

***CITY OF FORT LAUDERDALE
SPECIFICATIONS PACKAGE***

685-9855

**GENERAL FACILITIES REPAIR,
RENOVATION AND RESTORATION
SERVICES**



Rick Andrews

954-828-4357

Bid 685-9855

GENERAL FACILITIES REPAIR, RENOVATION AND RESTORATION SERVICES

Bid Number	685-9855
Bid Title	GENERAL FACILITIES REPAIR, RENOVATION AND RESTORATION SERVICES
Bid Start Date	Oct 25, 2007 8:46:03 AM EDT
Bid End Date	Dec 5, 2007 2:00:00 PM EST
Question & Answer End Date	Nov 16, 2007 5:00:00 PM EST
Bid Contact	Rick Andrews Procurement Specialist II Procurement 954-828-4357 Randrews@fortlauderdale.gov
Contract Duration	1 year
Contract Renewal	4 annual renewals
Prices Good for	90 days
Pre-Bid Conference	Nov 14, 2007 9:00:00 AM EST Attendance is optional Location: City of Fort Lauderdale City Hall 4th Floor Engineering Conference Room 100 N. Andrews Ave Fort Lauderdale, FL 33301
Bid Comments	<p>The City of Fort Lauderdale, Florida (City) is seeking bids from qualified firms, hereinafter referred to as the Contractor or Bidder, to provide repairs, renovations, and restorations to various City facilities including facilities that were damaged by hurricanes and facilities that require ADA renovations. Contractor must be licensed as a Certified General Contractor by the State of Florida or as an equivalent Broward County Contractor and have been active in the profession for 10 years. Contractor should submit a copy of its Contractor license with their bid response.</p> <p>This work includes furnishing all labor, materials, equipment and performing related operations to satisfactorily complete all work using the unit bid prices in accordance with the terms, conditions, and specifications contained in this Bid. Contractor will warrant all work and materials for a period of one (1) year from final acceptance from the City.</p> <p>The City may award a contract to one or more responsive and responsible Contractors capable of performing all of the work concurrently required at separate project sites at such times as the City determines although work at multiple sites may or may not be required to be performed concurrently. As such, the City reserves the right to assign quantities and types of work to Contractor based on performance criteria, including but not limited to cooperation with the City, project facility, community representatives, and timely, satisfactory completion of work items. Quantities listed on the Bid Item Sheets are estimated and the City reserves the right to increase or decrease the quantities listed.</p> <p>The initial term of the contract shall be for one (1) year and shall begin on the date of award and shall end one year from that date. The City reserves the right to extend the contract for four (4) additional one (1) year periods under the same terms, conditions and technical specifications / scope of services, however subject to cost adjustment as provided herein, providing both parties agree to the extension, Contractor performed satisfactorily; and such extension is approved by the City.</p>

A pre-bid meeting will be held on Wednesday, November 14, 2007 at 9:00 a.m. at the City of Fort Lauderdale City Hall, 100 N. Andrews Avenue, 4th Floor Engineering Conference Room, Fort Lauderdale, FL 33301. While not mandatory, this meeting will include a tour of several typical project sites with work items to be performed under the contract. Due to the nature of this contract, it is strongly recommended that bidders attend this meeting. Bidders are asked to acknowledge their attendance at the pre-bid meeting by contacting Frank Bellissimo at 954-828-5248 or fbellissimo@fortlauderdale.gov.

Item Response Form

Item 685-9855-1-01 - CAST IN PLACE CONCRETE - flagpole base with excavation and fill
 Quantity 5 cubic yard
 Unit Price
 Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 5

Description
 Enter per cubic yard unit price

Item 685-9855-1-02 - CAST IN PLACE CONCRETE - rectangular bases/pads 6" thick less than 2 cubic yards
 Quantity 600 square foot
 Unit Price
 Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 600

Description
 Enter per square foot unit price

Item 685-9855-1-03 - CAST IN PLACE CONCRETE - rectangular bases/pads 6" thick greater than 2 CY
 Quantity 1100 square foot
 Unit Price
 Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 1100

Description
 Enter per square foot unit price

Item 685-9855-1-04 - CAST IN PLACE CONCRETE - concrete demolition and disposal
 Quantity 300 cubic yard
 Unit Price

Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 300

Description
 Enter per cubic yard unit price

Item 685-9855-1-05 - CAST IN PLACE CONCRETE - sidewalk 4" thick with 4x4 WWM
 Quantity 1700 square foot
 Unit Price

Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 1700

Description
 Enter per square foot unit price

Item 685-9855-1-06 - CAST IN PLACE CONCRETE - sidewalk 6" thick with 4x4 WWM
 Quantity 600 square foot
 Unit Price

Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 600

Description
 Enter per square foot unit price

Item 685-9855-1-07 - CAST IN PLACE CONCRETE - Seawall cap 16" W X 6" thick
 Quantity 75 linear foot
 Unit Price

Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 75

Description
 Enter per linear foot unit price

Item 685-9855-1-08 - CAST IN PLACE CONCRETE - Access curb ramp 4'X6'/contrast surface/5' flared sides
 Quantity 35 each
 Unit Price

Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications

Fort Lauderdale FL 33301
Qty 35

Description
Enter a per each unit price

Item 685-9855-1-09 - CAST IN PLACE CONCRETE - curb and gutter, formed 6" height
Quantity 2000 linear foot
Unit Price
Delivery Location City of Fort Lauderdale
[See ITB Specifications](#)
[See ITB Specifications](#)
Fort Lauderdale FL 33301
Qty 2000

Description
Enter a per linear foot unit price

Item 685-9855-1-10 - MASONRY REPAIRS - 8" CMU hollow non bearing
Quantity 1500 square foot
Unit Price
Delivery Location City of Fort Lauderdale
[See ITB Specifications](#)
[See ITB Specifications](#)
Fort Lauderdale FL 33301
Qty 1500

Description
Enter a per square foot unit price

Item 685-9855-1-11 - MASONRY REPAIRS - 8" CMU grouted reinforced bearing
Quantity 1000 square foot
Unit Price
Delivery Location City of Fort Lauderdale
[See ITB Specifications](#)
[See ITB Specifications](#)
Fort Lauderdale FL 33301
Qty 1000

Description
Enter per square foot unit price

Item 685-9855-1-12 - MASONRY REPAIRS - CMU demolition and disposal
Quantity 1000 square foot
Unit Price
Delivery Location City of Fort Lauderdale
[See ITB Specifications](#)
[See ITB Specifications](#)
Fort Lauderdale FL 33301
Qty 1000

Description

Enter per square foot unit price

Item 685-9855-1-13 - MASONRY REPAIRS - brick veneer
 Quantity 200 square foot
 Unit Price
 Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 200

Description
 Enter per square foot unit price

Item 685-9855-1-14 - MASONRY REPAIRS - brick veneer demolition and disposal
 Quantity 200 square foot
 Unit Price
 Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 200

Description
 Enter per square foot unit price

Item 685-9855-1-15 - MASONRY CLEANING AND RESTORATION - stone and cast stone
 Quantity 1000 square foot
 Unit Price
 Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 1000

Description
 Enter per square foot unit price

Item 685-9855-1-16 - METAL FABRICATIONS - 42" x2" TS galv. guard railing
 Quantity 100 linear foot
 Unit Price
 Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 100

Description
 Enter per linear foot unit price

Item 685-9855-1-17 - METAL FABRICATIONS - Aluminum dock ladder 10'
Quantity 2 each
Unit Price
Delivery Location City of Fort Lauderdale
[See ITB Specifications](#)
See ITB Specifications
Fort Lauderdale FL 33301
Qty 2

Description
Enter per each unit price

Item 685-9855-1-18 - METAL FABRICATIONS - Aluminum pool ladder three step
Quantity 2 each
Unit Price
Delivery Location City of Fort Lauderdale
[See ITB Specifications](#)
See ITB Specifications
Fort Lauderdale FL 33301
Qty 2

Description
Enter per each unit price

Item 685-9855-1-19 - METAL FABRICATIONS - Aluminum guard railing 42"
Quantity 150 linear foot
Unit Price
Delivery Location City of Fort Lauderdale
[See ITB Specifications](#)
See ITB Specifications
Fort Lauderdale FL 33301
Qty 150

Description
Enter per linear foot unit price

Item 685-9855-1-20 - ROUGH AND FINISH CARPENTRY - Lumber Framing: studs, joists,
blocking, fascia
Quantity 750 board feet
Unit Price
Delivery Location City of Fort Lauderdale
[See ITB Specifications](#)
See ITB Specifications
Fort Lauderdale FL 33301
Qty 750

Description
Enter per board feet unit price

Item 685-9855-1-21 - ROUGH AND FINISH CARPENTRY - Lumber Framing: Bleacher rows

Quantity 2x12 wolm.
 300 linear foot
 Unit Price
 Delivery Location City of Fort Lauderdale
 See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 300

Description
 Enter per linear foot unit price

Item 685-9855-1-22 - ROUGH AND FINISH CARPENTRY - Lumber decking:
 Dock/Boardwalk 2x6 wolm.
 Quantity 750 square foot
 Unit Price
 Delivery Location City of Fort Lauderdale
 See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 750

Description
 Enter per square foot unit price

Item 685-9855-1-23 - ROUGH AND FINISH CARPENTRY - Lumber Trim: stiles, rails,
 moldings
 Quantity 400 linear foot
 Unit Price
 Delivery Location City of Fort Lauderdale
 See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 400

Description
 Enter per linear foot unit price

Item 685-9855-1-24 - ROUGH AND FINISH CARPENTRY - Panel Sheathing: subfloor, roof
 deck
 Quantity 750 square foot
 Unit Price
 Delivery Location City of Fort Lauderdale
 See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 750

Description
 Enter per square foot unit price

Item 685-9855-1-25 - ROUGH AND FINISH CARPENTRY - Shoring: 2x6x8' wolm

Quantity 450 linear foot
 Unit Price
 Delivery Location City of Fort Lauderdale
 See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 450

Description
 Enter per linear foot unit price

Item 685-9855-1-26 - ROUGH AND FINISH CARPENTRY - Piling Caps: 12"x12" conical PVC
 Quantity 40 each
 Unit Price
 Delivery Location City of Fort Lauderdale
 See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 40

Description
 Enter per each unit price

Item 685-9855-1-27 - ROUGH AND FINISH CARPENTRY - Ply and stud demolition and disposal
 Quantity 750 square foot
 Unit Price
 Delivery Location City of Fort Lauderdale
 See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 750

Description
 Enter per square foot unit price

Item 685-9855-1-28 - COLD FORMED METAL FRAMING - G-90 Galvanized metal studs 18ga x6"width x10'height
 Quantity 300 linear foot
 Unit Price
 Delivery Location City of Fort Lauderdale
 See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 300

Description
 Enter per linear foot unit price

Item 685-9855-1-29 - COLD FORMED METAL FRAMING - Metal stud demolition and disposal to 14' height
 Quantity 1750 square foot

Unit Price

Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 1750

Description
 Enter per square foot unit price

Item 685-9855-1-30 - COLD FORMED METAL FRAMING - Glass mat faced gypsum sheathing

Quantity 2500 square foot

Unit Price

Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 2500

Description
 Enter per square foot unit price

Item 685-9855-1-31 - DAMPPROOFING - Water based emulsion spray or trowel

Quantity 2500 square foot

Unit Price

Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 2500

Description
 Enter per square foot unit price

Item 685-9855-1-32 - BATT INSULATION - Thermal and acoustic batts R-19

Quantity 1000 square foot

Unit Price

Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 1000

Description
 Enter per square foot unit price

Item 685-9855-1-33 - BATT INSULATION - Rigid Board

Quantity 200 square foot

Unit Price

Delivery Location City of Fort Lauderdale

See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 200

Description
 Enter per square foot unit price

Item 685-9855-1-34 - FOAMED IN PLACE INSULATION - Opening perimeters exterior walls
 Quantity 50 cubic foot
 Unit Price
 Delivery Location City of Fort Lauderdale
 See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 50

Description
 Enter per cubic foot unit price

Item 685-9855-1-35 - FLEXIBLE FLASHING - Peel and stick 24" width
 Quantity 500 square foot
 Unit Price
 Delivery Location City of Fort Lauderdale
 See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 500

Description
 Enter per square foot unit price

Item 685-9855-1-36 - METAL WALL PANELS - Prefinished steel panels
 Quantity 1000 square foot
 Unit Price
 Delivery Location City of Fort Lauderdale
 See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 1000

Description
 Enter per square foot unit price

Item 685-9855-1-37 - METAL WALL PANELS - Prefinished Aluminum panels
 Quantity 1000 square foot
 Unit Price
 Delivery Location City of Fort Lauderdale
 See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 1000

Description
Enter per square foot unit price

Item 685-9855-1-38 - JOINT SEALERS - Interior and Exterior
 Quantity 1500 linear foot
 Unit Price
 Delivery Location City of Fort Lauderdale
 See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 1500

Description
Enter per linear foot unit price

Item 685-9855-1-39 - GLAZING - Infill at existing window frames
 Quantity 200 square foot
 Unit Price
 Delivery Location City of Fort Lauderdale
 See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 200

Description
Enter per square foot unit price

Item 685-9855-1-40 - SHEET METAL FLASHING AND TRIM - Prefinished steel fascia 14" total profile
 Quantity 1000 linear foot
 Unit Price
 Delivery Location City of Fort Lauderdale
 See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 1000

Description
Enter per linear foot unit price

Item 685-9855-1-41 - SHEET METAL FLASHING AND TRIM - Prefinished steel flashing 16" total profile
 Quantity 1000 linear foot
 Unit Price
 Delivery Location City of Fort Lauderdale
 See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 1000

Description
Enter per linear foot unit price

Item 685-9855-1-42 - SHEET METAL FLASHING AND TRIM - Prefinished aluminum gutter 6"x4"
Quantity 1000 linear foot
Unit Price
Delivery Location City of Fort Lauderdale
[See ITB Specifications](#)
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1000

Description
Enter per linear foot unit price

Item 685-9855-1-43 - SHEET METAL FLASHING AND TRIM - Prefinished aluminum downspout 16'
Quantity 35 each
Unit Price
Delivery Location City of Fort Lauderdale
[See ITB Specifications](#)
See ITB Specifications
Fort Lauderdale FL 33301
Qty 35

Description
Enter per each unit price

Item 685-9855-1-44 - SHEET METAL FLASHING AND TRIM - Pilling Caps: 12"x12" conical copper
Quantity 25 each
Unit Price
Delivery Location City of Fort Lauderdale
[See ITB Specifications](#)
See ITB Specifications
Fort Lauderdale FL 33301
Qty 25

Description
Enter per each unit price

Item 685-9855-1-45 - STEEL DOORS AND FRAMES - Steel doors 3'-0" x 7'-0"
Quantity 10 each
Unit Price
Delivery Location City of Fort Lauderdale
[See ITB Specifications](#)
See ITB Specifications
Fort Lauderdale FL 33301
Qty 10

Description
Enter per each unit price

Item 685-9855-1-46 - STEEL DOORS AND FRAMES - Hollow Metal frames 3'-0" x 7'-0"
fully welded
Quantity 10 each
Unit Price
Delivery Location City of Fort Lauderdale
[See ITB Specifications](#)
[See ITB Specifications](#)
Fort Lauderdale FL 33301
Qty 10

Description
Enter per each unit price

Item 685-9855-1-47 - WOOD DOORS - Veneer face hallow core pre-hung 3'-0" x 7'-0"
Quantity 15 each
Unit Price
Delivery Location City of Fort Lauderdale
[See ITB Specifications](#)
[See ITB Specifications](#)
Fort Lauderdale FL 33301
Qty 15

Description
Enter per each unit price

Item 685-9855-1-48 - WOOD DOORS - Plastic Laminate faced solid core 3'-0" x 7'-0"
Quantity 5 each
Unit Price
Delivery Location City of Fort Lauderdale
[See ITB Specifications](#)
[See ITB Specifications](#)
Fort Lauderdale FL 33301
Qty 5

Description
Enter per each unit price

Item 685-9855-1-49 - DOOR HARDWARE - Latch set with strike
Quantity 25 each
Unit Price
Delivery Location City of Fort Lauderdale
[See ITB Specifications](#)
[See ITB Specifications](#)
Fort Lauderdale FL 33301
Qty 25

Description
Enter per each unit price

Item 685-9855-1-50 - DOOR HARDWARE - Dead bolt with strike
Quantity 25 each
Unit Price
Delivery Location City of Fort Lauderdale
See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 25

Description
Enter per each unit price

Item 685-9855-1-51 - DOOR HARDWARE - Closer
Quantity 25 each
Unit Price
Delivery Location City of Fort Lauderdale
See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 25

Description
Enter per each unit price

Item 685-9855-1-52 - DOOR HARDWARE - Exit Devices
Quantity 10 each
Unit Price
Delivery Location City of Fort Lauderdale
See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 10

Description
Enter per each unit price

Item 685-9855-1-53 - DOOR HARDWARE - Removable mullions
Quantity 10 each
Unit Price
Delivery Location City of Fort Lauderdale
See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 10

Description
Enter per each unit price

Item 685-9855-1-54 - DOOR HARDWARE - Hinges
Quantity 40 each
Unit Price

Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 40

Description
 Enter per each unit price

Item 685-9855-1-55 - DOOR HARDWARE - Weatherstriplp 14'

Quantity 20 each

Unit Price

Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 20

Description
 Enter per each unit price

Item 685-9855-1-56 - DOOR HARDWARE - Threshold 36"

Quantity 15 each

Unit Price

Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 15

Description
 Enter per each unit price

Item 685-9855-1-57 - DOOR HARDWARE - Doorstops

Quantity 25 each

Unit Price

Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 25

Description
 Enter per each unit price

Item 685-9855-1-58 - PLASTER ON LATH - Ceilings with suspension system

Quantity 500 square foot

Unit Price

Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301

Qty 500

Description
Enter per square foot unit price

Item 685-9855-1-59 - PLASTER ON LATH - Walls on existing substrate
 Quantity 1250 square foot
 Unit Price
 Delivery Location City of Fort Lauderdale
 [See ITB Specifications](#)
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 1250

Description
Enter per square foot unit price

Item 685-9855-1-60 - DRYWALL TFT - Interior walls one side to 10' height
 Quantity 500 square foot
 Unit Price
 Delivery Location City of Fort Lauderdale
 [See ITB Specifications](#)
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 500

Description
Enter per square foot unit price

Item 685-9855-1-61 - DRYWALL TFT - Interior walls two sides to 10' height
 Quantity 1000 square foot
 Unit Price
 Delivery Location City of Fort Lauderdale
 [See ITB Specifications](#)
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 1000

Description
Enter per square foot unit price

Item 685-9855-1-62 - DRYWALL TFT - Interior drywall demolition and disposal
 Quantity 750 square foot
 Unit Price
 Delivery Location City of Fort Lauderdale
 [See ITB Specifications](#)
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 750

Description
Enter per square foot unit price

Item 685-9855-1-63 - SUSPENDED ACOUSTICAL CEILING - Type A panels and grid
Quantity 3500 square foot
Unit Price
Delivery Location City of Fort Lauderdale
[See ITB Specifications](#)
[See ITB Specifications](#)
Fort Lauderdale FL 33301
Qty 3500

Description
Enter per square foot unit price

Item 685-9855-1-64 - SUSPENDED ACOUSTICAL CEILING - Type A panels only
Quantity 3500 square foot
Unit Price
Delivery Location City of Fort Lauderdale
[See ITB Specifications](#)
[See ITB Specifications](#)
Fort Lauderdale FL 33301
Qty 3500

Description
Enter per square foot unit price

Item 685-9855-1-65 - SUSPENDED ACOUSTICAL CEILING - Type B panels and grid
Quantity 750 square foot
Unit Price
Delivery Location City of Fort Lauderdale
[See ITB Specifications](#)
[See ITB Specifications](#)
Fort Lauderdale FL 33301
Qty 750

Description
Enter per square foot unit price

Item 685-9855-1-66 - SUSPENDED ACOUSTICAL CEILING - Type B panels only
Quantity 750 square foot
Unit Price
Delivery Location City of Fort Lauderdale
[See ITB Specifications](#)
[See ITB Specifications](#)
Fort Lauderdale FL 33301
Qty 750

Description
Enter per square foot unit price

Item 685-9855-1-67 - SUSPENDED ACOUSTICAL CEILING - Suspended ceiling demolition and disposal
 Quantity 1500 square foot
 Unit Price
 Delivery Location City of Fort Lauderdale
 See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 1500
 Description
 Enter per square foot unit price

Item 685-9855-1-68 - RESILIENT FLOORING - Vinyl Tile Flooring
 Quantity 500 square foot
 Unit Price
 Delivery Location City of Fort Lauderdale
 See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 500
 Description
 Enter per square foot unit price

Item 685-9855-1-69 - RESILIENT FLOORING - Base molding
 Quantity 200 square foot
 Unit Price
 Delivery Location City of Fort Lauderdale
 See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 200
 Description
 Enter per square foot unit price

Item 685-9855-1-70 - CARPET - Type A
 Quantity 750 square yard
 Unit Price
 Delivery Location City of Fort Lauderdale
 See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 750
 Description
 Enter per square yard unit price

Item 685-9855-1-71 - CARPET - Type B water-resistant
 Quantity 50 square yard

Unit Price

Delivery Location City of Fort Lauderdale
[See ITB Specifications](#)
See ITB Specifications
Fort Lauderdale FL 33301
Qty 50

Description
Enter per square yard unit price

Item 685-9855-1-72 - CARPET - Carpet demolition and disposal

Quantity 750 square yard

Unit Price

Delivery Location City of Fort Lauderdale
[See ITB Specifications](#)
See ITB Specifications
Fort Lauderdale FL 33301
Qty 750

Description
Enter per square yard unit price

Item 685-9855-1-73 - PAINTS AND COATINGS - Interior Latex

Quantity 1000 square foot

Unit Price

Delivery Location City of Fort Lauderdale
[See ITB Specifications](#)
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1000

Description
Enter per square foot unit price

Item 685-9855-1-74 - PAINTS AND COATINGS - Interior Enamel

Quantity 1000 square foot

Unit Price

Delivery Location City of Fort Lauderdale
[See ITB Specifications](#)
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1000

Description
Enter per square foot unit price

Item 685-9855-1-75 - PAINTS AND COATINGS - Wood Stain

Quantity 200 square foot

Unit Price

Delivery Location City of Fort Lauderdale
[See ITB Specifications](#)

See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 200

Description
 Enter per square foot unit price

Item 685-9855-1-76 - PAINTS AND COATINGS - Exterior Latex
 Quantity 15000 square foot
 Unit Price
 Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 15000

Description
 Enter per square foot unit price

Item 685-9855-1-77 - PAINTS AND COATINGS - Exterior Eanamel
 Quantity 17500 square foot
 Unit Price
 Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 17500

Description
 Enter per square foot unit price

Item 685-9855-1-78 - PAINTS AND COATINGS - Pavement markings
 Quantity 750 linear foot
 Unit Price
 Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 750

Description
 Enter per linear foot unit price

Item 685-9855-1-79 - VISUAL DISPLAY BOARD - 4' height
 Quantity 100 square foot
 Unit Price
 Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 100

Description
Enter per square foot unit price

Item 685-9855-1-80 - FLAGPOLES - Aluminum 28' height
 Quantity 2 each
 Unit Price
 Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 2

Description
Enter per each unit price

Item 685-9855-1-81 - FIRE EXTINGUISHERS, CABINETS, AND HOSE CABINETS - Fire extinguishers
 Quantity 20 each
 Unit Price
 Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 20

Description
Enter per each unit price

Item 685-9855-1-82 - FIRE EXTINGUISHERS, CABINETS, AND HOSE CABINETS - Fire extinguisher cabinets
 Quantity 20 each
 Unit Price
 Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 20

Description
Enter per each unit price

Item 685-9855-1-83 - FIRE EXTINGUISHERS, CABINETS, AND HOSE CABINETS - Hose cabinets
 Quantity 25 each
 Unit Price
 Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 25

Description

Enter per each unit price

Item 685-9855-1-84 - SHUTTERS - Prefinished aluminum, operation, 4'x6'
 Quantity 10 each
 Unit Price
 Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 10

Description
 Enter per each unit price

Item 685-9855-1-85 - ATHLETIC EQUIPMENT - Interior scoreboards
 Quantity 1 each
 Unit Price
 Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 1

Description
 Enter per each unit price

Item 685-9855-1-86 - ATHLETIC EQUIPMENT - Exterior scoreboards
 Quantity 1 each
 Unit Price
 Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 1

Description
 Enter per each unit price

Item 685-9855-1-87 - ATHLETIC EQUIPMENT - Basketball goals, mounts and operators
 Quantity 6 each
 Unit Price
 Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 6

Description
 Enter per each unit price

Item 685-9855-1-88 - ATHLETIC EQUIPMENT - Football goalpost 'H' configuration
 Quantity 2 each
 Unit Price
 Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 2

Description
 Enter per each unit price

Item 685-9855-1-89 - ATHLETIC EQUIPMENT - Football goalpost 'Y' configuration
 Quantity 2 each
 Unit Price
 Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 2

Description
 Enter per each unit price

Item 685-9855-1-90 - ATHLETIC EQUIPMENT - Volleyball poles, nets, and floor inserts
 Quantity 2 each
 Unit Price
 Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 2

Description
 Enter per each unit price

Item 685-9855-1-91 - ATHLETIC EQUIPMENT - Dryland diving training harness
 Quantity 2 each
 Unit Price
 Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 2

Description
 Enter per each unit price

Item 685-9855-1-92 - ATHLETIC EQUIPMENT - Dryland diving Porta Pit
 Quantity 2 each

Unit Price

Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 2

Description
 Enter per each unit price

Item 685-9855-1-93 - ATHLETIC EQUIPMENT - Water Polo Goals

Quantity 2 each

Unit Price

Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 2

Description
 Enter per each unit price

Item 685-9855-1-94 - ATHLETIC EQUIPMENT - Wall mounted Pole Brackets Reels

Quantity 2 each

Unit Price

Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 2

Description
 Enter per each unit price

Item 685-9855-1-95 - ATHLETIC EQUIPMENT - Wall pads and covers

Quantity 300 square foot

Unit Price

Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 300

Description
 Enter per square foot unit price

Item 685-9855-1-96 - LABOR RATES - Trades Supervisor

Quantity 100 hour

Unit Price

Delivery Location City of Fort Lauderdale
See ITB Specifications

See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 100

Description

These are hourly rates to be used for work that may be authorized but is not listed on the Unit Pricing. Hourly rates are to be inclusive and include direct labor, labor burden, all other applicable overhead, and profit on labor provided. The hours used are for estimating only and actual hours authorized may vary from the estimates. Should the City authorize the contractor to work overtime then the city will compensate at 1.5 times the hourly rate.

Item	685-9855-1-97 - LABOR RATES - Electrician Master
Quantity	100 hour
Unit Price	<input type="text"/>
Delivery Location	City of Fort Lauderdale <u>See ITB Specifications</u> See ITB Specifications Fort Lauderdale FL 33301 Qty 100

Description

These are hourly rates to be used for work that may be authorized but is not listed on the Unit Pricing. Hourly rates are to be inclusive and include direct labor, labor burden, all other applicable overhead, and profit on labor provided. The hours used are for estimating only and actual hours authorized may vary from the estimates. Should the City authorize the contractor to work overtime then the city will compensate at 1.5 times the hourly rate.

Item	685-9855-1-98 - LABOR RATES - Electrician Helper
Quantity	100 hour
Unit Price	<input type="text"/>
Delivery Location	City of Fort Lauderdale <u>See ITB Specifications</u> See ITB Specifications Fort Lauderdale FL 33301 Qty 100

Description

These are hourly rates to be used for work that may be authorized but is not listed on the Unit Pricing. Hourly rates are to be inclusive and include direct labor, labor burden, all other applicable overhead, and profit on labor provided. The hours used are for estimating only and actual hours authorized may vary from the estimates. Should the City authorize the contractor to work overtime then the city will compensate at 1.5 times the hourly rate.

Item	685-9855-1-99 - LABOR RATES - Mechanical Master
Quantity	100 hour
Unit Price	<input type="text"/>
Delivery Location	City of Fort Lauderdale <u>See ITB Specifications</u> See ITB Specifications Fort Lauderdale FL 33301 Qty 100

Description

These are hourly rates to be used for work that may be authorized but is not listed on the Unit Pricing. Hourly rates are to be inclusive and include direct labor, labor burden, all other applicable overhead, and profit on labor provided. The hours used are for estimating only and actual hours authorized may vary from the estimates. Should the City authorize the contractor to work overtime then the city will compensate at 1.5 times the hourly rate.

Item	685-9855-1-100 - LABOR RATES - Mechanical Helper
Quantity	100 hour
Unit Price	<input type="text"/>
Delivery Location	City of Fort Lauderdale See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 Qty 100

Description

These are hourly rates to be used for work that may be authorized but is not listed on the Unit Pricing. Hourly rates are to be inclusive and include direct labor, labor burden, all other applicable overhead, and profit on labor provided. The hours used are for estimating only and actual hours authorized may vary from the estimates. Should the City authorize the contractor to work overtime then the city will compensate at 1.5 times the hourly rate.

Item	685-9855-1-101 - LABOR RATES - Plumbing Master
Quantity	100 hour
Unit Price	<input type="text"/>
Delivery Location	City of Fort Lauderdale See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 Qty 100

Description

These are hourly rates to be used for work that may be authorized but is not listed on the Unit Pricing. Hourly rates are to be inclusive and include direct labor, labor burden, all other applicable overhead, and profit on labor provided. The hours used are for estimating only and actual hours authorized may vary from the estimates. Should the City authorize the contractor to work overtime then the city will compensate at 1.5 times the hourly rate.

Item	685-9855-1-102 - LABOR RATES - Plumbing Helper
Quantity	100 hour
Unit Price	<input type="text"/>
Delivery Location	City of Fort Lauderdale See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 Qty 100

Description

These are hourly rates to be used for work that may be authorized but is not listed on the Unit Pricing. Hourly rates are to be inclusive and include direct labor, labor burden, all other applicable overhead, and profit on labor provided. The hours used are for estimating only and actual hours authorized may vary from the estimates. Should the City authorize the contractor to work overtime then the city will compensate at 1.5 times the hourly rate.

Item	685-9855-1-103 - LABOR RATES - Certified Welder w/ arc welder
Quantity	100 hour
Unit Price	<input type="text"/>
Delivery Location	City of Fort Lauderdale See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301

Qty 100

Description

These are hourly rates to be used for work that may be authorized but is not listed on the Unit Pricing. Hourly rates are to be inclusive and include direct labor, labor burden, all other applicable overhead, and profit on labor provided. The hours used are for estimating only and actual hours authorized may vary from the estimates. Should the City authorize the contractor to work overtime then the city will compensate at 1.5 times the hourly rate.

Item 685-9855-1-104 - LABOR RATES - Painter

Quantity 100 hour

Unit Price

Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 100

Description

These are hourly rates to be used for work that may be authorized but is not listed on the Unit Pricing. Hourly rates are to be inclusive and include direct labor, labor burden, all other applicable overhead, and profit on labor provided. The hours used are for estimating only and actual hours authorized may vary from the estimates. Should the City authorize the contractor to work overtime then the city will compensate at 1.5 times the hourly rate.

Item 685-9855-1-105 - LABOR RATES - Construction Worker

Quantity 100 hour

Unit Price

Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 100

Description

These are hourly rates to be used for work that may be authorized but is not listed on the Unit Pricing. Hourly rates are to be inclusive and include direct labor, labor burden, all other applicable overhead, and profit on labor provided. The hours used are for estimating only and actual hours authorized may vary from the estimates. Should the City authorize the contractor to work overtime then the city will compensate at 1.5 times the hourly rate.

Item 685-9855-1-106 - LABOR RATES - Construction Worker Helper

Quantity 100 hour

Unit Price

Delivery Location City of Fort Lauderdale
See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 100

Description

These are hourly rates to be used for work that may be authorized but is not listed on the Unit Pricing. Hourly rates are to be inclusive and include direct labor, labor burden, all other applicable overhead, and profit on labor provided. The hours used are for estimating only and actual hours authorized may vary from the estimates. Should the City authorize the contractor to work overtime then the city will compensate at 1.5 times the hourly rate.

Item 685-9855-1-107 - LABOR RATES - Heavy Equipment Operator
 Quantity 100 hour
 Unit Price
 Delivery Location City of Fort Lauderdale
 See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 100

Description

These are hourly rates to be used for work that may be authorized but is not listed on the Unit Pricing. Hourly rates are to be inclusive and include direct labor, labor burden, all other applicable overhead, and profit on labor provided. The hours used are for estimating only and actual hours authorized may vary from the estimates. Should the City authorize the contractor to work overtime then the city will compensate at 1.5 times the hourly rate.

Item 685-9855-1-108 - ADDITIONAL PURCHASED MATERIALS - ALLOWANCE
 Quantity 1 lump sum
 Unit Price
 Delivery Location City of Fort Lauderdale
 See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 1

Description

Furnish any additional materials at actual costs for work that may be authorized but is not listed on the unit pricing proposal. The City has estimated \$50,000 for additional materials which will be reimbursed to the Contractor. Please enter 50,000 in the unit price field.

Item 685-9855-1-109 - ADDITIONAL PURCHASED MATERIALS - % Markup
 Quantity 1 each
 Percentage
 Delivery Location City of Fort Lauderdale
 See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 1

Description

Enter a markup percentage amount to be added to ADDITIONAL PURCHASED MATERIALS. Include all direct and indirect cost associated with purchasing, delivery, storage, handling and profit. Please enter markup % in the percentage field.

Item 685-9855-1-110 - PERMITTING ALLOWANCE
 Quantity 1 lump sum
 Unit Price
 Delivery Location City of Fort Lauderdale
 See ITB Specifications
 See ITB Specifications
 Fort Lauderdale FL 33301
 Qty 1

Description

Reimbursement for actual costs of permits and fees required by regulatory authorities to perform the work. Reimbursement will be for actual cost, to be invoiced as a separate line item with proof of fees changed by regulatory

authority included with invoice.
Permitting allowance is \$12,500.
Please enter 12,500 in the unit price field.

Item	685-9855-1-111 - PROFESSIONAL SERVICES
Quantity	1 lump sum
Unit Price	<input type="text"/>
Delivery Location	City of Fort Lauderdale <u>See ITB Specifications</u> See ITB Specifications Fort Lauderdale FL 33301 Qty 1

Description

Reimbursement for any professional Services required above those normally submitted per authority having jurisdiction. If signed and sealed drawings are required for permitting, the City will provide. If shop drawings, etc. require additional professional services the city will reimburse the Contractor. Reimbursement will be for actual cost, submit hours, hourly rate and costs as a separate line item.
Professional services allowance is \$12,500.
Please enter 12,500 in the unit price field.

**INVITATION TO BID NO. 685-9855
GENERAL FACILITIES REPAIR, RENOVATION AND RESTORATION SERVICES**

PART I – INTRODUCTION / INFORMATION

01. PURPOSE

The City of Fort Lauderdale, Florida (City) is seeking bids from qualified firms, hereinafter referred to as the Contractor or Bidder, to provide repairs, renovations, and restorations to various City facilities including facilities that were damaged by hurricanes and facilities that require ADA renovations. Contractor must be licensed as a Certified General Contractor by the State of Florida or as an equivalent Broward County Contractor and have been active in the profession for 10 years. Contractor should submit a copy of its Contractor license with their bid response.

This work includes furnishing all labor, materials, equipment and performing related operations to satisfactorily complete all work using the unit bid prices in accordance with the terms, conditions, and specifications contained in this Bid. Contractor will warrant all work and materials for a period of one (1) year from final acceptance from the City.

The City may award a contract to one or more responsive and responsible Contractors capable of performing all of the work concurrently required at separate project sites at such times as the City determines although work at multiple sites may or may not be required to be performed concurrently. As such, the City reserves the right to assign quantities and types of work to Contractor based on performance criteria, including but not limited to cooperation with the City, project facility, community representatives, and timely, satisfactory completion of work items. Quantities listed on the Bid Item Sheets are estimated and the City reserves the right to increase or decrease the quantities listed.

Contractor will be obligated to perform the work of any one, any combination, or all of the items stated on the Bid Item Sheets with compensation to the Contractor based on required quantities agreed upon by City and Contractor prior to commencing work.

Bid Items 1 - 95: provide a Unit Price for each Bid Item multiplied by the listed quantities and provide the Extended Price for each item. The Unit Price shall include furnishing all labor, materials, equipment, incidentals and related operations to satisfactorily complete all work. Unit Price will include all applicable overhead and profit.

Bid Items 96 - 107: provide labor trade hourly rate for each item multiplied by the listed quantities and provide the Extended Price for each item. Hourly rates are to include direct labor cost, labor burden, all other applicable overhead, and profit. These hourly rate items will be used from time to time for scopes of work authorized by the City that are similar to but not specifically listed in Bid Items 1 - 95. The hours listed are estimated and may be increased or decreased by the City.

Bid Item 108 and 109: provide a material markup percentage rate for any additional material that may be required over and above material included as part of Bid Items 1 - 95. The material markup percentage rate shall include all direct and indirect costs associated with purchasing, delivery, storage, handling, and profit. The City has estimated \$50,000 for additional material for additional projects that may be required under the contract. The material markup percentage rate will be added to any additional material required by the

Contractor for scopes of work authorized by the City that may be required from time to time that are similar to but not specifically listed in Bid Items 1 - 95.

Bid Item 110: an estimated Allowance amount is provided for Permit Fees that may be required by regulatory authorities. Contractor is responsible for obtaining all permits and paying all applicable permit fees. Permit fees will be reimbursed to the Contractor at actual cost with proper Contractor invoice showing proof of fees charged by the regulatory authority.

Bid Item 111: an estimated Allowance amount is provided for additional Professional Service fees that may be required over and above those normally provided by the Contractor. The Contractor is responsible for obtaining all Professional Services above that normally required. When additional Professional Service fees are prior approved by the City the Contractor will be reimbursed at actual cost for such fees with proper Contractor invoice.

A pre-bid meeting will be held prior to bid opening. While not mandatory, this meeting will include a tour of several typical project sites with work items to be performed under the contract. Due to the nature of this contract, it is strongly recommended that bidders attend this meeting. Bidders are asked to acknowledge their attendance at the pre-bid meeting by contacting Frank Bellissimo at 954-828-5248 or fbellissimo@fortlauderdale.gov .

END OF SECTION

**INVITATION TO BID NO. 685-9855
GENERAL FACILITIES REPAIR, RENOVATION AND RESTORATION SERVICES**

PART II – SPECIAL CONDITIONS

01. INFORMATION OR CLARIFICATION

For information concerning procedures for responding to this ITB, technical specifications, or other ITB question, utilize the question / answer feature provided by RFP Depot, found at www.rfpdepot.com. Such contact shall be for clarification purposes only. Material changes, if any, to the scope of services or bidding procedures will only be transmitted by written addendum (See addendum section of RFP Depot Site). No variation in price or conditions shall be permitted based upon a claim of ignorance. Submission of a proposal will be considered evidence that the Bidder has familiarized itself with the nature and extent of the work, and the equipment, materials, and labor required.

02. CONTRACT TERM

The initial term of the contract shall be for one (1) year and shall begin on the date of award and shall end one year from that date. The City reserves the right to extend the contract for four (4) additional one (1) year periods under the same terms, conditions and technical specifications / scope of services, however subject to cost adjustment as provided herein, providing both parties agree to the extension, Contractor performed satisfactorily; and such extension is approved by the City.

In the event services are scheduled to end because of the expiration of this contract, the Contractor shall continue the service upon the request of the Director of Procurement Services. The extension period shall not extend for more than ninety (90) days beyond the expiration date of the existing contract. The Contractor shall be compensated for the service at the rate(s) in effect when the City invokes this extension clause.

03. ELIGIBILITY AND CONTRACTOR LICENCING

To be eligible for award of a contract in response to this ITB the Bidder must demonstrate that they, or the principals assigned to the project, have successfully completed services, as specified in the Technical Specifications / Scope of Services section of this ITB, are normally and routinely engaged in performing such services and are properly and legally licensed to perform such work. In addition, the Bidder must have no conflict of interest with regard to any other work performed by the Bidder for the City of Fort Lauderdale.

To be eligible for award of a contract in response to this ITB the Bidder must possess at time of bid submittal a State of Florida Certified General Contractor license or equivalent Broward County Contractor license or other license that meets or exceeds those specified herein.

04. CONTRACT AWARD

Award of a contract will be made to the lowest responsive and responsible Contractor(s). The City reserves the right to also award a contract to the second or the second and third lowest responsive and responsible Contractor(s) as may be in the City's best interest.

05. LAST DATE FOR QUESTIONS

The City shall accept written questions of a material nature until the date and time shown in the ITB schedule. All questions will be reviewed and an Addendum issued, if applicable, and posted on the RFP Depot web site. Respondents should use the Question/Answer function of the RFP Depot site, available to registered vendors of RFP Depot. (REGISTRATION IS FREE). Visit www.rfpdepot.com. It is anticipated that an addendum, if needed, will be issued within 2 days of the last date for receipt of questions.

06. ELECTRONIC COPY OF ITB DOCUMENTS AVAILABILITY:

ITB DOCUMENTS ARE AVAILABLE ON-LINE VIA OUR E-PROCUREMENT WEB SITE SERVICE, RFPDEPOT, www.rfpdepot.com WHICH MAY ALSO BE ACCESSED THROUGH THE CITY OF FORT LAUDERDALE WEB SITE <http://www.fortlauderdale.gov/purchasing/solicitations.htm>.

Bidders may upload all necessary response documents, via the www.rfpdepot.com web site. For additional information and assistance, please contact RFP Depot, at vendor.rfpdepot.com, or 801-765-9245.

07. GENERAL CONDITIONS

ITB General Conditions Form G-107 Rev. 07/07 are included and made a part of this ITB.

08. PRE-BID MEETING

A pre-bid meeting has been scheduled for Wednesday, November 14, 2007 at 9:00 a.m., City Hall, 100 N. Andrews Avenue, 4th floor Engineering conference room, Fort Lauderdale, FL 33301.

09. OWNERSHIP OF DOCUMENTS

All documents including, but not limited to, drawings, renderings, models, and specifications prepared or furnished by Bidder, its dependent professional associates and subcontractors pursuant to Bidder's submittal of a response to this ITB shall be owned by the City.

Drawings, specifications, designs, models, photographs, reports, surveys and other data prepared in connection with this ITB are and shall remain the property of the City whether the project for which they are made is executed or not, and are subject to reuse by the City.

10. PUBLIC ENTITY CRIMES

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

vendor list.

11. NEWS RELEASES/PUBLICITY

News releases, publicity releases, or advertisements relating to this contract or the tasks or projects associated with the project shall not be made without prior approval of the City Manager.

12. ITB DOCUMENTS

The Contractor shall examine this ITB carefully. Ignorance of the requirements will not relieve the Contractor from liability and obligations under the Contract.

13. BIDDERS' COSTS

The City shall not be liable for any costs incurred by Bidders in responding to this ITB.

14. INVOICES/PAYMENT

Contractor may submit invoices for completed work for approval no more often than on a monthly basis.

15. NO EXCLUSIVE CONTRACT

Contractor agrees and understands that the contract shall not be construed as an exclusive arrangement and further agrees that the City may, at any time, secure similar or identical services at its sole option.

16. DELETION OR MODIFICATION OF SERVICES

The City reserves the right to delete any portion of this Contract at any time without cause, and if such right is exercised by the City, the total fee shall be reduced in the same ratio as the estimated cost of the work deleted bears to the estimated cost of the work originally planned. If work has already been accomplished on the portion of the Contract to be deleted, the Contractor shall be paid for the deleted portion on the basis of the estimated percentage of completion of such portion.

If the Contractor and the City agree on modifications or revisions to the task elements, after the City has approved work to begin on a particular task or project, and a budget has been established for that task or project, the Contractor will submit a revised budget to the City for approval prior to proceeding with the work.

17. ADDITIONAL ITEMS

The City may require additional items of a similar nature, but not specifically listed in the contract. The Contractor agrees to provide such items, and shall provide the City prices on such additional items based upon a formula or method that is the same or similar to that used in establishing the prices in the contract. If the price(s) offered are not acceptable to the City, and the situation cannot be resolved to the satisfaction of the City, the City reserves the right to procure those items from other vendors, or to cancel the contract upon giving the Contractor thirty (30) days written notice.

18. UNCONTROLLABLE CIRCUMSTANCES ("Force Majeure")

The City and Contractor will be excused from the performance of their respective obligations under this agreement when and to the extent that their performance is delayed or prevented by any circumstances beyond their control including, fire, flood, explosion, strikes or other labor disputes, act of God or public emergency, war, riot, civil commotion, malicious damage, act or omission of any governmental authority, delay or failure or shortage of any type of transportation, equipment, or service from a public utility needed for their performance, provided that:

- A. the non-performing party gives the other party prompt written notice describing the particulars of the Force Majeure including, but not limited to, the nature of the occurrence and its expected duration, and continues to furnish timely reports with respect thereto during the period of the Force Majeure;
- B. the excuse of performance is of no greater scope and of no longer duration than is required by the Force Majeure;
- C. no obligations of either party that arose before the Force Majeure causing the excuse of performance are excused as a result of the Force Majeure; and
- D. the non-performing party uses its best efforts to remedy its inability to perform.

Notwithstanding the above, performance shall not be excused under this Section for a period in excess of two (2) months, provided that in extenuating circumstances, the City may excuse performance for a longer term. Economic hardship of the Contractor will not constitute Force Majeure. The term of the agreement shall be extended by a period equal to that during which either party's performance is suspended under this Section.

19. INSURANCE

Contractor shall furnish the Procurement Services Department with original certificates of insurance as outlined in the ITB, and prior to the date on which the Contractor or any subcontractor commences any performance of any operations under this contract. Certificates of insurance shall be subject to review and approval by the City's Risk Manager. All required insurance certificates, which shall be maintained in full force by the Contractor and all subcontractors for the duration of the contract term, and any extension terms.

All certificates of insurance shall include the following provisions:

- a. Not less than thirty (30) days notice prior to cancellation or material change in coverage;
- b. The City of Fort Lauderdale, Florida, its elected officials, employees and agents shall be specifically named as "additional insured" on the policies for commercial general liability and automobile liability.
- c. Certificates of insurance for all types of insurance required under this contract shall delete the words "endeavor to" and "but failure to mail such notice shall impose no obligation or liability of any kind upon the company, its agents, or representatives" from the cancellation wording of the certificate of insurance;

- d. Certificates of insurance shall be delivered to the Procurement Services Department, 100 N. Andrews Avenue, RM 619, Ft. Lauderdale, FL 33301, prior to commencement of any contract work.
- e. Contractor shall provide the following insurance coverage:
 1. Workers' Compensation & Employer's Liability Insurance as required by Florida Statutes for benefit of Contractor employees. Notwithstanding FS 440.055, any firm performing work on behalf of the City of Fort Lauderdale must provide Workers' Compensation insurance with statutory limit and Employer's Liability limit of \$500,000.

Exceptions: Workers' Compensation Insurance will not be required if the individuals performing the work are a Corporate Officer, sole proprietor, or partner. In such case the firm must provide copies of their waivers as provided for by FS 440.05 & 440.055.
 2. Commercial General Liability including: hazards of premises/operations; independent contractors; employees as additional insured's; products completed operations; contractual liability coverage; broad form property damage coverage; and personal injury and advertising injury liability coverage. Policy limits will be for no less than \$1 million annual aggregate, \$1 million completed operations aggregate and \$1 million each occurrence.
 3. Automobile liability coverage covering all owned, non-owned, and hired automobiles for limits of not less than \$500,000. Combined single limit per occurrence for bodily injury and property damage.

20. LOBBYING ACTIVITIES

ALL BIDDERS/PROPOSERS PLEASE NOTE: Any bidder or proposer submitting a response to this solicitation must comply, if applicable, with City of Fort Lauderdale Ordinance No. C-00-27, Lobbying Activities. Copies of Ordinance No. C-00-27 may be obtained from the City Clerk's Office on the 7th Floor of City Hall, 100 N. Andrews Avenue, Fort Lauderdale, Florida. The ordinance may also be viewed on the City's website at <http://www.fortlauderdale.gov/documents/lobbyistDocs/lobbyistord1009.pdf>.

21. TRANSACTION FEES

The City of Fort Lauderdale uses RFP Depot (www.rfpdepot.com) to distribute and receive bids and proposals. There is no charge to vendors/contractors to register and participate in the solicitation, nor will any fees be charged to the awarded vendor. Refer to www.rfpdepot.com for further information.

22. SUBCONTRACTING

If the Contractor proposes to use subcontractors in the course of providing these services to the City, this information shall be a part of the ITB response. Such information shall be subject to review, acceptance and approval of the City, prior to any contract award. The City reserves the right to approve or disapprove of any subcontractor candidate in its best interest.

Contractor shall ensure that all of Contractor's subcontractors perform in accordance with the terms and conditions of this Contract. Contractor shall be fully responsible for all of

Contractor's subcontractors' performance, and liable for any of Contractor's subcontractors' non-performance and all of Contractor's subcontractors' acts and omissions. Contractor shall defend, counsel being subject to the City of Fort Lauderdale's approval or disapproval, and indemnify and hold harmless the City of Fort Lauderdale and the City of Fort Lauderdale's officers, employees, and agents from and against any claim, lawsuit, third party action, or

judgment, including any award of attorney fees and any award of costs, by or in favor of any of Contractor's subcontractors for payment for work performed for the City of Fort Lauderdale.

23. ADMINISTRATION OF CONTRACT

The Public Works Department shall supervise overall performance under the resultant contract. If at any time during the contract period, performance is deemed to be unsatisfactory, the Contractor, upon notification by the City shall take such steps necessary to perform as per specifications. If at any time, in the opinion of the City, there has been a breach of contract, the Contractor shall be notified and a hearing shall be set for a date within fifteen (15) days of such notice. At that time, the Director of Public Works and Procurement Director, or their designees, shall hear the Contractor and City representatives. The City shall make a determination as to whether or not there has been a breach of contract, and shall direct what further action shall be taken. If, in the determination of the City, a breach of contract exists the City may terminate the right of the Contractor to proceed under this contract or with such part or parts of the contract as are determined to be in default. The City may hold the Contractor liable for any damages caused to the City by reason of such default or termination.

In the event of a termination, any completed services performed by the Contractor under this Contract shall, at the option of the City, become its property and the Contractor shall be entitled to receive equitable compensation for any work completed to the satisfaction of the City. The Contractor shall not be relieved of any liability to the City for damages sustained by the City by reason of any breach of contract by the Contractor. The City may withhold any payments to the Contractor for the purpose of setoff until such time as the amount of damage due the City from the Contractor is determined.

The Contractor shall not be held liable for damages under this Contract solely for reasons of delay, if the delay is due to causes beyond its control and without its fault or negligence, but this shall not prevent the City from terminating the Contract because of this delay.

24. MINORITY-WOMEN BUSINESS ENTERPRISE PARTICIPATION

It is the desire of the City of Fort Lauderdale to increase the participation of minority (MBE) and women-owned (WBE) businesses in its contracting and procurement programs. While the City does not have any preference or set aside programs in place, it is committed to a policy of equitable participation for these firms. If a Bidder is considered for award, he/she may be asked to meet with City personnel so that the intended MBE/WBE participation can be formalized and included in the subsequent contract. Bidders are requested to include in their proposals a narrative describing its past accomplishments and intended actions in this area. If bidders are considering minority or women owned enterprise participation in their proposal, those firms, and their specific duties have to be identified in the proposal. See General Conditions, Section 1.08 for MBE and WBE definitions.

25. BID TABULATIONS/INTENT TO AWARD

Notice of Intent to Award Contract/Bid, resulting from the City's Formal solicitation process may be found at http://www.fortlauderdale.gov/purchasing/notices_of_intent.htm.

Tabulations of receipt of those parties responding to a formal solicitation may be found at <http://www.fortlauderdale.gov/purchasing/bidresults.htm>, or any interested party may call the Procurement Office at 954-828-5933

END OF SECTION

INVITATION TO BID NO. 685-9855
GENERAL FACILITIES REPAIR, RENOVATION AND RESTORATION SERVICES

PART II – SCOPE OF SERVICES

01. GENERAL

The City is seeking a qualified Contractor capable of performing the work outlined in the bid sheets and following the specifications to complete the miscellaneous repairs, renovations and restorations to various City facilities including facilities that were damaged from hurricanes and facilities that require ADA renovations. The Items of Work and quantities are based on hurricane damage assessment work sheets and the actual work and quantities may vary. The quantities given are for bid pricing and may not be the actual awarded.

The repair/restoration work related to hurricane events requires very specific documentation of the existing damaged condition prior to repair and restoration, and specific documentation of material quantities and labor required to achieve the repair and restoration. It is the City's intent to have the work performed using multiple Purchase Orders and to provide the necessary documentation and requirements to the Contractor with each Purchase Order.

The Contractor will be obligated to perform the work of any one, any combination, or all of the work items stated on the Unit Pricing form with compensation based on actual quantities of work provided multiplied by the proposed unit cost for each item of work. The City reserves the right to increase or decrease the quantity of any item listed on the Unit Pricing form. The intention of this contract is to select a General Contractor who is capable of performing all of the work required at any specific site at such times as the City determines.

Work at multiple sites may be required to be performed concurrently. As such, the City also reserves the right to assign quantities and types of work to the contractor based on performance criteria, including but not limited to cooperation with the City, project facility, and community representatives, and timely, satisfactory completion of work items.

02. CODES AND PERMITS

- A. The contractor shall be responsible for meeting all local fire and building codes and for obtaining any necessary permits. The contractor shall be responsible for any and all fees that pertain to the work as required by the City of Fort Lauderdale and any authority having jurisdiction.
- B. All construction and design documents will be produced in accordance with all national, state, and local codes and standards. The contractor will be responsible for ensuring all installations meet applicable building ordinances and electrical codes. Contractor is to obtain all necessary construction and building permits, licenses and any other approvals that may be necessary.
- C. Permit Fees will be reimbursed at actual cost. Bid Item 4 on the Bid Price Form is an allowance for permit fees. Actual Permit fees will be reimbursed from this amount. Contractor to include Permit fee invoices with Pay request
- D. Obtain all permits and pay all fees required by any governmental agency having jurisdiction over the work. Arrange all inspections required by these agencies. On completion of the work,

furnish satisfactory evidence to the City that the work is acceptable to the regulatory authorities having jurisdiction.

