

Addendum No. 3 Date: November 2, 2023

Project: Additions to Elberta High School for the Baldwin County Board of Education Bay Minette, Alabama



MCKEE PROJECT NO. 23.198 ALABAMA DIVISION OF CONSTRUCTION MANAGEMENT NO.

The following changes and/or substitutions to the plans and specifications are hereby made a part of same and are incorporated in full force as part of the contract.

Bidders shall acknowledge receipt of this Addendum in writing on his Proposal Form.

A3.1 GENERAL MODIFICATIONS:

B. Refer to the Table of Contents (Revised 10.31.23), herein.

A3.2 SPECIFICATION MODIFICATIONS:

- A. Refer to Section 01011 Contingency Allowance (Revised 11.02.23), herein.
- B. Refer to Section 02789 Synthetic Turf (Revised 10.31.23), herein.
- C. Refer to Section 16720 Fire Detection and Alarm systems (Revised 10.31.23), herein.
- D. Refer to Section 01010 Scope of the work (Revised 11.2.23), herein.
- E. Omit the following Specification Sections.
 - a. Section 09672 Resinous Flooring
 - b. Section 02900 Irrigation
 - c. Section 02535 Synthetic Polyurethane Track Surface
- F. The following manufactures are hereby approved subject to the plans and specifications:
 - 1. Section 16100, Electrical Lithonia Lighting | Ph: 800.705.7378
 - 2. Section 13125, Home grandstand and Pressbox Sturdisteel I Ph: 800-433-3116 ext. 258
 - 3. Section **02790**, **Synthetic Turf and Drainage**, Synthetic Grass material 'Elia' Renufill Cap (512) 250-2910
 - 4. Section 13120, Pre-Engineered Metal Building Kirby | Ph: 615.325.4165

A3.3 DRAWING MODIFICATIONS:

A. See the attached Revised Drawings as follows:

- 1. Sheet(s) A4.0 (Revised 10.31.23), herein.
- 2. Sheet(s) E0.0, E0.1, E1.1, E2.1, E3.1 and E4.1 (Revised 11.01.23), herein.

A3.4 CLARIFICATIONS & RESPONSES:

A. See the following responses to RFI questions received from Contractor's

Question: Plan A2.1 refers to plan A9.1 for the FE location. Can you provide plan A9.1? Plan A1.1 refers to FEC detail located 3/A6.1. A6.1 contains wall sections

Answer: See sheet G1.1 for 'FE' locations. Fire extinguisher detail is located on sheet A8.1

Question: Sheet A4.0 indicates 2 each L1 louvers - see mechanical. Sheet M1.1 does not show these louvers. Advise.

Answer: louvers shown on Sheet A4.0 shall be omitted. Refer to Mechanical drawings.

Question: A1.1 - Floor plan legend notes see Sht A9.2 for rail info. No sheet A9.2. There are rail details on A8.1, but not all types are shown on A8.1. I can figure most of the rails from floor plan and A8.1, but need to know what PHR rail is? I assume this is a one-line top rail with posts every 5% or so...

Please provide clarification.

Answer: Refer to Sheet A8.1 for Railing details. Note: 'PHR' = Painted handrails

Question:

Existing main fire alarm control is a Simplex Model 4005 system. The fire alarm panel for the new building shall be a Simplex model 4007 or equal. New panel shall be compatible with existing fire alarm system. New panel shall be an addressable type that can be integrated with the existing zone type system to have one fully functional campus wide fire alarm system.

Per Johnson Controls the current system is an Edwards System and is not compatible with Simplex.

Answer: Specifications have been revised to state that the new fire alarm system shall be fully compatible with the existing fire alarm system. Simplex has been removed from the list of acceptable manufacturers.

Question: Confirm that the contractor will be provided with sources for both power and water during construction.

Answer: see Addendum #1 revised civil dwg. C-5.0 for water access.

Per electrical specifications, "Furnish and maintain temporary wiring system for light and power for use during construction by all trades. Use solidly grounded system. Limit over-current protection to 20 amperes on No. 12 conductors. Coordinate all requirements for temporary power with the serving utility and pay for all charges incurred while furnishing power for construction. Verify whether charges for electrical power consumption are specified in Division One; if so, payment of bills for power consumption are not included under this section.".

Water connection and 120V receptacle connection is available in the area. For power connection to a job trailer, coordinate with Riviera Utilities and establish a temporary service.

Question: Confirm that the Owner is responsible for any and all permit / tap / impact fees required for any utility - power, water, sewer, gas, tele, etc.

Answer: Owner shall pay the Water & Sewer tap fees. The general contractor is responsible for all other permit fees, tap fees, impact fees, etc. Also refer to Section 01011 Contingency Allowances.

- B. See the following clarifications as follows:
 - 1. Fire Sprinkler is not required for this project.
 - 2. Dumpster 'Enclosure' shown on sheets C3.0, C4.0, C4.2, C5.0 & Detail on C6.0: <u>Container Enclosure</u> shall be omitted. GC to provide the concrete pad as shown.

END OF ADDENDUM

Additions

to Elberta High School for the Baldwin County Board of Education Bay Minette, Alabama

MCKEE PROJECT NO. 23.192

BIDDING REQUIREMENTS

- Advertisement For Bids
- Request For Information (McKee Form)
- Prior Approval/Substitution Request Form (McKee Form)
- Proposal Form (DCM Form C-3, August 2021)
- Accounting of Sales Tax (DCM Form C-3A, August 2021), Attachment to DCM Form C-3
- Form Of Bid Bond (DCM Form C-4, August 2021)
- Instructions To Bidders (DCM Form C-2, August 2021)
- Special Instructions To Bidders (McKee Form July 2020)

CONTRACT FORMS

- Construction Contract (DCM Form C-5, August 2021)
- State of Alabama Department of Finance, Construction Management Division Administrative Code 355-16-1 Collection of User Fees
- State of Alabama Department of Finance, Real Property Management, Division of Construction Management Permit Fee & Permit Re-Inspection Fee Calculation Worksheet (Revised August 2021)
- State Of Alabama Department of Revenue "Notice" regarding Tax Guidance for Contractors, Subcontractors and Alabama Governmental Entities Regarding Construction related contracts including Application for Sales and Use Tax Certificate of Exemption Form (Form ST:EXC-01 dated 8/18).
- State of Alabama Disclosure Statement Form, Required by Article 3B of Title 41, Code of Alabama 1975 (Revised 09/2013) with Information and Instructions regarding Relationships Between Contractor/Grantees and Public Officials/Employees.
- State of Alabama E-Verify Memorandum of Understanding Instructions (Revised August 2021) with ABC Bulletin (May 29, 2012) and Revised Alabama Immigration Law Guidance for School Boards (Revised May 2012).
- Act 2009-657 Requiring Certification Of Fire Alarm Contractors (ABC Memorandum January 19, 2021)
- State Of Alabama Department Of Insurance Application For State Fire Marshal's Certified Fire Alarm Contractor Permit
- Performance Bond (DCM Form C-6, August 2021)
- Payment Bond (ABC Form C-7, August 2021)

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GENERAL CONDITIONS

- General Conditions of the Contract (DCM Form C-8, Revised October 2022)
- Instructions for Contractor's Insurance Company (Article 37 of DCM Form C-8, Revised October 2022)
- Supplement to General Conditions of the Contract (McKee Form August 2020)
- Application and Certificate for Payment (DCM Form C-10, Revised July 2022)
- Schedule Of Values, (DCM Form C-10SOV, Revised October 2021) Attachment to DCM Form C-10
- Inventory Of Stored Materials, (DCM Form C-10SM, Revised October 2021) Attachment to DCM Form C-10
- Pre-Construction Conference Checklist (DCM Form B-8, Revised November 2022)
- Progress Schedule and Report (DCM Form C-11, August 2021)
- Project Data Form (DCM Form B-9, August 2021)
- Statement Of Field Observations (DCM Form B-10, August 2021)
- Change Order Checklist, (DCM Form B-12, August 2021) For Use With DCM Form C-12
- Contract Change Order (DCM Form C-12 (fully locally-funded K-12 Schools), August 2021)
- Change Order Justification (DCM Form B-11, August 2021) Attachment to DCM Form C-12
- Final Payment Checklist (DCM Form B-13, Revised October 2022)
- Certificate of Substantial Completion (DCM Form C-13, Revised November 2022)
- Form of Advertisement for Completion (DCM Form C-14, August 2021)
- Contractor's Affidavit of Payment of Debts and Claims (DCM Form C-18, August 2021)
- Contractor's Affidavit of Release of Liens (DCM Form C-19, August 2021)
- Consent of Surety to Final Payment (DCM Form C-20, August 2021)
- Detail Of Project Sign (DCM Form C-15, Revised December 2021)
- Detail Of Plaque (ABC Form C-16, August 2001)
- Certificate of Asbestos Free Building Materials (McKee Form)

TECHNICAL SPECIFICATIONS

DIVISION 01 GENERAL REQUIREMENTS

- 01010 Scope of Work
- 01011 Contingency Allowances
- 01250 Contract Modification Procedures
- 01290 Payment Procedures
- 01320 Construction Progress Documentation
- 01322 Photographic Documentation
- 01330 Submittal Requirements
- 01500 Temporary Facilities and Controls
- 01600 Product Requirements
- 01700 Execution Requirements

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01770	Closeout Procedures
01781	Project Record Documents
01782	Operation and Maintenance Data
01820	Demonstration and Training

DIVISION 02	SITE WORK
02070	Selective Demolition
02100	Site Preparation
02200	Earthwork
02282	Termite Control
02512	Asphalt Pavement Seal Coating
02535	Synthetic Track Surface
02660	Water Distribution System
02720	Storm Sewers
02730	Sanitary Sewers
02789	Synthetic Turf (Indoor Batting Cage)
02790	Synthetic Turf and Drainage Field
02810	Sodding and Topsoil
02811	Seeding and Topsoil
02831	Vinyl Coated Chain Link Fencing & Gates
02900	Irrigation System

DIVISION 03 CONCRETE

03310 Cast-In-Place Concrete03368 UV Floor System (Sealed Concrete)

DIVISION 04 MASONRY

04200 Unit Masonry

DIVISION 05 METAL

05500 Miscellaneous Steel and Metal Fabrications05540 Metal Studs

DIVISION 06 CARPENTRY

06100 Rough Carpentry

DIVISION 07 MOISTURE PROTECTION

07115 Bituminous Dampproofing

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07200	Insulation
07410	Preformed Metal Roofing
07411	Metal Wall Panels
07600	Flashing and Sheet Metal
07900	Joint Sealers

DIVISION 08 DOORS, WINDOWS AND GLASS

08001	Impact and Wind Resistant Aluminum Storefront Systems
08100	Steel Doors and Frames
08211	Wood Doors
08220	Fiberglass Reinforced Plastic (FRP) Doors
08330	Coiling Doors
08700	Finish Hardware
08800	Glazing

DIVISION 09 FINISHES

09510	Acoustical Ceilings	
09650	Rubber Base	
09672	Resinous Flooring	
09900	Painting	

DIVISION 10 SPECIALTIES

10160	Toilet Partitions
10200	Louvers
10410	Identifying Devices
10440	Fire Extinguishers, Cabinets and Accessories
10531	Aluminum Hanger Rod Canopy
10800	Toilet Accessories

DIVISION 11 EQUIPMENT

- 11000 Goalposts and Accessories
- 11200 Gymnasium Equipment
- 11201 Batting Cages (Indoor)

DIVISION 12 FURNISHINGS

NOT APPLICABLE

DIVISION 13 SPECIAL CONSTRUCTION

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DIVISION 15 MECHANICAL

15100	General Mechanical Provisions
10100	
15200	Testing and Balancing Air Distribution Systems
15400	Plumbing
15800	Heating, Ventilating and Air Conditioning
15900	Automatic Temperature Control System
15950	EMS & DDC
15995	Commissioning of HVAC Systems

DIVISION 16	ELECTRICAL
16100	Electrical
16200	Surge Suppressor
16300	Low Voltage Dry Transformers
16720	Fire Detection and Alarm Systems
16730	Clock System
16820	Intercom-Sound
16950	Communications

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SECTION 01010 - SCOPE OF THE WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS AND GENERAL INFORMATION

A. Drawings and general provisions of the Contract including General and Supplementary Conditions and other Division 1 specification sections apply to the work of this section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Type of the Contract.
 - 2. Work Under This Contract.
 - 3. Completion Times.
 - 4. Division of Construction Management User Fees.
 - 5. Project Work Identification.
 - 6. Owner-furnished products.
 - 7. Supervision.
 - 8. Contractor Use of premises.
 - 9. Definitions.
 - 10. Work Under Other Contracts.
 - 11. Building and Site Construction.
 - 12. General Issues.
 - 13. Temporary Electrical Power and Jobsite Utilities.
 - 14. Site Security and Insurance Requirements.
 - 15. Protection of Work in Place.
 - 16. Work restrictions.
 - 17. Owner's occupancy requirements.
 - 18. Specification formats and conventions.
- B. Related Sections include the following:
 - 1. Division 1 Section 01500 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.3 TYPE OF CONTRACT

A. Construction Contract (DCM Form C-5, April 2020).

1.4 WORK UNDER THIS CONTRACT

- A. Sealed Proposal shall be received as follows:
 - 1. <u>One (1) Sealed Envelope</u> MUST include the following:
 - a. General Contractor's Name and State General Contractor's License number MUST be legible on the front of the envelope.
 - b. One (1) Bid Proposal for all work as indicated on drawings and specifications.
 - c. Unit Price Attachment Sheet MUST be included if document is included in the project manual.
 - d. One (1) Contractor Completion Time Form for all work as indicated on drawings and specifications if document is included in the project manual.

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- e. One (1) Bid Bond or certified check.
- f. One (1) Sales Tax Form.

1.5 COMPLETION TIMES

A. ALL work shall be complete by August 15, 2024.

1.6 DIVISION OF CONSTRUCTION MANAGEMENT USER FEES

- A. Refer to the Alabama Department of Finance, Construction Management Division Administrative Code, Chapter 355-16-1, "Collection Of User Fees" dated March 31, 2020.
 - 1. The Contractor shall include in his Base Bid Proposal all "Basic Permit Fee".
 - 2. **Do not** include the "Plan Review Fee" or the "Contract Administration Fee" in your Proposal.
 - 3. The Contractor shall be responsible for all "Re-Inspection Fees" per 355-16-1-.03 "Fees Required", (5) "Additional Fees", (b).

1.7 PROJECT / WORK IDENTIFICATION

- A. General: Project name is as indicated in the Advertisement For Bids and as shown on the Contract Documents prepared by McKee & Associates, 631 S. Hull Street Montgomery, Alabama 36104.
- B. Contract Documents: Indicate the work of the Contract and related requirements and conditions that have an impact on the project. Related requirements and conditions that are indicated on the Contract Documents include, but are not limited to the following:
 - 1. Existing site conditions and restrictions on use of the site including ingress and egress to the site.
 - 2. Grading operations at the site.
 - 3. The Contractor shall be responsible to secure the site during the execution of the work and provide proof of insurance including but not limited to General Liability, W/C, Auto, Equipment, etc.
- C. Summary by References: Work of the Contract can be summarized by references to the Contract, General Conditions, Supplementary Conditions, the Project Manual, Technical Specification Sections, Drawings, Addenda and modifications to the Contract Documents issued subsequent to the initial printing of this Project Manual and the Drawings, and including but not necessarily limited to, printed material referenced by any of the above. It is recognized that the Work of the Contract is also unavoidably affected or influenced by governing regulations, natural phenomenon including weather conditions, and other forces outside the contract documents.

1.8 OWNER FURNISHED PRODUCTS

A. Rubber Weight room flooring under weight benches shall be by owner.

1.9 SUPERVISION

A. Supervision: The Contractor shall provide adequate supervision of the project to ensure proper supervision for all work.

