainty that a danger exists that can be expected to cause death or serious physical harm and/or serious property damage immediately or before the danger can be eliminated through normal enforcement procedures

INCIDENT - An unforeseen event or occurrence that does not necessarily result in injury or property damage.

MAINTENANCE - All actions necessary for retaining an item in or restoring it to an operable condition.

MALFUNCTION - Any anomaly or failure wherein the system, subsystem, or component fails to function as intended.

MAY - A permissive condition. Where the work "may" is used, it is considered to denote permissive usage

MIAMI DADE COUNTY - The Board of County Commissioners of Dade County, (MDC) Florida, political subdivision of the State of Florida, and the DTPW, an office under the County manager of Miami Dade County, Created March 1, 1974, by Administrative

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Order No. 3-8, under the authority of Sections 4.01 and 4.02 of the Miami Dade County Charter - and any authority, board, body, commission, official or officials to which or to whom the powers now belonging to DTPW in respect to the location, construction, equipment, maintenance and operation of transit facilities shall, by virtue of any act or acts, hereinafter pass or appertain.

- DTPW -** Department of Transportation and Public Works, Miami-Dade County, located at 701 N.W. 1st Court, Suite 1700, Miami, Florida 33136
- DTPW RIGHT OF WAY-** As defined by the legal description of the properties that the DTPW facilities occupy or are situated above and supportive easements. For the purpose of this manual the Right of Way shall be defined as those properties located within the drip lines of the DTPW rails, stations and facilities and include those properties used for access and egress to the DTPW facilities by the general public and normal DTPW operations.
- MISHAP -** An unplanned event or series of events that result in death, injury, occupational illness, or damage to or loss of equipment or property. (See also ACCIDENT).
- MONITOR -** An authorized DTPW employee, DTPW contractor or DTPW consultant monitoring the movement of construction equipment or materials that may infringe upon the 30' "Safety Zone" (that area of the Department of Transportation and Public Works Guideway (Metrorail and/or Metromover) that lies within 30' of the outermost edge of the superstructure) which has the potential to interfere with Department of Transportation and Public Works operations and/or maintenance. This person(s) shall ensure the safety of Department of Transportation and Public Works patrons, employees, property and the public. DTPW contractors and DTPW consultants shall be trained per DTPW Rail Services Metromover and Metrorail training packages before they perform duties as Monitors.
- OPERATOR -** That person having direct and immediate control of the movement of a vehicle or machinery.
- OPERATING TIME -** The time period between turn-on and turn-off of a system, subsystem, component or part during which time operation is as specified. Total operating time is the summation of all operating time periods

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- OSHA - The Occupational Safety and Health Administration. An agency of the U.S. Government which sets standards to provide for the safety of employees in the workplace. The local area office is located in Ft. Lauderdale, Florida, phone (305) 527-7292
- PERSONAL PROTECTIVE EQUIPMENT (PPE) - Equipment designed and worn to provide protection against hazard to some part of an employee's body. Examples of PPE are safety glasses, respirators, hart hats, gloves etc. All PPE used at DTPW work sites must comply with applicable OSHA standards
- POWER RAIL - Three separate rails center mounted on insulators on the guidebeam which provides traction power for vehicle propulsion. (Metromover)
- PROCEDURES - Established methods to perform a series of tasks.
- QUALIFIED PERSONS - Those who by possession of a recognized degree, certificate, or professional standing, or by extensive knowledge, training, and experience in the demolition industry have successfully demonstrated their ability to solve or resolve problems relating to the subject matter of demolition.
- QUALIFYING BUILDINGS - Buildings located within 30 feet of DTPW Right of Way corridor, and greater than 35 feet, in height, that have a building footprint located adjacent to a Safety Zone where the elevation of the building encroaches into the Vertical Safety Zone extensions as defined in Safety Zone above and at the rate of 1 foot horizontal offset per 4 feet of building height above DTPW facility. See the definition of Safety Zone above and attached drawing CZ-1 (Appendix C).
- QUALIFYING STRUCTURES - Cranes whose boom swing infringes within the 30 feet Safety Zone or DTPW Right-of-Way corridor. Signs located within the safety zone. Temporary scaffolding or construction towers within the Safety Zone or DTPW Right of Way corridor with heights greater than 30 feet.

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- QUALIFYING WORK-** Any construction, demolition, equipment operations or building maintenance activity performed on or in a building or structure which may be hazardous to persons or property within the DTPW Right of Way or protective safety zones.
- RELIABILITY -** The probability that the system or sub-system will perform satisfactorily for a given period of time when used under stated conditions.
- REPAIR -** The maintenance activity which restores a failed item to operable state.
- RISK -** An expression of possible loss over a specific period of time or number of operational cycles. It may be indicated in terms of hazard severity and probability.
- RISK MANAGEMENT -** The Risk Management Division, Miami Dade County, General Services Administration, located at 111 N.W. 1st Street, Suite 2340, Miami, Florida 33128; phone 375-4280.
- RULE -** A law or order authoritatively governing conduct or action.
- SAFE -** Secure from danger of loss.
- SAFETY -** A reasonable degree of freedom from those conditions that can cause injury or death to personnel; damage to or loss of equipment or property; and freedom from danger.
- SAFETY CHECKLIST -** A list for examining the safety aspects of equipment, procedures and personnel.
- SAFETY CRITICAL -** A designation placed on a system, sub-system, element, component, device, or function denoting that satisfactory operation of such is mandatory to assurance of patron, personnel, equipment, or facility safety. Such a designation dictates incorporation of special safety design features.
- SAFETY DEVICES -** Protective devices which do not alter the fundamental nature of a hazard but which do control the extent of the hazard in some manner.
- SAFETY MANAGEMENT -** An element of management that establishes safety program requirements and ensures the planning, implementation and accomplishment of task and activities to achieve work place safety.

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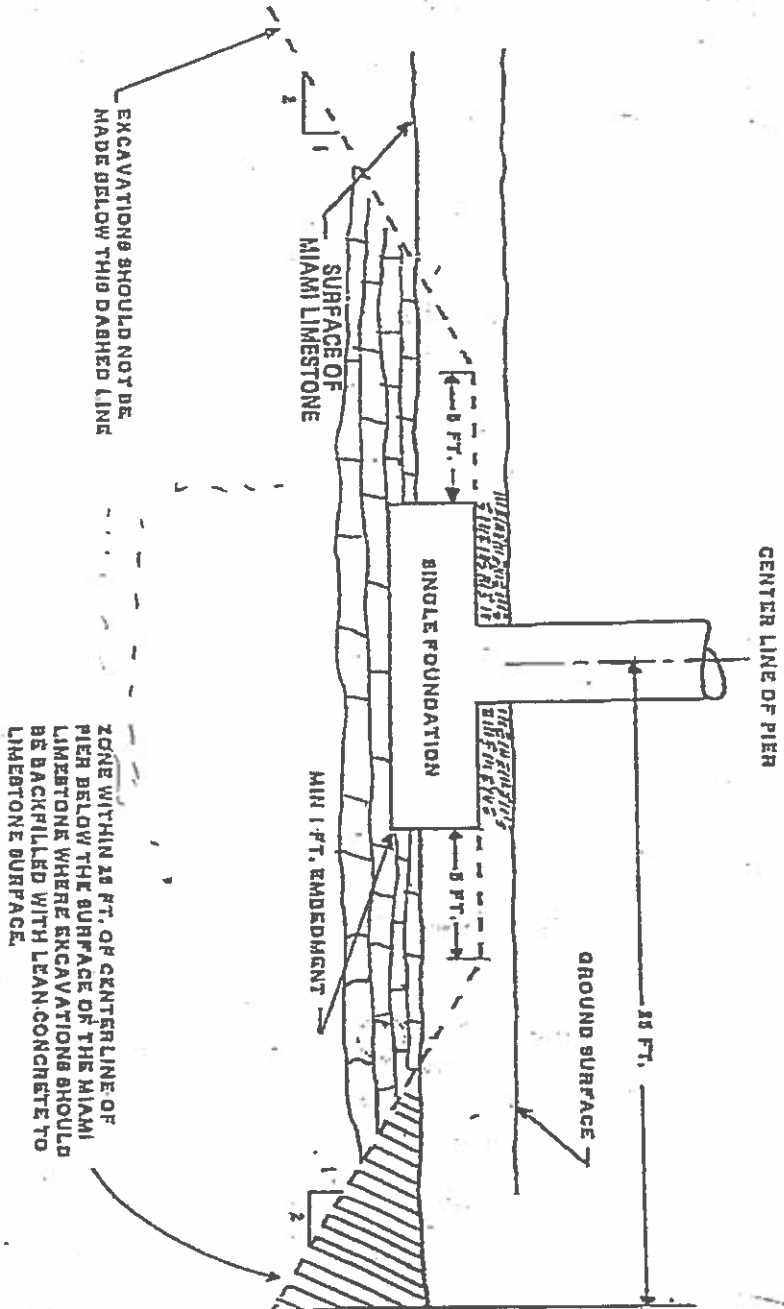
- SAFETY PROGRAM -** The combined task and activities of safety management and safety engineering that enhance operational effectiveness by satisfying the safety requirements in a timely, cost-effective manner throughout all phases of the work.
- SAFETY SUBCONTRACTOR -** A subcontractor who satisfies the Florida Department of Labor and Employment Security Industrial Safety and Health Programs, Chapter 38F-44, and is duly approved by MDC
- SAFETY ZONE -** Safety Zones are defined as a protective safety buffer zone adjacent to the DTPW Right of Way. Safety Zones include all lands public or private within 30 feet (horizontally) of the DTPW Right of Way measured from the drip line of the facility/guideway. No work is allowed at the exterior of any building located within the protective safety zone without an approved DTPW Access Permit.
- SERVICE CONTRACTS/
CONTRACTOR -** Those operations that are providing any services, or repair, replacement or maintenance functions that are indigenous to the construction process on the Work Site.
- SHALL -** A mandatory condition. Where certain requirement are described with the "shall" stipulation, it is mandatory that these requirements be met.
- SHOULD -** An advisory condition. Where the " should" is used, it is considered to be advisable usage, recommended but not mandatory.
- STATE -** The State of Florida.
- SUBCONTRACTOR -** Any person, firm or corporation, other than the employees of the Contractor, who contracts with the Contractor to furnish labor and/or materials under this Contract.
- SUPPLIER/VENDOR -** Those entities whose. sole responsibility to the project is the delivery of goods or materials, exclusive of direct labor.
- SYSTEM -** A composite of people, procedures and equipment operating in a specific environment to accomplish a specific mission or task
- THIRD RAIL -** A rail mounted on insulators adjacent to running rails which provides traction power for train propulsion. (Metrorail).

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- TRANSIT SYSTEM -** A transportation system comprised of fleets of motor buses and electrically propelled transit vehicles and all of their operational / support personnel and systems (e.g. maintenance facilities, tracks, structures, etc.) utilized for the mass movement of passengers within a metropolitan area.
- UNUSUAL OCCURRENCE -** An unforeseen event or incident which does not necessarily result in injury or property damage.
- UNSAFE CONDITION -** Any condition which if not corrected, will endanger human life or property.
- WARNING DEVICES -** Sensors that monitor or detect conditions and provide visible and/or audible alerting signals as desired for selected events.
- WORK SITE -** The area enclosed by the limit of Work indicated in the Project Drawings and boundaries of local streets and public easements in which the Contractor is to perform the work under the Contract. It shall also include areas obtained by the Contractor for use in connection with the Contract, when contiguous to the Limit of Work.