- E. Contractor will perform all Work; furnish and install all materials and equipment in full accordance with the latest applicable rules, regulations, requirements and specifications of the following:
1. Local Laws and Ordinances
 2. State and Federal Laws
 3. National Electrical Code (NEC)
 4. State Fire Marshal
 5. Underwriter's Laboratories (UL)
 6. National Electrical Safety Code (NESC)
 7. American National Standards Institute (ANSI)
 8. National Electrical Manufacturer's Association (NEMA)
 9. National Electrical Contractor's Association (NECA) Standard of Installation
 10. Institute of Electrical and Electronics Engineers (IEEE)
 11. Insulated Cable Engineers Association (ICEA)
 12. Occupational Safety and Health Act (OSHA)
 13. National Electrical Testing Association (NETA)
 14. American Society for Testing and Materials (ASTM)
 15. Florida Building Code (FBC), including Broward County amendments.
- F. Wherever the requirements of the Specifications and or Drawings exceed those of the above items, the requirements of the Specifications or Drawings govern. Code compliance is mandatory. Construe nothing in the Proposal Documents as permitting work not in compliance with these codes.

03. ASSIGNING WORK

- A. City Representative and Contractor will visit each site and develop a Work Scope for that site. Actual quantities and type of work will be verified and agreed upon by both parties.
- B. Using the work scope, the Contractor will provide the City a proposal to perform the work utilizing the contracted Unit Costs and field visit agreed to quantities. The Contractor will also provide on the proposal a schedule for performing the work. The City will issue a Purchase Order to perform the work based on the cost and schedule on the proposal. Any given purchase order may include multiple facilities.
- C. Work will be assigned in quantities such that City will not approve partial payment for work at a site. See Section 10 of this document for invoicing and closeout procedures.
- D. If work is of a nature that engineered drawings are required, then the City will issue drawings for the work. This excludes shop drawings needed for submission of permit application.

04. GENERAL CONDITIONS

- A. Any omission of a detailed description concerning any point, shall be regarded as meaning that only the best commercial practices are to prevail. All interpretations of these specifications shall be made on the basis of this statement.
- B. City will provide access to all required construction areas during appropriate business hours, Hours are normally 7:30 AM to 4:30 PM Monday through Friday.

- C. The building premises may be occupied during the entire construction period for conduct of normal operations. Contractor shall cooperate with the Public Works Maintenance staff in scheduling work to minimize conflict and to facilitate building- usage.
- D. No office/space shall be rendered inoperable without the specific prior authorization of the Facilities Manager or his designee on the day on which the Contractor desires access to the site.
- E. Contractor shall always have alternate plans for any given day's installation work such that if the site is unable, Contractor personnel can perform other work for the day. Maintaining proper operation of facilities shall always take precedence over contract work.
- F. Contractor shall take these operational needs into account when determining the Contract price. The Public Works Maintenance Division will not pay for installation delays caused by the need to maintain proper operation of the facilities.
- G. Upon completion of the work, the contractor shall remove all tools, equipment, and all rubbish and debris from the premises and shall leave the premises clean and neat to the satisfaction of the City of Fort Lauderdale. This must be done as each work operation is completed in a given area and at the time of total job completion prior to final system acceptance.
- H. If drawing were issued, Contractor shall submit installation as-built drawings to the City of Fort Lauderdale at the conclusion of work at a site.
- I. City may terminate the contract at any time that the Contractor fails to carry out its provisions or to make substantial progress under the terms specified.

05. PROTECTION OF INSTALLED WORK

- A. Protect installed work from damage by construction operations.
- B. Provide special protection where specified in individual specification sections.
- C. Provide temporary and removable protections for installed products. Control activity in immediate work area to prevent damage.
- D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- G. Remove protective coverings when no longer needed: reuse or recycle plastic coverings if possible.

06. STARTING EQUIPMENT

- A. Coordinate schedule for start-up of various equipment and systems.
- B. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequences and for conditions which may cause damage.
- C. Verify tests, meter readings and specified electrical characteristics agree with those required by the equipment or system manufacturer.
- D. Verify that wiring and support components for equipment are complete and tested.
- E. Execute start-up under supervision of applicable Contractor personnel and manufacturer's representative in accordance with manufacturer's instructions.

- F. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.
- G. Submit a written report that equipment or system has been properly installed and is functioning correctly.

07. DEMONSTRATION AND INSTRUCTION

- A. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at scheduled time, at equipment location.
- B. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.
- C. Provide a qualified person who is knowledgeable about the Project to perform demonstration and instruction of owner personnel.
- D. Perform instruction in a classroom environment at a location to be determined by the City.
- E. Utilize Operation and Maintenance manuals as basis for instruction. Review contents of manual with city personnel in detail to explain all aspects of operation and maintenance.
- F. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.
- G. The amount of time required for instruction on each item of equipment and system is that specified in individual sections.

08. ADJUSTING

- A. Adjust operating products and equipment to ensure smooth and unhindered operation.

09. FINAL CLEANING

- A. Execute final cleaning prior to final project assessment.
- B. Use cleaning materials that are non-hazardous
- C. Clean interior and exterior glass, surfaces exposed to view, remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.
- D. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
- E. Clean filters of operating equipment.
- F. Clean debris from roofs, gutters, downspouts, and drainage systems.
- G. Clean site; sweep paved areas, rake clean landscaped surfaces.
- H. Remove waste, surplus materials, trash/rubbish and construction facilities from the site; dispose of in legal manner; do not burn or bury.

10. CLOSEOUT PROCEDURES

- A. Prepare submittals that are required by governing or other authorities. Contractor must provide copies to the City Representative.
- B. Notify City Representative when work is considered ready for Final Acceptance.
- C. City Representative will review work and determine if work is complete and acceptable. City Representative will produce a final punch list to be submitted to the Contractor. Contractor will correct any items of work listed on that punch list determined to be deficient. City Representative will authorize by signing punch list when all deficiencies have been corrected.

- D. Once City Representative has received and accepted all guarantee certifications, performance affidavits, certifications, permit documents and any other documents required by the Contract
- E. Documents, City Representative will then prepare written Certification of Completion with attached dated punch list that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for final acceptance. See Attached Form.
- F. When Certification document is finalized and signed by all parties, contractor shall then invoice for work.

11. WARRANTY

- A. The Contractor shall warrant all work and materials for a period of one year commencing on the date of Final Acceptance. The Contractor shall:
1. Provide for replacement and installation within seven working days.
 2. Include all shipping costs.
 3. Not apply to equipment damaged through acts of god or other external factors such as lightning strikes.

12. CONTRACT DOCUMENTS

This is a listing of all specifications and drawings issued as part of this contract. All work is to be executed per these documents.

	TITLE	PAGES	REVISION
SECTION 02225	DEMOLITION	4	
SECTION 03300	CAST-IN-PLACE CONCRETE	6	
SECTION 04065	MORTAR AND MASONRY GROUT	3	
SECTION 04080	MASONRY REINFORCEMENT AND ANCHORAGE	3	
SECTION 04810	UNIT MASONRY ASSEMBLIES	9	
SECTION 04900	MASONRY RESTORATION AND CLEANING	6	
SECTION 05120	STRUCTURAL STEEL	5	
SECTION 05210	STEEL JOISTS	4	
SECTION 05310	STEEL DECK	4	
SECTION 05400	COLD FORMED METAL FRAMING	5	
SECTION 05500	METAL FABRICATIONS	4	
SECTION 05700	ORNAMENTAL METAL	2	
SECTION 06100	ROUGH CARPENTRY	4	
SECTION 07115	BITUMINOUS DAMPPROOFING	2	
SECTION 07212	BOARD AND BATT INSULATION	4	
SECTION 07214	FOAMED-IN-PLACE INSULATION	3	
SECTION 07410	METAL WALL PANELS	5	
SECTION 07620	SHEET METAL FLASHING AND TRIM	3	

	TITLE	PAGES	REVISION
SECTION 07650	FLEXIBLE FLASHING	4	
SECTION 07900	JOINT SEALERS	4	
SECTION 08110	STEEL DOORS AND FRAMES	5	
SECTION 08211	FLUSH WOOD DOORS	4	
SECTION 08710	DOOR HARDWARE	6	
SECTION 08800	GLAZING	6	
SECTION 09206	METAL LATH AND SUPPORT ASSEMBLIES	3	
SECTION 09225	PORTLAND CEMENT PLASTER	4	
SECTION 09260	GYPSUM BOARD ASSEMBLIES	7	
SECTION 09511	SUSPENDED ACOUSTICAL CEILINGS	3	
SECTION 09650	RESILIENT FLOORING	4	
SECTION 09680	CARPET	5	
SECTION 09900	PAINTS AND COATINGS	4	
SECTION 10100	VISUAL DISPLAY BOARDS	3	
SECTION 10350	FLAGPOLES	3	
SECTION 10523	FIRE EXTINGUISHERS, CABINETS, HOSE CABINETS, AND ACCESSORIES	3	
SECTION 10700	SHUTTERS	3	
SECTION 11485	ATHLETIC EQUIPMENT	6	
ATTACHMENT A	CERTIFICATION OF COMPLETION		

**INVITATION TO BID NO. 685-9855
GENERAL FACILITIES REPAIR, RENOVATION AND RESTORATION SERVICES**

PART III – TECHNICAL SPECIFICATIONS

SECTION 02225

DEMOLITION

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Building demolition excluding removal of hazardous materials and toxic substances.
- B. Selective demolition of built site elements.
- C. Selective demolition of built building elements.
- D. Selective demolition of building elements for alterations purposes.
- E. Abandonment and removal of existing utilities and utility structures.

1.02 REFERENCES

- A. 29 CFR 1926 - U.S. Occupational Safety and Health Standards; current edition.
- B. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2004.

1.03 SUBMITTALS

- A. Provide data to regulatory authorities as may be required for permits.
- B. Provide receipts or other evidence that debris has been disposed of lawfully to the City

1.04 PROJECT CONDITIONS

- A. Minimize production of dust due to demolition operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.01 SCOPE

- A. Building components and portions of the existing building shall be removed in the following sequence:
 - 1. Contractor shall construct solid, weather-tight and weather resistant temporary dust-proof barriers/partitions and closure walls to separate the demolition work from the area of on-going construction & demolition work.
 - 2. All components of the building that will remain shall be stabilized and structurally secured.
 - 3. All utilities shall be capped, shut-off, removed or otherwise protected from damage.
 - 4. Abate and remediate all unsafe or hazardous materials, equipment and components identified in Hazardous Materials Report(s).
 - 5. Begin physical demolition, only after ALL preparation, safety and securing work is complete.
- B. Remove only parts of the building that are designated for demolition.
- C. Remove all portions of existing components as required to accomplish new work. The contractor shall coordinate the full extent of demolition required with the scope of new work to be installed.
- D. Remove all abandoned above ceiling wiring and conduit, j-boxes and appurtenances. Verify with owner that components are in fact abandoned and require demolition prior to removal.
- E. Protect all elements of the building that are to remain. Patch, repair or replace any elements of the existing building that are damaged during demolition.

- F. Within area of new construction, remove foundation walls and footings to a minimum of 2 feet below finished grade.
- G. Fill excavations, open pits, and holes in ground areas generated as result of removals, using select fill; compact fill as required so that required rough grade elevations do not subside within one year after completion.

3.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

- A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
1. Obtain required permits.
 2. Obtain approvals from the City to start construction.
 3. Comply with applicable requirements of NFPA 241.
 4. Use of explosives is not permitted.
 5. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed (or portions thereof); do not allow worker or public access within range of potential collapse of unstable structures.
 6. Provide, erect, and maintain temporary barriers and security devices.
 7. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
 8. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
 9. Do not close or obstruct roadways or sidewalks without permit.
 10. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
 11. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon or limit access to their property.
- B. Do not begin removal until receipt of notification to proceed from City
- C. Do not begin removal until built elements to be salvaged or relocated have been removed.
- D. Do not begin removal until vegetation to be relocated has been removed and specified measures have been taken to protect vegetation to remain.
- E. Protect existing structures and other elements that are not to be removed.
1. Provide bracing and shoring.
 2. Prevent movement or settlement of adjacent structures.
 3. Stop work immediately if adjacent structures appear to be in danger.
- F. If hazardous materials are discovered during removal operations, stop work and notify City. Hazardous materials include regulated asbestos containing materials, lead, PCB's, and mercury.
- G. Hazardous Materials: Comply with 29 CFR 1926 and state and local regulations.
- H. Perform demolition in a manner that maximizes salvage and recycling of materials.
1. Dismantle existing construction and separate materials.
 2. Set aside reusable, recyclable, and salvageable materials; store and deliver to collection point or point of reuse.
- I. Partial Removal of Paving and Curbs: Neatly saw cut at right angle to surface.
- J. Make arrangements for and provide prompt removal of demolition debris.

3.03 EXISTING UTILITIES

- A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.
- B. Protect existing utilities to remain from damage.
- C. Do not disrupt public utilities without permit from authority having jurisdiction.
- D. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to the Owner.
- E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to the City.
- F. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.
- G. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and

- H. Prepare building demolition areas by disconnecting and capping utilities outside the demolition zone; identify and mark utilities to be subsequently reconnected, in same manner as other utilities to remain.

3.04 SELECTIVE DEMOLITION FOR ALTERATIONS

- A. Separate areas in which demolition is being conducted from other areas that are still occupied.
1. Provide, erect, and maintain temporary dustproof partitions of construction
- B. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.
- C. Remove existing work as required to accomplish new work.
1. Remove rotted wood, corroded metals, and deteriorated masonry and concrete; replace with new construction specified.
 2. Coordinate limits of demolition required with scope of new work.
- D. Repair Requirements: All repair materials shall be compatible and match the originally installed materials to the greatest extent possible. All materials shall be new unless specifically identified in this section as acceptable for reuse. Unacceptable or used materials shall be replaced by the Contractor at his own cost.
1. Where new materials identical to the existing materials are unavailable or cannot be found: use new materials that visually match the existing adjacent surfaces to the fullest extent possible.
 2. Use materials whose installed performance equals or surpasses that of the existing materials.
 3. Where duplicating original construction would produce sub-standard work, provide non-adequate protection or violate a code; the construction shall be modified to implement current standards and comply with all applicable Codes, material construction standards and industry standards of practice.
 4. Extent of Repair: All repairs, refinishing, painting, replacements shall extend from the location of the disturbed surface or component to the next wall corner, intersection, valve, material transition or similar condition. Repair and refinishing to the mid-point of a wall or system is NOT ACCEPTABLE.
- F. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove existing systems and equipment as necessary for the new work.
1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components.
 2. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
 3. Verify that abandoned services serve only abandoned facilities before removal.
 4. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification.
- G. Protect existing work to remain.
1. Prevent movement of structure; provide shoring and bracing if necessary.
 2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
 3. Repair adjacent construction and finishes damaged during removal work.
 4. Patch as specified for patching new work.

3.05 DEBRIS AND WASTE REMOVAL

- A. Promptly remove debris, junk, and trash from site, and dispose of materials in a lawful manner.
- B. Remove from site all materials not to be reused on site
- C. Leave site in clean condition, ready for subsequent work.
- D. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

SECTION 03300

CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Concrete for composite floor construction.
- B. Concrete reinforcement.
- C. Miscellaneous concrete elements, including equipment pads, flagpole bases, and goal post bases.
- D. Concrete curing.
- E. Concrete repairs

1.02 RELATED SECTIONS

- A. Section 05310 - Steel Deck: Composite floor deck and metal deck to receive concrete
- B. Section 10350 - Flagpoles: Concrete flagpole base
- C. Section 10523 - Fire Extinguishers, Cabinets, Hose Cabinets, and Accessories: Concrete pads at exterior hose cabinets
- D. Section 11485 - Athletic Equipment: Concrete goalpost bases

1.03 REFERENCES

- A. ACI 117 - Standard Specifications for Tolerances for Concrete Construction and Materials; American Concrete Institute International; 2006.
- B. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete; American Concrete Institute International; 1991 (Reapproved 2002).
- C. ACI 301 - Specifications for Structural Concrete for Buildings; American Concrete Institute International; 2005.
- D. ACI 302.1R - Guide for Concrete Floor and Slab Construction; American Concrete Institute International; 2004.
- E. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete; American Concrete Institute International; 2000.
- F. ACI 305R - Hot Weather Concreting; American Concrete Institute International; 1999.
- G. ACI 306R - Cold Weather Concreting; American Concrete Institute International; 1988 (Reapproved 2002).
- H. ACI 308R - Guide to Curing Concrete; American Concrete Institute International; 2001.
- I. ACI 318 - Building Code Requirements for Structural Concrete and Commentary; American Concrete Institute International; 2005.
- J. ASTM A 185/A 185M - Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete; 2006.

- K. ASTM A 615/A 615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement; 2006.
- L. ASTM C 33 - Standard Specification for Concrete Aggregates; 2003.
- M. ASTM C 39/C 39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2005.
- N. ASTM C 94/C 94M - Standard Specification for Ready-Mixed Concrete; 2005.
- O. ASTM C 150 - Standard Specification for Portland Cement; 2005.
- P. ASTM C 171 - Standard Specification for Sheet Materials for Curing Concrete; 2003.
- Q. ASTM C 173/C 173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method; 2001.
- R. ASTM C 260 - Standard Specification for Air-Entraining Admixtures for Concrete; 2001.
- S. ASTM C 309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete; 2003.
- T. ASTM C 330 - Standard Specification for Lightweight Aggregates for Structural Concrete; 2005.
- U. ASTM C 494/C 494M - Standard Specification for Chemical Admixtures for Concrete; 2005a.
- V. ASTM C 618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete; 2005.
- W. ASTM C 685/C 685M - Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing; 2001.

1.04 SUBMITTALS

- A. Provide product data and Shop Drawings to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect:
 - 1. Submit design mix for each concrete mixture to be used
 - 2. Prepare shop drawings for concrete reinforcement that indicate fabrication, bending, and placement. Include bar sizes, lengths, material, grade, bar arrangement, splices, laps, and supports for reinforcement. Refer 03300.1.07.
 - 3. Submit Material Test Reports and Certificates for cementitious materials, aggregates, and admixtures

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C94/C94M requirements for production facilities and equipment
 - 1. Manufacturer to be certified according to NRCMA's "Certification of Ready Mixed Concrete Facilities"
- B. Source Limitations: Obtain each type or class of cementitious materials of the same brand from the same manufacturer's plant, obtain aggregate from one source, and obtain admixtures from one source through a single manufacturer
- C. Perform work of this section in accordance with ACI 117, ACI 301 and ACI 318.
- D. When required by 03300.1.04.B, prepare Shop Drawings for reinforcement under direct supervision of a Professional Structural Engineer experienced in the design of this work and licensed in the State of Florida. Provide engineer's signature and seal. Refer 03300.1.07.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage

1.07 ALLOWANCES

- A. When required and authorized by the City of Fort Lauderdale, costs for Engineered Shop Drawings shall be reimbursed from the Professional Services Allowance at the rates proposed on the contractor's Proposal Form. Refer Line Item 5.

PART 2 PRODUCTS

2.01 REINFORCEMENT

- A. Reinforcing Steel: ASTM A 615/A 615M Grade 40 (280).
 - 1. Type: Deformed billet-steel bars.
 - 2. Size: As determined by Structural Engineer and Owner for performance criteria specific to project

location

3. Finish: Unfinished.

B. Steel Welded Wire Reinforcement: ASTM A 185/A 185M, plain type.

1. Form: Coiled Rolls.
2. Mesh Size and Wire Gage: As determined by Structural Engineer and Owner for performance criteria specific to project location.

C. Reinforcement Accessories:

1. Tie Wire: Annealed, minimum 16 gage.
2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support of reinforcement during concrete placement.

2.02 CONCRETE MATERIALS

A. Cement: ASTM C 150, Type I - Normal Portland type.

B. Fine and Coarse Aggregates: ASTM C 33.

C. Lightweight Aggregate: ASTM C 330.

D. Fly Ash: ASTM C 618, Class C or F.

E. Water: Clean and not detrimental to concrete.

2.03 CHEMICAL ADMIXTURES

A. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.

B. Air Entrainment Admixture: ASTM C 260.

C. High Range Water Reducing and Retarding Admixture: ASTM C 494/C 494M Type G.

D. High Range Water Reducing Admixture: ASTM C 494/C 494M Type F.

E. Water Reducing and Retarding Admixture: ASTM C 494/C 494M Type D.

F. Retarding Admixture: ASTM C 494/C 494M Type B.

G. Water Reducing Admixture: ASTM C 494/C 494M Type A.

2.04 ACCESSORY MATERIALS

A. Moisture-Retaining Cover: ASTM C 171; white polyethylene or white burlap-polyethylene sheet.

B. Liquid Curing Compound: ASTM C 309, Type 1, clear or translucent.

2.05 CONCRETE MIX DESIGN

A. Concrete Strength: Establish required average strength for each type of concrete on the basis of field experience or trial mixtures, as specified in ACI 301.

1. For trial mixtures method, employ independent testing agency acceptable to City of Fort Lauderdale and, when applicable, Engineer, for preparing and reporting proposed mix designs.

B. Admixtures: Add acceptable admixtures as recommended in ACI 211.1 and at rates recommended by manufacturer.

C. Normal Weight Concrete:

1. Compressive Strength, when tested in accordance with ASTM C 39/C 39M at 28 days: 3,000 psi.
2. Fly Ash Content: Maximum 25 percent of cementitious materials by weight.
3. Water-Cement Ratio: Maximum 50 percent by weight.
4. Maximum Slump: 5 inches.

D. Structural Lightweight Concrete:

1. Compressive Strength, when tested in accordance with ASTM C 39/C 39M at 28 days: 4,000 psi.
2. Water-Cement Ratio: Maximum 50 percent by weight.
3. Total Air Content: 3 percent, determined in accordance with ASTM C 173/C 173M.
4. Maximum Slump: 5 inches.

2.06 MIXING

A. On Project Site: Mix in drum type batch mixer, complying with ASTM C 685. Mix each batch not less than 1-1/2 minutes and not more than 5 minutes.

1. When air temperature is between 85 and 90 degrees Fahrenheit, reduce mixing and delivery time from 90 minutes to 75 minutes; when air temperature is above 90 degrees Fahrenheit, reduce mixing and delivery time to 60 minutes

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify lines, levels, and dimensions before proceeding with work of this section.

3.02 PREPARATION

- A. Where new concrete is to be bonded to previously placed concrete, prepare existing surface by cleaning with steel brush and applying bonding agent in accordance with manufacturer's instructions.
 1. Use epoxy bonding system for bonding to damp surfaces, for structural load-bearing applications, and where curing under humid conditions is required.
 2. Use latex bonding agent only for non-load-bearing applications.
- B. In locations where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels and pack solid with non-shrink grout.

3.03 INSTALLING REINFORCEMENT

- A. Comply with requirements of ACI 301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.
- B. Install welded wire reinforcement in maximum possible lengths, and offset end laps in both directions. Splice laps with tie wire.
- C. Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not interfere with concrete placement.
- D. Accurately position, support, and secure reinforcement against displacement

3.04 PLACING CONCRETE

- A. Place concrete in accordance with ACI 301.
- B. Ensure reinforcement and embedded parts will not be disturbed during concrete placement.
- C. Do not add water to concrete during delivery unless approved by the Structural Engineer.
- D. Water may be added at project site subject to limitations of ACI 301. Do not add water to concrete after adding high range water-reducing admixtures
- E. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed over concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints. Deposit concrete to avoid segregation.
 1. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301
- F. Cold Weather Placement: Comply with ACI 306.1
- G. Hot Weather Placement: Comply with ACI 305.1 and as follows:
 1. Maintain concrete temperature below 90 degrees Fahrenheit at time of placement. Chilled mixing water or chopped ice may be used to control temperature provided water equivalent of ice is calculated to total amount of mixing water.
 2. Fog spray steel reinforcement and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas

3.05 CONCRETE FINISHING

- A. Concrete Slabs: Finish to requirements of ACI 302.1R, and as follows:
 1. Wood float surfaces that will receive quarry tile, ceramic tile, and terrazzo with full bed setting system.
 2. Steel trowel surfaces that will receive carpeting, resilient flooring, seamless flooring, thin set quarry tile, and thin set ceramic tile.
 3. Steel trowel surfaces that will be left exposed.
- B. Miscellaneous Concrete Items: Finish exposed surfaces of equipment pads and footings to broom finish with positive drainage to prevent water accumulation
- C. Finish and measure surface so gap at any point between concrete surface and an unlevelled, freestanding, 10 foot

long straightedge resting on two high spots and placed anywhere on the surface does not exceed 1/4 inch

3.06 CURING AND PROTECTION

- A. Comply with requirements of ACI 308. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
- B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
 - 1. Normal concrete: Not less than 7 days.
- C. Unformed Surfaces:
 - 1. Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq ft x h before and during finishing operations. apply according to manufacturers written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
 - 2. Start initial curing as soon as free water has disappeared and before surface is dry. Keep continuously moist for not less than three days by water ponding, water-saturated sand, water-fog spray,, or saturated burlap.
 - 3. Begin final curing after initial curing but before surface is dry.
- D. Formed Surfaces: Cure by moist curing with forms in place for full curing period.
 - 1. Moisture-retaining cover: Place cover material in widest practical width with sides and ends lapped at least 12", and sealed with waterproof tape or adhesive. Immediately repair holes or tears during curing period using cover material and waterproof tape.
 - 2. Curing compound: Apply in two coats at right angles by power spray or roller, using application rate recommended by manufacturer. Recoat areas subject to heavy rainfall within three hours of initial application. Repeat process 24 hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period

3.07 FIELD QUALITY CONTROL

- A. The City may engage a qualified independent testing and inspecting agency to perform field tests and inspections, and prepare test reports
- B. Provide free access to concrete operations at project site and cooperate with appointed firm.

3.08 CONCRETE REPAIRS

- A. Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances or specified requirements.
 - 1. Defects include cracks, spalls, honeycombs, air bubbles, rock pockets, fins, and other projections on the surface
- B. Repair or replacement of defective concrete will be determined by the City. The cost of additional testing shall be borne by the Contractor when defective concrete is identified.
- C. Correct localized low areas during or immediately after surface finishing by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
 - 1. Patching Mortar: Mix dry-pack patching mortar, consisting of 1 part Portland Cement to 2-1/2 parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing
- D. Correct low areas scheduled to receive floor covering with a repair underlayment. Prepare, mix, and apply repair underlayment and primer according to manufacturer's written instruction to produce a smooth, uniform, plane, and level surface. Feather edges to match adjacent floor elevations.
- E. Repair defective areas, except cracks and single holes less than 1" in diameter by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4" clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
- F. Repair random cracks and single holes less than 1" in diameter with patching mortar. Groove top of cracks, cut out holes to sound concrete, and clean off dust, dirt, and loose particles. Dampen cleaned surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area moist for at least 72 hours.
- G. Repair methods and installation not specified above may be used, subject to City approval.

END OF SECTION**SECTION 03300****CAST-IN-PLACE CONCRETE****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Concrete for composite floor construction.
- B. Concrete reinforcement.
- C. Miscellaneous concrete elements, including equipment pads, flagpole bases, and goal post bases.
- D. Concrete curing.
- E. Concrete repairs

1.02 RELATED SECTIONS

- A. Section 05310 - Steel Deck: Composite floor deck and metal deck to receive concrete
- B. Section 10350 - Flagpoles: Concrete flagpole base
- C. Section 10523 - Fire Extinguishers, Cabinets, Hose Cabinets, and Accessories: Concrete pads at exterior hose cabinets
- D. Section 11485 - Athletic Equipment: Concrete goalpost bases

1.03 REFERENCES

- A. ACI 117 - Standard Specifications for Tolerances for Concrete Construction and Materials; American Concrete Institute International; 2006.
- B. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete; American Concrete Institute International; 1991 (Reapproved 2002).
- C. ACI 301 - Specifications for Structural Concrete for Buildings; American Concrete Institute International; 2005.
- D. ACI 302.1R - Guide for Concrete Floor and Slab Construction; American Concrete Institute International; 2004.
- E. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete; American Concrete Institute International; 2000.
- F. ACI 305R - Hot Weather Concreting; American Concrete Institute International; 1999.
- G. ACI 306R - Cold Weather Concreting; American Concrete Institute International; 1988 (Reapproved 2002).
- H. ACI 308R - Guide to Curing Concrete; American Concrete Institute International; 2001.
- I. ACI 318 - Building Code Requirements for Structural Concrete and Commentary; American Concrete Institute International; 2005.
- J. ASTM A 185/A 185M - Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete; 2006.

- K. ASTM A 615/A 615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement; 2006.
- L. ASTM C 33 - Standard Specification for Concrete Aggregates; 2003.
- M. ASTM C 39/C 39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2005.
- N. ASTM C 94/C 94M - Standard Specification for Ready-Mixed Concrete; 2005.
- O. ASTM C 150 - Standard Specification for Portland Cement; 2005.
- P. ASTM C 171 - Standard Specification for Sheet Materials for Curing Concrete; 2003.
- Q. ASTM C 173/C 173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method; 2001.
- R. ASTM C 260 - Standard Specification for Air-Entraining Admixtures for Concrete; 2001.
- S. ASTM C 309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete; 2003.
- T. ASTM C 330 - Standard Specification for Lightweight Aggregates for Structural Concrete; 2005.
- U. ASTM C 494/C 494M - Standard Specification for Chemical Admixtures for Concrete; 2005a.
- V. ASTM C 618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete; 2005.
- W. ASTM C 685/C 685M - Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing; 2001.

1.04 SUBMITTALS

- A. Provide product data and Shop Drawings to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect:
 - 1. Submit design mix for each concrete mixture to be used
 - 2. Prepare shop drawings for concrete reinforcement that indicate fabrication, bending, and placement. Include bar sizes, lengths, material, grade, bar arrangement, splices, laps, and supports for reinforcement. Refer 03300.1.07.
 - 3. Submit Material Test Reports and Certificates for cementitious materials, aggregates, and admixtures

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C94/C94M requirements for production facilities and equipment
 - 1. Manufacturer to be certified according to NRCMA's "Certification of Ready Mixed Concrete Facilities"
- B. Source Limitations: Obtain each type or class of cementitious materials of the same brand from the same manufacturer's plant, obtain aggregate from one source, and obtain admixtures from one source through a single manufacturer
- C. Perform work of this section in accordance with ACI 117, ACI 301 and ACI 318.
- D. When required by 03300.1.04.B, prepare Shop Drawings for reinforcement under direct supervision of a Professional Structural Engineer experienced in the design of this work and licensed in the State of Florida. Provide engineer's signature and seal. Refer 03300.1.07.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage

1.07 ALLOWANCES

- A. When required and authorized by the City of Fort Lauderdale, costs for Engineered Shop Drawings shall be reimbursed from the Professional Services Allowance at the rates proposed on the contractor's Proposal Form. Refer Line Item 5.

PART 2 PRODUCTS

2.01 REINFORCEMENT

- A. Reinforcing Steel: ASTM A 615/A 615M Grade 40 (280).
 - 1. Type: Deformed billet-steel bars.
 - 2. Size: As determined by Structural Engineer and Owner for performance criteria specific to project

location

3. Finish: Unfinished.

B. Steel Welded Wire Reinforcement: ASTM A 185/A 185M, plain type.

1. Form: Coiled Rolls.
2. Mesh Size and Wire Gage: As determined by Structural Engineer and Owner for performance criteria specific to project location.

C. Reinforcement Accessories:

1. Tie Wire: Annealed, minimum 16 gage.
2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support of reinforcement during concrete placement.

2.02 CONCRETE MATERIALS

A. Cement: ASTM C 150, Type I - Normal Portland type.

B. Fine and Coarse Aggregates: ASTM C 33.

C. Lightweight Aggregate: ASTM C 330.

D. Fly Ash: ASTM C 618, Class C or F.

E. Water: Clean and not detrimental to concrete.

2.03 CHEMICAL ADMIXTURES

A. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.

B. Air Entrainment Admixture: ASTM C 260.

C. High Range Water Reducing and Retarding Admixture: ASTM C 494/C 494M Type G.

D. High Range Water Reducing Admixture: ASTM C 494/C 494M Type F.

E. Water Reducing and Retarding Admixture: ASTM C 494/C 494M Type D.

F. Retarding Admixture: ASTM C 494/C 494M Type B.

G. Water Reducing Admixture: ASTM C 494/C 494M Type A.

2.04 ACCESSORY MATERIALS

A. Moisture-Retaining Cover: ASTM C 171; white polyethylene or white burlap-polyethylene sheet.

B. Liquid Curing Compound: ASTM C 309, Type 1, clear or translucent.

2.05 CONCRETE MIX DESIGN

A. Concrete Strength: Establish required average strength for each type of concrete on the basis of field experience or trial mixtures, as specified in ACI 301.

1. For trial mixtures method, employ independent testing agency acceptable to City of Fort Lauderdale and, when applicable, Engineer, for preparing and reporting proposed mix designs.

B. Admixtures: Add acceptable admixtures as recommended in ACI 211.1 and at rates recommended by manufacturer.

C. Normal Weight Concrete:

1. Compressive Strength, when tested in accordance with ASTM C 39/C 39M at 28 days: 3,000 psi.
2. Fly Ash Content: Maximum 25 percent of cementitious materials by weight.
3. Water-Cement Ratio: Maximum 50 percent by weight.
4. Maximum Slump: 5 inches.

D. Structural Lightweight Concrete:

1. Compressive Strength, when tested in accordance with ASTM C 39/C 39M at 28 days: 4,000 psi.
2. Water-Cement Ratio: Maximum 50 percent by weight.
3. Total Air Content: 3 percent, determined in accordance with ASTM C 173/C 173M.
4. Maximum Slump: 5 inches.

2.06 MIXING

A. On Project Site: Mix in drum type batch mixer, complying with ASTM C 685. Mix each batch not less than 1-1/2 minutes and not more than 5 minutes.

1. When air temperature is between 85 and 90 degrees Fahrenheit, reduce mixing and delivery time from 90 minutes to 75 minutes; when air temperature is above 90 degrees Fahrenheit, reduce mixing and delivery time to 60 minutes

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify lines, levels, and dimensions before proceeding with work of this section.

3.02 PREPARATION

- A. Where new concrete is to be bonded to previously placed concrete, prepare existing surface by cleaning with steel brush and applying bonding agent in accordance with manufacturer's instructions.
 1. Use epoxy bonding system for bonding to damp surfaces, for structural load-bearing applications, and where curing under humid conditions is required.
 2. Use latex bonding agent only for non-load-bearing applications.
- B. In locations where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels and pack solid with non-shrink grout.

3.03 INSTALLING REINFORCEMENT

- A. Comply with requirements of ACI 301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.
- B. Install welded wire reinforcement in maximum possible lengths, and offset end laps in both directions. Splice laps with tie wire.
- C. Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not interfere with concrete placement.
- D. Accurately position, support, and secure reinforcement against displacement

3.04 PLACING CONCRETE

- A. Place concrete in accordance with ACI 301.
- B. Ensure reinforcement and embedded parts will not be disturbed during concrete placement.
- C. Do not add water to concrete during delivery unless approved by the Structural Engineer.
- D. Water may be added at project site subject to limitations of ACI 301. Do not add water to concrete after adding high range water-reducing admixtures
- E. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed over concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints. Deposit concrete to avoid segregation.
 1. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301
- F. Cold Weather Placement: Comply with ACI 306.1
- G. Hot Weather Placement: Comply with ACI 305.1 and as follows:
 1. Maintain concrete temperature below 90 degrees Fahrenheit at time of placement. Chilled mixing water or chopped ice may be used to control temperature provided water equivalent of ice is calculated to total amount of mixing water.
 2. Fog spray steel reinforcement and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas

3.05 CONCRETE FINISHING

- A. Concrete Slabs: Finish to requirements of ACI 302.1R, and as follows:
 1. Wood float surfaces that will receive quarry tile, ceramic tile, and terrazzo with full bed setting system.
 2. Steel trowel surfaces that will receive carpeting, resilient flooring, seamless flooring, thin set quarry tile, and thin set ceramic tile.
 3. Steel trowel surfaces that will be left exposed.
- B. Miscellaneous Concrete Items: Finish exposed surfaces of equipment pads and footings to broom finish with positive drainage to prevent water accumulation
- C. Finish and measure surface so gap at any point between concrete surface and an unlevelled, freestanding, 10 foot

3.06 CURING AND PROTECTION

- A. Comply with requirements of ACI 308. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
- B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
 - 1. Normal concrete: Not less than 7 days.
- C. Unformed Surfaces:
 - 1. Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq ft x h before and during finishing operations. apply according to manufacturers written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
 - 2. Start initial curing as soon as free water has disappeared and before surface is dry. Keep continuously moist for not less than three days by water ponding, water-saturated sand, water-fog spray,, or saturated burlap.
 - 3. Begin final curing after initial curing but before surface is dry.
- D. Formed Surfaces: Cure by moist curing with forms in place for full curing period.
 - 1. Moisture-retaining cover: Place cover material in widest practical width with sides and ends lapped at least 12", and sealed with waterproof tape or adhesive. Immediately repair holes or tears during curing period using cover material and waterproof tape.
 - 2. Curing compound: Apply in two coats at right angles by power spray or roller, using application rate recommended by manufacturer. Recoat areas subject to heavy rainfall within three hours of initial application. Repeat process 24 hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period

3.07 FIELD QUALITY CONTROL

- A. The City may engage a qualified independent testing and inspecting agency to perform field tests and inspections, and prepare test reports
- B. Provide free access to concrete operations at project site and cooperate with appointed firm.

3.08 CONCRETE REPAIRS

- A. Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances or specified requirements.
 - 1. Defects include cracks, spalls, honeycombs, air bubbles, rock pockets, fins, and other projections on the surface
- B. Repair or replacement of defective concrete will be determined by the City. The cost of additional testing shall be borne by the Contractor when defective concrete is identified.
- C. Correct localized low areas during or immediately after surface finishing by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
 - 1. Patching Mortar: Mix dry-pack patching mortar, consisting of 1 part Portland Cement to 2-1/2 parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing
- D. Correct low areas scheduled to receive floor covering with a repair underlayment. Prepare, mix, and apply repair underlayment and primer according to manufacturer's written instruction to produce a smooth, uniform, plane, and level surface. Feather edges to match adjacent floor elevations.
- E. Repair defective areas, except cracks and single holes less than 1" in diameter by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4" clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
- F. Repair random cracks and single holes less than 1" in diameter with patching mortar. Groove top of cracks, cut out holes to sound concrete, and clean off dust, dirt, and loose particles. Dampen cleaned surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area moist for at least 72 hours.
- G. Repair methods and installation not specified above may be used, subject to City approval.

END OF SECTION

SECTION 04080

MASONRY REINFORCEMENT AND ANCHORAGE

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Adjustable Reinforcement System.
- B. Masonry Veneer Reinforcement System.

1.02 RELATED SECTIONS

- A. Section 04065 - Mortar and Masonry Grout.
- B. Section 04810 - Unit Masonry Assemblies.
- C. Section 05400 - Cold Formed Metal Framing.

1.03 REFERENCES

- A. ASTM A 82 - Standard Specification for Steel Wire, Plain, for Concrete Reinforcement; 2001.
- B. ASTM A 153/A 153M - Standard Specification for Zinc Coating (Hot Dip) on Iron and Steel Hardware; 2002.
- C. ASTM A 580/A 580M - Standard Specification for Stainless Steel Wire; 1998.
- D. ASTM A 641/A 641M - Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire; 1998.
- E. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2002a.
- F. ASTM A 666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2000.
- G. ASTM A 1008/A 1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability; 2002.

1.04 SUBMITTALS

- A. Provide product data to regulatory authorities as may be required for permits.
- B. For work performed under the purview of Engineer or Architect
 - 1. Product Data: Manufacturer's printed literature for each product, including test data indicating compliance with requirements, and installation instructions

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers
 - 1. Hohmann & Barnard: www.h-b.com.
 - 2. Duro-O-Wall, Inc.: www.dur-o-wall.co.
 - 3. Heckmann Building Products: www.heckmannbuildingprods.com.

B. Substitutions: Refer General and Special Conditions for substitution procedures.

2.02 JOINT REINFORCEMENT, WALL TIES, AND ANCHORING DEVICES

A. Single Wythe Anchors at Steel Columns:

1. Prefabricated stainless steel weld on tie unit of 1/4" diameter x 9" length. Unit to be equivalent to Hohmann & Barnard, "Weld-On-Tie #359".
2. Prefabricated stainless steel wire tie unit of 1/4" diameter in length and width appropriate for use. Unit to be equivalent to Hohmann & Barnard, "Vee Wall Tie".
3. Prefabricated stainless steel wire tie unit of 1/4" diameter in 12" length by width appropriate for use. Unit to be equivalent to Hohmann & Barnard, "Column Web Tie #301W".

B. Single Wythe Veneer Anchors at metal studs with gypsum sheathing:

1. Prefabricated stainless steel backplate with offset tie unit in 6" length with two 1/4" diameter holes for fasteners. Unit to be equivalent to Hohmann & Barnard, "Veneer Anchor #DW-10HS".
2. Prefabricated stainless steel wire tie unit of 1/4" diameter in length and width appropriate for use. Unit to be equivalent to Hohmann & Barnard, "Vee Wall Tie".

C. Single Wythe Joint Reinforcement: Truss type; ASTM A 82 steel wire, hot dip galvanized after fabrication to ASTM A 153/A 153M, Class B; 0.1483 inch side rods with 0.1483 inch cross rods; width as required to provide not more than 1 inch and not less than 1/2 inch of mortar coverage on each exposure.

D. Multiple Wythe Joint Reinforcement: Truss type; fabricated with moisture drip; ASTM A 82 steel wire, hot dip galvanized after fabrication to ASTM A 153/153M, Class B; 0.1483 inch side rods with 0.1483 inch cross rods; width as required to provide not more than 1 inch and not less than 1/2 inch of mortar coverage on each exposure.

E. Adjustable Multiple Wythe Joint Reinforcement: Truss type with adjustable ties or tabs spaced at 16 in on center and fabricated with moisture drip; ASTM A 82 steel wire, hot dip galvanized after fabrication to ASTM A 153/153M, Class B; 0.1875 inch side rods with 0.1483 inch cross rods and adjustable components of 0.1875 inch wire; width of components as required to provide not more than 1 inch and not less than 1/2 inch of mortar coverage from each masonry face.

1. Vertical adjustment: Not less than 2 inches.

F. Strap Anchors: Bent steel shapes configured as required for specific situations, 1-1/4 in width, 0.105 in thick, lengths as required to provide not more than 1 inch and not less than 1/2 inch of mortar coverage from masonry face, corrugated for embedment in masonry joint, hot dip galvanized to ASTM A 153/A 153M, Class B.

G. Flexible Anchors: 2-piece anchors that permit differential movement between masonry and building frame, sized to provide not more than 1 inch and not less than 1/2 inch of mortar coverage from masonry face.

1. Steel frame: Crimped wire anchors for welding to frame, 0.25 inch thick, with trapezoidal wire ties 0.1875 inch thick, hot dip galvanized to ASTM A 153/A 153M, Class B.

H. Two-Piece Wall Ties - Adjustable: Formed steel wire, 0.1875 inch thick, adjustable, eye and pintle type, hot dip galvanized to ASTM A 153/A 153M, Class B, sized to provide not more than 1 inch and not less than 1/2 inch of mortar coverage from masonry face and to allow vertical adjustment of up to 1-1/4 in.

2.03 MISCELLANEOUS MASONRY ACCESSORIES

A. Fasteners: Self-drilling self-tapping screws; hex washer head, size #12, lengths required for indicated insulation and sheathing thicknesses.

1. Acceptable product: SX Fastener stainless steel Type 300, manufactured by SFS Stadler.
2. Metal: Stainless steel.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine project conditions before beginning installation of masonry reinforcement systems components.
- B. Do not proceed with installation until unacceptable conditions have been corrected.

3.02 INSTALLATION

- A. Concrete unit masonry installation is specified in Section 04810.
- B. Brick masonry installation is specified in Section 04810.
- C. Install masonry reinforcement system components in accordance with manufacturers printed installation instructions.

D. Adjustable Reinforcement System:

1. Install horizontal joint reinforcement for concrete unit masonry walls at 16 inches on center vertically, and at masonry course above headers of openings, extending reinforcement minimum 8 inches past opening at each jamb.
2. Secure rigid insulation in place with rigid insulation retainer at each masonry wall tie connector location on horizontal joint reinforcement.
3. Install masonry wall tie at each masonry wall tie connector location on horizontal joint reinforcement; install ties as exterior wythe of masonry construction progresses.
4. Set reinforcement retaining clip in full mortar bed at each masonry wall tie location; secure tie wires in correct size ridges.
5. Secure continuous masonry joint reinforcement wire in correct size ridge in reinforcement retaining clip.

E. Masonry Veneer Reinforcement System:

1. Install veneer anchors at stud locations; 16 inches on center vertically, 16 inches on center horizontally.
2. Screw-attach veneer anchor to stud face; ensure full contact of veneer anchor legs with stud face.
3. Install masonry wall tie at each veneer anchor location; install ties as exterior wythe of masonry construction progresses.
4. Set reinforcement retaining clip in full mortar bed at each masonry wall tie location; secure tie wires in correct size ridges.
5. Secure continuous masonry joint reinforcement wire in correct size ridge in reinforcement retaining clip.

END OF SECTION

SECTION 04810

UNIT MASONRY ASSEMBLIES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Concrete Block Split Face Solid Masonry Veneer Units.
- B. Concrete Block:
 - 1. Standard modular units.
- C. Clay Facing Brick.
- D. Common Brick.
- E. Hollow Brick.
- F. Ceramic Glazed Face Brick.
- G. Ceramic Glazed Structural Clay Facing Tile.
- H. Veneer cavity insulation is necessary to this section but is specified in Section 07212.
- I. Foamed in block cell insulation at CMU is necessary to this section but is specified in Section 07214.
- J. Mortar and Grout work is necessary to this section but is specified in Section 04065.
- K. Reinforcement and Anchorage work is necessary to this section but is specified in Section 04080.
- L. Flashings, rigid, thru-wall and flexible in masonry are necessary to this section but are specified in Section 07650.
- M. Accessories.

1.02 RELATED SECTIONS

- A. Section 04065 - Mortar and Masonry Grout.
- B. Section 04080 - Masonry Reinforcement Systems.
- C. Section 04900 - Masonry Restoration and Cleaning.
- D. Section 05810 - Expansion Joint Cover Assemblies: Expansion joints in masonry.
- E. Section 05500 - Metal Fabrications: Loose steel lintels and fabricated steel items.
- F. Section 06100 - Rough Carpentry: Backup framing and sheathing.
- G. Section 07115 - Bituminous Damp proofing: Damp proofing masonry surfaces.
- H. Section 07212 - Board and Batt Insulation: Insulation for cavity spaces.
- I. Section 07214 - Foamed-In-Place Insulation: Foamed insulation for cells in CMU construction.
- J. Section 07650 – Flashings.

K. Section 07900 - Joint Sealers: Backing rod and sealant at control and expansion joints.

1.03 REFERENCES

- A. ACI 530/ASCE 5/TMS 402 - Building Code Requirements for Masonry Structures; American Concrete Institute International; 2005.
- B. ACI 530.1/ASCE 6/TMS 602 - Specification For Masonry Structures; American Concrete Institute International; 2005.
- C. ASTM C 62 - Standard Specification for Building Brick (Solid Masonry Units Made From Clay or Shale); 2005.
- D. ASTM C 67 - Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile; 2005.
- E. ASTM C 90 - Standard Specification for Load-bearing Concrete Masonry Units; 2006.
- F. ASTM C 126 - Standard Specification for Ceramic Glazed Structural Clay Facing Tile, Facing Brick, and Solid Masonry Units; 1999 (Re-approved 2005).
- G. ASTM C 129 - Standard Specification for Non-load-bearing Concrete Masonry Units; 2005.
- H. ASTM C 140 - Standard Test Methods of Sampling and Testing Concrete Masonry Units and Related Units; 2005a.
- I. ASTM C 216 - Standard Specification for Facing Brick (Solid Masonry Units Made From Clay or Shale); 2005a.
- J. ASTM C 652 - Standard Specification for Hollow Brick (Hollow Masonry Units Made From Clay or Shale); 2005a.
- K. Brick institute of America (BIA) - Technical Notes on Brick Construction; current edition.
- L. IMIAWC (HW) - Recommended Practices & Guide Specifications for Hot Weather Masonry Construction; International Masonry Industry All-Weather Council; current edition.

1.04 SUBMITTALS

- A. Provide product data to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect:
 - 1. Provide data for masonry units.
 - 2. Submit two sample panels of facing brick units to illustrate color, texture, and extremes of color range.
 - 3. Manufacturer's Certificate: Certify that masonry units meet or exceed specified requirements.

1.05 QUALITY ASSURANCE

- A. Comply with provisions of ACI 530/ASCE 5/TMS 402 and ACI 530.1/ASCE 6/TMS 602, except where exceeded by requirements of the contract documents.

1.06 MOCK-UP

- A. Field Constructed Mock-Ups: Prior to the installation of masonry work, the contractor shall erect, at a location directed by the City of Fort Lauderdale, sample wall panels to finalize all masonry and mortar material selections for color and texture characteristics.
- B. Include flexible flashings, stainless steel anchorage set to CMU and gyp sheathed wood stud backup walls (as required by condition), typical control joint, and colored mortar.
- C. Mock-up may not remain as part of the Work.

1.07 PRE-INSTALLATION MEETING

- A. Conduct a pre-installation meeting when directed by the City of Fort Lauderdale. Convene two weeks before starting work of this section.
- B. Meeting shall review intended installation practices to be followed, mason contractor's concerns and directives to other trades, interaction requirements with other suppliers and trades, and storage and protection practices required to protect brick from damage during construction.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, handle, and store masonry units by means that will prevent mechanical damage and contamination by other materials.
- B. Handle and store ceramic glazed masonry units in protective cartons or trays. Do not remove from protective packaging until ready for installation.

- A. Maintain materials and surrounding air temperature to minimum 40 degrees F prior to, during, and 48 hours after completion of masonry work.
- B. Hot Weather Requirements: Comply with IMIAWC (HW).

PART 2 PRODUCTS

2.01 CONCRETE MASONRY UNITS

- A. Concrete Block: Comply with referenced standards and as follows:
 1. Size: Standard units with nominal face dimensions of 16 x 8 inches and nominal depths as required to match adjacent conditions specific to project location.
 2. Special Shapes: Provide non-standard blocks configured to match adjacent detailing specific to project location.
 3. Load-Bearing Units: ASTM C 90, normal weight.
 - a. Hollow block.
 - b. Exposed faces: Manufacturer's standard color and texture.
 4. Non-Load-bearing Units: ASTM C 129.
 - a. Hollow block
 - b. Medium weight.
 - c. Minimum compressive strength of 2000 psi in accordance with ASTM C140.
- B. Concrete Block-Veneer Units: Comply with referenced standards and as follows:
 1. Size: Standard integrally colored units with nominal face dimensions of 16 x 8 inches and nominal depths as required to match adjacent conditions specific to project location.
 2. Size: Standard integrally colored veneer units with nominal face dimension of 16 x 8 inches and a nominal depth of 3 5/8 inches plus irregular textured face to match adjacent conditions specific to project location.
 3. Non-Load-Bearing Units: ASTM C 129, normal weight.
 - a. Solid block units for veneer application.
 - b. Integral Colorants: Natural and synthetic oxides, inert and non-fading.
 - c. Aggregates conforming to ASTM C-33 or ASTM C331.
 - d. Integral Water Repellent: Integral throughout block units; added during manufacture.
 - e. Exposed faces: Selected from the manufacturer's full color and texture range to match adjacent conditions specific to project location.

2.02 BRICK UNITS

- A. Manufacturers:
 1. Boral Bricks, Inc: www.boralbricks.com.
 2. Endicott Clay Products Co: www.endicott.com.
 3. General Shale Brick: www.generalshale.com.
 4. Acme Brick: www.brick.com.
 5. Elgin-Butler Brick Company: www.elginbutler.com.
 6. Other manufacturers to match existing/adjacent conditions as approved by City of Fort Lauderdale, and, when applicable, Architect, on a site specific basis.
- B. Facing Brick: ASTM C 212, Type FBS, Grade MW.
 1. Color and texture: selected to match existing/adjacent conditions as approved by City of Fort Lauderdale, and, when applicable, Architect.
 2. Nominal size:
 - a. Standard modular brick: 2 2/3" high by 7 5/8" long by 3 5/8" deep
 - b. King size brick: 2 3/4" high by 9 5/8" long by 3 5/8" deep
 3. Special shapes: Molded units as required to match adjacent conditions, unless standard units can be sawn to produce equivalent effect.
 4. Compressive strength: measured in accordance with ASTM C 67.
- C. Building (Common) Brick: ASTM C 62, Grade SW; solid units.
 1. Nominal size: to match existing /adjacent conditions as approved by City of Fort Lauderdale, and, when applicable, Architect.
- D. Hollow Facing and Building Brick: ASTM C 652, Grade SW; Type HBS; Class H40V.
 1. Color and texture: selected to match existing/adjacent conditions as approved by City of Fort Lauderdale, and, when applicable, Architect.
 2. Nominal size: to match existing/adjacent conditions as approved by City of Fort Lauderdale, and, when

- E. Ceramic Glazed Face Brick: ASTM C 126, Grade S (Select), Type I (single-faced units).
1. Color and texture: selected to match existing/adjacent conditions as approved by City of Fort Lauderdale, and, when applicable, Architect.
 2. Nominal size: selected to match existing/adjacent conditions as approved by City of Fort Lauderdale, and, when applicable, Architect.
 3. Special shapes: Molded units as required by conditions indicated, unless standard units can be sawn without chipping glaze to produce equivalent effect.
- F. Glazed Facing Brick: ASTM C 126, Grade S or SS, Type 1 & 2 and ASTM CC 652.94, Grade SW for durability.
1. Color and texture: selected to match existing/adjacent conditions as approved by City of Fort Lauderdale, and, when applicable, Architect.
 2. Nominal size: selected to match existing/adjacent conditions as approved by City of Fort Lauderdale, and, when applicable, Architect.
 3. Special shapes: Molded units as required by conditions indicated, unless standard units can be sawn to produce equivalent effect.