1.10 CONTRACTOR USE OF PREMISES

- A. General: During the entire cleanup period the Contractor shall have the exclusive use of the premises for cleanup operations, including full use of the site as shown on the Drawings.
- B. Limitations of exclusive use of the site:
 - Confine operations at the site to the areas permitted under the Contract. Portions of the site beyond areas on which work is indicated are not to be disturbed. Conform to applicable rules and regulations affecting the work while engaged in project performance. See site plan for ingress and egress to the site, or if not indicated, same shall be as designated by the Architect.
 - 2. Keep existing public roads, driveways and entrances serving the premises clear and available at all times. Do not use these areas for parking or storage of materials. Remove dirt, mud,

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debris, etc., from site, sidewalks, streets, and public right-of-way as it occurs.

- 3. Do not unreasonably encumber the site with materials or equipment. Confine stockpiling of materials and location of storage sheds and or designated storage areas as indicated.
- 4. Lock automotive type vehicles, such as passenger cars and trucks and other mechanized or motorized construction equipment, when parked and unattended, so as to prevent unauthorized use. Do not leave such vehicles or equipment unattended with the motor running or the ignition key in place.
- 5. The Owner, and their representatives, the Architect and their Consultants, as well as authorities having jurisdiction will require site accessibility for inspections, observations, and perhaps other purposes, related to the planned new construction. All Contractors shall assist in such accessibility, to at least the point of providing and maintaining accessible dry paths to work in progress.
- 6. Furnish and install by contractor temporary barricades, fencing, etc., as indicated or otherwise required, to restrict pedestrian and vehicular traffic from construction operations, including in part, Owner's staff, the public, students, children, and residents of the adjacent residential neighborhoods.
- 7. Construction operations shall not affect in any manner, the on-going operations of the Owner, immediately adjacent facilities, adjacent property owners or businesses, or others. Refer to Division 1 Section "Special Conditions" for additional information and requirements regarding coordination with Owner's activities, etc.
- 8. Construction equipment shall not come in contact with or swing over existing facilities to remain, public areas, occupied buildings, right-of-ways, etc., which are to remain.
- 9. All contractors and their employees shall limit any discussion of the Work of this project to the Owner's representatives named in the front of this Project Manual, Consultants employed, inspecting authorities with jurisdiction, and the Architect. In no instance shall this project be discussed with others, except as may otherwise be indicated herein.
- 10. Parking on-site, if any, shall be limited to the "staging areas" indicated on the Drawings, or if not indicated, as mutually agreed between the Architect and Contractor at the Pre-Construction Conference.
- 11. Smoking or other use of tobacco products shall not be permitted within the structure of the Building, Owner's facilities or on roofs.
- 12. The use or presence of alcohol and/or other debilitating substances shall not be permitted in the construction of the building and or on the project site.
- 13. Firearms and/or other weapons shall not be permitted on the project site.
- 14. The Contractor shall furnish necessary temporary toilets for all work forces on the job site.

PART 2 - SCOPE OF THE WORK

2.1 DEFINITIONS

- A. The Scope of the Work of the Contract is meant to be viewed as a successor to the General Special Conditions of the Contract. Should any discrepancy or ambiguity be noted, the Scope of the Work of the Contract shall apply and the General Special Conditions of the Contract shall defer to Scope of the Work of the Contract Documents. The scope of the work shall be taken in its entirety by all contractors. In signing the contract all contractors have read and understand that the Scope of the Work and the General Special Conditions are taken in their entirety.
 - 1. The term "Design Consultant" shall be construed to mean "Architect".
 - 2. The terms "Owner" shall mean " Baldwin County Board of Education ".

2.2 WORK UNDER OTHER CONTRACTS

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- A. General: Cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying work under this Contract. Coordinate the Work of this Contract with work performed under separate contracts.
- B. Concurrent Work: Owner will award separate contract(s) for the following construction operations at the Project site. Those operations will be conducted simultaneously with work under this Contract.
 - 1. Work done by others or by Owner.
 - a. Any items noted N.I.C.
 - b. Construction Testing as defined in applicable sections of the project manual.

2.3 BUILDING AND SITE CONSTRUCTION

- A. The Contractor shall maintain the entire site, provide dust control and keep the streets clean at all times and or as directed by the Architect. The Contractor shall call for and be responsible for the locating of all utilities prior to start of work. Use extreme care when working in close proximity to the existing water lines to prevent movement and damage to the water lines.
- B. The Contractor shall install and or replace all fencing including furnish and install all temporary fencing as required for all work including safety barriers, signs, traffic directional signals, temporary stripping, flagman, temporary road plates and any temporary roads around any obstruction and or work being constructed. The Contractor shall make all provisions to keep the public and or temporary access roads open during the duration of the work.
- C. The Contractor shall maintain & level, all temporary roads and temporary lay down and storage areas using same stone base material. Roads must have no potholes, dips, or rises and provide access to and from the site and other locations on site. The Contractor shall maintain the temporary roads used to move material on the site. Temporary roads are existing and the Contractor shall maintain these temporary roads throughout the duration of construction activity while Contractor is onsite.

2.4 GENERAL ISSUES

- A. The Contractor shall be responsible for their own on-site safety requirements within the site per OSHA regulations.
- B. Only an approved company owned and insured vehicle shall be allowed on to the construction site. Vehicles shall be clearly marked and identified with the company logo and or name.

2.5 TEMPORARY ELECTRICAL POWER AND JOBSITE UTILITIES

A. The Contractor is responsible for the all costs associated with temporary electrical requirements for performance of the work. The Contractor shall be responsible for the all costs associated with temporary water required for the performance of the work. The Contractor is responsible for all other utility costs as required for the performance of the work.

2.6 SITE SECURITY / INSURANCE REQUIREMENTS

A. The Contractor shall have care custody and control of the site. Contractor shall be responsible for the replacement of their material, equipment and any loss of such. Contractor shall be responsible for securing all material and equipment. If there is a loss and or damage of material and equipment, that loss shall go against the Contractor's insurance coverage.

2.7 PROTECTION OF WORK IN PLACE

A. The Contractor shall protect all completed work and any rework shall be the responsibility of the contractor **at** no additional cost to the owner.

2.8 WORK RESTRICTIONS

A. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

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- 1. Notify Architect and Owner not less than two days in advance of the proposed utility interruptions.
- 2. Do not proceed with utility interruptions without Architect's and Owner's written permission.
- B. Nonsmoking Building: Smoking and smokeless tobacco will not be permitted within the new construction after floor slabs are poured.

2.9 OWNER'S OCCUPANCY REQUIREMENTS

- A. Owner Occupancy: Owner will occupy adjacent parking lots during entire construction period. Cooperate with Owner during construction operations adjacent to or near the existing building and parking to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits, unless otherwise indicated.
- B. Maintain access to existing walkways and other adjacent occupied or used facilities. Do not close or obstruct walkways or other occupied or used facilities without written permission from Owner and authorities having jurisdiction. Provide not less than 72 hours' notice to Owner of activities that will affect Owner's operations.
- C. Owner Occupancy of Completed Areas of Construction: Owner reserves the right to place and install equipment in completed areas of building, before Substantial Completion, provided such does not interfere with completion of the Work. Such placement of equipment shall not constitute acceptance of the total Work.

2.10 SPECIFICATION FORMATS AND CONVENTIONS

- A. Specification Format: The Specifications are organized into Divisions and Sections using the 16division format numbering system.
 - Section Identification: The Specifications use Section numbers and titles to help crossreferencing in the Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete because all available Section numbers are not used. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of Sections in the Contract Documents.
- B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 - 1. Abbreviated Language: Language used in the Specifications another Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the

Contract Documents indicates.

- Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
 - a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

PART 3 - NOT APPLICABLE END OF SECTION

Additions to Elberta High School for the Baldwin County Board of Education Bay Minette, Alabama

SECTION 01011 - CONTINGENCY ALLOWANCE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS AND GENERAL INFORMATION

A. Drawings and general provisions of the Contract including General and Supplementary Conditions and other Division 1 specification sections apply to the work of this section.

PART 2 - CONTINGENCY ALLOWANCES

2.1 BASE BID PROPOSAL

- A. The General Contractor shall include the following sums:
 - 1. **One Hundred Thousand Dollars (\$100,000.00)** as a contingency to cover unforeseen conditions or minor changes that are necessary to correct or supplement the work as detailed in the Contract Documents.
 - 2. Four Thousand Five Hundred Dollars (\$4,500.00) as a contingency to cover the costs of Signal Testing to determine if an ERRC will be required.
 - 3. <u>One Hundred Thousand Dollars (\$100,000.00)</u> as a contingency to provide a new ERRC System (should the signal coverage be inadequate).
 - 4. Thirty Thousand Dollars (\$30,000.00) as a contingency for Electrical Aid to Construction.
 - 5. **Twenty-five Thousand Dollars (\$25,000.00)** as a contingency to cover the costs of providing and installing Logos and Signage as directed by the Owner/Architect and detailed in the Contract Documents.
 - 6. **One Hundred Eighty Thousand Dollars (\$180,000.00)** as a contingency to cover the costs of providing and installing Weight Benches and Floor Mats as directed by the Owner/Architect and detailed in the Contract Documents.
 - 7. **Fifty Thousand Dollars (\$50,000.00)** as a contingency for conduit, wiring, pullboxes and all other infrastructure and site modifications as required for a installation of new sound system in existing stadium as detailed in the Contract Documents.
- 2.2 The Contractor shall include in his bid proposal(s) all costs of office, job supervision, overhead, profit, and bond on these Contingency Allowances, because no such costs will be paid to Contractor for work performed under these Contingency Allowances. Only the direct costs of performing work under this provision shall be paid under and charged against the Contingency Allowance; such cost includes costs of materials and delivery, installation labor, payroll taxes and insurance, equipment expense, and the cost of subcontracted work (subcontractor's cost may include a maximum of 15% mark-up for overhead and profit).

PART 3 – AUTHORIZATION OF CONTINGENCY ALLOWANCES

- **3.1** After unknown conditions are identified and examined and the scope of work and method of repair determined, or request for a proposal to cover additional work has been issued by the Owner, the Contractor shall submit a proposal for such work to the Architect for the Owner's approval. If the Owner approves of such proposal, he will issue written authorization to the Contractor to perform the work and charge the related costs to the Contingency Allowance. At the Owner's option, work performed under this provision may be ordered done on a time and material basis, in which case; the Contractor shall keep accurate records of all time and materials used and submit such records to the Architect for his approval at the end of each day's work.
- **3.2** An accounting of the costs charged against this Contingency Allowance shall be mutually maintained by the Contractor, Architect, and Owner throughout the course of the project. Any of this Contingency Allowance not spent shall be credited to the Owner by Change Order at close out of the project. Refer to Contingency Allowance Form attached to this Section.

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3.3 Provide for payment.

A. The Contractor shall include a line item in the *Schedule of Values* entitled "Contingency Allowance". The estimated value of work completed pursuant to fully executed Contingency Allowance Authorizations may be included in the Contractor's monthly Applications for Payment. Payments under this Contingency Allowance shall not exceed the net, total of fully executed

Contingency Allowance Authorizations.

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Form to be filled in its entirety.

To:	McKee & Associates, Architects	From:
Droia	at:	Company
rioje	ct	Address
Proje	ct Number	Contact and Email Date:
Build	ling Commission Number:	Authorization Number:

In accordance with Specification Section 01011 – CONTINGENCY ALLOWANCE, the Contractor [] is hereby authorized to proceed with the changes in Work as are described below and is to be paid for the performance of these changes as provided in Specification Section 01011. This Authorization shall become effective when it is signed by the Contractor and the Owner's representative and it is understood and agreed that the amount(s) stipulated below constitute full compensation for these changes in Work.

ΤΟΤΑΙ	AMOUNT OF TH	SAUTHORIZATION	\$	
	ORIGINAL AMOU	JNT OF THE CONTINGENCY ALLOV	VANCE \$	
	NET TOTAL OF	PREVIOUS AUTHORIZATIONS	\$	
	PREVIOUS REM	AINING CONTINGENCY ALLOWANC	CE \$	
	TOTAL AMOUNT	OF THIS AUTHORIZATION	\$	
	CONTINGENCY AFTER THIS CO	ALLOWANCE REMAINING NTINGENCY	\$	
Recomme	nded By:	Authorized By:		Accepted By:
Architect		Owner		Contractor

END OF SECTION

Additions to Elberta High School for the Baldwin County Board of Education Bay Minette, Alabama

SECTION 02789 - SYNTHETIC TURF (INDOOR)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract including General and Supplementary Conditions and other Division 1 Specification Sections apply to this Section.

1.2 SCOPE OF WORK

- A. The field turf at the Batting Cages as indicated on the drawings.
- B. The General Contractor shall be responsible for <u>all</u> quantities of all materials for the furnishing and installation of the synthetic turf system. As stated in the General Conditions the General Contractor shall field verify all existing conditions prior to submitting his proposal. Therefore, the actual quantity of the coverage area for the field turf shall be the responsibility of the General Contractor.
- C. It shall be the responsibility of the turf contractor to provide all labor, materials, equipment and tools necessary for the complete installation of a synthetic grass system, with a specially formulated resilient infill component and a porous vertical drainage stone base. The tufted infill system and the porous vertical drainage system shall consist of, but not necessarily be limited to, the following:
 - 1. A complete synthetic turf system, consisting of a vertical draining gravel blanket and nominal 2" to 2.5" long polyethylene-blended, monofilament fiber, tufted into a dimensionally stable, three component primary backing with a secondary backing consisting of a minimum of 22-26 ounces of urethane per square yard.
 - A resilient infill system consisting of a mixture of rubber granules and rounded silica sand, specifically designed to provide the feel, performance, and safety of an optimally maintained natural grass surface. The finished surface shall have the planarity and subtle undulations normally associated with typical natural grass athletic fields/soccer.
 - A vertical draining field base consisting of a compacted layer of Open Graded Stone (OGS) with a under drain system installed above a geo-textile membrane. The end of the drains are placed directly into the perimeter trench system containing a properly sized perforated pipe covered with free draining stone that discharges into a designated storm water outlet.
 - 4. The artificial turf shall be specifically designed, manufactured and installed for the intended sports and events. Typically sports include but are not limited to football. At the time of substantial completion, the system's shock attenuation shall have an average G-max value less than 125 based on ASTM-F355A. At no time shall the G-max value exceed 175 throughout the life of the warranty.
 - 5. Acceptance of prepared sub-base.
 - 6. Coordination with related trades to ensure a complete, integrated, and timely installation: Aggregate base course, sub-base material (tested for permeability), grading and compacting, piping and drain components (when required); as provided under its respective trade section.

