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ADDENDUM NO. 3
NEW ADDITION AND RENOVATION FOR RUSSELLVILLE HIGH SCHOOL
PACKAGE B - RENOVATION
Architect Job No. 19-90B
DCM #2021216
June 27, 2022

BIDS DUE:

Tuesday, July 26, 2022 until

2:00 p.m. local time

Russellville City Board of Education

1945 Waterloo Road

Russellville, AL 35653

The Plans and Specifications are hereby amended. The following supersedes all contrary and/or conflicting information and is made part of the contract documents.

BID DATE AND TIME HAS BEEN CHANGED TO:

BIDS DUE:

Tuesday, July 26, 2022 until

2:00 p.m. local time

Russellville City Board of Education

1945 Waterloo Road

Russellville, AL 35653

SPECIFICATIONS

1. Section 07540 - Thermoplastic Polyolefin (TPO) Roofing System
Add this section and provide Certification of Roofing System
2. Section 07526 SBS Modified Bitumen Membrane Roofing
Delete this section.
3. Section 08215 – Flush Wood Doors
Add this section

DRAWINGS

1. Sheet E1.1 – Schedules, Symbols, and Notes:
 - a. Remove fixture type “DEM” from Light Fixture Schedule.

2. Sheet E4.1 – Floor Plan – Power:
 - a. In Health Science Classroom 119, change the receptacle near the sink adjacent to Mechanical room to GFCI type receptacles as it is within 6’ of the sink.

3. Floor Plans:
 - a. Remove Panel PPD from Electrical Room 108A from all Plans.

CLARIFICATIONS

1. Remove existing roof down to structural decking below and replace existing with new TPO Roofing as specified in attached Specification Section 07540. This TPO System will be in lieu of the modified bitumen roofing previously indicated. The TPO Roofing System will be used on the existing and the new roof.

SECTION 07540 – THERMOPLASTIC POLYOLEFIN (TPO) ROOFING SYSTEM

1.0 - GENERAL

1.1 Description

- A. The work of this section consists of providing TPO Adhered Roofing System as outlined below:
 - 1. Apply the Adhered Roofing System in conjunction with the indicated roof Insulation.

1.2 Scope Of Work

- A. Provide all labor, material, tools, equipment, and supervision necessary to complete the installation of the .060" thick minimum (white, gray or tan color as selected by Architect) reinforced TPO (Thermoplastic Polyolefin) reinforced membrane Adhered Roofing System including flashings and insulation as specified herein and as indicated on the drawings in accordance with the manufacturer's most current specifications and details to meet performance criteria specified herein.
- B. The roofing contractor shall be fully knowledgeable of all requirements of the contract documents and shall make themselves aware of all job site conditions that will affect their work.
- C. The roofing contractor shall confirm all given information and advise the Architect, prior to bid, of any conflicts that will affect their cost proposal.
- D. Any contractor who intends to submit a bid using a roofing system other than the approved manufacturers must submit for pre-approval in writing ten (10) days prior to the bid date. Comply and submit in accordance with Section 01360.

1.3 Related Sections

- A. Section 07621 – Sheet Metal Work Flashing and Trim
- B. Section 10428 – Roof Information Plaque

1.4 Submittals

- A. Prior to starting work, the roofing contractor must submit the following:
 - 1. Shop drawings showing layout, details of construction and identification of materials.
 - 2. A sample of the manufacturer's Membrane System Warranty.
 - 3. Submit a letter of certification from the manufacturer which certifies the roofing contractor is authorized to install the manufacturer's roofing system and lists foremen who have received training from the manufacturer along with the dates training was received.
 - 4. Attachment pattern for insulation and membrane to comply with wind zone requirements.
- B. Upon completion of the installed work, submit copies of the manufacturer's final inspection to the Architect prior to the issuance of the manufacturer's warranty.

- C. Manufacturer Certificates: Signed by manufacturer certifying that roof panels comply with performance requirements specified in "Performance Requirements" Article.
1. Submit evidence of meeting performance requirements.
 2. Submit signed approval of project drawings and specifications meeting manufacturer's requirements for specified manufacturer's warranties.
 3. Submit evidence of Installer/contractor meeting requirements for specified warranties.
 4. Contractor to register roofing project with the manufacturer prior to the pre-roofing conference and prior to submitting shop drawings. As part of the submittals package, copy of the acknowledgement of the manufacturer is required.

Note: Copy of Acknowledgement Letter from manufacturer that project has been registered shall be included with submittals and prior to pre-roofing conference.