2.03 CLAY TILE UNITS

- A. Ceramic Glazed Structural Clay Facing Tile: ASTM C 126; Grade S (Select); Type I (single-faced units) and Type II (double faced units) as required to match existing/adjacent conditions.
1. Color and texture: selected to match existing/adjacent conditions as approved by City of Fort Lauderdale, and, when applicable, Architect.
 2. Size: 6T or 6P Series, selected to match existing/adjacent conditions as approved by City of Fort Lauderdale, and, when applicable, Architect. Provide in thickness to match wall condition.
 3. Special shapes: Molded units as required by conditions indicated, unless standard units can be sawn without chipping to produce equivalent effect.

2.04 MORTAR AND GROUT - AS SPECIFIED IN SECTION 04065

2.05 REINFORCEMENT AND ANCHORAGE - AS SPECIFIED IN SECTION 04080

2.06 FLASHINGS - AS SPECIFIED IN SECTION 07650

2.07 VENEER CAVITY INSULATION - AS SPECIFIED IN SECTION 07212

2.08 ACCESSORIES

- A. Preformed Control Joints: Neoprene material. Provide with corner and tee accessories, fused joints.
1. Manufacturers:
 - a. Dur-O-Wal: www.dur-o-wal.com.
 - b. Hohmann & Barnard, Inc: www.h-b.com.
 - c. Masonry Reinforcing Corporation of America: www.wirebond.com.
 - d. Other manufacturers to match existing/adjacent conditions as approved by City of Fort Lauderdale, and, when applicable, Architect, on a site specific basis.
- B. Joint Filler: Closed cell polyvinyl chloride; oversized 50 percent to joint width; self expanding; 3/4 inch wide x by maximum lengths available.
1. Manufacturers:
 - a. Dur-O-Wal: www.dur-o-wal.com.
 - b. Hohmann & Barnard, Inc: www.h-b.com.
 - c. Masonry Reinforcing Corporation of America: www.wirebond.com.
 - d. Other manufacturers to match existing/adjacent conditions as approved by City of Fort Lauderdale, and, when applicable, Architect, on a site specific basis.
- C. Weep/Cavity Vents: Preformed aluminum vents with sloping louvers.
1. Painted aluminum louver type weeps that direct passage of water from cavity to outside of building. Unit to be equivalent to Hohman & Benard "343-Wilko Weep Hole".
 2. Other manufacturers to match existing/adjacent conditions as approved by City of Fort Lauderdale, and, when applicable, Architect, on a site specific basis.
- D. Cavity Mortar Diverter: .
1. Semi-rigid polyethylene or polyester mesh blocks, sized to fill bottom of wall cavity and suspend mortar droppings above weep/cavity vents to allow cavity drainage.
 2. OPTIONAL: Clean washed, graded 3/8" diameter pea gravel.
- E. Cleaning Solution: Sure Klean 600, as manufactured by ProSoCo Inc.

2.09 FOAMED-IN BLOCK CELL INSULATION - AS SPECIFIED IN SECTION 07214**2.10 WATER REPELLENT SURFACE APPLIED COATING:**

- A. Water Repellant: Clear, non-yellowing sprayed on penetrating coating; Prosoco, www.prosoco.com, "Prime-A-Pell 220" or approved equivalent acceptable to the brick and block manufacturer.

PART 3 EXECUTION**3.01 EXAMINATION**

- A. Verify that field conditions are acceptable and are ready to receive masonry.
- B. Verify that related items provided under other sections are properly sized and located.
- C. Verify that built-in items are in proper location, and ready for roughing into masonry work.

3.02 COURSING

- A. Establish lines, levels, and coursing indicated. Protect from displacement.
- B. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.
- C. Concrete Masonry Units:
1. Bond: to match existing/adjacent work in place.
 2. Coursing: One unit and one mortar joint to equal 8 inches.
 3. Mortar Joints: to match existing/adjacent work in place.
- D. Brick Units - Modular:
1. Bond: to match existing/adjacent work in place.
 2. Sills, headers, soldiers, and other detailing to match existing/adjacent work in place.
 3. Coursing: Three units and three mortar joints to equal 8 inches.
 4. Mortar Joints: to match existing/adjacent work in place.

3.03 INSTALLATION - PLACING AND BONDING

- A. Placing Units:
1. Do not install cracked, broken, or chipped units exceeding ASTM allowances. Use motor driven masonry saws with diamond or abrasive blades to cut and fit units.
 2. Lay units plumb, true to line, in bond to match existing/adjacent work in place, with level courses accurately spaced to specified tolerances.
 3. Lay units in full, unfurrowed bed of mortar, properly jointed with other work. Buttering of corners or joints, and furrowing of mortar joints is not permitted.
 4. Cut and fit units as required to accommodate pipes, sleeves, grounds, and other penetrating or embedded items. Fill voids solid with mortar.
 5. Provide uniform head and bed $3/8"$ joints tooled to match existing/adjacent work in place.
 6. Place units in final position while mortar is soft and plastic. If units are displaced after initial set, remove, clean off mortar, and lay again with new mortar.
 7. Exercise care to keep cavities free from mortar droppings. Utilize practice per BIA Technical Bulletin # 17C, describing beveling of mortar bed. Purge mortar fins in lieu of striking off, as work progresses.
 8. Interlock intersections and external corners.
 9. Do not shift or tap masonry units after mortar has achieved initial set. Where adjustment must be made, remove mortar and replace.
- B. Remove excess mortar as work progresses.
- C. Perform job site cutting of masonry units with proper tools to provide straight, clean, unchipped edges. Prevent broken masonry unit corners or edges.
- D. Isolate top joint of masonry veneer from horizontal structural framing members or support angles with compressible joint filler.
- E. Installing Reinforcement and Ties - Refer Section 04080.

3.04 WEEPS/CAVITY VENTS

- A. Install weeps in veneer and cavity walls at 24 inches on center horizontally above through-wall flashing.

3.05 CAVITY MORTAR CONTROL

- A. Do not permit mortar to drop or accumulate into cavity air space or to plug weep/cavity vents.

- B. Install cavity mortar diverter at base of cavity and at other flashing locations as recommended by manufacturer to prevent mortar droppings from blocking weep/cavity vents.
- C. OPTIONAL: Provide a 3-inch deep continuous pea gravel bed at the base of the masonry cavity to prevent mortar droppings from blocking weep/cavity vents

3.06 REINFORCEMENT AND ANCHORAGE - GENERAL

- A. Refer Section 04080 for product requirements and manufacturers.
- B. Install horizontal joint reinforcement 16 inches on center.
- C. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches each side of opening.
- D. Place continuous joint reinforcement in first and second joint below top of walls.
- E. Lap joint reinforcement ends minimum 6 inches.
- F. Coordinate installation of joint reinforcement and veneer anchorage with material and installation requirements for rigid board insulation (specified in Section 07212) and foamed in place insulation at CMU cores (specified in Section 07214)

3.07 REINFORCEMENT AND ANCHORAGE - SINGLE WYTHE MASONRY

- A. Install horizontal joint reinforcement 8 inches on center.
- B. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches each side of opening.
- C. Place continuous joint reinforcement in first and second joint below top of walls.
- D. Lap joint reinforcement ends minimum 6 inches.

3.08 REINFORCEMENT AND ANCHORAGE - MASONRY VENEER

- A. Install horizontal joint reinforcement 16 inches on center.
- B. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches each side of opening.
- C. Place continuous joint reinforcement in first and second joint below top of walls.
- D. Lap joint reinforcement ends minimum 6 inches.
- E. Masonry Back-Up: Embed anchors to bond veneer at maximum 16 inches on center vertically and 36 inches on center horizontally. Place additional anchors at perimeter of openings and ends of panels, so maximum spacing of anchors is 8 inches on center.
- F. Stud Back-Up: Secure veneer anchors to stud framed back-up and embed into masonry veneer at maximum 16 inches on center vertically and 24 inches on center horizontally. Place additional anchors at perimeter of openings and ends of panels, so maximum spacing of anchors is 8 inches on center.

3.09 MASONRY FLASHINGS

- A. Concealed Flashings: Refer to Section 07650 for product, manufacturer, and additional execution requirements.
- B. Install masonry flashing to divert water to exterior at all locations where downward flow of water will be interrupted.
 - 1. Extend flashings full width at such interruptions and at least 4 inches into adjacent masonry or turn up at least 4 inches to form watertight pan at non-masonry construction.
 - 2. Remove or cover protrusions or sharp edges that could puncture other flashings.
- C. Extend metal flashings to within 1/4 inch of exterior face of masonry.
- D. Extend plastic and laminated flashings to within 1/4 inch of exterior face of masonry.

3.10 LINTELS

- A. Install loose steel lintels over all brick veneer openings.
- B. Refer to the loose steel lintel schedule at the end of this section.
 - 1. Do not splice reinforcing bars.
 - 2. Place and consolidate grout fill without displacing reinforcing.

- 3. Allow masonry lintels to attain specified strength before removing temporary supports.

C. Maintain minimum 8 inch bearing on each side of opening.

3.11 CONTROL AND EXPANSION JOINTS

- A. Do not continue horizontal joint reinforcement through control and expansion joints.
- B. Install preformed control joint device in continuous lengths. Seal butt and corner joints in accordance with manufacturer's instructions.
- C. Size control joint in accordance with Section 07900 for sealant performance.
- D. Provide expansion joints in all masonry walls (brick, CMU and SGFT) to the following requirements:
 - 1. Provide masonry expansion and control joints as shown on the plans; but in any case, the maximum distance between joints shall be 25'-0" in any direction.
 - 2. Building related masonry accessory items as the masonry work progresses.
 - 3. Where lintels span across expansion joints, provide bond breaker under lintel to allow the lintel to move laterally under stress.
 - 4. Fill expansion and control joints with backer rod and sealant.

3.12 BUILT-IN WORK

- A. As work progresses, install built-in metal door frames and other items to be built into the work and furnished under other sections.
- B. Install built-in items plumb, level, and true to line.
- C. Bed anchors of metal door and glazed frames in adjacent mortar joints. Fill frame voids solid with grout.
 - 1. Fill adjacent masonry cores with grout minimum 12 inches from framed openings.
- D. Do not build into masonry construction organic materials that are subject to deterioration.

3.13 TOLERANCES

- A. Maximum Variation from Alignment of Columns: 1/4 inch.
- B. Maximum Variation from Unit to Adjacent Unit: 1/16 inch.
- C. Maximum Variation from Plane of Wall: 1/4 inch in 10 ft and 1/2 inch in 20 ft or more.
- D. Maximum Variation from Plumb: 1/4 inch per story non-cumulative; 1/2 inch in two stories or more.
- E. Maximum Variation from Level Coursing: 1/8 inch in 3 ft and 1/4 inch in 10 ft; 1/2 inch in 30 ft.
- F. Maximum Variation of Joint Thickness: 1/8 inch in 3 ft.
- G. Maximum Variation from Cross Sectional Thickness of Walls: 1/4 inch.

3.14 CUTTING AND FITTING

- A. Cut and fit for chases. Coordinate with other sections of work to provide correct size, shape, and location.
- B. Obtain approval prior to cutting or fitting masonry work not indicated or where appearance or strength of masonry work may be impaired.

3.15 CLEANING

- A. Remove excess mortar and mortar droppings.
- B. Clean soiled surfaces with cleaning solution as recommended by masonry manufacturer.
- C. Use non-metallic tools in cleaning operations.

3.16 PROTECTION OF FINISHED WORK

- A. Without damaging completed work, provide protective boards at exposed external corners which are subject to damage by construction activities.

3.17 SCHEDULES

A. LOOSE LINTEL SCHEDULE

Masonry Opening	Lintel Size	Max. Ht. of Brick

4'-0" or Less	L3 1/2 x 3 1/2 X 1/4	5'-4"
4'-0" or Less	L6 x 3 1/2 X 3/8 LLV	20'-0"
4'-1" - 5'-0"	L4 x 3 1/2 X 1/4 LLV	4'-0"
5'-1" - 5'-4"	L5 x 3 1/2 X 5/16 LLV	5'-8"
5'-5" - 6'-4"	L6 x 3 1/2 X 5/16 LLV	5'-8"

B. NOTES for Loose Lintel Schedule:

1. Refer Section 05500 for material and fabrication specifications.
2. Lintels shall be hot dip galvanized.
3. If a vertical control joint or the end of a wall occurs at either side of the opening (or within 36 inches of the opening); masonry above the lintel is limited to the maximum heights listed.
4. Notify City if conditions exist that do not comply with this schedule.

END OF SECTION

SECTION 04900

MASONRY RESTORATION AND CLEANING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Survey and verification of surface and selection of products.
- B. Cleaning of existing brick, glazed ceramic surfaces, polished and unpolished stone, and mortar and grout joints.
- C. Cleaning of new brick, glazed ceramic surfaces, polished and unpolished stone, mortar and grout joints.
- D. Water repellent applications.
- E. Re-pointing mortar joints in existing masonry.

1.02 RELATED SECTIONS

- A. Section 04065 - Mortar and Grout - Pointing Mortar.
- B. Section 04810 - Unit Masonry Assemblies.

1.03 REFERENCES

- A. ASTM D 3960 - Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings; 2005.
- B. ASTM D 5095 - Standard Test Method for Determination of the Nonvolatile Content in Silanes, Siloxanes, and Silane-Siloxane Blends Used in Masonry Water Repellent Treatments; 1991 (Re-approved 2002).

1.04 SUBMITTALS

- A. Provide product data to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect:
 1. Product Data: Manufacturer's printed literature for each product, including test data indicating compliance with requirements, and installation instructions.

1.05 QUALITY ASSURANCE

- A. Test Panels: Before full-scale application, test products to be used on test panels.
 1. Review manufacturer's product data sheets to determine suitability of each product for each surface.
 2. Apply products using manufacturer-approved application methods, determining actual requirements for application.
 3. After 48 hours, review effectiveness of cleaning or treatment, compatibility with substrates, and ability to achieve desired results.
 4. Obtain approval of City and, when applicable, Consultant, of workmanship, color, and texture before proceeding with work.
 5. Test Panels: Inconspicuous sections of actual construction.
 - a. Location and number as selected by City and, when applicable, Consultant
 - b. Size: 4 feet by 4 feet.

1.06 PRE INSTALLATION MEETING

- A. Conduct a pre-installation meeting when directed by the City. Convene two weeks before starting work of this section. Review project conditions, protection requirements, manufacturer's installation instructions, and manufacturer's warranty requirements.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products in time to avoid construction delays.
- B. Deliver and store products in manufacturer's original packaging with identification labels intact.
- C. Store products protected from weather and at temperature and humidity conditions recommended by manufacturer.

1.08 PROJECT CONDITIONS

- A. Do not apply products under conditions outside manufacturer's requirements, which include:
 - 1. Surfaces that are frozen; allow complete thawing prior to installation.
 - 2. Surface and air temperatures below 40 degrees F.
 - 3. Surface and air temperatures above 95 degrees F.
 - 4. When surface or air temperature is not expected to remain above 40 degrees F for at least 8 hours after application.
 - 5. Wind conditions that may blow materials onto surfaces not intended to be treated.
 - 6. Less than 24 hours after a rain.
 - 7. When rain is expected less than 6 hours after installation.

1.09 WARRANTY

- A. Refer General and Special Conditions for general and additional Warranty requirements.
- B. Provide manufacturer's standard warranty for not less than three years, commencing on Date of Substantial Completion.

PART 2 PRODUCTS

2.01 POINTING MORTAR IS SPECIFIED IN SECTION 04065

2.02 CLEANING AND RESTORATION PRODUCTS

- A. Contractor shall review the existing and new materials of the building(s) and shall recommend the most appropriate cleaner and sealer for each of the masonry materials.
- B. The products listed below were selected to provide cleanability of the materials without detrimental effects to the surfaces. Actual products used shall be evaluated for appropriate use on the materials in place to insure that no harm or deterioration will occur to the masonry materials.

2.03 CLEANING AND RESTORATION PRODUCTS MANUFACTURERS

- A. Acceptable Manufacturer/Basis of Design: Prosoco, Inc; www.prosoco.com.
- B. Substitutions: Refer General and Special Conditions for substitution requirements.

2.04 RESTORATION CLEANERS

- A. Cleaner for Removing Light to Moderate Atmospheric Staining from Dense Masonry: Prosoco Light Duty Restoration cleaner; clear, gelled liquid, with the following characteristics:
 - 1. pH: 1.6.
 - 2. Specific Gravity: 1.124.
 - 3. Flash Point: None.
 - 4. Weight: 9.34 lb/gal.
- B. Cleaner for Removing Moderate to Heavy Atmospheric Staining from Dense Masonry: Prosoco Restoration Cleaner/Heavy Duty Restoration Cleaner; clear liquid, prepared at 1:5 dilution, with following characteristics:
 - 1. pH: 3.0.
 - 2. Specific Gravity: 1.050.
 - 3. Flash Point: None.
 - 4. Weight: 8.75 lb/gal.
- C. Cleaner for Removing Asphalt, Tar, Grease, and Oil: Prosoco Asphalt & Tar Remover; clear liquid, with following

characteristics:

1. Specific Gravity: 0.961.
2. Flash Point: 79 degrees F (26 degrees C).

D. Cleaner for Removing Mold, Mildew, and Atmosphere Stains: Prosoco BioKlean(tm) Kit; three-component, with following characteristics:

1. Cleaner: White powder.
 - a. pH: 11.78, in solution.
 - b. Specific Gravity: 1.060.
 - c. Flash Point: None.
 - d. Density: 8.81 lb/cu ft.
2. Activator: Clear liquid.
 - a. pH: 14.0.
 - b. Specific Gravity: 1.584.
 - c. Flash Point: None.
 - d. Density: 7.45 lb/cu ft.
3. Afterwash: Tan powder.
 - a. pH: 1.65, in solution.
 - b. Specific Gravity: 0.896.
 - c. Flash Point: None.
 - d. Density: 7.45 lb/cu ft.

E. Cleaner for Polished Stone and Glazed Ceramic Surfaces: Prosoco Liquid Marble Cleaner; non-acidic blue-colored gel, with following characteristics:

1. pH: 9.7.
2. Specific Gravity: 1.117.
3. Flash Point: None.
4. Freeze Point: 28 degrees F.
5. Weight: 9.32 lb/gal.

F. Cleaner for Unpolished Stone and Masonry: Prosoco 1026 Masonry Cleaner; non-acidic translucent gel, with following characteristics:

1. pH: 10.6.
2. Specific Gravity: 1.129.
3. Flash Point: None.
4. Freeze Point: 29 degrees F.
5. Weight: 9.39 lb/gal.

G. Cleaner for Unpolished Stone, Masonry, and Grout Joints: Prosoco 1028 Interior Restoration Cleaner; clear liquid, with following characteristics:

1. pH: 1.6.
2. Specific Gravity: 1.020.
3. Flash Point: None.
4. Freeze Point: 5 degrees F.
5. Weight: 8.49 lb/gal.

2.05 PAINT, COATING, AND GRAFFITI REMOVERS

A. Stripper for Removing Multiple Layers of Coatings: Prosoco Heavy Duty Stripper; light brown gel, with following characteristics:

1. pH: 14.
2. Specific Gravity: 1.27.
3. Flash Point: Greater than 175 degrees F.
4. Weight: 10.6 lb/gal.

B. Stripper for Removing Clear Coatings, Wax Build-Up, Urethanes, Enamels, and Graffiti: Prosoco Fast Acting Stripper; clear gel, with following characteristics:

1. pH: N/A.
2. Specific Gravity: 1.20.
3. Flash Point: None.
4. Weight: 10.0 lb/gal.

C. Stripper for Removing Lead-Based Paint and Other Coatings: Prosoco Enviro(tm) Strip No.2; beige alkaline paste, with following characteristics:

1. pH: 14.
2. Specific Gravity: 1.247.

3. Flash Point: None.
4. Weight: 10.3 lb/gal.

- D. Stripper for Removing Silicone Water Repellents, Sealants, and Adhesive Residue: Prosoco Dicone NC9; brown liquid, with following characteristics:
1. pH: Less than 2 (anhydrous concentrate).
 2. Specific Gravity: 0.823.
 3. Flash Point (T.O.C.): 180 degrees F.
 4. Weight: 6.85 lb/gal.

2.06 WATER REPELLENTS AND CONSOLIDATION TREATMENTS

- A. Water Repellent: Prosoco Weather Seal Siloxane; clear penetrating liquid oligomeric siloxane (active substance), with 5.8 percent active substance and the following characteristics:
1. VOC Content: Less than 760 g/L.
 2. Flash Point: 108 degrees F.
 3. Specific Gravity: 0.793.
 4. Weight: 6.6 lb/gal.
- B. Water Repellent: Prosoco Weather Seal Siloxane PD; white milky penetrating liquid emulsion of silanes and oligomeric alkyl alkoxy siloxanes (active substance), with 7 percent solids and the following characteristics:
1. VOC Content: Less than 200 g/L, when tested in accordance with ASTM D 3960.
 2. Specific Gravity: 1.0.
 3. Flash Point: Greater than 200 degrees F.

2.07 NEW CONSTRUCTION CLEANERS

- A. Cleaner for Removing Nonmetallic Stains from Dark Colored Brick, Mortar, and Concrete: Prosoco 101 Lime Solvent; clear brown liquid prepared at 1:9 dilution, with following characteristics:
1. pH: 0.14.
 2. Specific Gravity: 1.121.
 3. Freeze Point: Minus 40 degrees F.
 4. Weight: 9.33 lb/gal.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrates are acceptable for product installation; do not begin until substrates meet manufacturer's requirements. Provide survey and analysis of exterior materials to be cleaned and treated with a recommendation to the City and, when applicable, Consultant, of the most appropriate products.
- B. Do not begin until test panels have been approved by City and, when applicable, Consultant.

3.02 PREPARATION

- A. Protect surrounding elements from damage due to restoration procedures.
- B. Carefully remove and store removable items located in areas to be restored, including fixtures, fittings, finish hardware, and accessories; reinstall upon completion.
- C. Separate areas to be protected from restoration areas using means adequate to prevent damage.
- D. Cover existing landscaping with tarpaulins or similar covers.
- E. Mask immediately adjacent surfaces with material that will withstand cleaning and restoration procedures.
- F. Close off adjacent occupied areas with dust proof and weatherproof partitions.
- G. Protect roof membrane and flashings from damage with 1/2 inch plywood laid on roof surfaces over full extent of work area and traffic route.
- H. When using cleaning methods that involve water or other liquids, install drainage devices to prevent runoff over adjacent surfaces unless those surfaces are impervious to damage from runoff.

3.03 REPOINTING

- A. Perform repointing work prior to masonry cleaning
- B. Cut out loose or disintegrated mortar in joints to minimum 1/2 inch depth or until sound mortar is reached.
- C. Use power tools only after test cuts determine no damage to masonry units will result.
- D. Do not damage masonry units.

- E. When cutting is complete, remove dust and loose material by brushing.
- F. Premoisten joint and apply mortar. Pack tightly in maximum 1/4 inch layers. Form a smooth, compact concave joint to match existing.
- G. Moist cure for 72 hours.

3.04 CLEANING EXISTING MASONRY

- A. Clean all exposed surfaces of masonry using materials specified, so that resulting surfaces have a uniform appearance.
- B. When cleaning stains and tough dirt, test masonry for composition and select appropriate cleaner in accordance with manufacturer's instructions and recommendations; use cleaner and cleaning methods selected to minimize damage to surfaces and deterioration of appearance.

3.05 CLEANING NEW MASONRY

- A. Clean all exposed surfaces of new masonry of excess mortar, efflorescence, stains, and job dirt, using materials specified.
- B. Clean from top down; prevent cleaning materials and rinse water from contacting non- cementitious materials.
- C. Clean in accordance with manufacturer's instructions and recommendations, product data, and container label instructions.
- D. Mix materials in strict accordance with manufacturer's instructions; do not dilute unless permitted by manufacturer.
- E. Prevent overspray, wind drift, and splash onto surfaces not to be treated.

3.06 WATER REPELLENTS AND CONSOLIDATION TREATMENTS

- A. Install in accordance with manufacturer's instructions and recommendations, product data, and container label instructions.
- B. Mix materials in strict accordance with manufacturer's instructions; do not dilute unless permitted by manufacturer.
- C. Prevent overspray, wind drift, and splash onto surfaces not to be treated.
- D. Provide the services of the manufacturer's authorized field representative to verify that installed products comply with manufacturer's requirements and with the standard established by the approved test panels.

3.07 CLEANING AND PROTECTION

- A. At completion of work, remove protective coverings.
- B. If surfaces that should have been protected from damage by this work have been damaged, clean, repair or replace to the satisfaction of the City and, when applicable, Consultant
- C. Repair or replace damaged treated surfaces.
- D. Protect completed work from damage during construction.

END OF SECTION**SECTION 05120****STRUCTURAL STEEL****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Structural steel framing members, support members, sag rods, and struts.
- B. Base plates.
- C. Grouting under base plates.

1.02 RELATED SECTIONS

- A. Section 05210 - Steel Joists.
- B. Section 05310 - Steel Deck.
- C. Section 05500 - Metal Fabrications.

1.03 REFERENCES

- A. AISC (MAN) - Steel Construction Manual; American Institute of Steel Construction, Inc.; 2005.
- B. AISC S303 - Code of Standard Practice for Steel Buildings and Bridges; American Institute of Steel Construction, Inc.; 2005.
- C. AISC S348 - Specification for Structural Joints Using ASTM A325 or A490 Bolts; 2004.
- D. ASTM A 36/A 36M - Standard Specification for Carbon Structural Steel; 2005.
- E. ASTM A 53/A 53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2005.
- F. ASTM A 123/A 123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2002.
- G. ASTM A 153/A 153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2005.
- H. ASTM A 242/A 242M - Standard Specification for High-Strength Low-Alloy Structural Steel; 2004.
- I. ASTM A 307 - Standard Specification for Carbon Steel Bolts and Studs, 60 000 PSI Tensile Strength; 2004.
- J. ASTM A 325 - Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength; 2004b.
- K. ASTM A 325M - Standard Specification for Structural Bolts, Steel, Heat Treated 830 MPa Tensile Strength (Metric); 2005.
- L. ASTM A 449 - Standard Specification for Hex Cap Screws, Bolts and Studs, Steel, Heat Treated, 120/105/90 ksi Minimum Tensile Strength, General Use; 2004b.
- M. ASTM A 490 - Standard Specification for Structural Bolts, Alloy Steel, Heat-Treated, 150 ksi Minimum Tensile

- N. ASTM A 490M - Standard Specification for High-Strength Steel Bolts, Classes 10.9 and 10.9.3, for Structural Steel Joints (Metric); 2004a.
- O. ASTM A 500 - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes; 2003a.
- P. ASTM A 501 - Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing; 2001 (Reapproved 2005).
- Q. ASTM A 514/A 514M - Standard Specification for High-Yield Strength, Quenched and Tempered Alloy Steel Plate, Suitable for Welding; 2005.
- R. ASTM A 529/A 529M - Standard Specification for High-Strength Carbon-Manganese Steel of Structural Quality; 2005.
- S. ASTM A 563 - Standard Specification for Carbon and Alloy Steel Nuts; 2004a.
- T. ASTM A 563M - Standard Specification for Carbon and Alloy Steel Nuts (Metric); 2004.
- U. ASTM A 572/A 572M - Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel; 2006.
- V. ASTM A 588/A 588M - Standard Specification for High-Strength Low-Alloy Structural Steel with 50 ksi (345 MPa) Minimum Yield Point with Atmospheric Corrosion Resistance; 2005.
- W. ASTM A 992/A 992M - Standard Specification for Structural Steel Shapes; 2004a.
- X. ASTM A 1008/A 1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength, Low Alloy, and High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardened; 2005b.
- Y. ASTM A 1011/A 1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability; 2005a.
- Z. ASTM C 1107 - Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink); 2005.
- AA. ASTM E 94 - Standard Guide for Radiographic Examination; 2004.
- AB. ASTM E 164 - Standard Practice for Ultrasonic Contact Examination of Weldments; 2003.
- AC. ASTM E 165 - Standard Test Method for Liquid Penetrant Examination; 2002.
- AD. ASTM E 709 - Standard Guide for Magnetic Particle Examination; 2001.
- AE. ASTM F 436 - Standard Specification for Hardened Steel Washers; 2004.
- AF. ASTM F 1554 - Standard Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength; 2004.
- AG. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination; American Welding Society; 1998.
- AH. AWS D1.1/D1.1M - Structural Welding Code - Steel; American Welding Society; 2006.
- AI. RCSC - Specification for Structural Joints Using ASTM A325 or A 490 Bolts.
- AJ. SSPC-Paint 15 - Steel Joist Shop Primer; Society for Protective Coatings; 1999 (Ed. 2004).
- AK. SSPC-Paint 20 - Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic"); Society for Protective Coatings; 2002 (Ed. 2004).
- AL. SSPC-SP 2 - Hand Tool Cleaning.

1.04 SUBMITTALS

- A. Provide product data and Shop Drawings to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect:
 - 1. Shop Drawings:
 - a. Indicate profiles, sizes, spacing, location of structural members, openings, attachments, and fasteners.
 - b. Connections
 - c. Indicate cambers and loads

- d. Indicate welded connections with AWS A2.4 welding symbols. Indicate net weld lengths.
2. Manufacturer's Mill Certificate: Certify that products meet or exceed specified requirements.
3. Welders Certificates: Certify welders employed on the Work, verifying AWS qualification within the previous 12 months.

1.05 QUALITY ASSURANCE

- A. Fabricate structural steel members in accordance with AISC "Steel Construction Manual."
- B. Fabricator: Company specializing in performing the work of this section with minimum ten years of documented experience. Fabricator to participate in AISC Quality Certification Program and to be designated as an AISC Certified Plant, Category Sbd.
- C. Erector: Company specializing in performing the work of this section with minimum five years of documented experience.
- D. When required by 05120.1.04.B, prepare Shop Drawings under direct supervision of a Professional Structural Engineer experienced in the design of this work and licensed in the State of Florida. Provide engineer's signature and seal. Refer 05120.1.06.

1.06 ALLOWANCES

- A. When required and authorized by the City, costs for Engineered Shop Drawings shall be reimbursed from the Professional Services Allowance at the rates proposed on the contractor's Proposal Form. Refer Line Item 5.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Steel Angles and Plates: ASTM A 36/A 36M.
- B. Steel W Shapes and Tees: ASTM A 992/A 992M.
- C. Rolled Steel Structural Shapes: ASTM A 992/A 992M.
- D. Steel Plates and Bars: ASTM A 572/A 572M, Grade 50 (345) high-strength, columbium-vanadium steel.
- E. Cold-Formed Structural Tubing: ASTM A 500, Grade B.
- F. Hot-Formed Structural Tubing: ASTM A 501, seamless or welded.
- G. Steel Plate: ASTM A 514/A 514M.
- H. Steel Sheet: ASTM A 1011/A 1011M, Designation SS, Grade 30 hot-rolled, or ASTM A 1008/A 1008M, Designation SS, Grade 30 cold-rolled.
- I. Pipe: ASTM A 53/A 53M, Grade B, Finish black.
- J. Sag Rods: ASTM A 36/A 36M.
- K. High-Strength Structural Bolts, Nuts, and Washers: ASTM A 325 (ASTM A 325M), Type 1, medium carbon, plain.
- L. High-Strength Structural Bolts: ASTM A 490 (ASTM A 490M), with matching ASTM A 563 (ASTM A 563M) nuts and ASTM F 436 washers; Type 1 alloy steel.
- M. Unheaded Anchor Rods: ASTM F 1554, Grade 36, plain, with matching ASTM A 563 or A 563M nuts and ASTM F 436 Type 1 washers.
- N. Welding Materials: AWS D1.1; type required for materials being welded.
 1. Except as noted in 2.01N.2, field welds and shop welds shall be done with the Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), or the Flux-Cored Arc Welding Processes
 - a. For SMAW: electrodes shall be E70XX conforming to the latest edition of either ANSI/AWS 5.1 or 5.5
 - b. For GMAW: electrodes shall be ER70-SX conforming to the latest edition of ANSI/AWS 5.28. The short circuit transfer method shall not be used.
 - c. For FCAW: electrodes shall be E70T-X conforming to the latest edition of ANSI/AWS 5.29
 2. Welding of full penetration welds shall be by the SMAW Process using electrodes that have a minimum Charpy V-Notch toughness of 20 ft.lbs at -20 degrees Fahrenheit when tested in accordance with ASTM A46.
- O. Grout: Non-shrink, non-metallic aggregate type, complying with ASTM C 1107 and capable of developing a minimum compressive strength of 7,000 psi at 28 days.

- P. Shop and Touch-Up Primer: Fabricator's standard lead and chromate free, non-asphaltic, rust-inhibiting primer, complying with VOC limitations of authorities having jurisdiction.
- Q. Touch-Up Primer for Galvanized Surfaces: Fabricator's standard, complying with VOC limitations of authorities having jurisdiction.

2.02 FABRICATION

- A. Shop fabricate to greatest extent possible.
- B. Continuously seal joined members by continuous welds. Grind exposed welds smooth.
- C. Fabricate connections for bolt, nut, and washer connectors.
- D. Develop required camber for members.

2.03 FINISH

- A. Prepare structural component surfaces in accordance with SSPC SP 2.
- B. Shop prime structural steel members. Do not prime surfaces that will be fireproofed, field welded, in contact with concrete, or high strength bolted.
 - 1. Immediately after surface preparation, apply primer according to manufacturer's written instructions and at rate recommended by SSPC to provide a dry film thickness of not less than 1.5 mils. Use priming methods that result in full coverage of joints, corners, edges, and raked surfaces

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that conditions are appropriate for erection of structural steel and that the work may properly proceed.
- B. Verify elevations of concrete and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedments, with steel erector present.

3.02 ERECTION

- A. Erect structural steel in compliance with AISC "Code of Standard Practice for Steel Buildings and Bridges", and "Specification for Structural Steel Buildings- Allowable Stress Design and Plastic Design".
- B. Allow for erection loads, and provide sufficient temporary bracing to maintain structure in safe condition, plumb, and in true alignment until completion of erection and installation of permanent bracing.
- C. Align and adjust various members forming part of complete frame or structure before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be in permanent contact with members. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.
 - 1. Level and plumb individual members of structure.
 - 2. Make allowances for difference between temperature at time of erection and mean temperature when structure is completed and placed in service.
- D. Do not enlarge unfair holes in members by burning or using drift pins. Ream holes that must be enlarged to admit bolts.
- E. After erection, prime welds, abrasions, and surfaces not shop primed, except surfaces to be in contact with concrete.
- F. Base Plates: Clean concrete and masonry-bearing surfaces of bond-reducing material, and roughen surfaces prior to setting base plates. Clean bottom surface of base plates.
 - 1. Set base plates for structural members on wedges, shims, or setting nuts as required.
 - 2. Weld plate washers to top of base plate.
 - 3. Snug tighten anchor rods after supported members have been positioned and plumbed. Do not remove shims but, if protruding, cut off flush with edge of base plate before packing with grout.
 - 4. Promptly pack grout solidly between bearing surfaces and base plates so no voids remain. Neatly finished exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for shrinkage-resistant grouts.

3.03 FIELD CONNECTIONS

- A. High Strength Bolts: Install high strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A325 or A490 Bolts.
- B. Weld Connections: Comply with AWS D1.1 for welding procedure specifications, tolerances, appearances, and

3.04 ERECTION TOLERANCES

- A. Maintain erection tolerances of structural steel within AISC's "Code of Standard Practice for Steel Buildings and Bridges".

3.05 FIELD QUALITY CONTROL

- A. The City may engage a qualified independent testing and inspecting agency to perform field tests, inspections, and prepare test reports as follows:
 - 1. High-Strength Bolts: Provide testing and verification of shop and field-bolted connections in accordance with AISC "Specification for Structural Joints Using ASTM A325 or A490 Bolts".
 - 2. Welded Connections: Visually inspect all field-welded connections per procedures of AWS D1.1 and test welds using the following at Testing Agency's option:
 - a. Radiographic testing performed in accordance with ASTM E 94.
 - b. Ultrasonic testing performed in accordance with ASTM E 164.
 - c. Liquid penetrant inspection performed in accordance with ASTM E 165.
 - d. Magnetic particle inspection performed in accordance with ASTM E 709
- B. Provide free access to operations at project site and cooperate with appointed firm.

END OF SECTION

STEEL JOISTS**PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Open web steel joists and shear stud connectors, with bridging, attached seats and anchors.
- B. Supplementary framing for floor and roof openings greater than 18 inches.

1.02 RELATED SECTIONS

- A. Section 05120 - Structural Steel.
- B. Section 05310 - Steel Deck: Support framing for openings less than 18 inches in decking.
- C. Section 05500 - Metal Fabrications.

1.03 REFERENCES

- A. AISC S348 - Specification for Structural Joints Using ASTM A325 or A490 Bolts; 2004.
- B. ASTM A 36/A 36M - Standard Specification for Carbon Structural Steel; 2005.
- C. ASTM A 108 - Standard Specification for Steel Bar, Carbon and Alloy, Cold Finished; 2003.
- D. ASTM A 325 - Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength; 2004b.
- E. ASTM A 490 - Standard Specification for Structural Bolts, Alloy Steel, Heat Treated, 150 ksi Minimum Tensile Strength; 2004a.
- F. ASTM E 94 - Standard Guide for Radiographic Examination; 2004.
- G. ASTM E 164 - Standard Practice for Ultrasonic Contact Examination of Weldments; 2003.
- H. ASTM E 165 - Standard Test Method for Liquid Penetrant Examination; 2002.
- I. ASTM E 709 - Standard Guide for Magnetic Particle Examination; 2001.
- J. AWS D1.1/D1.1M - Structural Welding Code - Steel; American Welding Society; 2006.
- K. SJI (SPEC) - Catalog of Standard Specifications and Load Tables for Steel Joists and Joist Girders; Steel Joist Institute; 2005.
- L. SJI Technical Digest No. 9 - Handling and Erection of Steel Joists and Joist Girders; Steel Joist Institute; 2006.
- M. SSPC-Paint 15 - Steel Joist Shop Primer; Society for Protective Coatings; 1999 (Ed. 2004).
- N. SSPC-SP 2 - Hand Tool Cleaning; Society for Protective Coatings; 1982 (Ed. 2004).

1.04 SUBMITTALS

- A. Provide product data and Shop Drawings to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect:
 - 1. Shop Drawings:
 - a. Indicate standard designations, joist coding, configurations, sizes, spacing, locations of joists, joist leg extensions, bridging, connections, and attachments.
 - b. Indicate locations and details of bearing plates to be embedded in other construction.
 - 2. Welders' Certificates: Submit manufacturer's certificates, certifying welders employed on the Work, verifying AWS qualification within the previous 12 months.

1.05 QUALITY ASSURANCE

- A. When required by 05210.1.04.B, prepare Shop Drawings under direct supervision of a Professional Structural Engineer experienced in the design of this work and licensed in the State of Florida. Provide engineer's signature and seal. Refer 05210.1.06.
- B. For work not under the purview of an Engineer or Architect, or when Shop Drawings are not otherwise required by regulatory authorities for permitting, the manufacturer/fabricator shall provide design for all joists, joist connections, and perform comprehensive engineering analysis of special joists under direct supervision of a

- C. Perform work, including that for headers and other supplementary framing, in accordance with SJI Standard Specifications Load Tables and SJI Technical Digest No.9.
- D. Manufacturer Qualifications: Company specializing in performing the work of this section with minimum ten years documented experience. Manufacturer to be certified by SJI as capable of manufacturing joists complying with applicable standard specifications and load tables of SJI Specifications.
- E. Erector Qualifications: Company specializing in performing the work of this section with minimum five years documented experience.

1.06 ALLOWANCES

- A. When required and authorized by the City, costs for Engineered Shop Drawings shall be reimbursed from the Professional Services Allowance at the rates proposed on the contractor's Proposal Form. Refer Line Item 5.

1.07 DELIVERY, STORAGE, AND PROTECTION

- A. Transport, handle, store, and protect products to SJI requirements.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Steel Joists:
 1. Canam Steel: www.canam.ws.
 2. CMC Joist: www.cmcjoist.com.
 3. Vulcraft/Nucor Corporation: www.vulcraft.com.
 4. Substitutions: Refer General and Special Conditions for substitution requirements

2.02 MATERIALS

- A. Open Web Joists: SJI Type K Joists:
 1. End bearing of 2-1/2 inches on steel supports.
 2. End bearing of 4 inches on masonry supports.
 3. Finish: Shop primed.
- B. Open Web Joists: SJI Type LH Joists:
 1. End bearing of 2-1/2 inches on steel supports.
 2. End bearing of 4 inches on masonry supports.
 3. Finish: Shop primed.
- C. Open Web Joists: SJI Type DLH Joists:
 1. End bearing of 2-1/2 inches on steel supports.
 2. End bearing of 4 inches on masonry supports.
 3. Finish: Shop primed.
- D. Open Web Joists: SJI Joist Girders:
 1. End bearing of 2-1/2 inches on steel supports.
 2. End bearing of 4 inches on masonry supports.
 3. Finish: Shop primed.
- E. Anchor Bolts, Nuts and Washers: ASTM A 307, hot-dip galvanized per ASTM A 153/A 153M, Class C.
- F. Shear Stud Connectors: Made from ASTM A 108 Grade 1015 bars.
- G. Structural Steel for Supplementary Framing and Joist Leg Extensions: ASTM A 36/A 36M.
 1. Bridging: Provide bridging anchors and number of rows of horizontal bridging material in size and type as indicated by SJI's Specifications for type of joist, chord size, spacing, and span. Provide additional erection bridging if required for stability.
 2. Top Chord Extensions: Provide SJI Type S top chord extensions as required by specific project.
 3. Bottom Chord Extensions: Provide SJI Type R bottom chord extensions as required by specific project.
 4. Provide miscellaneous accessories including splice plates and bolts required by manufacturer to complete installation.
- H. Welding Materials: AWS D1.1; type required for materials being welded.
- I. Shop and Touch-Up Primer: SSPC-Paint 15, complying with VOC limitations of authorities having jurisdiction.

2.03 FABRICATION

- A. Drill holes in chords for connecting and securing other construction to joists.
- B. Frame special sized openings in joist web framing as required by specific project.
- C. Space stud shear connectors on top of top chords as shown on engineered Shop Drawings.

2.04 FINISH

- A. Prepare surfaces to be finished in accordance with SSPC-SP 2.
- B. Shop prime joists. Do not prime surfaces that will be fireproofed
 - 1. Immediately after surface preparation, apply primer according to manufacturer's written installation instructions and at rate recommended by SSPC to provide a dry film thickness of not less than 1.0 mils. Use priming methods that will result in full coverage of edges and surfaces.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions prior to beginning work.

3.02 ERECTION

- A. Erect joists with correct bearing on supports.
- B. Allow for erection loads. Provide sufficient temporary bracing to maintain framing safe, plumb, and in true alignment.
- C. After joist alignment and installation of framing, field weld joist seats to bearing plates.
- D. Install supplementary framing for floor and roof openings greater than 18 inches.
- E. Do not permit erection of decking until joists are braced bridged, and secured or until completion of erection and installation of permanent bridging and bracing.
- F. Do not field cut or alter structural members without approval of joist manufacturer.
- G. After erection, prime welds, damaged shop primer, and surfaces not shop primed, except surfaces specified not to be primed.

3.03 FIELD QUALITY CONTROL

- A. The City may engage a qualified independent testing and inspecting agency to perform field tests, inspections, and prepare test reports as follows:
 - 1. High-Strength Bolts: Provide testing and verification of shop and field-bolted connections in accordance with AISC "Specification for Structural Joints Using ASTM A325 or A490 Bolts".
 - 2. Welded Connections: Visually inspect all field-welded connections per procedures of AWS D1.1 and test welds using the following at Testing Agency's option:
 - a. Radiographic testing performed in accordance with ASTM E 94.
 - b. Ultrasonic testing performed in accordance with ASTM E 164.
 - c. Liquid penetrant inspection performed in accordance with ASTM E 165.
 - d. Magnetic particle inspection performed in accordance with ASTM E 709
- B. Provide free access to operations at project site and cooperate with appointed firm

END OF SECTION

SECTION 05310**STEEL DECK****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Roof deck.
- B. Composite floor deck.
- C. Metal form deck.
- D. Supplementary framing for openings up to and including 18 inches.
- E. Stud shear connectors.

1.02 RELATED SECTIONS

- A. Section 03300 - Cast-in-Place Concrete: Concrete topping over metal deck.
- B. Section 05120 - Structural Steel: Support framing for openings larger than 18 inches.
- C. Section 05210 - Steel Joists: Support framing for openings larger than 18 inches.
- D. Section 05500 - Metal Fabrications: Steel angle concrete stops at deck edges and miscellaneous items bearing on or connected to deck.

1.03 REFERENCES

- A. ASTM A 36/A 36M - Standard Specification for Carbon Structural Steel; 2005.
- B. ASTM A 108 - Standard Specification for Steel Bar, Carbon and Alloy, Cold-Finished; 2003.
- C. ASTM A 123/A 123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2002.
- D. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2005a.
- E. ASTM A 1008/A 1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength, Low Alloy, and High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardened; 2005b
- F. AWS D1.1/D1.1M - Structural Welding Code - Steel; American Welding Society; 2006.
- G. AWS D1.3 - Structural Welding Code - Sheet Steel; American Welding Society; 1998.
- H. SDI (DM) - Publication No.30, Design Manual for Composite Decks, Form Decks, Roof Decks; Steel Deck Institute; 2001.
- I. SSPC-Paint 15 - Steel Joist Shop Primer; The Society for Protective Coatings; 1999 (Ed. 2004).
- J. SSPC-Paint 20 - Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic"); The Society for Protective Coatings; 2002 (Ed. 2004).
- K. SSPC-Paint 25 - Zinc Oxide, Alkyd, Linseed Oil Primer for Use Over Hand Cleaned Steel, Type I and Type II; Society for Protective Coatings; 1997 (Ed. 2004).

1.04 PERFORMANCE REQUIREMENTS

- A. Select and design metal deck in accordance with SDI Design Manual.
- B. Maximum Vertical Deflection of Floor Deck: 1/360.
- C. Maximum Vertical Deflection of Roof Deck: 1/240.
- D. Maximum Lateral Deflection of Diaphragms: 1/500 of the height of the wall.

1.05 SUBMITTALS

- A. Provide product data and Shop Drawings to regulatory authorities as may be required for permits.

B. For work performed under purview of Engineer or Architect:

1. Shop Drawings: Indicate deck plan, support locations, projections, openings, reinforcement, cellular raceways and outlet box locations, pertinent details, and accessories.
2. Product Data: Provide deck profile characteristics, dimensions, structural properties, and finishes.
3. Certificates: Certify that meet or exceed specified requirements.
4. Submit manufacturer's installation instructions.
5. Welders Certificates: Certify welders employed on the Work, verifying AWS qualification within the previous 12 months.

1.06 QUALITY ASSURANCE

- A. When required by 05310.1.05.B, prepare Shop Drawings under direct supervision of a Professional Structural Engineer experienced in the design of this work and licensed in the State of Florida. Provide engineer's signature and seal. Refer 05310.1.07.
- B. For work not under the purview of an Engineer or Architect, or when Shop Drawings are not otherwise required by regulatory authorities for permitting, the manufacturer/fabricator shall provide design of deck layout, spans, fastening, and joints under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State of Florida.
- C. Installer Qualifications: Company specializing in performing the work of this Section with minimum five years of experience.

1.07 ALLOWANCES

- A. When required and authorized by the City, costs for Engineered Shop Drawings shall be reimbursed from the Professional Services Allowance at the rates proposed on the contractor's Proposal Form. Refer Line Item 5.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Cut plastic wrap to encourage ventilation.
- B. Store deck on dry wood sleepers; slope for positive drainage.

PART 2 PRODUCTS**2.01 MANUFACTURERS**

- A. Steel Deck:
 1. United Steel Deck, Inc: www.njb-united.com.
 2. Vulcraft/Nucor Corporation: www.vulcraft.com.
 3. Wheeling Corrugating Co: www.wheelingcorrugating.com.
 4. Substitutions: Refer General and Special Conditions for substitution procedures.

2.02 STEEL DECK

- A. Roof Deck: Non-composite type, fluted steel sheet:
 1. Galvanized Steel Sheet: ASTM A 653/A 653M, Structural Steel (SS), with G90/Z275 galvanized coating.
 - a. Grade and other characteristics to be determined by Structural Engineer and Owner for performance criteria specific to a project location.
 2. Primed Steel Sheet: ASTM A 1008/A 1008M, Designation SS.
 - a. Grade to be determined by Structural Engineer and Owner for performance criteria specific to a project location.
- B. Composite Floor Deck: Fluted steel sheet embossed to interlock with concrete:
 1. Ungalvanized Steel Sheet: ASTM A 1008/A 1008M, Designation SS, Grade 33, Type 1.
 - a. Grade and other characteristics to be determined by Structural Engineer and Owner for performance criteria specific to a project location
 2. Primer: Shop coat top surface with manufacturer's standard primer paint over cleaned and phosphatized substrate. Shop prime underside surface with manufacturer's standard gray or white baked-on, rust-inhibitive primer.
- C. Metal Form Deck: Corrugated sheet steel, with provision for ventilation of concrete:
 1. Ungalvanized Steel Sheet: ASTM A 1008/A 1008M, Designation SS, Grade 33, Type 1.
 - a. Grade and other characteristics to be determined by Structural Engineer and Owner for performance criteria specific to a project location.
 2. Primer: Shop coat top surface with manufacturer's standard primer paint over cleaned and phosphatized substrate. Shop prime underside surface with manufacturer's standard gray or white baked-on, rust-inhibitive primer.

- A. Stud Shear Connectors: Made from ASTM A 108 Grade 1015 bars.
- B. Welding Materials: AWS D1.1.
- C. Mechanical Fasteners: Corrosion-resistant, low velocity, power actuated or pneumatically driven carbon-steel fasteners; or self-drilling, self-threading screws.
- D. Weld Washers: Mild steel, uncoated, 3/4 inch outside diameter, 1/8 inch thick.
- E. Shop and Touch-Up Primer: SSPC-Paint 25, zinc oxide, complying with VOC limitations of authorities having jurisdiction.
- F. Flute Closures: Closed cell foam rubber, 1 inch thick; profiled to fit tight to the deck.

2.04 FABRICATED DECK ACCESSORIES

- A. Sheet Metal Deck Accessories: Metal shapes and fabrications as required for application, steel gage not less than 0.0359" design uncoated thickness; profile to match adjacent deck; finished same as deck.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions prior to beginning work.

3.02 INSTALLATION

- A. Erect metal deck in accordance with SDI Design Manual and manufacturer's instructions. Align and level.
- B. On steel supports provide minimum 1-1/2 inch bearing.
- C. Fasten deck to steel support members at ends and intermediate supports at 12 inches on center maximum, parallel with the deck flute and at each transverse flute using methods specified.
 - 1. Welding: Use fusion welds through weld washers.
 - 2. Place and secure special deep fluted sections for integral concrete bridging.
- D. Clinch lock seam side laps.
- E. At mechanically fastened male/female side laps fasten at 24 inches on center maximum.
- F. At welded male/female side laps weld at 18 inches on center maximum.
- G. Weld deck in accordance with AWS D1.3.
- H. At deck openings from 6 inches to 18 inches in size, provide 2 x 2 x 1/4 inch steel angle reinforcement. Place angles perpendicular to flutes; extend minimum two flutes beyond each side of opening and fusion weld to deck at each flute.
- I. Where deck changes direction, install 6 inch minimum wide sheet steel cover plates, of same thickness as deck. Fusion weld 12 inches on center maximum.
- J. At floor edges, install concrete stops upturned to top surface of slab, to contain wet concrete. Provide stops of sufficient strength to remain stationary without distortion.
- K. At openings between deck and walls, columns, and openings, provide sheet steel closures and angle flashings to close openings.
- L. Close openings above walls and partitions perpendicular to deck flutes with single row of foam cell closures.
- M. Weld stud shear connectors through steel deck to structural members below.
- N. Immediately after welding deck and other metal components in position, coat welds, burned areas, and damaged surface coating, with touch-up primer.

3.03 FIELD QUALITY CONTROL

- A. The City may engage a qualified independent testing and inspecting agency to perform field tests, inspections, and prepare test reports.
- B. Provide free access to operations at project site and cooperate with appointed firm.

END OF SECTION

SECTION 05400**COLD FORMED METAL FRAMING****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Load bearing formed steel stud exterior wall framing.
- B. Non-axial load bearing formed steel stud exterior wall and soffit framing.
- C. Exterior wall sheathing.

1.02 RELATED SECTIONS

- A. Section 04810 - Unit Masonry Assemblies: Coordination with masonry veneer construction.
- B. Section 05310 - Steel Deck.
- C. Section 06100 - Rough Carpentry: Rough wood blocking, etc.
- D. Section 07115 - Bituminous Damp proofing
- E. Section 07212 - Board and Batt Insulation: Insulation within framing members.
- F. Section 07650 - Flashing: Flashings at all opening penetrations, bottom of walls, shelf angles, lintels, and discontinuities
- G. Section 07900 - Joint Sealers.
- H. Section 09225 - Portland Cement Plaster.
- I. Section 09260 - Gypsum Board Assemblies: Lightweight, non-load bearing metal stud framing.
- J. Section 09511 - Suspended Acoustical Ceilings: Ceiling suspension system.