1.3 REFERENCE STANDARDS

- 1. FM Factory Mutual
- 2. P7825 Approval Guide; Factory Mutual Research Corporation; current edition
- 3. ASTM American Society for Testing and Materials.
- 4. D1577 Standard Test Method for Linear Density of Textile Fiber
- 5. D5848 Standard Test Method for Mass Per Unit Area of Pile Yarn Floor Covering
- 6. D1338 Standard Test Method for Tuft Bind of Pile Yarn Floor Covering
- 7. D1682 Standard Method of Test for Breaking Load and Elongation of Textile Fabrics

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- 8. D5034 Standard Test Method of Breaking Strength and Elongation of Textile Fabrics (Grab Test)
- 9. F1015 Standard Test Method for Relative Abrasiveness of Synthetic Turf Playing Surfaces
- 10. D4491 Standard Test Methods for Water Permeability of Geotextiles by Permittivity
- 11. D2859 Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials
- 12. F355 Standard Test Method for Shock-Absorbing Properties of Playing Surfaces.
- 13. F1936 Standard Test Method for Shock-Absorbing Properties of North American Football Field Playing Systems as Measured in the Field
- 14. D1557 Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort.
- 15. ASTM F355-10, Procedure A: Testing Services Inc test number TSI 1202

1.4 SUBMITTALS

- A. Substitutions: Other products are acceptable if in compliance with all requirements of these specifications. Submit alternate products to Architect for approval prior to bidding in accordance
- B. Product Substitution Procedures:
 - 1. Provide substantiation that proposed system does not violate any other manufacturer's patents, patents allowed or patents pending.
 - 2. Provide a sample copy of insured, non-prorated warranty and insurance policy information.
- A. Submittals: Comply with Submittals Procedures. Submit for approval prior to fabrication.
- B. Prior to order of materials, the Turf Contractor shall submit the following:
 - 1. Shop Drawings
 - 2. Product Data including Independent Test Lab Results
 - 3. Materials Samples
 - 4. Installation Details
 - 5. Sample Warranty
 - 6. Field layout and striping plans
 - 7. Details on construction, especially any details that may deviate from plans and specifications.
- C. Shop Drawings:
 - Indicate field layout; field marking plan and details for the specified sports; i.e., NCAA Football; roll/seaming layout; methods of attachment, field openings and perimeter conditions.
 - 2. Show installation methods and construction indicating field verified conditions, clearances, measurements, terminations, drainage.
 - 3. Provide joint submission with related trades when requested by Architect.
- D. Product Data:
 - 1. Submit manufacturer's catalog cuts, material safety data sheets (MSDS), brochures, specifications; preparation and installation instructions and recommendations; storage, handling requirements and recommendations.
 - 2. Submit fiber manufacturer's name, type of fiber and composition of fiber.
 - 3. Submit data in sufficient detail to indicate compliance with the contract documents.
 - 4. Submit manufacturer's instructions for installation.
 - 5. Submit manufacturer's instructions for maintenance for the proper care and preventative maintenance of the synthetic turf system, including painting and markings.

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- E. Samples:
 - 1. Submit samples, 12 x 12 inches, illustrating details of finished product in amounts as required by General Requirements, or as requested by Architect.
 - One (1) 12" x 12" sample of proposed synthetic turf carpet and one (1) 12" x 12" boxed turf sample including infill representative of finished synthetic turf system. Also submit three (3) copies of product data and testing documents demonstrating that proposed system meets or exceeds all specified requirements.
 - 3. Material Certificates and Samples: Provide seven (7) copies for each material from material producer that will be used for this project. Each material certificate must be stamped and checked as approved by the Field Builder before submittal to the Architect.
 - 4. Provide to the Architect materials samples of the following: Two (2) bagged samples each of rubber and sand infill material, two (2) 12" x 12" samples of synthetic turf carpet and color yarn samples.
- F. Product Certification:
 - 1. Submit manufacturer's certification that products and materials comply with requirements of the specifications.
 - 2. Submit test results indicating compliance with Reference Standards.
- G. Project Record Documents: Record actual locations of seams, drains and other pertinent information in accordance with Division 1 Specifications Series, General Requirements.
- H. List of existing installations: Submit list including respective Owner's representative and telephone number.
- I. Warranties: Submit warranty and ensure that forms have been completed in Owner's name and registered with approved manufacturer.
- J. Testing data to the Owner to substantiate that the finished field meets the required shock attenuation, as per ASTM F1936.
- K. Testing Certification: Submit certified copies of independent (third-party) laboratory reports on ASTM testing:
 - 1. Pile Height, Face Weight & Total Fabric Weight ASTM D5848.
 - 2. Primary & Secondary Backing Weights ASTM D5848.
 - 3. Tuft Bind ASTM D1335.
 - 4. Grab Tear Strength ASTM D1682 or D5034
 - 5. Shock Attenuation ASTM F1936
 - 6. Water Permeability ASTM D4491

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section. The turf contractor and/or the turf manufacturer:
 - 1. Shall be experienced in the manufacture and installation of specified type of synthetic infill and monofilament fiber tufted grass system for a minimum of five (5) years with the same manufacturer, product and company they are proposing for this field.
 - 2. Shall have 10 fields in play for at least three years with the same manufacturer and company they are proposing for this field. Fields shall be 65,000 ft² or more that are at least 3 years old, which is equal to the respective warranty period, with the same infill system.
 - 3. Shall provide third party certification confirming that the tuft bind exceeds the Synthetic Turf Council minimums.
 - 4. Manufactures documentation of field turf compliance of DOC FF-1 "pill test" (CPSC 16 CFR, Part 1630), must be obtained prior to installation.

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- B. Installer: It is the owners desire to insure both quality materials and installation. Therefore, all prospective bidders must comply with the following:
 - 1. All turf contractors must have been actively installing infilled synthetic grass systems for a minimum of eight years.
 - 2. Subcontractors shall be acceptable for the four (4) approved manufacturers as listed in this specification section PART 2- PRODUCTS; MATERIALS; Manufacturers, for the infilled synthetic grass system installation. Installer shall be certified by the manufacturer and licensed.
 - 3. All turf contractors shall demonstrate that they meet the minimum eight-year experience requirement by submitting in writing the project names, contacts and telephone numbers of past installations, where the turf contractor has installed in-filled synthetic grass systems over the last three years.
 - 4. The designated Supervisory Personnel on the project shall be certified, in writing by the turf manufacturer, as competent in the installation of specified monofilament material, including sewing seams and proper installation of the infill mixture.
 - 5. The installer supervisor shall have a minimum of 5 years experience as either a construction manager or a supervisor of synthetic turf installations
- C. Pre-Installation Conference: Conduct conference at project site at time to be determined by Architect. Review methods and procedures related to installation including, but not limited to, the following:
 - 1. Inspect and discuss existing conditions and preparatory work performed under other contracts.
 - 2. In addition to the Contractor and the installer, arrange for the attendance of installers affected by the Work, The Owner's representative, and the Architect.
- D. The Contractor shall verify special conditions required for the installation of the system.
- E. The Contractor shall notify the Architect of any discrepancies.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Comply with Section, Product Requirements.
- B. Prevent contact with materials that may cause dysfunction.
- C. Deliver and store components with labels intact and legible.
- D. Store materials/components in a safe place, under cover, and elevated above grade.
- E. Protect from damage during delivery, storage, handling and installation. Protect from damage by other trades.
- F. Inspect all delivered materials and products to ensure they are undamaged and in good condition.
- G. Comply with manufacturer's recommendations.

1.7 SEQUENCING AND SCHEDULING

- A. Coordinate the Work with installation of work of related trades as the Work proceeds.
- B. Sequence the Work in order to prevent deterioration of installed system.

1.8 WARRANTY AND GUARANTEE

- A. The Contractor shall provide a warranty to the Owner that covers defects in materials and workmanship of the turf and sub-base for a period of eight (8) years from the date of substantial completion.
- B. The turf manufacturer must verify that their representative has inspected the installation and that the work conforms to the manufacturer's requirements. The manufacturer's warranty shall include general wear and damage caused from UV degradation. The warranty shall specifically exclude vandalism, and acts of God beyond the control of the Owner or the manufacturer. The

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warranty shall be fully third party insured; pre paid for the entire 8 year term and be non-prorated. The Contractor shall provide a warranty to the Owner that covers defects in the installation workmanship, and further warrant that the installation was done in accordance with both the manufacturer's recommendations and any written directives of the manufacturer's representative. Prior to final payment for the synthetic turf, the Contractor shall submit to owner notification in writing that the field is officially added to the annual policy coverage, guaranteeing the warranty to the Owner. The insurance policy must be underwritten by an "AM Best" A rated carrier and must reflect the following values:

- 1. Pre-Paid 8-year insured warranty.
- 2. Insured Warranty Coverage must be provided in the form of 1 single policy.
- 3. Per Incident limit of no less than Seven Million dollars (\$7,000,000) per claim.
- 4. Annual Aggregate amount of no less than Sixty million dollars (\$60,000,000).
- 5. Must cover full 100% replacement value of total square footage installed, minimum of \$7.00 per sq ft. (in case of complete product failure, which will include removal and disposal of the existing surface).
- 6. Policies that include self insurance or self retention clauses shall not be considered.
- 7. Policy cannot include any form of deductible amount.

Sample policy must be provided at time of contract execution to prove that policy is in force. A letter from an agent or a sample Certificate of Insurance will not be acceptable.

C. At the time of substantial completion, the system's shock attenuation shall have an average G-max value less than 125 based on ASTM-F355A. At no time shall the G-max value exceed 175 throughout the life of the warranty.

1.9 MAINTENANCE SERVICE

- A. Contractor shall train the Owner's facility maintenance staff in the use of the turf manufacturer's recommended maintenance equipment.
- B. Manufacturer must provide maintenance guidelines and a maintenance video to the facility maintenance staff.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. The following manufacturers' products have been used to establish minimum standards for materials, workmanship and function:
 - Basis of Design: by Shaw Sports Turf; Legion; <u>www.shawsportsturf.com</u>; 185 South Industrial Boulevard, Calhoun, Georgia, 30701; Contact Wynn Vinson: Phone: 601.416.4767; Email: <u>wynn.vinson@shawinc.com</u>.
- B. The following manufactures are hereby approved subject to the specifications:
 - 1. Astroturf; <u>www.astroturf.com</u>; Contact: Zack Riddleberger (336)238-9060; email:zriddleberger@astroturf.com
 - 2. FieldTurf: <u>www.fieldturf.com</u>: Craig Yancey, Regional Sales Manager, (205)908-5608; Calhoun, Georgia
 - 3. Sprinturf, LLC: <u>www.sprinturf.com</u>: Charlie Welsh, (651)239-0400; Daniel Island, SC 29492.

2.1 SYNTHETIC GRASS MATERIALS

- A. The synthetic turf material and resilient infill shall be in accordance with the following:
 - 1. Shall be tufted, polyethylene, grass-like fabric coated with a secondary backing of high-grade polyurethane. Refer to grid in section 9 below. The two fibers specified in this grid shall be tufted through the same needle in a grass-like fabric to a finished pile-height also specified in the grid.

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- 2. All components and their installation method shall be designed and manufactured for use on outdoor and indoor athletic fields. The materials, as hereinafter specified, should be able to withstand full climatic exposure in all climates, be resistant to insect infestation, rot, fungus and mildew; to ultra-violet light and heat degradation, and shall have the basic characteristic of flow through-drainage allowing free movement of surface run-off through the turf fabric where such water may flow to the existing subbase and into the field drainage system.
- 3. The finished playing surface shall appear as mowed grass with no irregularities and shall afford excellent traction for conventional athletic shoes of all types. The finished surface shall resist abrasion and cutting from normal use. The installed system shall be suitable for football, soccer, lacrosse, baseball, softball, physical education classes, intramurals and recreational use.
- 4. The pile yarn (polyethylene) shall be a proven athletic caliber yarn designed specifically for outdoor use and stabilized to resist the effect of ultraviolet degradation, heat, foot traffic, water and airborne pollutants.
- 5. The system shall be tufted at the pile height and gauge listed in specification grid, refer to grid in section 9 below.
- 6. The Primary Backing must be a multi-layer backing, contain UV stabilizers and must pass 3000 hours of QUV A testing, refer to grid in section 9 below.
- 7. The Secondary Backing of high-grade polyurethane shall be applied to the Primary Backing. Secondary Backing adds resistance to water degradation and strengthens grip on fibers, refer to grid in section 9 below.
- 8. The entire backing shall be coated with holes perforated throughout the backing at the Synthetic Turf Manufacturer's recommended interval to allow for drainage. Partially coated backings or latex coating materials shall not be acceptable.
- 9. Perimeter and interior edge details, underground storm sewer piping and connections, and goal post foundations required for the system shall be as detailed and recommended by the manufacturer and as approved by the Architect.
- 10. All designs, markings, layouts, and materials shall conform to all currently applicable National Federation or NCAA rules and other standards that may apply to this type of synthetic grass installation.
- 11. All field markings including numbers, arrows, hash marks, and sport specific lines or other designations will either be tufted in at the factory or inlaid on site. **Painted markings are not to be used**. Provide as follows:
 - a. See Drawings.
- 12. Composition:

Pile Yarn	Polyethelene Monofilament/Slit Film	METHOD
Linear Density (Denier) Mono/Slit*	7,200/5,000	ASTM D 1577
Yarn Thickness Mono/Slit	240/100 microns	ASTM D 3218
Pile Weight****	46 oz./yd ²	ASTM D 5848
Finished Pile Height****	2.25	ASTM D 5823
Product Weight (total)***	74 oz./yd ²	ASTM D 5848
Primary Backing Weight****	8 oz./yd ²	ASTM D 5848
Secondary Coating Weight+	20 oz./yd ²	ASTM D 5848
Fabric Width	15' (4.57m)	ASTM D 5793
Tuft Gauge	1/2"	ASTM D 5793

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Grab Tear Strength Avg.	> 200 lbF	ASTM D 5034
Tuft Bind (Avg.)	> 10 lbF	ASTM D 1335
Infilltrometer	> 25	ASTM D3885

Except where noted the above specifications are nominal.

* Values are +/- 8%. ***Values are +/- 10 oz. ****Values are +/- 5%. +Values are +/- 3 oz./yd2.

13. Infill materials must conform to the following:

Property	Standard	Specification
Rubber Granule Comp	N/A	All black SBR
Rubber Granule Shape	EN 14955	Spherical, Moderate, Angular
Rubber Sieve Analysis	ASTM D 5644	10 / 20MESH (2.0mm – 0.85mm)
Sand Granule Shape	ASTM D442	Semi-rounded to rounded angularity
Sand Sieve Analysis	ASTM E11	20 / 40 MESH (0.85mm - 0.425 mm)
Infill Lbs. of Rubber	N/A	3.10 lbs.
Infill Lbs. of Sand	N/A	3.10 lbs.

2.2 FIELD GROOMER & SWEEPER

A. Contractor shall furnish a field groomer and sweeper as part of the work.

- 1. Field Groomer and Field Sweeper shall be by the manufacture of the turf system.
- 2. Field Sweeper shall include a towing attachment compatible with a field utility vehicle.

2.3 QUALITY CONTROL IN MANUFACTURING

- A. The manufacturer shall own and operate its own manufacturing plant in North America. Both tufting of the field fibers into the backing materials and coating of the turf system must be done inhouse by the turf manufacturer. Outsourcing of either is unacceptable.
- B. The manufacturer shall have full-time certified in-house inspectors at their manufacturing plant that are experts with industry standards.
- C. The manufacturer's full-time in-house certified inspectors shall perform pre-tufting fiber testing on tensile strength, elongation, tenacity, denier, shrinkage, and twist i.e., turns per inch, upon receipt of fiber spools from fiber manufacturer.
- D. Primary backing shall be inspected by the manufacturer's full-time certified in-house inspectors before tufting begins.
- E. The manufacturer's full-time in-house certified inspectors shall verify "pick count", yarn density in relation to the backing, to ensure the accurate amount of face yarn per square inch.
- F. The manufacturer's full-time, in-house, certified inspectors shall perform turf inspections at all levels of production including during the tufting process and at the final stages before the turf is loaded onto the truck for delivery.
- G. The manufacturer shall have its own, in-house laboratory where samples of turf are retained and analyzed, based on standard industry tests, performed by full-time, in-house, certified inspectors.
- H. The manufacturer must have ISO 9001, ISO 14001 and OHSAS 18001 certifications demonstrating its manufacturing efficiency with regards to quality, environment and safety management systems.

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PART 3 - EXECUTION

3.1 GENERAL

A. Prior to ordering materials, submit a seam layout of field, striping plan and all details of construction that deviate from the plans and specifications.