A **minimum** of three (3) field inspections shall be made by a technical (non sales) representative of the Roofing System Manufacturer at start, mid-way and upon completion of the work. Written reports shall be made and copies of these reports must be submitted to the Architect within 3 days of the inspections. These inspections must be made by a manufacturer's representative employed by the manufacturer. Notify Architect 72 hours prior to inspections.

1.5 Product Delivery, Storage and Handling

- A. Deliver materials to the job site in the manufacturer's original, unopened containers or wrappings with the manufacturer's name, brand name and installation instructions intact and legible. Deliver in sufficient quantity to permit work to continue without interruption.
- B. Comply with the manufacturer's written instructions for proper material storage.
1. Store membrane in the original undisturbed plastic wrap in a cool, shaded area. Membrane that has been exposed to the elements for approximately 7 days must be prepared with Commercial Innovations Weathered Membrane Cleaner (or other Manufacturer's recommended product) prior to hot air welding.
 2. Store curable materials (adhesives and sealants) between 60F and 80F in dry areas protected from water and direct sunlight. If exposed to lower temperature, restore to 60F minimum temperature before using.
 3. Store materials containing solvents in dry, well ventilated spaces with proper fire and safety precautions. Keep lids on tight. Use before expiration of their shelf life.
- C. Insulation must be on pallets, off the ground and tightly covered with waterproof protective materials.
- D. Any materials which are found to be damaged shall be removed and replaced at the contractor's expense.

1.6 Work Sequence

- A. Schedule and execute work to prevent leaks and excessive traffic on completed roof sections. Care should be exercised to provide protection for the interior of the building and to ensure water does not flow beneath any completed sections

of the membrane system.

- B. Do not disrupt activities in occupied spaces.

1.7 Site Conditions

- A. If discrepancies are discovered between the actual conditions and those noted on the drawings, immediately notify the Architect in writing. Necessary steps shall be taken to make the building watertight until the discrepancies are resolved.

1.8 Pre-Roofing Conference

- A. Pre-Installation Roofing Conference: Convene a pre-roofing conference approximately two (2) weeks before scheduled commencement of roofing system installation and associated work.

Require attendance of installer of each component of associated roofing work, Contractor, Architect, Owner, Alabama Construction Management, roofing system manufacturer's representative, and other representatives directly concerned with performance of the Work, including (where applicable) Owner's insurers, testing agencies and governing authorities. Objectives of conference include:

1. Review foreseeable methods and procedures related to roofing work, including set up and mobilization areas for stored material and work area.
 2. Review roofing system requirements (drawings, specifications and other contract documents).
 3. Review required submittals both completed and yet to be completed.
 4. Review construction schedule related to roofing work and verify availability of materials, installer's personnel, equipment and facilities needed to make progress and avoid delays.
 5. Review required inspection, testing, certifying and material usage accounting procedures.
 6. Discuss weather and forecasted weather conditions and procedures for coping with unfavorable conditions, including possibility of temporary roofing (if not mandatory requirement).
 7. Record discussion of conference including decisions and agreements (or disagreements) reached and furnish copy of record to each party attending. If substantial disagreements exist at conclusion of conference, determine how disagreements will be resolved and set date for reconvening conference.
- B. The Architect will record the proceedings and distribute them to the participants for record.
 - C. The intent of the conference is to resolve issues affecting the installation and performance of roofing work. Do not proceed with roofing work until such issues are resolved to the satisfaction of the Owner and Architect.
 - D. **The Representative for the Roofing Materials Manufacturer shall bring a copy of the warranty(ies) for the roofing material(s) for comparison to the warranty(ies) specified. This sample warranty is required to be job specific, covering all requirements, per the specifications. If the sample warranty is**

not provided as required, the conference will be voided, an inspection fee will be issued, and it will have to be rescheduled.