1.03 REFERENCES

- A. AISI SG02-1 - North American Specification for the Design of Cold-Formed Steel Structural Members; American Iron and Steel Institute; 2001 with 2004 supplement. (replaced SG-971)
- B. AISC Manual of Steel Construction - 9th Edition
- C. ASTM A 153/A 153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2005.
- D. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2005a.
- E. ASTM C 955 - Standard Specification for Load-Bearing (Transverse and Axial) Steel Studs, Runners (Tracks), and Bracing or Bridging for Screw Application of Gypsum Panel Products and Metal Plaster Bases; 2003.
- F. ASTM C 1007 - Standard Specification for Installation of Load Bearing (Transverse and Axial) Steel Studs and Related Accessories; 2004.
- G. ASTM C 1177/C 1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing; 2004.
- H. ASTM D 3273 - Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2000.
- I. AWS D1.3 - Structural Welding Code - Sheet Steel; American Welding Society; 1998.
- J. PS 1 - Construction and Industrial Plywood; National Institute of Standards and Technology (Department of Commerce); 1995.
- K. SSPC-Paint 15 - Steel Joist Shop Primer; Society for Protective Coatings; 1999 (Ed. 2004).
- L. SSPC-Paint 20 - Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic"); Society for Protective Coatings; 2002 (Ed. 2004).

1.04 SYSTEM DESCRIPTION

- A. The exterior steel framing system shall comply with the requirements and design standards of AISI SG02-1 as well as the AISC's Manual of Steel Construction.

- B. Horizontal Deflection: Maximum deflection of $1/600$ of span.
- C. Vertical Deflection: Non-axial load bearing framing shall accommodate not less than $1/2$ in vertical deflection.
- D. Wall and soffit systems shall provide for movement of components without damage, failure of joint seals, undue stress on fasteners, or other detrimental effects when subject to seasonal or cyclic day/night temperature ranges.
- E. Framing system to accommodate construction tolerances, deflection of building structural members, and clearances of intended openings. All connections of framing sections to the structural frame shall allow for stress, deflection, and movement by the structural frame without damage to the work of this section.

1.05 SUBMITTALS

- A. Provide product data and Shop Drawings to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect:
 - 1. Shop Drawings: Indicate component details, framed openings, bearing, anchorage, loading, welds, and type and location of fasteners, and accessories or items required of related work.
 - a. Indicate stud and ceiling joist layout.
 - b. Describe method for securing studs to tracks and for bolted framing connections.
 - c. Provide calculations for loadings and stresses of specially fabricated framing
 - 2. Product Data:
 - a. Provide data on standard framing members; describe materials and finish, product criteria, limitations.
 - b. Provide manufacturer's data, details, and calculations on factory-made framing connectors, showing compliance with requirements.
 - 3. Manufacturer's Installation Instructions: Indicate special procedures, conditions requiring special attention, and details.

1.06 QUALITY ASSURANCE

- A. Manufacturer: Company specializing in manufacturing the types of products specified in this section, and with minimum five years of documented experience.
- B. Installer: Company specializing in performing the work of this section with minimum three years of experience.
- C. When required by 05400.1.05.B, prepare Shop Drawings under direct supervision of a Professional Structural Engineer experienced in the design of this work and licensed in the State of Florida. Provide engineer's signature and seal. Refer 05400.1.07.
- D. For work not under the purview of an Engineer or Architect, or when Shop Drawings are not otherwise required by regulatory authorities for permitting, the manufacturer shall prepare design calculations and analysis for all perimeter wall conditions including connections and attachments to the perimeter structural components under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State of Florida.

1.07 ALLOWANCES

- A. When required and authorized by the City, costs for Engineered Shop Drawings shall be reimbursed from the Professional Services Allowance at the rates proposed on the contractor's Proposal Form. Refer Line Item 5.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Metal Framing, Connectors, and Accessories:
 - 1. Dietrich Metal Framing: www.dietrichindustries.com.
 - 2. Marino-Ware: www.marinoware.com.
 - 3. Substitutions: Refer General and Special Conditions for substitution requirements

2.02 FRAMING MATERIALS

- A. Studs and Track: ASTM C 955; studs formed to channel shape with punched web; U-shaped track in matching nominal width and compatible height; refer to drawings for minimum sizes.
 - 1. Gage and depth: As required to meet required performance levels.
 - a. All exterior metal framing shall be a minimum of 6" deep metal studs at maximum 16" on center
 - b. All exterior framing shall be a minimum of nominal 16 gage thickness
 - 2. Galvanized in accordance with ASTM A 653/A 653M G90/Z275 coating.
- B. Joists and Purlins: Fabricated from ASTM A 653/A 653M steel sheet, with G90/Z275 hot dipped galvanized

coating.

1. Base Metal: Structural Steel (SS), Grade 33/230.
2. Gage and depth: As required to meet required performance levels.

C. Framing Connectors: Factory-made formed steel sheet, ASTM A 653/A 653M SS Grade 50, with G60/Z180 hot dipped galvanized coating and factory punched holes.

1. Structural Performance: Maintain load and movement capacity required by applicable code, when evaluated in accordance with AISI North American Specification for the Design of Cold Formed Steel Structural Members; minimum 16 gage, 0.06 inch thickness.
2. Movement Connections: Provide mechanical anchorage devices that accommodate movement using slotted holes, screws and anti-friction bushings, while maintaining structural performance of framing. Provide movement connections at the following locations:
 - a. Where continuous studs bypass elevated floor slab, connect stud to slab in manner allowing vertical and horizontal movement of slab without affecting studs; allow for minimum movement of 1/2 inch.
 - b. Where top of stud wall terminates below structural floor or roof, connect studs to structure in manner allowing vertical and horizontal movement of slab without affecting studs; allow for minimum movement of 1/2 inch.
 - c. Provide top track preassembled with connection devices spaced to fit stud spacing indicated on drawings; minimum track length of 12 feet.
3. Provide non-movement connections for tie-down to foundation, floor-to-floor tie-down, roof-to-wall tie-down, joist hangers, gusset plates, and stiffeners.

2.03 WALL SHEATHING

A. Plywood Wall Sheathing: PS 1, Grade C-D, Exposure I.

B. Glass Mat Faced Gypsum Sheathing: Gypsum panels with moisture-resistant core and coated inorganic fiberglass mat back surface designed to resist growth of mold and mildew.

1. ASTM C 1177C/1177M.
2. Square long edges.
3. Panel thickness: 5/8" thick
4. Acceptable Products:
 - a. G-P Gypsum LLC: DensGlass Gold Exterior Gypsum Sheathing.
 - b. USG Corporation.; Fiberock Aqua-Tough Sheathing.
 - c. Substitutions: Refer General and Special Conditions for substitution requirements

2.04 ACCESSORIES

A. Bracing, Furring, and Bridging: Formed sheet steel, thickness determined for conditions encountered; finish to match framing components.

B. Shop and Touch-Up Primer: SSPC-Paint 15, complying with VOC limitations of authorities having jurisdiction.

C. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20, Type I - Inorganic, complying with VOC limitations of authorities having jurisdiction.

2.05 FASTENERS

A. Self-Drilling, Self-Tapping Screws, Bolts, Nuts and Washers: Hot dip galvanized per ASTM A 153/A 153M.

B. Anchorage Devices: Power actuated.

C. Welding: In conformance with AWS D1.1.

2.06 SHOP FABRICATED ASSEMBLIES

A. Shop fabricate metal framing to the greatest extent possible.

B. Fabricate assemblies of framed sections of sizes and profiles required; with framing members fitted, reinforced, and braced to suit design requirements.

C. Fit and assemble in largest practical sections for delivery to site, ready for installation.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that substrate surfaces are ready to receive work.

- A. Install components in accordance with manufacturers' instructions and ASTM C 1007 requirements.
- B. Align floor and ceiling tracks; locate to wall layout. Secure in place with fasteners at maximum 24 inches on center. Coordinate installation of sealant with floor and ceiling tracks.
- C. Place studs at not more than 16 inches on center; not more than 2 inches from abutting walls and at each side of openings. Connect studs to tracks using clip and tie method.
- D. Construct corners using minimum of three studs. Install double studs at wall openings, door and window jambs.
- E. Coordinate placement of insulation in multiple stud spaces made inaccessible after erection.
- F. Install intermediate studs above and below openings to align with wall stud spacing.
- G. Provide deflection allowance in stud track, directly below horizontal building framing at non-load bearing framing.
- H. Attach furring channels to studs for attachment of fixtures anchored to walls.
- I. Install framing between studs for attachment of mechanical and electrical items, and to prevent stud rotation.
- J. Touch-up field welds and damaged galvanized surfaces with primer.

3.03 INSTALLATION OF JOISTS AND PURLINS

- A. Install framing components in accordance with manufacturer's instructions.
- B. Make provisions for erection stresses. Provide temporary alignment and bracing.

3.04 WALL SHEATHING

- A. Wall Sheathing: Secure with long dimension perpendicular to wall studs, with ends over firm bearing and staggered, using self-tapping screws.
- B. Seal all joints and penetrations at sheathing panels as follows:
 - 1. Trowel apply base layer of bituminous dampproofing at all joints (4" width) and fastener heads.
 - 2. Embed fiberglass mesh in base layer of dampproofing at all joints.
 - 3. Trowel apply top layer of bituminous dampproofing to completely embed fiberglass mesh at all joints. Feather/float to eliminate ridges.

END OF SECTION

METAL FABRICATIONS**PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Shop fabricated steel items.
- B. Loose steel lintels for masonry construction.

1.02 RELATED SECTIONS

- A. Section 03300 - Cast-in-Place Concrete: Placement of metal fabrications in concrete.
- B. Section 04810 - Unit Masonry Assemblies: Placement of metal fabrications in masonry.
- C. Section 05120 - Structural Steel.
- D. Section 05210 - Steel Joists.
- E. Section 05310 - Steel Deck: Placement of stop angles for metal deck edges.

1.03 REFERENCES

- A. ANSI A14.3 - American National Standard for Ladders -- Fixed -- Safety Requirements; 2002.
- B. ASTM A 36/A 36M - Standard Specification for Carbon Structural Steel; 2005.
- C. ASTM A 53/A 53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2005.
- D. ASTM A 123/A 123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2002.
- E. ASTM A 153/A 153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2005.
- F. ASTM A 325 - Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength; 2004b.
- G. ASTM A 325M - Standard Specification for Structural Bolts, Steel, Heat Treated 830 MPa Tensile Strength (Metric); 2005.
- H. ASTM A 500 - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes; 2003a.
- I. ASTM A 501 - Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing; 2001 (Reapproved 2005).
- J. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination; American Welding Society; 1998.
- K. AWS D1.1/D1.1M - Structural Welding Code - Steel; American Welding Society; 2006.
- L. SSPC-Paint 15 - Steel Joist Shop Primer; Society for Protective Coatings; 1999 (Ed. 2004).
- M. SSPC-Paint 20 - Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic"); Society for Protective Coatings; 2002 (Ed. 2004).
- N. SSPC-SP 2 - Hand Tool Cleaning; Society for Protective Coatings; 1982 (Ed. 2004).

1.04 SUBMITTALS

- A. Provide product data and Shop Drawings to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect:
 - 1. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details of fabrication and installation.
 - a. Indicate welded connections using standard AWS A2.4 welding symbols. Indicate net weld lengths.
 - 2. Welders' Certificates: Submit certification for welders employed on the project, verifying AWS qualification within the previous 12 months.

- A. When required by 05500.1.04.B, prepare Shop Drawings under direct supervision of a Professional Structural Engineer experienced in the design of this work and licensed in the State of Florida. Provide engineer's signature and seal. Refer 05500.1.06.
- B. For work not under the purview of an Engineer or Architect, or when Shop Drawings are not otherwise required by regulatory authorities for permitting, the manufacturer/fabricator shall provide design for all components and fabrications under the direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State of Florida.
- C. Qualifications: Fabrication shop shall have a minimum of ten years of documented experience. Fabricator is to participate in AISC Quality Certification Program and to be designated as an AISC Certified Plant, Category Sbd.
- D. Field Measurements: Take field measurements prior to fabrication and/or preparation of shop drawings. Do not delay job progress; allow for trimming and fitting where taking field measurements before fabrication might delay work.
- E. Shop Assembly: Pre-assemble items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for re-assembly and coordinate installation.

1.06 ALLOWANCES

- A. When required and authorized by the City of Fort Lauderdale, costs for Engineered Shop Drawings shall be reimbursed from the Professional Services Allowance at the rates proposed on the contractor's Proposal Form. Refer Line Item 5.

PART 2 PRODUCTS

2.01 MATERIALS - STEEL

- A. Steel Sections (Plates, Channels, Angles and Bars): ASTM A 36/A 36M.
- B. Steel Wide Flange Sections: ASTM A 572 (Fy=50ksi).
- C. Steel Tubing: ASTM A 500, Grade B cold-formed structural tubing.
- D. Pipe: ASTM A53/A 53M, standard weight (Schedule 40), black finish.
- E. Bolts, Nuts, and Washers: ASTM A 325 (ASTM A 325M), Type 1, galvanized to ASTM A 153/A 153M where connecting galvanized components.
- F. Shop and Touch-Up Primer: SSPC-Paint 15, complying with VOC limitations of authorities having jurisdiction.
- G. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20, Type I - Inorganic, complying with VOC limitations of authorities having jurisdiction.

2.02 GROUT

- A. Non-shrink Non-metallic Grout: ASTM C 1107; recommended by the manufacturer for exterior applications.

2.03 FABRICATION

- A. General: Shear and punch metals cleanly and accurately. Remove burrs and ease exposed edges. Form bent-metal corners to smallest radius possible without impairing work.
- B. Submit shop drawings of all structural steel members. Shop drawings shall include fabrication piece drawings and field erection drawings. Structural construction drawings shall not be photocopied and submitted.
- C. Fit and shop assemble items in largest practical sections, for delivery to site.
- D. Fabricate items with joints tightly fitted and secured.
- E. Welding: Weld corners and seams continuously. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals. At exposed connections, finish welds and surfaces smooth with contour of welded surface matching those adjacent. Fabrication shop drawings shall provide AWS welder certifications as requested by the Owner's engineer.
- F. Fabricate loose lintels from steel angles. Loose lintel angles shall be hot dipped galvanized unless noted otherwise.
- G. Fabricate steel pipe columns with steel top plates drilled for connection bolts and welded to pipe with continuous

fillet weld same size as pipe wall thickness.

1. Provide base plates as scheduled on the construction documents.
- H. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.
- I. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.
- J. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

2.04 FABRICATED ITEMS

- A. Ladders: Steel; in compliance with ANSI A14.3; with mounting brackets and attachments; prime paint finish.
1. Side Rails: 3/8 x 2 inches members spaced at 20 inches.
 2. Rungs: one inch diameter solid round bar spaced 12 inches on center.
 3. Space rungs 7 inches from wall surface.
- B. Bumper Posts and Guard Rails: prime paint finish.
- C. Bollards: Steel pipe, concrete filled, crowned cap, as detailed; prime paint finish.
- D. Ledge Angles and Shelf Angles Not Attached to Structural Framing: For support of masonry; galvanized finish.
- E. Lintels: galvanized finish. Refer Section 04810 Unit Masonry Assemblies for Schedule
- F. Elevator Hoistway Divider Beams: Beam sections; prime paint finish.
- G. Toilet Partition Suspension Members: Steel channel sections; prime paint finish.
- H. Other items as required specific to project

2.05 FINISHES - STEEL

- A. Prime paint all steel items.
1. Exceptions: Galvanize items specified for galvanized finish.
 2. Exceptions: Do not prime surfaces in direct contact with concrete, where field welding is required, and items to be covered with sprayed fireproofing.
- B. Prepare surfaces to be primed in accordance with SSPC-SP2.
- C. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.
- D. Prime Painting: One coat.
- E. Galvanizing of Non-structural Items: Galvanize after fabrication to ASTM A 123/A 123M requirements.

2.06 FABRICATION TOLERANCES

- A. Squareness: 1/8 inch maximum difference in diagonal measurements.
- B. Maximum Offset Between Faces: 1/16 inch.
- C. Maximum Misalignment of Adjacent Members: 1/16 inch.
- D. Maximum Bow: 1/8 inch in 48 inches.
- E. Maximum Deviation from Plane: 1/16 inch in 48 inches.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field conditions are acceptable and are ready to receive work.

3.02 PREPARATION

- A. Clean and strip primed steel items to bare metal where site welding is required.
- B. Supply setting templates to the appropriate entities for steel items required to be cast into concrete or embedded in masonry.

3.03 INSTALLATION

- A. Install items plumb and level, accurately fitted, free from distortion or defects.

- B. Provide for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.
- C. Perform field welding in accordance with AWS D1.1.
- D. Obtain approval prior to site cutting or making adjustments not scheduled.
- E. After erection, prime welds, abrasions, and surfaces not shop primed or galvanized, except surfaces to be in contact with concrete.

3.04 ERECTION TOLERANCES

- A. Maximum Variation from Plumb: 1/4 inch per story, non-cumulative.
- B. Maximum Offset from True Alignment: 1/4 inch.
- C. Maximum Out-of-Position: 1/4 inch.

END OF SECTION

SECTION 05700**ORNAMENTAL METAL****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Grilles and Louvers.

1.02 SUBMITTALS

- A. Provide product data to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect:
 - 1. Manufacturers Drawings: Indicate sizes, materials and thicknesses, fabrication and installation techniques, provisions for reinforcement and anchoring.

1.03 DELIVERY, STORAGE, AND HANDLING

- A. Pack products of this section to prevent damage to products and finishes.
- B. Store products of this section in manufacturer's unopened packaging until installation.
- C. Maintain dry, heated storage area for products of this section until installation of products.

PART 2 PRODUCTS**2.01 MANUFACTURERS**

- A. Architectural Grille; www.archgrille.com
- B. The Airolite Company, LLC; www.airolite.com
- C. Substitutions: Refer General and Special Conditions for substitution requirements

2.02 GRILLES and LOUVERS

- A. Grilles: Stainless steel bar grilles.
 - 1. Core Type and Spacing: As required to match existing/adjacent grilles specific to project location.
 - 2. Stainless Steel Finish: Mirror Polish No.8.
 - 3. Mitered Corner Sections: Fabricate welded mitered corner sections to match sections of straight bar grille units for horizontal and vertical installation.
 - 4. Fastening Devices: Pre-drill countersunk fastener holes in concealed surface of frame at indicated spacings for installation of grilles.
- B. Grilles: Perforated aluminum sheet metal grilles.
 - 1. Grille Size and Depth: As required to match existing/adjacent grilles specific to project location.
 - 2. Sheet Thickness: 1/16 inch.
 - 3. Aluminum Finish: Mirror Polish No. 8.
 - 4. Fastening Devices: Pre-drill countersunk fastener holes in surface of frame at indicated spacing for installation of grilles.
- C. Round Grilles: Round perforated aluminum sheet metal grilles.
 - 1. Size and detailing to match existing/adjacent specific to project location
 - 2. Sheet Thickness: 1/16 inch.
 - 3. Aluminum Finish: Mirror Polish No. 8.
 - 4. Construction:
 - a. Form true circle to indicated radius; finish cut edge to match sheet finish.
 - b. Form 3/4 inch by 1/8 inch thick bar of metal matching face sheet to true cylinder to indicated radius; weld ends together and finish weld smooth.
 - c. Collar weld cylinder to concealed surface of face sheet concentric with face sheet; finish welds smooth.
- D. Egg-crate Grilles: Aluminum egg-crate type.
 - 1. Cell Size and Depth: As required to match existing/adjacent condition specific to project site
 - 2. Metal Thickness: 1/8 inch.
 - 3. Aluminum Finish: Satin Finish No. 4.

1. Sheet Thickness: 1/16 inch.
2. Aluminum Finish: Mirror Polish No. 8.
3. Construction:
 - a. Form from single metal sheet; form louver vanes with radiused end returns.
 - b. Provide for indicated anchoring devices.
 - c. Finish sight-exposed edges to match sheet finish.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that openings and substrates are prepared to receive products of this section.
- B. Installer's Examination:
 1. examine conditions under which construction activities of this section are to be performed, then submit written notification if such conditions are unacceptable.
 2. Beginning construction activities of this section indicates installer's acceptance of conditions.

3.02 INSTALLATION

- A. Install products of this section in accordance with manufacturers drawings.

END OF SECTION

SECTION 06100**ROUGH CARPENTRY****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Preservative treatment of wood.
- B. Fire retardant treatment of wood.
- C. Miscellaneous framing and sheathing.
- D. Telephone and electrical panel boards.
- E. Wood nailers and curbs for roofing and items installed as part of roofing assemblies.
- F. Concealed wood blocking for support of toilet and bath accessories, wall cabinets, wood trim, and other wall mounted items.
- G. Miscellaneous wood nailers and furring strips.
- H. PVC cap pieces for dock pilings

1.02 RELATED SECTIONS

- A. Section 07650 - Sheet Metal Flashing and Trim

1.03 REFERENCES

- A. AWWA C2 - Lumber, Timber, Bridge Ties and Mine Ties -- Preservative Treatment by Pressure Processes; American Wood-Preservers' Association; 2002.
- B. AWWA C9 - Plywood -- Preservative Treatment by Pressure Processes; American Wood-Preservers' Association; 2003.
- C. AWWA C20 - Structural Lumber -- Fire Retardant Treatment by Pressure Processes; American Wood-Preservers' Association; 2002.
- D. PS 1 - Construction and Industrial Plywood; National Institute of Standards and Technology (Department of Commerce); 1995.
- E. PS 20 - American Softwood Lumber Standard; National Institute of Standards and Technology (Department of Commerce); 2005.
- F. SPIB (GR) - Grading Rules; Southern Pine Inspection Bureau, Inc.; 2002.
- G. WCLB (GR) - Standard Grading Rules for West Coast Lumber No. 17; West Coast Lumber Inspection Bureau; 2004.
- H. WWPA G-5 - Western Lumber Grading Rules; Western Wood Products Association; 2005.

1.04 SUBMITTALS

- A. Provide product data to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect:
 - 1. Product Data: Provide technical data on wood preservative materials, application instructions, and fire retardant treatment.

1.05 QUALITY ASSURANCE

- A. Lumber: Comply with PS 20 and approved grading rules and inspection agencies.
 - 1. Acceptable Lumber Inspection Agencies: Any agency with rules approved by American Lumber Standards Committee.
 - 2. Acceptable Lumber Inspection Agencies: SPIB, WCLB, and WWPA.
 - 3. Lumber of other species or grades, or graded by other agencies, is acceptable provided structural and appearance characteristics are equivalent to or better than products specified.
- B. Fire-Retardant Treated Wood: Mark each piece of wood with producer's stamp indicating compliance with specified requirements.

- C. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPAs standards.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.
- B. Fire Retardant Treated Wood: Prevent exposure to precipitation during shipping, storage, or installation.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

- A. Lumber fabricated from old growth timber is not permitted.

2.02 DIMENSION LUMBER

- A. Grading Agency: Southern Pine Inspection Bureau, Inc. (SPIB).
- B. Grading Agency: West Coast Lumber Inspection Bureau (WCLB).
- C. Grading Agency: Western Wood Products Association (WWPA).
- D. Sizes: Nominal sizes as required by condition, S4S.
- E. Moisture Content: S-dry or MC19.
- F. Miscellaneous Blocking, Furring, and Nailers:
1. Lumber: S4S, No. 2 or Standard Grade.
 2. Boards: Standard or No. 3.

2.03 CONSTRUCTION PANELS

- A. Applications:
1. Concealed Plywood: PS 1, C-C Plugged, exterior grade.
 2. Exposed Plywood: PS 1, A-D, interior grade.
 3. Electrical or Communication Component Mounting: APA rated sheathing, fire retardant treated.

2.04 ACCESSORIES

- A. Fasteners and Anchors:
1. Fasteners: Hot-dipped galvanized steel per ASTM A 153/A 153M steel for high humidity and treated wood locations, unfinished steel elsewhere; screw type appropriate for material and use.
 2. Anchors: Toggle bolt type for anchorage to hollow masonry.
- B. Attachment Adhesive: Waterproof, acceptable to manufacturer for intended use and conditions.
- C. Conical PVC Piling Cap: Schedule 80 or Schedule 40, premolded to conical shape, with continuous vertical tab at open end for attachment to piling. Diameter as required to snugly fit over piling.

2.05 FACTORY WOOD TREATMENT

- A. Fire Retardant Treatment
1. Manufacturers:
 - a. Arch Wood Protection, Inc: www.wolmanizedwood.com.
 - b. Hoover Treated Wood Products, Inc: www.frtw.com.
 - c. Substitutions: Refer General and Special Conditions for substitution requirements.
 2. Exterior Type: AWPAs Use Category UCFB, Commodity Specification H (Treatment C20 for lumber and C27 for plywood), chemically treated and pressure impregnated; capable of providing a maximum flame spread rating of 25 when tested in accordance with ASTM E 84, with no evidence of significant combustion when test is extended for an additional 20 minutes both before and after accelerated weathering test performed in accordance with ASTM D 2898.
 - a. Kiln dry wood after treatment to a maximum moisture content of 19 percent for lumber and 15 percent for plywood.
 - b. Treat exposed exterior rough carpentry items, including stairways, balconies, and covered walkways
 - c. Do not use treated wood in direct contact with the ground.
 3. Interior Type: AWPAs Use Category UCFA, Commodity Specification H (Treatment C20 for lumber and C27 for plywood), low temperature (low hygroscopic) type, chemically treated and pressure impregnated;

capable of providing a maximum flame spread rating of 25 when tested in accordance with ASTM E 84, with no evidence of significant combustion when test is extended for an additional 20 minutes.

- a. Kiln dry wood after treatment to a maximum moisture content of 19 percent for lumber and 15 percent for plywood.
- b. Do not use treated wood in applications exposed to weather or where the wood may become wet.

B. Preservative Treatment:

1. **Manufacturers:**

- a. Arch Wood Protection, Inc: www.wolmanizedwood.com.
- b. Chemical Specialties, Inc: www.treatedwood.com.
- c. Osmose, Inc: www.osmose.com.
- d. Substitutions: Refer General and Special Conditions for substitution requirements

C. Preservative Pressure Treatment of Lumber Above Grade: AWP A Use Category UC3B, Commodity Specification A (Treatment C2) using waterborne preservative to 0.25 lb/cu ft retention.

1. Kiln dry lumber after treatment to maximum moisture content of 19 percent.
2. Treat lumber in contact with roofing, flashing, or waterproofing.
3. Treat lumber in contact with masonry or concrete.
4. Treat lumber less than 18 inches above grade.

5. Preservative Pressure Treatment of Plywood Above Grade: AWP A Use Category UC2 and UC3B, Commodity Specification F (Treatment C9) using waterborne preservative to 0.25 lb/cu ft retention.

- a. Kiln dry plywood after treatment to maximum moisture content of 19 percent.
- b. Treat plywood in contact with roofing, flashing, or waterproofing.
- c. Treat plywood in contact with masonry or concrete.
- d. Treat plywood less than 18 inches above grade.

D. Preservative Pressure Treatment of Lumber in Contact with Soil: AWP A Use Category UC4A, Commodity Specification A (Treatment C2) using waterborne preservative to 0.4 lb/cu ft retention.

1. Preservative for Field Application to Cut Surfaces: As recommended by manufacturer of factory treatment chemicals for brush-application in the field.

PART 3 EXECUTION

3.01 INSTALLATION OF MISCELLANEOUS WOOD BLOCKING AND PANELS

- A. Curb roof openings except where prefabricated curbs are provided. Form corners by alternating lapping side members.
- B. Coordinate curb installation with installation of decking and support of deck openings.
- C. Provide treated lumber substrates for support of metal parapet caps, metal fascia, and gutters.
- D. Provide treated lumber blocking and shims for support of door frames and storefront members.
- E. Provide continuous treated lumber substrates at window surrounds and treated blocking/shims at interior sills.
- F. Provide treated lumber blocking between framing members where required for support of finish carpentry items. Coordinate locations with finish carpentry items.
- G. Provide treated lumber blocking between framing members where required for support of toilet, bath, or laundry accessories. Coordinate locations with manufacturer's templates.
- H. Provide treated plywood over gypsum wallboard as required for telephone or communications equipment backboards.
- I. Attach PVC piling caps to piles with galvanized fasteners of minimum 2" length. Provide minimum six stainless steel fasteners per cap.

3.02 SITE APPLIED WOOD TREATMENT

- A. Apply preservative treatment compatible with factory applied treatment at site-sawn cuts, complying with manufacturer's instructions.
- B. Allow preservative to dry prior to installing members.

END OF SECTION

BITUMINOUS DAMP PROOFING**PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Bituminous damp proofing to concrete, masonry and miscellaneous substrates.
- B. Damp proofing accessories.

1.02 RELATED SECTIONS

- A. Section 04810 - Unit Masonry Assemblies: CMU cavity walls
- B. Section 5400 - Cold Formed Metal Framing: Exterior gypsum sheathing
- C. Section 06100 - Rough Carpentry: Prohibition of fire retardant wood in contact with bituminous material.
- D. Section 07650 - Flashings: Termination of wall flashings

1.03 REFERENCES

- A. ASTM D 41 - Standard Specification for Asphalt Primer Used in Roofing, Damproofing, and Waterproofing; 1994 (reapproved 2000).
- B. ASTM D 1187 - Standard Specification for Asphalt Based Emulsions for Use as Protective Coatings for Metal; 1982
- C. ASTM D 1227 - Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing; 1995 (Reapproved 2000).
- D. ASTM D 2822 - Standard Specification for Asphalt Roof Cement; 1991 (Reapproved 1997).
- E. NRCA ML104 - The NRCA Roofing and Waterproofing; National Roofing Contractors Association; Fifth Edition.

1.04 SUBMITTALS

- A. Provide product data to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect:
 - 1. Product Data: Provide properties of primer, bitumen, and mastics.
 - 2. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.

1.05 QUALITY ASSURANCE

- A. Perform work in accordance with NRCA Roofing and Waterproofing Manual.

1.06 ENVIRONMENTAL REQUIREMENTS

- A. Maintain ambient temperatures above 40 degrees F for 24 hours before and during application until dampproofing has cured.

PART 2 PRODUCTS**2.01 PRODUCTS**

- A. Basis of Design: Sonneborn, "Hydrocide 700 with Hydrocide 600 prime coat": Waterborne emulsified asphalt dampproofing compound.
- B. Other acceptable manufacturers
 - 1. BASF Building Systems: www.basfbuildingsystems.com.
 - 2. Karnak Chemical Corp: www.karnakcorp.com.
 - 3. W.R. Meadows, Inc: www.wrmeadows.com.
 - 4. Polyguard Products, Inc., www.polyguardproducts.com

2.02 COLD ASPHALTIC MATERIALS

- A. Bitumen: Emulsified asphalt, ASTM D 1227; with fiber reinforcement (Type I or II).
- B. Asphalt Primer: ASTM D 41, compatible with substrate.
- C. Sealing Mastic: Asphalt roof cement, ASTM D 2822, Type I.

- A. Fiberglass Membrane: Saturated woven glass fabric tape equivalent to Glasfab 3 2020x, as manufactured by Twinsburgh-Miller Corp.

PART 3 EXECUTION**3.01 EXAMINATION**

- A. Verify existing conditions before starting work.
- B. Verify substrate surfaces are durable, free of matter detrimental to adhesion or application of dampproofing system.
- C. Verify items which penetrate surfaces to receive damp proofing are securely installed.

3.02 PREPARATION

- A. Protect adjacent surfaces not designated to receive damp proofing.
- B. Clean and prepare surfaces to receive damp proofing in accordance with manufacturer's instructions.
- C. Do not apply damp proofing to surfaces unacceptable to manufacturer.

3.03 APPLICATION

- A. Prime surfaces in accordance with manufacturer's instructions.
- B. Apply all damp proofing materials at the manufacturer's recommended rates.
- C. At masonry exterior wall cavity substrates:
 - 1. Apply two coats to all masonry substrate surfaces to form a continuous impervious damp proofed surface.
 - 2. Embed fiberglass mesh between two layers of toweled bitumen at all joints and gaps. Damp proof across the juncture between gypsum sheathing panels and masonry substrates as well as other dissimilar materials.
- D. At exterior gypsum sheathing:
 - 1. Gypsum sheathing is specified in Section 05400
 - 2. At joint between gypsum sheathing and dissimilar materials, seal openings with asphaltic mastic or at large gaps trowel apply base of layer of bitumen in min. 2" width at all joints and exposed cut edges.
 - 3. Embed fiberglass mesh between two layers of toweled bitumen at all dissimilar joints.
- E. Seal terminations of through wall flashing. Refer Section 07650.
- F. Seal penetration at items projecting through damp proofing surface with mastic. Seal watertight.

END OF SECTION

SECTION 07212**BOARD AND BATT INSULATION****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Board insulation at cavity wall construction.
- B. Thermal batt insulation in exterior wall and ceiling construction.
- C. Acoustic batt insulation
- D. Batt insulation for filling perimeter window and door shim spaces and crevices in exterior wall and roof.

1.02 RELATED SECTIONS

- A. Section 04810 - Unit Masonry Assemblies: Cavity wall construction for rigid insulation
- B. Section 05400 - Cold Formed Metal Framing: Supporting construction for batt insulation.
- C. Section 07214 - Foam Insulation: Coordination with foamed in place insulation work.
- D. Section 09260 - Gypsum Board Assemblies: Interior walls receiving acoustic insulation.
- E. Section 09225 - Portland Cement Plaster.

1.03 REFERENCES

- A. ASTM C 240 - Standard Test Methods of Testing Cellular Glass Insulation Block; 1997.
- B. ASTM C 518 - Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus; 1985.
- C. ASTM C 552 - Standard Specification for Cellular Glass Thermal Insulation; 2000.
- D. ASTM C 578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation; 2001.
- E. ASTM C 665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2001.
- F. ASTM C 764
- G. ASTM C 1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board; 2002.
- H. ASTM D 2842 - Standard Test Method for Water Absorption of Rigid Cellular Plastics; 2001.
- I. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2001.
- J. ASTM E 96 - Standard Test Methods for Water Vapor Transmission of Materials; 2000.
- K. NFPA 255 - Standard Method of Test of Surface Burning Characteristics of Building Materials; National Fire Protection Association; 2000.
- L. UL 723 - Standard for Test for Surface Burning Characteristics of Building Materials; Underwriters Laboratories Inc.; 1996.

1.04 SUBMITTALS

- A. Provide product data to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect:
 - 1. Product Data: Provide data on product characteristics, performance criteria, and product limitations.
 - 2. Manufacturer's Installation Instructions: Include information on special environmental conditions required for installation and installation techniques.
 - 3. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

PART 2 PRODUCTS**2.01 MANUFACTURERS**

- A. Owens Corning Corp., www.owenscorning.com.

B. CertainTeed Corporation, www.certainteed.com.

C. Johns Manville International, Inc., www.johnsmanville.com.

D. Substitutions: Refer General and Special Conditions for substitution requirements

2.02 BOARD INSULATION MATERIALS

A. Molded Polystyrene Board Insulation: Expanded polystyrene board, ASTM C 578; with the following characteristics:

1. Board Size: 48 x 96 inch nominal, or precut as required to fit wall reinforcement coursing
2. Board Thickness: 1-1/2 inches.
3. Board Edges: Square.
4. Water Absorption: 4 percent by volume, maximum, when tested In accordance with ASTM D 2842.
5. Board Density: 0.7 lb/cu ft.
6. Compressive Resistance: 5 psi.
7. Manufacturers:
 - a. Grace Construction Products: www.graceconstruction.com.
 - b. Substitutions: Refer General and Special Conditions for substitution requirements

B. Extruded Polystyrene Board Insulation: ASTM C 578, Type X; Extruded polystyrene board with cut cell surfaces; with the following characteristics:

1. Board Size: 48 x 96 inch nominal, or precut as required to fit wall reinforcement coursing
2. Board Thickness: 1-1/2 inches.
3. Board Edges: Square.
4. Thermal Conductivity (k factor) at 25 degrees F: 0.18.
5. Compressive Resistance: 15 psi.
6. Board Density: 1.3 lb/cu ft.
7. Water Absorption, maximum: 0.3 percent, volume.
8. Manufacturers:
 - a. Dow Chemical Co: www.dow.com.
 - b. Owens Corning Corp: www.owenscorning.com.
 - c. Substitutions: Refer General and Special Conditions for substitution requirements

C. Polyisocyanurate Board Insulation: Rigid cellular foam, complying with ASTM C 1289.

1. Facing: Reflective foil one face, non-reflective foil other face.
2. Board Size: 48 x 96 inch nominal, or precut as required to fit wall reinforcement coursing
3. Board Edges: Square.
4. Manufacturers:
 - a. Dow Chemical Co: www.dow.com.
 - b. GAF Materials Corporation: www.gaf.com.
 - c. Substitutions: Refer General and Special Conditions for substitution requirements

2.03 BATT INSULATION MATERIALS

A. Thermal and Sound Attenuation Batt Insulation at Walls: ASTM C 665, Types I and III Class A; preformed glass fiber batt; friction fit, conforming to the following:

1. Width: Nominal 12", 16", or 24" as determined by stud spacing
2. Thermal Resistance: R of 19 at exterior walls
3. Thickness: 6-1/4 inch at nom. 6" stud framing; 4" at 3-5/8" stud framing
4. Batt Facing:
 - a. Thermal Batts: Faced on one side with aluminum foil
 - b. Sound Attenuation Batts: Unfaced
5. Surface Burning Characteristics: Flame spread/Smoke developed index of 10/10, when tested in accordance with ASTM E 84.

B. Thermal Batt Insulation at Plaster Ceilings: ASTM C 665, Type II, Class A; preformed glass fiber batt with polyvinyl facing one side; conforming to the following:

1. Thermal Resistance: R of 19.
2. Thickness: 6-1/4 inch.
3. Facing: Faced on one side with mesh reinforced polyvinyl vapor retarder.
4. Surface Burning Characteristics: Flame spread/Smoke developed index of 25/50, when tested in accordance with ASTM E 84.
5. Manufacturers:
 - a. CertainTeed Corporation: www.certainteed.com.
 - b. Johns Manville International, Inc: www.johnsmanville.com.
 - c. Owens Corning Corp: www.owenscorning.com.

- d. Substitutions: Refer General and Special Conditions for substitution requirements

C. Thermal Insulation for Filling Shim Spaces at Exterior Wall Openings, Miscellaneous Voids, and Crevices

1. ASTM C 665, Type I; preformed glass fiber batt
2. Manufacturers:
 - a. CertainTeed Corporation: www.certainteed.com.
 - b. Johns Manville Corporation: www.jm.com.
 - c. Owens Corning Corp: www.owenscorning.com.
 - d. Substitutions: Refer General and Special Conditions for substitution requirements

2.04 ACCESSORIES

- A. Tape: Bright aluminum self-adhering type, mesh reinforced, 2 inches wide.
- B. Nails or Staples: Steel wire; electroplated, or galvanized; type and size to suit application.
- C. Wire Mesh: Galvanized steel, hexagonal wire mesh.
- D. Adhesive: Type recommended by insulation manufacturer for application.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that gypsum board "tents" are tightly constructed and securely in place at light fixtures and other penetrations in plaster ceilings.
- B. Verify that pointing, damproofing, and other finishing at cavity face of CMU walls is completed.
- C. Verify substrate surfaces are flat, free of honeycomb, fins, irregularities, or materials or substances that may impede adhesive bond.

3.02 BOARD INSTALLATION AT CAVITY WALLS

- A. Apply manufacturer's approved waterproof mastic/adhesive to back of boards:
 1. Three continuous beads full length of board.
- B. Install boards to fit snugly between wall ties.
- C. Install boards horizontally on walls.
 1. Place boards to maximize adhesive contact.
 2. Install in running bond pattern.
 3. Butt edges and ends tightly to adjacent boards and to protrusions.
- D. Cut and fit insulation tightly to protrusions or interruptions to the insulation plane.

3.03 BATT INSTALLATION AT WALLS

- A. Install insulation in accordance with manufacturer's instructions.
- B. Install with factory applied foil face toward cavity or exterior side of wall
- C. Unfold edge tabs at foil faced insulation and lap over edge of studs. Apply continuous foil faced tape to seal tabs to each other and create continuous reflective plane
- D. Install in wall spaces without gaps or voids. Do not compress insulation.
- E. Trim insulation neatly to fit spaces. Insulate miscellaneous gaps and voids.
- F. Fit insulation tightly in cavities and tightly to exterior side of mechanical and electrical services within the plane of the insulation.

3.04 BATT INSTALLATION AT PLASTER CEILINGS

- A. Install with factory applied reinforced polyvinyl facing down (toward exterior). Lay batts directly on metal lath between channels.
- B. Install in ceiling spaces without gaps or voids. Fit batts tightly together without compressing insulation.
- C. Trim insulation neatly to fit spaces. Insulate miscellaneous gaps and voids.
- D. Extend to wall insulation at perimeter of ceiling and lap. Overlay and surround tented lights and other ceiling penetrations.

3.05 INSULATION INSTALLATION AT SHIM SPACES, MISCELLANEOUS VOIDS, AND CREVICES

- A. Install unfaced batt material cut to fit size of shim space, void, or crevice. Cuttings and trim from full size batts may be used, provided the facing is removed.
- B. Install material so as to maintain a continuous thermal or acoustic envelope throughout the assembly. Fill full depth of void area to equal the thickness of adjacent batts.

3.06 PROTECTION OF FINISHED WORK

- A. Do not permit installed insulation to be damaged prior to its concealment.

3.07 SCHEDULES

- A. Foil Faced Thermal Batts: At all stud and infill cavities provided at perimeter walls and structure. Extend to deck or roof above to provide continuous envelope.
- B. Polyvinyl Faced Thermal Batts: Above plaster ceilings located below mechanically conditioned spaces.
- C. Unfaced Sound Attenuation Batts: At all stud cavities at perimeter walls of Restrooms, Conference Rooms, or other areas per original condition specific to project sites.
- D. Cavity Wall Insulation: At cavity side of backup masonry walls.

END OF SECTION

SECTION 07214**FOAMED-IN-PLACE INSULATION****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Foamed-in-place insulation at junctions of dissimilar wall and roof materials to achieve a thermal and air seal.
- B. Foamed -in-place insulation at perimeters of window, louver, cores of CMU block and door frames, penetrating elements, and other junctions to maintain a continuous thermal building envelope. This material's primary responsibility is to stop air infiltration into conditioned spaces, including attic spaces.

1.02 RELATED SECTIONS

- A. Section 04810 - Unit Masonry Assemblies: CMU walls.
- B. Section 07212 - Board and Batt Insulation: Coordination with installation of rigid board and fiber batt materials to achieve a continuous thermal envelop.e

1.03 REFERENCES

- A. ASTM C 177 - Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus; 1997.
- B. ASTM D 1622 - Standard Test Method for Apparent Density of Rigid Cellular Plastics; 1998.
- C. ASTM D 2842 - Standard Test Method for Water Absorption of Rigid Cellular Plastics; 2001.
- D. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2001.
- E. ASTM E 96 - Standard Test Methods for Water Vapor Transmission of Materials; 2000.

1.04 SUBMITTALS

- A. Provide product data to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect:
 - 1. Product Data: Provide product description, insulation properties, overcoat properties, and preparation requirements.
 - 2. Manufacturer's Installation Instructions: Indicate special procedures, coordination requirements with masonry contractors, and perimeter conditions requiring special attention.
 - 3. Certificates: Certify that products of this section meet or exceed specified requirements.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products of the type specified in this section, with not less than three years of documented experience.
- B. Applicator Qualifications: Company specializing in performing work of the type specified, with minimum three years of documented experience.

1.06 REGULATORY REQUIREMENTS

- A. Conform to Florida Building Code and local regulatory requirements for flame and smoke limitations.

1.07 PROJECT CONDITIONS

- A. Sequence work to ensure timely placement of insulation within construction spaces.

1.08 ENVIRONMENTAL REQUIREMENTS

- A. Do not install insulation when ambient temperature is lower than 70 degrees F.

PART 2 PRODUCTS**2.01 MANUFACTURERS**

- A. Foamed-In-Place Insulation:
 - 1. Thermal Corporation of America (Thermco): www.thermcofoam.com.
 - 2. Tailored Chemical Products, Inc: www.core-fill500.com.
 - 3. Substitutions: Refer General and Special Conditions for substitution requirements

- A. Insulation: Amino-Plast resin type.
 - 1. Thermal Conductivity: When tested in accordance with ASTM C 177:
 - a. 0.224 k value at 32 degrees F.
 - b. 0.212 k value at 75 degrees F.
 - 2. Approximate R-Values: Foam R = 5 for 8" CMU (R = 14 for CMU and Foam).
 - 3. Combustion Characteristics: Non-combustible, Class A building material.
 - 4. Sound Abatement: Minimum Sound Transmission Class (STC) per ASTM E 90.
 - a. 8" CMU Wall (Outdoor): STC of 44.
 - b. 8" CMU Wall (Indoor): STC of 53.
 - 5. Water Absorption: 15 percent by volume, maximum, when tested in accordance with ASTM D 2842.
 - 6. Density: 0.70 lb/cu ft, when tested in accordance with ASTM D 1622.
 - 7. Surface Burning Characteristics: Flame spread/Smoke developed index of 5 / 50-100, when tested in accordance with ASTM E 84.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify work within construction spaces or crevices is complete prior to insulation application.
- B. Verify that surfaces are clean, dry, and free of matter that may inhibit insulation or overcoat adhesion.

3.02 PREPARATION

- A. Coordinate the work with the installation of the masonry wall system and scaffolding work.
- B. Install foamed insulation prior to the installation of the exterior dampproofing or interior finish work.
- C. Mask and protect adjacent surfaces from over spray or dusting.
- D. Apply primer in accordance with manufacturer's instructions.

3.03 APPLICATION

- A. Apply insulation in accordance with manufacturer's instructions.
- B. Apply insulation by pressure injecting the foam to completely fill the masonry vertical cells.
- C. Drill holes in masonry work at the top and the bottom of the cavity to be filled with foam.
- D. Fill from the top holes until the foam has filled the cells and appeared out of the bottom cells.
- E. Fill all cells above and below bond beams and between vertically reinforced masonry.
- F. Patch damaged areas.
- G. All holes made to inject the foam insulation shall be filled with grout or mortar full and tight and tooled to match the surrounding jointing.
- H. Any penetrations or damage to dampproofing shall be re-sealed, repaired and patched.

3.04 FIELD QUALITY CONTROL

- A. The City may engage a qualified independent testing and inspecting agency to perform field tests and inspections, and prepare test reports.

3.05 PROTECTION OF FINISHED WORK

- A. Do not permit subsequent construction work to disturb applied insulation.

END OF SECTION

SECTION 07410**METAL WALL PANELS****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Manufactured metal panels for walls and soffits, with insulation, liners, related flashings, and accessory components.
- B. Building paper back-up over gypsum or wood sheathed walls.

1.02 RELATED SECTIONS

- A. Section 07212 - Board and Batt Insulation.
- B. Section 07900 - Joint Sealers.

1.03 REFERENCES

- A. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2005a.
- B. ASTM A 792/A 792M - Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process; 2005.
- C. ASTM B 209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2004.
- D. ASTM B 209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate (Metric); 2004.
- E. ASTM C 665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2001.
- F. ASTM D 226 - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing; 2005.
- G. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2005.

1.04 DESIGN REQUIREMENTS

- A. Maximum Allowable Deflection of Panel: 1/90 of span.
- B. Movement: Accommodate movement within system without damage to components or deterioration of seals, movement within system; movement between system and perimeter components when subject to seasonal temperature cycling; dynamic loading and release of loads; and deflection of structural support framing.
- C. Drainage: Provide positive drainage to exterior for moisture entering or condensation occurring within panel system.
- D. Products: Provide continuity of thermal barrier at building enclosure elements.
- E. Provide continuity of air barrier and vapor retarder seal at building enclosure elements

1.05 SUBMITTALS

- A. Provide product data and Shop Drawings to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect:
 - 1. Shop Drawings:
 - a. Indicate dimensions, layout, joints, construction details, and methods of anchorage.
 - b. Provide applicable wind load requirement, and calculations demonstrating anchorage methods and layout will provide adequate resistance to loads.
 - 2. Samples: Submit two samples of wall panel and soffit panel, 12 inch long by panel width in size illustrating finish color, sheen, and texture.

1.06 QUALITY ASSURANCE

- A. When required by 07410.1.05.B, prepare Shop Drawings under direct supervision of a Professional Structural Engineer experienced in the design of this work and licensed in the State of Florida. Provide engineer's signature and seal. Refer 07410.1.07.

- B. For work not under the purview of an Engineer or Architect, or when Shop Drawings are not otherwise required by regulatory authorities for permitting, the manufacturer/fabricator shall provide design for all panels, supports, and connections under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State of Florida.
- C. Manufacturer: Company specializing in manufacturing the products specified in this section with minimum five years of documented experience.
- B. Installer: Company specializing in performing the work of this section with minimum three years of experience.

1.07 ALLOWANCES

- A. When required and authorized by the City of Fort Lauderdale, costs for Engineered Shop Drawings shall be reimbursed from the Professional Services Allowance at the rates proposed on the contractor's Proposal Form. Refer Line Item 5.

1.08 DELIVERY, STORAGE, AND PROTECTION

- A. Protect panels from accelerated weathering by removing or venting sheet plastic shipping wrap.
- B. Store prefinished material off ground and protected from weather. Prevent twisting, bending, or abrasion, and provide ventilation to stored materials. Slope metal sheets to ensure drainage.
- C. Prevent contact with materials that may cause discoloration or staining of products.

1.09 PROJECT CONDITIONS

- A. Coordinate the Work for installation of vapor retarder and air barrier seals.
- B. Coordinate the Work with installation of window and louver components or materials.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Acceptable Manufacturers:
1. Centria; www.centria.com.
 2. MBCI; www.mbc.com.
 3. Petersen Aluminum Corporation; www.pac-clad.com.
 4. Other manufacturers to match existing/adjacent conditions as approved by City of Fort Lauderdale and, when applicable, Architect, on a site specific basis

2.02 MANUFACTURED METAL PANELS

- A. Wall Panel System: Preformed and prefinished metal panel system; site assembled; with subgirt framing assembly.
- B. Exterior Panel:
1. Minimum 20 gage thick precoated steel sheet.
 2. 0.032 inch thick precoated aluminum sheet.
 3. Profile and width per submitted manufacturer product.
 4. Interlocking edges, fitted with continuous gaskets.
 5. Color: As selected by City of Fort Lauderdale and, when applicable, Architect, from panel manufacturer's standard colors.
- C. Liner Panel:
1. Minimum 20 gage thick precoated steel sheet.
 2. 0.032 inch thick precoated aluminum sheet.
 3. Profile and width per submitted manufacturer product.
 4. Interlocking edges, fitted with continuous gaskets.
 5. Color: As selected by City of Fort Lauderdale and, when applicable, Architect, from panel manufacturer's standard colors.
- D. Soffit Panel:
1. 24 gage thick precoated steel sheet.
 2. 0.020 inch thick precoated aluminum sheet.
 3. Profile per submitted manufacturer product; lapped edges fitted with continuous gaskets.
 4. Color: As selected by City of Fort Lauderdale and, when applicable, Architect, from panel manufacturer's standard colors.
- E. Subgirts:

1. 16 gage thick formed steel sheet.
2. 0.051 inch thick formed aluminum sheet.
3. Profile per submitted manufacturer product; to attach panel system to building.

F. Internal and External Corners: Same material, thickness, and finish as exterior sheets; profile to suit system; shop cut and factory mitered to required angles. Mitered internal corners to be back braced with 26 gage precoated sheet stock to maintain continuity of profile.

G. Expansion Joints: Same material, thickness and finish as exterior sheets; 24 gage; manufacturer's standard brake formed type, of profile to suit system.

H. Trim: Same material, thickness and finish as exterior sheets; brake formed to required profiles.

I. Anchors: Galvanized steel.

2.03 MATERIALS

A. Precoated Steel Sheet: Hot-dipped galvanized steel sheet, ASTM A 653/A 653M Structural Steel (SS) or Forming Steel (FS), with G90/Z275 coating; continuous coil-coated on exposed surfaces with specified finish coating and on panel back with specified panel back coating.

B. Precoated Steel Sheet: Aluminum-zinc alloy-coated steel sheet, ASTM A 792/A 792M, Commercial Steel (CS) or Forming Steel (FS), with AZ50/AZM150 coating; continuous-coil-coated on exposed surfaces with specified finish coating and on panel back with specified panel back coating.

C. Precoated Aluminum Sheet: ASTM B 209 (ASTM B 209M), 3105 alloy, O temper, smooth surface texture; continuous-coil-coated on exposed surfaces with specified finish coating and on panel back with specified panel back coating.

D. Exterior Finish Coating: Panel manufacturer's standard polyvinylidene fluoride (PVF) top coat, over epoxy primer.

E. Interior Finish Coating: Panel manufacturer's standard polyester top coat, over recommended primer.

F. Panel Back Coating: Panel manufacturer's standard polyester wash coat.

G. Non-Precoated Steel Sheet: Hot-dipped galvanized steel sheet, ASTM A 653/A 653M, SS Grade 33/230, with G90 coating.

H. Non-precoated Steel Sheet: Aluminum-zinc alloy-coated steel sheet, ASTM A 792/A 792M Commercial Steel (CS), with AZ50/AZM150 coating.

I. Non-precoated Aluminum Sheet: ASTM B 209 (ASTM B 209M), 3105 alloy, O temper, smooth surface, mill finish.

J. Insulation: Glass fiber type specified in Section 07212.

1. Nominal 6 inch thick.
2. Thermal resistance R of 19.

2.04 ACCESSORIES

A. Gaskets: Manufacturer's standard type suitable for use with system, permanently resilient; ultraviolet and ozone resistant.