3.2 EXAMINATION

- A. Base Acceptance: The Architect and/or Owner's Representative and Turf Contractor must jointly approve the base before turf installation can begin.
- B. Verify that all sub-base leveling is complete prior to installation.
- C. Installer shall examine the surface to receive the synthetic turf and accept the sub-base planarity in writing prior to the beginning of installation.
 - 1. Acceptance is dependent upon the Contractors test results indicating compaction and planarity are in compliance with manufacturer's specifications.
 - 2. The surface shall be accepted by Installer as "clean" as installation commences and shall be maintained in that condition throughout the process.
- D. Compaction of the aggregate base shall be 95%, in accordance with ASTM D1557 (Modified Proctor procedure); and the surface tolerance shall not exceed 0-1/4 inch over 10 feet and 0-1/2" from design grade.
- E. Correct conditions detrimental to timely and proper completion of Work.
- F. Do not proceed until unsatisfactory conditions are corrected.
- G. Beginning of installation means acceptance of existing conditions.

3.3 PREPARATION

- A. Prior to the beginning of installation, inspect the sub-base for tolerance to grade.
- B. Sub-base acceptance shall be subject to receipt of test results (by the Contractor) for compaction and planarity that sub-base is in compliance with manufacturer's specifications and recommendations.
- C. Dimensions of the field and locations for markings shall be measured by a registered surveyor to verify conformity to the specifications and applicable standards. A record of the finished field asbuilt measurements shall be made.
- D. When requested by Architect, installed sub-base shall be tested for porosity prior to the installation of the turf. A sub base that drains poorly is an unacceptable substrate.

3.4 VERTICALLY DRAINING BASE

- A. The synthetic turf Base Contractor shall strictly adhere to the installation procedures outlined under this section. Any variance from these requirements must be accepted in writing, by the Turf Contractor's on-site representative, and submitted to the Architect/Owner, verifying that the changes do not in any way affect the warranty.
- B. Install geotextile fabric over excavated and prepared sub-grade in accordance Architect's recommendations. Provide a 36" minimum overlap at all seams. Fabric shall first be installed in the drainage trenches prior to installation of perimeter collector lines. After backfilling of all trenches is complete, the entire field shall be covered with fabric prior to the base aggregate application.
- C. Trenching, Drainage Pipe Installation and Backfilling: All piping shall be as specified and connected by couplers, plugs etc. Design of the drainage system for the Football Field shall be by this Contractor and accepted by the manufacture of the synthetic grass system prior to installation.
 - 1. The base grade shall be shaped to mirror the finished grade and approved by the Architect and/or Owner's Representative. The Base Contractor shall begin layout and trenching for the

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drainage network as indicated on the drainage plan and all details that apply. Collector lines shall be installed before lateral lines and shall begin with the deepest elevations. Collector lines shall be connected to discharge outlet at the onset of operations. Trenching progress shall work upward in elevation to allow for immediate discharge of water from the entire field in the event of a rainfall.

- 2. No trenches, with or without pipe, shall be permitted, to remain unfilled overnight and/or while crews are not progressively working on site.
- 3. All perimeter trenches must be dug in accordance with the field drainage plan details.
- 4. After all collector and lateral lines have been installed, the Base Contractor shall repair any sub grade undulations prior to installing geotextile fabric.
- D. Concrete Header Curb and Pressure Treated Wood Turf Nailer: The synthetic turf perimeter fastening structure shall be installed before the drainage aggregate.
 - The General Contractor shall furnish and install a 6" x 12" concrete header curb around the entire inside of the track at the football field, top of header of the curb shall be flush with track surface. Curb shall be installed in accordance with the manufacturer's requirements. The foundation of the concrete header curb shall be a compacted free draining aggregate. Future water entering the foundation shall have a free draining path directly to the perimeter collector pipe.
 - 2. Install a pressure treated wood 2" x 4" nailer. Pressure treated wood nailer shall be set below top of the curb as specified by means of a Tapcon or ramset every 12 inches. This shall be the responsibility of the Base Contractor.
- E. Base Drainage Aggregate: The installation of the base drainage aggregate shall only begin after the drainage pipe installation has been inspected and approved by Architect/Owner's Representative. Installation of the Free Draining Base Aggregate shall follow procedures that protect the base grade soils and drainage pipe. The drainage pipe network and its existing elevations shall not be disrupted through ground pressures from trucks, dozers or by any other means.
 - 1. The base grade subsoil shall be dry before undertaking the placement of base aggregate.
 - Delivery trucks shall enter the field only from the designated entrance point. Base course stone shall be dumped closest to the entrance first and continuously worked towards the furthest point of the field. Extreme care must be taken not to disturb sub grade or drainage network.
 - 3. Track-type dozers shall push out the stone from behind the pile onto and toward the field center. Dozers shall only traffic the aggregate they are spreading.
 - 4. Bulldozer blades shall be equipped with a laser-guided hydraulic system. Care shall be taken not to disturb or contact the base grade soils with the dozer blades or tracks. All equipment trafficking over the drainage aggregate shall insure there is a minimum depth of 4" of aggregate between the geotextile fabric and the dozer track ground contact position.

When the aggregate spreading is completed, the surface shall be further-firmed by a 5-ton roller. Static vibration shall not be part of this process.

- 5. The stone shall be left firm, but not over-compacted as to protect the porosity and drainage capabilities of the aggregate profile.
- 6. After the drainage stone has been uniformly spread throughout the surface, the surface shall receive a final laser finished grade. This process shall be accomplished using a turf-type tractor, or lightweight grader, equipped with high flotation tires and a hydraulically controlled laser blade.
- 7. The free-draining base course must be installed to a depth of 5 inches and shall be independently tested for an overall compaction rate of 95% proctor.

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- F. Choker Levels: The base drainage stone final elevations shall mirror the proposed choker layer final grade material. Care shall be taken not to allow the coarser aggregate to surface into the profile or finished grade of the choker layer.
 - 1. The choker layer shall be applied using high flotation grading equipment. The choker material shall be evenly spread throughout the proposed field surface to the final pre-pad or pre-turf elevations.
 - 2. After the choker material has been uniformly spread throughout the surface by the described method, the surface shall receive a final laser finish grade. This process shall be accomplished using a turf-type tractor, or lightweight grader, equipped with high flotation tires and a hydraulically controlled laser blade.
 - 3. Care shall be taken throughout the installation not to force the choker material into the porosity of the base aggregate below.
 - 4. Final choke layer must be graded by means of a laser within 0 to 1/2 inch from design grade. The finished surface tolerance must not exceed ¼ inch over 10 feet in all directions. Base Contractor must provide a topographical survey with a minimum of 200 shots demonstrating finished grade meets all written requirements.
 - 5. Final layer of stone must be installed at a depth of one (1) inch. Finished aggregate base must be proof-rolled by means of 2- to 5-ton roller. The finished aggregate base must achieve an overall compaction rate of 95% proctor in accordance with ASTM D1557. It shall also be flush with top of pressure treated wood nailer.
 - 6. The Contractor is required to stringline the entire field every five feet to identify high and low spots. And identified high and low spots must be eliminated prior to installation of the synthetic turf.

3.5 TURF INSTALLATION - GENERAL

- A. The installation shall be performed in full compliance with approved Shop Drawings.
- B. Only trained technicians, skilled in the installation of athletic caliber synthetic turf systems working under the direct supervision of the approved installer supervisors, shall undertake any cutting, sewing, gluing, shearing, topdressing or brushing operations.
- C. The designated Supervisory personnel on the project must be certified, in writing by the turf manufacturer, as competent in the installation of this material, including seams and proper installation of the Infill mixture.
- D. Designs, markings, layouts, and materials shall conform to all currently applicable National Collegiate Athletic Association rules, NFHS rules, and/or other rules or standards that may apply to this type of synthetic grass installation. Designs, markings and layouts shall first be approved by the Architect or Owner in the form of final shop drawings. All markings will be in full compliance with final shop drawings.

3.6 INSTALLATION

- A. Install at location(s) indicated, to comply with final shop drawings, manufacturers' / installer's instructions.
- B. Only factory-trained technicians, skilled in the installation of athletic caliber synthetic turf systems working under the direct supervision of the synthetic turf manufacturer's installation supervisors shall undertake the placement of the system.
- C. The surface to receive the synthetic turf shall be inspected and certified by the turf manufacturer as ready for the installation of the synthetic turf system and must be perfectly clean as installation

commences and shall be maintained in that condition throughout the process.

D. The Contractor shall strictly adhere to specified procedures. Any variance from these requirements shall be provided in writing, by the manufacturer's on-site representative, and submitted to the Architect and/or Owner, verifying that the changes do not in any way affect the Warranty. Infill materials shall be approved by the manufacturer and installed in accordance with the manufacturer's standard procedures.

Additions to Elberta High School for the Baldwin County Board of Education Bay Minette, Alabama SYNTHETIC TURF (INDOOR) 2789-10 Revised 10.31.23

- E. The subbase and curbs shall be inspected by the Engineer or Sitework Contractor by means of a laser level and plotted on a 10-foot grid. Based upon the Turf Contractor's inspection of the topological survey, the Sitework Contractor shall fine grade the subbase suitably including properly rolling and compacting the base to achieve a surface planarity within ¼" in 10 feet (+0, 1/4"0). OWNER, ENGINEER OR PRIME CONTRACTOR SHALL NOT APPROVE THE SUBBASE FOR TOLERANCE TO GRADE WITHOUT OBTAINING THE TOPOGRAPHICAL SURVEY.
- F. The Turf Project Superintendent shall thoroughly inspect all materials delivered to the site both for quality and quantity to assure that the entire installation shall have sufficient materials to maintain the schedule and proper mixing ratios.
- G. Synthetic turf shall be loose laid across the field and attached to the perimeter edge detail. Turf shall be of sufficient length to permit full cross-field installation. No head or cross seams will be allowed, except as required for inlaid fabric striping or to accommodate programmed cut-outs.
- H. All seams shall be flat, tight, and permanent with no separation or fraying. Selvedge edges of all panels must be cut and discarded prior to being sewn together. A butt-stitch method of seaming must be implemented and a double-lock stitch with cord recommended by the Synthetic Turf Manufacturer shall be utilized. Bagger stitching is prohibited. Seaming tape is to be constructed of high tenacity, coated non-woven fabric. Inlaid markings shall be adhered to seaming tape with a high strength polyurethane adhesive applied per the Synthetic Turf Manufacturer's standard procedures for outdoor applications.
- I. All main fabric seams shall be transverse to the field direction (i.e. run perpendicularly across the field).
- J. Infill materials shall be properly applied in numerous lifts using special broadcasting equipment. The synthetic turf shall be raked and brushed properly as the mixture is applied. The infill material shall be installed to a settled depth of approximately 5/8 inches of the fiber exposed. The infill materials can only be applied when the synthetic turf fabric is dry.
- K. g-Max (shock attenuation) must test below 125 at installation.

3.7 FIELD MARKINGS

- A. Field markings shall be installed in accordance with approved shop drawings. Football is designated as the primary sport, all yard lines will be tufted-in.
- B. All sports markings will be inlaid in accordance with the Drawings.
- C. Center field logo shall be inlaid according to artwork indicated on Drawings and in accordance with Owners palette of colors.
- D. End-zone letters and logos shall be inlaid according to artwork and fonts indicated on the Drawings, and in accordance with Owners palette of colors.

3.8 ADJUSTMENT AND CLEANING

- A. Do not permit traffic over unprotected surface.
- B. Contractor shall provide the labor, supplies, and equipment as necessary for final cleaning of surfaces and installed items.
- C. All usable remnants of new material shall become the property of the Owner.
- D. The Contractor shall keep the area clean throughout the project and clear of debris.
- E. Surfaces, recesses, enclosures, and related spaces shall be cleaned as necessary to leave the work area in a clean, immaculate condition ready for immediate occupancy and use by the Owner.

3.9 PROTECTION

A. Protect installation throughout construction process until date of final completion.

END OF SECTION

Additions to Elberta High School for the Baldwin County Board of Education Bay Minette, Alabama

SECTION 16720 - FIRE DETECTION AND ALARM SYSTEMS (Revised 11.2.23)

PART 1 - GENERAL

<u>SUMMARY</u>

Includes But Not Limited To

Furnish and install a fire alarm and detection system as described in Contract Documents.

Furnish and install raceway, conductors, boxes, and miscellaneous items necessary for complete system.

Related Sections

Division 16 - Quality and installation standards for wiring, raceway, conduit, and boxes.

SYSTEM DESCRIPTION

An automatic fire alarm system consisting of control panel, power supplies, alarm initiating devices, and notification appliances.

Class B (Style B) initiating device circuits and Class B (Style W) notification appliance circuits including end-of-line devices.

Performance Requirements

Operation of manual station or automatic activation of any smoke detector, shall:

Cause system notification appliances to operate. Indicate device in alarm at control pane LCD display. Indicate device in alarm on remote annunciator LCD display Initiate off-site alarm notification system.

System shall return to normal when operated device is returned to normal and control panel is manually reset, except alarms may be silenced as specified below.

Alarm may be silenced by switch in control panel.

Ring Back Feature - When silenced, this shall not prevent the resounding of subsequent alarms if another zone should alarm.

When alarms are silenced, indicating red LEDs on control panel and remote annunciator shall remain on until operated device is returned to normal and control panel is manually reset.

Green pilot LED shall normally be on indicating that system is receiving normal power.

Failure of normal power shall cause this LED to extinguish.

Amber trouble LED and trouble alarm, operating together, shall signal trouble condition.

Following conditions shall signal trouble condition:

Failure of normal power. Opens or short circuits on indicating circuits. Disarrangements in system wiring. Control panel circuit board removal. Ground faults.

Trouble silencing switch shall silence trouble alarm which shall be arranged so trouble LED shall remain lit until system is restored to normal. As ring-back feature, trouble alarm shall resound as reminder to return silencing switch to normal position.

Supervisory LED, separate from trouble LED, and alarm, operating together, shall signal opening of door shown on drawings. Alarm silence switch shall operate in same manner as trouble alarm.

SUBMITTALS

Shop Drawings:

Prepared by authorized factory representative and including:

Single line diagram of actual system. Typical riser diagrams are not acceptable.

Complete wiring diagrams.

Manufacturer's original catalog data and descriptive information on each piece of equipment to be used.

All documentation and submittals required by the Authority Having Jurisdiction are to be submitted within 30 day of the contract award.

Approval of the Authority Having Jurisdiction and permitting are required before work on the project is to commence.

Quality Assurance/Control - Certificate of completion, from Manufacturer's Representative, in accordance with NFPA 72 requirements.

Closeout:

Operations And Maintenance Manual Data:

Provide operating and maintenance instructions for each item of equipment submitted under Product Data. Provide instruction manual from Manufacturer which explains what is to be done in event of various indications.

Include copy of approved shop drawings.

QUALITY ASSURANCE

Regulatory Requirements:

System shall meet approval of Authority Having Jurisdiction (AHJ). NEC and local ordinances and regulations shall govern unless more stringent requirements are specified.

Equipment, devices, and cable shall be UL or Factory Mutual listed for use in fire alarm systems.

OWNER'S INSTRUCTIONS

Instruct Owner's representative in proper operation and maintenance procedures.

PART 2 - PRODUCTS

<u>COMPONENTS</u>

Equipment and accessories furnished under terms of this Specification shall be standard products of single manufacturer, or include written statement by Control Panel Manufacturer confirming compatibility of components and inclusion of these components under system warranty.

Main FACP or network node shall contain a microprocessor based Central Processing Unit (CPU) and power supply. The CPU shall communicate with and control the following types of equipment used to make up the system: intelligent addressable smoke and thermal (heat) detectors, addressable modules, printer, annunciators, and other system controlled devices.