1.9 Job Site Protection

- A. The roofing contractor shall adequately protect building, paved areas, service drives, lawn, shrubs, trees, etc. from damage while performing the required work. Provide canvas, boards and sheet metal (properly secured) as necessary for protection and remove protection material at completion. The contractor shall repair or be responsible for costs to repair all property damaged during the roofing application. **Do not store roofing materials on the roof.**
- B. During the roofing contractor's performance of the work, the owner will continue to occupy the existing adjacent building. The contractor shall take precautions to prevent the spread of dust and debris, particularly where such material may sift into the building. The roofing contractor shall provide labor and materials to construct, maintain and remove necessary, temporary enclosures to prevent dust or debris in the construction area(s) from entering the remainder of the building.
- C. Do not overload any portion of the building, by either use of or placement of equipment, storage of debris, or storage of materials.
- D. Protect against fire and flame spread. Maintain proper and adequate fire extinguishers.
- E. Take precautions to prevent drains from clogging during the roofing application. Remove debris at the completion of each day's work and clean drains, if required. At completion, test drains to ensure the system is free running and drains are watertight. Remove strainers and plug drains in areas where work is in progress. Install flags or other telltales on plugs. Remove plugs each night and screen drain.
- F. Store moisture susceptible materials above ground and protect with waterproof coverings.
- G. Remove all traces of piled bulk material and return the job site to its original condition upon completion of the work.

1.10 Safety

- A. The contractor shall be fully responsible for all means and methods as they relate to safety and shall comply with all applicable local, state and federal requirements that are safety related. Safety shall be the responsibility of the contractor. All related personnel shall be instructed daily to be mindful of the full time requirement to maintain a safe environment for the facility's occupants including staff, visitors, workers and the occurrence of the general public on or near the site.

1.11 Workmanship

- A. Applicators installing new roof, flashing and related work shall be factory trained and approved by the manufacturer they are representing.
- B. All work shall be of highest quality and in strict accordance with the manufacturer's published specifications and to the Owner's satisfaction.

- C. There shall be a supervisor on the job site at all times while work is in progress.
- D. The contractor shall be responsible for weathertightness under this section.

1.12 Quality Assurance and Performance Requirements

- A. The membrane roofing system must achieve a UL Class A and FM1-90 or higher rating. (No exceptions). Provide additional materials or higher quality to meet FM-I-90 and wind speed requirements of 120 mph or higher (Risk Category 3) and Severe Hail (SH) requirements. (No exclusions for hail less than 2")
- B. Unless otherwise noted in this specification, the roofing contractor must strictly comply with the manufacturer's current specifications and details.
- C. The roofing system must be installed by an applicator authorized and trained by the manufacturer in compliance with shop drawings as approved by the manufacturer.
- D. All roofing materials shall be new and provided by same source as required to comply with manufacturer's system warranty.
- E. Provide adequate number of experienced workmen regularly engaged in this type of work who are skilled in the application techniques of the materials specified including operation of hot air welding equipment and power supply. Provide at least one thoroughly trained and an experienced superintendent on the job at all times roofing work is in progress.
- F. There shall be no deviations made from this specification or the approved shop drawings without the prior written approval of the Architect. Any deviation from the manufacturer's installation procedures must be supported by a written certification on the manufacturer's letterhead and presented for the Architect's consideration.
- G. Upon completion of the installation, the applicator shall arrange for an inspection to be made by a technical representative of the membrane manufacturer in order to determine whether or not corrective work will be required before the warranty will be issued. Notify the Architect seventy-two (72) hours prior to the manufacturer's final inspection.
- H. FMG Listing: Provide roofing membrane, base flashings, and component materials that meet the requirements in FMG 4450 and FMG 4470 as part of a membrane roofing system and that are listed in FMG's "Approval Guide" for Class 1 or noncombustible construction, as applicable. Identify materials with FMG markings.
 - 1. Fire/Windstorm Classification: UL Class A – FM 1-90 (120 mph wind speed minimum) Risk Category 3
 - 2. Hail Resistance: Severe Hail (SH) (No exclusions for 2" hail)
- I. Membrane Roofing System must meet or exceed impact resistance requirements of IBC 2015 Section 1504.7 and Wind Speed Requirements as applicable to the Zone where the Building is located as required by the IBC 2015 Edition.

- J. Certification of Roofing System
Contractor(s), Roofing Material Manufacturer, and Roofing Material Manufacturer's Field Inspector shall each execute the Certification of Roofing System, a copy of which immediately follows this Section.
- K. Product must meet Testing requirements of ASTM D5019, "Standard Specification for Reinforced Non Vulcanized Polymeric Sheet Used in Roofing Membrane"