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APPENDIX B: CRITERIA FOR EXCAVATION ADJACENT TO SINGLE FOUNDATIONS



METROPOLITAN DADE COUNTY
 TRANSIT IMPROVEMENT PROGRAM
 LINE SECTION 4



LAW ENGINEERING
 TESTING COMPANY

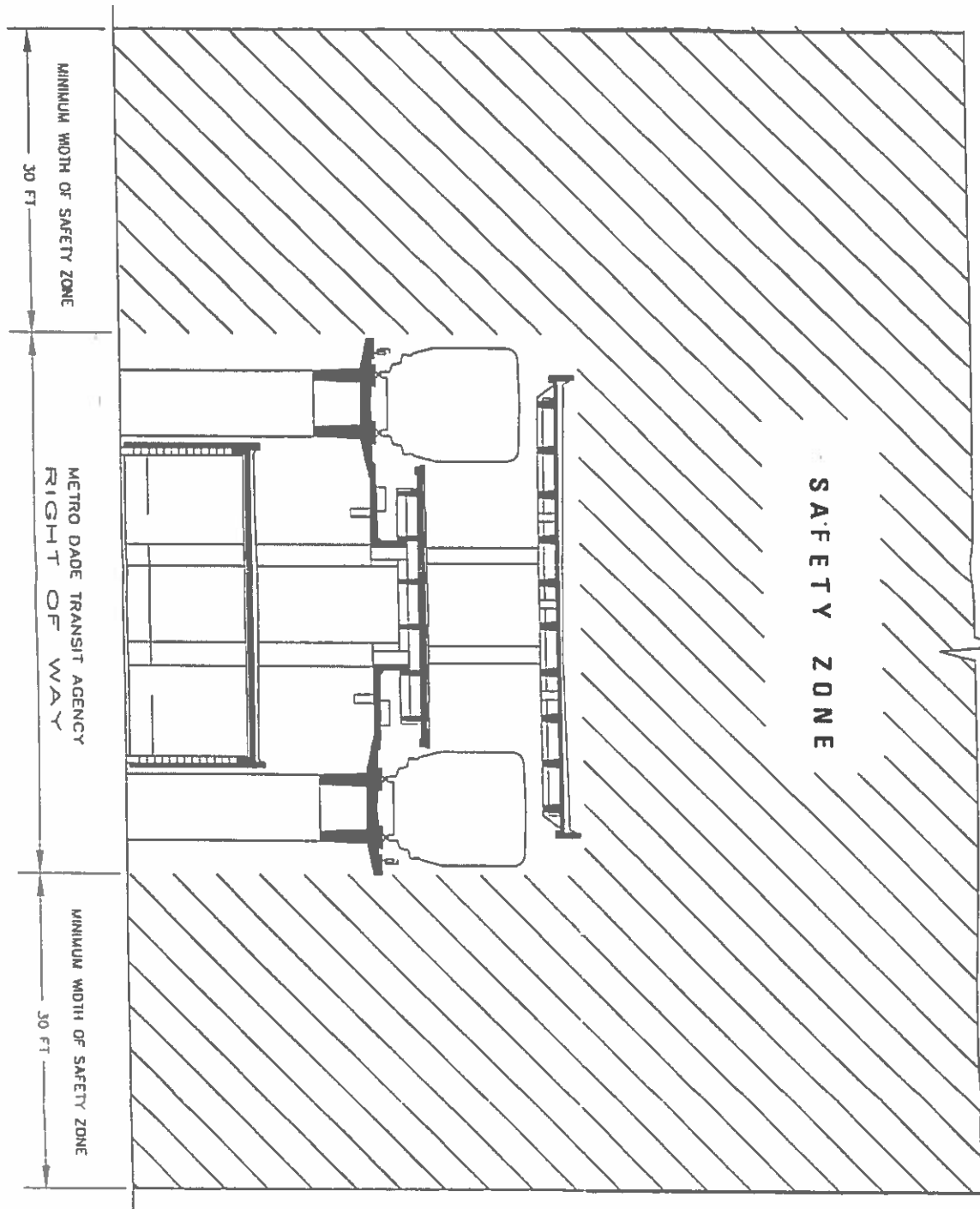
CRITERIA FOR EXCAVATION ADJACENT
 TO SINGLE FOUNDATIONS

DRAWN	SKA
CHECKED	KBS

FIGURE B 14

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APPENDIX C: SAFETY ZONE CRITERIA



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APPENDIX D: SAMPLE CRANE SAFETY INSPECTION CHECKLIST

CRANE SAFETY INSPECTION CHECKLIST				
Location:				
Area Inspected:				
Inspected By:			Date:	
* Check items to be inspected in your area - Disregard others as not applicable				
*	OK	ITEM INSPECTED	NOT OK	COMMENTS
THE CRANE CREW				
		Is the operator and crew properly trained?		
		Operating is a full time job—does the operator pay strict attention to his duties?		
		Do crane personnel wear hard hats when away from the crane?		
		Is the operator aware of the regulations involving working close to high voltage lines and electrical equipment?		
		High voltage, even from a distant source, can be introduced in metal parts of the crane. Is the operator aware of these situations?		
		Does the operator know the weight of each piece before he picks it?		
		Does the crane crew know the manufacturer's proper recommendations for making short moves on the job site?		
		Does the crew get help when lifting heavy objects?		
		Does the crew periodically check for level?		
		Do they check the outriggers for stability?		
		Do they check the boom angle indicator and other electronic load equipment for accuracy?		
		Does the operator allow anyone to ride the load or to the hooks?		
THE GROUND CREW (HOOKING UP THE LOAD)				
		Does the ground crew have, maintain and use proper safety equipment?		
		Are they familiar with the product erection sequence?		
		Are they familiar with the crane signals and general operation of the crane?		
		Do they know how to properly hook pieces and provide aerial stability?		
		Do they know how to properly use tag lines?		
		Are the tag lines in good condition, strong enough and long enough?		

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**APPENDIX D: SAMPLE CRANE SAFETY INSPECTION CHECKLIST
(CONT)**

✓	OK	ITEM INSPECTED	NOT OK	COMMENTS
		Is two way communication between the operator and the erection foreman being used? Does the crew know how to use and maintain the equipment? Are spare parts available for quick repair?		
		Is the crane swing radius roped off to prohibit the crane (during swing) from causing damage or hurting someone? Is entire swing checked including the counterweights?		
THE MACHINE				
		Is the crane operated within all capacities?		
		Is the machine inspected daily?		
		Are the required crane inspections recorded?		
		Are all controls properly identified?		
		Are warning devices operative?		
		Is the manufacturer's rating plate visible?		
		Is the operator's manual available to the crew for easy reference?		
		Are load charts, operating signals and other important information posted and/or readily available?		
		Are brakes within operating limits?		
		Are clutch and brake surfaces dry?		
		Are all protective panels and guards in place?		
		Are electrical systems in good condition?		
		Are all of the sheaves properly aligned so as to reduce rope wear during work?		
		Is cable in good conditions?		
		Are hooks in good condition?		
		Have hooks been inspected by magnetic particle inspection?		
		Are there safety latches on the hooks?		
		Are fuel tanks in good condition and without leaks?		
		Are fire extinguishers available and routinely inspected?		
SLINGS				
		Are slings in good condition/ Is safety factor of 5 maintained?		
		Are slings stored properly?		
		Are sling inspection reports maintained?		
		Are "U" bolt wire rope clips correctly placed?		
		Are all other lifting devices in good condition?		

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APPENDIX D: CHECKLIST FOR CRITICAL LIFTS

CHECKLIST FOR CRITICAL LIFTS

This form is to be completed when the load exceeds 80% of the load chart for the crane or derrick or where the pick involves two or more cranes.

LIFT DATE: _____

1) Supervisor responsible for the lift: _____

2) Description of item to be lifted and estimated weight: _____

3) Equipment and Lift Relationship:

a. Operating Radius _____

b. Boom Length _____

c. Allowable Load (From Load Chart) _____

d. Ratio of Lift to Allowable Load _____

e. Clearance to Surrounding Facilities _____

f. Sling Angle _____

4) Condition of Hoisting Equipment and Rigging

a. Has all equipment been reinspected for this lift: ____ Yes ____ No

5) Stability of Ground Area:

a. Check Soil/Ground Bearing Allowable Load (List Conditions) _____

b. Will mats be needed? ____ Yes ____ No

c. Any underground installations needing special attention? ____ Yes ____ No

d. Will it be necessary for the crane to walk with the load? ____ Yes ____ No

e. Is the surface level and stable where the crane will be walking?

____ Yes ____ No

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APPENDIX D: CHECKLIST FOR CRITICAL LIFTS (CONT)

f. Have facilities been provided to keep the load radius from changing?

___ Yes ___ No

g. Have all overhead facilities been checked for clearance in the area where the crane will be moving/operating? ___ Yes ___ No

6) Does the operator have the necessary experience on the crane and this type of lift?

___ Yes ___ No

7) If the lift involves the use of two cranes answer the following:

a. Have operators worked together before? ___ Yes ___ No

b. Who will coordinate instructions to operators? _____

By: _____

Contractor's Superintendent

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APPENDIX E: RECOMMENDED VIBRATION LIMITS

Seismological research by the U.S. Bureau of Mines, foreign investigative groups, and individual seismologists has established criteria relating the occurrence of structural damage to certain frequencies and levels of ground motion.

USBM Report of Investigations 8507¹ states that residential structures are most prone to damage as a result of vibration energy within the frequency range of 4-12 hertz. Within this range, a 0.5-inch per second maximum particle velocity is recommended to preclude 'threshold' damage to the plaster-on-wood-lath interior portions of older structures.

Threshold damage is defined by the USBM as the loosening of paint, small plaster cracks at joints between construction elements or the lengthening of old plaster cracks. A maximum of 0.75 inch per second is recommended for the protection of modern drywall interior construction. The damage threshold is normally considerably higher for load bearing or other structural portions of a house.

Above 12 hertz, the allowable vibration increases as the frequency increases, up to 40 hertz, above 40 hertz, a constant 2.0 inches per second level is recommended to protect the interior walls and ceilings of structures, regardless of construction material. A graphic representation of the USBM recommended criteria is shown in the velocity versus frequency curve on the following page, and the vibration analysis of the recordings are plotted on graphic representations at the end of this report.

It should be noted², however, that it is almost impossible in actual practice to visually determine if the recorded peak vibration on a typical seismogram is actually within the Bureau's 4-12 hertz range. This is because ground vibration is usually a complex mixture of many frequencies that cannot be accurately separated by visual analysis of a seismogram.

Proper implementation of the Bureau's limit can only be accomplished by a computerized technique that analyzes the seismographic data in terms of both peak particle velocity and frequency. Therefore, in order to best determine the potential effects of ground vibrations recorded in this study, a computerized response versus frequency technique known as RSVP was used in the preparation of this report.

RSVP TECHNIQUE

The Response Spectrum Velocity Profile (RSVP) technique used in this study was developed by Dr. Kenneth Medearis. It is a powerful vibration analysis tool which not only conforms to USSM recommendations, but also provides insight into the responses of various types of residences to a given vibration episode.

² Siskind, David *et al*, Structural Response and Damage Produced by Ground Vibration From Blasting. U.S. Bureau of Mines, RI, 1980.

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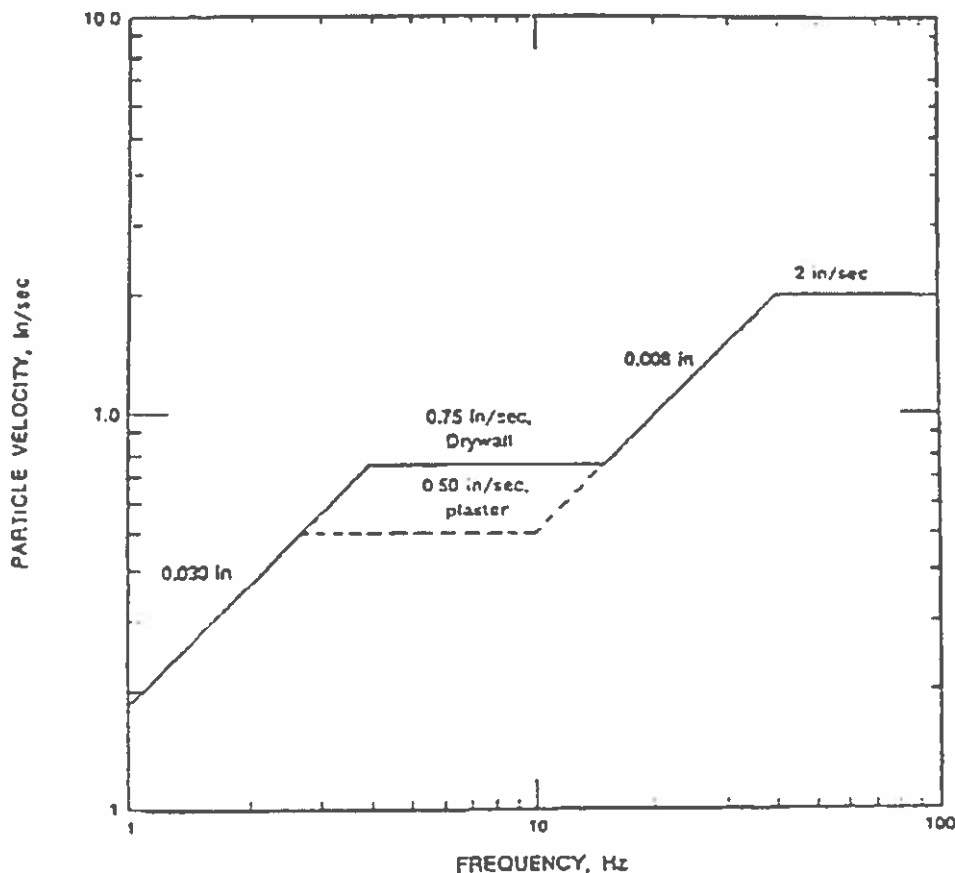
APPENDIX E: RECOMMENDED VIBRATION LIMITS (cont)

All buildings are characterized by a single natural fundamental frequency. This means that, as with a pendulum or a tuning fork, there is one dominant frequency at which a particular building will vibrate when excited. The fundamental natural frequency of a building depends primarily upon its height. Tall buildings are more flexible and vibrate at low frequencies. Low-rise structures, being stiffer, vibrate at higher frequencies.

When the frequency of a ground vibration wave matches the structure's natural frequency, the ground motion will be amplified within the structure. According to the USSM, the natural frequency of typical residential structures ranges between 4 and 12 hertz. Thus, it is within this range that the vibration limits recommended by the USBM are most stringent.

