



AVONDALE SCHOOL DISTRICT
Early Childhood Center – Structured Cabling Systems
RFP No. 2005
Auburn Hill, Michigan

Project Manual

IDS Project No. 24213-1000 BP-T7

October 7, 2026
Bids

Project Manual

**Avondale School District
Early Childhood Center -
Structured Cabling Systems
RFP No. 2005
Auburn Hills, Michigan**

INTEGRATED design SOLUTIONS

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IDS Project No. 24213-1000 BP-T7

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SECTION 00 1113 - ADVERTISEMENT FOR BIDS

DATE: September 30, 2026

PROJECT: Avondale School District
Early Childhood Center – Structured Cabling Systems
Bid Package No. T7
Auburn Hills, Michigan

OWNER: Avondale School District
2940 Waukegan Street
Auburn Hills, MI 48326

**ENGINEERING/
TECHNOLOGY
DESIGNER:** Integrated Design Solutions, LLC
Architecture, Engineering, Interiors & Technology
1441 W. Long Lake, Suite 200
Troy, MI 48098
(248) 823-2100
(248) 823-2200 fax

BIDS RECEIVED: Until 2:00 PM local time on November 5, 2026 the Owner will receive sealed Bids for the work as set forth in the Bidding Documents at:

Attention: Mr. Steven Siedlarz
Assistant Superintendent for Financial Services
Administrative Offices
Avondale School District
2940 Waukegan Street
Auburn Hills, MI 48326

At which time and place all bids will be publicly opened and read aloud. The Board will not consider or accept a bid received after the date and time specified for bid submission. A bid tabulation summary will be available.

The Bidding Documents will be on file on and after October 7, 2026. The Technology Designer will furnish electronic documents to the Bidders. The documents may be downloaded from the USAC-ERATE site via Form 470 for this project. Bidders are responsible to check the website from time to time to verify they have all addenda, requests for information and other documents related to the Bid.

The Bid must be accompanied by a sworn and notarized Familial Relationship Disclosure Statement. The Board of Education will not accept a Bid that does not include this sworn and notarized disclosure statement.

All Bids must include an Iran Sanctions Affidavit of Compliance.

State of Michigan prevailing wages are required on this project. Contractors and subcontractors must be registered with the Department of Labor and Economic Opportunity (LEO) and provide proof of registration as part of their bid submission. Failure to include proof of registration with your bid response will result in your bid being rejected for non-compliance.

Each bid shall be accompanied by a certified check, cashier's check, money order or bid bond made payable to Avondale School District in an amount not less than five percent (5%) of the Base Bid as a proposal guarantee. Bid Bond shall be provided by a company licensed to do business in the State of Michigan.

A pre-bid conference and walk-thru is scheduled for October 16, 2026 at 4:00 PM local time. Bidders shall meet at the Avondale School District Administration Building located at 2940 Waukegan St, Auburn Hills, Michigan 48326.

Successful bidders whose proposals are \$50,000 or more will be required to furnish a Satisfactory Performance and Payment Bond in the amount of 100% of their bid. The cost of the Bond shall be included in each proposal.

Avondale School District
Early Childhood Center – Structured Cabling Systems
RFP No. 2005
Auburn Hills, Michigan

IDS Project No. 24213-1000 BP-T7

The Board of Education reserves the right to reject any and/or all bids in whole or in part and to waive any information therein. The Board of Education reserves the right to accept that bid which in its opinion, is in the best interest of the Owner.

END OF ADVERTISEMENT FOR BIDS

SECTION 00 2113 - INSTRUCTIONS TO BIDDERS

1. DEFINITIONS

- A. Bidding Documents include the Bidding Requirements and the proposed Contract Documents. The Bidding Requirements consist of the Advertisement for Bids, Instruction to Bidders, the Bid Form and other bidding and contract forms. The proposed Contract Documents consist of the form of an Agreement between Owner and Contractor, Specifications, Drawings and Addenda issued prior to execution of the Contract.
- B. Addenda are written or graphic instruments issued by the Technology Designer prior to the execution of the Contract, which modify or interpret the Bidding Documents by additions, deletions, clarifications or corrections.
- C. A Bidder is a person or entity who submits a Bid.
- D. A Bid is a complete and properly signed proposal to do the work for the sums stipulated therein submitted in accordance with the Bidding Documents.
- E. The Base Bid is the amount stated in the Bid for which the Bidder offers to perform the work as described in the Bidding Documents as the base, to which work may be added to or deleted from, for the amounts stated in the Alternates.
- F. An Alternate is an amount stated in the Bid Form to be added to or deducted from the amount of the Base Bid if the described Alternate is accepted.
- G. A Unit Price is an amount stated in the Bid as a price per unit of measurement for materials, equipment or services or a portion of the work as described in the Bidding Documents.
- H. Project Manual consists of the Bidding Documents and is the means used to assemble all of the Bidding Documents.

2. SECURING BIDDING DOCUMENTS

- A. Bidding is by public advertisement and invitation.
- B. The Engineering/Technology Designer will furnish electronic documents to the Bidders. The documents may be downloaded from the USAC- ERATE site via the Form 470 for this project. Bidders are responsible to check the website from time to time to verify they have all addenda, requests for information and other documents related to the Bid.
- C. Bidding Documents remain the property of the Technology Designer.

3. PREPARATION AND SUBMISSION OF BIDS

- A. Bids shall be submitted on forms bound in the Project Manual of the Bidding Documents.
- B. All blanks on the Bid Form must be filled in by typewriter or by hand in ink.
- C. Amounts shall be expressed in both words and figures. In case of a discrepancy the amount stated in words shall govern.
- D. Alterations by erasure or interlineations must be initialed by the Bidder.
- E. All Mandatory Alternates must be bid. If no change in the Base Bid is required, enter "No Change."

- F. Submit the Bid, along with the bid security and any other documents required to be submitted with the Bid, to the Owner, and deliver to the address given in the Advertisement for Bids on or before the day and hour set for receipt of the Bids.
1. Enclose each Bid in a sealed opaque envelope bearing the title of the work “RFP NO. 2005 – BID – EARLY CHILDHOOD CENTER STRUCTURED CABLING SYSTEMS”, the name of the Bidder, and the date and hour of the Bid opening, with the notation “SEALED BID ENCLOSED”.
 2. Do not change the wording of the Bid Form, and do not add words to, or delete words from the Bid Form.
 3. Unauthorized conditions, limitations, or provisions attached to the Bid will be cause for rejection of the Bid.
 4. Submit only duplicate signed copies of the Bid. Clearly distinguish the original bid from the duplicated copies of the bid.
 5. It is the sole responsibility of the Bidder to see that their bid is received on time.
 6. Telephonic, telegraphic, facsimile (fax), or e-mail Bids or telephonic, telegraphic, facsimile (fax) or e-mail modification of a Bid will not be considered.
 7. Bids received after the time fixed for receiving them will not be considered and will be returned to the Bidder unopened.
 8. Properly identified Bids received on time will be publicly opened and read aloud. A bid tabulation summary will be available.
 9. The “AFFIDAVIT OF BIDDER” and “AFFIDAVIT OF COMPLIANCE – IRAN ECONOMIC SANCTIONS ACT” found in the bid form must be completed.
 10. Contractors and subcontractors must be registered with LEO and provide proof of registration as part of their bid submission. Failure to include proof of registration with your bid response will result in your bid being rejected for non-compliance.
- G. The Bidder in submitting a Bid represents that:
1. The Bidder has read and understands the Bidding Documents, including the Drawings, Specifications and other proposed Contract Documents.
 2. The Bid is made in compliance with the Bidding Documents.
 3. The Bidder has visited the site of the Work and become informed as to existing conditions and limitations under which the Work is to be performed and included in their Bid a sum to cover the cost necessary to perform the Work as set forth in the Bidding Documents. No allowance will be made to a Bidder because of a lack of such examination or knowledge.
 4. The Bid is based upon materials, equipment and systems required by the Bidding Documents without exception and without substitutions.
 5. The Bidder agrees that it will provide a “Turnkey Solution” to the Owner.

4. AFFIDAVIT OF BIDDER

- A. Each Bid shall be accompanied by the Affidavit of Bidder in compliance with MCL.380.1267. The Bid proposal must be accompanied by this sworn and notarized statement disclosing Familial Relationship that exists between the Bidder or any employee of the Bidder and any member of the Board of Education of the School District, or the Superintendent of the School District. The School District will not consider a Bid Proposal that does not include this sworn and notarized Affidavit.

5. AFFIDAVIT OF COMPLIANCE – IRAN ECONOMIC SANCTIONS ACT

- A. Each Bid shall be accompanied by the Affidavit of Compliance – Iran Economic Sanctions Act in compliance with Michigan Public Act No. 517 of 2012 and attach this information to the bid proposal. The Bid proposal must be accompanied by this sworn and notarized statement certifying that the Bidder is not an “Iran Linked Business”, nor if awarded the Contract will become an “Iran Linked Business” within the meaning of Michigan Public Act 512 of 2012 at any time during the course of performing under the contract. The School District will not consider a Bid Proposal that does not include this sworn and notarized Affidavit.