B. Sealants: Specified in Section 07900. Manufacturer's standard type suitable for use with installation of system; non-staining; color as selected.

C. Fasteners: Manufacturer's standard type to suit application; with soft neoprene washers, steel, hot dip galvanized. Fastener cap same color as exterior panel.

D. Field Touch-up Paint: As recommended by panel manufacturer.

E. Bituminous Paint: Asphalt base.

F. Building Paper: ASTM D 226, Type I ("No. 15"), unperforated asphalt felt.

2.05 FABRICATION

A. Form sections true to shape, accurate in size, square, and free from distortion or defects.

B. Form pieces in longest practicable lengths.

C. Form panels for standing seams.

D. Fabricate corners in one continuous piece with minimum 18 inch returns.

3.01 EXAMINATION

- A. Verify that building framing members are ready to receive panels.

3.02 PREPARATION

- A. Install sub-girts perpendicular to panel length, securely fastened to substrates and shimmed and leveled to uniform plane. Space at intervals indicated.
- B. Install 1 layer building paper horizontally on walls to receive panels.
- C. Weather lap edges 6 inches and ends minimum 6 inches, minimum.
- D. Stagger vertical joints of each layer.
- E. Securely staple in place.

3.03 INSTALLATION

- A. Install panels on walls and soffits in accordance with manufacturer's instructions.
- B. Protect surfaces in contact with cementitious materials and dissimilar metals with bituminous paint. Allow to dry prior to installation.
- C. Fasten panels to structural supports; aligned, level, and plumb.
- D. Locate joints over supports. Lap panel ends minimum 2 inches.
- E. Provide expansion joints where indicated.
- F. Use concealed fasteners unless otherwise approved by City of Fort Lauderdale and, when applicable, Architect.
- G. Seal and place gaskets to prevent weather penetration. Maintain neat appearance.

3.04 TOLERANCES

- A. Maximum Offset From True Alignment Between Adjacent Members Butting or In Line: 1/16 inch.
- B. Maximum Variation from Plane or Location Indicated on Drawings: 1/4 inch.

3.05 CLEANING

- A. Remove site cuttings from finish surfaces.
- B. Clean and wash pre-finished surfaces with mild soap and water; rinse with clean water.

END OF SECTION

SECTION 07620**SHEET METAL FLASHING AND TRIM****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Fabricated sheet metal items, including flashings, counter flashings, gutters, downspouts, and copper piling caps

1.02 RELATED SECTIONS

- A. Section 06100 – Rough Carpentry: Wood blocking, fascia, nailers, and curbs
- B. Section 09900 - Paints and Coatings: Field painting.

1.03 REFERENCES

- A. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum; American Architectural Manufacturers Association; 1998.
- B. AAMA 2603 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels; 2002.
- C. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels; 2005.
- D. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels; 2005.
- E. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2005a.
- F. ASTM B 32 - Standard Specification for Solder Metal; 2004.
- G. ASTM B 209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2004.
- H. ASTM B 209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate (Metric); 2004.
- I. ASTM B 370 - Standard Specification for Copper Sheet and Strip for Building Construction; 2003.
- J. SMACNA (ASMM) - Architectural Sheet Metal Manual; Sheet Metal and Air Conditioning Contractors' National Association; 2003.

1.04 SUBMITTALS

- A. Provide product data to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect:
 - 1. Manufacturers Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.
 - 2. Samples: Submit two samples 4 x 4 inch in size illustrating metal finish color.

1.05 QUALITY ASSURANCE

- A. Perform work in accordance with SMACNA Architectural Sheet Metal Manual requirements
- B. Fabricator and Installer Qualifications: Company specializing in sheet metal work with five years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.
- B. Prevent contact with materials which may cause discoloration or staining.

PART 2 PRODUCTS**2.01 SHEET MATERIALS**

- A. Galvanized Steel: ASTM A 653/A 653M, with G90/Z275 zinc coating; minimum 0.02 inch thick base metal.
- B. Pre-Finished Galvanized Steel: ASTM A 653/A 653M, with G90/Z275 zinc coating; minimum 0.02 inch thick base metal, shop pre-coated with modified silicone coating.
1. Modified Silicone Polyester Coating: Pigmented Organic Coating System, AAMA 2603; baked enamel finish system; color as scheduled.
 2. PVDF (Polyvinylidene Fluoride) Coating: Superior Performance Organic Finish, AAMA 2605; multiple coat, thermally cured fluoropolymer finish system; color as selected by City of Fort Lauderdale and, when applicable, Architect.
- C. Aluminum: ASTM B 209 (ASTM B 209M); 0.032 inch thick; anodized finish of color as selected.
1. Clear Anodized Finish: AAMA 611 AA-M12C22A41 Class I clear anodic coating not less than 0.7 mils thick.
 2. Color Anodized Finish: AAMA 611 AA-M12C22A42/44 Class I integrally or electrolytically colored anodic coating not less than 0.7 mils thick; color as selected by City of Fort Lauderdale and, when applicable, Architect.
- D. Pre-Finished Aluminum: ASTM B 209 (ASTM B 209M); 0.032 inch thick; plain finish shop pre coated with fluoropolymer coating of color as selected.
1. Modified Silicone Polyester Coating: Pigmented Organic Coating System, AAMA 2603; baked enamel finish system; color as selected by City of Fort Lauderdale and, when applicable, Architect.
 2. Fluoropolymer Coating: High Performance Organic Finish, AAMA 2604; multiple coat, thermally cured fluoropolymer finish system; color as selected by City of Fort Lauderdale and, when applicable, Architect.
- E. Copper: ASTM B370, cold rolled 16 oz/sq ft thick; natural finish

2.02 ACCESSORIES

- A. Fasteners: Galvanized steel, with soft neoprene washers.
- B. Primer: Zinc chromate type.
- C. Protective Backing Paint: Zinc molybdate alkyd.
- D. Sealant: Specified in Section 07900.
- E. Plastic Cement: ASTM D 4586, Type I.
- F. Solder: ASTM B 32; Sn50 (50/50) type.

2.03 FABRICATION

- A. Form sections true to shape, accurate in size, square, and free from distortion or defects.
- B. Fabricate cleats of galvanized steel type sheet metal, interlocking with sheet.
- C. Form pieces in longest possible lengths.
- D. Hem exposed edges on underside 1/2 inch; miter and seam corners.
- E. Form material with flat lock seams, except where otherwise indicated. At moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.
- F. Fabricate corners from one piece with minimum 18 inch long legs; seam for rigidity, seal with sealant.
- G. Fabricate vertical faces with bottom edge formed outward 1/4 inch (6 mm) and hemmed to form drip.

2.04 GUTTER AND DOWNSPOUT FABRICATION

- A. Gutters: SMACNA Architectural Sheet Metal Manual, Rectangular profile.
- B. Downspouts: Rectangular profile.
- C. Gutters and Downspouts: Size for rainfall intensity determined by a storm occurrence of 1 in 5 years in accordance with SMACNA Architectural Sheet Metal Manual.
- D. Accessories: Profiled to suit gutters and downspouts.
1. Anchorage Devices: In accordance with SMACNA requirements.
 2. Gutter Supports: Brackets.
 3. Downspout Supports: Brackets.

2.05 COPPER PILING CAP FABRICATION

- A. Cut and form to conical profile with base diameter and shape sized to fit over wood or concrete piling as required at facility. Provide continuous hemmed flange of 2" length.
- B. Tin edges of copper sheet to be soldered. Solder shop formed metal joints. After soldering, remove flux. Wipe and wash solder joints clean. Weather seal joints

PART 3 EXECUTION**3.01 EXAMINATION**

- A. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, and nailing strips located.
- B. Verify roofing termination and base flashings are in place, sealed, and secure.

3.02 PREPARATION

- A. Install starter and edge strips, and cleats before starting installation.
- B. Back paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 15 mil.

3.03 INSTALLATION

- A. Conform to manufacturers drawings and SMACNA Architectural Sheet Metal Manual requirements.
- B. Secure flashings in place using concealed fasteners. Use exposed fasteners only where permitted by City and, when applicable, Consultant.
- C. Apply plastic cement compound between metal flashings and felt flashings.
- D. Fit flashings tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles.
- E. Seal metal joints watertight.
- F. Solder metal joints for full metal surface contact. After soldering, wash metal clean with neutralizing solution and rinse with water.
- G. Secure gutters and downspouts in place using concealed fasteners.
- H. Slope gutters 1/4 inch per foot minimum.

END OF SECTION

SECTION 07650**FLEXIBLE FLASHING****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Laminated metal flashings.
- B. Flexible self-adhering rubberized asphalt through-wall flashing, and wall flashing accessories.
- C. Mastic for setting and sealing joints.

1.02 RELATED SECTIONS

- A. Section 04810 - Unit Masonry Assemblies.
- B. Section 05400 - Cold Formed Metal Framing.

1.03 REFERENCES

- A. ASTM D 412 - Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers- Tension; 1998a (Re-approved 2002).
- B. ASTM D 570 - Standard Test Method for Water Absorption of Plastics; 1998.
- C. ASTM D 1004 (Tension) - Test Method for Initial Tear Resistance of Plastic Film and Sheeting.
- D. ASTM D 1938 - Test Method for Tear Propagation Resistance of Plastic Film and Thin Sheeting by a Single-Tear Method.
- E. ASTM D 1876 - Test Method for Peel Resistance of Adhesives.
- F. ASTM D 1970 - Standard Specifications for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
- G. ASTM D 832 - Standard Practice for Rubber Conditioning for Low-Temperature Testing; 1992 (Re-approved 1997).
- H. ASTM E 96 - Standard Test Methods For Water Vapor Transmission of Materials; 2000.
- I. ASTM E 154 - Test Method for Water Vapor Retarders used in contact with Earth Under Concrete Slabs, on Walls or as Ground Cover.
- J. SMACNA (ASMM) - Architectural Sheet Metal Manual; Sheet Metal and Air Conditioning Contractors' National Association; 1993, Fifth Edition.

1.04 SUBMITTALS

- A. Provide product data to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect:
 - 1. Product Data: Manufacturer's data sheets showing product characteristics and including installation recommendations and instructions.
 - 2. Samples: Actual pieces of flashings specified, not less than 6 inches square.

1.05 QUALITY ASSURANCE

- A. Provide all masonry flashings from a single manufacturer.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to project site in manufacturer's sealed containers and packaging, bearing manufacturer's name and product identification.
- B. Stack flashing materials to avoid twisting, bending, and abrasion. Protect materials from weather before installation.
- C. Store mastic materials in sealed containers under cover.

PART 2 PRODUCTS**2.01 MANUFACTURERS**

- A. Carlisle Coatings & Waterproofing Inc.; www.carlisle-ccw.com.
- B. W. R. Grace & Company; www.gcp-grace.com.
- C. Polyguard Products, Inc.; www.polyguardproducts.com.
- D. Hohmann & Barnard Inc.; www.h-b.com.
- E. York Manufacturing, Inc.; www.yorkmfg.com.
- F. Substitutions: Refer General and Special Conditions for substitution requirements.

2.02 MATERIALS

- A. Metal Flexible Flashing: Copper sheet bonded on both sides by asphalt to heavy waterproof creped Kraft paper weighing 5 oz/sq ft and reinforced with heavy fibers.
 - 1. Acceptable Products/Basis of Design:
 - a. Hohmann & Barnard Inc.: "C-Kraft Duplex".
 - b. York Manufacturing, Inc.: "Cop-R-Tex Duplex".
- B. Mastic: Cut-back asphalt containing long fibered material, in trowel grade consistency.
- C. Membrane Flexible Flashing: 0.8 mm (32 mils) of self-adhesive rubberized asphalt integrally bonded to .2 mm (8 mils) of cross-laminated, high-density polyethylene film to provide a min. 1.0 mm (40 mil) thick membrane. Membrane shall be interleaved with disposable silicone-coated release paper until installed.
 - 1. Performance Requirements:
 - a. Water Vapor Transmission: ASTM E 96, Method B - 2.9 ng/m²sPa (0.05 perms) maximum.
 - b. Water Absorption: ASTM D 570 - Max. 0.1% by weight.
 - c. Puncture Resistance: ASTM E 154 - 178 N (40 lbs).
 - d. Tear Resistance:
 - 1) Initiation: ASTM D 1004 - min. 58 N (13.0 lbs.) M.D.
 - 2) Propagation: ASTM D 1938 - min. 40 N (9.0 lbs.) M.D.
 - e. Lap Adhesion at 25 degrees (-4 degrees C): ASTM D 1876 - 880 N/M (5.0 lbs./in.) of width.
 - f. Low Temperature Flexibility: ASTM D 1970 - Unaffected to -43°C.
 - g. Tensile Strength: ASTM D 412, Die C Modified - Min. 800 psi (5.5 Mpa).
 - h. Elongation, Ultimate Failure of Rubberized Asphalt: ASTM D412, Die C - Min. 200%.
 - 2. Acceptable Products/Basis of Design:
 - a. W.R. Grace & Company: "Perm-A-Barrier".
 - b. Polyguard Products, Inc.: "401 Flashing Membrane".
 - 3. Openings and perimeters: Self adhering rubberized asphaltic membrane with a reinforced polyethylene face sheet.
 - 4. Thru-wall, support angle flashing, and similar locations: Self adhering rubberized asphaltic membrane with a reinforced polyethylene face sheet.
- D. Drip strips: Stainless steel, ASTM A666, Type 304, soft temper; 26 gage thick; finish 2B to 2D.
- E. Galvanized Steel: ASTM A 653/A 653M, with G90/Z275 coating, 24 gage total thickness.

2.03 WALL FLASHING ACCESSORIES

- A. Surface Conditioner:
 - 1. Latex-based, water-dispersible liquid for substrate preparation.
 - 2. Flash Point: No flash to boiling point.
 - 3. Solvent Type: Water.
 - 4. VOC Content: Not to exceed 350 g/l.
 - 5. Application Temperature: 25 degrees F (-4 degrees C) and above.
 - 6. Freeze/Thaw Stability: 5 cycles min.
 - 7. Freezing point (as packaged): -5 degrees F (-20 degrees C).
- B. Termination Dam proofing:
 - 1. Water born emulsified-asphalt damp proofing with 30 g/l max. VOC Content, as specified in Section 07115.
- C. Glass Fiber Mesh:
 - 1. Saturated woven glass fabric tape equivalent to Glasfab 3 2020x, as manufactured by Twinsburgh-Miller Corp.

2.04 FABRICATION

- A. Forming: Fabricate flashings true to shape and accurate in dimension. Form pieces in longest possible lengths

to minimize joints. Fold flashing at corners and at ends of pans instead of cutting. Profiles and other detailing to comply with recommendations of SMACNA Architectural Sheet Metal Manual.

B. Joints: Provide not less than 4 inches of overlap at flashing joints.

PART 3 EXECUTION

3.01 EXAMINATION

- A. With installer present, examine conditions for compliance with installed requirements, tolerances, and other specific conditions affecting performance of all flashings. Remove all deleterious materials from surfaces to be flashed.
- B. Verify that surfaces to receive flashing are thoroughly dry, free from loose materials, and reasonably smooth, with no sharp edges or projections.
- C. Verify that locations to receive flashing are sloped so water that enters will drain to building exterior.
- D. Correct defective conditions before beginning work. Starting of work shall constitute acceptance of such conditions.

3.02 PREPARATION

- A. Self-Adhering Flashing: Prime all surfaces to receive self-adhering flashing, and allow to dry for not less than 20 minutes prior to flashing application.

3.03 INSTALLATION

- A. General:
 - 1. Lap joints minimum of 4 inches and seal watertight with mastic.
 - 2. Base Wall:
 - a. Extend flashings beginning 1/8" from outside face of wall, through the veneer, and turn up on outside face of backup wall not less than 8". Embed at masonry backup per 3.03 D. Attach at framed backup per 3.03 E.
 - 3. Heads and Sills:
 - a. Extend flashings beginning 1/8" from outside face of wall, through the veneer, and turn up on outside face of backup wall not less than 8".
 - b. Extend 6 inches each side of opening.
 - c. Turn up ends to form a 2 " deep watertight pan running entirely from backup wall through veneer in head joint.
 - 4. Terminate horizontal leg of all flashings at wall face with stainless steel drip edge.
 - a. Drip edge to clear wall by 1/4".
 - b. Lap flashing leg over horizontal leg of drip minimum 1".
 - c. Separate drip from flashing with manufacturer's bond breaker strip OR
 - d. Trowel bed of mastic between top side of drip and bottom side of metal flashing to completely separate dissimilar metals.
- B. Coordination: Interface flashing work with adjacent and adjoining work to ensure best possible weather resistance and durability of completed flashing.
- C. Metal Flashing in Masonry Construction:
 - 1. Lay horizontal leg of flashing in slurry of fresh mortar and top with fresh full bed of mortar to receive masonry units above. At vertical surfaces, spot flashing with mastic to hold in place until masonry has set.
 - 2. Carry flashing through wall and leave exposed for inspection.
 - 3. After inspection, cut flashing flush with surface of masonry.
 - 4. Remove mortar or other obstructions from weep holes at flashing locations.
- D. Metal Flashing in Frame Construction: Install over solid backing, both vertically and horizontally.
 - 1. Secure in place with mastic; avoid puncturing installed flashing with nails or other fasteners.
 - 2. Secure top edge of vertical leg with a continuous termination bar of 10 gage galvanized sheet steel. Seal top of bar with continuous coat of mesh reinforced damproofing lapped from substrate over bar. Refer joint treatment for exterior sheathing as specified in Section 05400.
- E. Membrane Flashing:
 - 1. Precut pieces of flashing to easily handled lengths for each location.
 - 2. Remove silicone-coated release paper and position flashing carefully before placing it against the surface.
 - 3. When properly positioned, place against surface by pressing firmly into place by hand roller. Fully adhere flashing to substrate to prevent water from migrating under flashing.

4. Overlap adjacent pieces 2" and roll all seams with a steel hand roller.
5. Trim bottom edge 1/2" back from exposed face of the wall. Flashing shall not be permanently exposed to sunlight.
6. At heads, sills and all flashing terminations, turn up ends a minimum of 2" and make careful folds to form an end dam, with the seams sealed.
7. Do not allow the rubberized asphalt surface of the flashing membrane to come in contact with polysulfide sealants, creosote, uncured coal tar products or EPDM.
8. Do not expose flashing membrane to sunlight for more than ten days prior to enclosure.
9. Secure top edge of vertical leg to substrate with continuous coat of mesh reinforced dampproofing lapped from substrate over membrane. Refer joint treatment for exterior sheathing as specified in Section 05400.

F. Accessories:

1. When required by dirty or dusty site conditions or by surfaces having irregular or rough texture, apply surface conditioner by spray, brush, or roller at the rate recommended by manufacturer, prior to flashing installation. Allow surface conditioner to dry completely before flashing application.

G. Apply damp proofing in quantity required to seal seams, cuts, and penetrations in the flashing membrane.

END OF SECTION

JOINT SEALERS**PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Sealants and joint backing.
- B. Pre-compressed foam sealers.

1.02 RELATED SECTIONS

- A. Section 04810 - Unit Masonry Assemblies: Control and expansion joints.
- B. Section 08800 - Glazing: Glazing sealants and accessories.
- C. Section 09260 - Gypsum Board Assemblies: Acoustic sealant.
- D. Section 07900 - Tile: Sealant used as tile grout.

1.03 REFERENCES

- A. ASTM C 790 - Standard Guide for Use of Latex Sealants; 1990.
- B. ASTM C 804 - Standard Practices for Use of Solvent-Release Type Sealants; 1988.
- C. ASTM C 834 - Standard Specification for Latex Sealants; 2000.
- D. ASTM C 919 - Standard Practice for Use of Sealants in Acoustical Applications; 2002.
- E. ASTM C 920 - Standard Specification for Elastomeric Joint Sealants; 2002.
- F. ASTM C 1085 - Specification for Butyl Rubber-Based Solvent Release Sealants.
- G. ASTM C 1193 - Standard Guide for Use of Joint Sealants; 2000.
- H. ASTM D 1056 - Standard Specification for Flexible Cellular Materials--Sponge or Expanded Rubber; 2000.
- I. ASTM D 1565 - Standard Specification for Flexible Cellular Materials--Vinyl Chloride Polymers and Copolymers (Open-Cell Foam); 1997.
- J. ASTM D 1667 - Standard Specification for Flexible Cellular Materials--Vinyl Chloride Polymers and Copolymers (Closed-Cell Foam); 1997.

1.04 SUBMITTALS

- A. Provide product data to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect:
 - 1. Product Data: Provide data indicating sealant chemical characteristics, and manufacturer's limitations and recommendations.
 - 2. Samples: Submit manufacturer's full range of samples for all conditions required, 4x 1/4 inch in size illustrating sealant colors for selection.
 - 3. Manufacturer's Installation Instructions: Indicate special procedures.

1.05 MOCK-UP

- A. Incorporate appropriate sealant joints in conjunction with brick, and CMU mockup under provisions of Section 04810.

1.06 ENVIRONMENTAL REQUIREMENTS

- A. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.

1.07 COORDINATION

- A. Coordinate the work with all sections referencing this section.

PART 2 PRODUCTS**2.01 MANUFACTURERS**

- A. Sealants:
 - 1. Bostik: www.bostik.com.

2. Dow Corning Corp: www.dowcorning.com.
3. GE Plastics: www.geplastics.com.
4. Pecora Corporation: www.pecora.com.
5. Sonneborn Building Products, ChemRex, Inc: www.chemrex.com.
6. Tremco, Inc: www.tremcosealants.com.
7. United States Gypsum Co: www.usg.com
8. Substitutions: Refer General and Special Conditions for substitution requirements

B. Preformed Compressible Foam Sealers:

1. Emseal Joint Systems, Ltd: www.emseal.com.
2. Sandell Manufacturing Company, Inc: www.sandellmfg.com.
3. Polytite Manufacturing Corporation: www.polytite.com.
4. Sonneborn Building Products, ChemRex, Inc: www.chemrex.com.
5. Substitutions: Refer General and Special Conditions for substitution requirements

2.02 MATERIALS

A. Products used for joint sealant and backing rod may include, but are not limited to the following:

1. (Type 1): Two - Part Urethane: Self leveling, ASTM C 920, Type M, Grade P, Class 25.
2. (Type 2): Two - Part Urethane: Non-Sag, ASTM C 920, Type M, Grade NS, Class 25.
3. (Type 3): One - Part Urethane: Self leveling, ASTM C 920, Type S, Grade P, Class 25.
4. (Type 4): One - Part Urethane: Non-Sag, ASTM C 920, Type S, Grade NS, Class 25.
5. (Type 5): One - Part Silicone: (Vertical surface only), ASTM C 920, Type S, Grade NS, Class 25.
6. (Type 6): One - Part Silicone with mildew resisting additives, ASTM C 920, Type S, Grade NS, Class 25; NSF Rating C2.
7. (Type 7): One - Part Acrylic Latex: ASTM C 834.
8. (Type 8): One - Part Butyl: Non-Sag, ASTM C 1085, FS TT-S-1657.
9. (Type 9): One Part Acrylic Latex (Acoustic Sealant): ASTM C 834.
10. Closed Cell Polyethylene Foam Backer Rod.
11. Open Cell Polyethylene Foam Backer Rod.
12. Neoprene compression seals.

B. Accessories:

1. Primer: Non-staining type, recommended by sealant manufacturer to suit application.
2. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.
3. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

C. Colors to be selected by the City of Fort Lauderdale and, when applicable, Architect.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrate surfaces are ready to receive work.
- B. Verify that joint backing and release tapes are compatible with sealant.

3.02 PREPARATION

- A. Remove loose materials and foreign matter which might impair adhesion of sealant.
- B. Clean and prime joints in accordance with manufacturer's instructions.
- C. Perform preparation in accordance with manufacturer's instructions and ASTM C 1193.
- D. Protect elements surrounding the work of this section from damage or disfigurement.

3.03 INSTALLATION

- A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
- B. Perform installation in accordance with ASTM C 1193.
- C. Perform acoustical sealant application work in accordance with ASTM C 919.
- D. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer, except where specific dimensions are indicated.
- E. Install bond breaker where joint backing is not used.

- F. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.
- G. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.
- H. Tool joints concave.
- I. Precompressed Foam Sealant: Do not stretch; avoid joints except at corners, ends, and intersections; install with face 1/8 to 1/4 inch below adjoining surface.
- J. Compression Gaskets: Avoid joints except at ends, corners, and intersections; seal all joints with adhesive; install with face 1/8 to 1/4 inch below adjoining surface.

3.04 CLEANING

- A. Clean adjacent soiled surfaces.

3.05 PROTECTION OF FINISHED WORK

- A. Protect sealants until cured.

3.06 SCHEDULE

- A. Control and Expansion Joints in Concrete Paving: Type 4.
- B. Exterior Joints in Horizontal Wearing and Non-Wearing Surfaces: Type 1 for joints 1/2 to 1 in width; Type 3 for joints up to 1/2 in width.
- C. Exterior Wall Expansion Joints: Type 2 for joints 1/2 to 1 in width; Type 4 for joints up to 1/2 in width.
- D. Control, Expansion, and Soft Joints in Masonry, and Between Masonry and Adjacent Work: Type 2 for joints 1/2 to 1 in width; Type 4 for joints up to 1/2 in width.
- E. Joints between Exterior Metal Frames and Adjacent Work: Type 5.
- F. Under Exterior Door Thresholds: Type 8.
- G. Control, Expansion, and Soft Joints in Interior Masonry, and Between Interior Masonry and Adjacent Work: Type 5.
- H. In Unrated Walls, for Control Joints in Metal Stud/Gypsum Board Construction: Type 7.
- I. In Unrated Walls, Between Frames and Adjacent Metal Stud/Gypsum Board Construction: Type 7.
- J. Ceramic Tile Expansion and Control Joints; Type 6.
- K. Joints Between Plumbing Fixtures and Walls and Floors, and Between Countertops and Walls: Type 6.
- L. Interior Framed Walls, Between Metal Stud Track/Runner and Adjacent Construction: Type 9.

END OF SECTION

SECTION 08110

STEEL DOORS AND FRAMES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Non-fire-rated steel doors and frames.
- B. Steel frames for wood doors.
- C. Fire-rated steel doors and frames.
- D. Thermally insulated steel doors.
- E. Steel glazing frames.
- F. Accessories, including glazing, louvers, and matching panels.

1.02 RELATED SECTIONS

- A. Section 04065 – Mortar and Masonry Grout
- B. Section 04810 - Unit Masonry Assemblies.
- B. Section 08211 - Flush Wood Doors.
- C. Section 08800 - Glazing: Glass for doors and borrowed lites.
- D. Section 09260 - Gypsum Board Assemblies.
- E. Section 09900 - Paints and Coatings: Field painting.

1.03 REFERENCES

- A. ANSI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames; 1998.
- B. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2003.
- C. ASTM E 336 - Standard Test Method for Measurement of Airborne Sound Insulation in Buildings; 1997.
- D. ASTM E 413 - Classification for Rating Sound Insulation; 1987 (Reapproved 1999).
- E. ASTM E 1408 - Standard Test Method for Laboratory Measurement of the Sound Transmission Loss of Door Panels and Door Systems; 1991 (Reapproved 2000).
- F. DHI A115 Series - Specifications for Steel Doors and Frame Preparation for Hardware; Door and Hardware Institute; current edition (ANSI/DHI A115 Series).
- G. ITS (DIR) - Directory of Listed Products; Intertek Testing Services NA, Inc.; current edition.
- H. NAAMM HMMA 840 - Guide Specifications for Installation and Storage of Hollow Metal Doors and Frames; The National Association of Architectural Metal Manufacturers; 1999.
- I. NAAMM HMMA 860 - Guide Specifications for Hollow Metal Doors and Frames; The National Association of Architectural Metal Manufacturers; 1992.
- J. NAAMM HMMA 861 - Guide Specifications for Commercial Hollow Metal Doors and Frames; The National Association of Architectural Metal Manufacturers; 2000.
- K. NAAMM HMMA 865 - Guide Specifications for Swinging Sound Control Hollow Metal Doors and Frames; The National Association of Architectural Metal Manufacturers; 2003.
- L. NFPA 80 - Standard for Fire Doors and Fire Windows; National Fire Protection Association; 1999.
- M. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies; National Fire Protection Association; 2003.
- N. UL (BMD) - Building Materials Directory; Underwriters Laboratories Inc.; current edition.
- O. UL 10B - Standard for Fire Tests of Door Assemblies; 1997.
- P. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies; 1998.

- A. Provide product data to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect:
 - 1. Product Data: Materials and details of design and construction, hardware locations, reinforcement type and locations, anchorage and fastening methods, and finishes.
 - 2. Manufacturers Drawings: Details of each opening, showing elevations, glazing, frame profiles, and identifying location of different finishes, if any.
 - 3. Samples: Submit two samples of metal, 2 x 2 inches in size showing factory finishes, colors, and surface texture.
 - 4. Installation Instructions: Manufacturer's published instructions, including any special installation instructions relating to this project.
 - 5. Manufacturer's Certificate: Certification that products meet or exceed specified requirements.

1.05 QUALITY ASSURANCE

- A. Manufacturer: Company specializing in manufacturing the products specified in this section with minimum five years documented experience.
- B. Products Requiring Electrical Connection: Listed and classified by UL as suitable for the purpose specified and indicated.

1.06 REGULATORY REQUIREMENTS

- A. All products and installation to comply with accessibility provisions of the Florida Building Code and the Americans with Disabilities Act.
- B. City and Consultant will provide identification of fire rated assemblies specific to project location.

1.07 DELIVERY, STORAGE, AND PROTECTION

- A. Store all components under cover, in a conditioned space and elevated above grade.
- B. Store in accordance with NAAMM HMMA 840.
- C. Protect with resilient packaging; avoid humidity build-up under coverings; prevent corrosion.
- D. Doors and frames shall be stored in a safe location out of the weather and off of the ground.
- E. Damaged doors and frames will be rejected and shall be replaced. Extensive site repair is unacceptable.

1.08 PROJECT CONDITIONS

- A. Coordinate door, frame, hardware and security components installation with size, location and installation of service utilities.
- B. Sequence installation to ensure utility connections are achieved in an orderly and expeditious manner.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Steel Doors and Frames:
 - 1. Ceco Door Products, Dallas, TX: www.cecodoor.com.
 - 2. Republic Builders Products, McKenzie, TN: www.republicdoor.com.
 - 3. Steelcraft, Cincinnati, OH: www.steelcraft.com.
 - 4. Substitutions: Refer General and Special Conditions for substitution requirements
- B. Manufacturer must be a member of the Hollow Metal Manufacturers Association (NAAMM).

2.02 DOORS AND FRAMES

- A. Requirements for All Doors and Frames:
 - 1. Glazed Lights: Non-removable stops on non-secure side; sizes and configurations as indicated on drawings.
 - 2. Hardware Preparation: In accordance with DHI A115 Series, with reinforcement welded in place, in addition to other requirements specified in door grade standard.
 - 3. Finish: Factory primed, for field finishing.

2.03 STEEL DOORS

A. Exterior Doors:

1. Grade: NAAMM HMMA 863, 14 gage.
2. Core: Polystyrene foam.
3. Top Closures (All Exterior Doors): Flush with top of faces and edges.
4. Galvanizing: All components hot-dipped zinc-iron alloy-coated (galvannealed) in accordance with ASTM A 653/A 653M, with A40/ZF120 coating.
5. Texture: Smooth faces.
6. Door Edge Profile: Beveled on both edges
7. Insulating Value: U-value of 0.31, when tested in accordance with ASTM C 1363 or ASTM C 236.
8. Finish: Factory primed, for field finishing.

B. Interior Doors, Non-Fire-Rated:

1. Grade: NAAMM HMMA 861, physical performance Level A, 18 gage face thickness.
2. Thickness: 1-3/4 inches.
3. Texture: Smooth faces.
4. Finish: Factory primed, for field finishing.

C. Interior Doors, Fire-Rated:

1. Grade: NAAMM HMMA 861, physical performance Level A.
2. Grade: NAAMM HMMA 861, physical performance Level A, 18 gage face thickness.
3. Fire Rating: As determined by Owner and Architect, tested in accordance with NFPA 252.
 - a. Provide units listed and labeled by UL.
 - b. Attach fire rating label to each fire rated unit.
4. Core: Vertical steel stiffeners.
5. Texture: Smooth faces.
6. Finish: Factory primed, for field finishing.

D. Panels: Same construction, performance, and finish as doors.**2.04 STEEL FRAMES****A. General:**

1. All steel frames shall be fully welded from return thru face, jamb, stop and to return on the other side. Knock-down frames are NOT ACCEPTABLE.
2. Finish: Same as for door.
3. Provide mortar guard boxes for hardware cut-outs in frames to be installed in masonry or to be grouted.
4. Frames in Masonry Walls: Size to suit masonry coursing with head member 4 inches high to fill opening without cutting masonry units. Refer to door schedule for over sized frames with 2 inches high head members.
5. Grout all masonry frames solid.
6. Frames Wider than 48 Inches: Reinforce with steel channel fitted tightly into frame head, flush with top.

B. Exterior Door Frames: Fully welded.

1. Galvanizing: All components hot-dipped zinc-iron alloy-coated (galvannealed) in accordance with ASTM A 653/A 653M, with A40/ZF120 coating.
2. Finish: Factory primed, for field finishing.
3. Weather-stripping: See Section 08710.

C. Interior Door Frames, Non-Fire-Rated: Fully welded type.**D. Interior Door Frames, Fire-Rated: Fully welded type.**

1. Fire Rating: Same as door, labeled.
2. Finish: Factory primed, for field finishing.

E. Mullions for Pairs of Doors: Fixed, of profile similar to jambs.**F. Frames for Interior Glazing or Borrowed Lights: Construction and face dimensions to match door frames, and as indicated on drawings.****G. Transom Bars: Fixed, of profile same as jamb and head.****2.05 ACCESSORY MATERIALS****A. Louvers: Roll formed steel with overlapping frame; factory-painted finish, color as selected; factory-installed.****B. Glazing: As specified in Section 08800, factory installed.****C. Astragals for Double Doors: Continuous, welded, integral with one leaf.**

1. Exterior Doors: Steel, Z-shaped.

2. Fire-Rated Doors: Steel, shape as required to accomplish fire rating.

- D. Grout for Frames: Portland cement grout of maximum 4-inch slump for hand troweling; thinner pumpable grout is prohibited.
- E. Silencers: Resilient rubber, fitted into drilled hole; 3 on strike side of single door, 3 on center mullion of pairs, and 2 on head of pairs without center mullions.
- F. Temporary Frame Spreaders: Provide for all factory- or shop-assembled frames.

2.06 FINISH MATERIALS

- A. Primer: Rust-inhibiting, complying with ANSI A250.10, baked on.
- B. Bituminous Coating: Asphalt emulsion or other high-build, water-resistant, resilient coating.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that opening sizes and tolerances are acceptable.

3.02 PREPARATION

- A. Coat inside of frames to be installed in masonry or to be grouted, with bituminous coating, prior to installation.
- B. All doors and frames shall be inspected prior to installation by the City of Fort Lauderdale and, when applicable, Architect. Damaged items will be rejected and replaced.

3.03 INSTALLATION

- A. Install in accordance with the requirements of the specified door grade standard and NAAMM HMMA 840.
- B. In addition, install fire rated units in accordance with NFPA 80.
- C. Coordinate frame anchor placement with wall construction.
- D. Grout frames in masonry construction, using hand trowel methods; brace frames so that pressure of grout before setting will not deform frames.
- E. Coordinate installation of hardware.
- F. Coordinate installation of glazing.
- G. Coordinate installation of electrical connections to electrical hardware items.
- H. Touch up damaged factory finishes.

3.04 INTERFACE WITH OTHER WORK

- A. The work of this section shall be coordinated with the work of Section 08211, 08710, and 08800.

3.05 ERECTION TOLERANCES

- A. Clearances between Door and Frame: As specified in ANSI A250.8.
- B. Maximum Diagonal Distortion: 1/16 in measured with straight edge, corner to corner.

3.06 ADJUSTING

- A. Adjust for smooth and balanced door movement.

3.07 CLEANING and PROTECTION

- A. Clean all door and frames surfaces upon completion of installation.
- B. Protect installed components and products from subsequent construction operations.

END OF SECTION

SECTION 08211**FLUSH WOOD DOORS****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Flush wood doors; flush configuration; fire rated, non-rated, and acoustical.
 - 1. Wood doors with plastic laminate covered faces.
 - 2. Hollow core doors with veneer faces

1.02 RELATED SECTIONS

- A. Section 08110 - Steel Doors and Frames.
- B. Section 08800 - Glazing.
- C. Section 09900 – Paints and Coatings

1.03 REFERENCES

- A. AWI/AWMAC (QSI) - Architectural Woodwork Quality Standards Illustrated; Architectural Woodwork Institute and Architectural Woodwork Manufacturers Association of Canada; 2003.
- B. ICC (IBC) - International Building Code; 2003.
- C. ITS (DIR) - Directory of Listed Products; Intertek Testing Services NA, Inc.; current edition.
- D. NEMA LD 3 - High-Pressure Decorative Laminates; National Electrical Manufacturers Association; 2000.
- E. NFPA 80 - Standard for Fire Doors and Fire Windows; National Fire Protection Association; 1999.
- F. UBC Std 7-2, Part II - Test Standard for Smoke- and Draft-control Assemblies; International Conference of Building Officials; 1997.
- G. UL (BMD) - Building Materials Directory; Underwriters Laboratories Inc.; current edition.

1.04 SUBMITTALS

- A. Provide product data to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect:
 - 1. Product Data: Indicate door core materials and construction; and other characteristics listed below:
 - 2. Test Reports: Show compliance with specified requirements for the following:
 - a. For plastic laminate covered doors, data shall identify facing type, pattern, manufacturer, style, type and characteristics.
 - 3. Manufacturer's Drawings: Illustrate door opening criteria, elevations, sizes, types, swings, undercuts required, special beveling, special blocking for hardware, factory machining criteria, identify cutouts for glazing and hardware requirements.
 - a. Manufacturer's drawings shall also identify frames types and materials into which doors will be installed.
 - 4. Samples:
 - a. Submit two samples of each laminate facing, 1 x 2 inch in size illustrating plastic laminate pattern and color.
 - b. Submit two samples of door veneer, 4 x 4 inch in size illustrating wood grain, stain color, and sheen.
 - 5. Manufacturer's Installation Instructions: Indicate special installation instructions.

1.05 QUALITY ASSURANCE

- A. Manufacturer: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.
- B. Installed Fire Rated Door and Transom Panel Assembly: Conform to NFPA 80 for fire rated class as indicated.
- C. Smoke and Draft Control Doors: In addition to required fire rating, comply with air leakage requirements of UBC Std 7-2, Part II; with "S" label; if necessary, provide additional gasketing or edge sealing.

1.06 REGULATORY REQUIREMENTS

- A. All products and installation to comply with accessibility provisions of the Florida Building Code and the Americans with Disabilities Act
- B. The City and when applicable, Consultant, will provide identification of fire rated assemblies specific to project location

1.07 DELIVERY, STORAGE, AND PROTECTION

- A. Package, deliver and store doors in accordance with specified quality standard.
- B. Accept doors on site in manufacturer's packaging. Inspect for damage.
- C. Protect doors with resilient packaging sealed with heat shrunk plastic. Do not store in damp or wet areas; or in areas where sunlight might bleach veneer. Seal top and bottom edges with tinted sealer if stored more than one week. Break seal on site to permit ventilation.

1.08 PROJECT CONDITIONS

- A. Coordinate the work with door opening construction, door frame and door hardware installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Plastic Laminate and Wood Veneer Faced Doors:
 - 1. Assa Abloy Graham: www.grahamdoors.com.
 - 2. Poncraft Door Co: www.poncraft.com.
 - 3. VT Industries, Inc: www.vtindustries.com.
 - 4. Marshfield Door Systems, Inc: www.marshfielddoors.com.
 - 5. Eggers Industries: www.eggersindustries.com.
 - 6. Substitutions: Refer General and Special Conditions for substitution requirements

2.02 DOORS

- A. All Doors:
 - 1. Quality Standard: AWI/AWMAC Architectural Woodwork Quality Standards Illustrated,
 - a. Non Rated Doors:
 - 1. Solid Core doors: Section 1300-T-13, SLC-HPDL-5: five ply, bonded staved lumber core, with high pressure decorative laminate facing
 - 2. Hollow Core doors:
 - b. Rated Doors: Section 1300-T-17, FD-HPDL-5: five ply, fire resistant core, with high pressure decorative laminate facing
- B. Interior Doors: 1-3/4 inches thick unless otherwise indicated; flush construction.
 - 1. Fire Rated Doors: Tested to ratings indicated on drawings in accordance with International Building Code ("positive pressure"); UL or WH (ITS) labeled without any visible seals when door is open.
 - 2. Plastic laminate finish at solid core doors
 - 3. Wood veneer finish at hollow core doors

2.03 DOOR AND PANEL CORES

- A. Non-Rated Solid Core and 20 Minute Rated Doors: staved lumber core (SLC), plies and faces as indicated above.
- B. Fire Rated Doors: Mineral core, Type FD, plies and faces as indicated above.
- C. Hollow Core Doors: Type Standard (SHC/FSHC); plies and faces as indicated above

2.04 DOOR FACINGS

- A. Plastic Laminate Facing for Fire Doors: NEMA LD 3, SGF; color as selected; textured, low gloss finish.
- B. Plastic Laminate Facing for Non-Fire-Rated Doors: NEMA LD 3, HGS; color as selected; textured, low gloss finish.
- C. Facing Adhesive: Type II - water resistant; low VOC compliant
- D. Wood Veneer Facing for Transparent Finish: Species as specified above, veneer grade as specified by quality standard, plain sliced, book veneer match, running assembly match; unless otherwise indicated.

2.05 ACCESSORIES

- A. Glazing Stops: Rolled steel channel shape, mitered corners, fully welded; prepared for countersink style tamper

proof screws; enamel finished ready for painting in the field to match the door frames, see Section 09900.

- B. Astragals for Fire Rated Double Doors: Steel, T shaped, overlapping and recessed at face edge, specifically for double doors.

2.06 DOOR CONSTRUCTION

- A. Fabricate doors in accordance with door quality standard specified.
- B. Provide solid blocks at lock edge for hardware reinforcement.
 - 1. Provide solid blocking for other through bolted hardware.
- C. Vertical Exposed Edge of Stiles : Plastic laminate same as door facing.
 - 1. Fit door edge laminate to edge of stiles after applying veneer facing.
- D. Factory machine doors for hardware other than surface-mounted hardware, in accordance with hardware requirements and dimensions.
- E. Factory fit doors for frame opening dimensions identified on shop drawings.
- F. Cut and configure exterior door edge to receive recessed weatherstripping devices.
- G. Provide edge clearances in accordance with AWI Quality Standards Illustrated Section 1700.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that opening sizes and tolerances are acceptable.
- C. Do not install doors in frame openings that are not plumb or are out-of-tolerance for size or alignment.

3.02 INSTALLATION

- A. Install doors in accordance with manufacturer's instructions and specified quality standard.
 - 1. Install fire-rated doors in accordance with NFPA 80 requirements.
- B. Trim door height by cutting bottom edges to a maximum of 3/4 inch (19 mm).
- C. Use machine tools to cut or drill for hardware.
- D. Coordinate installation of doors with installation of frames and hardware.
- E. Coordinate installation of glazing.
- F. Install door louvers plumb and level.

3.03 INSTALLATION TOLERANCES

- A. Conform to specified quality standard for fit and clearance tolerances.
- B. Conform to specified quality standard for maximum diagonal distortion.

3.04 ADJUSTING

- A. Adjust doors for smooth and balanced door movement.
- B. Adjust closers for full closure.

END OF SECTION

SECTION 08710**DOOR HARDWARE****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Hardware for wood and hollow steel doors, in interior and exterior frames.
- B. Hardware for fire-rated doors.
- C. Thresholds.
- D. Weatherstripping, seals and door gaskets.

1.02 RELATED SECTIONS

- A. Section 08110 - Steel Doors and Frames.
- B. Section 08211 – Flush Wood Doors.

1.03 REFERENCES

- A. BHMA A156.1 - American National Standard for Butts and Hinges; Builders Hardware Manufacturers Association, Inc.; 2000 (ANSI/BHMA A156.1).
- B. BHMA A156.2 - American National Standard for Bored and Preamsembled Locks & Latches; Builders Hardware Manufacturers Association; 2003 (ANSI/BHMA A156.2).
- C. BHMA A156.3 - American National Standard for Exit Devices; Builders Hardware Manufacturers Association; 2001 (ANSI/BHMA A156.3).
- D. BHMA A156.4 - American National Standard for Door Controls - Closers; Builders Hardware Manufacturers Association, Inc.; 2000 (ANSI/BHMA A156.4).
- E. BHMA A156.5 - American National Standard for Auxiliary Locks & Associated Products; Builders Hardware Manufacturers Association; 2001 (ANSI/BHMA A156.5).
- F. BHMA A156.6 - American National Standard for Architectural Door Trim; Builders Hardware Manufacturers Association; 2005 (ANSI/BHMA A156.6).
- G. BHMA A156.13 - American National Standard for Mortise Locks & Latches; Builders Hardware Manufacturers Association; 2005 (ANSI/BHMA A156.13).
- H. BHMA A156.16 - American National Standard for Auxiliary Hardware; Builders Hardware Manufacturers Association; 2002 (ANSI/BHMA A156.16).
- I. BHMA A156.18 - American National Standard for Materials and Finishes; Builders Hardware Manufacturers Association, Inc.; 2000 (ANSI/BHMA A156.18).
- J. BHMA A156.21 - American National Standard for Thresholds; Builders Hardware Manufacturers Association; 2006 (ANSI/BHMA A156.21).
- K. BHMA A156.23 - American National Standard for Electromagnetic Locks; Builders Hardware Manufacturers Association, Inc.; 2004 (ANSI/BHMA A156.23).
- L. BHMA A156.24 - American National Standard for Delayed Egress Locks; Builders Hardware Manufacturers Association; 2003 (ANSI/BHMA A156.24).
- M. DHI A115 Series - Specifications for Steel Doors and Frame Preparation for Hardware; Door and Hardware Institute; 2000.
- N. DHI A115W Series - Specifications for Wood Door and Frame Preparation for Hardware; Door and Hardware Institute; 2000.
- O. DHI (LOCS) - Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames; Door and Hardware Institute; 2004.
- P. DHI WDHS.3 - Recommended Locations for Architectural Hardware for Flush Wood Doors; Door and Hardware Institute; 1996.
- Q. UBC Std 7-2, Part II - Test Standard for Smoke- and Draft-control Assemblies; International Conference of

1.04 SUBMITTALS

- A. Provide product data to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect:
 - 1. Shop Drawings:
 - a. Indicate locations and mounting heights of each type of hardware, schedules, catalog cuts, electrical characteristics and connection requirements, and finishes.
 - b. Submit manufacturer's parts lists, templates, and cut sheets.
 - 2. Samples:
 - a. Submit 1 sample of hinge, latchset, lockset, and closer illustrating style, color, and finish.
 - b. Samples will be returned to supplier.
 - 3. Manufacturer's Installation Instructions: Indicate special procedures, perimeter conditions requiring special attention.
 - 4. Maintenance Data: Include data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.
- C. Keys: Deliver with identifying tags to City of Fort Lauderdale
- D. Warranty: Submit manufacturer's warranty and ensure that forms have been completed in City of Fort Lauderdale's name and registered with manufacturer.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.
- B. Hardware Supplier Qualifications: Company specializing in supplying commercial door hardware with 8 years of experience.

1.06 DELIVERY, STORAGE, AND PROTECTION

- A. Package hardware items individually; label and identify each package with door opening code to match hardware schedule.

1.07 COORDINATION

- A. Coordinate the work with other directly affected sections involving manufacture or fabrication of internal reinforcement for door hardware.
- B. Furnish templates for door and frame preparation.
- C. Sequence installation to ensure utility connections are achieved in an orderly and expeditious manner.
- D. Coordinate City of Fort Lauderdale's keying requirements during the course of the Work.

1.08 MAINTENANCE PRODUCTS

- A. Provide special wrenches and tools applicable to each different or special hardware component.
- B. Provide maintenance tools and accessories supplied by hardware component manufacturer.

PART 2 PRODUCTS**2.01 HARDWARE**

- A. Items include but are not limited to the following:
 - 1. Levers and Trim
 - 2. Locks and Latches
 - 3. Cylinders, Cores and Keying
 - 4. Door Closers
 - 5. Hinges and Pivots
 - 6. Exit Devices
 - 7. Removable Mullions
 - 8. Flushbolts
 - 9. Door Silencers
 - 10. Stops, Overhead Controls
 - 11. Kickplates
 - 12. Push/Pull Plates
 - 13. Thresholds, Gasketing, and Door Bottoms

14. Miscellaneous Trim and Accessories
15. Electrified Hardware, Power Supplies, Systems Diagrams

2.02 MANUFACTURERS

- A. Hager Companies: www.hagerhinge.com.
- B. Stanley Hardware: www.stanleyworks.com.
- C. Glynn-Johnson: www.glynn-johnson.com.
- D. Sargent Manufacturing Company: www.sargentlock.com.
- E. Von Duprin: www.vonduprin.com.
- F. LCN: www.lcnclosers.com.
- G. National Guard Products, Inc: www.ngpinc.com.
- H. Pemko Manufacturing Co: www.pemko.com.
- I. Zero International, Inc: www.zerointernational.com.
- J. Trimco (Triangle Brass Manufacturing Company, Inc): www.trimcobbw.com.
- K. Rockwood Manufacturing Company: www.rockwoodmfg.com.
- L. McKinney Products Company: www.mckinneyhinge.com.
- M. Ives: www.iveshardware.com.
- N. Substitutions: Refer General and Special Conditions for substitution requirements

2.03 GENERAL REQUIREMENTS FOR DOOR HARDWARE PRODUCTS

- A. Provide products that comply with the following:
 1. Applicable provisions of Federal, State, and local codes.

2.04 FINISHES

- A. US26D dull chrome unless otherwise noted.
- B. All exposed hardware will be dull chrome (US26D) finish unless otherwise noted. Closers will be powder coated epoxy enamel to match adjacent hardware finish.

2.05 FASTENINGS

- A. As required for finish installation.
- B. Hardware furnished under this section of the specifications will be complete with all necessary screws, bolts, anchors, adapter brackets or other fastenings for proper application. Such fastenings will be of suitable size and type, and will harmonize with hardware as to material and finish and as the manufacturer supplies with their products. Stops, thresholds and holders will be fastened to concrete with steel drop-in anchors and to doors with sex bolts. All closers and exit devices will be thru-bolted.

2.06 LEVERS AND TRIM

- A. Levers will be cast or forged solid brass (dull chrome US26D or 626), or stainless steel (US32D or 630). Zinc alloys or pot metal material will not be acceptable.
 1. Roses for use with levers will be wrought brass or stainless steel, and will have built-in dead stops with concealed springs to keep lever from sagging.

2.07 LOCKS AND LATCHES

- A. All locksets, latchsets, electrified locksets, cylinders, and trim to be of one manufacturer as hereafter listed for continuity of design and consideration of warranty.
- B. Strikes will be ASA size of brass or bronze with lips of length to protect all jamb trim but will be no longer than so required. Provide and install stamped box strikes at all locations.
- C. Backset will be 2-3/4".

2.08 CYLINDERS AND KEYING

- A. Cylinders will be Mortise or Rim as required. Manufacturer to be determined by the City of Fort Lauderdale to match existing or adjacent systems.

- B. All mortise locks, panic devices, cylindrical locks, and padlocks to be keyed to a grand master key.
- C. Furnish five construction master keys and five of each control key
- D. All cylinders and keys will be properly tagged to indicate their intended location and to enable Owner, with minimum effort, to establish their key control system.

2.09 DOOR CLOSERS

- A. All door closers will be heavy-duty, surface mounted, full rack and pinion liquid (hydraulic) type, with cast iron cylinders, capable of controlling door through 180 degrees of swing. Provide full covers of non-ferrous, non-corrosive material painted to match the adjacent hardware finish.
- B. Surface closers will be adjusted by key valves. Furnish six (6) adjusting keys. Spring power of each closer will be adjustable, and will be capable of meeting handicapped accessibility code requirements.
- C. No closer will be installed on the outside of any exterior door or on the corridor side of any room door. Wherever it is necessary to install a closer on the side of a door away from the butts, a parallel arm will be used. Corner or soffit brackets will not be permitted. Corridor installation is acceptable where abutting walls prevent normal installation. All fastenings to the door will be by sex bolts.
- D. Closers to have adjustable spring power, which allows for closer sizing. Closers to have separate tamper resistant, non-critical regulating hydraulic screw valves for closing speed, latching speed, and back-check control as a standard feature.
- E. All door closers must be covered by a ten (10) year factory guarantee against defective material or workmanship.

2.10 HINGES

- A. Hinges will be five-knuckle, heavy-duty, ball-bearing, button-tip, full mortise template type hinges.
- B. At labeled doors, or doors with closers, provide steel (painted) bearing type hinges.
- C. Exterior door hinges will be of steel (painted) with non-removable pins, or will have pins held in place by a set screw, which can only be removed while the door is open.
- D. Hinges (butts) will be of the class as indicated by manufacturer's number in the hardware sets. All hinges will have sufficient throw to clear the door trim, plinth, or cove base, but will have no more throw than is necessary.
- E. Hinges will be sized as follows:
 1. Doors 3'-0" wide or less: 4-1/2 x 4-1/2 (1-1/2 pr hinges)
 2. Doors over 3'-0" wide: 4-1/2 x 4-1/2 (2 pr hinges)
 3. Quantity of hinges per door will be as follows:
 - a. Door up to 60" in height - 1 pr (2 ea)
 - b. Door up to 90" in height - 1-1/2 pr (3 ea)
 - c. Door over 90" in height - 1 additional hinge for every 30" or fraction thereof

2.11 EXIT DEVICES

- A. Products to be equivalent to Von Duprin #99 Series or Sargent 80 Series, finish as follows:
 1. Housing - US28 (628) brushed aluminum
 2. Push Pad - US32D (630) stainless steel
 3. Exterior Pull - US26D (626) dull chrome
 - a. All exit devices and trim, including electrified items, to be of one manufacturer for continuity of design and consideration of warranty. Electrified devices and trim to be the same series and design as mechanical devices and trim. All devices must have dead locking latches for better security.
 - b. Exit devices to UL listed for life safety. All exit devices for labeled doors will bear the UL label for "fire exit hardware". All devices will comply with NFPA 80 and NFPA 101 requirements.