Operator Control

Acknowledge Switch:

Activation of the control panel acknowledge switch in response to new alarms and/or troubles shall silence the local panel piezo electric signal and change the alarm and trouble LEDs from flashing mode to steady-ON mode. If multiple alarm or trouble conditions exist, depression of this switch shall advance the LCD display to the next alarm or trouble condition.

Depression of the Acknowledge switch shall also silence all remote annunciator piezo sounders.

Alarm Silence Switch: Activation of the alarm silence switch shall cause all programmed alarm notification appliances and relays to return to the normal condition after an alarm condition. The selection of notification circuits and relays that are silenceable by this switch shall be fully field programmable within the confines of all applicable standards. The FACP software shall include silence inhibit and auto-silence timers.

Alarm Activate (Drill) Switch: The Alarm Activate switch shall activate all notification appliance circuits. The drill function shall latch until the panel is silenced or reset.

System Reset Switch: Activation of the System Reset switch shall cause all electronically-latched initiating devices, appliances or software zones, as well as all

associated output devices and circuits, to return to their normal condition.

Lamp Test: The Lamp Test switch shall activate all local system LEDs, light each segment of the liquid crystal display and display the panel software revision for service personal.

System Capacity and General Operation:

The control panel or each network node shall include Form-C alarm, trouble, snd supervisory relays rated at a minimum of 2.0 amps @ 30 VDC.

It shall include Class B (NFPA Style Y) or Class A (NFPA Style Z) programmable Notification Appliance Circuits.

The Notification Appliance Circuits shall be programmable to Synchronize with System Sensor, and Notification Appliances.

The system shall include a full featured operator interface control and annunciation panel that shall include a backlit Liquid Crystal Display (LCD), individual color coded system status LEDs, and an alphanumeric keypad with easy touch keys for the field programming and control of the fire alarm system.

The system shall be programmable, configurable, and expandable in the field without the need for special tools, PROM programmers or PC based programmers.

The system shall allow the programming of any input to activate any output or group of outputs

The FACP or each network node shall provide the following features:

Drift compensation to extend detector accuracy over life. Drift compensation shall also include a smoothing feature, allowing transient noise signals to be filtered out.

Detector sensitivity test, meeting requirements of NFPA 72, Chapter 7. Maintenance alert, with two levels (maintenance alert/maintenance urgent), to warn of excessive smoke detector dirt or dust accumulation.

Multiple sensitivity levels for alarm, selected by detector. The system shall also support sensitive advanced detection laser detectors. The system shall also include multiple levels of Prealarm, selected by detector, to indicate impending alarms to maintenance personnel.

The ability to display or print system reports.

Alarm verification, with counters and a trouble indication to alert maintenance personnel.

PAS presignal, meeting NFPA 72 3-8.3 requirements.

Devices shall meet NFPA 72 Chapter 1 requirements for activation of notification circuits within 10 seconds of initiating device activation.

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Periodic detector test, conducted automatically by the software.

Self optimizing pre-alarm for advanced fire warning, which allows each detector to learn its particular environment and set its prealarm level to just above normal peaks.

Cross zoning with the capability of counting: two detectors in alarm, two software zones in alarm, or one smoke detector and one thermal detector.

Walk test, with a check for two detectors set to same address.

Day/night automatic adjustment of detector sensitivity.

The FACP shall be capable of coding main panel node notification circuits in March Time (120 PPM), and Temporal (NFPA 72 A-2-2.2.2). Panel notification circuits (NAC 1,2,3 and 4) shall also support Two-Stage operation. Two stage operation shall allow 20 Pulses Per Minute (PPM) on alarm and 120 PPM after 5 minutes or when a second device activates.

Network Communication

The FACP shall be capable of communicating on a Local Area Network (LAN), a firmware package that utilizes a peer-to-peer, inherently regenerative communication format and protocol.

Central Microprocessor

The microprocessor shall be a state-of-the-art, high speed device and it shall communicate with, monitor and control all external interfaces. It shall include an EPROM for system program storage, Flash memory for building-specific program storage, and a "watch dog" timer circuit to detect and report microprocessor failure.

The microprocessor shall contain and execute all control-by-event programs for specific action to be taken if an alarm condition is detected by the system. Control-by-event equations shall be held in non-volatile programmable memory, and shall not be lost even if system primary and secondary power failure occurs.

The microprocessor shall also provide a real-time clock for time annotation of system displays, printer, and history file. The time-of-day and date shall not be lost if system primary and secondary power supplies fail. The real time clock may also be used to control non-fire functions at programmed time-of-day, day-of-week, and day-of-year.

A special program check function shall be provided to detect common operator errors.

An auto-program (self-learn) function shall be provided to quickly install initial functions and make the system operational.

For flexibility and to ensure program validity, an optional Windows(TM) based program utility shall be available. This program shall be used to off-line program the system with batch upload/download, and have the ability to upgrade the manufacturers (FLASH) system code changes. This program shall also have a verification utility, which scans the program files, identifying possible errors. It shall also have the ability to compare old program files to new ones, identifying differences in the two files to allow complete

testing of any system operating changes. This shall be in incompliance with the NFPA 72 requirements for testing after system modification.

System Display

The system shall support the following display mode options:

80 character display option. The display shall include an 80-character backlit alphanumeric Liquid Crystal Display (LCD) and a full PC style QWERTY keypad.

The display shall provide all the controls and indicators used by the system operator: The 80-character display shall include the following operator control switches: ACKNOWLEDGE, ALARM SILENCE, ALARM ACTIVATE (drill), SYSTEM RESET, and LAMP TEST.

The display shall annunciate status information and custom alphanumeric labels for all intelligent detectors, addressable modules, internal panel circuits, and software zones.

The display shall also provide Light-Emitting Diodes.

The 80-character display shall provide 12 Light-Emitting-Diodes (LEDs), that indicate the status of the following system parameters: AC POWER, FIRE ALARM, PREALARM WARNING, SUPERVISORY SIGNAL, SYSTEM TROUBLE, DISABLED POINTS, ALARM SILENCED, Controls Active, Pre-Discharge, Discharge and Abort.

The display shall have QWERTY type keypad.

The 80-character display keypad shall be an easy to use QWERTY type keypad, similar to a PC keyboard. This shall be part of the standard system and have the capability to command all system functions, entry of any alphabetic or numeric information, and field programming. Two different password levels shall be provided to prevent unauthorized system control or programming.

The system shall support the display of battery charging current and voltage on the 80character LCD display.

Voice Command Center (VCC)

The facility shall have an emergency voice alarm communication system. Digitally stored message sequences shall notify the building occupants that a fire or life safety condition has been reported. A Message generator shall be capable of automatically distributing up to four (4) simultaneous, unique messages to appropriate audio zones within the facility based on the type and location of the initiating event. The Fire Command Center (FCC) shall also support Emergency manual voice announcement capability for both system wide or selected audio zones, and shall include provisions for the system operator to override automatic messages system wide or in selected zones.

The digital audio message generator shall be of reliable, non-moving parts, and support the digital storage of at least 16 or 32 minutes of tones and emergency messages, shall support programming options to string audio segments together to create up to 1000 messages, or to loop messages and parts of messages to repeat for pre-determined cycles or indefinitely.

The audio portion of the system shall sound the proper audio signal (consisting of tone,

voice, or tone and voice) to the appropriate zones.

Notification Appliance Circuits (NAC) speaker circuits shall be arranged such that there is a minimum of one speaker circuit per floor of the building or smoke zone which ever is greater.

Audio amplifiers and tone generating equipment shall be electrically supervised for normal and abnormal conditions.

Speaker circuits shall be electrically supervised for open and short circuit conditions. If a short circuit exists on a speaker circuit, it shall not be possible to activate that circuit.

Speaker circuits shall be either 25 VRMS or 70VRMS. Speaker circuits shall have 20% space capacity for future expansion or increased power output requirements.

The emergency voice alarm communication system shall incorporate a Two-way emergency telephone communication system.

Two-way emergency telephone communication circuits shall be supervised for open and short circuit conditions.

Two-way emergency telephone (Fire Fighter Telephone) communication shall be supported between the Audio Command Center and up to seven (7) remote Fire Fighter's Telephone locations simultaneously on a telephone riser.

Means shall be provided to connect FFT voice communications to the speaker circuits in order to allow voice paging over the speaker circuit from a telephone handset.

Alarm Initiating Devices:

Ceiling Mounted Smoke Detectors - Combination of photoelectric and thermal type.

Photoelectric type.

Listed under UL Standard 268.

Provide visual indication of alarm on unit when normally pulsed supervisory LED glows continuously.

Duct Mounted Smoke Detectors: Photoelectric type. Listed under UL Standard 268.

Manual Fire Alarm Boxes:

Double-action requiring two actions to initiate alarm. Box shall mechanically latch when actuated and require key to reset. Key shall match control panel door lock.

Notification Appliances:

<u>Combination Horn/Strobe:</u> Wall mounted flush or semi-flush. Non-coded audible output of 90 dB minimum at 10 feet.

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Integrally mounted flashing light unit with block letters 'FIRE'. Minimum light intensity of 75 candela and flash rate between one and three Hertz. Listed under UL Standards 464 and 1971.

Strobe Only:

Wall mounted flush or semi-flush.

Integrally mounted flashing light unit with block letters 'FIRE'. Minimum light intensity of 75 candela and flash rate between one and three Hertz. Listed under UL Standard 1971.

Speakers:

All speakers shall operate on 25 VRMS or with field selectable output taps from 0.5 to 2.0 Watts.

Speakers in corridors and public spaces shall produce a nominal sound output of 84 dBA at 10 feet (3m).

Frequency response shall be a minimum of 400 HZ to 4000 HZ.

The back of each speaker shall be sealed to protect the speaker cone from damage and dust.

Accessory Devices:

Air handler shutdown relays. Provide and install an addressable interface module at the air handling units to shut down activation of the appropriate level alarm.

ACCEPTABLE MANUFACTURERS

New panel shall be compatible with existing fire alarm system. New panel shall be an addressable type that can be integrated with the existing system to have one fully functional campus wide fire alarm system.

Cerebrus Pyrotronics, Cedar Knolls, NJ (973) 593-2600 Edwards Systems Technology, Cheshire, CT (203) 699-9300 Faraday Inc, Tecumseh, MI (517) 423-2111 Honeywell, Minneapolis, MN (800) 328-5111 Notifier, Northford, CT (800) 454-9779

PART 3 - EXECUTION

INSTALLATION

Install fire alarm and detection systems as indicated, in accordance with equipment manufacturer's written instructions, and complying with applicable portions of NEC, NFPA and NECA's 'Standard of Installation'.

Mounting Heights:

Unless otherwise indicated, mount center of outlets or boxes at following heights above finish floor:

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Manual Fire Alarm Boxes (Pull Stations) - 48 inches Fire Alarm Horns/Strobes - 80 inches

Conductors:

Install conductors in conduit.

Fire alarm system conductors from different devices may be combined in common conduit. Make certain that raceway size and wire quantity, size, and type is suitable for equipment supplied and is within NEC standards. Label pull and junction boxes 'FIRE ALARM'.

Install conductors and make connections to elevator control panel and duct smoke detectors.

Loop wires through each device on zone for proper supervision. Tee-taps not permitted.

Minimum conductor size shall be 14 AWG unless otherwise specified.

Do not install ceiling mounted detectors within 3 feet of air discharge grilles. Do not install manual fire alarm boxes close to light switches. Coordinate with other trades as required.

FIELD QUALITY CONTROL

Manufacturer's Field Service:

Provide factory trained representative to perform complete system testing in presence of Owner's representative and local fire department personnel upon completion of installation.

Test each initiating and annunciating device for proper operation, except fixed temperature heat detectors.

Test operation of trouble annunciation on each circuit.

Perform complete testing of control panel functions.

PROTECTION

Provide dust protection for installed smoke detectors until finish work is completed and building is ready for occupancy.

Protect conductors from cuts, abrasion and other damage during construction.