6. BID SECURITY AND BONDS

- A. Each bid shall be accompanied by a certified check, cashier's check, money order or bid bond made payable to Avondale School District in an amount not less than five percent (5%) of the Base Bid as a proposal guarantee. Bid Bond shall be provided by a company licensed to do business in the State of Michigan.
- B. The successful Bidder shall provide a Performance Bond and a Labor and Material Payment Bond, covering the faithful performance of the Contract and payment of all obligations arising there under, each in the amount of one hundred percent (100%) of the contract amount. Bonds shall be provided by a company licensed to do business in the State of Michigan. The cost of such bonds shall be included in the Bid.
- C. The Bidder shall deliver the required bonds to the Owner not later than three days following the date of execution of the Contract. If the Work is to be commenced prior thereto in response to a letter of intent, the Bidder shall, prior to commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished and delivered in accordance with this paragraph.
- D. All surety companies providing bonds shall be listed in the latest version of the Department of Treasury Circular 570 entitled "Companies Holding Certificates of Authority as Acceptable Sureties of Federal Bonds and as Acceptable Reinsuring Companies."
- E. All surety companies providing bonds shall have an A. M. Best rating of B+ or better and be authorized to do business in the state of Michigan.
- F. Should the Bidder refuse to enter into a Contract or fail to furnish such bonds, the amount of the bid security shall be forfeited to the Owner as liquidated damages, not as a penalty.
- G. The Owner will have the right to retain the bid security of Bidders to whom an award is being considered until either the Contract has been executed and bonds have been furnished or the specified time has elapsed so that the Bid may be withdrawn or all Bids have been rejected.

7. SUBMITTALS – BID REQUIREMENTS

- A. Provide one (1) original Bid submission and the number of copies as required on the Bid Form. Provide hard copies of all submittal requirements with the original Bid submission. For all copies, provide hard copies of the Bid Form and Bill of Materials. All other submittal requirements may be provided as either hard copy or electronically. Electronic copies shall be provided as a USB key or other storage method with each copy. Email is not an acceptable medium and may result in a rejection of the Bid submission for non-compliance.
- B. Provide a complete bill of materials depicting quantities, model numbers, unit and extended pricing, catalog cuts, operating characteristics, physical characteristics, and equipment configuration for all equipment, software, wiring, and miscellaneous appurtenances included in this bid.
- C. The information shall be assembled in three ring binders complete with Table of Contents. All pages shall have page numbers, which shall be included in the Table of Contents.
- D. The Table of Contents shall be as follows:
 - 1. Tab No. 1 Cover Letter.
 - 2. Tab No. 2 Bid Form.
 - 3. Tab No. 3 Voluntary Alternates.
 - 4. Tab No. 4 Names and Company Profiles for Prime Contractors, Major Subcontractors and Major Suppliers
 - 5. Tab No. 5 Organizational Chart/Schedule/Manpower

- 6. Tab No. 6 Wiring and Equipment
- 7. Tab No. 7 Maintenance Agreements and Service Agreements and Warranties
- 8. Tab No. 8 Miscellaneous (Optional)

E. Description of Contents.

- 1. Tab No. 1, Cover Letter, shall include an executive overview of the project depicting the Bidder's complete understanding of the project.
- 2. Tab No. 2, Bid Form shall include a completed Bid as found in Section 00 4100, and the Bid Bond as a requirement to submit a qualified Bid.
- 3. Tab No. 3, Voluntary Alternates, in a section, which is optional and made available to permit all Bidders to submit alternates to the Bidding Documents. These Voluntary Alternates shall clearly define the intent of the alternate, cost impact to implement the alternates, and a description of the deviation in functions and features between the alternates and the base Bidding Documents. Include catalog cuts in this section for each alternate product required. The catalog cuts shall be keyed to the description of the alternate. Each alternate shall be independent of any alternate and shall be uniquely identified i.e. TAL -1 (Technology Alternate No. 1) TAL-2, TAL-3, etc.
- 4. Tab No. 4, List the names and company profiles for Prime Contractor, Major Subcontractors and Major Suppliers. In addition to the above information, describe each of the following:
 - a. The roles of the Prime Contractor, Subcontractors and Suppliers.
 - b. Description of corporate history for the Prime Contractor and planned Subcontractors, including dates of incorporation/founding, dates of any corporate mergers and/or acquisitions of Contractors and all present and former subsidiaries.
 - c. The number of years installing similar systems in facilities similar to the Owner's.
 - d. List of references that would be considered peers to the Owner utilizing similar systems.
 - e. Name of active projects, their sites and scope of work.
 - f. Provide recent customer references for similar work performed during the past twelve (12) months and provide documentation on installation staff training and certification.
 - g. Indicate whether Prime Contractor or any planned Subcontractor are currently in litigation over other projects or have been involved in litigation over other projects in the previous five (5) years.
- 5. Tab No. 5, Organizational Chart, shall depict the prime contractor, the subcontractors, major suppliers, trainers, project managers, name of project leader, executive staff of each firm. The organizational chart shall include the names of the individuals occupying those positions, telephone numbers and E-mail addresses of all individuals on the organizational chart.
 - a. Provide a detailed schedule, indicating specific dates that you would plan to be working within the building(s). This schedule shall include major milestones required to achieve the completion dates previously specified.
 - b. Provide copies of any required certifications for installing Engineers or Project Managers.
 - c. Specify total man hours included in the Bid to complete the project.
- 6. Tab No. 6, Wiring and equipment shall include the following information:
 - a. Description of system operation.
 - b. Complete bill of materials indicating quantities and take-offs for the products being provided. The bill of materials shall separate labor and materials cost on a building-by-building basis. Include Bill of Materials for any and all subcontractors.
 - c. Equipment model numbers.
 - d. Catalog cuts for all equipment being provided.
 - e. Manufacturer's product specifications.
 - f. A complete itemization of any software products with catalog cuts.
 - g. Software product specifications, if applicable.
- 7. Tab Nos. 7 and 8 are self-descriptive as to their intended content.

8. MODIFICATIONS AND WITHDRAWAL OF BIDS

- A. A Bidder may not modify, withdraw or cancel a Bid, for a period of sixty (60) days following the time and date designated for receipt of Bids, and by submitting a Bid each Bidder shall so agree.
- B. A Bidder may withdraw their Bid, either personally or by written request, at any time prior to the scheduled time for receipt of bids. A withdrawn Bid may be resubmitted up to the date and time designated for receipt of Bids.
- C. Prior to the time and date for receipt of Bids, a Bidder may modify a Bid by notice to the party receiving Bids, at the place designated for receipt of Bids. Such notice shall be in writing over the signature of the Bidder. Written notice and the signature of the Bidder shall be received, and date and time stamped by the receiving party on or before the date and time set for receipt of Bids. A change shall be worded as not to reveal the amount of the original Bid.

9. SPECIFICATIONS OF BID

- A. Whenever any material or equipment is specified by patent or proprietary name or by the name of the manufacturer, unless stated differently, such specification shall be considered as if followed by the words “or acceptable equal”, whether or not such words appear. The Bidder may offer material or equipment with equal or better qualities and performance in substitution for those specified, which he considers would be in the Owner’s interest to accept. Any such offers shall be made in writing to the Owner for consideration with the submission of the proposal and the Bidder shall include sufficient data (i.e. technical literature and/or detailed product brochures) which, together with any other data the Owner may require, will enable the Owner to assess the acceptability of the material or equipment. Such acceptance by the Owner shall not relieve the Bidder from full responsibility from the efficiency and quality and performance of the substitute material or equipment, in the same manner and degree as the material and equipment specified by name.

10. CONSIDERATION OF BIDS

- A. The Owner reserves the right to reject any or all Bids submitted either in whole or part, to reject a bid not accompanied by the required Bid security or by other data required by the Bidding Documents or to reject a Bid which is any way incomplete or irregular and to waive informality and irregularity in the Bids and in the Bidding and to award the contract to other than the low Bidder.
- B. The Owner reserves the right to accept alternates in any order or combination and to determine the low Bidder on the basis of the sum of the Base Bid and the alternates accepted and to make the awards that the Owner determines are in its best interest. The decision of the Owner is final and not subject to appeal.
- C. The Owner reserves the right to negotiate with any Bidder without rebidding the project in whole or in part.

11. INTERPRETATION OF CONTRACT DOCUMENTS PRIOR TO BIDDING

- A. Bidders shall study and compare the Bidding Documents with each other, shall examine the site and local conditions by appointment with the Owner and if in doubt as to the true meaning of any part of the Bidding Documents, or finds discrepancies, inconsistencies, ambiguities or errors in or omissions from any part of the Bidding Documents, the Bidder may submit to the Engineer/Technology Designer a written Request For Interpretation (RFI) thereof. Submit RFI’s to Shawn Tyburski, Integrated Design Solutions, LLC, 1441 W. Long Lake, Suite 200, Troy, Michigan 48098, (586) 530-0894, styburski@ids-michigan.com. The person submitting the request shall be responsible for its prompt delivery. The bidding schedule is as follows:

Bids Available:	October 7, 2026
Pre-Bid Conference:	October 16, 2026; 4:00 PM (Avondale School District Administration Building, 2940 Waukegan St, Auburn Hills, MI 48326).