2.12 REMOVABLE MULLIONS

- A. Removable mullions will be 2" x 3" steel, with sprayed aluminum (SP28) finish, equivalent to Von Duprin 4954 / 9954 type with a floor-mounted retainer at the bottom. Provide a set of #154 stabilizers per door leaf. Removable mullions will be installed at specially designated doors, as indicated on the floor plan or hardware schedule.

2.13 FLUSHBOLTS

- A. Edge mount all flushbolts unless specifically noted to be face mounted. The rod for the top bolt will be at least 12". Flushbolts will be UL listed equal to Trimco #3917 (cast).
- B. Provide flushbolts with dust proof strikes as indicated in the individual hardware sets.
- C. Provide frame stop type coordinators with filler bars and brackets for proper installation / coordination with adjacent hardware.

- A. Furnish door silencers for all interior doors (except gasketed doors) and doors with metal jambs. Furnish three silencers for each single door and four silencers for each pair of doors.

2.15 DOOR STOPS

- A. Door stops are to be furnished for every door leaf
- B. Interior Door Stops: Equivalent to Trimco #1214 (1-3/4") as conditions require
- C. Exterior Door Stops: Equivalent to Trimco #1214H (2-1/4)
- F. Place door stops in such a position that they permit maximum door swing, but do not present a hazard or obstruction. Anchors will be set at least one inch into the concrete. Floor stops shall be placed as far from the hinge edge of the door so as to not allow a trip hazard.
- G. Exterior door stops are encouraged to be wall mounted on a wing wall or recess that acts to stop the door from swinging more than 90 degrees from the closed position.
- H. Overhead holders (as scheduled) shall be equivalent to Glynn-Johnson GJ70 Series at exterior and GJ450 Series at interior. Install with thru-bolts and grommet nuts.

2.16 KICKPLATES

- A. Kickplates will be 10" high by width of door less 2". Where louvers or other construction prevents use of 10" kickplate, 8" may be used. Color: Match finish of locksets.
1. For doors with louvers or narrow bottom rails, kickplate height to be 1" less than the dimension shown from the bottom of door to the bottom of the louver or glass.

2.17 PUSH/PULL PLATES

- A. Push Plates: Equivalent to Trimco #1001-3
- B. Pull Plates: Equivalent to Trimco #1017B-3

2.18 THRESHOLDS AND GASKETING

- A. Provide materials and finishes as listed in the hardware schedule or as shown on the Drawings. All thresholds must be in accordance with the requirements of ANSI A117.1 and the ADA. If no thresholds or gasketing is specified, provide thresholds and complete gasketing at all exterior doors, and smoke seals at all interior fire rated doors as follows:
1. Weatherstrip - NGP #120NA – 628
 2. Smoke Seal - NGP #5050 – 628
 3. Threshold - NGP #425 or NGP #896V
 4. Bottom - NGP #200NA – 628
 5. Auto Bottom - NGP #420NA – 628
 6. Astragal - NGP #115NA
- B. Provide overhead rain drips at all exterior doors without canopy protection. Width shall be door frame width plus 4".
- C. Overhead Rain Drip - NGP #16AD
- D. Provide thresholds with machine screws and steel anchors, and all necessary anchoring devices for weatherstripping and seals.

2.19 ELECTRONIC HARDWARE AND SYSTEMS

- A. All electrical components – hardware, switches, power supplies – operating as a system, excluding conduit, to be supplied by a single hardware manufacturer, unless specified otherwise in the hardware schedule.
- B. All wiring running from one hardware electrical component to another electrical component to have shielded wiring. (Requirements for furnishing and installing wiring and conduit are in electrical section of this Project Manual.)
- C. Unless otherwise specified, all electrical components are to operate at "Low Voltage" for the purposes of safety and silent operation.

PART 3 EXECUTION**3.01 EXAMINATION**

- A. Verify that doors and frames are ready to receive work and dimensions are as indicated on manufacturers drawings.
- B. Verify that electric power is available to power operated devices and of the correct characteristics.

3.02 INSTALLATION

- A. Install hardware in accordance with manufacturer's instructions and applicable codes.
- B. Use templates provided by hardware item manufacturer.
- C. Mounting heights for hardware from finished floor to center line of hardware item: As listed in Schedule, unless otherwise noted:
 - 1. For steel doors and frames: Comply with DHI "Recommended Locations for Architectural Hardware for Steel Doors and Frames."
 - 2. For wood doors: Comply with DHI "Recommended Locations for Architectural Hardware for Wood Flush Doors."

3.03 ADJUSTING

- A. Adjust hardware for smooth operation.

3.04 PROTECTION OF FINISHED WORK

- A. Do not permit adjacent work to damage hardware or finish.

END OF SECTION

GLAZING**PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Glass, single thickness, laminated and insulated units.
 - 1. Annealed, clear and tinted.
 - 2. Heat strengthened, clear and tinted.
 - 3. Laminated for strength and sound resistance.
 - 4. Spandrel glass.
- B. Glazing compounds and accessories.
- C. Mirrors for mounting on walls.

1.02 RELATED SECTIONS

- A. Section 07900 - Joint Sealers: Sealant and back-up material.
- B. Section 08110 - Steel Doors and Frames: Glazed doors and borrowed lites.
- C. Section 08211 - Flush Wood Doors: Glazed doors.

1.03 REFERENCES

- A. 16 CFR 1201 - Safety Standard for Architectural Glazing Materials; current edition.
- B. ANSI Z97.1 - American National Standard for Safety Glazing Materials Used in Buildings, Safety Performance Specifications and Methods of Test; 1984 (R1994).
- C. ASTM C 864 - Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers; 1999.
- D. ASTM C 920 - Standard Specification for Elastomeric Joint Sealants; 2002.
- E. ASTM C 1036 - Standard Specification for Flat Glass; 2001.
- F. ASTM C 1048 - Standard Specification for Heat-Treated Flat Glass-Kind HS, Kind FT Coated and Uncoated Glass; 2004.
- G. ASTM C 1172 - Standard Specification for Laminated Architectural Flat Glass; 2003.
- H. ASTM C 1193 - Standard Guide for Use of Joint Sealants; 2000.
- I. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2004.
- J. ASTM E 773 - Standard Test Method for Accelerated Weathering of Sealed Insulating Glass Units; 2001.
- K. ASTM E 774 - Standard Specification for the Classification of the Durability of Sealed Insulating Glass Units; 1997.
- L. ASTM E 1300 - Standard Practice for Determining Load Resistance of Glass in Buildings; 2003.
- M. GANA (GM) - GANA Glazing Manual; Glass Association of North America; 2004.
- N. GANA (SM) - FGMA Sealant Manual; Glass Association of North America; 1990.
- O. GANA (LGDG) - Laminated Glass Reference Manual; Glass Association of North America; 2003.
- P. SIGMA TM-3000 - Glazing Guidelines for Sealed Insulating Glass Units; Sealed Insulating Glass Manufacturers Association; 2004.
- Q. SIGMA TM-3000 and TB-3001 - Recommended Practices for Vertical and Basic Field Glazing of Organically Sealed Insulating Glass Units; Sealed Insulating Glass Manufacturing Association; 1990.

1.04 PERFORMANCE REQUIREMENTS

- A. Provide glass and glazing materials for continuity of building enclosure vapor retarder and air barrier:
 - 1. In conjunction with vapor retarder and joint sealer materials described in other sections.
 - 2. To maintain a continuous air barrier and vapor retarder throughout the glazed assembly from glass pane to heel bead of glazing sealant.

- B. Select type and thickness of exterior glass to withstand dead loads and wind loads acting normal to plane of glass at design pressures calculated in accordance with Florida Building code and local regulatory requirements
1. Use the procedure specified in ASTM E 1300 to determine glass type and thickness.
 2. Limit glass deflection to 1/200 or flexure limit of glass, whichever is less, with full recovery of glazing materials.
 3. Thicknesses and framing areas to be verified to meet standards.

1.05 SUBMITTALS

- A. Provide product data to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect.
1. Product Data on Glass Types: Provide structural, physical and environmental characteristics, size limitations, special handling or installation requirements.
 2. Product Data on Glazing Compounds: Provide chemical, functional, and environmental characteristics, limitations, special application requirements. Identify available colors.
 3. Samples: Submit two samples 12 x 12 in size of glass units, showing coloration and design.
 - a. Glass samples to match the existing/adjacent glass specific to project site.
 4. Samples: Submit 8 inch long bead of glazing sealant, color as selected.
 5. Certificates: Certify that products meet or exceed specified requirements.
 6. Manufacturer's Certificate: Certify that insulating glass units meet or exceeds specified requirements.

1.06 QUALITY ASSURANCE

- A. Perform Work in accordance with GANA Glazing Manual and FGMA Sealant Manual for glazing installation methods.

1.07 ENVIRONMENTAL REQUIREMENTS

- A. Do not install glazing when ambient temperature is less than 50 degrees F.
- B. Maintain minimum ambient temperature before, during and 24 hours after installation of glazing compounds.

PART 2 PRODUCTS

2.01 FLAT GLASS MATERIALS

- A. Manufacturers:
1. PPG Industries, Inc: www.ppg.com.
 2. AFG Industries, Inc: www.afglass.com.
 3. Pilkington Building Products North America: www.pilkington.com.
 4. Substitutions: Refer General and Special Conditions for substitution requirements
 5. Match Existing Glazing Requirements:
 - a. The intent of this section is to match the coloration and visual characteristics of the existing glazing at specific project sites.
 - b. The contractor shall investigate the existing insulated glazing material to determine coloration and type.
- B. Clear Float Glass (Type G1): Clear, annealed.
1. Comply with ASTM C 1036, Type I, transparent flat, Class 1 clear, Quality Q3 (glazing select).
 2. 6 mm minimum thick.
- C. Safety Glass (Type G2): Clear; fully tempered with horizontal tempering.
1. Comply with ASTM C 1036, Type I, transparent flat, Class 1 clear, Quality Q3 (glazing select) and ASTM C 1048.
 2. 6 mm minimum thick.
- D. Clear, Low E Glass (Type G3): Float type, heat strengthened, clear.
1. Coating on inner surface (3rd surface of insulating unit).
 - a. Comply with ASTM C 1048.
 - b. 6 mm minimum thick.
 2. Basis of Design: PPG, "Sungate 100 Low-E (3)".
- E. Clear, Low E Glass (Type G4): Float type, tempered, clear.
1. Coating on inner surface (3rd surface of insulating unit).
 - a. Comply with ASTM C 1048.
 - b. 6 mm minimum thick.
 2. Basis of Design: PPG, "Sungate 100 Low-E (3)".

- F. Wired Glass (Type G5): Clear.
1. Stainless steel wire in square mesh pattern.
 2. 1/4 inch grid size.
 3. Comply with ASTM C 1036.
 4. 6 mm minimum thick.
- G. Tinted Glass (Type G6): Float type, heat strengthened, bronze color, to match the existing semi-reflective bronze insulated glazing.
1. Comply with ASTM C 1048.
 2. 6 mm minimum thick.
 3. Basis of Design: PPG, "Solarcool Bronze Tinted Glass" for outer lite in insulated pair.
- H. Tinted Safety Glass (Type G7): Float type, tempered, bronze color, to match the existing semi-reflective bronze insulated glazing.
1. Comply with ASTM C 1048.
 2. 6 mm minimum thick.
 3. Basis of Design: PPG, "Solarcool Bronze Tinted Glass" for outer lite in insulated pair.
- I. One-Way Reflective Mirror Glass (Type G11 - Mirror): Clear, float type.
1. Comply with ASTM C 1036, Type I, transparent flat, Class 1 clear, Quality Q2.
 2. 6 mm minimum thick.
 3. Refer to the Drawings for sizes and locations.
- J. Tinted Reflective Safety Glass - 1/2 Thick Laminated Door Glazing (Type G10): Float type, bronze colored reflective to match .
1. Outer layer of Type G7 glass, inner layer of Type G2 glass.
 2. Glass Characteristics: Tinted glass shall match the color, finish and look of Tinted Glass - H
 3. Intermediate layer, clear polycarbonate film adhered to each glass layer.
 - a. Plastic compound, clear; ultraviolet stabilized.
 - b. Acrylate non-yellowing coating for scratch resistance.
 - c. Comply with ANSI Z97.1.
- K. Spandrel Glass - Tinted Reflective (Type G8): Heat strengthened, bronze tinted.
1. Ceramic fused frit of bronze reflective color on back surface.
 2. Comply with ASTM C 1048.
 3. 6 mm thick.
 4. Backing Insulation (when provided in single pane not in an insulated unit): Rigid insulation of fiberglass or polyisocyanurate material with R-value of 12 or more.
 5. Glass Characteristics: Tinted glass shall match the color, finish and look of Tinted Glass - G6.
- L. Fully Tempered Spandrel Glass (Type G9): Fully tempered, bronze tinted.
1. Ceramic fused frit of bronze reflective color on back surface, color to match the H1 insulated units.
 2. Comply with ASTM C 1048.
 3. 6 mm thick.
 4. Backing Insulation (when provided in single pane not in an insulated unit): Rigid insulation of fiberglass or polyisocyanurate material with R-value of 12 or more.
 5. Glass Characteristics: Tinted glass shall match the color, finish and look of Tinted Glass - G6.

2.02 SEALED INSULATING GLASS MATERIALS

- A. Manufacturers:
1. Any of the manufacturers listed under Flat Glass Materials.
 2. PPG Industries, Inc: www.ppg.com.
 3. Guardian Industries Corporation: www.guardian.com.
 4. Interpane Glass Company: www.interpane.com.
 5. Viracon, Apogee Enterprises, Inc: www.viracon.com.
 6. Substitutions: Refer to Section 01600 - Product Requirements.
- B. Insulated Glass Units (Type H1)Tinted Units: Double pane with glass to elastomer edge seal.
1. Outer pane of Type G6 glass, inner pane of Type G3 glass.
 2. Place reflective coating on No.2 surface within the unit.
 3. Low-E Coating on No. 3 Surface (on clear glass).
 4. Comply with ASTM E 774 and E 773, Class CBA.
 5. Purge interpane space with dry hermetic air.
 6. Total unit thickness of one inch minimum.
 7. Visible Light Transmission: 36%.
 8. Shading Coefficient: 0.40.

9. Basis of Design: PPG Industries, Inc., "SOLARCOOL Reflective with Sungate 100 LowE (3) Bronze Reflective", or approved equivalent units.

C. Insulated Glass Units (Type H2) Tinted Tempered Units: Double pane with glass to elastomer edge seal.

1. Outer pane of Type G7 glass, inner pane of Type G4 glass.
2. Low-E Coating on No. 3 Surface (on clear glass).
3. Comply with ASTM E 774 and E 773, Class CBA.
4. Purge interpane space with dry hermetic air.
5. Total unit thickness of one inch minimum.
6. Visible Light Transmission: 36%.
7. Shading Coefficient: 0.40.
8. Basis of Design: PPG Industries, Inc., "SOLARCOOL Reflective with Sungate LowE 100 (3) Bronze", or approved equivalent units.

D. Insulated Glass Units (Type H3) Tinted Spandrel Units: Double pane with glass to elastomer edge seal.

1. Outer pane of Type G9 glass, no inner pane, provide aluminum spacer.
2. Color: Match to color and look of H1 insulated units.
3. Comply with ASTM E 774 and E 773, Class CBA.
4. Total unit thickness of one inch minimum.
5. Basis of Design: Match the appearance to PPG Industries, Inc., "SOLARCOOL Reflective with Sungate LowE 100 (3) Bronze", or approved equivalent units.

E. Insulated Glass Units (Type H4) Tinted Spandrel Units: Single pane with spacer.

1. Outer pane of Type G9 glass, no inner pane, provide aluminum spacer for 1-inch thick glass socket.
2. Color: Match to color and look of H1 and H3 insulated units.
3. Comply with ASTM E 774 and E 773, Class CBA.
4. Total unit thickness of one inch minimum.
5. Basis of Design: Match glass characteristics to H1.

2.03 GLAZING COMPOUNDS

A. Manufacturers:

1. GE Plastics: www.geplastics.com.
2. Pecora Corporation: www.pecora.com.
3. Tremco Sealants, www.tremco.com.
4. Substitutions: Refer to Section 01600 - Product Requirements.

- B. Silicone Sealant (Type S-6): Single component; neutral curing; capable of water immersion without loss of properties; non-bleeding, non-staining; ASTM C 920, Type S, Grade NS, Class 25, Uses M, A, and G; cured Shore A hardness of 15 to 25; black or dark gray color.

2.04 GLAZING ACCESSORIES

- A. Setting Blocks: Neoprene, 80 to 90 Shore A durometer hardness, ASTM C 864 Option I. Length of 0.1 inch for each square foot of glazing or minimum 4 inch x width of glazing rabbet space minus 1/16 inch x height to suit glazing method and pane weight and area.
- B. Spacer Shims: Neoprene, 50 to 60 Shore A durometer hardness, ASTM C 864 Option I. Minimum 3 inch long x one half the height of the glazing stop x thickness to suit application, self adhesive on one face.
- C. Glazing Tape: Preformed butyl compound with integral resilient tube spacing device; 10 to 15 Shore A durometer hardness; coiled on release paper; 1/4 x 1 inch size; black color.
- D. Glazing Gaskets: Resilient silicone extruded shape to suit glazing channel retaining slot; ASTM C 864 Option I.
- E. Glazing Clips: Manufacturer's standard type.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that openings for glazing are correctly sized and within tolerance.
- B. Verify that surfaces of glazing channels or recesses are clean, free of obstructions that may impede moisture movement, weeps are clear, and ready to receive glazing.

3.02 PREPARATION

- A. Clean contact surfaces with solvent and wipe dry.
- B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.

- C. Prime surfaces scheduled to receive sealant.
- D. Install sealants in accordance with ASTM C 1193 and FGMA Sealant Manual.
- E. Install sealant in accordance with manufacturer's instructions.

3.03 INSTALLATION - EXTERIOR/INTERIOR DRY METHOD (GASKET GLAZING)

- A. Place setting blocks at 1/4 points with edge block no more than 6 inches from corners.
- B. Rest glazing on setting blocks and push against fixed stop with sufficient pressure on gasket to attain full contact.
- C. Install removable stops without displacing glazing gasket; exert pressure for full continuous contact.

3.04 INSTALLATION - EXTERIOR DRY METHOD (TAPE AND GASKET SPLINE GLAZING)

- A. Cut glazing tape to length; install on glazing pane. Seal corners by butting tape and sealing junctions with butyl sealant.
- B. Place setting blocks at 1/4 points with edge block no more than 6 inches from corners.
- C. Rest glazing on setting blocks and push against fixed stop with sufficient pressure to attain full contact.
- D. Install removable stops without displacing glazing spline. Exert pressure for full continuous contact.
- E. Trim protruding tape edge.

3.05 CLEANING

- A. Remove glazing materials from finish surfaces.
- B. Remove labels after Work is complete.
- C. Clean glass and adjacent surfaces.

3.06 PROTECTION OF FINISHED WORK

- A. After installation, mark pane with an 'X' by using removable plastic tape or paste; do not mark heat absorbing or reflective glass units.

END OF SECTION

METAL LATH AND SUPPORT ASSEMBLIES**PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Metal lath for Portland Cement Plaster.
- B. Furring for metal lath.
- C. Metal ceiling framing.

1.02 RELATED SECTIONS

- A. Section 04810 - Unit Masonry Assemblies: Masonry substrates for plaster.
- B. Section 05400 - Cold Formed Metal Framing: Drywall substrates for plaster.
- C. Section 07212 - Board and Batt Insulation: Rigid insulation board as substrate for Portland Cement Plaster
- D. Section 09225 - Portland Cement Plaster.

1.03 REFERENCES

- A. ASTM C 841 - Standard Specification for Installation of Interior Lathing and Furring; 2003.
- B. ASTM C 847 - Standard Specification for Metal Lath; 2004.
- C. ASTM C 1002 - Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2004.
- D. ASTM C 1063 - Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster; 2003.

1.04 PERFORMANCE REQUIREMENTS

- A. Design and install framing and lath to limit deflection to the following:
 - 1. Maximum Deflection of Vertical Assemblies: 1:360 under lateral point load of 100 lbs.
 - 2. Maximum Deflection of Horizontal Assemblies: 1:240 deflection under dead loads and wind uplift.

1.05 SYSTEM DESCRIPTION

- A. The plaster system consists of the following components:
 - 1. Masonry Exterior Walls: Masonry substrate/damproofing/EPS insulation/metal lath/plaster.
 - 2. Metal Stud Exterior Walls: Metal studs with insulation/sheathing/metal lath/plaster.
 - 3. Suspended Plaster Ceiling/Soffits: Suspended metal framing/metal lath/plaster.

1.06 SUBMITTALS

- A. Provide product data to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect:
 - 1. Product Data: Provide data on furring and lathing components, structural characteristics, material limitations, and finish.
 - 2. Samples:
 - a. Submit two samples, 8 x 8 inches in size illustrating lath material and finish.
 - b. Submit two samples, 12 inches in size illustrating linear materials and finish.
 - c. Submit two samples, 12 inches in size illustrating control joint materials and finish.

PART 2 PRODUCTS**2.01 FRAMING MATERIALS**

- A. Furring Channels: Formed steel, minimum 0.020 inch thick, 3/8 inch deep x 7/8 inch high, splicing permitted; galvanized.
- B. Main Ceiling Channels: Formed steel, asphalt coated, minimum 0.05 inch thick, 3/4 inch deep x 1-1/2 inch high, single piece, no splicing; galvanized.
- C. Hangers: Steel wire, of size and type to suit application, to support ceiling components in place to deflection limits as indicated.
- D. Ceiling Hangers: Rolled steel sections, of size and type to suit application, to rigidly support ceiling components

in place to deflection limits as indicated; galvanized.

E. Lateral Bracing: Formed steel, minimum 0.060 inch thick, size and length as required; galvanized.

2.02 LATH

A. Diamond Mesh Metal Lath: ASTM C 847, galvanized; self-furring.

1. Weight: To suit application, comply with deflection criteria, and as specified in ASTM C 841 for framing spacing.
2. Backed with treated paper.
3. Galvanized.

B. Strip Mesh: Expanded metal lath, same weight as lath, 2 inch wide x 24 inch long; same finish as lath.

C. Casing Beads: Formed sheet steel, depth governed by plaster thickness, maximum possible lengths, expanded metal flanges, with square edges; galvanized.

D. Corner Beads: Formed sheet steel, depth governed by plaster thickness, maximum possible lengths, expanded metal flanges with radiused edge; galvanized.

E. Base Screeds: Formed sheet steel, depth governed by plaster thickness, maximum possible lengths, expanded metal flanges, with beveled edge; galvanized.

F. Control and Expansion Joints: Formed sheet steel, accordion profile, 2 inch expanded metal flanges each side, galvanized.

2.03 FASTENERS FOR METAL LATH

A. CMU Substrates: Provide corrosion resistant fasteners with washers to provide keying of metal lath through rigid insulation board to masonry substrate.

1. Fasteners: Self-tapping corrosion resistant masonry fasteners, Wind-Lock Corporation, "UM-2, 3/16" x 2 1/4" or approved equivalent.
2. Keying Washers: 1 3/4" Polypropylene plate washers sized for fastener, ITW/Buildex, "Grid-Master, Grid-Mate" or approved equivalent.

B. Drywall Substrates: Galvanized bugle headed drywall screws, corrosion resistant, self-tapping, #6 x 1 1/4" (or length as required to achieve 3/8" penetration through stud flange).

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that substrates are ready to receive work and conditions are suitable for application.

3.02 INSTALLATION - GENERAL

A. Install lath and furring for plaster work in accordance with ASTM C 841 and GA-600.

3.03 CEILING AND SOFFIT FRAMING

- A. Install furring after work above ceiling or soffit is complete. Coordinate the location of hangers with other work.
- B. Install furring independent of walls, columns, and above-ceiling work.
- C. Securely anchor hangers to structural members or embed in structural slab. Space hangers as required to limit deflection to criteria indicated. Use rigid hangers at exterior soffits.
- D. Space main carrying channels at maximum 72 inch on center, and not more than 6 inches from wall surfaces. Lap splice securely.
- E. Securely fix carrying channels to hangers to prevent turning or twisting and to transmit full load to hangers.
- F. Place furring channels perpendicular to carrying channels, not more than 2 inches from perimeter walls, and rigidly secure. Lap splices securely.
- G. Reinforce openings in suspension system which interrupt main carrying channels or furring channels with lateral channel bracing. Extend bracing minimum 24 inches past each opening.
- H. Laterally brace suspension system.

3.04 CONTROL AND EXPANSION JOINTS

- A. Control Joint Spacing: 15 feet on center.
- B. Expansion Joint Spacing: Provide joints.
- C. Install control and expansion joints.

3.05 LATH INSTALLATION

- A. Apply metal lath taut, with long dimension perpendicular to supports.
- B. Lap ends minimum 1 inch. Secure end laps with tie wire where they occur between supports.
- C. Lap sides of diamond mesh lath minimum 1-1/2 inches.
- D. Nest outside ribs of rib lath together.
- E. Attach metal lath to metal supports using tie wire at maximum 6 inches on center.
- F. Continuously reinforce internal angles with corner mesh, except where the metal lath returns 3 inches from corner to form the angle reinforcement; fasten at perimeter edges only.
- G. Place corner bead at external wall corners; fasten at outer edges of lath only.
- H. Place base screeds at termination of plaster areas; secure rigidly in place.
- I. Place 4 inch wide strips of metal lath centered over junctions of dissimilar backing materials. Secure rigidly in place.
- J. Place lath vertically above each top corner and each side of door frames to 6 inches above ceiling line.
- K. Place casing beads at terminations of plaster finish. Butt and align ends. Secure rigidly in place.
- L. Place additional strip mesh diagonally at corners of lathed openings. Secure rigidly in place.

3.06 ERECTION TOLERANCES

- A. Maximum Variation from True Lines and Levels: 1/8 inch in 10 feet.
- B. Maximum Variation from True Position: 1/8 inch.

END OF SECTION

SECTION 09225**PORTLAND CEMENT PLASTER****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Portland cement plaster for installation over metal lath, masonry, concrete, and solid surfaces.
- B. Plaster system shall be a 3-coat Portland cement lime mix with an integrally colored elastomeric acrylic pre-mix finish coat.
- C. Plaster system on wall and suspended ceiling/soffit surfaces.

1.02 RELATED SECTIONS

- A. Section 04810 - Unit Masonry Assemblies: Coordination with masonry work and substrates.
- B. Section 05400 - Cold Formed Metal Framing: Structural metal framing for plaster.
- C. Section 09206 - Metal Lath and Support Assemblies: Metal framing, furring, and lathing for plaster.

1.03 REFERENCES

- A. ASTM C 144 - Specification for Aggregate for Masonry Mortar; 2004.
- B. ASTM C 150 - Standard Specification for Portland Cement; 2002.
- C. ASTM C 206 - Standard Specification for Finishing Hydrated Lime; 1984 (Reapproved 1997).
- D. ASTM C 926 - Standard Specification for Application of Portland Cement-Based Plaster; 1998a.

1.04 SUBMITTALS

- A. Provide product data to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect:
 - 1. Product Data: Provide data on plaster materials, characteristics and limitations of products specified.
 - 2. Samples: Submit two samples, 12 x 12 inches in size illustrating finish color and texture.

1.05 QUALITY ASSURANCE

- A. Perform Work in accordance with ASTM C 926.
- B. Installer Qualifications: Company specializing in performing the work of this section with minimum ten years of experience.

1.06 ENVIRONMENTAL REQUIREMENTS

- A. Do not apply plaster when substrate or ambient air temperature is under 50 degrees F or over 80 degrees F.
- B. Maintain minimum ambient temperature of 50 degrees F during installation of plaster and until cured.
- C. Hot Weather Requirements:
 - 1. Protect cement plaster from uneven and excessive evaporation during hot, windy and dry weather.
 - 2. Moist curing after each coat of cement plaster with water if ambient temperature is more than 75 degrees F/24 degrees C. Moist cure for more than 48 hours after application of coats.
 - 3. In hot, dry, or windy weather conditions, moisten the cement plaster down.
 - 4. Moist curing is required at the start and end of the workday.
 - 5. When the humidity will be continuously higher than 75%, moist curing is not required.
- D. Elastomeric Acrylic Finish Requirements:
 - 1. Do not use acrylic finish materials if they have been frozen.
 - 2. Do not apply acrylic finish when the ambient temperature is less than 40 degrees F/4.4 degrees C for at least 24 hours before the application.
 - 3. Cold Weather: The contractor shall provide heating and tenting if it is required to maintain and perform the application of the acrylic finish coat.
 - 4. Do not apply finish coat when there is any form of precipitation.
 - 5. Protect cement plaster from all forms of precipitation during the application and the setting/curing period of the finish coat. Ensure that the finish is fully set prior to removing protective covering.

PART 2 PRODUCTS

- A. Premixed Elastomeric Finish Coat: Elastomeric type; integrally colored (as selected by Owner and Architect) acrylic polymer coating; manufactured by one of the following or approved equivalent companies:
 - 1. Senergy, Inc., seneryeifs.com.
 - 2. Dryvit Systems Inc., www.dryvit.com.
 - 3. Texas EIFS, www.teifs.com.
 - 4. Substitutions: Refer General and Special Conditions for substitution requirements
- B. Portland Cement: ASTM C 150, Type I.
- C. Masonry Cement shall not be used in any plaster mixes.
- D. Lime: ASTM C 206, Type S.
- E. Aggregate: In accordance with ASTM C 926 and Lathing and Plastering Manual. Sand shall meet ASTM C144, type used for cement plaster.
- F. Water: Clean, fresh, potable and free of mineral or organic matter which can affect plaster.
- G. Plaster Mix Reinforcement: Glass fibers, chopped to 1/2 inch nominal length, alkali resistant.

2.02 METAL LATH

- A. Metal Lath and Accessories: As specified in Section 09206.
- B. Beads, Screeds, and Joint Accessories: Steel, with rust inhibitive primer, as specified in Section 09206.

2.03 PLASTER MIXES

- A. Over Metal Lath: Three-coat application, mixed and proportioned in accordance with the Lathing & Plastering Systems Manual, "Specification for Lathing and Portland Cement Plastering, Plaster Mix - Type L".
- B. Over Solid Bases: Three-coat application, mixed and proportioned in accordance with the Lathing & Plastering Systems Manual, "Specification for Lathing and Portland Cement Plastering, Plaster Mix - Type L".
- C. Premixed Plaster Materials: Mix in accordance with manufacturer's instructions.
- D. First Coat over solid base and metal lath on metal framing - Type L, Portland Cement Lime Plaster:
 - 1. One part Portland cement.
 - 2. Minimum 1/2 to maximum 3/4 part hydrated lime.
 - 3. Minimum 1 1/2 to 2 1/2 lbs. of 1.2" Chopped Fiberglass.
 - 4. Minimum 4 and maximum 5 parts sand aggregate, per sum of cementitious materials.
- E. Second Coat: Same as first coat.
- F. Elastomeric/Synthetic Finish Coat: Manufacturer's 100% pure Acrylic pre-mix integrally colored plaster finish.
 - 1. Mix per manufacturer's requirements of the manufacturer and in approved selected color.
- G. Mix only as much plaster as can be used prior to initial set.
- H. Mix materials dry, to uniform color and consistency, before adding water.
- I. Protect mixtures from freezing, frost, contamination, and excessive evaporation.
- J. Do not retemper mixes after initial set has occurred.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify the suitability of existing conditions before starting work.
- B. Metal Lath and Accessories: Verify lath is flat, secured to substrate, and joint and surface perimeter accessories are in place.
- C. Mechanical and Electrical: Verify services within walls have been tested and approved.

3.02 PREPARATION

- A. Dampen masonry surfaces to reduce excessive suction.

3.03 PLASTERING

- A. Apply premixed plaster in accordance with manufacturer's instructions.

B. Apply plaster in accordance with ASTM C 926 and the Lathing and Plastering Systems Manual.

C. Control Joints:

1. It is not required to cut the lath behind control joints if the flanges of the control joint are designed to get a good key of the cement plaster.
2. Panels should be relatively square.
3. No area should exceed 18 lineal feet in length without a control joint.
4. Install control joints for surface areas of approximately 150 square feet.
5. Provide control joint where dissimilar back-up materials join.
6. Control joints are recommended at surface penetrations, (windows, doors, etc.) and at areas of structural stress.

D. Moist cure base coats.

E. Apply second coat immediately following initial set of first coat.

F. After curing, dampen previous coat prior to applying finish coat.

G. Elastomeric Acrylic Finish Application:

1. Finish Texture: Float to a consistent and smooth finish. Work approved texture into surface.
2. Acrylic synthetic finish coat shall be applied continuously and in one operation to the entire wall area. A wet edge must be maintained.
3. Finish to applied so that there are no scaffold lines or other marks due to the application.
4. The mixing and application must follow the manufacturer's recommendations.

H. Avoid excessive working of surface. Delay troweling as long as possible to avoid drawing excess fines to surface.

I. Moist cure finish coat for minimum period of 48 hours.

3.04 ERECTION TOLERANCES

A. Maximum Variation from True Flatness: 1/8 inch in 10 feet.

END OF SECTION

GYP SUM BOARD ASSEMBLIES**PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Metal stud wall framing.
- B. Metal channel ceiling framing.
- C. Cementitious backer board.
- D. Gypsum wallboard.
- E. Joint treatment and accessories.
- F. Textured finish system.

1.02 RELATED SECTIONS

- A. Section 04810 - Unit Masonry Assemblies: CMU substrate to receive gypsum or cementitious backer board at interior.
- B. Section 05400 - Cold Formed Metal Framing: Exterior wind-load-bearing metal stud framing to receive gypsum or cementitious backer board at interior.
- C. Section 06100 - Rough Carpentry: Building framing and sheathing.
- D. Section 07115 - Bituminous Damproofing: Coordination with exterior sheathing work for exterior vapor barrier.
- E. Section 07212 - Board and Batt Insulation: Thermal and acoustic batt insulation to be installed in gypsum board assemblies.
- F. Section 07900 - Joint Sealers: Acoustic sealant.

1.03 REFERENCES

- A. AISI SG02-1 - North American Specification for the Design of Cold-Formed Steel Structural Members; American Iron and Steel Institute; 2001 with 2004 supplement. (replaces SG-971).
- B. AISI SG-971 - Specification for the Design of Cold-Formed Steel Structural Members; 1996, with 2000 Supplement.
- C. ANSI A108.11 - American National Standard for Interior Installation of Cementitious Backer Units; 1999 (R2005).
- D. ANSI A118.9 - American National Standard Specifications for Test Methods and Specifications for Cementitious Backer Units; 1999 (R2005).
- E. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2005a.
- F. ASTM C 475/C 475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2002.
- G. ASTM C 630/C 630M - Standard Specification for Water-Resistant Gypsum Backing Board; 2000.
- H. ASTM C 645 - Standard Specification for Nonstructural Steel Framing Members; 2004a.
- I. ASTM C 754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2004.
- J. ASTM C 840 - Standard Specification for Application and Finishing of Gypsum Board; 2005.
- K. ASTM C 1002 - Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2004.
- L. ASTM C 1047 - Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base; 2005.
- M. ASTM C 1396/C 1396M - Standard Specification for Gypsum Board; 2004.
- N. ASTM E 72 - Standard Test Methods of Conducting Strength Tests of Panels for Building Construction; 2005.
- O. GA-214 - Recommended Levels of Gypsum Board Finish; Gypsum Association; 1996.

- P. GA-216 - Application and Finishing of Gypsum Board, Gypsum Association; 2004.
- Q. GA-600 - Fire Resistance Design Manual; Gypsum Association; 2006.
- R. UL (FRD) - Fire Resistance Directory; Underwriters Laboratories Inc.; current edition.

1.04 SUBMITTALS

- A. Provide product data to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect:
 - 1. Product Data: Provide data on metal framing, gypsum board, accessories, and joint finishing system.
 - 2. Product Data: Provide manufacturer's data on partition head to structure connectors, showing compliance with requirements.
 - 3. Test Reports: For all stud framing products that do not comply with ASTM C 645 or C 754, provide independent laboratory reports showing maximum stud heights at required spacings and deflections.
 - 4. Samples: Submit two samples of predecorated gypsum board, 12 x 12 inches in size, illustrating finish color and texture.
 - 5. Samples: Submit two samples of gypsum board finished with proposed texture application, 12 x 12 inches in size, illustrating finish color and texture.

1.05 QUALITY ASSURANCE

- A. Perform in accordance with ASTM C 840. Comply with requirements of GA-600 for fire-rated assemblies.
 - 1. Maintain one copy of standards at project site.

1.06 REGULATORY REQUIREMENTS

- A. City of Fort Lauderdale and, when applicable, Consultant, will provide identification of fire rated assemblies specific to project locations.
- B. Conform to Florida Building Code and local regulatory requirements for fire rated assemblies.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Gypsum Board:
 - 1. G-P Gypsum LLC: www.gp.com.
 - 2. National Gypsum Company: www.nationalgypsum.com.
 - 3. USG Corporation: www.usg.com.
 - 4. Substitutions: Refer General and Special Conditions for substitution requirements
- B. Metal Framing:
 - 1. Dale/Incor: www.daleincor.com.
 - 2. Dietrich Metal Framing, Inc: www.dietrichindustries.com.
 - 3. Marino-Ware: www.marinoware.com.
 - 4. Substitutions: Refer General and Special Conditions for substitution requirements

2.02 METAL FRAMING MATERIALS

- A. Non-Load-bearing Framing System Components: ASTM C 645; galvanized sheet steel, of size and properties necessary to comply with ASTM C 754 for the spacing indicated, with maximum deflection of wall framing of L/360 at 5 psf.
 - 1. Exception: The minimum metal thickness and section properties requirements of ASTM C 645 are waived provided steel of 40 ksi minimum yield strength is used, the metal is continuously dimpled, the effective thickness is at least twice the base metal thickness, and maximum stud heights are determined by testing in accordance with ASTM E 72 using assemblies specified by ASTM C 754.
 - 2. Studs: "C" shaped with flat or formed webs.
 - 3. Runners: U shaped, sized to match studs.
 - 4. Sizes: 1 5/8, 2 1/2, 3 5/8 and 6 inches, depth.
 - 5. Ceiling Channels: C shaped.
 - 6. Furring: Hat-shaped sections, minimum depth of 7/8 inch.
- B. Ceiling Hangers: Type and size as specified in ASTM C 754 for spacing required.
- C. Partition Head to Structure Connections: Provide mechanical anchorage devices that accommodate deflection using slotted holes, screws and anti-friction bushings, preventing rotation of studs while maintaining structural performance of partition.
 - 1. Structural Performance: Maintain lateral load resistance and vertical movement capacity required by applicable code, when evaluated in accordance with AISI North American Specification for the Design of

Cold-Formed Steel Structural Members.

2. Material: ASTM A 653/A 653M steel sheet, SS Grade 50/340, with G60/Z180 hot dipped galvanized coating.

D. Stud Height Table:

1. Stud Sizes (Depth): Generally 6" and 4" except as otherwise indicated; other sizes may be required for miscellaneous framing, furring, etc.
2. Gage and Spacing: Minimum of 22 gage spaced at 16" o.c. Refer to table below for gage and spacing requirements.
3. Max. Deflection: L/360 based upon lateral load of 5 psf.
4. Runners: Continuous top and bottom; match to stud gage.
5. Bracing Req: All 6-inch stud partitions taller than 20'-0" shall be braced at 4'-0" on center (braced between 16 & 20 feet AFF). All 4 inch stud partitions taller than 14'-0" shall be braced at 4'-0" on center (braced between 10 & 14 feet AFF). The required unbraced (single-span) heights may be raised if the stud gage and spacing is increased as follows:

STUD SPACING/GAGE CHART*6-Inch Metal Studs*

Stud Spacing	12" o.c.	16" o.c.
22 gage	22'-2"	20'-2"
20 gage	22'-11"	20'-10"
18 gage	25'-0"	22'-9"
16 gage	26'-10"	24'-4"

4-Inch Metal Studs

Stud Spacing	12" o.c.	16" o.c.
22 gage	14'-5"	13'-1"
20 gage	14'-11"	13'-6"
18 gage	16'-3"	14'-9"
16 gage	17'-4"	15'-9"

6. Bracing Materials: All bracing shall be a minimum of 22 gage for lengths of 10 feet or less. Gages for lengths greater than 10 feet shall conform to the table above.
 - a. Where space will not allow bracing to structure; the stud gage shall be increased as defined in the chart above.
 - b. The maximum distance between bracing members shall be 32" on center.
 - c. Bracing support members shall be continuous along the face of the partition.

E. Miscellaneous Framing and Furring Members: Cold-rolled steel members complying with ASTM C 645; material thickness of 25 or 26-gage, corrosion-resisting galvanized steel, shape as indicated below:

1. Fasteners for Members: Type and size recommended by manufacturer for the substrate and application indicated.
2. Z-Furring Members: Manufacturer's standard screw-type Z-shaped furring members; in depth of 1 to 2-1/2 inches with 3/4 and 1-1/4 inch legs; designed for mechanical attachment of insulation boards or blankets to monolithic concrete and masonry walls.
3. Furring Channels: Manufacturer's standard screw-type member, double leg hat shaped channel, depth of 1/2 and 7/8 inch by 2-7/8 inches wide.
4. Resilient Furring Channels: Manufacturer's standard screw-type member, single leg hat shaped, asymmetric-shaped channel with face connected to a single flange by a single-slotted leg (web), depth of 1/2 inch by 2-3/16 inches wide; manufacturer's standard product designed to reduce sound transmission.
5. Flat Strap and Backing Plate: Steel sheet for blocking and bracing in length and width appropriate for support or as indicated on the drawings.
6. Cold-Rolled Channel Bridging: 0.0538-inch (1.37 mm) base steel thickness, with minimum 1/2-inch wide flange.
 - a. Depth: 1 1/2-inch (38.1 mm)
 - b. Clip Angle: 1 1/2 by 1 1/2 inch (38.1 by 38.1 mm), 0.068-inch (1.73 mm) thick, galvanized steel.
7. Cold-Rolled Furring Channels: 0.0538-inch (1.37 mm) bare steel thickness, with minimum 1/2-inch (12.7 mm) wide flange.
 - a. Depths: 3/4 inch, 1 1/2-inch, and 3 inches.
 - b. Furring Brackets: Adjustable, corrugated-edge type of steel sheet with a minimum base steel thickness of 0.0312-inch (0.79 mm).
 - c. Tie Wire: ASTM A641/A641M, Class 1 zinc coating, soft temper, 0.0625-inch (1.59 mm) diameter wire, or double strand of 0.0475-inch (1.21 mm) diameter wire.
8. Deflection Track (Ceiling Runner): ASTM C 645 modified C-shaped galvanized steel stud track (offset side flanges to allow gypsum wallboard overlay layer to seal to deck above), of thickness indicated for

studs and width to accommodate depth of studs indicated with flanges offset at midpoint to accommodate gypsum board thickness; minimum 25 gauge (match to UL requirement); top runner designed to allow partition heads to expand and contract with movement of structure above while maintaining continuity of the assembly.

- a. Offset Configuration: Reveal design with offset recessing in from depth of stud.
 - b. System shall be UL rated fire resistant design compliant for the rating listed or scheduled.
 - c. System shall allow 1/2 to 1 inch vertical movement without imposing axial loads on studs, but securing individual stud front lateral movement in any direction.
 - d. Product: Subject to compliance with requirements, provide " Deflection Track and Firestop System" as manufactured by FireTrak Corp., or approved equivalent.
9. Reveals, Mouldings and Special Trim: Refer to Section 09206 for all specified wall, ceiling and soffit special trim and mouldings.

2.03 GYPSUM BOARD MATERIALS

A. Manufacturers:

1. G-P Gypsum LLC: www.gp.com
2. National Gypsum Company: www.nationalgypsum.com.
3. USG: www.usg.com.
4. Substitutions: See Section 01600 - Product Requirements.

B. Fire Resistant Type: Complying with Type X requirements; UL or WH rated.

1. At assemblies identified to require Fire-Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X.
2. Application: At all locations, unless otherwise directed by Owner and Architect
 - a. Thickness: 5/8 inch, minimum for all single layers.
 - b. Thickness: As required to match existing, in some locations.
 - c. Edges: Tapered.
 - d. Ends: Square.
3. Edges: Tapered.

C. Water-Resistant Gypsum Backing Board: ASTM C 1396/C 1396M; ends square cut.

1. Application: In wet locations with painted finishes.
2. Core Type: Type X, as indicated.
3. Thickness: 5/8 inch, as indicated.
4. Edges: Tapered.
5. Edges: Tapered.

D. Gypsum Backing Board: Sizes to minimize joints in place; ends square cut.

1. Type: Fire rated.
2. Thickness: To be selected from the manufacturer's full color line.
3. Edges: Square.

2.04 FIBERGLASS REINFORCED BOARD MATERIALS

- A. Cementitious Backer Board: ANSI A118.9, aggregated Portland cement panels with glass fiber mesh embedded in front and back surfaces, 1/2 inch thick.

2.05 ACCESSORIES

- A. Acoustic Sealant: As specified in Section 07900.

- B. Finishing Accessories: ASTM C 1047, galvanized steel or rolled zinc, unless otherwise indicated.

1. Types: As detailed or required for finished appearance.
2. Special Shapes: In addition to conventional cornerbead and control joints, provide U-bead, L-bead, and LC-bead at exposed panel edges.

- C. Corner Beads: Galvanized steel.

- D. Edge Trim: Bead type(s) as detailed.

- E. Joint Materials: ASTM C 475 and as recommended by gypsum board manufacturer for project conditions.

1. Tape: 2 inch wide, coated glass fiber tape for joints and corners, except as otherwise indicated.
2. Tape: 2 inch wide, creased paper tape for joints and corners, except as otherwise indicated.
3. Ready-mixed vinyl-based joint compound.

- F. High Build Drywall Surfer: Vinyl acrylic latex-based coating for spray application, designed to take the place of skim coating and separate paint primer in achieving Level 5 finish.

- G. Textured Finish Materials: Latex-based compound, plain, drywall manufacturer's type as recommended for the application.
1. Texture: Light to medium stipple, as acceptable to the Architect and Owner.
 2. Samples: Provide three (3) samples of texture applied 24" square drywall panel with finish, from which Owner can make a selection.
- H. Screws: ASTM C 1002; self-piercing tapping type; cadmium plated at damp or wet locations
- I. Anchorage to Substrate: Tie wire, nails, screws, and other metal supports, of type and size to suit application; to rigidly secure materials in place.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that project conditions are appropriate for work of this section to commence.

3.02 FRAMING INSTALLATION

- A. Metal Framing: Comply with ASTM C 754 and manufacturer's instructions.
- B. Suspended Ceilings and Soffits: Space framing and furring members as indicated.
1. Level ceiling system to a tolerance of 1/1200.
 2. Laterally brace entire suspension system.
 3. Install bracing as required at exterior locations to resist wind uplift.
- C. Studs: Space studs as permitted by standard.
1. Extend partition framing to structure where indicated and to ceiling in other locations.
 2. Partitions Terminating at Ceiling: Attach ceiling runner securely to ceiling track in accordance with manufacturer's instructions.
 3. Partitions Terminating at Structure: Attach top runner to structure, maintain clearance between top of studs and structure, and connect studs to track using specified mechanical devices in accordance with manufacturer's instructions; verify free movement of top of stud connections; do not leave studs unattached to track.
- D. Openings: Reinforce openings as required for weight of doors or operable panels, using not less than double studs at jambs.
- E. Standard Wall Furring: Install at concrete walls scheduled to receive gypsum board, not more than 4 inches from floor and ceiling lines and abutting walls. Secure in place on alternate channel flanges at maximum 24 inches on center.
1. Orientation: Horizontal.
- F. Acoustic Furring: Install resilient channels at maximum 24 inches on center. Locate joints over framing members.
- G. Furring for Fire Ratings: Install as required for fire resistance ratings indicated and to GA-600 requirements.
- H. Blocking: Install blocking for support of equipment or fixtures. Comply with Section 06100 for wood blocking.

3.03 GYPSUM BOARD INSTALLATION

- A. Comply with ASTM C 840 and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.
- B. Single-Layer Non-Rated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.
1. Exception: Tapered edges to receive joint treatment at right angles to framing.
- C. Single-Layer Fire-Rated: Install gypsum board vertically, with edges and ends occurring over firm bearing.
- D. Double-Layer Non-Rated: Use gypsum board for first layer, placed perpendicular to framing or furring members, with ends and edges occurring over firm bearing. Place second layer perpendicular to framing or furring members. Offset joints of second layer from joints of first layer.
- E. Fire-Rated Construction: Install gypsum board in strict compliance with requirements of listing authority.
- F. Cementitious Backing Board: Install over steel framing members where indicated, in accordance with ANSI A108.11 and manufacturer's instructions.
- G. Installation on Metal Framing: Use screws for attachment of all gypsum board.

3.04 INSTALLATION OF TRIM AND ACCESSORIES

- A. Control Joints: Place control joints consistent with lines of building spaces and as indicated.
 - 1. Not more than 30 feet apart on walls, furrings, bulkheads and ceilings over 50 feet long.
 - 2. At corridor doors, provide control joints from the top corner each side of door frame to the top of the wall.
- B. Corner Beads: Install at external corners, using longest practical lengths.
- C. Edge Trim: Install at locations where gypsum board abuts dissimilar materials and as indicated.

3.05 JOINT TREATMENT

- A. Paper Faced Gypsum Board: Use paper joint tape, bedded with ready-mixed vinyl-based joint compound and finished with ready-mixed vinyl-based joint compound.
- B. Refer to schedule at the end of this section for finishing requirements.
- C. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
 - 1. Feather coats of joint compound so that camber is maximum 1/32 inch.
 - 2. Taping, filling, and sanding is not required at surfaces behind adhesive applied ceramic tile.
 - 3. Taping, filling and sanding is not required at base layer of double layer applications.
- D. Where Level 5 finish is indicated, spray apply high build drywall surfacer over entire surface after joints have been properly treated; achieve a flat and tool mark-free finish.
- E. Fill and finish joints and corners of cementitious backing board as recommended by manufacturer.

3.06 TEXTURE FINISH

- A. Apply finish texture coating by means of spraying apparatus in accordance with manufacturer's instructions and to match approved sample.

3.07 TOLERANCES

- A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

3.08 FINISH LEVEL SCHEDULE

- A. Finish level designation and requirements per ASTM C 840:
 - 1. Level 1: Above finished ceilings concealed from view.
 - 2. Level 2: Utility areas and areas behind cabinetry.
 - 3. Level 3: Walls scheduled to receive textured wall finish.
 - 4. Level 4: Walls and ceilings scheduled to receive flat or eggshell paint finish.
 - 5. Level 5: Walls and ceilings scheduled to receive semi-gloss or gloss paint finish.

END OF SECTION

SECTION 09511**SUSPENDED ACOUSTICAL CEILINGS****PART 1 GENERAL**

NOTE: CONTRACTOR IS TO INVESTIGATE EXISTING SUSPENDED ACOUSTICAL CEILING SYSTEMS AT SPECIFIC PROJECT SITES AND PROVIDE BEST SUITABLE MATCH FOR REPLACEMENT AND ALTERATIONS WORK. CONTRACTOR MAY PROVIDE PRODUCTS NOT LISTED IN THIS SECTION IF SUITABILITY IS DEMONSTRATED.

1.01 SECTION INCLUDES

- A. Suspended metal grid ceiling system.
- B. Acoustical units.

1.02 RELATED SECTIONS

- A. Section 07212 - Board and Batt Insulation: Acoustical insulation.
- B. Section 07900 - Joint Sealers: Acoustical sealant.
- C. Section 09260 - Gypsum Board Assemblies.

1.03 SUBMITTALS

- A. Provide product data to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect:
 - 1. Shop Drawings: Indicate grid layout and related dimensioning.
 - 2. Product Data: Provide data on suspension system components.
 - 3. Samples: Submit two samples 12 x 12 inch in size illustrating material and finish of acoustical units. Provide photographic data indicating appearance of existing/adjacent units remaining in place at specific project location.
 - 4. Samples: Submit two samples each, 14 inches long, of suspension system main runner.
 - 5. Manufacturer's Installation Instructions: Indicate special procedures.

1.04 QUALITY ASSURANCE

- A. Suspension System Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.
- B. Acoustical Unit Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

1.05 ENVIRONMENTAL REQUIREMENTS

- A. Maintain uniform temperature of minimum 60 degrees F, and maximum humidity of 40 percent prior to, during, and after acoustical unit installation.

1.06 PROJECT CONDITIONS

- A. Sequence work to ensure acoustical ceilings are not installed until building is enclosed, sufficient heat is provided, dust generating activities have terminated, and overhead work is completed, tested, and approved.
- B. Install acoustical units after interior wet work is dry.

PART 2 PRODUCTS**2.01 ACOUSTICAL UNITS**

- A. Manufacturers:
 - 1. Armstrong World Industries, Inc: www.armstrong.com.
 - 2. USG Corporation: www.usg.com.
 - 3. Celotex Corporation: www.celotex.com
 - 4. Substitutions: Refer General and Special Conditions for substitution requirements
- B. Acoustical Units - General: ASTM E 1264, Type III, Form 2, Pattern C, D; Class A.
 - 1. General: Tile unit is to be selected to match the existing/adjacent units in place specific to project location. Contractor is to investigate and submit proposed match for approval by Owner and Architect. Tile

C. Acoustical Panels Type A: Painted mineral fiber, ASTM E 1264 Type III, with the following characteristics:

1. Size: 24 x 48 inches and 24 x 24 inches specific to project location.
2. Thickness: 5/8 inches.
3. Composition: Wet felted.
4. Light Reflectance: 82 percent, determined as specified in ASTM E 1264.
5. NRC Range: 0.55 to 0.55, determined as specified in ASTM E 1264.
6. Edge: Square.
7. Surface Color: White.
8. Surface Pattern: Non-directional fissured.
9. Suspension System: 15/16" Exposed Tee steel grid system.
10. Acceptable Products:
 - a. Armstrong: "Cortega - #770 for 15/16 inch Grid" (24" x 24")
 - b. Armstrong: "Cortega - #769 for 15/16" Grid" (24" x 48")
 - c. USG Systems: "Fissured - #560" (24" x 24")
 - d. USG Systems: "Fissured - #562" (24" x 48")

D. High Performance Acoustical Panels Type B: washable faced mineral fiber, ASTM E 1264 Type IV, with the following characteristics:

1. Size: 24 x 24 inches and 24 x 48 inches specific to project location.
2. Thickness: 3/4 inches.
3. Composition: Wet felted.
4. Light Reflectance: 90 percent, determined as specified in ASTM E 1264.
5. NRC Range: 0.70 to 0.75, determined as specified in ASTM E 1264.
6. Edge: Beveled tegular.
7. Surface Color: White.
8. Surface Pattern: Fine textured, non-directional.
9. Suspension System: 9/16" Reveal Tee, steel grid system.
10. Acceptable Products:
 - a. Armstrong: "Ultima Beveled Tegular - #1912 for 9/16 inch Grid" (24" x 24")
 - b. Armstrong: "Ultima Beveled Tegular - #1915 for 9/16 inch Grid" (24" x 48")
 - c. USG Systems: "Frost SLB #414" (24" x 24")

2.02 SUSPENSION SYSTEM(S)

A. Manufacturers:

1. Armstrong World Industries, Inc: www.armstrong.com.
2. USG Corporation: www.usg.com.
3. Substitutions: Refer General and Special Conditions for substitution requirements

B. Suspension Systems - General: ASTM C 635; die cut and interlocking components, with stabilizer bars, clips, splices, perimeter moldings, and hold down clips as required.

C. Exposed Steel Suspension System Type Exposed Tee: Formed steel, commercial quality cold rolled; intermediate-duty.

1. Construction: Double web.
2. Finish: White painted.
3. Product: Prelude ML 15/16" Exposed Tee by Armstrong.
4. Product: Suprafine ML 9/16" Exposed Tee by Armstrong.

2.03 ACCESSORIES

A. Support Channels and Hangers: Galvanized steel; size and type to suit application, seismic requirements, and ceiling system flatness requirement specified.

B. Acoustical Insulation: Specified in Section 09260.

C. Touch-up Paint: Type and color to match acoustical and grid units.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that layout of hangers will not interfere with other work.

- A. Install suspension system in accordance with ASTM C 636, ASTM E 580, and manufacturer's instructions and as supplemented in this section.
- B. Rigidly secure system, including integral mechanical and electrical components, for maximum deflection of 1:360.
- C. Install after major above-ceiling work is complete. Coordinate the location of hangers with other work.
- D. Hang suspension system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.
- E. Where ducts or other equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and related carrying channels to span the extra distance.
- F. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability.
- G. Support fixture loads using supplementary hangers located within 6 inches of each corner, or support components independently.
- H. Do not eccentrically load system or induce rotation of runners.

3.03 INSTALLATION - ACOUSTICAL UNITS

- A. Install acoustical units in accordance with manufacturer's instructions.
- B. Fit acoustical units in place, free from damaged edges or other defects detrimental to appearance and function.
- C. Fit border trim neatly against abutting surfaces.
- D. Install units after above-ceiling work is complete.
- E. Install acoustical units level, in uniform plane, and free from twist, warp, and dents.
- F. Cutting Acoustical Units:
 - 1. Make field cut edges of same profile as factory edges.

3.04 ERECTION TOLERANCES

- A. Maximum Variation from Flat and Level Surface: 1/8 inch in 10 feet.
- B. Maximum Variation from Plumb of Grid Members Caused by Eccentric Loads: 2 degrees.

END OF SECTION

SECTION 09650**RESILIENT FLOORING****PART 1 GENERAL**

NOTE: CONTRACTOR IS TO INVESTIGATE EXISTING RESILIENT FLOORING SYSTEMS AT SPECIFIC PROJECT SITES AND PROVIDE BEST SUITABLE MATCH FOR REPLACEMENT AND ALTERATIONS WORK. CONTRACTOR MAY PROVIDE PRODUCTS NOT LISTED IN THIS SECTION IF SUITABILITY IS DEMONSTRATED.

1.01 SECTION INCLUDES

- A. Resilient tile flooring.
- B. Resilient base.
- C. Resilient stair accessories.
- D. Installation accessories.

1.02 RELATED SECTIONS

- A. Section 03300 - Cast-In-Place Concrete.
- B. Section 09260 - Gypsum Board Assemblies.

1.03 REFERENCES

- A. ASTM F 1066 - Standard Specification for Vinyl Composition Floor Tile; 2004.
- B. ASTM F 1861 - Standard Specification for Resilient Wall Base; 2002.
- C. FS RR-T-650 - Treads, Metallic and Nonmetallic, Skid Resistant; Federal Specifications and Standards; Revision E, 1994.

1.04 SUBMITTALS

- A. Provide product data to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect:
 - 1. Product Data: Provide data on specified products, describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.
 - 2. Selection Samples: Submit manufacturer's complete set of color samples for selection.
 - 3. Verification Samples: Submit two samples, 12 x 12 inch in size illustrating color and pattern for each resilient flooring product specified.
 - 4. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning, stripping, and re-waxing.

1.05 DELIVERY, STORAGE, AND PROTECTION

- A. Protect roll materials from damage by storing on end.

1.06 ENVIRONMENTAL REQUIREMENTS

- A. Maintain temperature in storage area between 55 degrees F and 90 degrees F.
- B. Store materials for not less than 48 hours prior to installation in area of installation at a temperature of 70 degrees F to achieve temperature stability. Thereafter, maintain conditions above 55 degrees F.

PART 2 PRODUCTS**2.01 MATERIALS - TILE FLOORING**

- A. Vinyl Composition Tile: Homogeneous, with color extending throughout thickness, and:
 - 1. Minimum Requirements: Comply with ASTM F 1066, of Class corresponding to type specified.
 - 2. Size: 12 x 12 inch.
 - 3. Thickness: 0.125 inch.
 - 4. Manufacturers:
 - a. Armstrong World Industries, Inc; Product Excelon (all patterns & colors): www.armstrong.com.
 - b. Mannington Mills, Inc; Product Essentials and Designer Essentials (all patterns & colors): www.mannington.com.
 - c. Substitutions: Refer General and Special Conditions for substitution requirements

- A. Stair Treads: Rubber treads with Photoluminescent Edge Nosings; full width and depth of stair tread in one piece; tapered thickness; nosing not less than 1-5/8 inch deep.
1. Minimum Requirements: Comply with FS RR-T-650d, Composition A, Type 2 requirements corresponding to type specified.
 2. Nominal Thickness: 0.1875 inch.
 3. Nosing: Square with 2" wide photo-luminescent anti-skid edge striping.
 4. Style: Heavy Duty, Ribbed, diamond grid, or raised profile.
 5. Color: Two color, tread base color and photo-luminescent strip.
 6. Manufacturers:
 - a. Johnsonite, Inc; Product Safe-T-First Visually Impaired Rubber Stair Treads - Style PVIC Heavy Duty Diamond: www.johnsonite.com.
 - b. Substitutions: Refer General and Special Conditions for substitution requirements
- B. Stair Risers: Full height and width of tread in one piece, matching treads in material and color:
1. Thickness: 0.080 inch.
 2. Manufacturers:
 - a. Johnsonite, Inc; Product Safe-T-First Rubber Stair Risers compatible with Safe-T-First treads: www.johnsonite.com.
 - b. Substitutions: Refer General and Special Conditions for substitution requirements

2.03 MATERIALS - BASE

- A. Resilient Base: ASTM F 1861, Type TS rubber, vulcanized thermoset; top set Style B, Cove, and as follows:
1. Height: 4 inch.
 2. Thickness: 0.125 inch thick.
 3. Finish: Satin.
 4. Length: 4 foot sections.
 5. Color: Color as selected from manufacturer's standards.
 6. Accessories: Premolded external corners and end stops.
 7. Manufacturers:
 - a. BurkeMercer Flooring Products; Product Rubber Wall Base TS: www.burkemercer.com.
 - b. Johnsonite, Inc; Product Rubber Base TS: www.johnsonite.com.
 - c. Roppe Corp; Product Premium SBR Rubber Base TS: www.roppe.com.
 - d. Substitutions: Refer General and Special Conditions for substitution requirements

2.04 ACCESSORIES

- A. Subfloor Filler: White premix latex; type recommended by adhesive material manufacturer.
- B. Primers, Adhesives, and Seaming Materials: Waterproof; types recommended by flooring manufacturer.
- C. Moldings, Transitions and Edge Strips: Same material as flooring.
- D. Filler for Coved Base: Plastic.
- E. Sealer and Wax: Types recommended by flooring manufacturer and approved by the Architect.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that sub-floor surfaces are smooth and flat within the tolerances specified for that type of work and are ready to receive resilient flooring.
- B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive resilient base.
- C. Verify that sub-floor surfaces are dust-free and free of substances which would impair bonding of adhesive materials to sub-floor surfaces.
- D. Verify that concrete sub-floor surfaces are ready for resilient flooring installation by testing for moisture emission rate and alkalinity; obtain instructions if test results are not within the following limits:
1. Moisture emission rate: Not greater than 3 lb per 1000 sq ft per 24 hours when tested using calcium chloride moisture test kit for 72 hours.
 2. Alkalinity: pH range of 5-9.
- E. Verify that required floor-mounted utilities are in correct location.

- A. Remove sub-floor ridges and bumps. Fill minor low spots, cracks, joints, holes, and other defects with sub-floor filler to achieve smooth, flat, hard surface.
- B. Prohibit traffic until filler is cured.
- C. Clean substrate.
- D. Apply primer as required to prevent "bleed-through" or interference with adhesion by substances that cannot be removed.

3.03 INSTALLATION - TILE FLOORING

- A. Install in accordance with manufacturer's instructions.
- B. Mix tile from container to ensure shade variations are consistent when tile is placed.
- C. Spread only enough adhesive to permit installation of materials before initial set.
- D. Set flooring in place, press with heavy roller to attain full adhesion.
- E. Lay flooring with joints and seams parallel to building lines to produce symmetrical tile pattern.
- F. Where floor finishes are different on opposite sides of door, terminate flooring under centerline of door.
- G. Install edge strips at unprotected or exposed edges, where flooring terminates, and where indicated.
- H. Scribe flooring to walls, columns, cabinets, floor outlets, and other appurtenances to produce tight joints.
- I. Install flooring in recessed floor access covers. Maintain floor pattern.

3.04 INSTALLATION - BASE

- A. Fit joints tightly and make vertical. Maintain minimum dimension of 18 inches between joints.
- B. Install base on solid backing. Bond tightly to wall and floor surfaces.

3.05 INSTALLATION - STAIR COVERINGS

- A. Install stair coverings in one piece for full width and depth of tread.
- B. Install stringers configured tightly to stair profile.
- C. Adhere over entire surface. Fit accurately and securely.

3.06 CLEANING

- A. Remove excess adhesive from floor, base, and wall surfaces without damage.
- B. Clean, seal, and wax resilient flooring products in accordance with manufacturer's instructions.

3.07 PROTECTION OF FINISHED WORK

- A. Prohibit traffic on resilient flooring for 48 hours after installation.

END OF SECTION

CARPET**PART 1 GENERAL**

NOTE: CONTRACTOR IS TO INVESTIGATE EXISTING CARPET SYSTEMS AT SPECIFIC PROJECT SITES AND PROVIDE BEST SUITABLE MATCH FOR REPLACEMENT AND ALTERATIONS WORK. CONTRACTOR MAY PROVIDE PRODUCTS NOT LISTED IN THIS SECTION IF SUITABILITY IS DEMONSTRATED.

1.01 SECTION INCLUDES

- A. Carpet, direct-glued.
 - 1. Broadloom water-resistant textile sheet carpet/flooring.
 - 2. Broadloom sheet carpeting.
- B. Accessories.

1.02 RELATED SECTIONS

- A. Section 03300 - Cast-In-Place Concrete: Floor prep for flooring.
- B. Section 09650 - Resilient Flooring: Termination edging of adjacent floor finish.

1.03 REFERENCES

- A. ASTM D 2859 - Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials; 2004.
- B. ASTM E 648 - Standard Test Method for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source; 2006.
- C. CRI 104 - Standard for Installation of Commercial Textile Floorcovering Materials; Carpet and Rug Institute; 2002.
- D. NFPA 253 - Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source; National Fire Protection Association; 2006.

1.04 SUBMITTALS

- A. Provide product data to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect:
 - 1. Product Data: Provide data on specified products, describing physical and performance characteristics; sizes, patterns, colors available, and method of installation.
 - 2. Samples: Submit two samples 12 x 12 inch in size illustrating color and pattern for each carpet material specified.
 - 3. Submit two samples in 12 inch length of edge strip for each color specified.
 - 4. Submit two samples in 12 inch length of each carpet accessory.
 - 5. Manufacturer's Installation Instructions: Indicate special procedures.
 - 6. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning.

1.05 QUALITY ASSURANCE

- A. Provide carpet from one the acceptable manufacturers listed in this specification.
- B. Installer Qualifications: Company specializing in installing carpet with minimum three years experience and with minimum five years documented experience.
- C. Installer shall be certified by the manufacturer of the carpet submitted and approved for the job.
- D. Flammability:
 - 1. Pill Test: DOC FF1-70 must pass
 - 2. Radiant Panel (Direct Glue): ASTM E-648 must pass
- E. NBS Smoke density: ASTM E-662
 - 1. Flaming Mode must be <450
 - 2. Non-Flaming Mode must be <450
- F. Static: AATCC-134 must be <3.5 KV Permanent conductive Fiber.
- G. Electrical Resistance:

1. NFPA 99 City of Fort Lauderdale must pass
2. NFPA 99 (Burroughs Method) must pass

1.06 ENVIRONMENTAL REQUIREMENTS

- A. Store all flooring materials (carpet, accessories and adhesive) at a temperature of 70 degrees F. for 48 hours prior to installation and maintain that temperature for a period of 48 hours during and after completion of installation.
- B. Ventilate installation area during installation and for 72 hours after installation.
- C. Do not expose adhesive to ultraviolet light. Exposure to UV light will degrade the effective adhesion characteristics. Exposed adhesive shall be discarded and replaced with new material.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Carpet:
 1. Collins and Aikman- www.powerbond.com
 2. Shaw Flooring - ShawTek, www.shawflooring.com.
 3. Interface, Inc.- www.interfaceinc.com.
 4. Lee's Carpet - www.leescarpet.com.
 5. Mohawk – www.mohawkcarrpet.com
 6. Substitutions: Refer General and Special Conditions for substitution requirements

2.02 CARPET

- A. General: All carpet shall be from an approved manufacturer listed above and shall meet or exceed the following criteria:

- B. Carpet Type A - Broadloom for offices and similar administrative areas: Tufted, nylon, conforming to the following criteria:

1. Manufacturer/Product: Shaw Flooring, ShawTec Carpeting, "#60465, Hit the Books UMP.
2. Yarn Type: 61% Eco Solution "Q" premium branded nylon.
39% Yarn dyed BCF nylon.
3. Radiant Panel Test: Class I, ASTM E-648.
< 450 per ASTM E-662 NBS smoke chamber test.
4. Critical Radiant Flux: Minimum of 0.22 watts/sq cm, when tested in accordance with ASTM E 648 or NFPA 253.
5. Surface Flammability Ignition: Pass ASTM D 2859 (the "pill test").
6. Color: To be selected by the Owner.
7. Pattern: To be selected by the Owner.
8. Construction: Tufted loop.
9. Dye Method(s): Solution and Yarn dyed.
10. Roll Width: 12 ft.
11. Max. Electrostatic Charge: 3 Kv. @ 20 percent R.H.
12. Stitches: 10 per inch.
13. Finished Pile Thickness: 0.10 inch.
14. Pile Weight: 22 oz/sq yd.
15. Density: 161,326
16. Primary Backing: Synthetic.
17. Laminate: ShawTec Reactive Precoat/Laminate.
18. Secondary Backing: ShawTec UltraLoc MP.
19. Protective Treatments: Soil protection, Florsept antimicrobial, Shaw anti-static.
20. Warranties: Lifetime guarantee against stain and abrasive wear.
10-year guarantee for color-fastness.

- C. Carpet Type B - Carpet for Lockers, Water-Resistant: Resilient nylon textile flooring conforming to the following characteristics:

1. Manufacturer/Product: Shaw Flooring, ShawTec Carpeting, "#60465, Hit the Books UMP.
2. Yarn Type: 100% Dupont Nylon 6.6.
3. Face Weight: 58 oz/sq yd.
4. Fiber Technology: Giojuard(r) by LEES.
5. Surface Texture: Textured loop.

6. Radiant Panel Test: < 450 per ASTM E-662 NBS smoke chamber test.
7. < 450 per ASTM E-662 NBS smoke chamber test.
8. Surface Flammability Ignition: Pass ASTM D 2859 (the "pill test").
9. Color: To be selected by the Owner.
10. Pattern: To be selected by the Owner.
11. Construction: Resilient Textile Sheet Flooring - Special Construction.
12. Dye Method(s): Yarn dyed.
13. Roll Width: 6'-6 3/4"
14. Max. Electrostatic Charge: 3 Kv. @ 20 percent R.H.
15. Backing Material: Closed cell vinyl cushion, Fiberglass stabilized.
16. Total Weight: 58.98 oz/sq yd.
17. Warranties: Lifetime guarantee against - stain, static, edge ravel, delamination, tuft-bind (no zippering).
10-year guarantee for colorfastness and ware (10% max).

2.03 ACCESSORIES

- A. Sub-Floor Filler: Type recommended by carpet manufacturer.
- B. Moldings, Edge Strips and Accessories: Provide resilient rubber edges, reducers and threshold plates at all edges and transitions. All accessories shall be mechanically attached or securely glued in place.
 1. Accessories shall be sized to be compatible with the thickness of the carpet, in a color as selected by the Architect, of a commercial quality.
 2. Acceptable Manufacturers: Armstrong, Mercer Plastics Co., Inc., or approved equal.
 3. The contractor shall provide the most appropriate type of accessory as recommended by the carpet and accessory manufacturers for each site condition. All conditions and accessories shall be reviewed with the Architect and it use approved before installation.
- C. Carpet Adhesive: Adhesive shall be non wet adhesive, micro-encapsulated tackifier impregnated into vinyl cushion backing. Solvent free adhesive as recommended by carpet manufacturer for interior installation of vinyl backed carpet. Acrylic based adhesive shall be non-flammable, water and alkali resistant, mildew resistant, freeze - thaw stable. Adhesive shall release from substrate without leaving residue.
- D. Seam Adhesive: As required, provide adhesive seam sealer certified in writing by the manufacturer to be compatible with carpet backing. Seam sealer to have minimum 5 year manufacturer's guarantee. Sealer must completely chemical weld/fuse backing together at seam.
- E. Contact Adhesive: Compatible with carpet material; releasable type.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that sub-floor surfaces are smooth and flat. Noticeable rises or depressions shall be ground level or filled with a self-curing floor compound.
- B. Verify that sub-floor surfaces are dust-free and free of substances which would impair bonding of adhesives to sub floor surfaces.
- C. All subfloors must be level, clean, dry, free of dust, dirt, wax, paint, grease, cut back adhesive or any materials that might interfere with the overall bond strength of the adhesive (for the new carpeting). All concrete floors must be fully cured and free of excessive moisture and alkalinity. Conduct a moisture test of all floor areas. Subfloors shall meet maximum moisture restrictions.
- D. Moisture Test and Moisture Limits: In each floor area, tape a 4 foot by 4 foot sheet of polyethylene to the floor substrate, full tape all edges for the full perimeter of the sheeting to the floor substrate. Within a 48 hour time span, no condensation is allowed to accumulate on the underside of sheeting. The maximum amount of moisture allowable to be emitted from the floor shall be 3.0 pounds per 1,000 square feet in a 24 hour period.
- E. Verify that required floor-mounted utilities are in correct location.

3.02 PREPARATION

- A. Remove existing carpet and carpet cushion.
- B. Remove sub-floor ridges and bumps. Fill minor or local low spots, cracks, joints, holes, and other defects with sub-floor filler. For significant floor defects provide self-leveling compound approved by the Architect. Review existing floor conditions with the Architect and the Owner prior to leveling floor surfaces.
- C. Apply, trowel, and float filler to achieve smooth, flat, hard surface. Prohibit traffic until filler is cured.

3.03 INSTALLATION - GENERAL

- A. Install carpet and cushion in accordance with manufacturer's instructions and CRI 104.
- B. Verify carpet match before cutting to ensure minimal variation between dye lots.
- C. Lay out carpet and locate seams in accordance with shop drawings:
 - 1. Locate seams in area of least traffic, out of areas of pivoting traffic, and parallel to main traffic.
 - 2. Do not locate seams perpendicular through door openings.
 - 3. Align run of pile in same direction as anticipated traffic and in same direction on adjacent pieces.
 - 4. Locate change of color or pattern between rooms under door centerline.
 - 5. Provide monolithic color, pattern, and texture match within any one area.
- D. Install carpet tight and flat on sub-floor, well fastened at edges, with a uniform appearance.
- E. Carpet scheduled for installation on treads and risers (as in auditoriums) shall be installed with rubber tread nosing at the front of each tread, including offsets in seating areas.

3.04 DIRECT-GLUED CARPET

- A. Double cut carpet edges, without gaps to form tight seams, with accurate pattern match. Make cuts straight, true, and unfrayed. Apply the manufacturer's recommended seam seal/adhesive to all cut edges.
- B. Apply contact adhesive to floor uniformly at rate recommended by manufacturer. After sufficient open time, press carpet into adhesive.
- C. Apply seam adhesive to the base of the edge glued down. Lay adjoining piece with seam straight, not overlapped or peaked, and free of gaps.
- D. Roll with appropriate roller for complete contact of adhesive to carpet backing.
- E. Trim carpet neatly at walls and around interruptions.
- F. Complete installation of edge strips, concealing exposed edges.

3.05 CLEANING

- A. Remove excess adhesive from floor and wall surfaces without damage.
- B. Clean and vacuum carpet surfaces.

END OF SECTION

SECTION 09900**PAINTS AND COATINGS****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Surface preparation.
- B. Field application of paints, stains, varnishes, and other coatings.

1.02 RELATED SECTIONS

- A. Section 05500 - Metal Fabrications: Shop-primed items.
- B. Section 08110 - Steel Doors and Frames.
- C. Section 08211 – Flush Wood Doors: Stain and finish of wood veneer doors
- C. Section 09260 - Gypsum Board Assemblies.

1.03 REFERENCES

- A. ASTM D 16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications; 2003.

1.04 DEFINITIONS

- A. Conform to ASTM D 16 for interpretation of terms used in this section.

1.05 SUBMITTALS

- A. Provide product data to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect:
 - 1. Product Data: Provide data on all finishing products.
 - 2. Samples: Submit two paper chip samples, 8 1/2 x 11 inch (216 x 280 mm) in size illustrating range of colors and textures available for each surface finishing product scheduled.
 - 3. Manufacturer's Instructions: Indicate special surface preparation procedures.

1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.

1.07 REGULATORY REQUIREMENTS

- A. Conform to applicable code for flame and smoke rating requirements for products and finishes.

1.08 COLOR SELECTIONS

- A. During the initial stages of the project, the City of Fort Lauderdale and, when applicable, Consultant, shall meet and select colors for all components of the project. The approved paint and finish selections will be provided to the Contractor for implementation. The Contractor, City of Fort Lauderdale, and, when applicable, Consultant, shall meet together to determine what additional selections need to be made. The Contractor shall make a list of any remaining outstanding color selections required for the project.

1.09 MOCK-UP

- A. The Painting Contractor shall provide painted samples of all color selections on representative materials at the project site. Paint samples may be made on walls or other finishes. Three sets of 8 1/2 x 11 sample sheets shall be provided of all paint and finish selection as a record of the colors selected and approved.

1.10 DELIVERY, STORAGE, AND PROTECTION

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- C. Paint Materials: Store at minimum ambient temperature of 45 degrees F (7 degrees C) and a maximum of 90 degrees F (32 degrees C), in ventilated area, and as required by manufacturer's instructions.

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.
- B. Do not apply exterior coatings during rain or snow, or when relative humidity is outside the humidity ranges required by the paint product manufacturer.
- C. Minimum Application Temperatures for Latex Paints: 45 degrees F (7 degrees C) for interiors; 50 degrees F (10 degrees C) for exterior; unless required otherwise by manufacturer's instructions.
- D. Minimum Application Temperature for Varnish Finishes: 65 degrees F (18 degrees C) for interior or exterior, unless required otherwise by manufacturer's instructions.
- E. Provide lighting level of 80 ft candles (860 lx) measured mid-height at substrate surface.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Paints:
 - 1. Base Manufacturer: Sherwin-Williams: www.sherwin-williams.com.
 - 2. Benjamin Moore & Co: www.benjaminmoore.com.
 - 3. PPG Architectural Finishes, Inc: www.ppgaf.com.
 - 4. Duron Paints and Wall coverings; www.duron.com
 - 5. Substitutions: Refer General and Special Conditions for substitution requirements

2.02 PAINTS AND COATINGS - GENERAL

- A. Paints and Coatings: Ready mixed, except field-catalyzed coatings. Prepare pigments:
 - 1. To a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating.
 - 2. For good flow and brushing properties.
 - 3. Capable of drying or curing free of streaks or sags.

2.03 PAINT SYSTEMS - EXTERIOR

- A. Paint Systems: Paint systems listed below are based upon The Sherwin-Williams Company paints and are preceded by the prefix "SW".
- B. Paint WE-OP-3L - Wood, Opaque, Latex, 3 Coat:
 - 1. One coat of latex primer sealer.
 - 2. Semi-gloss: Two coats of latex enamel; SW-A8 Series, A-100 / Semi-Gloss.
- C. Paint CE-OP-3L - Masonry/Concrete, Opaque, Latex, 3 Coat:
 - 1. One coat of block filler.
 - 2. Flat: Two coats of latex enamel; SW-A8 Series, A-100 / Semi-Gloss.
- D. Paint ME-OP-2U - Ferrous Metals, Urethane 3 Coat, Coating : Two coats, two-part, aliphatic moisture-curing polyurethane, semi-gloss finish.
 - 1. Primer for ferrous metal: SW-B67 Series, Recoatable Epoxy Primer.
 - 2. Gloss: Two coats of urethane enamel; SW-B65-300 Series, Hi-Solids Polyurethane / Gloss.
- E. Paint MgE-OP-3U - Galvanized Metals, Urethane, 3 Coat, Coating: Two coats, two-part, aliphatic moisture-curing polyurethane, semi-gloss finish.
 - 1. Primer for ferrous metal: SW-B67 Series Recoatable Epoxy Primer.
 - 2. Gloss: Two coats of urethane enamel: SW-B65-300 Series, Hi-Solids Polyurethane / Gloss.
- F. Paint E-Pav - Pavement Marking Paint:
 - 1. Yellow: One coat, with reflective particles; SW-Traffic Marking Paint.
 - 2. White: One coat, with reflective particles; SW-Traffic Marking Paint.

2.04 PAINT SYSTEMS - INTERIOR

- A. Paint Systems: Paint systems listed below are based upon The Sherwin-Williams Company paints and are preceded by the prefix "SW".
- B. Paint WI-OP-3L - Wood, Opaque, Acrylic Latex, 3 Coat:
 - 1. One coat of latex primer sealer.
 - 2. Semi-gloss: Two coats of latex enamel; SW-B31W200 Series, ProMar 200 / Semi-Gloss.
- C. Paint WI-TR-4PU – Wood, Stain & Transparent, Polyurethane 2 Coat.
 - 1. One coat of oil stain, SW-A49-200 Series, Wood Classics Interior Oil Stain.

2. Semi-gloss: Two coats of polyurethane varnish; SW-A68 Series, Wood Classics Waterborne Polyurethane Varnish / Satin.

D. Paint CI-OP-3L - Concrete/Masonry, Opaque, Latex, 3 Coat:

1. One coat of block filler.
2. Semi-gloss: Two coats of latex enamel; SW-B31W200 Series, ProMar 200 / Semi-Gloss.

E. Paint MI-OP-2L - Ferrous Metals, Primed, Latex, 2 Coat:

1. Touch-up with latex primer.
2. Semi-gloss: Two coats of latex enamel; SW-B66W1 Series, DTM Acrylic Primer/Finish / Semi-gloss.

F. Paint Mgl-OP-3L - Galvanized Metals, Latex, 3 Coat:

1. One coat galvanize primer.
2. Semi-gloss: Two coats of latex enamel; SW-B66W1 Series, DTM Acrylic Primer/Finish / Semi-gloss.

G. Paint GI-OP-3LA - Gypsum Board/Plaster, Latex-Acrylic, 3 Coat:

1. One coat of alkyd primer sealer.
2. Eggshell: Two coats of latex-acrylic enamel; SW-B9 Series, Harmony / Egg-Shell.
3. Flat: Two coats of latex enamel-acrylic; SW-B9 Series, Harmony / Flat.

H. Paint GI-OP-3WBU- Gypsum Board. Plaster, Water-Base Polyester Urethane (listed as EPOXY on the finish schedule), 3 Coat.

1. One coat of water-based primer sealer; SW-B71Y1 Series, DTM Wash Primer.
2. Semi-gloss: One coat of water-based polyester urethane enamel; SW-B65-700 Series, Centurion Water-Based Urethane / Gloss.

I. Paint FI-OP-3LA - Miscellaneous/Fabric/Insulation, Latex Acrylic, 3 Coats:

1. One coat of latex primer/sealer.
2. Eggshell: Two coats of latex acrylic enamel; SW-B66W1 Series, DTM Acrylic Primer/Finish / Semi-gloss.

J. Paint CI-OP-2SA – Concrete Floor Sealer, Water-Based Styrene-Acrylic opaque coating, 2 Coat.

1. Clean and prepare cured concrete floor.
2. One coat of water reduced SW-H&C Shield Plus Concrete Stain.
3. One coat of non-reduced SW-H&C Shield Plus, Concrete Stain.

2.05 ACCESSORY MATERIALS

- A. Accessory Materials: Linseed oil, shellac, turpentine, paint thinners and other materials not specifically indicated but required to achieve the finishes specified; commercial quality.
- B. Patching Material: Latex filler.
- C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that surfaces are ready to receive Work as instructed by the product manufacturer.
- B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- C. Test shop-applied primer for compatibility with subsequent cover materials.

3.02 PREPARATION

- A. Surface Appurtenances: Remove or mask electrical plates, hardware, light fixture trim, escutcheons, and fittings prior to preparing surfaces or finishing.
- B. Surfaces: Correct defects and clean surfaces which affect work of this section. Remove or repair existing coatings that exhibit surface defects.
- C. Marks: Seal with shellac those which may bleed through surface finishes.
- D. Impervious Surfaces: Remove mildew by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

3.03 APPLICATION

- A. Apply products in accordance with manufacturer's instructions.
- B. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

City of Fort Lauderdale Bid 685-9855
C. Apply each coat to uniform appearance. Apply each coat of paint slightly darker than preceding coat unless otherwise approved.

D. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

3.04 FINISHING MECHANICAL AND ELECTRICAL EQUIPMENT

A. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.

B. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

END OF SECTION

VISUAL DISPLAY BOARDS**PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Chalkboards, Marker Boards, and Tack Boards.

1.02 RELATED SECTIONS

- A. Section 06100 - Rough Carpentry: Concealed supports in wood stud walls.
- B. Section 09260 - Gypsum Board Assemblies: Concealed supports in metal stud walls.

1.03 REFERENCES

- A. ANSI A135.4 - American National Standard for Basic Hardboard; 2004.
- B. ANSI A208.1 - American National Standard for Particleboard; 1999.
- C. ASTM A 424 - Standard Specification for Steel, Sheet, for Porcelain Enameling; 2006.
- D. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2005.
- E. ASTM F 793 - Standard Classification of Wall Covering by Durability Characteristics; 2005.
- F. FS L-P-1040 - Plastic Sheets and Strips (Polyvinyl Fluoride); Federal Specifications and Standards; Revision B, 1977.

1.04 SUBMITTALS

- A. Provide product data to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect
 - 1. Product Data: Provide manufacturer's data on chalkboard, markerboard, tackboard, tackboard surfacing, trim, and accessories.
 - 2. Samples: Submit two samples 2 by 2 inch in size illustrating materials and finish, color and texture of markerboard, tackboard, tackboard surfacing, and trim.
 - 3. Manufacturer's printed installation instructions.
 - 4. Maintenance Data: Include data on regular cleaning, stain removal, and product maintenance.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

PART 2 PRODUCTS**2.01 MANUFACTURERS**

- A. Visual Display Boards:
 - 1. Best-Rite: www.best-rite.com.
 - 2. Claridge Products and Equipment, Inc: www.claridgeproducts.com.
 - 3. Polyvision Corporation (Nelson Adams): www.polyvision.com.
 - 4. Substitutions: Refer General and Special Conditions for substitution requirements

2.02 VISUAL DISPLAY BOARDS

- A. Chalkboards: Porcelain enamel on steel, laminated to core.
 - 1. Metal Face Sheet Thickness: 0.024 inch (24 gage).
 - 2. Core: Particleboard, manufacturer's standard thickness, laminated to face sheet.
 - 3. Backing: Aluminum foil, laminated to core.
 - 4. Height: 48 inches.
 - 5. Length: 6 feet, in one piece.
 - 6. Frame: Extruded aluminum, with concealed fasteners.
 - 7. Frame Profile: As indicated.
 - 8. Frame Finish: Anodized, natural.
 - 9. Accessories: Provide chalk tray, map rail, and flag holder.
- B. Markerboards: Porcelain enamel on steel, laminated to core.

1. Color: White.
2. Metal Face Sheet Thickness: 0.024 inch (24 gage).
3. Core: Hardboard, 1/2 inch thick, laminated to face sheet.
4. Backing: Aluminum foil, laminated to core.
5. Size: As indicated.
6. Frame: Extruded aluminum, with concealed fasteners.
7. Frame Profile: As indicated.
8. Frame Finish: Anodized, natural.
9. Accessories: Provide chalk tray and map rail.

C. Tackboards: Composition cork.

1. Cork Thickness: 1/8 inch.
2. Fabric: Vinyl coated fabric.
3. Color: As selected from manufacturers full range.
4. Backing: Hardboard, 1/4 inch thick, laminated to tack surface.
5. Surface Burning Characteristics: Flame spread index of 25, maximum, and smoke developed index of 450, maximum, when tested in accordance with ASTM E 84.
6. Size: As indicated.
7. Frame: Extruded aluminum, with concealed fasteners.
8. Frame Profile: As indicated.
9. Frame Finish: Anodized, natural.
10. Accessories: Provide map rail.

D. Combination Units and Units Made of More Than One Panel: Factory-assembled markerboards, and tackboards in a single frame, of materials specified above.

1. Join panels of different construction with H-shaped extruded aluminum molding finished to match frame.
2. Join panels of similar construction with butt joints, aligned and secured with steel spline concealed in edge of core.
3. Configuration: As indicated on drawings.

2.03 MATERIALS

- A. Porcelain Enameled Steel Sheet: ASTM A 424, Type I, Commercial Steel, with fired-on vitreous finish.
- B. Vinyl Coated Fabric: ASTM F 793 Category VI; clear top overcoat of polyvinyl fluoride in accordance with FS L-P-1040 Type 1, Grade B, Class 2, 0.0005 inch thick.
- C. Hardboard for Cores: AHA A135.4, Class 1 - Tempered, S2S (smooth two sides).
- D. Particleboard: ANSI A208.1; wood chips, set with waterproof resin binder, sanded faces.
- E. Foil Backing: Aluminum foil sheet, 0.005 inch thick.
- F. Aluminum Sheet Backing: 0.015 inch thick.

2.04 ACCESSORIES

- A. Map Rail: Extruded aluminum, manufacturer's standard profile, with cork insert and runners for accessories; 1 inch wide overall, full width of frame.
- B. Flag Holders: Cast aluminum bored to receive 1 inch diameter flag staff, bracketed to fit top rail of board.
- C. Chalk Tray: Aluminum, manufacturer's standard profile one piece full length of chalkboard, molded ends; concealed fasteners, same finish as frame.
- D. Mounting Brackets: Concealed.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify that internal wall blocking is ready to receive work and positioning dimensions are as indicated on shop drawings.

3.02 INSTALLATION

- A. Install boards in accordance with manufacturer's instructions.
- B. See Section 06100 for placement of concealed supports in wall construction.

C. Secure units level and plumb.

D. Butt Joints: Install with tight hairline joints.

E. Coordinate installation with thermostats and switches

3.03 CLEANING

A. Clean board surfaces in accordance with manufacturer's instructions.

B. Remove temporary protective cover at date of Substantial Completion.

END OF SECTION

VISUAL DISPLAY BOARDS**PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Chalkboards, Marker Boards, and Tack Boards.

1.02 RELATED SECTIONS

- A. Section 06100 - Rough Carpentry: Concealed supports in wood stud walls.
- B. Section 09260 - Gypsum Board Assemblies: Concealed supports in metal stud walls.

1.03 REFERENCES

- A. ANSI A135.4 - American National Standard for Basic Hardboard; 2004.
- B. ANSI A208.1 - American National Standard for Particleboard; 1999.
- C. ASTM A 424 - Standard Specification for Steel, Sheet, for Porcelain Enameling; 2006.
- D. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2005.
- E. ASTM F 793 - Standard Classification of Wall Covering by Durability Characteristics; 2005.
- F. FS L-P-1040 - Plastic Sheets and Strips (Polyvinyl Fluoride); Federal Specifications and Standards; Revision B, 1977.

1.04 SUBMITTALS

- A. Provide product data to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect
 - 1. Product Data: Provide manufacturer's data on chalkboard, markerboard, tackboard, tackboard surfacing, trim, and accessories.
 - 2. Samples: Submit two samples 2 by 2 inch in size illustrating materials and finish, color and texture of markerboard, tackboard, tackboard surfacing, and trim.
 - 3. Manufacturer's printed installation instructions.
 - 4. Maintenance Data: Include data on regular cleaning, stain removal, and product maintenance.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

PART 2 PRODUCTS**2.01 MANUFACTURERS**

- A. Visual Display Boards:
 - 1. Best-Rite: www.best-rite.com.
 - 2. Claridge Products and Equipment, Inc: www.claridgeproducts.com.
 - 3. Polyvision Corporation (Nelson Adams): www.polyvision.com.
 - 4. Substitutions: Refer General and Special Conditions for substitution requirements

2.02 VISUAL DISPLAY BOARDS

- A. Chalkboards: Porcelain enamel on steel, laminated to core.
 - 1. Metal Face Sheet Thickness: 0.024 inch (24 gage).
 - 2. Core: Particleboard, manufacturer's standard thickness, laminated to face sheet.
 - 3. Backing: Aluminum foil, laminated to core.
 - 4. Height: 48 inches.
 - 5. Length: 6 feet, in one piece.
 - 6. Frame: Extruded aluminum, with concealed fasteners.
 - 7. Frame Profile: As indicated.
 - 8. Frame Finish: Anodized, natural.
 - 9. Accessories: Provide chalk tray, map rail, and flag holder.
- B. Marker Boards: Porcelain enamel on steel, laminated to core.

1. Color: White.
2. Metal Face Sheet Thickness: 0.024 inch (24 gage).
3. Core: Hardboard, 1/2 inch thick, laminated to face sheet.
4. Backing: Aluminum foil, laminated to core.
5. Size: As indicated.
6. Frame: Extruded aluminum, with concealed fasteners.
7. Frame Profile: As indicated.
8. Frame Finish: Anodized, natural.
9. Accessories: Provide chalk tray and map rail.

C. Tackboards: Composition cork.

1. Cork Thickness: 1/8 inch.
2. Fabric: Vinyl coated fabric.
3. Color: As selected from manufacturers full range.
4. Backing: Hardboard, 1/4 inch thick, laminated to tack surface.
5. Surface Burning Characteristics: Flame spread index of 25, maximum, and smoke developed index of 450, maximum, when tested in accordance with ASTM E 84.
6. Size: As indicated.
7. Frame: Extruded aluminum, with concealed fasteners.
8. Frame Profile: As indicated.
9. Frame Finish: Anodized, natural.
10. Accessories: Provide map rail.

D. Combination Units and Units Made of More Than One Panel: Factory-assembled markerboards, and tackboards in a single frame, of materials specified above.

1. Join panels of different construction with H-shaped extruded aluminum molding finished to match frame.
2. Join panels of similar construction with butt joints, aligned and secured with steel spline concealed in edge of core.
3. Configuration: As indicated on drawings.

2.03 MATERIALS

- A. Porcelain Enameled Steel Sheet: ASTM A 424, Type I, Commercial Steel, with fired-on vitreous finish.
- B. Vinyl Coated Fabric: ASTM F 793 Category VI; clear top overcoat of polyvinyl fluoride in accordance with FS L-P-1040 Type 1, Grade B, Class 2, 0.0005 inch thick.
- C. Hardboard for Cores: AHA A135.4, Class 1 - Tempered, S2S (smooth two sides).
- D. Particleboard: ANSI A208.1; wood chips, set with waterproof resin binder, sanded faces.
- E. Foil Backing: Aluminum foil sheet, 0.005 inch thick.
- F. Aluminum Sheet Backing: 0.015 inch thick.

2.04 ACCESSORIES

- A. Map Rail: Extruded aluminum, manufacturer's standard profile, with cork insert and runners for accessories; 1 inch wide overall, full width of frame.
- B. Flag Holders: Cast aluminum bored to receive 1 inch diameter flag staff, bracketed to fit top rail of board.
- C. Chalk Tray: Aluminum, manufacturer's standard profile one piece full length of chalkboard, molded ends; concealed fasteners, same finish as frame.
- D. Mounting Brackets: Concealed.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify that internal wall blocking is ready to receive work and positioning dimensions are as indicated on shop drawings.

3.02 INSTALLATION

- A. Install boards in accordance with manufacturer's instructions.
- B. See Section 06100 for placement of concealed supports in wall construction.

C. Secure units level and plumb.

D. Butt Joints: Install with tight hairline joints.

E. Coordinate installation with thermostats and switches

3.03 CLEANING

A. Clean board surfaces in accordance with manufacturer's instructions.

B. Remove temporary protective cover at date of Substantial Completion.

END OF SECTION

SECTION 10350**FLAGPOLES****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Aluminum Flagpoles.

1.02 RELATED SECTIONS

- A. Section 03300 - Cast In Place Concrete: Concrete base and foundation construction.

1.03 REFERENCES

- A. ASTM B 221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2005a.
- B. ASTM B 221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric); 2005a.
- C. ASTM B 241/B 241M - Standard Specification for Aluminum and Aluminum-Alloy Seamless Pipe and Seamless Extruded Tube; 2002.

1.04 PERFORMANCE REQUIREMENTS

- A. Flagpole With Flag Flying: Resistant without permanent deformation to 140 mph three second gust speed; nonsafety design factor of 2.5.
- B. Flagpole Without Flag: Resistant without permanent deformation to 220 mph three second gust speed; nonsafety design factor of 2.5.

1.05 SUBMITTALS

- A. Provide product data and Shop Drawings to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect:
 - 1. Product Data: Provide data on pole, accessories, and configurations.
 - 2. Shop Drawings: Indicate detailed dimensions, base details, foundation design, anchor requirements, and imposed loads.

1.06 QUALITY ASSURANCE

- A. When required by 10350.1.05.B, prepare Shop Drawings under direct supervision of a Professional Structural Engineer experienced in the design of this work and licensed in the State of Florida. Provide engineer's signature and seal. Refer 10350.1.07.
- B. For work not under the purview of an Engineer or Architect, or when Shop Drawings are not otherwise required by regulatory authorities for permitting, the manufacturer shall provide design for the flagpole and foundation under the direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State of Florida.

1.07 ALLOWANCES

- A. When required and authorized by the City of Fort Lauderdale, costs for Engineered Shop Drawings shall be reimbursed from the Professional Services Allowance at the rates proposed on the contractor's Proposal Form. Refer Line Item 5

1.08 DELIVERY, STORAGE, AND PROTECTION

- A. Spiral wrap flagpole with protective covering and pack in protective shipping tubes or containers.
- B. Protect flagpole and accessories from damage or moisture.

PART 2 PRODUCTS**2.01 MANUFACTURERS**

- A. Flagpoles:
 - 1. American Flagpole: www.americanflagpole.com.

2. Concord Industries, Inc: www.flagpoles.com.
3. Pole-Tech Co., Inc: www.poletch.com.
4. Substitutions: Refer General and Special Conditions for substitution requirements

2.02 FLAGPOLES

- A. Flagpole: Aluminum.
1. Outside Butt Diameter: Nominal 6 inches; sized to meet wind speed requirements for height and flag size.
 2. Outside Tip Diameter: Nominal 3.5 inches; sized to meet wind speed requirements for height and flag size.
 3. Wall Thickness: Nominal .188 inches; sized to meet wind speed requirements for height and flag size.
 4. Nominal Height: 28 ft; measured from nominal ground elevation. Height may be increased or decreased by Owner and Architect specific to project location.
 5. Mounting: Ground mounted type.
 6. Design: Cone tapered.
 7. Halyard: Interior type.

2.03 POLE MATERIALS

- A. Aluminum: ASTM B221 (ASTM B 221M), 6063 alloy, T6 temper.

2.04 ACCESSORIES

- A. Finial Ball: Aluminum, 6 inch diameter, spun from 14 gage aluminum, mounted on 5/8" rod attached to truck.
- B. Internal Truck Assembly: Cast aluminum; revolving, stainless steel ball bearings, non-fouling.
- C. Flag: Pattern (United States, State of Florida, City of Fort Lauderdale) and size determined by Owner and Architect specific to project location. Maximum size to be 10' x 6'.
- D. Internal Cleats: Cam Action, aluminum with stainless steel fastening, two per halyard.
- E. Internal Halyard Door: Aluminum, flush, with keyed cylinder lock.
- F. Halyard: 5/16 inch diameter nylon.

2.05 OPERATORS

- A. Hand Crank: Removable gearless winch type; stainless steel

2.06 MOUNTING COMPONENTS

- A. Foundation Tube Sleeve: AASHTO M 36M, corrugated 16 gage steel or minimum 12 gage rolled steel tube, sized to suit flagpole
- B. Pole Base Attachment: Flush; steel base with base cover.
- C. Lightning Ground Rod: copper rod, 3/4" diameter; length required to reach groundwater.

2.07 FINISHING

- A. Metal Surfaces in Contact With Concrete: Asphaltic paint.
- B. Aluminum: Anodized to color selected by Architect and Owner.
- C. Finial: Spun finish to gold color.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that concrete foundation is ready to receive work and dimensions are as indicated on shop drawings.

3.02 PREPARATION

- A. Coat metal sleeve surfaces below grade and surfaces in contact with dissimilar materials with aspartic paint.
- B. Excavation
1. Excavate for foundation concrete to neat, clean lines in undisturbed soil.
 2. Provide forms at unstable soil conditions.
 3. Remove wood, loose soil, wet soil, rubbish, and other foreign matter from excavation before placing concrete.

3.03 INSTALLATION

- A. Install flagpole, base assembly, and fittings in accordance with manufacturer's instructions.
- B. Electrically ground flagpole installation.
 - 1. Ground to requirements of NEC Articles 250-83 and 250-84
 - 2. Measure resistance from pole to ground and document.
- C. Concrete
 - 1. Provide and place 3000 psi concrete per requirements of Section 03300
 - 2. Slope or dome top surface of concrete setting base to direct water away from pole.

3.04 ERECTION TOLERANCES

- A. Maximum Variation from Plumb: 1 inch.

3.05 ADJUSTING

- A. Adjust operating devices so that halyard and flag function smoothly.

END OF SECTION

SECTION 10523**FIRE EXTINGUISHERS, CABINETS, HOSE CABINETS, AND ACCESSORIES****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Fire extinguishers.
- B. Fire extinguisher cabinets.
- C. Fire hose cabinets.
- D. Concrete pads for exterior fire hose cabinets.
- E. Accessories.

1.02 RELATED SECTIONS

- A. Section 03300 - Cast In Place Concrete - Equipment pads for exterior fire hose cabinets
- B. Section 04810 - Unit Masonry Assemblies: Roughed-in wall openings.
- C. Section 09260 - Gypsum Drywall Assemblies: Roughed-in wall openings.

1.03 REFERENCES

- A. NFPA 10 - Standard for Portable Fire Extinguishers; National Fire Protection Association; 2007.
- B. UL (FPED) - Fire Protection Equipment Directory; Underwriters Laboratories Inc.; current edition.

1.04 PERFORMANCE REQUIREMENTS

- A. Conform to NFPA 10.
- B. Provide extinguishers classified and labeled by Underwriters Laboratories Inc. for the purpose specified and indicated.

1.05 SUBMITTALS

- A. Provide product data to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect:
 - 1. Manufacturer's Drawings: Indicate cabinet physical dimensions and rough-in measurements for recessed cabinets. Indicate existing conditions to be accommodated at exterior Fire Hose Cabinets.
 - 2. Product Data: Provide extinguisher operational features.
 - 3. Manufacturer's Installation Instructions: Indicate special criteria and wall opening coordination requirements.
 - 4. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
 - 5. Maintenance Data: Include test, refill or recharge schedules and re-certification requirements.

1.06 ENVIRONMENTAL REQUIREMENTS

- A. Do not install extinguishers when ambient temperature may cause freezing of extinguisher ingredients.

PART 2 PRODUCTS**2.01 MANUFACTURERS**

- A. Fire Extinguishers, Cabinets and Accessories:
 - 1. JL Industries, Inc: www.jlindustries.com.
 - 2. Larsen's Manufacturing Co: www.larsensmfg.com.
 - 3. Potter-Roemer; Product match to JL Industries: www.potterroemer.com.
 - 4. Substitutions: Refer General and Special Conditions for substitution requirements

2.02 FIRE EXTINGUISHERS

- A. Basis of Design:
 - 1. JL Industries, "Cosmic 10E".
- B. Type: Multipurpose dry chemical.

D. Mounting: Cabinet mount in public areas, bracket mount in service areas.

E. Dry Chemical Type: Stainless steel tank, with pressure gage.

1. Class A:B:C.
2. Size 10.
3. Finish: Baked enamel, Red color.

2.03 FIRE EXTINGUISHER CABINETS

A. Basis of Design:

1. JL Industries, "Cosmopolitan" - 1037B20 ADAC with Saf-T-Loc, ADA compliant.
2. FX fire rated cabinets in fire rated walls only; otherwise un-rated cabinets.

B. Metal: Formed stainless steel sheet; 0.036 inch thick base metal; #4 finish stainless steel.

C. Cabinet Configuration: Semi-recessed type.

1. Sized to accommodate accessories.
2. Exterior nominal dimensions of 13 7/8 inch wide x 27 3/8 inch high x 6 inch deep.
3. Trimless type.
4. Trim: Returned to wall surface, with 3 inch projection, 1 1/2 inch wide face.
5. Form cabinet enclosure with right angle inside corners and seams. Form perimeter trim and door stiles.

D. Door: 0.036 inch thick, reinforced for flatness and rigidity; lock with full glass access. Hinge doors for 180 degree opening with two butt hinge. Provide nylon catch.

E. Door Glazing: Glass, clear, 1/8 inch thick float. Set in resilient channel gasket glazing.

F. Cabinet Mounting Hardware: Appropriate to cabinet. Pre-drill for anchors.

G. Weld, fill, and grind components smooth.

H. Finish of Cabinet Interior: Enamel, color to selected from manufacturer's full color line.

I. Fire Rated Cabinet: Provide fire rated cabinets

2.04 FIRE HOSE CABINETS

A. Basis of Design:

1. JL Industries, "Hose Equipment Cabinet".

B. Metal: 16 gage galvanized steel; red powder coat finish.

C. Cabinet Configuration: Free Standing type:

1. Exterior nominal dimensions of 58" wide x 42" high x 15" deep. Confirm dimensions will accommodate existing fire hose and hose racks prior to ordering.
2. Legs: Four legs to be 12 gage cold rolled formed steel; provide nominal 12" length.
3. Louvers on both sides of cabinet for ventilation.
4. Sloping top panel with overhang and drip edge.
5. Knockout panels as required to accommodate existing fire line diameter.

D. Doors: Two doors, 16 gage galvanized steel with red powder coat finish:

1. Continuous piano hinge at each door.
2. Hasp lock.
3. Pull at each door.

E. Cabinet mounting hardware: Pre drill for anchorage to backing substrate.

F. Weld, fill, and grind all components smooth.

G. Finish of Cabinet Interior: powder coat to manufacturer's standard color.

2.05 ACCESSORIES

A. Fire Extinguisher Cabinet Signage: "FIRE EXTINGUISHER", set vertical up face of cabinet to one side.

B. Fire Hose Cabinet Signage: JL Industries #1403 "FIRE HOSE": 4" high x 9" wide block decal with red capital letters on black background

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify rough openings for wall Fire Extinguisher Cabinets are correctly sized and located.
- C. Verify existing pads at exterior Fire Hose Cabinets are level and acceptable for support of cabinets. Notify City of Fort Lauderdale and, when applicable, Consultant, if existing pads cannot be brought to level or are otherwise unacceptable.
- D. Obtain written City of Fort Lauderdale Fire Department approval of existing fire hoses and rack units before proceeding with installation of exterior Fire Hose Cabinets. Notify City of Fort Lauderdale and, when applicable, Consultant, of comments or disapprovals. Do not proceed if hoses and/or rack units are disapproved.