By applying the computerized RSVP Technique to the data obtained in this survey, both the ground particle velocity and response characteristics of residential structures are considered over a wide range of frequencies. The results are then related to the USSM velocity versus frequency curve discussed previously, and are plotted on the analysis sheets at the end of this report.

When particle velocities exceed the limits of the USBM Curve, non-damage probability calculations are performed, based on the research of Medearis. These probabilities are given under the graphs on the analysis sheet for 1, 1-1/2, and 2story houses. When no figures are given, probability of non-damage is essentially 100 percent.



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A period of 15 working days should be allowed for review of the drawings and calculations. Fifteen (15) days should be allowed for each successive review as required. Additional review time may be required for complex projects.

Reimbursement is required for the cost of providing support services for adjacent construction and joint development projects where access is required into the operating Metrorail/Metromover system; or the system is impacted. As part of the review procedure, and before any work may proceed, the developer will be required to sign a letter accepting this obligation.

The applicant must receive written approval for the design of a given project by the DTPW Chief, Right-of-Way & Utilities or DTPW Fire/Life Safety Technical Committee Chairperson (as applicable), prior to the start of construction.

Project Documents shall be reviewed and accepted by the appropriate DTPW Divisions for possible impact on DTPW facilities and operations, including all elements associated with the construction of the project and any temporary protection system needed to preserve the system safety.

Each "Part" of the project's design shall be reviewed and approved by the DTPW Design and Engineering Division (DED). A few of the more common "Parts" of a project are considered to be sheeting and shoring, overhead protection, dust protection, dewatering, temporary use of public space for construction activities.

The DTPW review process is outlined in Figure 1 below

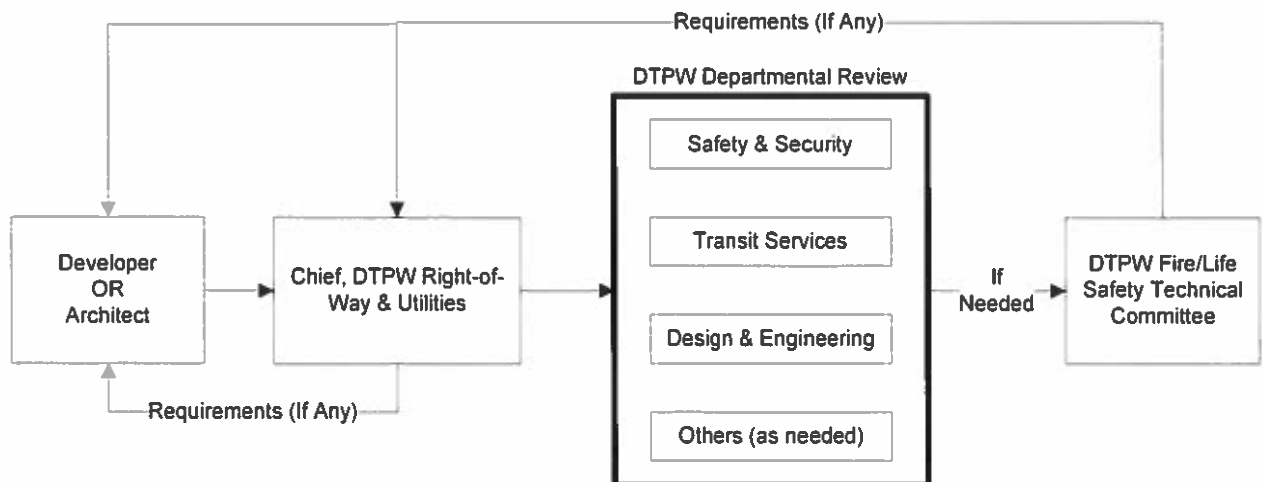


Figure 1

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3.1 Fire/Life Safety

DTPW Office of Safety and Security is charged with the responsibility to chair the DTPW Fire/Life Safety Technical Committee which was formed in 1978 to guide Department of Transportation and Public Works (DTPW), rapid transit operations, in developing and following emergency procedures and operational procedures to ensure all fire/life safety related equipment is in proper order and all associated personnel are appropriately trained; to prescribe testing and inspection procedures for fire/life safety equipment in accordance with appropriate codes; to assist the DTPW in developing and implementing a comprehensive joint training program for fire/rescue personnel and DTPW employees; and, to interpret and apply fire/life safety codes, criteria and standards to the design of the fixed guideway systems.

The DTPW Fire/Life Safety Technical Committee acts on behalf of the DTPW Director in accordance with the above to interpret and apply fire/life-safety requirements incorporated in the Florida Building code; National Fire Protection Association Codes and Standards; State Statutes and Fire Marshal's Office; South Florida Fire Protection Code; DTPW Criteria and Standards; other applicable codes, standards and criteria; and, as required, to develop, and verify implementation of, design standards for the DTPW to protect life and property. The Committee works closely with Transit Engineering for design of fire/life safety features and test and maintenance of alarm systems. For test and maintenance of fire suppression systems, the Committee works with facilities maintenance organizations.

As required by the current System Safety Program Plan, the Fire/Life Safety Technical Committee addresses fire/life safety concerns, as described above, for all phases of DTPW Metrorail, Metromover, Metrobus and Special Transportation Services Operations. The Committee also serves as liaison with all Miami-Dade County jurisdictions for development and coordination of emergency response procedures and annual emergency response drills.

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4.0 DTPW Review Policy

All design work will be reviewed based upon the assumption that the design will meet the applicable code adopted in the jurisdiction as well as the DTPW Design Criteria and DTPW Standard Specifications. The DTPW design concepts, as set forth herein, generally represent the design approach used by DTPW in the design of its facilities. The effect of adjacent construction upon DTPW structures should be examined based upon the same approach.

Permits, where required by the local jurisdiction, shall be the responsibility of the developer.

Monitoring of the temporary support of excavation structures for adjacent construction shall be required in all cases for excavations within the influence line of DTPW structures (Appendix B). The extent of the monitoring will vary from case to case. Structural design computations maybe required for the adjacent construction. When requested by DTPW, the calculations submitted for review shall include the following:

- A concise statement of the problem and the purpose of the calculation.
- Input data, applicable criteria, clearly stated assumptions and justifying rationale.
- References to articles, manuals and source material should be furnished with the calculations.
- References to pertinent codes and standards.
- Sufficient sketches or drawing references for the work to be easily understood by an independent reviewer. Diagrams indicating data (such as loads and dimensions) shall be included along with adequate sketches of all details not considered standard by DTPW.
- The source or derivation of all equations shall be shown where they are introduced into the calculations.
- Numerical calculations shall clearly show all English units.
- Identify results and conclusions.
- Calculations shall be neat, orderly, and legible.

Drawings should be drawn, to scale, showing the location and relationship of the proposed adjacent construction to existing DTPW structures at various stages of new construction along the entire adjacent alignment. The stresses and deflections induced in the existing DTPW structures should be provided.

The short-term and long-term effects of the new loading due to the adjacent construction on the DTPW structures should be provided. The soil parameters and other pertinent geo-technical criteria contained herein should be used to analyze the existing DTPW structures.

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DTPW structures shall be analyzed for differential pressure loadings caused by dewatering the adjacent construction site.

A system of earth retaining structures is required for new excavations adjacent to DTPW structures. Design calculations and drawings stamped and prepared by a Registered Professional Engineer experienced in this type of work, and registered in the state where the work will be performed, are required.

All DTPW underground concrete structures are designed using the ACI Alternate Design Method (working stress design) to curtail excessive deflections and cracking. DTPW underground structures shall be fully reevaluated, for the effects caused by the adjacent construction, using working stress techniques.

4.1 REVIEW SUBMITTALS - DRAWING CRITERIA

General

All designs for the protection, support (sheeting and shoring) and underpinning of existing DTPW structures shall be reviewed by DTPW's Design and Engineering Division (DED). The investigation of the feasibility of various underpinning and dewatering schemes for structures constructed adjacent to DTPW facilities shall be investigated by the developer. The developer's engineer should make recommendations concerning the best underpinning design for a particular structure.

The developer's contract drawings and specifications shall require his construction contractor to maintain, protect and be responsible for the safety, stability and integrity of all adjacent DTPW structures which may be affected by his work.

Drawing Details

The following information shall be included in the drawings submitted for review of an adjacent construction project:

- Dimensioned clearances, both horizontal and vertical, between the adjacent developer's construction and DTPW structures, track, roadways, parking areas and utilities.
- Details of the proposed modifications to DTPW's roadways, parking areas, and busways. Include sections and details showing the relationship of existing facilities and proposed facilities.
- Cross sections with the existing and proposed contours and limits of grading work shown in relation to the property lines and the impact or lack thereof on DTPW facilities. Where grading changes are required in DTPW property, provide the dimensions and square footage of the area required for construction easements.
- Hydrologic and hydraulic calculations showing the impacts on the DTPW drainage system are required if storm drainage from the proposed development is to be discharged into the existing DTPW drainage system. Appropriate sedimentation

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and erosion control measures should be included upstream of the discharge point onto DTPW property.

- Where modifications to DTPW utilities are required by adjacent construction, submit for review cross sections, plan and profiles, specifications and design calculations concerning the utility modifications. Details for maintaining electrical and water service to DTPW Stations should be shown when required.
- Where construction will impact a DTPW station entrance and the public, include in the submittal plans for temporary pedestrian and vehicular traffic circulation for the area around the station entrance. Where construction will be adjacent to or above a Metrorail/Metromover station entrance, protection will be required over the escalators in accordance with Section "Overhead Protection" of this Manual. Provide the construction plans, the shop drawings or the working drawings showing the phasing of adjacent construction as well as the construction details for overhead protection, pedestrian barricades, and sidewalk protection. Requests for relocation of bus stops and bus shelters shall be clearly shown on the plans. Barricades and signing necessary to direct the public through the construction zone will be required. Lighting will be required as part of all overhead protection structures.
- Provide construction protection details to preclude impacts on DTPW landscaping, street furniture, pylons, bus shelters and light fixtures.

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5.0 DTPW Operational Requirements

DTPW shall have the right to stop any work or construction activities that effects the safety of the DTPW patrons and or facilities or normal DTPW operations. DTPW will exercise reasonable advance notice, except for any matters related to immediate system concerns which will require no advance notice.

Construction work which may have any impact on the Metrorail/Metromover Systems may be scheduled during the Non-Peak Operating Hours or Non-Passenger Hours. Non- Peak Operating Hours are defined as weekdays prior to 6:30 A.M. or after 7:00 P.M. and between 10 A.M. and 3 P.M.; and all day Saturday and Sunday. Non-Passenger hours are defined as Monday through Sunday 12:30 A.M. to 4:30 A.M. Passenger hours may change without notice.

Construction work that may impact weekend or special operational conditions will be limited. Schedule requirements will be addressed on a project by project basis where the individual scheduling need of the project can be evaluated with respect to the operations of the DTPW system.

5.1 General Conditions for Construction Adjacent to the Metrorail or Metromover Guideway/Facilities

- A. Clear access is required on a 24 hour basis for ingress and egress for transit patrons, fire and rescue personnel, and maintenance personnel.
- B. A contact person will be named by the Contractor to act as liaison with the DTPW Office of Safety and Security for all matters related to safety of the DTPW System. A contact person shall also be named (may be the same person) to act as liaison with the DTPW Metrorail/Metromover Operations Division for all matters related to operation of the Transit System.
- C. DTPW shall have the right to review all plans and any construction with reasonable advance notice, except for any matters related to immediate system safety concerns which will require no advance notice.
- D. No construction elevators or cranes will be erected on the Metrorail/Metromover guideway side of the building/structure being constructed or demolished.
- E. The Metrorail/Metromover guideway shall not be used to support and/or brace construction scaffolding or equipment.
- F. For any activity within the **Safety Zone**, the following requirements may apply pending DTPW review.
- G. At least forty-eight hours notice describing the nature of the work shall be provided to the DTPW prior to commencement of work.
- H. The contractor will provide special protection, such as netting, barricades, walks, screens, scaffolds, etc., acceptable to DTPW, to help ensure the safety

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of DTPW property, patrons and employees. No work shall be permitted unless such protection is provided as determined necessary by DTPW.

- I. Best efforts will be used to schedule all construction work which may have any impact on the Metrorail/Metromover System during the Non-Peak Operating Hours or Non-Passenger Hours. Non-Peak Operating Hours are defined as weekdays prior to 6:30 A.M.; after 7:00 P.M. and between 10 A.M. and 3 P.M.; and all Saturdays and Sundays. Non-Passenger Hours are defined as Monday through Sunday 12:30 A.M. to 5:00 A.M. or such other hours as may be designated by the County as Non-Passenger hours. Passenger hours will change as required by DTPW.
- J. No crane lifts, other crane operations or any other operation shall be performed within the **Safety Zone** (Appendix A and C) without prior approval (in writing) from DTPW. This paragraph shall apply where any part of the load or crane (incl. counter weight), construction equipment or operation that is above the surface of the guideway running pad/rail.
- K. For any construction activity within the **Safety Zone** (Appendix A and C) or that may encroach into the Safety Zone, DTPW may deem, as necessary, at the contractor's expense, a DTPW employee or DTPW authorized contractor or consultant (Monitor), to coordinate the contractor's activities with Central Control. This employee will be responsible for monitoring construction activities and communicating with DTPW Central Control. DTPW will determine, in the reasonable exercise of its discretion, the number of hours the above-mentioned employee is needed. The construction contractor will reimburse DTPW for costs arising from the provision of the above-mentioned employee which will be charged at the current rate.
- L. DTPW may, at its discretion, modify any of the above conditions or impose additional conditions, to help ensure the safety of the public, and its patrons, employees or property.