Deadline for RFI Submissions:	October 29, 2026; 12:00 PM
Deadline for RFI Responses:	October 30, 2026; 5:00 PM
Bids Due:	November 5, 2026; 2:00 PM
Bid Opening:	November 5, 2026; 2:01 PM
Post-Bid Interviews:	November 11, 2026 (PM); Hosted online via MS Teams meeting
Anticipated Board of Education Award:	December 15, 2026

- B. Interpretation, correction or changes to the proposed Contract Documents will be made only by Addendum. Explanations, interpretations, corrections or changes of the Bidding Documents by any other method will not be binding.

12. ADDENDA/RESPONSES TO RFI'S

- A. Addenda and responses to RFI's will be posted to the website where Bidding documents are available as indicated on the Advertisement for Bids.
- B. Hard copies of Addenda will be made available for inspection wherever Bidding Documents are on file.
- C. Addenda will be issued no later than three (3) days prior to the date for receipt of Bids, except an Addendum withdrawing the request for Bids or one which postpones the date for receipt of Bids.
- D. Each Bidder shall ascertain prior to submitting his bid that he has received all Addenda issued and shall acknowledge their receipt on the Bid Form.
- E. Each Bidder shall be responsible for compliance with all issued Addenda.

13. UNIT PRICES

- A. Each Bidder must bid on all unit prices listed in the Bidding Documents that are applicable to its Base Bid. They will be fully considered in awarding the Contract.
- B. Bids are considered irregular and may be rejected if unit prices contained in the Bid are obviously unbalanced either in excess of, or below, reasonable cost analysis values.
- C. Any unit price which, in the sole opinion of the Owner, is unbalanced or excessive, may be rejected without affecting the validity of the Bid or other unit prices. An entire Bid may be rejected if, in the sole opinion of the Owner, rejection of individual unit prices materially affects the Bid.
- D. Unit prices shall be applicable to the additions to or deletions from the scope of work indicated in the Bidding Documents and may be utilized at any time prior to substantial completion, or as defined in the Bidding Documents, whichever is longer.
- E. Unit prices for deletions from the scope of work may be utilized at any time prior to installation of said unit through substantial completion, or as defined in the Bidding Documents, whichever is longer.

14. SPECIFICATIONS OF BID

- A. Material or equipment specified by manufacturer and/or part number is specified as a basis of design. Whenever any material or equipment is specified by patent or proprietary name or by the name of the manufacturer, unless stated differently, such specification shall be considered as if followed by the words "or Acceptable Equal", whether or not such words appear.
- B. Acceptable Equal shall be defined as a component, material or piece of equipment that is equal or superior in all aspects to the product specified as a basis of design. Any Acceptable Equal products included in

your bid response shall be provided with the same warranty, service and support as the specified product and shall integrate with the rest of the system components with no additional changes to the rest of the system as specified. The proposed Acceptable Equal product shall not affect dimensional and functional clearances upon installation.

- C. Clearly delineate within your bid response any and all Acceptable Equal products that are being proposed. Include all drawings, cut sheets, performance and test data, samples and other information necessary for an evaluation of the product as an Acceptable Equal.
- D. The burden of proof of Acceptable Equal status is upon the Bidder. Failure to provide supporting data will result in the product being rejected. The Technology Designer's decision of approval or disapproval of a proposed Acceptable Equal shall be final.

15. SUBSTITUTIONS

- A. No substitutions to the specifications of the Bidding Documents will be considered prior to receipt of Bids, unless a written request for approval has been received by the Technology Designer at least ten (10) days prior to the date for receipt of Bids.
- B. Such request for substitutions shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitution including drawings, performance and test data, samples and other information necessary for an evaluation. A statement setting forth changes in other materials, equipment or other portions of the Work shall be included.
- C. The burden of proof of the merit of the proposed substitution is upon the Bidder. The Technology Designer's decision of approval or disapproval of a proposed substitution shall be final.
- D. If the Technology Designer approves a proposed substitution prior to receipt of Bids, such approval will be set forth in an Addendum.
- E. The Bidder may offer material or equipment with equal or better qualities and performance via a voluntary alternate. Any such offers shall be made in writing in the space indicated on the Bid Form and shall include the cost to add or to deduct from the Base Bid amount. The Bidder shall include sufficient data (i.e. technical literature and/or detailed product brochures) to enable the Owner to assess the acceptability/desirability of the alternate material or equipment. Such acceptance by the Owner shall not relieve the Bidder from full responsibility from the efficiency and quality and performance of the substitute material or equipment, in the same manner and degree as the originally specified material and equipment.
- F. No substitutions will be considered after Contract award unless specifically provided for in the Contract Documents.

16. EXECUTION OF AGREEMENT

- A. The successful Bidder will be required to execute a modified AIA Standard Abbreviated Form of Agreement between Owner and Contractor, AIA Document A104-2017. A draft copy including modifications is included. The bidding documents and Bidder's response shall be part of the contract. The contract documents will be available for review and signatures within seven (7) days of contract award. The Owner will issue an Owner's Purchase Order for the Owner's accounting purposes only.
- B. The Bidder to whom the Contract is awarded shall, within five (5) calendar days after notice of award and receipt of Agreement forms from the Owner, sign and deliver required copies to the Owner.
- C. At or prior to delivery of the signed Agreement, the Bidder to whom the Contract is awarded shall deliver to the Owner those Certificates of Insurance required by the Owner.
- D. The Owner shall approve Bonds and Certificates of Insurance and any required state or local permits before the successful Bidder may proceed with the Work. Failure or refusal to provide Bonds or

Certificates of Insurance or required permits in a form satisfactory to the Owner shall subject the successful Bidder to loss of time from the allowable construction period equal to the time of delay in furnishing the required material.

- E. After award of the Contract and prior to the first payment request, the Bidder to whom the Contract is awarded shall deliver to the Owner a schedule of values broken down by labor and material on a building by building basis.

17. TAXES

- A. Installation services for the tangible personal property purchased by the Owner are not subject to sales taxation. Moreover, the Owner is exempt from taxation on all tangible personal property purchased by the Owner for its use and consumption; however this exemption would not apply to any materials required under the Bidding Documents that are deemed to be a component of a construction/improvement project to the Owner's facilities. The Owner will provide their Federal and State tax-exempt number(s) upon award.
- B. All prices submitted on the Bid Form shall be inclusive of all applicable taxes.

18. GENERAL INDEMNIFICATION

- A. Bidders shall indemnify, defend and hold harmless the Owner, its Board of Education and its Board members, in their official and individual capacities, administrators, employees, agents, architects, contractors, successors and assignees, from and against any and all costs, expenses, damages, and liabilities, including reasonable attorney's fees, arising out of the: (i) negligent act or willful misconduct of the Contractor [Bidder], its officers, directors, employees, successors, assignees, contractors, subcontractors and agents; (ii) any breach of the terms of this Agreement [the Bidding Documents] by Contractor [Bidder]; or (iii) any breach of any representation or warranty by Contractor [Bidder] under this Agreement [the Bidding Documents].

19. INTELLECTUAL PROPERTY INDEMNIFICATION

- A. Bidders shall indemnify, defend and hold harmless the Owner, its Board of Education and its Board members, in their official and individual capacities, administrators, employees, agents, contractors, successors and assignees, from and against any and all liabilities, damages, costs and expenses, including reasonable attorney fees, incurred in connection with any claim or suit brought against the Owner arising from any claims of violation of U. S. copyright, patent or trade secret by any third party resulting from Contractor's [Bidders] or the Owner's use of any equipment, software, technology, documentation and/or data development in connection with the Work, services and products described in the Bidding Documents; provided that Contractor [Bidder] is notified in writing within thirty (30) days from the date the Owner knew of such claim. The Owner retains the right to offset against any amounts owed Contractor [Bidder] hereunder or any such monies expended by the Owner in defending itself against such claims. Following written notification of an infringement claim, Contractor [Bidder] may, at its expense, and in its sole and absolute discretion (but without obligation to do so) either (i) procure for the Owner the right to continue to use the alleged infringing products or services; or (ii) replace, modify or provide substitute products or services to the Owner which are, in the Owner's sole opinion, of equal or greater quality to make it non-infringing; or (iii) refund to the Owner all monies paid to Contractor with respect to the infringing products or services, as well as all reasonable losses related to the infringing product(s) and all reasonable expenses related to the installation and conversion to the new product(s).

20. TURNKEY SOLUTION

- A. The Bidding Documents set forth the terms and conditions upon which the Bidder will provide a "turnkey" solution for the installation and operation of the included systems for use by the Owner. The Bidder agrees that it will provide a "turnkey solution" to the Owner and represents and warrants that the design, operation and functionality of the included systems are in accordance with the Bidding Documents. All prices provided by the Bidder on the Bid Form must include all cables, connectors, equipment, etc., that

are necessary to make the included systems fully operational for the intent and purpose stated in the Bidding Documents.