1.13 Job Conditions and Special Handling

- A. Material Safety Data Sheets (MSDS) must be on location at all times during the transportation, storage and application of materials.
- B. When positioning membrane sheets, exercise care to locate all field splices away from low spots and out of drain sumps. All field splices should be shingled to prevent bucking of water.
- C. When loading materials onto the roof, the Authorized Roofing Applicator must comply with the requirements of the Owner/Architect to prevent overloading and possible disturbance to the building structure.
- D. Proceed with roofing work only when weather conditions are in compliance with the manufacturer's recommended limitations, and when conditions will permit the work to proceed in accordance with the manufacturer's requirements and recommendations.
- E. Proceed with work so new roofing materials are not subject to construction traffic. When necessary, new roof sections shall be protected and inspected upon completion for possible damage.
- F. Provide protection, such as 3/4 inch thick plywood, for all roof areas exposed to traffic during construction. Plywood must be smooth and free of fasteners and splinters. Remove debris and loose fasteners promptly.
- G. The surface on which the insulation or roofing membrane is to be applied shall be clean, smooth, dry, and free of projections or contaminants that would prevent proper application of or be incompatible with the new installation, such as fins, sharp edges, foreign materials, oil and grease.
- H. New roofing installation shall be complete and weather tight at the end of each work day.
- I. Contaminants such as grease, fats and oils shall not be allowed to come in direct contact with the roofing membrane.

1.14 Warranty

- A. Provide manufacturer's special 20 year weathertightness No Dollar Limit (NDL) Roofing System Warranty. Hail Resistance: Severe Hail (SH) (No exclusions for 2" hail)
- B. Pro-rated System Warranties shall not be accepted.
- C. The roof and associated work shall be guaranteed by the General Contractor

against leaks from faulty or defective materials and workmanship for a period of five (5) years, starting on the date of acceptance of the project by the Owner.

- D. **Manufacturer's roofing guarantees shall contain language regarding the governing of the guarantee by the State of Alabama, otherwise amend the requirement and state that the Laws of the State of Alabama shall govern all such guarantees.**
- E. Roofing Installers Warranty: Submit roofing Installer's warranty on Installers letterhead, signed by Installer, covering all work of this contract, including incidental items, for the following warranty period:

Warranty Period: Five (5) years from date of Substantial Completion.
- F. State of Alabama General Contractor's Roof Guarantee: Covering Work of this Section, including all components of the roofing system for the following warranty period:

Warranty Period: Five (5) years from date of Substantial Completion.
- G. All warranties shall be dated within 30 days of substantial completion.
- H. **The Representative for the Roofing Materials Manufacturer shall bring a copy of the warranty(ies) for the roofing material(s) for comparison to the warranty(ies) specified. This sample warranty is required to be job specific, covering all requirements, per the specifications. If the sample warranty is not provided as required, the conference will be voided, an inspection fee will be issued, and it will have to be rescheduled.**

2.0 - PRODUCTS

2.1 General

- A. Manufacturers: Subject to compliance with requirements, provide products by the manufacturers specified.
 - 1. Carlisle SynTec, Incorporated. (60 mil)
 - 2. Johns Manville (60 mil)
 - 3. Commercial Innovations, Inc (SealTite) (60 mil)
 - 4. Versico Roofing System (TPO - Versiweld - 60 mil)
- B. All products (including insulation, fasteners, fastening plates and edgings) must be manufactured and supplied by the roofing system manufacturer and covered by the system warranty.

2.2 Membrane

Provide 60 mil min. thick reinforced TPO (Thermoplastic Polyolefin) membrane as needed to complete the roofing system. Membrane thickness over the reinforcing scrim (top-ply thickness) shall be nominal 15 mil thick. Color to be selected by Architect.

2.3 Insulation/Underlayment

- A. When applicable, insulation shall be installed in multiple layers. The first and second layers of insulation shall be mechanically fastened to the substrate in accordance with the manufacturer's published specifications.
- B. Insulation shall be as indicated.
- C. Coverboard (SecuRock, Densdeck, ½" SecurShield HD ISO)

2.4 Adhesives and Cleaners

- A. All products shall be provided from approved manufacturer and specifically formulated for the roofing system specified herein.
 - 1. Bonding Adhesive
 - 2. Edge Sealant
 - 3. Sealer: Water Cut-Off Mastic (as recommended by roofing manufacturer)
 - 4. Pocket Sealant: TPO Molded Pocket Sealant (as recommended by roofing manufacturer)
 - 5. Membrane Cleaner

2.5 Fasteners and Plates

- A. To be used for mechanical attachment of insulation and to provide additional membrane securement:
 - 1. Pre-Assembled Fasteners: A pre-assembled 3" diameter Plastic Plate and standard phillips head fastener used for insulation attachment into steel or wood decks. Installed using Olympic Fastening Tools.
 - 2. CI Term Bar Nail-Ins: A 1-1/4" long expansion anchor with a zinc plated steel drive pin used for fastening the Termination Bar or Seam Fastening Plates to concrete, brick, or block walls.
 - 3. Seam Fastening Plates: a 2 inch diameter metal plate used for additional membrane securement.
 - 4. Insulation Fastening Plates: a nominal 3 inch diameter plastic or metal plate used for insulation attachment.