3.02 INSTALLATION

- A. Install all cabinets in accordance with manufacturer's instructions.
- B. Install wall mounted Fire Extinguisher Cabinets plumb and level, 30 inches from finished floor to inside bottom of cabinet.
- C. Restore existing concrete pads at exterior Fire Hose Cabinets to level condition where required.
- D. Remove and dispose of existing concrete pads at exterior Fire Hose Cabinets where unacceptable for reuse. Form and cast new concrete pads of size required to support exterior Fire Hose Cabinets. Perform concrete work to requirements of Section 03300.
- E. Install exterior Fire Hose Cabinets plumb and level. Cut legs in field if required to accommodate location of existing fire hoses and hose racks.
- F. Secure rigidly in place.
- G. Place extinguishers in cabinets.

END OF SECTION

SECTION 10700**SHUTTERS****PART 1 -- GENERAL****1.01 SECTION INCLUDES**

- A. Exterior overhead coiling storm and security shutters.

1.02 RELATED SECTIONS:

- A. Section 08710: Furnishing lock cylinder.

1.03 SUBMITTALS

- A. Provide product data to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect:
 - 1. Product Data: Submit manufacturers complete product data for all specified components, including specifications, finish information and installation instructions.
 - 2. Shop Drawings: Submit shop drawings showing layout, sizes and types, product materials, components and accessories, fabrication data, finishes, rough-in dimensions, anchorage and installation requirements and details.
 - 3. Samples: Manufacturer's standard array of colors for selection by City of Fort Lauderdale and Architect.
 - 4. Quality Assurance Submittals:
 - a. Test Reports: Certified test reports showing compliance with wind loading requirements adopted for Broward County, Florida.
 - b. Certificates: Manufacturer's certification that design meets wind loading requirements adopted for Broward County, Florida.
 - c. Operating and Maintenance Instructions: Submit detailed maintenance requirements and operating instructions.
 - d. Warranty: Submit specified warranty documents.

1.04 QUALITY ASSURANCE

- A. Installer Qualifications: Use only manufacturer's factory trained installers or qualified licensed installers approved by shutter manufacturer.
- B. Regulatory Requirements:
 - 1. Comply with all local and governing code requirements.
 - 2. Product assembly and installation to be fabricated to withstand wind loads adopted for Broward County, Florida
- C. Pre-Installation Conference: Conduct a pre-installation meeting to verify project installation and coordination requirements, field conditions and manufacturer instructions.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Deliver components in manufacturer's original, unopened, undamaged containers with identification labels intact. Store components protected from harmful weather conditions and damage from other construction activity.

1.06 PROJECT CONDITIONS

- A. Field Measurements: Verify actual measurements of openings by field measurements before fabrication. Show recorded measurements on shop drawings.

PART 2 – PRODUCTS**2.01 MANUFACTURERS**

- A. QMI Security Solutions: www.qmiusa.com

C. Substitutions: Refer General and Special Conditions for substitution requirements

2.02 MATERIALS

A. Shutter Components:

1. Slats: Aluminum; double walled extruded slats: 6063-T5 alloy; hollow
2. Color: to be selected by City of Fort Lauderdale and Consultant from manufacturer's standard range of colors
3. Bottom Bar: Extruded aluminum, 6063-T5 alloy, 0.050 inch wall thickness.
4. End Caps: Die-cast aluminum; 4 sided; in color to match slats.

B. Operation: Manual operator type: gear and crank handle

C. Box Housing: .040 roll formed aluminum; 4 sided; in color to match slats.

D. Side Track: Aluminum extrusion, 6063-T5, lined with insulation woven polypropylene runners; color to match slats.

E. Stormbar Assembly: Aluminum extrusion; style and quantity per manufacturer's design to comply with all certification and test reports in Section 1.03. E. above.

2.03 MOUNTING

A. Provide attachment as required by specific project condition: Recessed, surface, or jamb

PART 3--EXECUTION

3.01 EXAMINATION

A. Verify conditions of substrates to determine if acceptable for shutter installation in accordance with manufacturer's instructions. Correct all unsatisfactory conditions prior to commencing shutter installation.

3.02 INSTALLATION

A. Install track and all shutter components to comply with project shop drawings and manufacturer's written instructions.

B. After installation test and adjust shutter to operate properly and free from distortion.

3.03 CLEANING

A. Clean installed components in accordance with manufacturer's instruction prior to acceptance. Remove all remaining debris.

3.04 PROTECTION

A. Comply with manufacturer's recommendations and protect completed shutter installations from damage during remaining construction so as not to void warranty.

END OF SECTION

SECTION 11485**ATHLETIC EQUIPMENT****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Interior scoreboard, mounting bracket, controls and accessories.
- B. Exterior scoreboard.
- C. Basketball goals, mounts and operators.
- D. Football goalposts: "H" configuration and "Y" configuration; sleeves, and padding.
- E. Volleyball poles, nets and floor inserts (stanchions).
- F. Wall pads and covers.

1.02 RELATED SECTIONS

- A. Section 03300 - Cast In Place Concrete: Concrete footings for posts supporting scoreboards and "H" type football goalposts.
- B. Section 04810 - Unit Masonry Assemblies: Mounting substrates.
- C. Section 05120 - Structural Steel: Steel posts and other structural framing required to support scoreboards.
- D. Section 06100 - Rough Carpentry: Blocking in framed walls for mounting attachment

1.03 SUBMITTALS

- A. Provide product data to regulatory authorities as may be required for permits.
- B. For work performed under purview of Engineer or Architect.
 - 1. Product Data: Manufacturer's printed data on units to be provided; include installation instructions, templates, and descriptions of control functions.
 - 2. Manufacturer's Drawings for Scoreboards showing locations, face layout, dimensions, construction, electrical wiring diagrams, interface with structural supports, and method of anchorage.
 - 3. Foundation design for football goalposts and exterior scoreboards
 - 4. Operation and Maintenance Data.

1.04 QUALITY ASSURANCE

- A. All components of a manufactured product including related accessories and hardware shall be products of a single manufacturer.
- B. All manufacturers shall specialize in the manufacturer of their product with minimum of ten years of experience.
- C. All products with electric or electronic components shall be certified for use in the United States or Canada by Underwriters Laborites (UL) Inc., and shall bear the UL or C-UL label.
- D. All products with electric or electronic components shall be electrically grounded in accordance with National Electric Code (NEC) Article 600.
- E. When required by 11485.1.03.B, prepare foundation design under direct supervision of a Professional Structural Engineer experienced in the design of this work and licensed in the State of Florida. Provide engineer's signature and seal. Refer 11485.1.05.
- F. For work not under the purview of an Engineer or Architect, or when Shop Drawings are not otherwise required by regulatory authorities for permitting, the manufacturer/fabricator shall provide design for foundations under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State of Florida

1.05 ALLOWANCES

- A. When required and authorized by the City of Fort Lauderdale, costs for Engineered Shop Drawings shall be reimbursed from the Professional Services Allowance at the rates proposed on the contractor's Proposal Form. Refer Line Item 1.

2.01 MANUFACTURERS

- A. Draper, Inc., www.draperinc.com.
- B. Porter Athletic Equipment Co., www.porter-ath.com.
- C. AALCO Manufacturing, Co., www.aalcomfg.com.
- D. Nevco Scoreboard Co., www.nevcoscoreboards.com.
- E. Substitutions: Refer General and Special Conditions for substitution requirements

2.02 PRODUCTS

- A. Basketball Backstops & Goals:
 - 1. Assembled dimensions and installed clearances of all products to meet National Federation of High Schools 2007 (or current) Men's and Women's Basketball Rules
 - 2. Basketball Backstops: Heavy-duty, welded steel backstops, collapsible as described below:
 - a. Full Court Backstops: Ceiling suspended from truss structure above, forward folding front braced steel tubing backstops, electric winch operated.
 - 1) Provide two backstops, one at each end of full court.
 - 2) Provide horizontal support framing to carry backstop assembly between minimum of three trusses.
 - 3) Floor to Truss Height: 24'-7".
 - 4) Manufacturer: Draper, "EZ Fold TF-20S", or approved equivalent.
 - 5) Electric Operator: Winch and cable operator, 1HP motor, 115VAC /1phase/60 htz, with instant reverse and manual override; Draper, "EZ-503085 Electric Backstop Winch with keyed operation remote switch", or approved equivalent.
 - b. Cross-Court Ceiling Suspended Backstops:
 - 1) Provide two backstops, bleacher side of court.
 - 2) Provide horizontal support framing to carry backstop assembly between minimum of two to three trusses.
 - 3) Floor to Truss Height: 24'-7".
 - 4) Manufacturer: Draper, "EZ Fold TB-25S", or approved equivalent.
 - 5) Electric Operator: Winch and cable operator, 1HP motor, 115VAC /1phase/60 htz, with instant reverse and manual override; Draper, "EZ-503085 Electric Backstop Winch with keyed operation remote switch", or approved equivalent.
 - c. Cross-Court Wall Mounted Backstops:
 - 1) Provide two backstops, side opposite from the bleachers.
 - 2) Provide vertical hardwood wall mounting brackets (5" wide by 1 1/2" thick by height required for backstop) for securing to masonry wall.
 - 3) Floor to Truss Height: 24'-7".
 - 4) Manufacturer: Draper, "DGW Wall Mounting, Side Folding Backstops", or approved equivalent.
 - 5) Fold Direction: Fold away from the operable partition wall.
 - 3. Basketball Backboards:
 - a. Full Court Glass Backboards: Provide two for each full court.
 - 1) 4' by 6' Rectangular Glass Basketball Backboard: 1/2" thick fully tempered glass with border and target area permanently fired-in and fitted with goal holes; frame of heavy brushed aluminum extrusion, mitered and fitted with a flush, plated steel gusset mounted bracket, provide safety padding across the bottom and up each side 15 inches; Draper, "EZ Fold A0022 Glass Backboard", or approved equivalent.
 - b. Cross-Court Backboards: Provide two for each cross court.
 - 1) 4' by 6' Rectangular Fiberglass & Wood Basketball Backboard: 1 1/2" thick fiberglass covered wood (solid fiber laminated 50 lbs density wood core) backboard finished with high gloss gel coated white finish. Border and target area in orange fiberglass finish under gel coat and fitted with goal holes; provide safety padding across the bottom and up each side 15 inches; Draper, "EZ Fold A0023 Fiberglass Backboard", or approved equivalent.
 - c. Basketball Goals - Front Mount: 5/8" diameter steel rod rim, 18" inside diameter ring, heavy-duty mounting plate, 12 no-tie net clips, fully welded and orange enamel finish coating; Draper, "EZ Fold A0570 Basketball Goal", or approved equivalent. Provide one per backboard.
 - 1) Basketball Nets: 100% nylon woven net; Draper, "Anti-Whip Net". Provide one per goal.
 - 4. Electric Winches for Basketball Backstops:
 - a. Winch Type/Manufacturer:
 - b. Power Requirement: 110 VAC, 60 cycles; 20 amperes dedicated circuit protected by fuse or

B. Football Goalposts

1. "H" Configuration: 3-1/2" diameter x minimum 8 gage hot dipped galvanized steel tubing: Draper "505116 H-style Galvanized Goalposts", or approved equivalent.
 - a. Assembled dimensions to meet National Federation of High Schools 2007 (or current) Football Rules
 - b. Crossbar Height: 10' above playing surface.
 - c. Crossbar Width: 23'-4" clear between uprights.
 - d. Upright Height: two uprights set at each end of crossbar extending from playing surface to 10' above crossbar. Length to allow for 48" embedment into playing surface.
 - e. Connect crossbar to uprights with corrosion resistant unbolted and galvanized saddle clamp brackets.
 - f. Cap uprights to keep out rainwater.
2. "Y" Configuration: Steel and aluminum assembly with uprights and crossbar supported by single bent post: Draper "505122 5-9/16" Gooseneck High School Goalposts", or approved equivalent.
 - a. Assembled dimensions to meet National Federation of High Schools 2007 (or current) Football Rules.
 - b. Bent Post: Single prefabricated post of minimum 5" Schedule 40 ASTM A500 Grade C steel pipe. Length to allow 48" bury into ground or sleeve and support crossbar and uprights.
 - c. Crossbar Height: 10' above playing surface.
 - d. Crossbar Width: As required by assembly to allow 23'-4' clear between uprights.
 - e. Crossbar: Single rail of 3" Schedule 40 ASTM A500 Grade C steel pipe.
 - f. Upright Height: two uprights set at each end of crossbar extending to 20' above crossbar.
 - g. Uprights: Posts of 2-3/8" diameter 6063-T6 aluminum with minimum 0.154" wall thickness.
 - h. Connect uprights to crossbar by means of machined aluminum inserts that allow for adjustment during installation. Connection to allow for rainwater to escape from uprights.
 - i. Connect crossbar to bent post by means of adjustable "T" adapter that allows for adjustment during installation.
 - j. Finish: All members to have polyester powder coated finish in white or yellow (as selected by Owner and Architect).
 - k. Sleeves: Hot dipped galvanized 8" square steel tubing x minimum 50" length with formed pan welded to tube end to allow for burying. Provide one per assembly.
 - 1) Design to allow for rotational crossbar height adjustment of up to 4" by means of a 2-1/2" diameter threaded adjustable screw with four 3/4" adjusting screws for plumbing.
 - 2) Provide anti-rotational device to lock goalpost square to field after adjustment.
3. Padding: Minimum 5" thick foam covered with sewn vinyl covering:
 - a. Height: 72" minimum.
 - b. Attachment: Velcro type fasteners.
 - c. Colors: Manufacturers standard range (12 colors minimum) to be selected by Owner and Architect.
 - d. Provide one pad per "Y" configuration and two pads per "H" configuration.

C. Volleyball Equipment:

1. Assembled dimensions and installed clearances of all products to meet National Federation of High Schools 2007 (or current) Women's Volleyball Rules.
2. Poles, Nets and Tensioning System: Porter Athletic Equipment Company, "Power-Line Volleyball System", or approved equivalent; consisting of the following:
 - a. Poles: "Power-Line 3" Uprights".
 - b. Full Court System: Porter Athletic Equipment Company, "Power-Line Competition Volleyball Net System" with Power-Winch tensioning system, set of boundary markers; provide one complete set.
 - c. Cross Court System: Porter Athletic Equipment Company, "Economy, Multi-sport Volleyball Net System" with winch tensioning system, set of boundary markers; provide two complete sets.
3. Cast -In- Place Floor Sleeves and Floor Cover Plates :Porter Athletic Equipment Co. Standard Floor Sleeve 00872-200 for 3-1/2" diameter posts with 8" diameter brass cover plate.

D. Wall Pads and Covers:

1. Pad Type/Manufacturer: Wall protection safety padded panels, bonded fire-retardant filler inside a treated vinyl fabric casing/cover with 1" tailing strips top and bottom: Porter Athletic Equipment Co., "FR-SAFPAD Panels", or approved equivalent.
2. Pad Sizes: 2' wide by 6' tall by 2" thick; color as selected by the Owner from the manufacturer's full color line.
3. Wall Anchorage: Wall Attachment Z-Clip and Channel; Porter, "Z-Attachment Clips -- Styles A, B and C", secured top and bottom to each pad.

- E. Interior Scoreboards, Controls and Accessories: Scoreboard shall be wall mounted and remotely operated from one control station. Displays minutes, seconds, 1/10th seconds, team scores, periods, bonus, and jump ball "next possession", using low voltage 100% solid state 2-wire cable multiplex system, quartz crystal controlled.
1. Manufacturer/Model No.: Nevco Scoreboard Co., "Model 2500-D with MPC Control", or approved equivalent.
 2. Scoreboard Size: 8' long x 3' high x 8" deep, constructed of aluminum, weight approx. 71 lbs.
 3. Color: Provide minimum of 12 color finishes to be selected by Owner and Architect
 4. Control Center: Model MPC, wired microprocessor-based operator's control, constructed of gray high impact break-resistant plastic, size 11' x 9 1/2" x 4 1/8"; remote hand-held time switch with horn button, control cable, keyboard overlay; basketball player foul memory recorded by uniform number and timeouts left.
 5. Shot Clocks: One for each full court goal connected to MPC control center.
 6. Carrying Case: Case for Control Panel, travel or storage.
 7. Warranty for Scoreboard and Control Center: 5-year guarantee against defects in workmanship or materials, replaced or repaired without cost to the Owner.
- F. Exterior Scoreboards, Controls, and Accessories: Scoreboard shall be post mounted and remotely operated from one control station, with LED displays for innings, scores, balls, strikes, and outs, plus timing feature for use as soccer/lacrosse/football/field hockey scoreboard:
1. Manufacturer/Model No.: Nevco Scoreboard Co., "Model 1520 with MPC Control", or approved equivalent.
 2. Design for exterior installation with weatherproof housing and fiber optic interface to reduce potential damage from electric storms.
 3. Scoreboard Size: 10' long x 4' high x 8" deep, constructed of aluminum with steel reinforcement and slotted mounting brackets top and bottom; approximate weight 115 lbs.
 4. Color: Provide minimum of 12 color finishes to be selected by Owner and Architect
 5. Displays:
 - a. Red-Orange LED displays for 18" high digits for scores.
 - b. Red-Orange LED displays for 18" high combination inning and bi-directional, up/down timing indicating minutes and seconds.
 - c. Red-Orange LED circular indicators: 3 for balls, 2 for strikes, and 2 for outs.
 6. Power Requirement for Scoreboard: 120 volts, 3 amps, requires earth ground.
 7. Provide control cable of length required to connect with scorers location specific to project site. Provide mounting hardware and other accessories as required for complete functional installation.
 8. Control Center: Model MPC, wired microprocessor-based operator's control center, constructed of gray high impact break-resistant plastic, size 11' x 9 1/2" x 4 1/8"; LED displays, lithium cell battery backup to maintain scoreboard memory and time of day, self test mode, power on-off switch, alternate time control, and multiple scoreboard operation; remote hand-held main time switch with integral horn button; control cable with connectors, keyboard overlay, time of day display, multiple time out timers with warning interval horn, up count autostop with horn, and 1/10 second display during last minute; and dimmer control for scoreboard.
 - a. Power Requirement for Control Center: 120 volts, 12 watts, 50/60 Hz.
 9. Carrying Case: Case for Control Center, cable, and hand held switch.
 10. Clearances:
 - a. Provide 10' minimum vertical clearance between ground surface and scoreboard bottom.
 - b. Provide 3' minimum clearance behind scoreboard for opening of module doors.
 11. Warranty for Scoreboard and Control Center: 5-year guarantee against defects in workmanship or materials replaced or repaired without cost to the Owner.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Design and construction of concrete footings, steel posts and other structural framing will be provided by the Owner under other Sections of this Specification.
- B. Verify that adequate and properly spaced structure, wall, and ceiling support is present before proceeding.
- C. Design and construction of electrical supply, conduit, wiring, disconnect switches, weatherproof receiver and circuit boxes, and other electrical components will be provided by the owner under other Sections of this Specification.
- D. Verify that electrical rough-ins and power supply characteristics are correct before proceeding.

3.02 INSTALLATION

- A. Install units plumb and level, wall, floor, and ground-mounted, per application in accordance with manufacturer's

- B. Coordinate structural supports, wall attachments and under-floor cabling and anchors with the work of other trades.
- C. Coordinate electrical power requirements with winch operators and scoreboard components.
- D. After electrical connection, verify proper connections and operation. Ensure that all products function correctly and accurately. Correct deficiencies.
- E. Contractor will schedule product demonstration by its manufacturer for the operation and use of each product at time and date established by the Owner.

END OF SECTION

**City of Fort Lauderdale
GENERAL CONDITIONS**

These instructions are standard for all contracts for commodities or services issued through the City of Fort Lauderdale Procurement Services Department. The City may delete, supersede, or modify any of these standard instructions for a particular contract by indicating such change in the Invitation to Bid (ITB) Special Conditions, Technical Specifications, Instructions, Proposal Pages, Addenda, and Legal Advertisement.

PART I BIDDER PROPOSAL PAGE(S) CONDITIONS:

- 1.01 BIDDER ADDRESS:** The City uses automated vendor address lists that have been generated for each specific Commodity Class item through our bid issuing service, RFP Depot. Notices of Invitations to Bid (ITB'S) are sent by e-mail or fax to every vendor on those lists, who may then view the bid documents online. Bidders who have been informed of a bid's availability in any other manner are responsible for registering with RFP Depot in order to view the bid documents. There is no fee for doing so. If you wish bid notifications be provided to another e-mail address or fax, please contact RFP Depot. If you wish purchase orders sent to a different address, please so indicate in your bid response. If you wish payments sent to a different address, please so indicate on your invoice.
- 1.02 DELIVERY:** Time will be of the essence for any orders placed as a result of this ITB. The City reserves the right to cancel any orders, or part thereof, without obligation if delivery is not made in accordance with the schedule specified by the Bidder and accepted by the City.
- 1.03 PAYMENT TERMS AND CASH DISCOUNTS:** Payment terms, unless otherwise stated in this ITB, will be considered to be net 30 days after the date of satisfactory delivery at the place of acceptance and receipt of correct invoice at the office specified, whichever occurs last. Bidder may offer cash discounts for prompt payment but they will not be considered in determination of award. If a Bidder offers a discount, it is understood that the discount time will be computed from the date of satisfactory delivery, at the place of acceptance, and receipt of correct invoice, at the office specified, whichever occurs last.
- 1.04 TOTAL BID DISCOUNT:** If Bidder offers a discount for award of all items listed in the bid, such discount shall be deducted from the total of the firm net unit prices bid and shall be considered in tabulation and award of bid.
- 1.05 BIDS FIRM FOR ACCEPTANCE:** Bidder warrants, by virtue of bidding, that the bid and the prices quoted in the bid will be firm for acceptance by the City for a period of ninety (90) days from the date of bid opening unless otherwise stated in the ITB.
- 1.06 VARIANCES:** For purposes of bid evaluation, Bidder's must indicate any variances, no matter how slight, from ITB General Conditions, Special Conditions, Specifications or Addenda in the space provided in the ITB. No variations or exceptions by a Bidder will be considered or deemed a part of the bid submitted unless such variances or exceptions are listed in the bid and referenced in the space provided on the bidder proposal pages. If variances are not stated, or referenced as required, it will be assumed that the product or service fully complies with the City's terms, conditions, and specifications.
- By receiving a bid, City does not necessarily accept any variances contained in the bid. All variances submitted are subject to review and approval by the City. If any bid contains material variances that, in the City's sole opinion, make that bid conditional in nature, the City reserves the right to reject the bid or part of the bid that is declared, by the City as conditional.
- 1.07 NO BIDS:** If you do not intend to bid please indicate the reason, such as insufficient time to respond, do not offer product or service, unable to meet specifications, schedule would not permit, or any other reason, in the space provided in this ITB. Failure to bid or return no bid comments prior to the bid due and opening date and time, indicated in this ITB, may result in your firm being deleted from our Bidder's registration list for the Commodity Class Item requested in this ITB.
- 1.08 MINORITY AND WOMEN BUSINESS ENTERPRISE PARTICIPATION AND BUSINESS DEFINITIONS:** The City of Fort Lauderdale wants to increase the participation of Minority Business Enterprises (MBE), Women Business Enterprises (WBE), and Small Business Enterprises (SBE) in its procurement activities. If your firm qualifies in accordance with the below definitions please indicate in the space provided in this ITB.

Minority Business Enterprise (MBE) "A Minority Business" is a business enterprise that is owned or controlled by one or more socially or economically disadvantaged persons. Such disadvantage may arise from cultural, racial, chronic economic circumstances or background or other similar cause. Such persons include, but are not limited to: Blacks, Hispanics, Asian Americans, and Native Americans.

The term "Minority Business Enterprise" means a business at least 51 percent of which is owned by minority group members or, in the case of a publicly owned business, at least 51 percent of the stock of which is owned by minority group members. For the purpose of the preceding sentence, minority group members are citizens of the United States who include, but are not limited to: Blacks, Hispanics, Asian Americans, and Native Americans.

Women Business Enterprise (WBE) a "Women Owned or Controlled Business" is a business enterprise at least 51 percent of which is owned by females or, in the case of a publicly owned business, at least 51 percent of the stock of which is owned by females.

Small Business Enterprise (SBE) "Small Business" means a corporation, partnership, sole proprietorship, or other legal entity formed for the purpose of making a profit, which is independently owned and operated, has either fewer than 100 employees or less than \$1,000,000 in annual gross receipts.

BLACK, which includes persons having origins in any of the Black racial groups of Africa.

WHITE, which includes persons whose origins are Anglo-Saxon and Europeans and persons of Indo-European decent including

Pakistani and East Indian.

HISPANIC, which includes persons of Mexican, Puerto Rican, Cuban, Central and South American, or other Spanish culture or origin, regardless of race.

NATIVE AMERICAN, which includes persons whose origins are American Indians, Eskimos, Aleuts, or Native Hawaiians.

ASIAN AMERICAN, which includes persons having origin in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands.

1.09 **MINORITY-WOMEN BUSINESS ENTERPRISE PARTICIPATION**

It is the desire of the City of Fort Lauderdale to increase the participation of minority (MBE) and women-owned (WBE) businesses in its contracting and procurement programs. While the City does not have any preference or set aside programs in place, it is committed to a policy of equitable participation for these firms. Proposers are requested to include in their proposals a narrative describing their past accomplishments and intended actions in this area. If proposers are considering minority or women owned enterprise participation in their proposal, those firms, and their specific duties have to be identified in the proposal. If a proposer is considered for award, he will be asked to meet with City staff so that the intended MBE/WBE participation can be formalized and included in the subsequent contract.

Part II DEFINITIONS/ORDER OF PRECEDENCE:

- 2.01 BIDDING DEFINITIONS** The City will use the following definitions in it's general conditions, special conditions, technical specifications, instructions to bidders, addenda and any other document used in the bidding process:
 INVITATION TO BID (ITB) when the City is requesting bids from qualified Bidders.
 REQUEST FOR PROPOSALS (RFP) when the City is requesting proposals from qualified Proposers.
 BID – a price and terms quote received in response to an ITB.
 PROPOSAL – a proposal received in response to an RFP.
 BIDDER – Person or firm submitting a Bid.
 PROPOSER – Person or firm submitting a Proposal.
 RESPONSIVE BIDDER – A person whose bid conforms in all material respects to the terms and conditions included in the ITB.
 RESPONSIBLE BIDDER – A person who has the capability in all respects to perform in full the contract requirements, as stated in the ITB, and the integrity and reliability that will assure good faith performance.
 FIRST RANKED PROPOSER – That Proposer, responding to a City RFP, whose Proposal is deemed by the City, the most advantageous to the City after applying the evaluation criteria contained in the RFP.
 SELLER – Successful Bidder or Proposer who is awarded a Purchase Order or Contract to provide goods or services to the City.
 CONTRACTOR – Successful Bidder or Proposer who is awarded a Purchase Order, award Contract, Blanket Purchase Order agreement, or Term Contract to provide goods or services to the City.
 CONTRACT – A deliberate verbal or written agreement between two or more competent parties to perform or not to perform a certain act or acts, including all types of agreements, regardless of what they may be called, for the procurement or disposal of equipment, materials, supplies, services or construction.
 CONSULTANT – Successful Bidder or Proposer who is awarded a contract to provide professional services to the City.
 The following terms may be used interchangeably by the City: ITB and/or RFP; Bid or Proposal; Bidder, Proposer, or Seller; Contractor or Consultant; Contract, Award, Agreement or Purchase Order.

- 2.02 SPECIAL CONDITIONS:** Any and all Special Conditions contained in this ITB that may be in variance or conflict with these General Conditions shall have precedence over these General Conditions. If no changes or deletions to General Conditions are made in the Special Conditions, then the General Conditions shall prevail in their entirety,

PART III BIDDING AND AWARD PROCEDURES:

- 3.01 SUBMISSION AND RECEIPT OF BIDS:** To receive consideration, bids must be received prior to the bid opening date and time. Unless otherwise specified, Bidder's should use the proposal forms provided by the City. These forms may be duplicated, but failure to use the forms may cause the bid to be rejected. Any erasures or corrections on the bid must be made in ink and initialed by Bidder in ink. All information submitted by the Bidder shall be printed, typewritten or filled in with pen and ink. Bids shall be signed in ink. Separate bids must be submitted for each ITB issued by the City in separate sealed envelopes properly marked. When a particular ITB or RFP requires multiple copies of bids or proposals they may be included in a single envelope or package properly sealed and identified. Only send bids via facsimile transmission (FAX) if the ITB specifically states that bids sent via FAX will be considered. If such a statement is not included in the ITB, bids sent via FAX will be rejected. Bids will be publicly opened in the Procurement Office, or other designated area, in the presence of Bidders, the public, and City staff. Bidders and the public are invited and encouraged to attend bid openings. Bids will be tabulated and made available for review by Bidder's and the public in accordance with applicable regulations.
- 3.02 MODEL NUMBER CORRECTIONS:** If the model number for the make specified in this ITB is incorrect, or no longer available and replaced with an updated model with new specifications, the Bidder shall enter the correct model number on the bidder proposal page. In the case of an updated model with new specifications, Bidder shall provide adequate information to allow the City to determine if the model bid meets the City's requirements.
- 3.03 PRICES QUOTED:** Deduct trade discounts, and quote firm net prices. Give both unit price and extended total. In the case of a discrepancy in computing the amount of the bid, the unit price quoted will govern. All prices quoted shall be F.O.B. destination, freight prepaid (Bidder pays and bears freight charges, Bidder owns goods in transit and files any claims), unless otherwise stated in Special Conditions. Each item must be bid separately. No attempt shall be made to tie any item or items contained in the ITB with any other business with the City.
- 3.04 TAXES:** The City of Fort Lauderdale is exempt from Federal Excise and Florida Sales taxes on direct purchase of tangible

- property. Exemption number for Federal Excise taxes is 59-74-0111K, and State Sales tax exemption number is 16-03-196479-54C.
- 3.05 WARRANTIES OF USAGE:** Any quantities listed in this ITB as estimated or projected are provided for tabulation and information purposes only. No warranty or guarantee of quantities is given or implied. It is understood that the Contractor will furnish the City's needs as they arise.
- 3.06 APPROVED EQUAL:** When the technical specifications call for a brand name, manufacturer, make, model, or vendor catalog number with acceptance of APPROVED EQUAL, it shall be for the purpose of establishing a level of quality and features desired and acceptable to the City. In such cases, the City will be receptive to any unit that would be considered by qualified City personnel as an approved equal. In that the specified make and model represent a level of quality and features desired by the City, the Bidder must state clearly in the bid any variance from those specifications. It is the Bidder's responsibility to provide adequate information, in the bid, to enable the City to ensure that the bid meets the required criteria. If adequate information is not submitted with the bid, it may be rejected. The City will be the sole judge in determining if the item bid qualifies as an approved equal.
- 3.07 MINIMUM AND MANDATORY TECHNICAL SPECIFICATIONS:** The technical specifications may include items that are considered minimum, mandatory, or required. If any Bidder is unable to meet, or exceed these items, and feels that the technical specifications are overly restrictive, the bidder must notify the Procurement Services Department immediately. Such notification must be received by the Procurement Services Department prior to the deadline contained in the ITB, for questions of a material nature, or prior to five (5) days before bid due and open date, whichever occurs first. If no such notification is received prior to that deadline, the City will consider the technical specifications to be acceptable to all bidders.
- 3.08 MISTAKES:** Bidders are cautioned to examine all terms, conditions, specifications, drawings, exhibits, addenda, delivery instructions and special conditions pertaining to the ITB. Failure of the Bidder to examine all pertinent documents shall not entitle the bidder to any relief from the conditions imposed in the contract.
- 3.09 SAMPLES AND DEMONSTRATIONS:** Samples or inspection of product may be requested to determine suitability. Unless otherwise specified in Special Conditions, samples shall be requested after the date of bid opening, and if requested should be received by the City within seven (7) working days of request. Samples, when requested, must be furnished free of expense to the City and if not used in testing or destroyed, will upon request of the Bidder, be returned within thirty (30) days of bid award at Bidder's expense. When required, the City may request full demonstrations of units prior to award. When such demonstrations are requested, the Bidder shall respond promptly and arrange a demonstration at a convenient location. Failure to provide samples or demonstrations as specified by the City may result in rejection of a bid.
- 3.10 LIFE CYCLE COSTING:** If so specified in the ITB, the City may elect to evaluate equipment proposed on the basis of total cost of ownership. In using Life Cycle Costing, factors such as the following may be considered: estimated useful life, maintenance costs, cost of supplies, labor intensity, energy usage, environmental impact, and residual value. The City reserves the right to use those or other applicable criteria, in its sole opinion that will most accurately estimate total cost of use and ownership.
- 3.11 BIDDING ITEMS WITH RECYCLED CONTENT:** In addressing environmental concerns, the City of Fort Lauderdale encourages Bidders to submit bids or alternate bids containing items with recycled content. When submitting bids containing items with recycled content, Bidder shall provide documentation adequate for the City to verify the recycled content. The City prefers packaging consisting of materials that are degradable or able to be recycled. When specifically stated in the ITB, the City may give preference to bids containing items manufactured with recycled material or packaging that is able to be recycled.
- 3.12 USE OF OTHER GOVERNMENTAL CONTRACTS:** The City reserves the right to reject any part or all of any bids received and utilize other available governmental contracts, if such action is in its best interest.
- 3.13 QUALIFICATIONS/INSPECTION:** Bids will only be considered from firms normally engaged in providing the types of commodities/services specified herein. The City reserves the right to inspect the Bidder's facilities, equipment, personnel, and organization at any time, or to take any other action necessary to determine Bidder's ability to perform. The Procurement Director reserves the right to reject bids where evidence or evaluation is determined to indicate inability to perform.
- 3.14 BID SURETY:** If Special Conditions require a bid security, it shall be submitted in the amount stated. A bid security can be in the form of a bid bond, postal money order, cashiers check, or irrevocable letter of credit. Bid security will be returned to the unsuccessful bidders as soon as practicable after opening of bids. Bid security will be returned to the successful bidder after acceptance of the performance bond or irrevocable letter of credit, if required; acceptance of insurance coverage, if required; and full execution of contract documents, if required; and full execution of contract documents, if required; or conditions as stated in Special Conditions.
- 3.15 PUBLIC RECORDS:** Florida law provides that municipal records shall at all times be open for personal inspection by any person. Section 119.01, F.S., The Public Records Law. Information and materials received by City in connection with an ITB response shall be deemed to be public records subject to public inspection upon award, recommendation for award, or 10 days after bid opening, whichever occurs first. However, certain exemptions to the public records law are statutorily provided for in Section 119.07, F.S. If the Proposer believes any of the information contained in his or her response is exempt from the Public Records Law, then the Proposer, must in his or her response, specifically identify the material which is deemed to be exempt and cite the legal authority for the exemption. The City's determination of whether an exemption applies shall be final, and the Proposer agrees to defend, indemnify, and hold harmless the City and the City's officers, employees, and agents, against any loss or damages incurred by any person or entity as a result of the City's treatment of records as public records.
- 3.16 PROHIBITION OF INTEREST:** No contract will be awarded to a bidding firm who has City elected officials, officers or employees affiliated with it, unless the bidding firm has fully complied with current Florida State Statutes and City Ordinances relating to this issue. Bidders must disclose any such affiliation. Failure to disclose any such affiliation will result in disqualification of the Bidder and removal of the Bidder from the City's bidder lists and prohibition from engaging in any business with the City.
- 3.17 RESERVATIONS FOR AWARD AND REJECTION OF BIDS:** The City reserves the right to accept or reject any or all bids, part

of bids, and to waive minor irregularities or variations to specifications contained in bids, and minor irregularities in the bidding process. The City also reserves the right to award the contract on a split order basis, lump sum basis, individual item basis, or such combination as shall best serve the interest of the City. The City reserves the right to make an award to the responsive and responsible bidder whose product or service meets the terms, conditions, and specifications of the ITB and whose bid is considered to best serve the City's interest. In determining the responsiveness of the offer and the responsibility of the Bidder, the following shall be considered when applicable: the ability, capacity and skill of the Bidder to perform as required; whether the Bidder can perform promptly, or within the time specified, without delay or interference; the character, integrity, reputation, judgment, experience and efficiency of the Bidder; the quality of past performance by the Bidder; the previous and existing compliance by the Bidder with related laws and ordinances; the sufficiency of the Bidder's financial resources; the availability, quality and adaptability of the Bidder's supplies or services to the required use; the ability of the Bidder to provide future maintenance, service or parts; the number and scope of conditions attached to the bid.

If the ITB provides for a contract trial period, the City reserves the right, in the event the selected bidder does not perform satisfactorily, to award a trial period to the next ranked bidder or to award a contract to the next ranked bidder, if that bidder has successfully provided services to the City in the past. This procedure to continue until a bidder is selected or the contract is re-bid, at the sole option of the City.

- 3.18 LEGAL REQUIREMENTS:** Applicable provisions of all federal, state, county laws, and local ordinances, rules and regulations, shall govern development, submittal and evaluation of all bids received in response hereto and shall govern any and all claims and disputes which may arise between person(s) submitting a bid response hereto and the City by and through its officers, employees and authorized representatives, or any other person, natural or otherwise; and lack of knowledge by any bidder shall not constitute a cognizable defense against the legal effect thereof.

PART IV BONDS AND INSURANCE

- 4.01 PERFORMANCE BOND/IRREVOCABLE LETTER OF CREDIT:** If a performance bond or irrevocable letter of credit is required in Special Conditions, the Contractor shall within fifteen (15) working days after notification of award, furnish to the City a Performance Bond or an Unconditional Irrevocable Letter of Credit payable to the City of Fort Lauderdale, Florida, in the face amount specified in Special Conditions as surety for faithful performance under the terms and conditions of the contract. If the bond is on an annual coverage basis, renewal for each succeeding year shall be submitted to the City thirty (30) days prior to the termination date of the existing Performance Bond. The Performance Bond must be executed by a surety company of recognized standing, authorized to do business in the State of Florida and having a resident agent. If a Letter of Credit is chosen, it must be in a form acceptable to the City, drawn on a local (Broward, Dade or Palm Beach Counties) bank acceptable to the City and issued in favor of the City of Fort Lauderdale, Florida. If a Bidder wishes to use a non-local bank, he must have prior City approval of the requirements to draw against the Letter of Credit.

Acknowledgement and agreement is given by both parties that the amount herein set for the Performance Bond or Irrevocable Letter of Credit is not intended to be nor shall be deemed to be in the nature of liquidated damages nor is it intended to limit the liability of the Contractor to the City in the event of a material breach of this Agreement by the Contractor.

- 4.02 INSURANCE:** If the Contractor is required to go on to City property to perform work or services as a result of ITB award, the Contractor shall assume full responsibility and expense to obtain all necessary insurance as required by City or specified in Special Conditions.

The Contractor shall provide to the Procurement Services Department original certificates of coverage and receive notification of approval of those certificates by the City's Risk Manager prior to engaging in any activities under this contract. The Contractor's insurance is subject to the approval of the City's Risk Manager. The certificates must list the City as an ADDITIONAL INSURED and shall have no less than thirty (30) days written notice of cancellation or material change. Further modification of the insurance requirements may be made at the sole discretion of the City's Risk Manager if circumstances change or adequate protection of the City is not presented. Bidder, by submitting the bid, agrees to abide by such modifications.

PART V PURCHASE ORDER AND CONTRACT TERMS:

- 5.01 COMPLIANCE TO SPECIFICATIONS, LATE DELIVERIES/PENALTIES:** Items offered may be tested for compliance to bid specifications. Items delivered which do not conform to bid specifications may be rejected and returned at Contractor's expense. Any violation resulting in contract termination for cause or delivery of items not conforming to specifications, or late delivery may also result in:
- Bidder's name being removed from the City's bidder's mailing list for a specified period and Bidder will not be recommended for any award during that period.
 - All City Departments being advised to refrain from doing business with the Bidder.
 - All other remedies in law or equity.
- 5.02 ACCEPTANCE, CONDITION, AND PACKAGING:** The material delivered in response to ITB award shall remain the property of the Seller until a physical inspection is made and the material accepted to the satisfaction of the City. The material must comply fully with the terms of the ITB, be of the required quality, new, and the latest model. All containers shall be suitable for storage and shipment by common carrier, and all prices shall include standard commercial packaging. The City will not accept substitutes of any kind. Any substitutes or material not meeting specifications will be returned at the Bidder's expense. Payment will be made only after City receipt and acceptance of materials or services.
- 5.03 SAFETY STANDARDS:** All manufactured items and fabricated assemblies shall comply with applicable requirements of the Occupation Safety and Health Act of 1970 as amended, and be in compliance with Chapter 442, Florida Statutes. Any toxic substance listed in Section 38F-41.03 of the Florida Administrative Code delivered as a result of this order must be accompanied by a completed Material Safety Data Sheet (MSDS).
- 5.04 ASBESTOS STATEMENT:** All material supplied must be 100% asbestos free. Bidder, by virtue of bidding, certifies that if awarded any portion of the ITB the bidder will supply only material or equipment that is 100% asbestos free.

- 5.05 OTHER GOVERNMENTAL ENTITIES:** If the Bidder is awarded a contract as a result of this ITB, the bidder will, if the bidder has sufficient capacity or quantities available, provide to other governmental agencies, so requesting, the products or services awarded in accordance with the terms and conditions of the ITB and resulting contract. Prices shall be F.O.B. delivered to the requesting agency.
- 5.06 VERBAL INSTRUCTIONS PROCEDURE:** No negotiations, decisions, or actions shall be initiated or executed by the Contractor as a result of any discussions with any City employee. Only those communications which are in writing from an authorized City representative may be considered. Only written communications from Contractors, which are assigned by a person designated as authorized to bind the Contractor, will be recognized by the City as duly authorized expressions on behalf of Contractors.
- 5.07 INDEPENDENT CONTRACTOR:** The Contractor is an independent contractor under this Agreement. Personal services provided by the Proposer shall be by employees of the Contractor and subject to supervision by the Contractor, and not as officers, employees, or agents of the City. Personnel policies, tax responsibilities, social security, health insurance, employee benefits, procurement policies unless otherwise stated in this ITB, and other similar administrative procedures applicable to services rendered under this contract shall be those of the Contractor.
- 5.08 INDEMNITY/HOLD HARMLESS AGREEMENT:** The Contractor agrees to protect, defend, indemnify, and hold harmless the City of Fort Lauderdale and its officers, employees and agents from and against any and all losses, penalties, damages, settlements, claims, costs, charges for other expenses, or liabilities of every and any kind including attorneys fees, in connection with or arising directly or indirectly out of the work agreed to or performed by Contractor under the terms of any agreement that may arise due to the bidding process. Without limiting the foregoing, any and all such claims, suits, or other actions relating to personal injury, death, damage to property, defects in materials or workmanship, actual or alleged violations of any applicable Statute, ordinance, administrative order, rule or regulation, or decree of any court shall be included in the indemnity hereunder.
- 5.09 TERMINATION FOR CAUSE:** If, through any cause, the Contractor shall fail to fulfill in a timely and proper manner its obligations under this Agreement, or if the Contractor shall violate any of the provisions of this Agreement, the City may upon written notice to the Contractor terminate the right of the Contractor to proceed under this Agreement, or with such part or parts of the Agreement as to which there has been default, and may hold the Contractor liable for any damages caused to the City by reason of such default and termination. In the event of such termination, any completed services performed by the Contractor under this Agreement shall, at the option of the City, become the City's property and the Contractor shall be entitled to receive equitable compensation for any work completed to the satisfaction of the City. The Contractor, however, shall not be relieved of liability to the City for damages sustained by the City by reason of any breach of the Agreement by the Contractor, and the City may withhold any payments to the Contractor for the purpose of setoff until such time as the amount of damages due to the City from the Contractor can be determined.
- 5.10 TERMINATION FOR CONVENIENCE:** The City reserves the right, in its best interest as determined by the City, to cancel contract by giving written notice to the Contractor thirty (30) days prior to the effective date of such cancellation.
- 5.11 CANCELLATION FOR UNAPPROPRIATED FUNDS:** The obligation of the City for payment to a Contractor is limited to the availability of funds appropriated in a current fiscal period, and continuation of the contract into a subsequent fiscal period is subject to appropriation of funds, unless otherwise authorized by law.
- 5.12 RECORDS/AUDIT:** The Contractor shall maintain during the term of the contract all books of account, reports and records in accordance with generally accepted accounting practices and standards for records directly related to this contract. The form of all records and reports shall be subject to the approval of the City's Internal Auditor. The Contractor agrees to make available to the City's Internal Auditor, during normal business hours and in Broward, Dade or Palm Beach Counties, all books of account, reports and records relating to this contract for the duration of the contract and retain them for a minimum period of three (3) years beyond the last day of the contract term.
- 5.13 PERMITS, TAXES, LICENSES:** The successful Contractor shall, at their own expense, obtain all necessary permits, pay all licenses, fees and taxes, required to comply with all local ordinances, state and federal laws, rules and regulations applicable to business to be carried out under this contract.
- 5.14 LAWS/ORDINANCES:** The Contractor shall observe and comply with all Federal, state, local and municipal laws, ordinances rules and regulations that would apply to this contract.
- 5.15 NON-DISCRIMINATION:** There shall be no discrimination as to race, sex, color, creed, age or national origin in the operations conducted under this contract.
- 5.16 UNUSUAL CIRCUMSTANCES:** If during a contract term where costs to the City are to remain firm or adjustments are restricted by a percentage or CPI cap, unusual circumstances that could not have been foreseen by either party of the contract occur, and those circumstances significantly affect the Contractor's cost in providing the required prior items or services, then the Contractor may request adjustments to the costs to the City to reflect the changed circumstances. The circumstances must be beyond the control of the Contractor, and the requested adjustments must be fully documented. The City may, after examination, refuse to accept the adjusted costs if they are not properly documented, increases are considered to be excessive, or decreases are considered to be insufficient. In the event the City does not wish to accept the adjusted costs and the matter cannot be resolved to the satisfaction of the City, the City will reserve the following options:
1. The contract can be canceled by the City upon giving thirty (30) days written notice to the Contractor with no penalty to the City or Contractor. The Contractor shall fill all City requirements submitted to the Contractor until the termination date contained in the notice.
 2. The City requires the Contractor to continue to provide the items and services at the firm fixed (non-adjusted) cost until the termination of the contract term then in effect.

3. If the City, in its interest and in its sole opinion, determines that the Contractor in a capricious manner attempted to use this section of the contract to relieve themselves of a legitimate obligation under the contract, and no unusual circumstances had occurred, the City reserves the right to take any and all action under law or equity. Such action shall include, but not be limited to, declaring the Contractor in default and disqualifying him for receiving any business from the City for a state period of time.

If the City does agree to adjusted costs, these adjusted costs shall not be invoiced to the City until the Contractor receives notice in writing signed by a person authorized to bind the City in such matters.

- 5.17 **ELIGIBILITY:** If applicable, the Contractor must first register with the Department of State of the State of Florida, in accordance with Florida State Statutes, prior to entering into a contract with the City.
- 5.18 **PATENTS AND ROYALTIES:** The Contractor, without exception, shall indemnify and save harmless the City and its employees from liability of any nature and kind, including cost and expenses for or on account of any copyrighted, patented or un-patented invention, process, or article manufactured or used in the performance of the contract, including its use by the City. If the Contractor uses any design, device, or materials covered by letters, patent or copyright, it is mutually agreed and understood without exception that the bid prices shall include all royalties or costs arising from the use of such design, device, or materials in any way involved in the work.
- 5.19 **ASSIGNMENT:** Contractor shall not transfer or assign the performance required by this ITB without the prior written consent of the City. Any award issued pursuant to this ITB, and the monies, which may become due hereunder, are not assignable except with the prior written approval of the City Manager or selected designee.
- 5.20 **LITIGATION VENUE:** The parties waive the privilege of venue and agree that all litigation between them in the state courts shall take place in Broward County, Florida and that all litigation between them in the federal courts shall take place in the Southern District in and for the State of Florida.

Questionnaire

Please print or type:

- 1. Provide three references for which you have performed similar services.

Company Name:

Address:

Contact Name:

Telephone:

Company Name:

Address:

Contact Name:

Telephone:

Company Name:

Address:

Contact Name:

Telephone:

- 2. Number of years experience the proposer has had in providing similar services:

Years

- 3. Have you ever failed to complete work awarded to you? If so, where and why?

- 4. List appropriate licenses as issued by Broward County.

- 5. Briefly describe the number of employees and supervisors available for this contract and the firm's ability to secure subcontractors, if necessary.

6. Briefly describe your firm's financial status and provide proof of adequate line of credit or other financial assets to access funds for construction of multiple projects during the same time period.



The proposer understands that the information contained in these proposal pages is to be relied upon by the City in awarding the proposed contract, and such information is warranted by the proposer to be true. The proposer agrees to furnish such additional information, prior to acceptance of any proposal relating to the qualifications of the proposer, as may be required by the City.

Please review the questionnaire to make sure all questions have been answered. Attach additional sheets if necessary. Failure to answer each question could result in the disqualification of your bid.

NON-COLLUSION STATEMENT:

By signing this offer, the vendor/contractor certifies that this offer is made independently and free from collusion. Vendor shall disclose below any City of Fort Lauderdale, FL officer or employee, or any relative of any such officer or employee who is an officer or director of, or has a material interest in, the vendor's business, who is in a position to influence this procurement.

Any City of Fort Lauderdale, FL officer or employee who has any input into the writing of specifications or requirements, solicitation of offers, decision to award, evaluation of offers, or any other activity pertinent to this procurement is presumed, for purposes hereof, to be in a position to influence this procurement.

For purposes hereof, a person has a material interest if they directly or indirectly own more than 5 percent of the total assets or capital stock of any business entity, or if they otherwise stand to personally gain if the contract is awarded to this vendor.

In accordance with City of Fort Lauderdale, FL Policy and Standards Manual, 6.10.8.3,

3.3. City employees may not contract with the City through any corporation or business entity in which they or their immediate family members hold a controlling financial interest (e.g. ownership of five (5) percent or more).

3.4. Immediate family members (spouse, parents and children) are also prohibited from contracting with the City subject to the same general rules.

Failure of a vendor to disclose any relationship described herein shall be reason for debarment in accordance with the provisions of the City Procurement Code.

<u>NAME</u>	<u>RELATIONSHIPS</u>
-	

In the event the vendor does not indicate any names, the City shall interpret this to mean that the vendor has indicated that no such relationships exist.

BID/PROPOSAL SIGNATURE PAGE

How to submit bids/proposals: It is preferred that bids/proposals be submitted electronically at www.rfpdepot.com. If mailing a hard copy, it will be the sole responsibility of the Bidder to ensure that the bid reaches the City of Fort Lauderdale, City Hall, Procurement Department, Suite 619, 100 N. Andrews Avenue, Fort Lauderdale, FL 33301, prior to the bid opening date and time listed. Bids/proposals submitted by fax or email will NOT be accepted.

The below signed hereby agrees to furnish the following article(s) or services at the price(s) and terms stated subject to all instructions, conditions, specifications addenda, legal advertisement, and conditions contained in the bid. I have read all attachments including the specifications and fully understand what is required. By submitting this signed proposal I will accept a contract if approved by the CITY and such acceptance covers all terms, conditions, and specifications of this bid/proposal.

Please Note: If responding to this solicitation through RFP Depot, the electronic version of the bid response will prevail, unless a paper version is clearly marked **by the bidder** in some manner to indicate that it will supplant the electronic version.

Submitted by: (signature) (date)

Name (printed) Title:

Company: (Legal Registration)

CONTRACTOR, IF FOREIGN CORPORATION, MAY BE REQUIRED TO OBTAIN A CERTIFICATE OF AUTHORITY FROM THE DEPARTMENT OF STATE, IN ACCORDANCE WITH FLORIDA STATUTE §607.1501 (visit <http://www.dos.state.fl.us/doc/>).

Address:

City: State: Zip:

Telephone No. FAX No.

E-MAIL:

Delivery: Calendar days after receipt of Purchase Order (section 1.02 of General Conditions):

Payment Terms (section 1.03): Total Bid Discount (section 1.04):

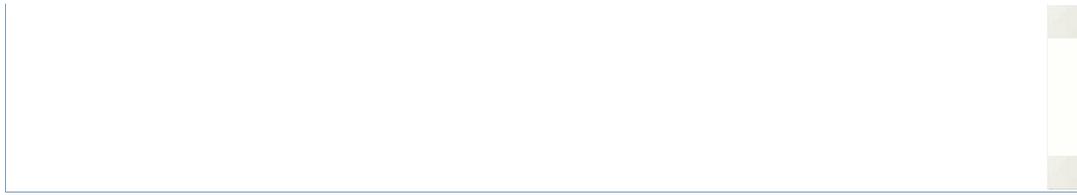
Does your firm qualify for MBE or WBE status (section 1.08): MBE WBE

ADDENDUM ACKNOWLEDGEMENT - Proposer acknowledges that the following addenda have been received and are included in the proposal:

<u>Addendum No.</u>	<u>Date Issued</u>
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VARIANCES: State any variations to specifications, terms and conditions in the space provided below or reference in the space provided below all variances contained on other pages of bid, attachments or bid pages. No variations or exceptions by the Proposer will be deemed to be part of the bid submitted unless such variation or exception is listed and contained within the bid documents and referenced in the space provided below. If no statement is contained in the below space, it is hereby implied that your bid/proposal complies with the full scope of this solicitation.

Variations:



revised 8-17-07