21. BID PREPARATION COSTS

- A. The Bidder is responsible for any and all costs incurred by the Bidder, or any agents of Bidder, in responding to this Request for Proposal.

22. PERMITS AND FEES

- A. All Bids shall include costs of all applicable permits and fees. Include time in your bid response to walk the inspector thru the buildings during any and all inspections.

23. TIME OF COMPLETION

- A. The Bidder, if awarded the Contract, agrees to complete the Work on or before the Contract Completion dates stated in the Bid Form.

24. PREVAILING WAGE REQUIREMENTS

- A. This project is subject to State of Michigan Prevailing Wage Rates.
- B. The LEO (Department of Labor and Economic Opportunity) in Michigan oversees prevailing wage laws. These laws ensure fair pay for skilled laborers and set wage standards that influence project costs.
- C. The wages and fringe benefits paid to construction mechanics (excluding those under the State Civil Service Commission) by the contractor and all subcontractors must not be less than the prevailing rates in the locality where the work is performed.
- D. Contractors and subcontractors must look up and apply the correct prevailing wage rates, based on the project's geographical location, from LEO's website prior to bidding: <https://www.michigan.gov/leo/bureaus-agencies/ber/wage-and-hour/prevailing-wage/prevailing-wages-by-county>.
- E. Contractors and subcontractors are responsible for ensuring their wages and fringe benefits meet or exceed the published totals.
- F. Contractors and subcontractors must be registered with LEO and provide proof of registration as part of their bid submission. Failure to include proof of registration with your bid response will result in your bid being rejected for non-compliance.
 - 1. Note: Contractors and subcontractors are responsible to keep their registration current on a yearly basis.
- G. Awarded contractors and subcontractors must submit certified payroll via LEO's "Online Certified Payroll Submission" process that matches the posted rates on LEO's website.
- H. Comply with all rules and regulations set by LEO: <https://www.michigan.gov/leo/bureaus-agencies/ber/wage-and-hour/prevailing-wage>.

25. EQUAL OPPORTUNITY

- A. The Bidder and the Bidder's Subcontractors shall not discriminate against any employee or applicant for employment because of race, religion, color, sex or national origin. The Contractor shall take steps to ensure that applicants are employed, and that employees are treated during employment without regard to their race, religion, color, sex or national origin. Such action shall include, but not be limited to, the

following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the policies of non-discrimination.

- B. The Bidder and the Bidder's Subcontractors shall, in all solicitations or advertisements for employees placed by them or on their behalf; state that all qualified applicants will receive consideration for employment without regard to race, religion, color, sex or national origin.

26. POST BID INFORMATION

- A. Bidders to whom Contract award is under consideration shall submit to the Technology Designer, upon request, a properly executed AIA Document A305, Contractor's Qualification Statement.

END OF SECTION 00 2113

SECTION 00 4100 - BID FORM

OWNER: Avondale School District
2940 Waukegan Street
Auburn Hills, MI 48326

PROJECT: Avondale School District
Early Childhood Center – Structured Cabling Systems
RFP No. 2005
Auburn Hills, Michigan

**ENGINEER/
TECHNOLOGY
DESIGNER:** Integrated Design Solutions, LLC
Architecture, Engineering, Interiors & Technology
1441 W. Long Lake Road, Suite 200
Troy, Michigan 48098
(248) 823-2100
(248) 823-2200 fax

NAME OF BIDDER: _____

ADDRESS: _____

TELEPHONE: _____

E-MAIL: _____

**E-RATE SERVICE
PROVIDER NUMBER (SPIN)** _____

**E-RATE FEDERAL COMMUNICATIONS
REGISTRY NUMBER (FCCRN):** _____

BID

Pursuant to and in compliance with the Advertisement for Bids, Instructions to Bidders and other documents relating thereto, the undersigned proposes and agrees to furnish equipment, materials, and labor and perform all work necessary to complete the Avondale School District Contract for the Early Childhood Center – Structured Cabling Systems project in accordance with the Bidding Documents prepared by Integrated Design Solutions, LLC dated October 7, 2026, and agrees to accept payment as herein provided.

BASE BID

Lump sum bid for all Work specified and shown on the Drawings, to provide all equipment, labor, cabling, miscellaneous equipment and connections for a turnkey solution. Include a \$10,000.00 Owner allowance for Owner requested moves, adds, or changes:

_____. Dollars (\$ _____).

NOTE: The amounts shall be shown in both words and figures. In case of a discrepancy, the amount shown in words shall govern.

BASE BID – BREAKDOWN

The award of the Contract shall be based on the Base Bid amount. The Contractor shall provide separate prices for accounting purposes only.

Sections 01 0000, 27 0015, 27100, and 27 1517	\$ _____
Performance, Labor and Material Bonds	\$ _____
Owner Allowance	\$10,000.00
Base Bid Total	\$ _____

BASE BID – MANDATORY ALTERNATES

None.

BASE BID - VOLUNTARY ALTERNATES

Voluntary Alternate No. 1: _____
Add/Deduct _____
_____ Dollars(\$ _____).

Voluntary Alternate No. 2: _____
Add/Deduct _____
_____ Dollars(\$ _____).

BASE BID - UNIT PRICES

The Bidder shall include a complete bill of materials as part of their bid submission. Refer to specifications section 00 2113 paragraph "SUBMITTALS - BID REQUIREMENTS" for additional information. The bill of materials will be considered to be the unit price schedule for additions to or deletions from the scope of work from the date of award until the date of completion.

The bill of materials shall be formatted to include all charges for labor, materials and equipment, overhead and profit, general conditions, supervision, insurance, taxes and incidental expenses in such a way that unit pricing can be easily derived.

Indicate below acceptance of these unit pricing terms, acceptance with modifications as indicated or exception taken.

- ☐ Included bill of materials is considered the unit pricing schedule for the duration of the project.
- ☐ Exception taken. Included bill of materials is not valid for unit pricing for additions to or deletions from the scope of work for the duration of the project.
- ☐ Included bill of materials is considered the unit pricing schedule for the duration of the project with the following modifications:

In addition, provide unit pricing for the following:

Said unit prices shall be applicable to the pricing of additions to, or deletions from, the Work indicated in the Contract Documents.

		ADD	DEDUCT	% E-RATE ELIGIBLE
UP-1	Cost to provide and install a Category 6 data outlet including labor, wire, jacks, terminations, connectors, testing and tagging (assume 250-foot run).	\$_____	\$_____	_____%
UP-2	Cost to provide and install a Category 6a data outlet including labor, wire, jacks, terminations, connectors, testing and tagging (assume 250-foot run).	\$_____	\$_____	_____%
UP-3	Cost to provide and install a 48-port unpopulated patch panel.	\$_____	\$_____	_____%
UP-4	Cost to provide and install a 24-port unpopulated patch panel.	\$_____	\$_____	_____%

BASE BID - EXTENDED UNIT PRICES

The Bidder proposes extended unit prices in accordance with the following schedule. Said unit prices shall include all charges for labor, materials and equipment, overhead and profit, inflation/escalation, general conditions, supervision, insurance, applicable taxes and incidental expenses.

Said extended unit prices shall be applicable to the pricing of additional work beyond Substantial Completion. Said extended unit prices shall be valid from the date of substantial completion to six (6) months after the date of substantial completion.

For each unit price stated above, include with your bid proposal a pricing schedule, standard escalation percentages or other form of pricing the District may utilize for future work extending beyond Substantial Completion for the time period specified on a yearly basis.

BID SECURITY

Each Bid shall be accompanied by a Bid Security in the form of a certified check, cashier's check, or money order made payable to the Owner or a Bid Bond naming the Owner as the obligee in an amount not less than five percent (5%) of the Base Bid as a Bid guarantee. Bid Bonds shall be issued by a company licensed to do business in the State of Michigan.

ADDENDA

The undersigned acknowledges the receipt of the following addenda:

Addendum No. _____ Dated _____ Addendum No. _____ Dated _____

TIME OF COMPLETION

The undersigned agrees to substantially complete by: July 30, 2027.

WITHDRAWAL OF BIDS

The undersigned agrees that its Bid shall not be withdrawn for a period of ninety (90) days after the date set for receipt of Bids.

NON-COLLUSION

The undersigned certifies that the Bid has not been prepared in collusion with any other bidder and that the prices, discounts, terms and conditions thereof have not been directly or indirectly communicated by or on behalf of the Bidder to any such person other than the recipient of such Bid, and will not be communicated to any such person prior to the official opening of said Bid. The undersigned fully understands that no premiums, rebates, or gratuities are permitted either with, prior to or after signing the Contract.

This certification may be treated as if it were a sworn statement made under oath, and is made subject to the provisions of 18 U. S. C., 1001, relating to the making of false statements.

SIGNATURE AND LEGAL STATUS OF BIDDER

Signed and sealed this _____ day of _____, 20_____.