2.6 Metal Edging and Membrane Terminations

Termination Bar: 1 inch wide and .098 inch thick extruded aluminum bar pre-punched 6 inches on center; incorporates a sealant ledge to support Lap Sealant and provide increased stability for membrane terminations.

2.7 Other Materials

Metal Flashing, specified under Section 07621.

3.0 - EXECUTION

3.1 General

- A. Comply with the manufacturer's published instructions for the installation of the membrane roofing system including proper substrate preparation, job site

considerations and weather restrictions.

- B. Position sheets to accommodate contours of the roof deck and shingle splices to avoid bucking water.

3.2 Insulation Placement and Attachment

- A. Install insulation or membrane underlayment over the substrate with boards butted tightly together with no joints or gaps greater than 1/4 inch. Stagger joints horizontally and vertically if multiple layers are provided.
- B. Secure insulation to the substrate with the required insulation adhesive and manufacturer's specification to meet wind zone requirements (FM I-90) and 120 MPH wind speed at roof level.

3.3 Membrane Placement and Attachment

- A. Position membrane over the acceptable substrate. Fold membrane sheet back lengthwise (onto itself) so half the underside of the membrane is exposed.
- B. Apply Bonding Adhesive in accordance with the manufacturer's published instructions, to the exposed underside of the membrane and the corresponding substrate area. Do not apply Bonding Adhesive along the splice edge of the membrane to be hot air welded over the adjoining sheet. Allow the adhesive to dry until it is tacky but will not string or stick to a dry finger touch.
 - 1. Roll the coated membrane into the coated substrate while avoiding wrinkles. Brush down the bonded section of the membrane sheet immediately after rolling the membrane into the adhesive with a soft bristle push broom to achieve maximum contact.
 - 2. Fold back the unbonded half of the sheet lengthwise and repeat the bonding procedures.
- C. Position adjoining sheets to allow a minimum overlap of 2 inches.
- D. Hot air weld the membrane sheets using the Automatic Hot Air Welding Machine or Hot Air Hand Welder in accordance with the manufacturer's hot air welding procedures.
- E. Pull the membrane back along the welded splice so the entire underside of the membrane is exposed once the Hot Air Weld has been completed.
- F. Apply Bonding Adhesive to the exposed underside of the membrane sheet and the substrate.
- G. Allow adhesive to dry until tacky and roll the membrane into the substrate and brush down the bonded section with a bristle broom following the procedure noted above.
- H. Continue to install adjoining membrane sheets in the same manner, overlapping edges a minimum of 2 inches and complete the bonding procedures as stated previously.

3.4 Membrane Splicing/Hot Air Welding Procedures

- A. Hot air weld the membrane using an Automatic Hot Air Welding Machine or Hot Air Hand Welder in accordance with the manufacturer's specifications. At all splice intersections, roll the seam with a silicone roller to ensure a continuous hot air welded seam. (Note: When using .060" thick membrane, all splice intersections shall be overlaid with non-reinforced flashing)
- B. Probe all seams once the hot air welds have thoroughly cooled (approximately 30 minutes).
- C. Repair all seam deficiencies the same day they are discovered.
- D. Apply Cut Edge Sealant on all cut edges of reinforced membrane (where the scrim reinforcement is exposed) after seam probing is complete. Cut Edge Sealant is not required on vertical splices.

3.5 Flashing

- A. Flashing of parapets, curbs, expansion joints and other parts of the roof must be performed using reinforced membrane. Non-reinforced membrane can be used for flashing pipe penetrations, Sealant Pockets, and scuppers, as well as inside and outside corners, when the use of pre-molded accessories is not feasible.
- B. Follow manufacturer's typical flashing procedures for all wall, curb, and penetration flashing including metal edging/coping and roof drain applications.

3.6 Walkways

- A. Install walkways at all traffic concentration points (such as roof hatches, access doors, rooftop ladders, etc.) and all locations as identified on the specifier's drawing.
- B. Hot air weld walkway pads to the membrane in accordance with the manufacturer's specifications.

3.7 Daily Seal

- A. On phased roofing, when the completion of flashings and terminations is not achieved by the end of the work day, a daily seal must be performed to temporarily close the membrane to prevent water infiltration.
- B. Complete an acceptable membrane seal in accordance with the manufacturer's requirements.