5.2 DTPW Monitor and Contractor Coordination

A. Start-up

There will be continued meetings between representatives from DTPW, and Contractor/Developer's project manager, DTPW crane Monitors, the Contractor's crane operators and the form-work Contractor prior to the commencement of the phase work by the tower cranes and any other equipment or operation, adjacent to the DTPW Metromover/Metrorail Guideway System. In addition, DTPW Monitors and the contractor equipment/crane operators will continue to meet daily, at the beginning of the work day, of the project to establish a working relationship of the daily routines in and around the DTPW safety zone.

No construction work requiring a DTPW Monitor will commence until the Contractor provides the DTPW Monitor a functional Contractor radio, and sign off for same as per contractor procedures. Upon arrival at the project site, the DTPW Monitor will

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immediately contact the DTPW Central Control Facility, to advise of his/her presence at the project site.

If, at any time during the construction project, a new crane operator is brought on-site to operate any crane, he/she must be apprised of all of the rules and regulations outlined in this Plan by the Contractor's/Developer's Project Manager.

B. Special Provisions – Pre-Task Plan

At the discretion of DTPW, based on construction project proximity to DTPW system and scope of work, DTPW may assign a DTPW manager to log in arrival of DTPW Monitor(s), at the construction site. The assigned DTPW manager will contact the Contractor Senior Superintendent to request and receive a Contractor radio and meet with the Contractor Senior Superintendent and Contractor trade partner /Superintendent or Foreman to go over planned work. The Contractor Senior Superintendent, Contractor Trade Superintendent/Foreman, the DTPW Monitor and the assigned DTPW manager will complete and sign the Contractor Pre-Task Plan (PTP) Form, as specified in the DTPW Adjacent Construction Manual. Until this revised PTP form is accurately and completely filled out, scheduled work warranting a DTPW Monitor shall not proceed. After the PTP form is completed, if PTP is deemed by DTPW, the assigned DTPW manager and the DTPW Monitor shall walk to the selected area to commence monitoring duties, performing a radio check with the operator or crew on the other end of the Contractor radio. If the radio check is successful, the DTPW Monitor will use the DTPW radio to communicate to the Rail Central Control Facility to advise that the Contractor will commence with construction work.

C. Commencement of Work

Once receiving authorization from the appropriate Rail Traffic Controller, the DTPW Monitor will use the Contractor radio to communicate to the work crew that it is now permissible to begin work. The Contractor representative and the DTPW Monitor will sign the provided Central Control log form (as specified in the DTPW Adjacent Construction Manual), with the corresponding approval code, to confirm hearing the verbal approval from the Rail Central Control Facility over the DTPW radio before commencing with work. This log records the code, date, time, location, equipment being used, person giving code and DTPW Monitor receiving code.

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6.0 Construction Activity Considerations

The Contractor shall comply with the following requirements:

- The Contractor shall assume full responsibility for the compliance with all applicable Federal, State and local regulations and for complying with this Manual for construction adjacent to the right-of-way during the performance of all work.
- Provide an overall maintenance of traffic (MOT) control plan for pedestrians, vehicular traffic and construction operations. Establish a general visitor control program if required.
- Maintain responsibility for project safety on the work site for the company employees as well as its' subcontractor employees.
- Require each of the Contractor's personnel that may need access on the guideway, to attend the DTPW Orientation and Guideway Safety Class. The Contractor shall reimburse costs of these classes to the DTPW.

6.1 DTPW Personnel/Public/Property Safety & Security

6.1.1 Mechanical Criteria

Existing services to DTPW facilities, including chilled water and condenser water piping, potable and fire water, fire standpipes and storm and sanitary sewers, are not be interrupted nor disturbed without written approval of DTPW.

Clear access for the fire department to the DTPW fire standpipe system and guideways shall be maintained at all times. Construction signs shall be provided to identify the location of DTPW fire standpipes. Call **DTPW Office of Safety and Security (305-375-4240)** 48 hours in advance of any approved interruption to fire standpipe water service.

Modifications to existing DTPW mechanical systems and equipment, required by new connections into the DTPW System, will only be permitted with prior review and approval by DTPW.

The adjacent construction developer will be required to submit the design calculations, drawings, specifications, catalog cuts and any other information necessary to fully describe the proposed modification.

At the option of DTPW, the adjacent construction developer will be requested to perform the field tests necessary to verify the adequacy of the modified system and the equipment performance. Where a modification is approved, the developer shall be held responsible to maintain original operating capacity of the equipment and the system impacted by the modification.

6.1.2 Corrosion & Stray Current Protection

The developer should be aware that, since Metrorail/Metromover transit cars are powered by direct current (DC) electricity, direct current can enter the earth through

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unintentional leakage from the DTPW negative ground return system. The leakage or stray current may flow to the discharge from underground metallic elements (i.e. steel reinforcing, pipelines, grounding systems, etc.) which are in contact with any electrolyte, including earth, in the vicinity of the DTPW System. Because stray current may be corrosive to metal at locations where it flows into an electrolyte, the developer is cautioned to investigate the site for stray current and to provide the means for stray current mitigation when warranted.

Further information concerning stray current mitigation can be obtained by contacting The National Association of Corrosion Engineers (NACE), P.O. BOX 218340, Houston, Texas 77812, telephone (713) 492-0535.

6.1.3 Electrical System Interference

No interference to existing DTPW duct banks for the following electrical services shall be allowed:

- 13.8 K.V. service from Florida Power & Light
- 480 V. Florida Power & Light or from DTPW substations
- 480 V service to lighting in Parking Lots, Kiss and Ride areas, and 120 V service to Bus Shelters.

If any of the listed duct banks are affected by the adjacent construction, all information shall be submitted to the DTPW and utility company for review and approval.

No interference to existing DTPW duct banks for the following services shall be allowed:

- Telephone cables from Bell South
- DTPW train control and communications cables

Redesign of Facilities

The design for relocation or modification to existing DTPW parking lots, or Kiss & Ride areas and bus shelters shall be done in accordance with DTPW Design Criteria, Directive Drawings and Standard Specifications. To minimize interruption of DTPW operations, a phasing plan shall be developed and submitted for approval.

Proposed relocation of light fixtures, if any, shall be submitted for DTPW approval.

Existing ground-grids and ground conductors from ground-grids to DTPW facilities shall not be disturbed. No digging or cutting into existing DTPW facilities (ductbanks, wall, floor or ceiling) shall be permitted.

Access to personnel and equipment hatches for underground facilities shall not be blocked. In case any structure is built over an equipment access hatch, adequate passageway for entry of a heavy truck and clearance for the use of a crane to lower equipment from the truck into the hatch shall be provided.

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In case any structure is built adjacent to DTPW at-grade facilities (traction power substations, tiebreaker stations, train control or communications rooms), passageways for heavy trucks and adequate clearance for the use of cranes to move equipment from trucks into and out of the equipment hatches shall be provided.

Emergency access gates for at-grade or aerial sections of DTPW rail shall not be blocked. Adequate passage from the gates to public streets shall be provided.

6.1.4 Modifications/Direct Connections to a DTPW Station

Connections to Metrorail/Metromover Facilities shall be designed, built and paid for by the person requesting the connection in accordance with DTPW Design Criteria or through a Direct Connection Agreement. Below are the items that shall be considered in the design of the connections.

The connection shall have a bronze flexible gate installed between the two passageways. The gate or grate shall be keyed on both sides with separate locks. To open the gate both locks will have to be open. Where the connection has 24-hour manned security on the non-DTPW side of the connection, glass doors may be used in lieu of a gate. If doors are used, each door shall be locked from both sides.

When required, a Closed-Circuit Television (CCTV) will be installed at the developer's expense and connected to the DTPW Kiosk. Power for the cameras shall be run from the CCTV to the station power room. The existing conduit runs and spare breaker locations can be found in the DTPW "As Built" drawings. It is the developer's responsibility to have this research performed by a competent professional. Intrusion alarms shall be installed on the gate or door and control wires installed between the gate or door and the communications room by the developer's contractor. Final connection will be made by DTPW to the DTPW security system.

Finishes on the interior of the DTPW side of the connection shall be to DTPW standards and specifications.

Lights in the new passageway shall be run to the developer's power room and included in the development's emergency power panel.

In the event that a Direct Connection is to be maintained by DTPW then the design will be in accordance with DTPW Design Criteria and construction would be required to meet DTPW's standard construction specifications. Normally the Direct Connection passageway is designed to be compatible with the building of which they are constructed as a part.

Before removing the knock-out panel the contractor shall have an approved dust protection system in place and fully functional. Typically, a dust protection system shall consist of a stationary partition that isolates the knock-out panel from the station. The dust partition shall be constructed using only fire rated materials. All joints shall be sealed with tape. Construction of the partition shall be during non-passenger hours.

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Adjacent construction with a connecting passageway(s) to DTPW facilities will require special features to isolate one facility from the other for fire-safety, and may include automatic fire doors and dampers, sprinkler systems, smoke removal and ventilation systems and detection and alarm systems as required by the local fire code.

6.1.5 Signs, Signals, Barricades and Traffic Control General Requirements

1. All traffic signs or devices used for protection of construction workmen or the public shall conform to the State of Florida Manual on Traffic Control and Safe Practices on Street and Highway Construction.
2. Barricades, cones and/or similar protective devices shall be used whenever men or equipment are exposed to traffic or similar hazards.
3. When traffic lanes are closed due to work activity, advance warning signals and high level warning devices shall be used as described in the State of Florida Manual on Traffic Control and Safe Practices on Street and Highway Construction.
4. Flagmen and signalmen will be properly trained and use appropriate procedures, using the current FDOT manual.
5. All employees working adjacent to traffic shall be required to wear reflective vest, per FDOT manual.
6. Whenever and wherever possible and necessary, line voltage (12 volt) protected lights shall be used to mark fences and barricades and other such encroachments onto public streets or sidewalks.
7. Where covered sidewalks are required they shall be provided with permanent lights to provide sufficient illumination for safe use by the public day or night. All bulbs shall be cage-protected.
8. Public walkways shall be kept clean and free of hazards at all times.
9. Where the Contractors are required to provide public walkway, they shall have abrasive non-slip surface.
10. Where access to bus stop is disturbed or obstructed by the Contractors operations, safe access will be maintained or the bus stop relocated as directed by DTPW. Coordination for maintaining or relocating bus stops with the appropriate agencies is the sole responsibility of the Contractors.
11. When steel plates or similar covers are used on public ways to cover excavations they shall be substantially secured to prevent movement imposed by traffic. Covers shall have non-slip surface, conforming to OSHA Specifications.

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12. When such covers are located where there is pedestrian exposure, they shall be tapered at all sides with cut back cold mix or similar material to eliminate tripping hazards. Covers shall have non-slip surface.
13. Free access shall be maintained to every fire extinguisher, fire hydrant, fire alarm box, fire escape and standpipe connection, street and traffic light control box. When required, hydrants shall be extended by suitable tube or piping to an accessible point as approved by DTPW. No obstructions shall be allowed at any time within 15 feet of a fire hydrant. Where materials are placed in the vicinity of a fire hydrant or a fire alarm box or fire extinguisher, and to such a height as to prevent the same from being readily seen, the position of such hydrant or fire alarm box or fire extinguisher shall be indicated by suitable signals, both day and night.
14. The Contractor shall erect and maintain fences and barricades to enclose the Contractor's work area, and provide watchmen where required to prevent unauthorized access.

6.1.6 Material Handling (Storage, Use and Disposal) General Requirements

1. All materials stored in tiers shall be secured to prevent sliding, falling or collapse.
2. Reinforcing steel shall not be used as a lifting ("Pick") point on any load or as a guy line anchor.
3. Hooks, except special sliding choker hooks shall be securely moused when in use, or shall be provided with a functioning safety latch.
4. Scrap material of any kind, type or nature shall be placed daily into appropriate containers specifically supplied for this purpose. Containers shall be removed from the work site when full.
5. Loose material on open decks or other exposed locations shall be removed or secured at the end of each day to eliminate dislodgment by wind or other causes.
6. Compatibility of stored materials and storage methods will comply with all applicable OSHA, Fire Department and environmental agency standards.
7. Employees required to handle, use or dispose of hazardous materials shall be instructed regarding the safe handling, proper procedures, potential hazards, personal hygiene, and personal protective equipment required.
8. No explosive or flammable materials shall be stored under the guideways.
9. Disposal of materials shall be in accordance with all applicable Federal, State and Local regulations. All applicable recordkeeping and reporting requirements shall be met by the Contractors.