END OF SECTION 16720

	LIGHTING SYMBOL LEGEND						LIGHTING FIXTURE SCHEDULE					
SYMBOL	DESCRIPTION		•	LIGHTING	MANUFAC	URERS OTHE	er than those listed in this schedule shall submit <u>prior approval no less than 10 days prior to bid</u> . No					
	FIXTURES WILL BE REVIEWED AFTER THE 10 DAY DEADLINE, NO EXCEPTIONS. SUBSTITUTE PACKAGES MAY BE RESUBMITTED <u>ONE TIME</u> FOLLOWING THE INITIAL ENGINEER'S REVIEW. FAILURE TO PROVIDE AN APPROVED EQUIVALENT PACKAGE WILL RESULT IN DISAPPROVAL OF THE ENTIRE SUBSTITUTE PACKAGE.											
•	"LED" LIGHTING FIXTURE WITH INTEGRAL BATTERY BACKUP.		•	THE LIGH	TING PAC	AGE SUBMIT	TED FOR CONSTRUCTION SHALL MEET OR EXCEED THE LIGHTING SPECIFICATIONS AND FIXTURE SCHEDULE, AND COMPLY WITH					
<u>о</u> о	LED LIGHTING FIXTURE. LETTER(S) DENOTE TYPE – SEE LIGHTING FIXTURE SCHEDULE.			ENSURE THE CON	THEIR LIG	ITING PACKAO PHASE THA	GE IS EQUAL TO THE SPECIFICATIONS AND PLANS PRIOR TO BIDDING. ANY FIXTURE PACKAGE SUBMITTED FOR REVIEW DURING T IS NOT EQUAL TO THE SPECIFICATIONS AND PLANS WILL BE REJECTED. THE ACCEPTANCE OF AN EQUAL PACKAGE SHALL BE					
	"LED" EXIT LIGHT WITH BATTERY. DARKENED QUADRANTS INDICATE ILLUMINATED FACES, ARROWS AS INDICATED. LETTER(S) DENOTE TYPE – SEE LIGHTING FIXTURE SCHEDULE.			AT THE S	OLE DISCI I <u>s of thi</u> Tor and	etion of th <u>Specificati</u> HIS/HER Ligh	IE ARCHITECT AND ENGINEER. <u>ANY ADDITIONAL COSTS INCURRED BY BRINGING AN INFERIOR LIGHTING PACKAGE UP TO THE</u> IONS AND PLANS DUE TO LACK OF QUALITY AND/OR FUNCTION OF DESIGN SHALL BE THE SOLE RESPONSIBILITY OF THE HTING SUPPLER THESE REQUIREMENTS SHALL ALSO BE INCLUSIVE OF ALL LIGHTING CONTROL SYSTEMS.					
	20 AMP, 120/277 VAC SINGLE POLE TOGGLE SWITCH – FLUSH WALL MOUNTED 48" A.F.F. UNLESS NOTED OTHERWISE. SUBSCRIPT INDICATES AS FOLLOWS:		\sim									
	3 - 20 AMP 120/277 VAC THREE WAY TOGGLE SWITCH		< LUME 4800	INS WATTS	TYPE LED	MOUNTING	MANUFACTURER AND CATALOG NUMBER NOTES					
	4 – 20 AMP, 120/277 VAC FOUR WAY TOGGLE SWITCH DT – DUAL TECHNOLOGY MOTION SENSOR WALL SWITCH. WATTSTOPPER DW–100. TIME DELAY DURATION				35K	GRID	LITHONIA 2BLT4-48L-ADSM-MVOLT-GZ1-LP835 METALUX					
\$	SHALL BE 20 MINUTES MAXIMUM. PROGRAM FOR "MANUAL ON". MO,D – LOW VOLTAGE MANUAL ON AND DIMMING WALL SWITCH EQUAL TO WATTSTOPPER DCLV2. SEE LIGHTING PLANS AND DETAILS FOR ADDITIONAL REQUIREMENTS. PROGRAM FOR "MANUAL ON". PROVIDE ALL 0–10V WIRING AS REQUIRED.		4800) 28.0W	LED 35K	RECESSED GRID	HE WILLIAMS LT24-L52-835-AF-EM/10W-DIM-UNV LITHONIA 2BLT4-48L-ADSM-MVOLT-GZ1-LP835-EL7L METALUX					
	D – 0–10V DIMMING ONLY SWITCH EQUAL TO WATTSTOPPER DCLV2. SEE LIGHTING PLANS AND DETAILS FOR ADDITIONAL REQUIREMENTS. PROVIDE ALL 0–10V WIRING AS REQUIRED.	EX	N/A	1W	LED RED	UNIVERSAL	CHLORIDE ER55LD3R EMERGILITE BAPXN1R ASTRALITE DCA-R-BA-EM-SD PROVIDE ARROWS AS INDICATED ON PLANS					
	M – 30 AMP SWITCH EQUAL TO HUBBELL HBL7832D OR HBL7810D, AS REQUIRED. PROVIDE PHENOLIC LABEL.	HQ1	18,00	00 142W	LED	SUSPENDED	DAYBRITE FBY-18L-840-UNV-LCA-FBYWG-HCH10-VHOOK UTUANIA IPC 18000LM SEE ACL CND ANOLT C710 40K 80CPL DWU IPAC120M100 WCIPC24W					
	DUAL TECHNOLOGY CEILING-MOUNTED 360° OCCUPANCY SENSOR, WATTSTOPPER DT-305. SEE LIGHTING CONTROL WIRING DIAGRAM FOR ADDITIONAL INFORMATION. MOUNT AT LOCATION AS INDICATED ON PLANS. DEVICE SHALL BE PROGRAMMED FOR "AUTOMATIC ON"					200 AFF	METALUX OHB-18SE-MCL-UNV-L840-CD-OHB-WG162-Y-TOGGLE					
- ↓	(UNLESS INDICATED WITH \$ ^{MO}). PROGRAM SUCH THAT BOTH TECHNOLOGIES ARE REQUIRED TO TRIGGER LIGHTS "ON" AND EITHER TECHNOLOGY SHALL "HOLD" LIGHTS "ON". SEE PLANS FOR SENSOR LOCATIONS THAT ARE "MANUAL ON" ONLY \$ ^{MO} . TIME DELAY DURATION SHALL BE 30 MINUTES. SEE MANUFACTURERS INSTRUCTIONS FOR APPROPRIATE DIP SWITCH SETTINGS.		E 18,00)0 142W	LED	SUSPENDED 20'0" AFF	DAYBRITE FBY-18L-840-UNV-LCA-BSL202-FBYWG-HCH10-VH00K LITHONIA IBG-18000LM-SEF-ACL-GND-MV0LT-GZ10-40K-80CRI-DWH-IBAC120M100-E20WCPHE-WGIBG24 METALUX 0HB-18SE-MCL-UNV-L840-EL20W-CD-0HB-WG162-Y-T0GGLE POWER CONNECTION.					
PP	POWER PACK RELAY FOR CONTROL OF LIGHTING CONTROLS, EQUAL TO WATTSTOPPER CAT# BZ-50. MOUNT DEVICE IN AN ACCESSIBLE LOCATION.	XP1	3200	90W	LED	WALL MOUNT 10'0" AFF	T GWM-A11-840-T3M-UNV-BZ LITHONIA WDGE3 LED P3 40K 80CRI R3 MVOLT PBBW DDBXD HUBBELL					
SYMBOLS NOTES		VP1	E 3200	90W	LED	WALL MOUNT	T GWM-A11-840-T3M-UNV-EC-BZ LITHONIA WDGE3 LED P3 40K 80CRI R3 MVOLT PBBW E15WH DDBXD					
1. ALL DEVICES	ARE TO BE FLUSH MOUNTED.)					HUBBELL					
2. MOUNTING H	IEIGHTS ARE FROM THE CENTER LINE OF THE DEVICE.	(PL2	2200	0 210W	LED	POLE MOUNT	T H.E. WILLIAMS VA1-L220-730-T4-F-D180-(BLK) POLE: HEWILLIAMS AV30-A-160-40-188-T-TM238-(BLK)-AB					
3. ALL SINGLE	GANG AND TWO GANG DEVICES SHALL USE A 4" SQ. BOX WITH EXTENSION RING.	(COOPER LIGHTING POLE: COOPER LIGHTING					
4. ALL MULTI -	- GANG DEVICES SHALL USE A COMMON COVER PLATE	(L5I	5000	48W	LED	SUSPENDED	HE WILLIAMS 75R-4-L50-8-35-YBY-DRV-UNV					
5. COLORS FO	R ALL DEVICES (I.e. SWITCHES, RECEPTACLES, TELEPHONE OUTLETS, ETC.) AND THEIR COVER PLATES SHALL BE	5			35K	9'0" AFF	LITHONIA CLX-L48-5000LM-SFF-RDL-WD-MV0LT-GZ10-35K-80CRI-WH-HC36 M12					

		NEMA 1, FLUSH MOUNT PANEL P1 SCHEDULE NEMA 1, RECESSED MOUNT PANEL PB SCHEDULE
		400A M.C.B. 208Y/120V 3Ø 4W 35,000 AIC RATING 150A M.C.B 208Y120V 3Ø 4W 35,000 AIC CKT LOAD DESCRIPTION CKT CKT LOAD DESCRIPTION CKT
SYMBOL	DESCRIPTION	NO. DAD DESCRIPTION DAD WEIX DAD
12222	PANELBOARD – SEE RESPECTIVE PANELBOARD SCHEDULE.	1 HVAC RECEPTACLES 1 20 0.2 1.0 20 1 C101 RECEPTACLES 2 1 REC RM 5 1 20 1.8 1.8 20 1 REC RM 4 2
	BRANCH CIRCUIT CONDUIT RUN CONCEALED IN WALL OR ABOVE CEILING. ARROWS INDICATE CIRCUIT	3 WATER FOUNTAINS 1 20 1.4 1.2 20 1 C101 RECEPTACLES 4 3 REC RM 3
A/1	HOMERUN, HASHMARKS INDICATE NUMBER OF CONDUCTORS, ABSENCE OF HASHMARKS INDICATES TWO CONDUCTORS PLUS GROUND. "A" DENOTES PANELBOARD SERVING CIRCUIT, "1" INDICATES CIRCUIT	5 EXTERIOR SIGN 1 20 1.8 1.2 20 1 C101 RECEPTACLES 6 5 REC RM 1 1 20 1.8 1.2 20 1 REC PRESSBOX 6 7 EXTERIOR SIGN 1 20 1.8 0.6 20 1 PP/S VIEST 1 0 1.8 1.2 20 1 REC PRESSBOX 6
	SIZE = #12 AWG.	7 EXTERIOR SIGN 1 20 1.8 0.6 20 1 RR S, VEST., JAN. RECEPTACLES 8 7 9 0.8 20 1 DDC PANEL 10 9 PWHPU#1 2 30 4.8 30 2 PWHPU#2 1
	INDICATES CONDUIT RUN UNDERGROUND.	EUH#1 2 40 6.0 0.8 20 1 DDC PANEL 12 11
	NON-FUSED DISCONNECT, HEAVY DUTY (SAFETY) SWITCH – SIZE AND TYPE AS NOTED. TOP OF SWITCH 6'-6" A.F.F. PROVIDE MECHANICALLY FASTENED PHENOLIC LABEL.	13 FACP (L) 1 20 0.5 0.8 20 1 DDC PANEL 14
	ELECTRIC MOTOR – SEE RESPECTIVE EQUIPMENT SCHEDULE.	15 0.8 20 1 DDC PANEL 16 15 PWHPU#5 2 30 4.8 1.2 20 1 REC TBB 1
-	20A, 125 VAC 2P., 3W., GROUNDING TYPE, DUPLEX RECEPTACLE. FLUSH WALL MOUNTED 18" A.F.F. WITH GROUND PIN FACING UP UNLESS NOTED OTHERWISE.	17 PACU#1 3 100 22.5 1.0 20 1 LTS_RR'S, VEST., JAN. 18 17 0.7 20 1 LTG_PRESSBOX_INTERIOR 1 10 10 22.5 1.0 20 1 LTS_RR'S, VEST., JAN. 18 17 10 0.7 20 1 LTG_PRESSBOX_INTERIOR 1
	RESISTANT TYPE.	19 20 1 20 1 20 1 20 1 Lis pression externor 22 21 C101 COMMUNICATIONS DEC 1 20 1 Display="1">Display="1">Display="1">Display="1">Display="1">Display="1"
	GROUND PIN FACING UP UNLESS NOTED OTHERWISE. RECEPTACLE SHALL BE READILY ACCESSIBLE. DEVICE SHALL BE LISTED TAMPER RESISTANT TYPE.	21 CTOT COMMONICATIONS REC. 1 20 1 STARE 22 21 PA STSTEM 1 20 1 PA STSTEM 22 21 PA STSTEM 22 21 PA STSTEM 22 21 PA STSTEM 22 1 PA STSTEM 22 21 PA STSTEM 22 21 PA STSTEM 22 21 PA STSTEM 22 23 PA STSTEM 20 1 PA STSTEM 22 23 PA STSTEM 24 23 PA STSTEM 1 20 1 REC PRESS BOX FRONT 24 24 23 PA STSTEM 1 20 1 REC PRESS BOX FRONT 24
J	JUNCTION BOX LOCATION. SIZE AND TYPE AS REQUIRED.	25 BATTING HOIST 1 30 2.3 · 20 1 SPARE 26 25 SCORE BOARD POWER 1 20 0.7 · 20 1 SPARE 26
С	INDICATES DEVICE FLUSH MOUNTED IN BACKSPLASH: BOTTOM AT 37" INSTALL HORIZONTALLY.	27 29 20 1 LTS OUTSIDE 28 27 SCORE BOARD RECEPTACLE 1 20 0.2 · 20 1 SPARE 2
WP	INDICATES WEATHER RESISTANT WIRING DEVICE WITH CAST ALUMINUM WEATHER PROOF IN-USE COVER PLATE. WEATHERPROOF ENCLOSURE SHALL BE LISTED AN IDENTIFIED AS "EXTRA-DUTY" PER NEC (2020)406.9(B).	2 40 6.0 30 30 29 SPARE 1 20 · 20 1 SPARE 30 30
	DATA OUTLET IN A 4" SQUARE BOX WITH 1 GANG EXTENSION RING. DEVICE MOUNTED 18" AFF UNLESS	31 JULIAR 10 45.5 150 3 PANEL PB 32 31 SPACE 1 · · · 1 SPACE 3
	BUSHINGS. PROVIDE 1-CAT5E DATA CABLE BACK TO COMMUNICATIONS BACKBOARD. PROVIDE 1-PORT COVER PLATE, COVER PLATE SHALL BE LABELED WITH DATA CLOSET ROOM NUMBER, DATA DROP	33 2 40 6.0 34 33 SPACE 1 · · 1 SPACE 3
	NUMBER, AND LOCATION OF SERVING DATA CLOSET. ALL CABLES SHALL BE TESTED AND TERMINATED AT OUTLET AND COMMUNICATION BACKBOARD. INSTALLER SHALL HAVE RCDD ON STAFF. SEE SHEET	35 PARKING LOT LIGHTS 1 20 0.3 0.8 20 1 SOUND A106 36 35 SPACE 1 · · 1 SPACE 35 SPACE 35 SPACE 1 SPACE 35 SPACE 35 SPACE 1 SPACE 35 SPACE 35 SPACE 1 SPACE 1 SPACE 35 SPACE 1 SPACE
	E700.5.	37 ERCES 1 20 0.8 1.4 20 1 OUTSIDE WATER FOUNTAINS - DOOR 38 37 SPACE 1 · · 1 SPACE 37 SPACE 37 SPACE 1 · · 1 SPACE 37 SPACE 37 SPACE 1 SPACE 1 SPACE 37 SPACE 1 SPACE 37 SPACE 1 <
⊲ P	A/V BOX FOR CEILING MOUNTED PROJECTOR. BOX SHALL BE RECESSED IN CEILING. PROVIDE FACE PLATE AS REQUIRED. COORDINATE WITH PROJECTOR INSTALLER FOR ALL REQUIREMENTS. PROVIDE ALL	39 SPARE 1 20 1 OUTSIDE WATER FOUNTAINS - SEATS 40 39 SPACE 1 · · 1 SPACE 4 <
	CONNECTIONS AS REQUIRED. SEE PLANS FOR ADDITIONAL REQUIREMENTS.	41 SPARE 1 20 1 SPARE 42 41 SPARE 42
	TRANSMITTER/SWITCHER @ 96" WITH 2X HDMI AND 1X USB-C INPUT WITH RS-232 CONTROL, SHALL BE	CONNECTED LOAD (110.9 KVA)
TV	TPUH701T OR EQUAL. COORDINATE DEVICE LOCATION WITH CATV OUTLET. DEVICE SHALL BE INSTALLED ADJACENT TO CATV OUTLET.	(G) PROVIDE GROUND-FAULT CIRCUIT-INTERRUPTER TYPE BREAKER. (L) PROVIDE LOCKABLE MECHANISM FOR BREAKER.
Р	COORDINATE DEVICE LOCATION WITH PROJECTOR LOCATION	
F	FIRE ALARM SYSTEM ADDRESSABLE PULL STATION – SEMI FLUSH MOUNTED 48" A.F.F. TO TOP UNLESS NOTED OTHERWISE.	ELECTRICAL SPECIFICATIONS: OVERALL ELECTRICAL GENERAL NOTES:
Fs	SPRINKLER SYSTEM FLOW SWITCH. FURNISHED BY FIRE ALARM SYSTEM SUPPLIER, INSTALLED BY FIRE PROTECTION (SPRINKLER) SYSTEM CONTRACTOR, AND CONNECTED TO FIRE ALARM SYSTEM CONTROL	1. ALL ELECTRICAL WORK SHALL BE IN CONFORMANCE WITH THE NATIONAL ELECTRICAL CODE AND LOCAL CODES AND ORDINANCES. a. THE CONTRACTOR SHALL VISIT THE JOB SITE AND BECOME FAMILIAR WITH THE EXTENT OF WORK REQUIRED TO COMPLETE THE JOB PRIOR TO BIDDING.
	PANEL BY FIRE ALARM SYSTEM CONTRACTOR.	2. ALL WIRING SHALL BE COPPER CONDUCTORS WITH TYPE THHN OR TYPE THW INSULATION RUN IN CONDUIT. PROVIDE INDIVIDUAL NEUTRAL b. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL MECHANICAL FOUIPMENT WITH THE MECHANICAL CONTRACTOR PRIOR TO ROLIGH IN AND b. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL MECHANICAL FOUIPMENT WITH THE MECHANICAL CONTRACTOR PRIOR TO ROLIGH IN AND
Τ _S	SPRINKLER SYSTEM TAMPER SWITCH. FURNISHED BY FIRE ALARM SYSTEM SUPPLIER, INSTALLED BY FIRE PROTECTION (SPRINKLER) SYSTEM CONTRACTOR, AND CONNECTED TO FIRE ALARM SYSTEM CONTROL	CONDUCTORS FOR ALL SINGLE-POLE BRANCH CIRCUITS. TIED BREAKER HANDLES ARE NOT ACCEPTABLE. G. ALL PHASING OF WORK SHALL BE SCHEDULED WITH THE OWNER AND A PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR SHALL SCHEDU
		3. ALL MATERIALS SHALL BE NEW AND UL LISTED FOR THE APPLICATION. 3. ALL PRIMARY CONDUCT SHALL BE RUN AT 48 BELOW FINISHED GRADE. ALL OUTAGES WITH THE OWNER AT LEAST (14) DAYS IN ADVANCE AND ANY SECONDARY AND EXTERIOR UNDERGROUND BRANCH CIRCUIT CONDUIT(S) SHALL BE OUTAGE SHALL NOT BE A DURATION IN EXCESS OF (8) HOURS. RUN 36" BELOW FINISHED GRADE.
SD	DETECTOR WITH BASE.	4. PROVIDE TYPED PANELBOARD SCHEDULES IN ALL PANELBOARDS. 5. CONDUITS RUN CONCEALED IN THE HOLLOW SPACE OF NON-MASONRY WALLS 6. IN ALL MECHANICAL ROOMS, ALL CONDUIT AND BOXES ARE TO BE SURFACE MOUNTED
	FIRE ALARM SYSTEM SPEAKER / STROBE DEVICE FLUSH WALL MOUNTED UNLESS NOTED OTHERWISE. CANDELA RATING OF 75 UNLESS NOTED. ALL STROBES IN COMMON SPACES OR CORRIDORS SHALL BE	OR ABOVE SUSPENDED CEILINGS SHALL BE EMT. FLEX SHALL NOT BE PERMITTED. EXPOSED CONDUITS SHALL BE RUN AT RIGHT ANGLES TO OR PARALLEL WITH BUILDING LINES AND EXPOSED STRUCTURE. IN ALL CASES, ALL EXTERIOR WALL PENETRATIONS.
	SYNCHRONIZED. "WP" INDICATES WEATHERPROOF DEVICE MOUNTED TO WEATHERPROOF ENCLOSURE.	SUPPORTED FROM THE BUILDING STRUCTURE, NOT FOR ANY SUSPENDED CEILING SUPPORT SYSTEM
又	FIRE ALARM SYSTEM VISUAL DEVICE FLUSH WALL MOUNTED UNI FSS NOTED OTHERWISE. CANDELA RATING	6. CONDUITS USED FOR CONNECTION TO RECESSED LIGHTING FIXTURES
[F]	OF 75 UNLESS NOTED. ALL STROBES IN COMMON SPACES OR CORRIDORS SHALL BE SYNCHRONIZED.	shall be flex not over 6 feet in total length. conduits for connection to motors or vibrating equipment shall be loflex not less than 18" long and not over 60" long.
	DIGITAL ROOM CONTROLLER WITH ONE ZONE ON/OFF/DIMMING EQUAL TO WATTSTOPPER LMRC-211. SEE	7. LIGHTING FIXTURES SHALL BE INSTALLED PLUMB, SQUARE, AND LEVEL WITH THE MARK TYPE OF EQUIPMENT VOLTAGE MOCP FEEDER DISCONNECT NOTES
DDC	LOCATION. PROVIDE ALL 0-10V WIRING FROM CONTROLLER TO FIXTURES, AS REQUIRED. ALL ROOM CONTROLLERS SHALL BE INTERCONNECTED WITH CAT5E CABLING. ALL CAT5E SHALL BE	CEILING, WALL, AND IN ALIGNMENT WITH ADJACENT LIGHTING FIXTURES. MOUNTING HEIGHTS INDICATED SHALL BE TO THE BOTTOM OF THE FIXTURE FOR CEILING MOUNTED FIXTURES AND TO CENTER OF FIXTURE FOR WALL MOUNTED DWURU'S #1 5 DACKACE HEAT DUMP UNIT 208/1 40 $3\#8, \#10, 0.75"C$ $$M$ 1 DWURU'S #1 5 DACKACE HEAT DUMP UNIT 208/1 30 $3\#10, \#10, 0.75"C$ $$M$ 1
	PRE-ATERMINATED.	FIXTURES. LAY-IN TROFFER FIXTURES SHALL BE SUPPORTED WITH A MINIMUM OF 4 CEILING SUPPORT WIRES PER FIXTURE AND NOT MORE THAN 6 INCHES PACKAGED A/C UNIT DACKAGED A/C UNIT 208/3 100 3#3, #8G, 1.25"C 100/3 NEMA 3R 1
	NEW CCTV CAMERA.	FROM EACH CORNER OF THE FIXTURE. FOR FIXTURES SMALLER IN SIZE THAN THE CEILING GRID, PROVIDE A MINIMUM OF FOUR WIRES PER FIXTURE. DO NOT 1. PROVIDE ALL VED'S AND DISCONNECTS AS REQUIRED. COORDINATE WITH MECHANICAL FOURPMENT SUPPLIED
ю	WALL MOUNTED OCCUPANCY SENSOR WITH WIRE GUARD - HUBBELL NO. LO-IR-WV	SUPPORT FIXTURES BY CEILING ACOUSTICAL PANELS. ALL CONCEALED FIXTURE TO FIXE THE PROVIDE ALL WID'S AND DISCONNECTS AS RECORDED. COORDINATE WITH MECHANICAL EQUIPMENT SUPPLIES. MOUNTING ACCESSORIES SHALL BE SECURELY TIED TO STRUCTURE. FLEXIBLE CONNECTIONS TO FIXTURES SHALL NOT EXCEED 6 FEET IN LENGTH. FIXTURES
	ADDRESSABLE INTELLIGENT FIRE ALARM SYSTEM HEAT DETECTOR RATE OF RISE TYPE. SHALL	SHALL BE SOLIDLY GROUNDED TO RACEWAY SYSTEM.
HD	HAVE 50 FOOT SPACING.	
(SP)	GIMNASIUM LOUD SPEAKER. SEE FLOOR PLAN FOR REQUIREMENTS.	REFERENCE TYPICAL EXTERIOR AC/HP ELECTRICAL CONNECTION DETAIL FOR EXTERIOR DISCONNECT MOUNTING AND CONNECTION DECUMPEMENTS, FOR ALL EXTERIOR, ALL EXTERIOR, AND CONNECTION
SYMBOLS NOTES: UN	NLESS OTHERWISE NOTED THE FOLLOWING SHALL APPLY:	REQUIREMENTS FOR ALL EXTERIOR HVAC EQUIPMENT.
2. MOUNTING HEIG	HTS ARE FROM THE CENTER LINE OF THE DEVICE.	
3. ALL SINGLE GAN 4. ALL MULTI – G	NG AND TWO GANG DEVICES SHALL USE A 4" SQ. BOX WITH EXTENSION RING. ANG DEVICES SHALL USE A COMMON COVER PLATE	
5. COLORS FOR AL DETERMINED BY	LL DEVICES (i.e. SWITCHES, RECEPTACLES, TELEPHONE OUTLETS, ETC.) AND THEIR COVER PLATES SHALL BE	
6. A.F.F. INDICATES	S MOUNTING HEIGHT ABOVE FINISHED FLOOR. ALL BE COPPER.	
8. DO NO INSTALL	OUTLETS BACK TO BACK.	FLECTRICAL LEGEND
10. WHERE MORE T NEC SECTION 3	HAN 3 CURRENT CARRYING CONDUCTORS MAY BE RUN IN A SINGLE CONDUIT, 10.15 SHALL APPLY.	SCALE: NTS