3.8 Clean Up

- A. Perform daily clean up to collect all wrappings, empty containers, paper, and other debris from the project site. Upon completion, all debris must be disposed of in a legally acceptable manner.
- B. Prior to the manufacturer's inspection for warranty, the applicator must perform a pre-inspection to review all work and to verify all flashing has been completed as well as the application of all caulking.

END OF SECTION

I.0 – GENERAL

1.1 Summary

A. Section Includes

Work under this section comprises of furnishing solid core doors (wood veneer faces and hardboard/MDF) light frames, factory fitting and machining and factory finishing for fire labeled and non labeled wood doors.

B. Related Documents

Related documents, drawings and general provisions of contract, including General and Supplementary Conditions and Division 1 specification sections apply to this section.

C. Related Sections

1. 06210 – Finish Carpentry
2. 08710 – Finish Hardware Schedule
3. 08110 – Hollow Metal Doors and Frames
4. 08420 – Entrances and Storefronts
5. 08810 – Glass Glazing
6. 09910 – Painting

1.2 References

A. Standards

1. NFPA-80 – Fire Doors and Windows
2. NFPA-105 – Recommend Practice for Installation of Smoke Controlled Door Assemblies
3. WDMA I.S. 1A – Wood Door Manufacturer’s Association, Flush Wood Door Performance Standards
4. UL10C - Standard for Positive Pressure Fire Tests of Door Assemblies

B. Codes

1. NFPA-101 – Life Safety Code
2. IBC 2015 – International Building Code
3. ANSI-A117.1 – Accessible and Usable Buildings and Facilities.
4. ADA – Americans with Disabilities Act

1.3 Submittals

A. General Requirements

Submit copies of the wood door shop drawings in accordance with Section 01350.

B. Product Data

Submit shop drawings showing fabrication and installation of wood doors. Include details of door elevations, details of construction, location and installation requirements of door hardware.

C. Shop Drawings

1. Provide a schedule of doors and frames using same reference numbers for details and door openings as those on the contract documents. Shop drawings should include the following information:
 - a. Door core material.
 - b. Mortises and reinforcements.
 - c. Glazed and louvered openings and material.
 - d. Mounting locations of standard hardware.
 - e. Elevation drawings.

D. Samples

1. Upon request submit the following samples:
 - a. Corner sections of doors approximately 8" x 10" with door faces and edgings representing the typical range of color and grain for each species of veneer and solid lumber required.
 - b. Factory finishes applied to actual door face materials, approximately 8" x 10" inches, for each material and finish. For each wood species and transparent finish, provide set of three samples showing typical range of color and grain to be expected in the finished work.
 - c. Frames for light openings, 6" long, for each material, type, and finish required.
 - d. Louver blade and frame sections, 6 inches long, for each material and finish specified.

1.4 Quality Assurance

A. Substitutions

All substitution requests must be submitted for Architectural approval at least 10 days prior to bid in accordance with Section 01360. Approval of products will be in written form via Addendum.

B. Manufacturer Qualifications

1. Manufacturer shall be a member in good standing of the Wood Door Manufacturer's Association (WDMA).
2. Wherever possible obtain wood doors from a single manufacturer to ensure uniformity in quality of appearance and construction. All material supplied for this project to conform to WDMA I.S. 1A-97 for premium grade wood doors.

C. Fire Rated Doors

1. Project requires door assemblies and components that are compliant with positive pressure and S-label requirements. Specifications must be cross-referenced and coordinated with hardware and other door manufacturers to ensure that total opening engineering is compatible with UL10C Standard for Positive Pressure Fire Tests of Door Assemblies, and UBC 7-2, Fire Tests of Door Assemblies.
 - a. Certification(s) of compliance shall be made available upon request by the Authority Having Jurisdiction.
 - b. For units exceeding sizes of tested assemblies provide certification by a qualified testing agency that doors comply with standard construction requirements for tested and labeled fire-rated door assemblies except for size.
2. A physical label to be permanently affixed to the fire door at an authorized facility. Furthermore, all 45, 60, and 90 minute label fire doors are to have manufacturer's standard laminated stiles for improved screw holding and split resistance capability.
 - a. At stairwell enclosures and where otherwise indicated, provide doors that have a maximum transmitted temperature end point of not more than 250 deg F above ambient after 30 minutes of standard fire-test exposure

1.5 Delivery, Storage, And Handling

- A. Protect doors during transit, storage, and handling to prevent damage, soiling, and deterioration. Doors are to be shipped from manufacturer in individual polybags, and shall be inspected immediately upon arrival at jobsite for any damage or defects.
- B. Identify each door with individual opening numbers that correlate with designation system used on shop drawings and contract drawings for door, frames and hardware. Use only temporary, removable, or concealed markings.
- C. Do not deliver or install doors until building is enclosed and weather tight, wet-work is complete and dry, and HVAC system is operating and maintaining ambient temperature and relative humidity at occupancy level in storage and installation areas.

1.6 Warranty

- A. Warranties shall be in addition to, and not a limitation of other rights the owner may have under the contract documents.
- B. Submit written warranty on manufacturer's standard form signed by the manufacturer agreeing to replace or repair defective doors which have:
 1. Delamination in any degree.
 2. Warp or twist of 1/4" or more in any 3' x 6" x 7' plane of door face.
 3. Telegraphing of stile, rail or core through face to cause surface variation in excess of 1/100" in any 3" spans.

- C. Contractor shall replace or refinish doors where contractor's work contributed to rejection or voiding of manufacturer's warranty.
- D. Solid core interior doors shall be warranted for the life of their installation.

2.0 - PRODUCTS

2.1 Manufacturers

Subject to compliance with requirements, provide wood doors by one of the manufacturers as listed.

2.2 Fire Rated Doors

All fire rated doors shall be supplied to meet UL10C positive pressure standards for category "B" doors. All required intumescent seals shall be supplied as specified in section 08710 – Finish Hardware.

2.3 Doors

A. Faces For Transparent Finish

1. Doors shall have premium grade A faces with manufacturer's standard five (5) ply construction; minimum 1/8" thick with stiles and rails bonded to the core.
2. Faces shall be minimum 1/50" at 12% moisture content thick after finish sanding.
 - a. Veneer Cut: Plain Sliced
 - b. Face Assembly: Book Match, Running Match
 - c. Veneer Species: Select White Birch
3. Exposed vertical edges shall be of the same species as the face material.
4. Doors shall have minimum 1" stiles on the hinge stile and 13/16" minimum on the lock stile; both stiles faces shall match the door veneer. Top and bottom rails shall be a minimum 13/16"; rails shall be mill option hardwood or structural composite lumber (SCL).

B. Faces For Opaque Finish

1. Faces shall be custom grade closed-grain hardwood of mill option, Hardboard or MDF; five (5) ply construction with stiles and rails bonded to the core.
 - a. Hardboard Faces: AHA A135.4, Class 1 (tempered) or Class 2 (standard).
 - b. MDF Faces: ANSI A208.2, Grade 150 or 160.
2. Exposed vertical edges shall be any closed-grain hardwood.
3. Doors shall have minimum 1" stiles on the hinge stile and 13/16" minimum on the lock stile; both stiles faces shall match the door veneer.

Top and bottom rails shall be a minimum 13/16"; rails shall be mill option hardwood or structural composite lumber (SCL).

C. Non Rated And 20 Minute Doors

1. Supply particleboard core complying with WDMA I.S. 1A and ANSI-A208.1, Grade 1-LD, bonded to the door faces, stiles and rails using a Type I adhesive. Components are to be assembled to meet or exceed 20 minute fire door specifications for UL10C fire test requirements.
 - a. Algoma: Super Novodor / FD 1/3
 - b. Eggers: PC5 / PC5-20
 - c. Graham: GPD PC5 / GPD PC5-20
 - d. Marshfield: DPC-1 / DFP-20
 - e. VT Industries: 5502
2. Supply engineered core complying with WDMA I.S. 1A, bonded to door faces, stiles and rails using a Type I adhesive. Components are to be assembled to meet or exceed 20 minute fire door specifications for UL10c fire test requirements. Door shall meet or exceed WDMA I.S. 1A Extra Heavy Duty performance standards.
 - a. Algoma: FGFW
 - b. Eggers: SCL5 / SCL5-20
 - c. Graham: GPD EC5 / GPD EC5-20
 - d. Marshfield: DCL-1 / DCL-20
 - e. VT Industries: 5508
3. Provide LSL Timberstrand blocking at particleboard-core doors as follows to preclude the use of thru-bolts:
 - a. Provide 5" top-rail blocking, at doors indicated to have closers.
 - b. Provide 5" mid-rail blocking, at doors indicated to have exit devices.