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6.1.7 Adverse Weather Conditions General Requirements

1. Disassemble all scaffolds, loose formwork, radio antennas and secure properly.
2. All items that cannot be secure shall be stored inside secured storage areas or buildings.
3. All crane booms shall be lowered to ground level and secured to prevent movement.
4. All office trailers shall be tied down in compliance with MDC Tie-Down Ordinance No. 77-1 upon original installation. All tie down straps, ground anchors, piers, etc., shall be checked for condition and operation.
5. All exposed glass on the Work Site shall be protected by a solid, rigid covering.
6. All free standing walls shall be stored from both sides.
7. Before employees are dismissed from the Work Site, the Contractors shall make a through inspection to verify all necessary precautions have been taken.
8. All precautions for construction sites during hurricane conditions, as required by the Florida Building Code shall be met.

6.1.8 Housekeeping General Requirements

1. All refuse piles shall be removed from the Work Site immediately.
2. Stored and stacked materials shall be kept orderly, properly stacked, choked, and secured.
3. Any protruding nails, etc., shall be bent, removed or clinched immediately.
4. Oil, grease, and water spills shall be cleaned up immediately.
5. Loose materials, tools, or equipment shall be kept off stairs, out of walkways, ramps, platforms at all times when not in use.
6. Depressions and pot-holes in vehicle or walkway surfaces on the Work Site shall be properly filled and graded immediately.
7. Walkways, vehicle travel ways, ramps, railings, and stairways, shall be kept free from debris, properly installed and maintained.
8. Smoking or the use of open flames within 25 feet of flammable storage areas or fueling areas shall not be permitted.

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9. Flammable storage areas shall be properly posted **"NO SMOKING"**, provided with adequate fire extinguishers and free of combustible materials.
10. All sanitary facilities used on the Work Site shall be maintained on a daily basis.
11. All structures shall have a minimum of a 5-foot perimeter clearance that is to be free from any combustible debris or materials.

6.1.9 Overhead Protection

Overhead protection from falling objects shall be provided over DTPW facilities whenever there is a possibility, due to the nature of a construction operation, that objects could fall in or around DTPW guideway, at-grade sections, DTPW facilities, DTPW station entrances and areas designated for public access to DTPW facilities. Erection of the overhead protection for these areas shall be done in strict accordance with the requirements of this Manual and applicable standards cited herein.

The design live load for all overhead protection shall be in compliance with the minimum required by the current Florida Building Code and/or other(s) enforceable code. Overhead protection design shall include provision for impact loading when located adjacent to demolition projects or construction / maintenance projects where it is foreseeable that construction debris could fall on or near DTPW Facilities. Overhead protection for impact loading must be designed for a minimum of 300 pounds per square foot and to resist the force of impact of the largest foreseeable member or building element as taken from the elevation of that element. All overhead protection shall be designed by a licensed professional engineer. The design wind load on the temporary structures shall be in accordance with the calculated loads for components and claddings per the latest edition of the ASCE 7 Code.

Overhead protection over sidewalks and pedestrian areas shall be constructed of fire resistant materials. The vertical clearance between walking surface and the lowest projection of the overhead protection shall be 6'- 8". Construction materials and equipment shall not be stored on the completed walkway and pedestrian areas of the overhead protection roofs. A clear path from any DTPW emergency exit to the public street shall be maintained at all times.

The contractor will provide special protection, such as netting, barricades, walks, screens, scaffolds, etc., acceptable to DTPW, to help ensure the safety of DTPW property, patrons and employees. No work shall be permitted unless such protection is provided as determined necessary by DTPW. Erection of protective structures shall not be done during normal passenger hours unless by written authorization through DTPW.

Lighting of overhead protection at sidewalks and pedestrian areas is required and shall be provided under the overhead protective to maintain a minimum level of ten (10) foot candles at the walking surface. The temporary lighting will be maintained by the contractor.

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With written DTPW authorization, the Overhead or Fall Protection structure may be constructed over the right of way and the guideway, if designed for the use for which it is intended, as well as in accordance with the above minimum design load requirements. The shield shall be constructed or installed during non-passenger hours. Once installed, limited work may proceed above the overhead protection during non-passenger hours.

6.1.10 Cranes and Swing Stage Scaffolding

General Requirements

The erection or staging of cranes, construction elevators and man lifts, swing stage or scaffolding, debris chutes or gantries shall not be performed within the 30 feet of the guideway drip line during passenger hours, without an authorized DTPW "Monitor" under radio communication with Central Control, on site.

Crane lifts located within 30 feet of the DTPW guideway drip line are permitted during non-peak passenger operating hours only when coordinated by an authorized DTPW crane Monitor or DTPW authorized employee under radio communication with Central Control on site. Under no conditions will loads be permitted to be swung over or within 5 feet of the guideway.

Crane lifts and exterior building operation conducted from swing stage that are located within the DTPW Right of Way or within 30 feet of the guideway drip line are permitted only during non-peak operating hours and only when coordinated by an authorized DTPW Monitor under radio contact with Central Control.

No construction elevators or cranes will be erected on the Metrorail / Metromover guideway side of the building /structure.

The contractor must ensure that all cranes are operated only by trained, experienced and competent operators who hold either an Operating Engineers, Local Union, Verification of Competence and Experience or equivalent licensure.

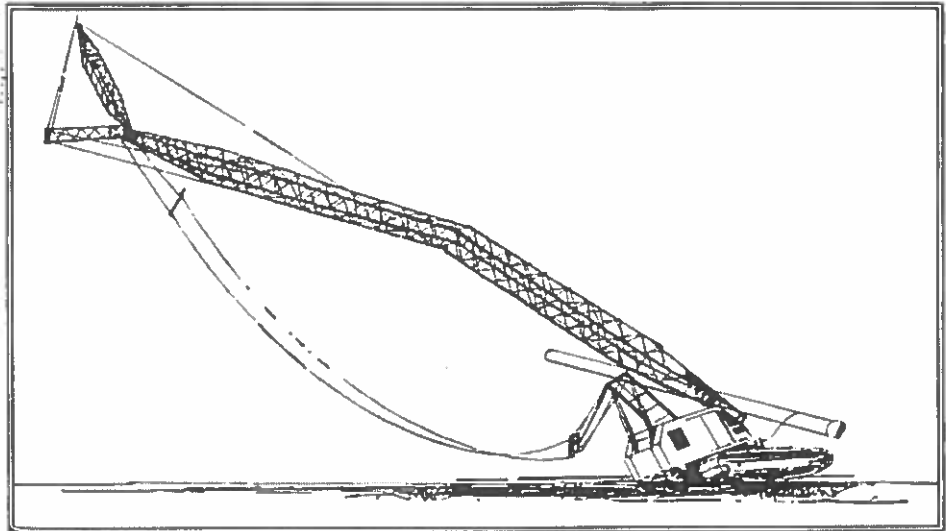
The contractor must also ensure that the men who direct, rig and handle loads are adequately trained, able to establish load weights, judge distance, heights and clearance and capable of selecting tackle and lifting gear suitable for the loads lifted.

All crane/scaffolding operations within the DTPW Right of Way and 30 feet of the guideway drip line are subject to inspection by the DTPW Design and Engineering Division, Metromover Maintenance Division and DTPW Office of Safety and Security. Cranes operated within DTPW Right of Way and Safety zones shall have complete maintenance, repair and inspection logs present on the machine and available for review. DTPW reserves the right to refuse the operation of any machine that the structural condition or stability of the machine is questioned regarding the task attempted by the contractor.

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MOBILE CRANES

Over 50% of all
Crane Accidents
are “caused”
when the
machine is
improperly set
up.



The size, boom length and capacity of all cranes operated on projects within the DTPW Right of Way and Protective Safety Zones must be clearly shown on a site plan as part of an DTPW Access Permit application. The swing radius of the machine must be shown on the site plan with respect to the location of DTPW facilities.

Adequate care must be demonstrated by the contractor to DTPW representatives when setting up cranes and booms. Cranes shall be erected in strict conformance with the manufacturer's specifications and standard of good construction practice. Outriggers and support shall be adequately cribbed and blocked so as to properly brace the crane frame.

Adequate swing clearance shall be provided at the counterweight of the crane cab. At no time shall the counterweight swing clearance be less than 5 feet from the DTPW guideway drip line, without an authorized DTPW crane Monitor or employee under radio communication with Central Control on site. Overturning boom stops are required on all cranes when the boom angle exceeds 50 degrees from horizontal.

Mechanical swing limit switches and stops may be required to limit crane swing over and adjacent to the DTPW guideway and DTPW facilities. At no time will loads be allowed to be swung over the DTPW guideway, DTPW Stations or DTPW facilities.

Sheet pile and driven pile crane operations should be erected so that the crane and boom are situated perpendicular to the DTPW guideway. Staging and erection of piling should be adequately restrained or stayed such that the piling cannot topple into DTPW facilities during setup operations.

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Tower Cranes

Tower cranes may be employed on projects that are adjacent to the DTPW facilities and guideway systems and that are tall enough, have sufficient jib length to reach a distance of 30 feet from the guideway drip line or that loads could be swung over DTPW facilities, are regulated by this manual. In general all tower cranes with base of tower located at a distance from the DTPW guideway drip line less than the height of the tower crane are subject to the restrictions in operation of this chapter.

Tower cranes are subject to wind movement and must be able to weather-vane during periods of high wind. Weather-vaning tower cranes, when cranes are not in use, are allowed to swing over DTPW guideway or facilities during passenger hours.

Tower cranes are subject to fatigue cracking and failure at the tower and jib connections. A certified structural inspection log of the Crane tower, jib, cables and haulage assemblies must be provided to DTPW on all tower cranes located in areas that they could affect DTPW facilities.

6.1.11 Excavations, Foundations and Sheet Piling

Until provisions for permanent support have been made, all excavations shall be properly guarded and protected so as to prevent the same from becoming dangerous to life and property and shall be sheet piled, braced and/or shored, where necessary, to prevent the adjoining earth from caving in; such protection to be provided by the person causing the excavation to be made. No excavation, for any purpose, shall extend within five (5) feet of the angle of repose of any soil bearing footing or foundation unless such footing or foundation is first properly underpinned or protected against settlement.

The design of all soils excavations, stabilization, modifications, underpinning or laterally protected with sheet piling shall be designed by a licensed professional engineer known to the Building Official to be qualified to evaluate the bearing capacity of soils. This design shall include a Geotechnical Soils investigation such that the registered Professional Engineer shall submit to the Building Official a letter attesting that the site has been observed and the foundation conditions are similar to those upon which the designed is based. The letter shall be signed and bear the impress seal of the engineer or architect, as applicable. Geotechnical soils sampling shall be conducted at sufficient frequency to ensure that the soils conditions on the project site are representative of the design conditions.

Angle of Repose

The angle of repose of all support soils within the DTPW Right of Way and safety zones shall be considered as 1:1 ratio. No excavation, for any purpose, shall extend within five (5) feet of the angle of repose of any DTPW soil bearing footing or foundation unless the design capacity of that footing is evaluated by the design Engineer of Record and his recommendations are approved by DTPW with respect to the design engineers modifications. Refer to Appendix B for clarification.

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Pilings

Sheet pilings, driven pilings, auger cast pilings or other operations that create significant soils vibration shall be closely monitored with seismic accelerometers to verify the energy transmitted into the DTPW structures is less than 0.22 inches per second. Additional detailed survey analysis may be required to verify that no settlement has occurred in the course of the work.

Excavators

Excavation equipment operated within the DTPW Right of Way and Safety Zones must take extra care to avoid causing damage to DTPW facilities. Track excavators have similar swing geometry problems as mobile cranes and are capable of causing significant damage if improperly operated. Similarly, improper operation of wheel loaders, excavators, dump trucks and vibratory rollers can cause impact and vibration damage to structures.

The contractor must ensure that all heavy excavation equipment is operated only by trained, experienced and competent operators who hold either an Operating Engineers, Local Union, Verification of Competence and Experience or equivalent licensure.

Excavations may be conducted within the DTPW Right of Way and Safety Zones only during non-passenger hours. Excavation operations within the DTPW Right of Way and Safety Zones require a trained DTPW Monitor, in radio communication with DTPW Central Control, during all excavation operations.

Protection of underground site utilities is the responsibility of the contractor. All utilities must be located by an approved utilities locator service prior to the start of any excavation or piling activities.

DTPW may, at its discretion, modify any of the above conditions or impose additional conditions, to help ensure the safety of the public, and its patrons, employees or property.

6.1.12 Demolition

No Demolition of structures adjacent to DTPW facilities by blasting shall be permitted. During piece-by-piece demolition, it is essential that the DTPW escalators, and/or other DTPW equipment be protected from dust generated by the demolition. The DTPW equipment must be covered with polyethylene sheets during demolition to prevent dust from entering the equipment. Guideway protection diagrams and location plans shall be submitted by the contractor when appropriate or requested by DTPW. Such plans shall clearly show the alignment of the DTPW right-of-way together with the setback dimensions of the portions of the building to be demolished.