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MOUNT	PANEL P1 SCHEDULE						NE	MA	1, RECESSED MOUNT PAN	EL	PE	3 S	CHE	EDU	LE			
8Y/120V 3ø 4W							35,000 AIC RA	TING	150	0A	M.C.B 208Y120V 3Ø 4W							
CRIPTION	BRE	AKER E AMP	к	VA	BRE AMP	AKER POLE	LOAD DESCRIPTION	CKT NO.	CK NO	T L).	LOAD DESCRIPTION	BRE/ POLE	KER AMP	K	VA	BREA AMP	KER POLE	LOAD DESCRIPTION
EPTACLES	1	20	0.2	1.0	20	1	C101 RECEPTACLES	2	1		REC RM 5	1	20	1.8	1.8	20	1	REC RM 4
JNTAINS	1	20	1.4	1.2	20	1	C101 RECEPTACLES	4	3		REC RM 3	1	20	1.8	1.8	20	1	REC RM 2
SIGN	1	20	1.8	1.2	20	1	C101 RECEPTACLES	6	5		REC RM 1	1	20	1.8	1.2	20	1	REC PRESSBOX
SIGN	1	20	1.8	0.6	20	1	RR'S, VEST., JAN. RECEPTACLES	8	7		DW1D1#4	0	70	4.0		70	_	
				0.8	20	1	DDC PANEL	10	9		PWHPU#1	2	30	4.8	4.8	30	2	PWHPU#2
	2	40	6.0	0.8	\$ 20	1	DDC PANEL	12	11	1	DWUDU#2	0	70	4.0		70	•	
	(L) 1	20	0.5	0.8	20	1	DDC PANEL	14	13	3	PWHPU#3	2	30	4.8	4.8	30	2	PWHPU#4
				0.8	20	1	DDC PANEL	16	15	5	D.W.D. #5		70		1.2	20	1	REC TBB
	3	100	22.5	10	20		LTS_RR'S, VEST., JAN.	18	17	7	PWHPU#5	2	30	4.8	0.7	20	1	LTG PRESSBOX INTERIOR
			5	•	20	1	SPARE	20	19)	PA SYSTEM	1	20	1.8	0.5	20	1	LTS PRESSBOX EXTERIOR
MUNICATIONS REC.	1	20	0.4	•	20	1	SPARE 2	22	21	1	PA SYSTEM	1	20	1.8	1.8	20	1	PA SYSTEM
DIST	1	30	2.3	•	20	1	SPARE	24	23	3	PA SYSTEM	1	20	1.8	0.8	20	1	REC PRESS BOX FRONT
DIST	1	30	2.3		20	1	SPARE 5	26	25	5	SCORE BOARD POWER	1	20	0.7	•	20	1	SPARE
				0.9	20	\uparrow	LTS OUTSIDE	28	27	7	SCORE BOARD RECEPTACLE	1	20	0.2	•	20	1	SPARE
	2	40	6.0					30	29	9	SPARE	1	20	•	•	20	1	SPARE
				45.5	150	3	PANEL PB	32	31	1	SPACE	1	•	•	•	•	1	SPACE
	2	40	6.0					34	33	3	SPACE	1	•	•	•	•	1	SPACE
ot lights	1	20	0.3	0.8	20		SOUND A106	36	35	5	SPACE	1	•	•	•	•	1	SPACE
	1	20	0.8	1.4	20	1	OUTSIDE WATER FOUNTAINS - DOOR	28	37	7	SPACE	1	•	•	•	•	1	SPACE
	1	20	·	1.4	20	1	OUTSIDE WATER FOUNTAINS - SEATS	40	39	9	SPACE	1	•	•	•	•	1	SPACE
	1	20	<u> </u>	$ \uparrow \uparrow$	20	Ŷ	SPARE	42	41	1	SPACE	1	•	•	•	•	1	SPACE
(CONNECTED	LOAD		10.9	KVA)					CONNEC	CTED	LOAD	45	5 KVA			



QUIPMENT COORDINATION GENERAL NOTES:

- INTERLOCKING INFORMATION. HVAC CONTROL PANEL LOCATIONS.

ELECTRICAL EQUIPMENT.

EQUIPMENT SCHEDULE NOTES:

COORDINATE WITH THE MECHANICAL CONTRACTOR TO ENSURE ALL DISCONNECTS AND/OR VFD'S ARE PROVIDED AS REQUIRED. INDOOR UNIT RECEIVES POWER FROM OUTDOOR UNIT. COORDINATE REQUIREMENTS WITH THE MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN. DISCONNECT SWITCH SHALL BE FULLY RECESSED IN WALL

COORDINATE WITH THE MECHANICAL CONTRACTOR TO ENSURE ALL DISCONNECTS AND/OR VFD'S ARE PROVIDED AS REQUIRED.

THE ELECTRICAL CONTRACTOR SHALL PROVIDE INTERLOCKING CONNECTIONS FOR ALL HVAC EQUIPMENT AS REQUIRED. REFER TO THE MECHANICAL SCHEDULES FOR EXACT

ALL EXHAUST FAN INTERLOCKS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR. REFER TO THE EXHAUST FAN SCHEDULE FOR INTERLOCKING REQUIREMENTS.

THE ELECTRICAL CONTRACTOR SHALL COORDINATE THE EXACT LOCATION, WIRING AND CONNECTION OF ALL EQUIPMENT WITH THE EQUIPMENT INSTALLER PRIOR TO INSTALLATION. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL A 4" SQUARE OUTLET BOX WITH SINGLE GANG PLASTER RING FOR EACH THERMOSTAT. PLASTER RING SHALL BE MOUNTED IN A VERTICAL ORIENTATION. 56" A.F.F. TO CENTER UNLESS NOTED OTHERWISE. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL A 3/4" CONDUIT FROM THERMOSTAT OUTLET BOX UP IN WALL TO 6" ABOVE CEILING HEIGHT AND OUT OF WALL. EXTEND CONDUIT TO AREA WITH ACCESSIBLE CEILING. LABEL CONDUIT ABOVE ACCESSIBLE CEILING WITH SERVED THERMOSTAT LOCATION. CONDUIT SHALL HAVE NYLON INSULATING BUSHING ON EACH END. PROVIDE PULL STRING IN CONDUIT. REFER TO MECHANICAL DRAWINGS FOR THERMOSTAT LOCATIONS. MOUNT UNIT HEATER THERMOSTATS AS REQUIRED.

THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL A DEDICATED, 20 AMP, 120 VOLT CIRCUIT FOR EACH HVAC CONTROL PANEL. REFER TO MECHANICAL DRAWINGS FOR

THE ELECTRICAL CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF ALL EQUIPMENT SITE SWITCHES PRIOR TO INSTALLATION.

ALL DISCONNECTS FOR EQUIPMENT SHALL BE MOUNTED SECURELY TO THE FLOOR OR STRUCTURE. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL UNISTRUT AND MOUNTING HARDWARE AS REQUIRED TO MOUNT THE DISCONNECTS. ALL EXTERIOR DISCONNECTS SHALL BE NEMA-3R.

CIRCUIT BREAKERS SERVING EQUIPMENT ARE BASIS OF DESIGN ONLY. EXACT CIRCUIT BREAKER AND CONDUCTOR SIZES SHALL BE COORDINATED WITH ACTUAL EQUIPMENT BEING INSTALLED PRIOR TO ORDERING OF PANELBOARD. ANY COST INCREASE ASSOCIATED WITH INCREASED CIRCUIT REQUIREMENTS SHALL BE THE RESPONSIBILITY OF THE EQUIPMENT INSTALLER. ELECTRICIAN SHALL SIZE CIRCUIT BREAKERS, CONDUCTORS, CONDUITS, AND DISCONNECTS IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE AND INDICATE THE APPROPRIATE CHANGES ON AS-BUILT DOCUMENTS.

IN ALL MECHANICAL ROOMS, COORDINATE WITH THE MECHANICAL CONTRACTOR TO ENSURE CODE REQUIRED CLEARANCES AND WORKING SPACES ARE MAINTAINED AT ALL







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ELECTRICAL LIGHTING PLAN SCALE: 1/8" = 1'-0"



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(1) ALL LIGHTING AND CONTROL SYSTEMS ALONG WITH ALL CONDUIT AND WIRING ARE PROVIDED AND INSTALLED BY THE PRESS-BOX MANUFACTURER. MANUFACTURER TO











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GENERAL NOTES:

- 1. COORDINATE MECHANICAL/PLUMBING DRAWINGS FOR EXACT LOCATIONS OF EQUIPMENT. 2. MOUNT EXTERIOR DISCONNECTS ON EXTERIOR WALLS AT LEAST 18" FROM WINDOWS. LOCATIONS OF DISCONNECTS AND EQUIPMENT ARE SHOWN FOR DRAWING CLARITY PURPOSES ONLY.
- 3. COORDINATE WITH MECHANICAL/PLUMBING CONTRACTORS TO ENSURE OVERCURRENT PROTECTION DEVICES FOR THEIR EQUIPMENT IS SIZED PER MANUFACTURERS RECOMMENDATIONS. ENGINEER SIZED OVERCURRENT PROTECTION ACCORDING TO MECHANICAL/PLUMBING DRAWINGS AND SPECIFICATIONS, ACTUAL EQUIPMENT SUPPLIED MAY DIFFER. ELECTRICAL CONTRACTOR SHALL
- WORK WITH OTHER TRADE DISCIPLINES TO ENSURE ANY CHANGES WILL BE INSTALLED CORRECTLY AT THE COST OF THE PERSON MAKING THE CHANGES. 4. ALL FLEXIBLE CONNECT TO HVAC UNITS SHALL BE RUN PARALLEL TO HARD SURFACE AND
- STRAPPED AT LEAST EVERY 2'. 5. CONTRACTOR SHALL PROVIDE CONDUIT FOR MECHANICAL CONTROLS. COORDINATE EXACT LOCATIONS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN. 6. PROVIDE DEDICATED NEUTRAL FOR EACH MULTIWARE HOMERUN PER NEC.