D. Fire Rated Doors Over 20 Minutes

1. Supply fire resistive composite mineral core construction to provide the fire rating indicated, boned to door faces, stiles and rails using a Type I adhesive. Components are to be assembled to meet or exceed fire door specifications for UL10C fire test requirements.
 - a. Algoma: FD
 - b. Eggers: FGP
 - c. Graham: GPD FD5
 - d. Marshfield: DFM
 - e. VT Industries: 5545/5511
2. For mineral-core doors, provide composite blocking with improved screw holding capability approved for use in doors of fire ratings indicated as necessary to eliminate need for through-bolting hardware and as follows:
 - a. Provide 5" top-rail blocking.
 - b. Provide 4 1/2" x 10" lock blocks.
 - c. Provide 5" mid-rail blocking, at doors indicated to have exit devices.

3. At hinge stiles, provide manufacturer's standard laminated-edge construction with improved screw-holding capability and split resistance and with outer stile matching face veneer.

2.4 Factory Finishing

- A. Finish all doors to receive a transparent finish at the factory as indicated below; field finish doors indicated to receive an opaque finish in accordance with Division 9, Finishes.
 1. Grade: Premium
 2. Finish: WDMA TR-6 catalyzed polyurethane.
 3. Stain: Clear-coat only.
 4. Effect: Semi-filled finish, produced by applying an additional finish coat to partially fill the wood pores.
- B. Finish faces, all four edges, edges of cutouts, and mortises. Stains and fillers may be omitted on top and bottom edges, edges of cutouts, and mortises.
- C. Finish doors using three (3) coats of water-clear 100% solids, modified acrylic urethane, cured immediately with ultra-violet light.
- D. Factory seal transparent finish doors on all six (6) sides using manufacturer's standard meeting these applications.

2.5 Light Frames

- A. Provide wood beads for light openings in doors up to and including 20-minute rating; at 20-minute rated doors provide wood beads and metal glazing clips approved for such use.
 1. Wood Species: Same species as door faces.
 2. Profile: Flush rectangular beads or Lipped tapered beads.
- B. For fire-rated doors over 20-minute rated provide manufacturer's standard metal light frame formed of 0.048 inch thick cold-rolled steel sheet with baked-enamel or powder-coated finish approved for use in doors of fire rating indicated.

2.6 Louvers

- A. Provide manufacturer's standard solid wood louvers unless otherwise indicated; species shall be the same as door faces.
- B. Provide metal louvers with vision-proof inverted V or inverted Y blades constructed of galvanized 0.040 inch thick steel factory primed for paint finish with baked-enamel or power-coated finish.
- C. Provide metal louvers for fire-rated doors with fusible link and closing device listed and labeled for use in doors with fire-protection rating of-1 1/2 hours or less. Subject to compliance with rating requirements, louver construction and material shall be the same as non-rated versions.

2.7 Fabrication

- A. Factory fit doors to suit frame-opening sizes indicated, with the following uniform clearances and bevels, unless otherwise indicated:
 - 1. Comply with clearance requirements of referenced quality standard for fitting. Comply with requirements of NFPA 80 for fire-rated doors.
- B. Factory machine doors for hardware that is not surface applied. Locate hardware to comply with DHI-WDHS-3. Comply with final hardware schedules, door frame Shop Drawings, DHI A115-W series standards, and hardware templates.
 - 1. Coordinate measurements of hardware mortises in metal frames to verify dimensions and alignment before factory machining.
 - 2. Pre-machine metal astragals and formed-steel edges for hardware for pairs of fire-rated doors.
- C. Cut and trim openings through doors to comply with applicable requirements of referenced standards for kind(s) of door(s) required.
 - 1. Trim openings with moldings of material and profile indicated.

3.0 - EXECUTION

3.1 Examination

- A. Examine installed door frames before hanging doors.
 - 1. Verify that frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with plumb jambs and level heads.
 - 2. Reject doors with defects.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 Installation

- A. For hardware installation, see Division 8 Section "Finish Hardware."
- B. Install wood doors to comply with manufacturer's written instructions, referenced quality standard and as indicated.
- C. Install fire-rated doors in corresponding fire-rated frames according to NFPA 80.
- D. Align factory fitted doors in frames for uniform clearance at each edge.

3.3 Adjusting And Protecting

- A. Rehang or replace doors that do not swing or operate freely.
- B. Refinish or replace doors damaged during installation.
- C. Protect doors as recommended by door manufacturer to ensure that wood doors are without damage or deterioration at the time of Substantial Completion.

END OF SECTION