Application

This section is intended to apply to all activity on the exterior of buildings located within the Safety Zone including maintenance, inspections, probing, demolition operations and shall comply with the American National Standard (ANSI) A 10.6 standard for demolition

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operations. In cases of practical difficulty and unnecessary hardship, or where other extenuating circumstances exist, DTPW may grant exceptions to the requirements stated herein, or may permit alternative methods, but only when it is clearly evident that equivalent protection is thereby secured.

Demolition Plan

The contractor must submit a detailed demolition plan to DTPW Engineering for review as part of the permit application package. This Demolition plan must include the scope of proposed demolition, location plan and building elevation of the proposed demolition work detailing the setback distance to DTPW facilities. Additionally the anticipated contractor means and methods, anticipated protective methods, equipment list including sizing of all demolition equipment should be supplied in the demolition submittal plan. The plan shall describe the type of construction (concrete, steel frame, masonry, etc.) and the overall construction configuration.

Guideway protection diagrams and location plans shall be submitted by the contractor when appropriate and requested by DTPW. Such plans shall clearly show the alignment of the DTPW right-of-way together with the setback dimensions of the portions of the building to be demolished.

Protection

During demolition, it is essential that the DTPW facilities be protected from dust generated by the demolition. The DTPW stations, escalators, train control and traction power rooms/buildings must be covered with polyethylene lined sheets during demolition to prevent dust from entering the DTPW switch gear and equipment.

Structural Condition and Analysis Survey

Prior to starting any demolition operation within the safety zone, an engineering survey of the structure shall be made to determine the condition at all locations of the exterior walls adjacent to the DTPW system. The purpose of the survey is to determine the condition of the framing, floors, and walls so that actions can be taken, if needed to prevent premature collapse of any portion of the structure. Such survey shall be made on the outside utilizing swing stages with full rail protection. The survey shall consist of documenting all locations displaying loose, cracked, and/or deteriorated stucco, tile, or other building facade materials in which such condition could result in falling debris.

An exterior crack survey may be required as part of the engineering survey of building to be demolished. A crack survey should be prepared locating all significant cracks including a location sketch, description, width, estimated recent activity, and the existence of previous repairs. Cracks of any significance shall be physically marked so that future observation may be made with telescopic equipment at the ground level. A stucco condition survey locating all significant irregularities in the stucco facade including bulges, micro/map cracking, hollow and de-bonded areas, discoloration due to water absorbance effervesce scaling, or other abnormalities should be included in the crack / engineering survey.

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Guideway Protection Diagrams and Location Plans shall be submitted by the contractor when appropriate and requested by DTPW. Such plans shall clearly show the alignment of the DTPW right-of-way together with the setback dimensions of the portions of the building to be demolished.

Similarly a window / wall opening survey of the condition of window vents, plywood covers, sill stability, and other characteristics from which conclusions can be made as to the security of such openings. Where a hazard exists from fragmentation of glass or instability of the window frame/vent, all glazed openings shall be removed or protected.

Scheduling

Exterior building element demolition activities located within the safety zone are permitted only during non-passenger operating hours and only when coordinated by an authorized DTPW "Monitor" under radio communication with Central Control on site.

Protective Measures

Remove all loose materials by hand which are in imminent danger of falling. The removal of such loose materials must also include a temporary repair or stabilization at any location where the removal results in an opening or area, which can allow water to penetrate resulting in further or future deterioration.

Pedestrian Site Security and Safeguards

Prior to the engineering survey of the building exterior and other invasive activities, it is necessary to fully protect the public and in particular, DTPW facilities. Every sidewalk, train guideway, station platform, stairs, escalator, or public thoroughfare adjacent to or near enough to be affected by the operations on the building shall be closed, relocated or protected as specified in overhead protection above.

Demolition Observer

Provide a full time observer who is classified as a qualified person and who is capable of recognizing changes in the building facade and appearance. The purpose of this person is to provide warnings to the DTPW operators in the event of a sudden change in the building's outward appearance or stability so that service on a rail section may be discontinued. The observer shall remain at the site at all times DTPW is in operation and providing service to the public

Periodic Demolition Reports

A certification shall be provided by a licensed engineer after each periodic inspection stating that the building components are secure and that it is safe to operate the DTPW system in that location.

Demolition Means and Methods

No wall sections shall be permitted to stand alone without lateral bracing. Additionally, all walls shall be left in a stable condition at the end of each shift. Masonry walls or other sections of masonry shall not be permitted to fall upon the floors of the building unless qualified persons have determined the impact of such masses will not exceed the safe carrying capacities of the floors.

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Chutes

Materials shall be dropped only through chutes to any point lying outside the exterior walls of the building and chutes at any angle exceeding 45 degrees from the horizontal shall be entirely enclosed. Also, chutes shall be designed and constructed to eliminate hazards of impact of materials or debris

Particle Velocity and Seismograph Reports

When required, the contractor shall measure and furnish reports of particle velocity caused by impacts in accordance with provisions in Appendix E of this document.

Additional Requirements

DTPW may, at its discretion, modify any of the above conditions or impose additional conditions, to help ensure the safety of the public, and its patrons, employees or property.

6.1.13 Exterior Building Maintenance

Pressure Washing

Painting

Window Washing

Sandblasting

Stucco Damage Repair

Other Maintenance Operations

Structural/ Non-Structural Inspections

General

In general, some routine maintenance activities associated with the exterior building envelope of buildings may not require a building permit. However, to adequately ensure the safety of the DTPW system, provisions are made in this manual detailing specific requirements and limitations of allowed building maintenance activities within the DTPW Safety Zone. A DTPW Access Permit is required on all exterior building maintenance activities for buildings located within the Safety Zone.

Access to exterior building components located within the Safety Zone including window cleaning operations and roofing operations is prohibited during DTPW passenger hours without a DTPW Monitor. The simple DTPW policy is that "there shall not be any exterior building maintenance activity at or above the elevation of the DTPW guideway during normal passenger operations without a DTPW Monitor".

Maintenance

This section is intended to apply to all activity on the exterior of buildings located within the Safety Zone including maintenance, inspections, probing, stucco repair, painting and waterproofing operations. In cases of practical difficulty and unnecessary hardship, or where other extenuating circumstances exist, DTPW may grant exceptions to the requirements stated herein, or may permit alternative methods, but only when it is clearly evident that equivalent protection is thereby secured.

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Small Particle Protection

Routine exterior building cleaning is required to some extent on most structures. Much of this work is commonly accomplished by access to the building exterior via either swing stage or boson chair. Access on building exteriors located within the safety zones is prohibited during passenger hours without a DTPW Monitor.

Pressure cleaning and sandblasting activities produce over spray, dirt and particle fallout below the work area. DTPW guideway, stations and facilities must be adequately protected from the fallout of the dirt, particles, sand, loose paint, etc. prior to the start of any exterior building cleaning activity. Such protection may be in the form of polyurethane lines, canvas tarps or other catchment devices. Design of required protection must be approved by DTPW.

Stucco probing and repair, painting and waterproofing activities produce falling debris. DTPW guideway and DTPW Facilities must be adequately protected with overhead protection as described in this manual as part of the DTPW Work Order for stucco repair and painting activities.

DTPW may, at its discretion, modify any of the above conditions or impose additional conditions, to help ensure the safety of the public, and its patrons, employees or property.

DTPW Operations and Scheduling

DTPW shall have the right to stop any work or construction activity that affects the safety of DTPW patrons and or facilities or normal DTPW operations. DTPW will exercise reasonable advance notice, except for any matters related to immediate system safety concerns which will require no advance notice.

Construction work which may have any impact on the Metrorail/Metromover System may be scheduled during the Non-Peak Operating Hours or Non-Passenger Hours. Non- Peak Operating Hours are defined as weekdays prior to 6:30 A.M. or after 7:00 P.M. and between 10 A.M. and 3 P.M.; and all day Saturday and Sunday. Non-Passenger hours are defined as Monday through Sunday 12:30 A.M. to 4:30 A.M. or such other hours as may be designated by the County as Non-Passenger Hours. Passenger hours may change without notice as needed by DTPW.

Weekends / Holidays & Special Events

Construction work that may impact weekend or special operational conditions will be limited. Schedule requirements will be addressed on a project to project basis where the individual scheduling needs of the project can be evaluated with respect to the operations of the DTPW systems.

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APPENDIX A: GLOSSARY

The following terms shall, for the purpose of this Manual, have the meanings respectively ascribed to them:

- ACCIDENT -** An unforeseen event or occurrence that causes death, injury or damage to property. Any abnormal condition that requires the attention or intervention of responsible personnel or an individual monitoring the transit system operation.
- ALARM CONDITION -** Deviation from nominal performance, which does not cause a significant, effect on system performance but does warrant investigation and/or repair. Sanctioned or accepted by the building official and Department of Transportation and Public Works.
- AUTOMATIC -** A term applied to a system, subsystem, or device, which has the inherent capability to function without direct manual participation.
- CATCH PLATFORM -** A temporary structure erected around or attached to, and abutting a building for the purpose of safeguarding the employees, and the public, by catching and retaining falling objects or debris.
- CENTRAL CONTROL -** That place where train control or train supervision is accomplished for the entire Metro-rail and Metro-mover system; the train command center.
- CONSTRUCTION SAFETY -** The optimum degree of safety within the constraints of construction effectiveness, time and cost through specific application of safety management throughout all phases of the construction.
- CONSTRUCTION SAFETY MANUAL -** Issued as a contract document by Department of Transportation and Public Works (DTPW), to be used as a guide by the Contractor in developing his Accident Prevention Program.
- DTPW ACCESS PERMIT -** Issued written authorization from DTPW for work in the DTPW Right of Way and DTPW Safety Zones. Construction Work Orders are specific with regard to the scope, extent, additional requirements or limitations, and allowable

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schedule of approved work to be completed in the DTPW Right of Way and Safety Zones.

CONTRACT DRAWINGS -	The plans, profiles, typical cross-sections, general cross-sections, elevations, schedules and details which show locations, character and dimensions of the work.
CONTRACTOR'S AUTHORIZED SAFETY REPRESENTATIVE -	The person designated as authorized safety representative who will be responsible for work site safety and for reporting all insurance claims.
CONTRACTOR-	The individual, firm, partnership, corporation, or combination thereof, private, municipal, or public, including joint ventures, which, as an independent contractor, has entered into a contract with MDC, who is referred to throughout the Contract Documents by singular in number and masculine in gender.
CHUTE-	A trough or tube used to guide and transport sliding objects, materials, or debris from a higher to a lower level.
DEGRADATION -	Falling from an initial level to a lower level in quality or performance.
DEMOLITION -	Dismantling, razing, destroying, or wrecking any fixed building or structure or any part thereof.
EMERGENCY -	A situation which is life threatening or which can cause serious damage on or in the immediate vicinity of any transit facility, structure, bus or train.
EMPLOYEE -	A person employed by the Contractor or Subcontractor.
EQUIPMENT FAILURE -	The state in which equipment no longer meets the minimum acceptable specified performance and cannot be restored through operator adjustment or control.
FTA -	Federal Transit Administration, formerly UMTA.
FAILURE -	An inability to perform an intended function within specified tolerances.

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HAZARD - Any real or potential condition that can cause injury or death; or damage to or loss of equipment or property.

HAZARD MANAGEMENT (LOSS CONTROL) - An element of the system safety management function that evaluates the safety effects of potential hazards considering acceptance, control, or elimination of such hazards with respect to expenditure or resources. (The feasibility of hazard elimination must be considered in light of financial, legal, and human considerations).

HAZARD SEVERITY – A qualitative measure or the worst potential consequences that could be caused by a specific hazard.

Category I Catastrophic May cause death, serious injury/illness or major system loss.

Category II Critical May cause injury/illness, or major system damage.

Category III Marginal May cause minor injury/illness, or minor system damage.

Category IV Negligible Will not result in injury/illness, or system damage.

HAZARD RESOLUTION - The analysis and subsequent actions taken to reduce, to the lowest level practical, the risk associated with an identified hazard.

IMMINENT DANGER - Refers to any condition or practice where there is reasonable certainty that a danger exists that can be expected to cause death or serious physical harm and/or serious property damage immediately or before the danger can be eliminated through normal enforcement procedures

INCIDENT - An unforeseen event or occurrence that does not necessarily result in injury or property damage.

MAINTENANCE - All actions necessary for retaining an item in or restoring it to an operable condition.

MALFUNCTION - Any anomaly or failure wherein the system, subsystem, or component fails to function as intended.

MAY - A permissive condition. Where the work "may" is used, it is considered to denote permissive usage

MIAMI DADE COUNTY - The Board of County Commissioners of Dade County, (MDC) Florida, political subdivision of the State of Florida, and the DTPW, an office under the County manager of Miami Dade County, Created March 1, 1974, by Administrative

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Order No. 3-8, under the authority of Sections 4.01 and 4.02 of the Miami Dade County Charter - and any authority, board, body, commission, official or officials to which or to whom the powers now belonging to DTPW in respect to the location, construction, equipment, maintenance and operation of transit facilities shall, by virtue of any act or acts, hereinafter pass or appertain.