SEE MECHANICAL EQUIPMENT ELECTRICAL SCHEDULE FOR MECHANICAL EQUIPMENT DISCONNECT, AND FEEDER REQUIREMENTS. SEE PANEL SCHEDULES FOR MECHANICAL EQUIPMENT HOMERUN LOCATIONS AND OVER CURRENT REQUIREMENTS.

POWER KEYNOTES:

- 1 COORDINATE ELECTRICAL REQUIREMENTS FOR OUTSIDE ELECTRICAL SIGN. PROVIDE CONDUIT, WIRING, CONTROLS, ETC. AS NECESSARY.
- 2 BASEBALL BATTING CAGE HOIST, CONTROL SWITCH, AND LIMIT SWITCHES FURNISHED WITH HOIST. THE ELECTRICAL CONTRACTOR SHALL INSTALL ALL ELECTRICAL DEVICES, CONDUIT, CONTROL CIRCUITING, AND POWER CIRCUITING. VERIFY THE LOCATIONS OF ALL DEVICES, VOLTAGE AND PHASE, EQUIPMENT, AND CIRCUITING REQUIREMENTS PRIOR TO ROUGH-IN.
- $\overline{(3)}$ provide wireguard for all pushbutton switches in the indoor practice facility.
- (4) provide receptacle mounted up high for communications rack.
- 5 MOUNT CONTROLS FOR EUH ON WALL. COORDINATE FINAL LOCATION WITH OWNER/ARCHITECT.

ELECTRICAL PLAN PRESSBOX KEYNOTES:

1 PROVIDE FOUR(4) DEDICATED 120VAC 20A RECEPTACLES WITH DEDICATED CIRCUITS AS INDICATED, FOR AUDIO EQUIPMENT RACK.

- (2) All power and telecom along with all conduit and wiring are provided and INSTALLED BY THE PRESS-BOX MANUFACTURER (UNLESS NOTES OTHERWISE). PANELBOARD AND TELECOM HEADEND EQUIPMENT PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
- (3) HVAC UNIT PROVIDED AND INSTALLED BY CONTRACTOR. PROVIDE ALL ELECTRICAL CONNECTIONS AND EQUIPMENT AS INDICATED.
- (4) TELECOM HEADEND EQUIPMENT AND CONNECTIONS PROVIDED AND INSTALLED BY CONTRACTOR. PROVIDE ALL ELECTRICAL CONNECTIONS AND EQUIPMENT AS INDICATED.
- (5) 3/4"D PLYWOOD BACKBOARD PROVIDE 6" CLEARANCE ABOVE FLOOR. BACKBOARD SHALL BE AC EXTERIOR GRADE PLYWOOD. FINISH WITH TWO COATS FIRE RETARDANT SEMI-GLOSS ENAMEL PAINT, COLOR BATTLESHIP GREY. ALL POWER AND DATA RECEPTACLES SHALL BE FLUSH WITH BACKBOARD. PROVIDE #6 GROUND IN 1" EMT CONDUIT FROM MAIN ELECTRICAL PANEL TO BACKBOARD, COIL 10' SLACK AT BACKBOARD, PROVIDE INSULATED GROUNDING BUSHING. COORDINATE GROUND TERMINATION WITH COMMUNICATIONS CONTRACTOR, PROVIDE TERMINATIONS AS REQUIRED. PROVIDE GROUND BUS BAR (HARGER GBI SERIES 1/4"X4"X12") MOUNTED 12" AFF. COORDINATE EXACT LOCATION OF THE GROUND BUS BAR WITH COMMUNICATIONS CONTRACTOR PRIOR TO ANY ROUGH-IN. ALL COMMUNICATION EQUIPMENT, CONDUITS, ETC. SHALL BE GROUNDED WITH #6 AWG INSULATED GREEN COPPER GROUNDING CONDUCTOR TO GROUNDING BUS BAR. LOOPING GROUNDS SHALL NOT BE PERMITTED.
- SPEAKER BACKBOX AS REQUIRED. COORDINATE WITH SPEAKER INSTALLER FOR ALL ROUGH-IN LOCATIONS AND REQUIREMENTS.
- (7) IN LINE EXHAUST FAN TO BE MOUNTED ABOVE CEILING ELEVATION. EXHAUST FAN SHALL SERVE VESTIBULE. WHEN PACU#1 IS OPERATING, THE EXHAUST FAN SHALL BE OPERATING.











ELECTRICAL POWER PLAN SCALE: 1/8" = 1'-0"



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SHEET TITLE :	ELECTRICAL POWER PLAN
MCKEE JOB # :	23.192
DRAWN BY :	TAD
DATE:	10.04.23
REVISED DATE:	11.01.23 - REVISION #1
REVISED DATE:	
REVISED DATE:	







NOT TO SCALE FIRE ALARM SYSTEM GENERAL NOTES:

- a. VERIFY EXACT NUMBER OF DEVICES FROM FLOOR PLAN, NOT RISER DIAGRAM.
- b. THE NAC CIRCUITS ARE SHOWN DIAGRAMATIC. MAXIMUM NUMBER OF DEVICES ON ANY CIRCUIT IS LIMITED. PROVIDE ADDITIONAL HARDWARE AS REQUIRED.
- c. SLC LOOP TO CONNECT ALL FIRE ALARM SYSTEM DEVICES FROM FLOOR PLANS. PROVIDE ADDITIONAL LOOP(S) AS REQUIRED.
- d. BATTERY CABINETS AND NAC EXPANDERS SHALL BE LOCATED BELOW OR ADJACENT TO FIRE ALARM CONTROL PANEL.
- e. ALL FIRE ALARM WORK SHALL BE PERFORMED BY QUALIFIED PERSONNEL AS DEFINED IN NFPA 72 (LATEST EDITION) SECTION(S) 4.3.3 AND 4.4.4.2. SHOP DRAWINGS SHALL COMPLY WITH NFPA 72 SECTION 4.5.1.1.
- f. SPLICING OF FIRE ALARM WIRING IS STRICTLY PROHIBITED.
- g. UPON PROJECT COMPLETION THE CAMPUS WIDE FIRE ALARM SYSTEM SHALL BE RECERTIFIED AND TESTED. PROVIDE WITH A RECORD OF COMPLETION AS REQUIRED IN NFPA 72 SECTION 4.5.2.
- h. THE FIRE ALARM INSTALLER SHALL BE LICENSED AS A CERTIFIED FIRE ALARM CONTRACTOR. THE CONTRACTOR MUST HAVE A NICET LEVEL III TECHNICIAN IN A POSITION OF RESPONSIBILITY, AND THE LICENSE SHALL BE ISSUED IN THE NAME OF THE CERTIFICATE HOLDER AND THE CONTRACTOR. TECHNICIANS WORKING FOR THE CERTIFIED CONTRACTOR MUST HOLD A CURRENT NICET LEVEL II, OR EQUIVALENT, CERTIFICATION. CONTRACTORS WISHING TO BID ON FIRE ALARM WORK SHALL SHOW EVIDENCE AT THE PRE-BID CONFERENCE THAT HE/SHE MEETS THE CERTIFICATION REQUIREMENTS AND HOLD A PERMIT ISSUED BY THE STATE OF ALABAMA FIRE MARSHAL.
- i. THE FIRE ALARM SYSTEM SHALL BE MONITORED BY AN APPROVED SUPERVISING STATION IN ACCORDANCE WITH NFPA 72. AUTOMATIC TELEPHONE DIALING DEVICES USED TO TRANSMIT AN EMERGENCY ALARM SHALL NOT BE CONNECTED TO ANY FIRE DEPARTMENT TELEPHONE NUMBER UNLESS APPROVED BY THE FIRE CHIEF.

- REMOTE MICROPHONE. CONTRACTOR SHALL COORDINATE LOCATION IN BUILDING WITH LOCAL AHJ PRIOR TO ANY ROUGH-IN. MICROPHONE SHALL BE INSTALLED AT LOCATION AS INDICATED BY LOCAL AHJ.

-NEW FIBER PATCH PANEL AS REQUIRED

- PROVIDE NETWORK CONNECTION FROM NEW FIRE ALARM CONTROL PANEL TO EXISTING FIRE ALARM CONTROL PANEL. SEE ELECTRICAL SITE PLAN. PROVIDE PULLBOXES AS REQUIRED. PROVIDE ALL HARDWARE AS REQUIRED TO INTERFACE WITH EXISTING SYSTEM. EXISTING SYSTEM SHALL BE UPGRADED AS NECESSARY TO INTERFACE WITH THE PANEL. ALL WORK ASSOCIATED WITH THE INTERCOM SYSTEM AND INTERFACE WITH EXISTING SCHOOL SHALL BE INCLUDED IN THE BID PRICE. ALL WORK SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

SYSTEMS KEYNOTES:

PROVIDE OUTLET FOR WIRELESS ACCESS POINT, PROVIDE CAT 6 RJ-45 JACK MOUNTED AT 12' A.F.F. AND 3/4" CONDUIT BACK TO IDF WITH CAT 6 CABLE CONNECTED TO IDF. 2 PROVIDE OUTLET FOR SECURITY CAMERA. PROVIDE CAT 6 RJ-45 JACK MOUNTED AT 12' A.F.F. AND 3/4" CONDUIT BACK TO IDF WITH CAT 6 CABLE CONNECTED TO IDF.

- 5 PROVIDE 3/4" CONDUIT BETWEEN SPEAKERS
- FOR ADDITIONAL INFORMATION.
- ALARM CONTRACTOR FOR ALL INTERCONNECTION REQUIREMENTS. PROVIDE ALL BATTERY BACKUP SYSTEMS AS REQUIRED.
- (9) <u>Allowance #1:</u>Testing shall be performed to determine the need for an emergency radio communication ENHANCEMENT SYSTEM (ERCES). PROVIDE AN ALLOWANCE OF \$4,500.00 FOR EREC SYSTEM TESTING.
- 10 <u>Allowance #2</u>: provide a complete emergency radio communication enhancement system (erces). provide all dedicated 120V power connections as required by equipment vendor. <u>Provide an Allowance of \$150,000.00</u> FOR EREC SYSTEM DESIGN AND INSTALLATION.

GENERAL NOTES:

1. COORDINATE AND MOUNT COMMUNICATIONS OUTLETS WITHIN 6" OF CORRESPONDING POWER RECEPTACLE. 2. COORDINATE WITH RISER DIAGRAMS FOR ADDITIONAL REQUIREMENTS FOR COMMUNICATIONS AND FIRE ALARM SYSTEMS.







ELECTRICAL SYSTEMS PLAN SCALE: 1/8" = 1'-0"



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SCORER'S TABLE FLOOR BOX. PROVIDE SPEAKER CONTROLS AS RECOMMENDED BY SPEAKER MANUFACTURER. 8 SOUND SYSTEM SHALL BE INTEGRATED INTO THE FIRE ALARM SYSTEM. FIRE ALARM SIGNALS SHALL BE BROADCAST THROUGH THE SOUND SYSTEM IN THE EVENT OF AN EMERGENCY. SOUND SYSTEM INSTALLER SHALL COORDINATE WITH FIRE

(7) provide sound system head end equipment as recommended by speaker manufacturer. Provide 1" conduit WITH PULL STRING TO CEILING MOUNTED SPEAKERS IN GYM. ALSO PROVIDE A 1" CONDUIT WITH PULL STRING TO

(6) ORIENT SPEAKERS PER MANUFACTURER'S RECOMMENDATIONS TO PROVIDE OPTIMAL SOUND – PROVIDE SAFETY MOUNTING HARDWARE AND WIRE GUARDS AS REQUIRED. COORDINATE THE LOCATION WITH THE BEAMS / JOISTS / CEILING AND CENTER THE SPEAKERS WITH ROOM. THE LOUDSPEAKERS SHALL BE SOUNDSPHERE 110A OR EQUAL, SEE SPECIFICATIONS

IN NEW BUILDING SHALL EXTEND UP CONCEALED IN WALL AND STUB OUT ABOVE RACK. MATCH EXISTING FIBER CONNECTOR TYPES IN EXISTING BUILDING. PROVIDE ADDITIONAL FIBER PATCH AS REQUIRED IN EXISTING RACK TO TERMINATE NEW FIBER TO THE NEW IDF. PART NUMBER FOR IDF IS #GXT2-1500-RT120.

(3) provide wall mounted wireguard for the fire alarm horn/strobes. 4 PROVIDE 2" CONDUIT FROM NEW INDOOR PRACTICE BUILDING IDF TO THE EXISTING BUILDING SHOWN ON SITE PLAN AND THEN LB INTO EXISTING BUILDING AND EXTEND TO EXISTING COMMUNICATIONS RACK IN THE EXISTING BUILDING. CONDUIT

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TYPICAL OCCUPANCY SENSOR WIRING DIAGRAM NOT TO SCALE



NOT TO SCALE

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TYPICAL RECESSED FIXTURE INSTALLATION DETAIL SCALE: NONE



ADJACENT TO THE MAIN

ALL GROUND CONNECTIONS NOT SHOWN. SEE SINGLE LINE FOR SHOWN. SEE SINGLE LINE FOR ADDITIONAL GROUND CONNECTIONS.

DUAL TECHNOLOGY

MOUNTING DETAIL - WALL MOUNT

NOT TO SCALE

NOTES: 1. MOTION DETECTION SHALL INCLUDE DOOR THRESHOLD, AIM DEVICE AS NECESSARY.



ELECTRICAL DETAILS SCALE: NTS

51 EAST GREGORY STREET 253 ST. ANTHONY STREET PENSACOLA, FLORIDA 32502 MOBILE, ALABAMA 36603 PHONE: (850)434-2661 PHONE: (251)690-7446

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EXTERIOR ELEVATION LEGEND							
SYMBOL	DESCRIPTION						
- AX.X	BUILDING SECTION SYMBOL						
L1	METALLOUVER - SEE MECHANICAL						
	PREFINISHED METAL DOWNSPOUT TO SPLASHBLOCK						
	METAL WALL PANELS - SEE SPECS						
	METAL ROOF PANELS - SEE SPECS						
BOL	PIPE BOLLARD						
PMG	PREFINISHED METAL GUTTER						
PMR	PREFINISHED METAL RAKE TRIM						
AC	SUSPENDED ALUMINUM AWNING						
PU	PACKAGE UNIT (SEE MECHANICAL)						
BRV	BRICK VENEER - SEE SPECS						
BRW	BRICK VENEER ROWLOCK SILL - SEE SPECS						
MCJ	MASONRY CONTROL JOINT, SEE DETAILS						
BRS	BRICK VENEER SOLDIER - SEE SPECS						



LAB DRAWN BY : 10.4.23 DATE: REVISED DATE: 1 00.00.00 REVISED DATE:

REVISED DATE:

