DEPARTMENT INPUT
CONSTRUCTION CONTRACT/PROJECT MEASURE ANALYSIS AND RECOMMENDATION

Check applicable Ordinance(s): ☐ 90-143 Responsible Wage and Benefits ☐ 03-237 (formerly 03-1) Community Workforce Program

PROJECT INFORMATION **See attachment** ☑

Contract/Project/*Work Order No.: NMCENTROMIES
*Reference corresponding project number when submitting a work order

Contract/Project Title: ~~EBA~~ CENTRO MATER WEST ROOF REPAIR

Description/Scope of Work: ROOF REPAIR

Estimated Cost: 64,882.00 **Funding Source:** FEDERAL

Location of Project (street address or beginning and ending points) i.e. 12345 NE 23rd Ct or Starts at 135 St. ends at 145 St.

PROJECT ANALYSIS FOR GOAL RECOMMENDATION (CWP) **See attachment** ☐

Engineer/Department or Agency's estimated required workforce for Project ☐ Work Order ☐:

Trade/Skills Required	Est. # of workforce required per trade	Est. # of total days to complete job

Comments:

PROJECT ANALYSIS FOR GOAL RECOMMENDATION (CSBE) **See attachment** ☐

Sub-Trade	Est. Cost	% of Item to Base Bid	Availability

RECOMMENDATION

Set-Aside: Level 1 ☐ Level 2 ☐ Level 3 ☐ Trade Set-Aside ☐ Sub-Contractor Goal ☐ Workforce Goal ☐ No Measure ☐
Basis for Recommendation:

Date submitted to DBD:
Contact Person:
Telephone No.:

Scope of Work: (Contractor must obtain and submit all permits prior to performing any work.)

Scope of Work
Energy Saving and Safety Up-Grades
Miami-Dade County Community Action and Human Services Department
Centro Mater West Head Start/Early Head Start Center Re-Roof
8298 NW 103 Street, Hialeah Gardens, FL 33016

Community Action Health and Humans Services Department (CAHSD), Miami, FL (Miami Gardens) has the need for a Contractor to furnish labor, materials and perform work for the repair of approximately 19,000 square foot of sloped roof at the Centro Mater West Head Start/Early Head Start Center.

1) PROJECT INTENTION
The goal of this project is to repair damaged, deteriorating built up roof and replace with new like kind roof with insulation as per specifications and the follow scope of work.

2) Replace Built-up roof system with new built-up roofing system: _____
The Modified Bituminous Built-up Roofing system shall have a current Miami-Dade Notice of Acceptance (NOA) and installed in a manner recommended by the NOA for the roof installation requirements and building deck that meets or exceeds the uplift requirements specified herein. For conflicts between the NOA and these specifications, the NOA shall rule. Non-rated systems are prohibited. Ballasted systems are prohibited.
Unless otherwise indicated by government-supplied drawings or approved via submittal by the Construction Manager, the roof system shall consist of an SBS modified bitumen cap sheet hot mopped over one SBS interply sheet hot mopped over a base sheet. A coated glass fiber or SBS base sheet will be selected and hot mopped applied over insulation. A coated vented base sheet will be selected and nailed when applied directly to a concrete (or pre-existing gypsum) deck.
I. Contractor to demolish existing built-up roof system
II. Contractor to verify decking material and submit correct NOA as per appropriate system.
III. Install new modified bituminous built-up roofing system with insulation over decking as per an approved Miami Dade NOA system. The roof area is approximately 10,000 sf. Contractor to verify all field measurements. Contractor to satisfy all local codes, national codes and any applicable ASTM standards. All roof penetrations, curbs, drains, vents, pipe boots, walk pads, must be flashed and covered with appropriate membrane layering as per NOA. Contractor may need to adjust penetration heights to accommodate new Miami Dade County code.

REFERENCE DOCUMENTS
GENERAL INFORMATION

1. All work shall comply with applicable Miami-Dade County building department requirements, the 2010 Florida Building Code, the 2008 National Electrical Code (NFPA-70), and the Miami Dade DERM requirements for asbestos removal.

2. All work must be coordinated with the Center Director, in addition to the county project manager.

3. Contractor/vendor shall comply with all applicable Federal, State, County, and City rules and codes.

4. All construction shall be in accordance with contract documents & requirements

5. Permitting and inspections and all associated plans, specifications and signed and sealed drawings incidental for the performance of the work described herein. The signed/sealed engineering drawings shall include, but not limited to, the following minimum requirements:

6. Defining the actual area that the contractor is restricted to for the work of the contract.

7. The contractor may not operate beyond the limits unless specifically authorized to do so by the Owner.

8. The contractor shall limit the use of the site to those operations necessary for the execution of the work of the contract.

9. The contractor is responsible for evaluating field conditions by visiting the site prior to commencing/bidding work.

10. The contractor shall not allow minors or other unauthorized persons on the project construction site.

11. Unless otherwise indicated, demolished materials become contractor's property. Comply with EPA regulations and disposal regulations of authorities having jurisdiction. Conduct demolition without disrupting Owner's use of the building.

12. Maintain and protect existing utilities to remain in service before proceeding with demolition, providing bypass connections to other parts of the building. Locate, identify, shut off, disconnect, and cap off utility services to be removed. Conduct demolition operations and remove debris to prevent injury to people and damage to adjacent buildings and site improvements. Provide and maintain shoring, bracing, or structural support to preserve building stability and prevent movement, settlement, or collapse.

13. Promptly patch and repair damaged areas of work caused by demolition. Restore exposed finishes of patched areas and extend finish restoration into remaining adjoining construction.

14. The contractor at all times shall keep the premises free from accumulation of waste materials or rubbish caused by the operations. At least once weekly during the construction, and at the completion of the work, all waste materials and rubbish shall be removed from the project, as well as

tools, construction equipment, machinery and surplus materials, and shall clean all surfaces and leave the work "broom" clean except as otherwise specified.

15. The contractor shall be responsible for initiating, maintaining and supervising safety programs in connection with the work.

16. The contractor shall take all reasonable precautions for the safety of and shall provide reasonable protection to prevent damage, injury or loss to:

a. All employees on the work and all other persons whom may be affected thereby.
b. All work and all materials and equipment to be incorporated therein, whether in storage on or off the site, under the care, custody or control of the contractor or any subcontractors.
c. Other property at the site or adjacent thereto, and not designated for removal, relocation or replacement in the course of construction.

17. The contractor shall comply with all applicable laws, ordinances, rules, regulations and orders of any public authority having jurisdiction or the safety of persons or property for to protect them from damage, injury or loss. The contractor shall erect and maintain as required by the existing conditions and progress of the work, all reasonable safeguards for protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent utilities. The contractor shall be responsible to the Owner for all damage or loss to any property caused in whole or in part by the contractor or any subcontractors, or anyone directly employed by any of them, or by anyone for whose acts any of them may be liable, and not attributable to the fault or negligence of the contractor.

18. The contractor shall request all mandatory inspection from the Building Official of Miami Gardens, Miami-Dade County, DERM, and other authorities having jurisdiction as per the provisions contained in the FBC, including those as may be required for asbestos removal. Inspections by the design professional shall not relieve the contractor, nor take the place of the mandatory inspections contained in the FBC or required by law.

19. Bid shall include warranty, building plans, specifications, permit drawings, and all permit approvals as required by the Miami Gardens, Miami-Dade-Dade County permitting departments. Bid shall also include approval through Miami –Dade County DERM (asbestos approval).

20. Any item resulting in damage from work procedures shall be repaired or restored to original condition including, but not limited to, sidewalk, trees, sod area, fences, irrigation, etc. Satisfactorily repair/replace equipment or part of structure damaged as a result of the work. Surfaces and finished areas shall be restored to match adjacent areas. Approval shall be obtained from the Architect/Engineer of Record prior to cutting or drilling any structural support member.

21. Contractor to supply "as built" drawings to project manager at job completion.

22. Location of existing utilities: contractor to verify exact location and avoid damage during construction. Coordinate with utilities companies MDWSD, etc.

23. All work shall be done in a neat workmanlike manner.

24. All penetrations through masonry and concrete structures shall be sealed to protect against fire with environmental conditions that exist.

25. Before starting work in a new area or movement of equipment one area to another, coordination with the facility and government is required to ensure patient safety.

26. It is the contractor's responsibility to make the proper coordination in advance for major interruptions (15 calendar days) and any delay of work due to improper notice will be the responsibility of the contractor not the CAHSD or the government.

27. At any time improper procedures are observed that put client safety, staff, or contractor workers safety at risk, the work will be stopped until corrections are made and approved by the government and the contractor held responsible for any delay due to improper adherence to the contract/documents and/or safety regulations.

28. Before any new electrical, mechanical, and/or site modifications the contractor must notify the government 72 hours in advance for proper coordination to ensure client, staff, and workers safety.

GENERAL SPECIFICATIONS

1.1. ALTERATIONS

A. Survey: Before any work is started, the Contractor shall make a thorough survey with the CM and a representative of CAHSD, of areas of building in which alterations occur and areas which are anticipated routes of access, and furnish a report, signed by all three, to the CM.

A. Any items required by scope of work to be either reused or relocated or both, found during this survey to be non-existent, or in opinion of CM and/or Supply Representative, to be in such condition that their use impossible or impractical, shall be furnished and/or replaced by Contractor with new items in accordance with specifications which will be furnished by Government. Provided the contract work is changed by reason of this subparagraph B, the contract will be modified accordingly.

B. Protection: Provide the following protective measures:

1. Wherever existing roof surfaces are disturbed they shall be protected against water infiltration. In case of leaks, they shall be repaired immediately upon discovery.
2. Temporary protection against damage for portions of existing structures and grounds where work is to be done, materials handled and equipment moved and/or relocated.
3. Protection of interior of existing structures at all times, from damage, dust and weather inclemency. Wherever work is performed, floor surfaces that are to remain in place shall be adequately protected prior to starting work, and this protection shall be maintained intact until all work in the area is completed.

SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

1-1. Submit for approval, all of the items specifically mentioned under the separate sections of the specification, with information sufficient to evidence full compliance with contract requirements. Materials, fabricated articles and the like to be installed in permanent work shall equal those of approved submittals. After an item has been approved, no change in brand or make will be permitted unless:

A. Satisfactory written evidence is presented to, and approved by Construction Manager, that

manufacturer cannot make scheduled delivery of approved item or; B.
B. Item delivered has been rejected and substitution of a suitable item is an urgent necessity or; C.
C. Other conditions become apparent which indicates approval of such substitute item to be in best interest of the Government.

1-2. Forward submittals in sufficient time to permit proper consideration and approval action by Government. Time submission to assure adequate lead time for procurement of contract - required items. Delays attributable to untimely and rejected submittals will not serve as a basis for extending contract time for completion.

1-3. Submittals will be reviewed for compliance with contract requirements by CAHSD, and action thereon will be taken by CM on behalf of the Construction Manager.

1-4. If submittal samples have been disapproved, resubmit new samples as soon as possible after notification of disapproval. Such new samples shall be marked "Resubmitted Sample" in addition to containing other previously specified information required on label and in transmittal letter.

1-5. Samples, shop drawings, test reports, certificates and manufacturers' literature and data, shall be submitted for approval to:

Eric Coffie,
701 NW 1st Court, 11th Floor,
Miami, FL 33136
SAFETY REQUIREMENTS
I. PLANS (PROGRAMS, PROCEDURES) REQUIRED. Based on a risk assessment of contracted activities and on mandatory OSHA compliance programs, the Contractor shall address all applicable occupational risks in site-specific compliance and accident prevention plans. These Plans shall include but are not be limited to procedures for addressing the risks associates with the following:
a. Emergency response;
b. Contingency for severe weather;
c. Fire Prevention;
d. Medical Support;
e. Posting of emergency telephone numbers;
f. Prevention of alcohol and drug abuse;
g. Site sanitation (housekeeping, drinking water, toilets);
h. Night operations and lighting;
i. Hazard communication program;
j. Welding/Cutting "Hot" work;
k. Electrical Safe Work Practices
l. General Electrical Safety
m. Site-Specific Fall Protection & Prevention;
n. Respiratory protection;
o. Health hazard control program;

II. INSPECTIONS: The PM/Superintendent shall conduct frequent and regular safety inspections (daily) of the site and each of its subcontractors shall conduct frequent and regular safety inspections (daily) of their work operations. Each week, the PM/Superintendent shall conduct a formal documented inspection of the entire construction areas with the subcontractors present in their work areas.

Coordinate with, and report findings and corrective actions weekly to Facility Safety Manager and Construction Manager.

III. ACCIDENTS, OSHA 300 LOGS, AND MAN-HOURS: Notify the Facility Safety Manager and Contract Officer Representative as soon as practical, but no more than four hours after any accident meeting the definition of OSHA Recordable Injuries or Illnesses or High Visibility Accidents, property damage equal to or greater than $5,000, or any weight handling equipment accident.

IV. PERSONAL PROTECTIVE EQUIPMENT (PPE):
a. PPE is governed in all areas by the nature of the work the employee is performing.

b. Mandatory PPE includes:
i. Hard Hats – unless written authorization is given by the Facility Safety Manager and Construction Manager in circumstances of work operations that have limited potential for falling object hazards such as during finishing work or minor remodeling. With authorization to relax the requirement of hard hats, if a worker becomes exposed to an overhead falling object hazard, then hard hats would be required in accordance with the OSHA regulations.
ii. Safety glasses - unless written authorization is given by the Facility Safety Manager and Construction Manager Representative appropriate safety glasses meeting the ANSI Z.87.1 standard must be worn by each person on site.
iii. Appropriate Safety Shoes – based on the hazards present, safety shoes meeting the requirements of ASTM F2413-11 shall be worn by each person on site unless written authorization is given by the Facility Safety Manager and Construction Manager Representative.
iv. Hearing protection - Use personal hearing protection at all times in designated noise hazardous areas or when performing noise hazardous tasks

ROOFING SPECIFICATIONS
A. Where pipe or conduit blocking, supports and similar roof accessories are set on the membrane, adhere walk pad material to bottom of accessories prior to setting on roofing membrane. Specific method of installing set-on accessories must permit normal movement due to expansion, contraction, vibration, and similar occurrences without damaging roofing membrane. Do not mechanically secure set-on accessories through roofing membrane into roof deck substrate.
B. Building will remain in operation during construction. Contractor to remove only what can be recovered by end of the day. Contractor must maintain watertight condition throughout course of work.
C. Remove debris, scraps, containers and other rubbish and trash resulting from installation of the roofing system from job site each day. Clear / vacuum gutters and downspouts of accumulated loose granules. Do not use water to flush debris down roof drains or downspouts unless they empty above ground. Clean aboveground drain / downspout areas of accumulated roof debris.
D. The complete roof covering assembly shall be capable of withstanding an uplift pressure provided, or if not provided, calculated by ASCE/SEI 7-05 using a minimum wind speed as per Miami Dade County, but in no place shall be less than 60 psf for open roof areas and 90 psf for edges without parapets.
E. All work must follow NRCA RWM guidelines and standards.

1.1 Conformance and Compatibility
The entire roofing and flashing system (including edge metal) shall be in accordance with specified

and indicated requirements, including fire and wind resistance requirements. Work not specifically addressed and any deviation from specified requirements shall be in general accordance with recommendations of the NRCA 0405, membrane manufacturer published recommendations and details and shall be compatible with surrounding components and construction. Any deviation from specified or indicated requirements shall be submitted to the Construction Manager and PVC roof membrane manufacturer for approval prior to installation.

1.2 DELIVERY, STORAGE, AND HANDLING

1.2.1 Delivery

Deliver materials in their original, unopened containers or wrappings with labels intact and legible. Where materials are covered by a referenced specification number, the labels shall bear the specification number, type, class, and shelf life expiration date where applicable. Deliver materials in sufficient quantity to allow continuity of work.

1.2.2 Storage

Store and protect materials from damage and weather in accordance with manufacturer's instructions, except as specified otherwise. Keep materials clean and dry. Store and maintain adhesives, sealants, primers and other liquid materials above 60°F. Insulated hot boxes or other enclosed warming devices may be required in cold weather subject to PVC membrane roofing manufacturer's printed instruction.

1.3.3 Handling

Prevent damage to roll materials. Damaged materials shall not be installed in the work. Select and operate material handling equipment so as not to damage materials or applied roofing. Do not use materials contaminated by exposure, incompatible materials or moisture. Remove contaminated materials from the site. When hazardous materials are involved, conform with the special precautions of the manufacturer. Adhesives may contain petroleum distillates and may be extremely flammable; prevent personnel from breathing vapors, and do not use near sparks or open flame.

1.4 CORRECTION OF DEFICIENCIES

Where any form of deficiency is found, additional measures shall be taken as deemed necessary by Construction Manager to determine the extent of the deficiency and corrective actions shall be as directed the Construction Manager. Once substrate is removed, if contractor identifies inferior deck base, contractor to take pictures of adverse condition and notify construction manager immediately.

1.5 WARRANTY

Provide a Full System Roof Warranty covering all membrane roof system components as well as their installation workmanship and meeting all specified requirements. Submit sample certificate. Roof will require at a minimum a 20 year membrane and systems warranty.

1.5.1 Roof Membrane Manufacturer's Full Roof System Warranty

Furnish the roof membrane manufacturer's 20-year no dollar limit roof system materials and installation workmanship warranty, including flashing, insulation, and accessories necessary for a watertight roof system construction. 5- or 10-year warranties may be permissible for low impact structures by written permission of the Construction Manager. The warranty shall run directly to the Government and commence at time of Government's acceptance of the roof work. The warranty shall state that:

a. If within the warranty period the roof system, as installed for its intended use in the normal climatic and environmental conditions of the facility, becomes non-watertight, shows evidence of moisture intrusion within the assembly, splits, tears, cracks, delaminates, separates at the seams, shrinks to the point of bridging or tenting membrane at transitions, or shows evidence of excessive weathering due to defective materials or installation workmanship, the repair or replacement of the defective and damaged materials of the roof system assembly and correction of defective

workmanship shall be the responsibility of the roof membrane manufacturer. All costs associated with the repair or replacement work shall be the responsibility of the roof membrane manufacturer.

b. When the manufacturer or his approved applicator fail to perform the repairs within 72 hours of notification, emergency temporary repairs performed by others shall not void the warranty.

c. Damage to the roofing system caused by sustained winds having a velocity of 130 mph or less is covered by the warranty.

1.5.2 Roofing System Installer Warranty

The roof system installer shall warrant for a period of not less than two years that the roof system, as installed, is free from defects in installation workmanship, to include the roof membrane, flashing, insulation, accessories, attachments, and sheet metal installation integral to a complete watertight roof system assembly. The warranty shall run directly to the Government. Correction of defective workmanship and replacement of damaged or affected materials shall be the responsibility of the roof system installer. All costs associated with the repair or replacement work shall be the responsibility of the installer.

PART 2 - PARTS

2.1 MODIFIED BITUMEN SHEETS AND FIBERGLASS FELT MATERIALS

Furnish a combination of specified materials that comprise the modified bitumen manufacturer's standard system of the number and type of plies specified. Materials provided shall be suitable for the service and climatic conditions of the installation. Modified bitumen sheets shall be watertight and visually free of pinholes, particles of foreign matter, undispersed raw material, factory splices, or other conditions that might affect serviceability. Polymer modifier must comply with ARMA PMBRG98 and shall be uniformly dispersed throughout the sheet. Edges of sheet shall be straight and flat.

2.1.1 Base Sheet

a. Venting (for use over concrete decks): ASTM D 4897, Type II, coated, with perforations and as approved by the modified bitumen roof membrane manufacturer.

b. Fiberglass Felt: ASTM D 4601, ASTM D 1668 Type II, coated, without perforations and as approved by the modified bitumen roof membrane manufacturer.

2.1.2 Interply Sheet(s)

a. Styrene Butadiene Styrene (SBS): ASTM D 6162 or ASTM D 6164, Type II, Grade S, and minimum 80 mils thick.

2.1.3 Cap Sheet

Polyester-reinforced Styrene Butadiene Styrene (SBS): ASTM D 6162 or ASTM D 6164, Type II, Grade G with factory-applied white granule surfaced, and a minimum 160 mils thick and not less than 100 lbs per 100 square feet.

2.2 BASE FLASHING MEMBRANE

Membrane manufacturer's standard, minimum two-ply modified bitumen membrane flashing system compatible with the roof membrane specified and as recommended in membrane manufacturer's published literature. Flashing membranes shall meet or exceed the properties of the material standards specified for the modified bitumen interply and cap sheet, except that flashing membrane thickness shall be as recommended by the membrane manufacturer.

2.3 ASPHALT
ASTM D 312, Type III or IV, in accordance with modified bitumen membrane manufacturer requirements and compatible with the slope conditions of the installation.

2.4 PRIMER
ASTM D 41, or other primer compatible with the application and as approved in writing by the modified bitumen membrane manufacturer.

2.5 MODIFIED BITUMEN ROOF CEMENT
ASTM D 4586, Type II for vertical surfaces, Type I for horizontal surfaces, compatible with the modified bitumen roof membrane and as recommended by the modified bitumen membrane manufacturer.

2.6 CANT STRIPS
Standard cant strips shall be of perlite conforming to ASTM C 728 treated with bituminous impregnation, sizing, or waxing and fabricated to provide maximum 45 degree change in direction of membrane. Cant strips shall be minimum 1-1/2 inches thick and provide for minimum 5 inch face and 3-1/2 inch vertical height when installed at 45 degree face angle, except where clearance restricts height to lesser dimension. Kiln-dried preservative-treated wood cants, in compliance with requirements of Section 06 10 00, ROUGH CARPENTRY shall be provided at base of wood nailers set on edge and wood curbing and where otherwise indicated.

2.7 FASTENERS AND PLATES
Coated, corrosion-resistant fasteners as recommended by the modified bitumen sheet manufacturer's printed instructions and meeting the requirements of FM AS 4470 and FM APP GUIDE for Class I roof deck construction and the wind uplift resistance specified. For fastening of membrane or felts to wood materials, provide fasteners driven through 1 inch diameter metal discs, or one piece composite fasteners with heads not less than 1 inch in diameter or 1 inch square with rounded or 45 degree tapered corners.

2.7.1 Masonry or Concrete Walls and Vertical Surfaces
Hardened steel nails or screws with flat heads, diamond shaped points, and mechanically deformed shanks not less than 1 inch long for securing felts, modified bitumen sheets, metal items, and accessories to masonry or concrete walls and vertical surfaces. Use power-driven fasteners only when approved in writing by the Construction Manager.

2.7.2 Metal Plates
Flat corrosion-resistant round stress plates as recommended by the modified bitumen sheet manufacturer's printed instructions and meeting the requirements of FM AS 4470; not less than 2 inches in diameter. Discs shall be formed to prevent dishing or cupping.

2.8 PRE-MANUFACTURED ACCESSORIES
Pre-manufactured accessories shall be manufacturer's standard for intended purpose, compatible with the membrane roof system and approved for use by the modified bitumen membrane manufacturer.

2.8.1 Vapor Pressure Relief Vents

Provide only if indicated or on recover projects over existing membranes.
Vents shall be manufactured for the purpose of releasing vapor pressure from the roofing system by heat and pressure. Vents shall be one-way type design to prevent reverse flow of moisture laden air into roofing system. Valve cap shall effectively seal out wind-blown rain and shall not permit water entry if submerged.

2.8.2 Pre-fabricated Curbs
Curbs shall be a minimum of 18 gauge, G90 galvanized with minimum 4-inch flange for attachment to roof nailers. Curbs shall provide minimum height of 10 inches above the finished roof membrane surface.

2.9 WALKPADS
Roof walkpads shall be polyester reinforced, granule-surfaced modified bitumen membrane material, minimum 200 mils thick, compatible with the modified bitumen sheet roofing and as recommended by the modified bitumen sheet roofing manufacturer. Panels shall not exceed 4 feet in length. Other walkpad materials require approval of the Construction Manager prior to installation.

2.10 ROOF INSULATION BELOW MODIFIED BITUMEN MEMBRANE SYSTEM
Insulation shall be compatible with the roof membrane, approved by the membrane manufacturer and as specified in Section 07 22 00 ROOF AND DECK INSULATION.

2.11 MEMBRANE LINER
Self-adhering modified bitumen underlayment conforming to ASTM D 1970, EPDM membrane liner conforming to ASTM D 4637, or other waterproof membrane liner material as approved by the Construction Manager.

PART 3 EXECUTION
3.1 EXAMINATION
Ensure that the following conditions exist prior to application of the roofing materials:
Ensure that the following conditions exist prior to application of the roofing materials:
a. Drains, curbs, control joints, expansion joints, perimeter walls, roof penetrating components, and equipment supports are in place.

b. Surfaces are rigid, clean, dry, smooth, and free from cracks, holes, and sharp changes in elevation.

c. The plane of the substrate does not vary more than 1/4 inch within an area 10 by 10 feet when checked with a 10 foot straight edge placed anywhere on the substrate.

d. Substrate is sloped to provide positive drainage.

e. Walls and vertical surfaces are constructed to receive counterflashing, and will permit mechanical fastening of the base flashing materials.

f. Treated wood nailers are in place on non-nailable surfaces, to permit nailing of base flashing at minimum height of 8 inches above finished roofing surface.

g. Pressure-preservative treated wood nailers are fastened in place at eaves, gable ends, openings, and intersections with vertical surfaces for securing of membrane, edging strips, attachment flanges

of sheet metal, and roof fixtures. Embedded nailers are flush with deck surfaces. Surface-applied nailers are the same thickness as the roof insulation.

h. Protect all combustible materials and surfaces which may contain concealed combustible or flammable materials. All fire extinguishing equipment has been placed as specified.

i. Cants are securely fastened in place in the angles formed by walls and other vertical surfaces. The angle of the cant is 45 degrees and the height of the vertical leg is not less than 3-1/2 inches.

j. For lightweight concrete decks, perimeter nailers are kerfed across the width of the nailers to permit escape of gaseous pressure at roof edges. Holes equal to the outside diameter of vents are provided through the insulation where vents are required. Space vents in accordance with membrane manufacturer's recommendations. Vent openings are provided in steel form decking for cast-in-place concrete substrate.

k. Exposed nail heads in wood substrates are properly set. Warped and split sheets have been replaced. There are no cracks or end joints 1/4 inch in width or greater. Joints in plywood substrates are taped or otherwise sealed to prevent air leakage from the underside.

l. Insulation boards are installed smoothly and evenly, and are not broken, cracked, or curled. There are no gaps in insulation board joints exceeding 1/4 inch in width. Insulation is attached as specified in Section 07 22 00 ROOF AND DECK INSULATION.

m. Cast-in-place substrates have been allowed to cure and the surface dryness requirements specified under paragraph entitled "Field Quality Control" have been met.

n. Joints between precast concrete deck units are grouted, leveled, and stripped in with felt or bituminous stripping membrane set in bituminous cement prior to applying other roofing materials over the area.

2.1 INSULATION
2.1.1 Insulation Types
All insulation shall have a Miami-Dade Notice of Acceptance (NOA) compatible with the membrane manufacturer NOA. All others by approved submittal only.

Roof insulation shall be one or an assembly of a maximum of three of the following materials and compatible with attachment methods for the specified insulation and roof membrane:

a. Polyisocyanurate Board: ASTM C 1289 Type II (fibrous felt or glass mat membrane both sides), Grade 2 or better, with a minimum compressive strength of 20 psi. The minimum recycled content shall be 9%.

b. Composite Board: The minimum recycled content shall be 23%.

o ASTM C 1289 Type III (perlite insulation board faced one side, fibrous felt or glass fiber mat membrane on the other side)

o ASTM C 1050 (Polystyrene-wood fiberboard) Type III, Grade 1, Class A –not for use with hot asphalt.

insulation system as specified and correct all defects before proceeding with underlayment or insulation application. Check roof deck surfaces, including surfaces sloped to roof drains and outlets, for defects before starting work.

Verify roof openings, curbs, pipes, conduit, sleeves, ducts, roof drains and vents through roof are solidly set.

Examine precast concrete decks to ensure that joints between precast units are properly grouted and leveled to provide suitable surfaces for installation of roofing.
Starting work designates acceptance of the surfaces by the Contractor.

3.1.2 Surface Preparation
Install wood nailers the same thickness as insulation at eaves, edges, curbs, walls, and roof openings for securing cant strips, gravel stops, gutters, and flashing flanges. Space nailers in accordance with approved shop drawings.

Install insulation only after building construction has progressed to the point that inclement weather will not damage or wet the insulation material.

Cut and fit underlayment or insulation material as necessary to fully insulate small areas and to accommodate piping, scuttles, skylights, vents, and other construction penetrating the insulation material.

3.1.2.1 Lightweight Concrete (and Gypsum) Decks
Correct defects and inaccuracies in roof deck surface to eliminate poor drainage and hollow or low spots with manufacturer's approved filler material.

3.1.2.2 Structural and Precast Concrete Decks in Preparation for Modified Bituminous Membrane Roofing
Confirm dry deck by moisture meter with 12% moisture maximum, or test as follows:
o Heat asphalt to equiviscous temperature (EVT) method and pour about a cupful onto the surface.
o If the asphalt bubbles, reject the surface as too wet.
o If the asphalt bubbling does not occur, and the asphalt has cooled, try peeling it off the surface. If it does peel off, reject the surface as either not clean or too wet.

Solidly apply asphalt primer at the rate of one gallon per 100 square feet of roof surface, stopping approximately 4 inches from joints between the precast concrete units. Allow primer to dry thoroughly. Place felt strips, 4 inches or more in width, over joints, 2 inches on each side, between precast concrete units in a heavy coating of cold-applied asphalt roof cement.

3.2 INSTALLATION OF VENTILATING FELT BASE SHEET
Use on non-insulating lightweight concrete decks and on structural / pre-cast concrete decks unless otherwise indicated.

Apply ventilating felt base sheet in accordance with manufacturer's printed instructions. Extend over roof cants, up vertical surfaces and terminate under cap flashing; at roof edges terminate under outside edge of perimeter edge nailers or under gravel stop fascia.

3.3 INSTALLATION OF INSULATION
All layers of insulation shall be attached as recommended by approved the Miami-Dade NOA and as follows.

3.3.1 Foam and Board Insulation
Apply base sheet or ventilating base sheet (if indicated) to deck per manufacturers preprinted instructions starting at low point of roof with each adjacent ply lapped 4 inches over the preceding ply and broomed in place.

Choose foam insulation layer thickness (including tapered insulation) for a minimum of two layers when total required thickness of insulation exceeds 1 inch.

For steel decks, choose mechanical attachment of the first insulation layer when given the option and engage fasteners by driving them through insulation into top flange of steel deck. The first layer shall run perpendicular to the roof slope with end joints staggered.

All succeeding layers of insulation shall be applied in full mopping of hot asphalt with joints parallel and offset in both directions with respect to layer below. Press insulation firmly in place and abut edges tightly. Smooth surface irregularities and unevenness between boards. Keep insulation 1/2 inch clear of vertical surfaces penetrating and projecting from roof surface. Insulation which can be readily lifted after installation is not considered to be adequately secured. Insulation shall be applied so that all roof insulation applied each day is waterproofed the same day.

Apply tapered insulation in proper configuration to assure positive slope and according to manufacturer instructions.

Polyisocyanurate foam board insulation shall be isolated from a built-up roof / modified bitumen membrane by a separate layer of protection board, composite board, perlite board or fiberboard. Stagger joints of the board with respect to foam insulation below.

3.4 PROTECTION
3.4.1 Protection of Applied Insulation
Completely cover each day's installation of insulation with the finished roofing on the same day. Protect open spaces between insulation and parapets or other walls and spaces at curbs, scuttles, and expansion joints, until permanent roofing and flashing are applied. Do not permit storing, walking, wheeling, or trucking directly on insulation or on roofed surfaces. Provide smooth, clean board or plank walkways, runways, and platforms near supports, as necessary, to distribute weight to conform to the specified compressive strength of the insulation board. Exposed edges of the insulation shall be protected by cutoffs at the end of each work day or whenever precipitation is imminent. Cutoffs shall be 2 layers of bituminous-saturated felt set in plastic bituminous cement for built-up roofs, or an EPDM membrane set in roof cement for single-ply roofs. Fill all profile voids in cut-offs to prevent entrapping of moisture into the area below the membrane. Cutoffs shall be removed when work is resumed.

Design Drawings Included: N **Shop Drawings Included:** N **Specifications Included:** Y

Project Qualifier: Nelson Medina **Phone No:** (786) 469-4709 **EMail:** medinan@miamidade.gov

Comments:

In accordance with Miami-Dade County Implementing Order 3-9, Accounts Receivable Adjustments, if money is owed by the Contractor to the County, whether under this Contract or for any other purpose, the County reserves the right to retain such amount from payment due by County to the Contractor under this Contract. Such retained amount shall be applied to the amount owed by the Contractor to the County. The Contractor shall have no further claim to such retained amounts which shall be deemed full accord and satisfaction of the amount due by the County to the Contractor for the applicable payment due herein.

SMALL BUSINESS ENTERPRISE-CONSTRUCTION PROGRAM REQUIREMENTS:

A. In accordance with Sections 2.25 and 2.33 (E) of CICC 7040-0/07 this Project is considered a single trade or primarily single trade project. None of the primary trade related work shall be subcontracted. Only ancillary work required to complete this Project may be subcontracted with prior approval from the Department and the Internal Services Department, Small Business Development Division (SBD). All subcontractors must be Certified SBE-CONST firms.

B. Bidders must submit a completed SOI along with the Bid Submittal Package for each SBE-CONST subcontractor to be utilized on this Project. All subcontractors identified on the SOI must be Certified SBE-CONST firms. Bidders shall refer to the most current SBD SBE-CONST Certification list available http://www.miamidade.gov/sba/reports_cert_lists.asp.

Place the completed SOI(s) on top of the bid package so that it can be readily identified by the Department during the bid opening