DTPW - Department of Transportation and Public Works, Miami-Dade County, located at 701 N.W. 1st Court, Suite 1700, Miami, Florida 33136

DTPW RIGHT OF WAY- As defined by the legal description of the properties that the DTPW facilities occupy or are situated above and supportive easements. For the purpose of this manual the Right of Way shall be defined as those properties located within the drip lines of the DTPW rails, stations and facilities and include those properties used for access and egress to the DTPW facilities by the general public and normal DTPW operations.

MISHAP - An unplanned event or series of events that result in death, injury, occupational illness, or damage to or loss of equipment or property. (See also ACCIDENT).

MONITOR - An authorized DTPW employee, DTPW contractor or DTPW consultant monitoring the movement of construction equipment or materials that may infringe upon the 30' "Safety Zone" (that area of the Department of Transportation and Public Works Guideway (Metrorail and/or Metromover) that lies within 30' of the outermost edge of the superstructure) which has the potential to interfere with Department of Transportation and Public Works operations and/or maintenance. This person(s) shall ensure the safety of Department of Transportation and Public Works patrons, employees, property and the public. DTPW contractors and DTPW consultants shall be trained per DTPW Rail Services Metromover and Metrorail training packages before they perform duties as Monitors.

OPERATOR - That person having direct and immediate control of the movement of a vehicle or machinery.

OPERATING TIME - The time period between turn-on and turn-off of a system, subsystem, component or part during which time operation is as specified. Total operating time is the summation of all operating time periods

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- OSHA - The Occupational Safety and Health Administration. An agency of the U.S. Government which sets standards to provide for the safety of employees in the workplace. The local area office is located in Ft. Lauderdale, Florida, phone (305) 527-7292
- PERSONAL PROTECTIVE EQUIPMENT (PPE) - Equipment designed and worn to provide protection against hazard to some part of an employee's body. Examples of PPE are safety glasses, respirators, hart hats, gloves etc. All PPE used at DTPW work sites must comply with applicable OSHA standards
- POWER RAIL - Three separate rails center mounted on insulators on the guidebeam which provides traction power for vehicle propulsion. (Metromover)
- PROCEDURES - Established methods to perform a series of tasks.
- QUALIFIED PERSONS - Those who by possession of a recognized degree, certificate, or professional standing, or by extensive knowledge, training, and experience in the demolition industry have successfully demonstrated their ability to solve or resolve problems relating to the subject matter of demolition.
- QUALIFYING BUILDINGS - Buildings located within 30 feet of DTPW Right of Way corridor, and greater than 35 feet, in height, that have a building footprint located adjacent to a Safety Zone where the elevation of the building encroaches into the Vertical Safety Zone extensions as defined in Safety Zone above and at the rate of 1 foot horizontal offset per 4 feet of building height above DTPW facility. See the definition of Safety Zone above and attached drawing CZ-1 (Appendix C).
- QUALIFYING STRUCTURES - Cranes whose boom swing infringes within the 30 feet Safety Zone or DTPW Right-of-Way corridor. Signs located within the safety zone. Temporary scaffolding or construction towers within the Safety Zone or DTPW Right of Way corridor with heights greater than 30 feet.

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- QUALIFYING WORK-** Any construction, demolition, equipment operations or building maintenance activity performed on or in a building or structure which may be hazardous to persons or property within the DTPW Right of Way or protective safety zones.
- RELIABILITY -** The probability that the system or sub-system will perform satisfactorily for a given period of time when used under stated conditions.
- REPAIR -** The maintenance activity which restores a failed item to operable state.
- RISK -** An expression of possible loss over a specific period of time or number of operational cycles. It may be indicated in terms of hazard severity and probability.
- RISK MANAGEMENT -** The Risk Management Division, Miami Dade County, General Services Administration, located at 111 N.W. 1st Street, Suite 2340, Miami, Florida 33128; phone 375-4280.
- RULE -** A law or order authoritatively governing conduct or action.
- SAFE -** Secure from danger of loss.
- SAFETY -** A reasonable degree of freedom from those conditions that can cause injury or death to personnel; damage to or loss of equipment or property; and freedom from danger.
- SAFETY CHECKLIST -** A list for examining the safety aspects of equipment, procedures and personnel.
- SAFETY CRITICAL -** A designation placed on a system, sub-system, element, component, device, or function denoting that satisfactory operation of such is mandatory to assurance of patron, personnel, equipment, or facility safety. Such a designation dictates incorporation of special safety design features.
- SAFETY DEVICES -** Protective devices which do not alter the fundamental nature of a hazard but which do control the extent of the hazard in some manner.
- SAFETY MANAGEMENT -** An element of management that establishes safety program requirements and ensures the planning, implementation and accomplishment of task and activities to achieve work place safety.

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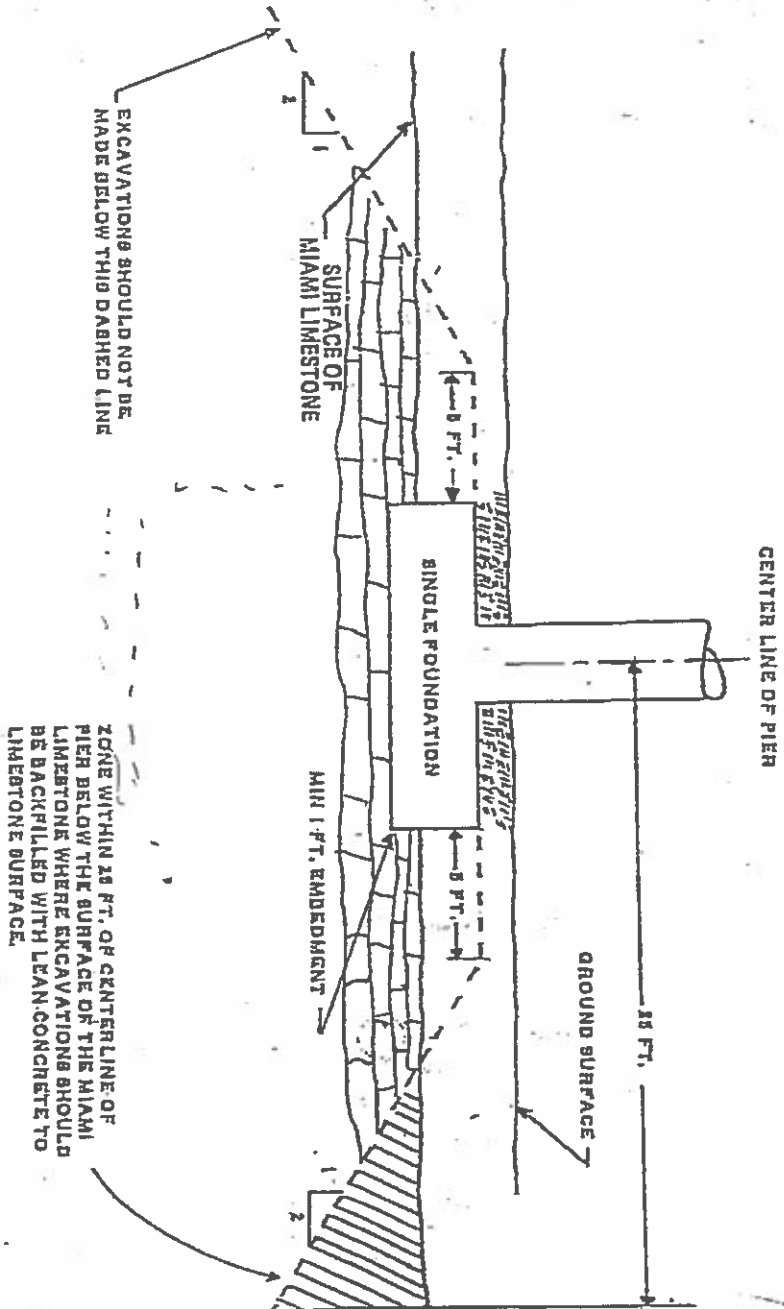
- SAFETY PROGRAM -** The combined task and activities of safety management and safety engineering that enhance operational effectiveness by satisfying the safety requirements in a timely, cost-effective manner throughout all phases of the work.
- SAFETY SUBCONTRACTOR -** A subcontractor who satisfies the Florida Department of Labor and Employment Security Industrial Safety and Health Programs, Chapter 38F-44, and is duly approved by MDC
- SAFETY ZONE -** Safety Zones are defined as a protective safety buffer zone adjacent to the DTPW Right of Way. Safety Zones include all lands public or private within 30 feet (horizontally) of the DTPW Right of Way measured from the drip line of the facility/guideway. No work is allowed at the exterior of any building located within the protective safety zone without an approved DTPW Access Permit.
- SERVICE CONTRACTS/
CONTRACTOR -** Those operations that are providing any services, or repair, replacement or maintenance functions that are indigenous to the construction process on the Work Site.
- SHALL -** A mandatory condition. Where certain requirement are described with the "shall" stipulation, it is mandatory that these requirements be met.
- SHOULD -** An advisory condition. Where the " should" is used, it is considered to be advisable usage, recommended but not mandatory.
- STATE -** The State of Florida.
- SUBCONTRACTOR -** Any person, firm or corporation, other than the employees of the Contractor, who contracts with the Contractor to furnish labor and/or materials under this Contract.
- SUPPLIER/VENDOR -** Those entities whose. sole responsibility to the project is the delivery of goods or materials, exclusive of direct labor.
- SYSTEM -** A composite of people, procedures and equipment operating in a specific environment to accomplish a specific mission or task
- THIRD RAIL -** A rail mounted on insulators adjacent to running rails which provides traction power for train propulsion. (Metrorail).

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- TRANSIT SYSTEM -** A transportation system comprised of fleets of motor buses and electrically propelled transit vehicles and all of their operational / support personnel and systems (e.g. maintenance facilities, tracks, structures, etc.) utilized for the mass movement of passengers within a metropolitan area.
- UNUSUAL OCCURRENCE -** An unforeseen event or incident which does not necessarily result in injury or property damage.
- UNSAFE CONDITION -** Any condition which if not corrected, will endanger human life or property.
- WARNING DEVICES -** Sensors that monitor or detect conditions and provide visible and/or audible alerting signals as desired for selected events.
- WORK SITE -** The area enclosed by the limit of Work indicated in the Project Drawings and boundaries of local streets and public easements in which the Contractor is to perform the work under the Contract. It shall also include areas obtained by the Contractor for use in connection with the Contract, when contiguous to the Limit of Work.

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APPENDIX B: CRITERIA FOR EXCAVATION ADJACENT TO SINGLE FOUNDATIONS



METROPOLITAN DADE COUNTY
 TRANSIT IMPROVEMENT PROGRAM
 LINE SECTION 4



LAW ENGINEERING
 TESTING COMPANY

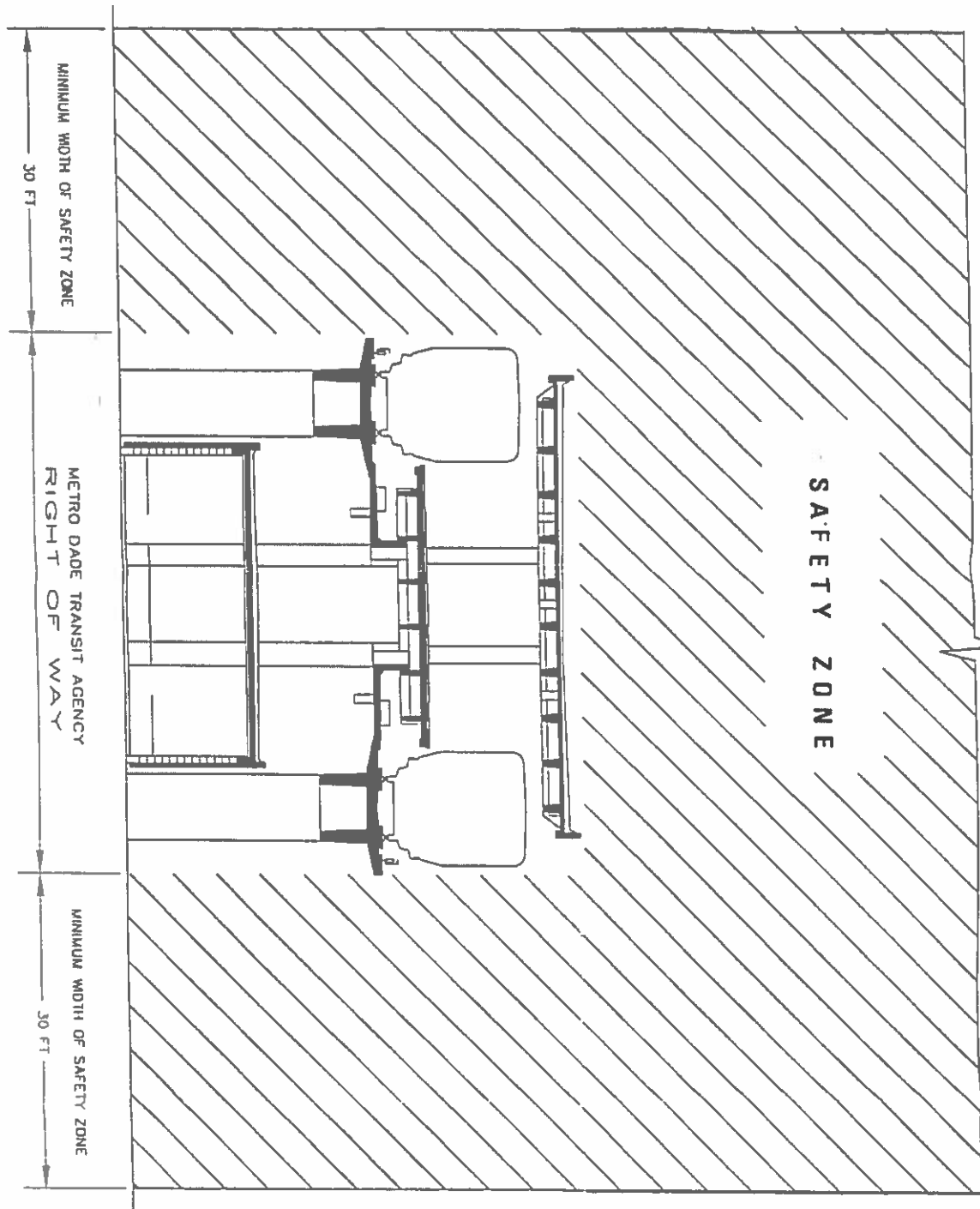
CRITERIA FOR EXCAVATION ADJACENT
 TO SINGLE FOUNDATIONS

DRAWN BY *SK/A*
 CHECKED BY *KDS*

FIGURE B 14

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APPENDIX C: SAFETY ZONE CRITERIA



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APPENDIX D: SAMPLE CRANE SAFETY INSPECTION CHECKLIST

CRANE SAFETY INSPECTION CHECKLIST				
Location:				
Area Inspected:				
Inspected By:			Date:	
* Check items to be inspected in your area - Disregard others as not applicable				
*	OK	ITEM INSPECTED	NOT OK	COMMENTS
THE CRANE CREW				
		Is the operator and crew properly trained?		
		Operating is a full time job—does the operator pay strict attention to his duties?		
		Do crane personnel wear hard hats when away from the crane?		
		Is the operator aware of the regulations involving working close to high voltage lines and electrical equipment?		
		High voltage, even from a distant source, can be introduced in metal parts of the crane. Is the operator aware of these situations?		
		Does the operator know the weight of each piece before he picks it?		
		Does the crane crew know the manufacturer's proper recommendations for making short moves on the job site?		
		Does the crew get help when lifting heavy objects?		
		Does the crew periodically check for level?		
		Do they check the outriggers for stability?		
		Do they check the boom angle indicator and other electronic load equipment for accuracy?		
		Does the operator allow anyone to ride the load or to the hooks?		
THE GROUND CREW (HOOKING UP THE LOAD)				
		Does the ground crew have, maintain and use proper safety equipment?		
		Are they familiar with the product erection sequence?		
		Are they familiar with the crane signals and general operation of the crane?		
		Do they know how to properly hook pieces and provide aerial stability?		
		Do they know how to properly use tag lines?		
		Are the tag lines in good condition, strong enough and long enough?		

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**APPENDIX D: SAMPLE CRANE SAFETY INSPECTION CHECKLIST
(CONT)**

*	OK	ITEM INSPECTED	NOT OK	COMMENTS
		Is two way communication between the operator and the erection foreman being used? Does the crew know how to use and maintain the equipment? Are spare parts available for quick repair?		
		Is the crane swing radius roped off to prohibit the crane (during swing) from causing damage or hurting someone? Is entire swing checked including the counterweights?		
THE MACHINE				
		Is the crane operated within all capacities?		
		Is the machine inspected daily?		
		Are the required crane inspections recorded?		
		Are all controls properly identified?		
		Are warning devices operative?		
		Is the manufacturer's rating plate visible?		
		Is the operator's manual available to the crew for easy reference?		
		Are load charts, operating signals and other important information posted and/or readily available?		
		Are brakes within operating limits?		
		Are clutch and brake surfaces dry?		
		Are all protective panels and guards in place?		
		Are electrical systems in good condition?		
		Are all of the sheaves properly aligned so as to reduce rope wear during work?		
		Is cable in good conditions?		
		Are hooks in good condition?		
		Have hooks been inspected by magnetic particle inspection?		
		Are there safety latches on the hooks?		
		Are fuel tanks in good condition and without leaks?		
		Are fire extinguishers available and routinely inspected?		
SLINGS				
		Are slings in good condition/ Is safety factor of 5 maintained?		
		Are slings stored properly?		
		Are sling inspection reports maintained?		
		Are "U" bolt wire rope clips correctly placed?		
		Are all other lifting devices in good condition?		

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APPENDIX D: CHECKLIST FOR CRITICAL LIFTS

CHECKLIST FOR CRITICAL LIFTS

This form is to be completed when the load exceeds 80% of the load chart for the crane or derrick or where the pick involves two or more cranes.

LIFT DATE: _____

1) Supervisor responsible for the lift: _____

2) Description of item to be lifted and estimated weight: _____

3) Equipment and Lift Relationship:

a. Operating Radius _____

b. Boom Length _____

c. Allowable Load (From Load Chart) _____

d. Ratio of Lift to Allowable Load _____

e. Clearance to Surrounding Facilities _____

f. Sling Angle _____

4) Condition of Hoisting Equipment and Rigging

a. Has all equipment been reinspected for this lift: ____ Yes ____ No

5) Stability of Ground Area:

a. Check Soil/Ground Bearing Allowable Load (List Conditions) _____

b. Will mats be needed? ____ Yes ____ No

c. Any underground installations needing special attention? ____ Yes ____ No

d. Will it be necessary for the crane to walk with the load? ____ Yes ____ No

e. Is the surface level and stable where the crane will be walking?

____ Yes ____ No

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APPENDIX D: CHECKLIST FOR CRITICAL LIFTS (CONT)

f. Have facilities been provided to keep the load radius from changing?

___ Yes ___ No

g. Have all overhead facilities been checked for clearance in the area where the crane will be moving/operating? ___ Yes ___ No

6) Does the operator have the necessary experience on the crane and this type of lift?

___ Yes ___ No

7) If the lift involves the use of two cranes answer the following:

a. Have operators worked together before? ___ Yes ___ No

b. Who will coordinate instructions to operators? _____

By: _____

Contractor's Superintendent

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APPENDIX E: RECOMMENDED VIBRATION LIMITS

Seismological research by the U.S. Bureau of Mines, foreign investigative groups, and individual seismologists has established criteria relating the occurrence of structural damage to certain frequencies and levels of ground motion.

USBM Report of Investigations 8507¹ states that residential structures are most prone to damage as a result of vibration energy within the frequency range of 4-12 hertz. Within this range, a 0.5-inch per second maximum particle velocity is recommended to preclude 'threshold' damage to the plaster-on-wood-lath interior portions of older structures.

Threshold damage is defined by the USBM as the loosening of paint, small plaster cracks at joints between construction elements or the lengthening of old plaster cracks. A maximum of 0.75 inch per second is recommended for the protection of modern drywall interior construction. The damage threshold is normally considerably higher for load bearing or other structural portions of a house.

Above 12 hertz, the allowable vibration increases as the frequency increases, up to 40 hertz, above 40 hertz, a constant 2.0 inches per second level is recommended to protect the interior walls and ceilings of structures, regardless of construction material. A graphic representation of the USBM recommended criteria is shown in the velocity versus frequency curve on the following page, and the vibration analysis of the recordings are plotted on graphic representations at the end of this report.

It should be noted², however, that it is almost impossible in actual practice to visually determine if the recorded peak vibration on a typical seismogram is actually within the Bureau's 4-12 hertz range. This is because ground vibration is usually a complex mixture of many frequencies that cannot be accurately separated by visual analysis of a seismogram.

Proper implementation of the Bureau's limit can only be accomplished by a computerized technique that analyzes the seismographic data in terms of both peak particle velocity and frequency. Therefore, in order to best determine the potential effects of ground vibrations recorded in this study, a computerized response versus frequency technique known as RSVP was used in the preparation of this report.

RSVP TECHNIQUE

The Response Spectrum Velocity Profile (RSVP) technique used in this study was developed by Dr. Kenneth Medearis. It is a powerful vibration analysis tool which not only conforms to USSM recommendations, but also provides insight into the responses of various types of residences to a given vibration episode.

² Siskind, David *et al*, Structural Response and Damage Produced by Ground Vibration From Blasting. U.S. Bureau of Mines, RI, 1980.

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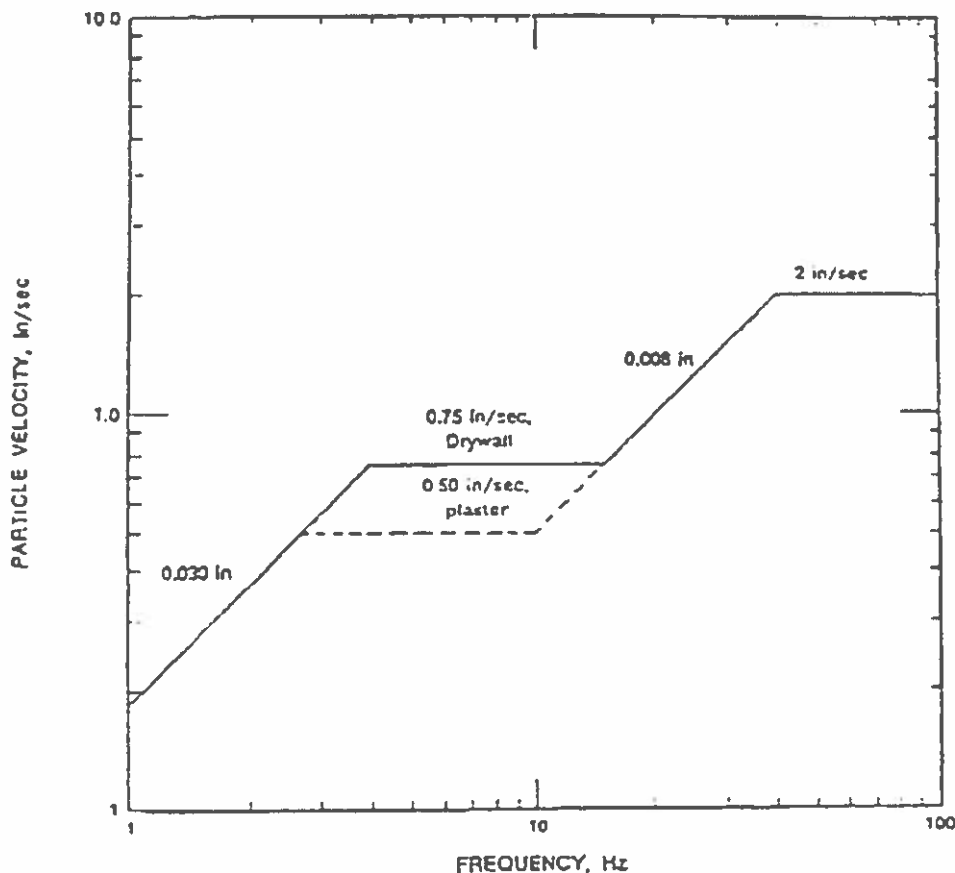
APPENDIX E: RECOMMENDED VIBRATION LIMITS (cont)

All buildings are characterized by a single natural fundamental frequency. This means that, as with a pendulum or a tuning fork, there is one dominant frequency at which a particular building will vibrate when excited. The fundamental natural frequency of a building depends primarily upon its height. Tall buildings are more flexible and vibrate at low frequencies. Low-rise structures, being stiffer, vibrate at higher frequencies.

When the frequency of a ground vibration wave matches the structure's natural frequency, the ground motion will be amplified within the structure. According to the USSM, the natural frequency of typical residential structures ranges between 4 and 12 hertz. Thus, it is within this range that the vibration limits recommended by the USBM are most stringent.

By applying the computerized RSVP Technique to the data obtained in this survey, both the ground particle velocity and response characteristics of residential structures are considered over a wide range of frequencies. The results are then related to the USSM velocity versus frequency curve discussed previously, and are plotted on the analysis sheets at the end of this report.

When particle velocities exceed the limits of the USBM Curve, non-damage probability calculations are performed, based on the research of Medearis. These probabilities are given under the graphs on the analysis sheet for 1, 1-1/2, and 2story houses. When no figures are given, probability of non-damage is essentially 100 percent.



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BID DOCUMENTS

TRANSIT FACILITIES IMPROVEMENTS PER RECERTIFICATION REQUIREMENTS

PROJECT NO. IRP346A(1)-DTPW25-CT

DRAWINGS