(Individual, Partnership, Corporation)

State of Incorporation

Affix Corporate Seal

By:

(Authorized Signature of Bidder)

(Print or Type Name of Bidder)

Title

Business Address

E-mail

Instructions: Submit one (1) original, three (3) copies, and one (1) electronic copy of the bid to the Owner and retain one (1) copy for the Bidder's records. Clearly label each copy submitted as either "original" or "copy."

AFFIDAVIT OF BIDDER

The undersigned, the owner or authorized officer of _____ (the "Bidder"), pursuant to the familial disclosure requirement provided in the _____ (the "School District") advertisement for construction bids, hereby represent and warrant, except as provided below, that no familial relationships exist between the owner(s) or any employee of _____ and any member of the Board of Education of the School District or the Superintendent of the School District.

List any Familial Relationships:

BIDDER:

By: _____

Its: _____

STATE OF MICHIGAN)
)ss.
COUNTY OF _____)

This instrument was acknowledged before me on the ____ day of _____, 20____, by
_____.

_____, Notary Public

_____ County, Michigan

My Commission Expires: _____

Acting in the County of: _____

AFFIDAVIT OF COMPLIANCE – PREVAILING WAGE AND FRINGE BENEFITS

MICHIGAN ACT NO. 10 OF 2023

Prevailing Wage Bid Certification

Project Name: _____

Owner / Contracting Agency: _____

Bidder: _____

Date: _____

Certification

Compliance: Comply with Michigan Prevailing Wage Requirements: The Bidder acknowledges and agrees to comply with all applicable prevailing wage requirements under Michigan Act 10 of 2023 and the Department of Labor and Economic Opportunity (LEO).

The wages and fringe benefits paid to construction mechanics (excluding those under the State Civil Service Commission) by the contractor and all subcontractors must not be less than the prevailing rates in the locality where the work is performed.

Payment of Required Wage & Fringe Rates: The Bidder certifies that all construction mechanics employed by the Bidder and any subcontractors will be paid not less than the prevailing wage and fringe benefit rates for their respective classifications and locality.

Posting of Prevailing Wage Rates: The Bidder agrees to ensure that a copy of the required prevailing wage rate schedule is posted in a conspicuous location on the jobsite at all times.

Recordkeeping Requirements: The Bidder certifies it will maintain and submit accurate payroll records via the LEO “Online Certified Payroll Submission” process showing the name, classification, wages, and fringe benefits paid and will make such records available for inspection upon request.

Subcontractor Compliance: The Bidder agrees to notify all subcontractors of the prevailing wage requirements prior to the start of work and to ensure subcontractor compliance throughout the project.

Bid Submittal: The Bidder acknowledges that a copy of the state project registration is attached to the bid submittal for the contractor and for each subcontractor that has been selected at the time the contractor submits the bid.

Authorized Signature

Name: _____

Title: _____

Company: _____

Signature: _____

Date: _____

AFFIDAVIT OF COMPLIANCE – IRAN ECONOMIC SANCTIONS ACT

MICHIGAN PUBLIC ACT NO. 517 OF 2012

The undersigned, the owner or authorized officer of _____ (the "Bidder"), pursuant to the compliance certification requirement provided in the _____ (the "School District") Advertisement for Bids, hereby certifies, represents and warrants that the Bidder (including its officers, directors and employees) is not an "Iran Linked Business" within the meaning of the Iran Economic Sanctions Act, Michigan Public Act No. 517 of 2012 (the "Act"), and that in the event Bidder is awarded a Contract as a result of the aforementioned Advertisement for Bids, the Bidder will not become an "Iran Linked Business" at any time during the course of performing under the Contract.

The Bidder further acknowledges that any person who is found to have submitted a false certification is responsible for a civil penalty of not more than \$250,000.00 or 2 times the amount of the Contract or proposed Contract for which the false certification was made, whichever is greater, the cost of the School District's investigation, and reasonable attorney fees, in addition to the fine. Moreover, any person who submitted a false certification shall be ineligible to bid on an Advertisement for Bids for three (3) years from the date that it is determined that the person has submitted the false certification.

BIDDER:

Name of Bidder

By: _____

Its: _____

STATE OF MICHIGAN)
)ss.
COUNTY OF _____)

This instrument was acknowledged before me on the ____ day of _____, 20____, by
_____.

_____, Notary Public
_____ County, Michigan
My Commission Expires: _____
Acting in the County of: _____

Attach a copy of your State of Michigan prevailing wage registration here.

END OF BID FORM

SECTION 00 7373 – SERVICE PROVIDER/VENDOR CRITERIA (E-RATE)

1.1 GENERAL

- A. Avondale School District is seeking funding from the Federal E-Rate Program and has filed an FCC Form 470 for this procurement, coincidental with the issuance of this RFP. Vendors responding to this RFP must demonstrate a full understanding and be in compliance with all Federal E-Rate program Requirements.
- B. Purchase and installation of products and services must be between December 22, 2026 and July 30, 2027.
- C. All bidders must adhere to the Lowest Corresponding Price (“LCP”) guidelines as dictated by the Schools and Libraries Division.
- D. All bidders understand that the District may choose more than one provider for one type of service.

1.2 USAC E-RATE REGISTRATION

- A. To bid on this project, all vendors shall submit with its proposal a valid Form 498 ID (formerly “SPIN”) and a valid Federal Communications Commission Registration Number (“FCRN”). Vendors have access to E-Rate regulations and policies via the E-Rate Administrator’s Website: <http://www.usac.org/si/> . Direct all questions regarding the USF E-Rate requirements in their RFP to the Universal Service Administration Company (“USAC”), Schools and Library Division (“SLD”) at 888-203-8100.

1.3 USAC PARTICIPATION AND COOPERATION

- A. Vendors shall agree to participate in the USAC Schools and Library Federal E-Rate Program. Vendor shall agree to fully cooperate in all respects with the District, USAC and any agency or organization administering the E-Rate Program to ensure the District receives all of the E-Rate funding for which it has applied and is entitled in connection with the Vendor’s services and/or products. The District expects that all vendors will be thoroughly familiar with and abide by any rules or regulations regarding the E-Rate Program.
- B. Vendors shall have the 2026 Service Provider Annual Certification Form 473 on file with USAC.

1.4 USAC E-RATE ELIGIBLE SERVICES

- A. The items requested within this RFP may or may not be USF eligible. All bid responses must clearly identify which services/materials are E-Rate eligible, partially eligible (% of eligibility) and not eligible. Please use the 2026 USF Eligible Services List located on the USAC website (<http://www.usac.org/si/>). It is the vendors responsibility to check for updates and corrections prior to submitting their bid.
- B. Invoicing for E-Rate: All billing for services and equipment MUST occur on or after December 22, 2026 to comply with the E-Rate 2026-2027 year.
- C. Invoicing Procedures. Vendors shall itemize, price, and invoice all materials or services that are eligible and ineligible for E-rate funding. Vendor must include the following information on all invoices to the District for E-rate eligible equipment and/or services:
 - 1. Date of invoice.
 - 2. Dates of service.
 - 3. District Purchase Order or Contract number.
 - 4. Concise breakdown of amount(s) to be billed to USAC (discounted portion of eligible charges) and amount(s) to be billed to the District (non-discounted amount of eligible charges).

1.5 USAC E-RATE DISCOUNTED INVOICING AND REIMBURSEMENT PROCESSES

- A. Vendors shall, at the District's request, either (a) invoice the District only for the non-discounted amounts due on E-rate approved transactions and simultaneously invoice the Universal Service Administrative Company ("USAC") for the balance [Discounted Invoice Process] or (b) remit to the District within twenty days of receipt the reimbursement payments it receives from USAC or any other third party payer for the discounted portions of E-rate approved transactions involving the District [Reimbursement or "BEAR" Process].

1.6 USAC E-RATE INFORMATION AND DOCUMENTATION

- A. Selected Vendor shall provide to FPS staff and/or the District's E-rate consultant within reasonable period of time, all information and documentation that the Vendor has or that Vendor reasonably can acquire which the District may need to prepare its E-rate applications and/or to document transactions eligible for E-rate support. Vendor shall maintain all bids, quotes, records, correspondence, receipts, and other data relating to Vendor's services to the District in compliance with E-Rate retention rules.

1.7 CONTRACT TERM MODIFICATION.

- A. The District will reserve the right to extend or abbreviate the contract period if such extension or abbreviation is necessary to make the Contract term coincide with an E-Rate "program year" or coincide with a "service delivery deadline extension," as those terms are defined by the Federal Communications Commission ("FCC") or the Universal Service Administrative Company ("USAC").

END OF SECTION 27 0513

AIA[®] Document A104[™] – 2017

Standard Abbreviated Form of Agreement Between Owner and Contractor

AGREEMENT made as of the fifteenth day of December in the year two thousand twenty-six
(In words, indicate day, month and year.)

BETWEEN the Owner:
(Name, legal status, address and other information)

Avondale School District
2940 Waukegan Street
Auburn Hills, Michigan 48326

and the Contractor:
(Name, legal status, address and other information)

for the following Project:
(Name, location and detailed description)

Avondale School District
Early Childhood Center – Structured Cabling Systems
RFP No. 2005
Auburn Hills, Michigan

The Architect:
(Name, legal status, address and other information)

Integrated Design Solutions, LLC
1441 W. Long Lake Road, Suite 200
Troy, Michigan 48098
IDS Project No. 24213-1000 BP-T7

The Owner and Contractor agree as follows.

TABLE OF ARTICLES

- 1 THE WORK OF THIS CONTRACT
- 2 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION
- 3 CONTRACT SUM
- 4 PAYMENT
- 5 DISPUTE RESOLUTION
- 6 ENUMERATION OF CONTRACT DOCUMENTS
- 7 GENERAL PROVISIONS
- 8 OWNER
- 9 CONTRACTOR
- 10 ARCHITECT
- 11 SUBCONTRACTORS
- 12 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS
- 13 CHANGES IN THE WORK
- 14 TIME
- 15 PAYMENTS AND COMPLETION
- 16 PROTECTION OF PERSONS AND PROPERTY
- 17 INSURANCE AND BONDS
- 18 CORRECTION OF WORK
- 19 MISCELLANEOUS PROVISIONS
- 20 TERMINATION OF THE CONTRACT
- 21 CLAIMS AND DISPUTES

EXHIBIT A DETERMINATION OF THE COST OF THE WORK

ARTICLE 1 THE WORK OF THIS CONTRACT

The Contractor shall execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 2 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 2.1 The date of commencement of the Work shall be:

(Check one of the following boxes.)

☒ The date of this Agreement.

☐ A date set forth in a notice to proceed issued by the Owner.

☐ Established as follows:

(Insert a date or a means to determine the date of commencement of the Work.)

If a date of commencement of the Work is not selected, then the date of commencement shall be the date of this Agreement.

§ 2.2 The Contract Time shall be measured from the date of commencement.

§ 2.3 Substantial Completion

§ 2.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:

(Check the appropriate box and complete the necessary information.)

☐ Not later than () calendar days from the date of commencement of the Work.

☒ By the following date: July 30, 2027

§ 2.3.2 Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work are to be completed prior to Substantial Completion of the entire Work, the Contractor shall achieve Substantial Completion of such portions by the following dates:

Portion of Work	Substantial Completion Date

§ 2.3.3 If the Contractor fails to achieve Substantial Completion as provided in this Section 2.3, liquidated damages, if any, shall be assessed as set forth in Section 3.5.

ARTICLE 3 CONTRACT SUM

§ 3.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be one of the following:

(Check the appropriate box.)

☒ Stipulated Sum, in accordance with Section 3.2 below

☐ Cost of the Work plus the Contractor's Fee, in accordance with Section 3.3 below

☐ Cost of the Work plus the Contractor's Fee with a Guaranteed Maximum Price, in accordance with Section 3.4 below

(Based on the selection above, complete Section 3.2, 3.3 or 3.4 below.)

§ 3.2 The Stipulated Sum shall be XXXXXXXX (\$XXXX.00), subject to additions and deductions as provided in the Contract Documents.

§ 3.2.1 The Stipulated Sum is based upon the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:

(State the numbers or other identification of accepted alternates. If the bidding or proposal documents permit the Owner to accept other alternates subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires.)

§ 3.2.2 Unit prices, if any:

(Identify the item and state the unit price and the quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit (\$0.00)
See attached Contractor's Bill of Materials		

§ 3.2.3 Allowances, if any, included in the stipulated sum:

(Identify each allowance.)

Item	Price
Base Bid Allowance	\$10,000.00

§ 3.3 Cost of the Work Plus Contractor's Fee

§ 3.3.1 The Cost of the Work is as defined in Exhibit A, Determination of the Cost of the Work.

§ 3.3.2 The Contractor's Fee:

(State a lump sum, percentage of Cost of the Work or other provision for determining the Contractor's Fee and the method of adjustment to the Fee for changes in the Work.)

§ 3.4 Cost of the Work Plus Contractor's Fee With a Guaranteed Maximum Price

§ 3.4.1 The Cost of the Work is as defined in Exhibit A, Determination of the Cost of the Work.

§ 3.4.2 The Contractor's Fee:

(State a lump sum, percentage of Cost of the Work or other provision for determining the Contractor's Fee and the method of adjustment to the Fee for changes in the Work.)

§ 3.4.3 Guaranteed Maximum Price

§ 3.4.3.1 The sum of the Cost of the Work and the Contractor's Fee is guaranteed by the Contractor not to exceed (\$), subject to additions and deductions by changes in the Work as provided in the Contract Documents. This maximum sum is referred to in the Contract Documents as the Guaranteed Maximum Price. Costs which would cause the Guaranteed Maximum Price to be exceeded shall be paid by the Contractor without reimbursement by the Owner.

(Insert specific provisions if the Contractor is to participate in any savings.)

§ 3.4.3.2 The Guaranteed Maximum Price is based on the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:

(State the numbers or other identification of accepted alternates. If the bidding or proposal documents permit the Owner to accept other alternates subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires.)

§ 3.4.3.3 Unit Prices, if any:

(Identify the item and state the unit price and the quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit (\$0.00)

§ 3.4.3.4 Allowances, if any, included in the Guaranteed Maximum Price:

(Identify each allowance.)

Item	Price

§ 3.4.3.5 Assumptions, if any, on which the Guaranteed Maximum Price is based:

§ 3.4.3.6 To the extent that the Contract Documents are anticipated to require further development, the Guaranteed Maximum Price includes the costs attributable to such further development consistent with the Contract Documents and reasonably inferable therefrom. Such further development does not include changes in scope, systems, kinds and quality of materials, finishes or equipment, all of which, if required, shall be incorporated by Change Order.

§ 3.4.3.7 The Owner shall authorize preparation of revisions to the Contract Documents that incorporate the agreed-upon assumptions contained in Section 3.4.3.5. The Owner shall promptly furnish such revised Contract Documents to the Contractor. The Contractor shall notify the Owner and Architect of any inconsistencies between the agreed-upon assumptions contained in Section 3.4.3.5 and the revised Contract Documents.

§ 3.5 Liquidated damages, if any:

(Insert terms and conditions for liquidated damages, if any.)

ARTICLE 4 PAYMENT

§ 4.1 Progress Payments

§ 4.1.1 Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 4.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

§ 4.1.3 Provided that an Architect-Certified Application for Payment is received by the Owner not later than the 10th day of a month, the Owner shall make payment of the certified amount to the Contractor not later than the last day of the same month. If an Application for Payment is received by the Architect after the date fixed above, payment shall be made by the Owner not later than twenty-one (21) days after the Architect receives the Application for Payment.

(Federal, state or local laws may require payment within a certain period of time.)

§ 4.1.4 For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold retainage from the payment otherwise due as follows:

(Insert a percentage or amount to be withheld as retainage from each Application for Payment and any terms for reduction of retainage during the course of the Work. The amount of retainage may be limited by governing law.)

ten percent (10%)

§ 4.1.5 Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

(Insert rate of interest agreed upon, if any.)

5 % see MCL 438.31

§ 4.2 Final Payment

§ 4.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

- .1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Section 18.2, and to satisfy other requirements, if any, which extend beyond final payment;
- .2 the Contractor has submitted a final accounting for the Cost of the Work, where payment is on the basis of the Cost of the Work with or without a Guaranteed Maximum Price; and

§ 4.2.2 The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the Architect's final Certificate for Payment, or as follows:

ARTICLE 5 DISPUTE RESOLUTION

§ 5.1 Binding Dispute Resolution

For any claim subject to, but not resolved by, mediation pursuant to Section 21.5, the method of binding dispute resolution shall be as follows:

(Check the appropriate box.)

☐ Arbitration pursuant to Section 21.6 of this Agreement

☒ Litigation in a court of competent jurisdiction

☐ Other *(Specify)*

If the Owner and Contractor do not select a method of binding dispute resolution, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, claims will be resolved in a court of competent jurisdiction.

ARTICLE 6 ENUMERATION OF CONTRACT DOCUMENTS

§ 6.1 The Contract Documents are defined in Article 7 and, except for Modifications issued after execution of this Agreement, are enumerated in the sections below.

§ 6.1.1 The Agreement is this executed AIA Document A104™–2017, Standard Abbreviated Form of Agreement Between Owner and Contractor.

§ 6.1.2 AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, dated as indicated below:

(Insert the date of the E203–2013 incorporated into this Agreement.)

§ 6.1.3 The Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

§ 6.1.4 The Specifications:

(Either list the Specifications here or refer to an exhibit attached to this Agreement.)

See attached Table of Contents

Section	Title	Date	Pages

§ 6.1.5 The Drawings:

(Either list the Drawings here or refer to an exhibit attached to this Agreement.)

See attached List of Drawings

Number	Title	Date

§ 6.1.6 The Addenda, if any:

Number	Date	Pages

Portions of Addenda relating to bidding or proposal requirements are not part of the Contract Documents unless the bidding or proposal requirements are enumerated in this Article 6.

§ 6.1.7 Additional documents, if any, forming part of the Contract Documents:

.1 Other Exhibits:

(Check all boxes that apply.)

☐ Exhibit A, Determination of the Cost of the Work.

☐ AIA Document E204™–2017, Sustainable Projects Exhibit, dated as indicated below:

(Insert the date of the E204–2017 incorporated into this Agreement.)

☐ The Sustainability Plan:

Title	Date	Pages

☐ Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

- .2 Other documents, if any, listed below:
(List here any additional documents that are intended to form part of the Contract Documents.)

Contractor's Bid Form and Bill of Materials
Pre-Bid Meeting Notes
Minutes of Bid Review Conference
RFI Nos. X-X

ARTICLE 7 GENERAL PROVISIONS

§ 7.1 The Contract Documents

The Contract Documents are enumerated in Article 6 and consist of this Agreement (including, if applicable, Supplementary and other Conditions of the Contract), Drawings, Specifications, Addenda issued prior to the execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 7.1.1 If there should be a conflict between two or more of the Contract Documents, the Architect reserves the right to determine which governs, consistent with the following order of interpretation:

- .1 Where requirements specifically set forth in the Agreement are in conflict with other Contract Documents, including, but not limited to these General Conditions, the Agreement shall govern.
- .2 In all other instances, the conflict shall be resolved by complying with the provision that is most favorable to the Owner.
- .3 When a duplicate of material or equipment occurs in the Drawings, the Specifications or other Contract Documents, each Contractor shall be deemed to have bid on the basis of each furnishing such material or equipment. The Contractor will decide which Subcontractor(s) shall furnish the same.

§ 7.2 The Contract

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind between any persons or entities other than the Owner and the Contractor.

§ 7.3 The Work

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project. The Contractor acknowledges and agrees that the Contract Documents are sufficient to provide for the completion of the Work and that the Contract Documents include work (whether or not shown or described) which reasonably may be inferred to be required or useful for the completion of the Work in accordance with applicable laws, codes and customary standards of the construction industry.

§ 7.4 Instruments of Service

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 7.5 Ownership and use of Drawings, Specifications and Other Instruments of Service

§ 7.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and will retain all common law, statutory and other reserved rights in their Instruments of Service, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 7.5.2 The Contractor, Subcontractors, Sub-subcontractors and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to the protocols established pursuant to Sections 7.6 and 7.7, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect's consultants.

§ 7.6 Digital Data Use and Transmission

The parties shall agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form.

§ 7.7 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document G202™–2013, Project Building Information Modeling Protocol Form, shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

§ 7.8 Severability

The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 7.9 Notice

§ 7.9.1 Except as otherwise provided in Section 7.9.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission in accordance with AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, if completed, or as otherwise set forth below:

(If other than in accordance with AIA Document E203–2013, insert requirements for delivering Notice in electronic format such as name, title and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)

§ 7.9.2 Notice of Claims shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

§ 7.10 Relationship of the Parties

Where the Contract is based on the Cost of the Work plus the Contractor's Fee, with or without a Guaranteed Maximum Price, the Contractor accepts the relationship of trust and confidence established by this Agreement and covenants with the Owner to cooperate with the Architect and exercise the Contractor's skill and judgment in furthering the interests of the Owner; to furnish efficient business administration and supervision; to furnish at all times an adequate supply of workers and materials; and to perform the Work in an expeditious and economical manner consistent with the Owner's interests. The Owner agrees to furnish and approve, in a timely manner, information required by the Contractor and to make payments to the Contractor in accordance with the requirements of the Contract Documents.

ARTICLE 8 OWNER

§ 8.1 Information and Services Required of the Owner

§ 8.1.3 The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 8.1.4 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 9.6.1, the Owner shall secure and pay for other necessary approvals, easements, assessments, and charges required for the construction, use, or occupancy of permanent structures or for permanent changes in existing facilities.

§ 8.2 Owner's Right to Stop the Work

If the Contractor fails to correct Work which is not in accordance with the requirements of the Contract Documents, or fails to carry out the Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order is eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity.

§ 8.3 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents, and fails within a ten-day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to any other remedies the Owner may have, correct such default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Architect may, pursuant to Section 15.4.3, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including the Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 21.

ARTICLE 9 CONTRACTOR

§ 9.1 Review of Contract Documents and Field Conditions by Contractor

§ 9.1.1 The Contractor shall review for compliance with the Contract Documents, approve in writing and submit to the Architect all Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in coordination with the Contractor's construction schedule and in such sequence as to allow the Architect reasonable time for review. By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has 1) reviewed and approved them; 2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so; and 3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents. At the time of submission, the Contractor shall inform the Architect in writing of any deviation in the Shop Drawings, Product Data and Samples from the requirements of the Contract Documents. Submittals which are not marked as reviewed for compliance with the Contract Documents and approved by the Contractor may be returned by the Architect without action. The Work shall be in accordance with approved submittals.

§ 9.1.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 8.1.2, shall take field measurements of any existing conditions related to that portion of the Work and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies, or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional unless otherwise specifically provided in the Contract Documents.

§ 9.1.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 9.1.4 Prior to submitting its bid, the Contractor shall have studied and compared the Contract Documents and shall have reported to the Architect any error, inconsistency or omission in the Contract Documents. It will be presumed that the Contractor's bid and the Contract Sum include the cost of correcting any such error, inconsistency or omission, which could have been discovered by the exercise of reasonable diligence. Unless the Contractor establishes that such error, inconsistency or omission could not have been discovered by the exercise of reasonable diligence, the Contractor will make such corrections without additional compensation so that the Work is fully functional.

§ 9.2 Supervision and Construction Procedures

§ 9.2.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters.

§ 9.2.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for or on behalf of the Contractor or any of its Subcontractors.

§ 9.3 Labor and Materials

§ 9.3.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 9.3.2 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them.

§ 9.3.3 The Contractor may make a substitution only with the consent of the Owner, after evaluation by the Architect and in accordance with a Modification.

§ 9.3.4 Asbestos-Free Product Installation

- .1** It is hereby understood and agreed that no product and/or material containing asbestos including chrysolite, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos and any combination of these materials that have been chemically treated and/or altered shall be installed or introduced into the Work by the Contractor or its employees, agents, Subcontractors, or other individuals or entities over whom the Contractor has control. If applicable, the Contractor shall be required to provide a signed certification statement ensuring that all products or materials installed or introduced into the Work will be asbestos-free.
- .2** The Contractor also shall be required to furnish certified statements from the manufacturers of supplied materials used during construction verifying their products to be asbestos-free in accordance with the requirements of Section 9.3.4.1.
- .3** The Contractor shall complete and submit to the Owner a certification evidencing asbestos-free product installation prior to issuance of the final Certificate for Payment in a form acceptable to Owner.

§ 9.4 Warranty

Logicalis is a value-added reseller and does not manufacture the Products. All products resold by Logicalis are manufactured and/or delivered by a third party. Thus, Logicalis does not provide warranties or guarantees regarding such products. To the extent available, Logicalis shall pass through the manufacturer's warranties

for each product and agrees to facilitate the manufacturer's return policies. However, in no event will Logicalis provide return or warranty coverage beyond that provided by the manufacturer. Regarding services, Logicalis represents and warrants that services will be performed in a good and workmanlike manner according to the generally accepted standards of the industry to which the services pertain. All services will be deemed to be in accordance with this warranty if not rejected by the District in reasonably detailed writing within five (5) days of performance of the services. In the event services are not in conformance with this warranty, Logicalis will take the steps necessary to correct the deficiency at no charge. THIS IS THE DISTRICT'S SOLE AND EXCLUSIVE REMEDY FOR BREACH OF THIS WARRANTY. EXCEPT AS PROVIDED HEREIN, LOGICALIS MAKES NO WARRANTIES OF ANY KIND WITH REGARD TO THE PRODUCTS OR SERVICES. LOGICALIS DISCLAIMS ALL OTHER REPRESENTATIONS AND WARRANTIES, EXPRESS OR IMPLIED, AS TO THE PRODUCTS AND SERVICES, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT. ALL SERVICE WARRANTIES ARE VOID IF THE SERVICE IS MODIFIED BY ANY PARTY OTHER THAN LOGICALIS OR ITS AUTHORIZED AGENT..

§ 9.5 Taxes

The Contractor shall pay sales, consumer, use, and other similar taxes that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect. The Contractor shall pay all state and federal taxes levied on its business, income or property and shall make all contributions for social security and other wage or payroll taxes. The Contractor shall be solely responsible for such payments and shall indemnify the Owner and hold it harmless from same. The Contractor shall include and shall deem to have been included in its bid all Michigan Sales and Use Taxes.

§ 9.6 Permits, Fees, Notices, and Compliance with Laws

§ 9.6.1 The Contractor shall secure and pay for any and all permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 9.6.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work. If the Contractor performs Work contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 9.7 Allowances

The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. The Owner shall select materials and equipment under allowances with reasonable promptness. Allowance amounts shall include the costs to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts. Contractor's costs for unloading and handling at the site, labor, installation, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowance.

§ 9.8 Contractor's Construction Schedules

§ 9.8.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

§ 9.8.2 The Contractor shall perform the Work in general accordance with the most recent schedule submitted to the Owner and Architect.

§ 9.8.3 The Contractor's schedule, which shall include specific dates and estimated man hours or man days to complete the task shall be provided on a building-by-building basis.

§ 9.9 Submittals

§ 9.9.1 The Contractor shall review for compliance with the Contract Documents, approve in writing and submit to the Architect all Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in coordination with the Contractor's construction schedule and in such sequence as to allow the Architect reasonable time for review. By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has 1) reviewed and approved them; 2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so; and 3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents. At the time of submission, the Contractor shall inform the Architect in writing of any deviation in the Shop Drawings, Product Data and Samples from the requirements of the Contract Documents. Submittals which are not marked as reviewed for compliance with the Contract Documents and approved by the Contractor may be returned by the Architect without action. The Work shall be in accordance with approved submittals.

§ 9.9.2 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents.

§ 9.9.3 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents or unless the Contractor needs to provide such services in order to carry out the Contractor's own responsibilities. If professional design services or certifications by a design professional are specifically required, the Owner and the Architect will specify the performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional. If no criteria are specified, the design shall comply with applicable codes and ordinances. Each Party shall be entitled to rely upon the information provided by the other Party. The Architect will review and approve or take other appropriate action on submittals for the limited purpose of checking for conformance with information provided and the design concept expressed in the Contract Documents. The Architect's review of Shop Drawings, Product Data, Samples, and similar submittals shall be for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. In performing such review, the Architect will approve, or take other appropriate action upon, the Contractor's Shop Drawings, Product Data, Samples, and similar submittals.

§ 9.10 Use of Site

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 9.11 Cutting and Patching

The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly.

§ 9.12 Cleaning Up

The Contractor shall keep the premises and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus material from and about the Project.

§ 9.13 Access to Work

The Contractor shall provide the Owner and Architect with access to the Work in preparation and progress wherever located.

§ 9.14 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Architect. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect.

§ 9.15 Indemnification

§ 9.15.1 Logicalis takes exception to this clause. Logicalis can provide the following indemnity: Logicalis can agree to indemnify the Owner, its Board of Education and its Board Members, in their individual capacities, administrators, employees, agents, architects, contractors, successors and assignees, from and against any and all costs, expenses, damages, and liabilities, including reasonable attorney's fees, made or brought by a third party resulting from Logicalis' negligent acts or omissions, a Subcontractor, anyone directly employed by Logicalis.

§ 9.15.2 In claims against any person or entity indemnified under this Section 9.15 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 9.15.1 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

ARTICLE 10 ARCHITECT

§ 10.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction, until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents, unless otherwise modified in writing in accordance with other provisions of the Contract.

§ 10.2 Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Contractor, and Architect. Consent shall not be unreasonably withheld.

§ 10.3 The Architect will visit the site at intervals appropriate to the stage of the construction to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general, if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

§ 10.4 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 10.5 Based on the Architect's evaluations of the Work and of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 10.6 The Architect has authority to reject Work that does not conform to the Contract Documents and to require inspection or testing of the Work.

§ 10.7 The Architect will review and approve or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

§ 10.8 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect will make initial decisions on all claims, disputes, and other matters in question between the Owner and Contractor but will not be liable for results of any interpretations or decisions rendered in good faith.

§ 10.9 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

ARTICLE 11 SUBCONTRACTORS

§ 11.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site.

§ 11.2 Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the Subcontractors or suppliers proposed for each of the principal portions of the Work. The Contractor shall not contract with any Subcontractor or supplier to whom the Owner or Architect has made reasonable written objection within ten days after receipt of the Contractor's list of Subcontractors and suppliers. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 11.3 Contracts between the Contractor and Subcontractors shall (1) require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by the terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by the Contract Documents, assumes toward the Owner and Architect, and (2) allow the Subcontractor the benefit of all rights, remedies and redress against the Contractor that the Contractor, by these Contract Documents, has against the Owner.

ARTICLE 12 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 12.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

§ 12.2 The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's activities with theirs as required by the Contract Documents.

§ 12.3 The Owner shall be reimbursed by the Contractor for costs incurred by the Owner which are payable to a Separate Contractor because of delays, improperly timed activities, or defective construction of the Contractor.

ARTICLE 13 CHANGES IN THE WORK

§ 13.1 By appropriate Modification, changes in the Work may be accomplished after execution of the Contract. The Owner, without invalidating the Contract, may order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, with the Contract Sum and Contract Time being adjusted accordingly. Such changes in the Work shall be authorized by written Change Order signed by the Owner, Contractor, and Architect, or by written Construction Change Directive signed by the Owner and Architect. Upon issuance of the Change Order or Construction Change Directive, the Contractor shall proceed promptly with such changes in the Work, unless otherwise provided in the Change Order or Construction Change Directive.

§ 13.2 Adjustments in the Contract Sum and Contract Time resulting from a change in the Work shall be determined by mutual agreement of the parties or, in the case of a Construction Change Directive signed only by the Owner and Architect, by the Contractor's cost of labor, material, equipment, and reasonable overhead and profit, unless the parties agree on another method for determining the cost or credit. Pending final determination of the total cost of a Construction Change Directive, the Contractor may request payment for Work completed pursuant to the Construction Change Directive. The Architect will make an interim determination of the amount of payment due for purposes of certifying the Contractor's monthly Application for Payment. When the Owner and Contractor agree on adjustments to the Contract Sum and Contract Time arising from a Construction Change Directive, the Architect will prepare a Change Order.

§ 13.3 The Architect will have authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes shall be effected by written order and shall be binding on the Owner and Contractor. The Contractor shall carry out such written orders promptly. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work.

§ 13.4 If concealed or unknown physical conditions are encountered at the site that differ materially from those indicated in the Contract Documents or from those conditions ordinarily found to exist, the Contract Sum and Contract Time shall be equitably adjusted as mutually agreed between the Owner and Contractor; provided that the Contractor provides notice to the Owner and Architect promptly and before conditions are disturbed.

ARTICLE 14 TIME

§ 14.1 The Products purchased by The District are delivered by a third-party carrier not under the direct control of the Vendor. As such, while the Vendor will use commercially reasonable efforts to meet agreed-upon delivery timelines, it cannot guarantee delivery by a specific date due to variables outside its control, including but not limited to carrier delays, weather conditions, customs clearance, or supply chain disruptions. Additionally, Vendor does not accept open-ended liability for consequential or indirect damages related to late delivery where such delay is caused by factors beyond its reasonable control. Any remedies for delay must be subject to mutual good faith discussion and shall not include penalties or the right to procure from alternate sources without prior written notice and opportunity to cure. The District may not cancel the purchase order without first providing reasonable written notice of the alleged delay and affording the Vendor a reasonable opportunity to remedy the issue.

ARTICLE 15 PAYMENTS AND COMPLETION

§ 15.1 Schedule of Values

§ 15.1.1 Where the Contract is based on a Stipulated Sum or the Cost of the Work with a Guaranteed Maximum Price pursuant to Section 3.2 or 3.4, the Contractor shall submit a schedule of values to the Architect before the first Application for Payment, allocating the entire Stipulated Sum or Guaranteed Maximum Price to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy required by the Architect. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment. The form of Application for Payment shall be a notarized AIA Document G702, Application and Certification for Payment, supported by AIA Document G703, Continuation Sheet.

§ 15.1.2 The allocation of the Stipulated Sum or Guaranteed Maximum Price under this Section 15.1 shall not constitute a separate stipulated sum or guaranteed maximum price for each individual line item in the schedule of values.

§ 15.2 Control Estimate

§ 15.2.1 Where the Contract Sum is the Cost of the Work, plus the Contractor's Fee without a Guaranteed Maximum Price pursuant to Section 3.3, the Contractor shall prepare and submit to the Owner a Control Estimate within 14 days of executing this Agreement. The Control Estimate shall include the estimated Cost of the Work plus the Contractor's Fee.

§ 15.2.2 The Control Estimate shall include:

- .1** the documents enumerated in Article 6, including all Modifications thereto;
- .2** a list of the assumptions made by the Contractor in the preparation of the Control Estimate to supplement the information provided by the Owner and contained in the Contract Documents;
- .3** a statement of the estimated Cost of the Work organized by trade categories or systems and the Contractor's Fee;
- .4** a project schedule upon which the Control Estimate is based, indicating proposed Subcontractors, activity sequences and durations, milestone dates for receipt and approval of pertinent information, schedule of shop drawings and samples, procurement and delivery of materials or equipment the Owner's occupancy requirements, and the date of Substantial Completion; and
- .5** a list of any contingency amounts included in the Control Estimate for further development of design and construction.

§ 15.2.3 When the Control Estimate is acceptable to the Owner and Architect, the Owner shall acknowledge it in writing. The Owner's acceptance of the Control Estimate does not imply that the Control Estimate constitutes a Guaranteed Maximum Price.

§ 15.2.4 The Contractor shall develop and implement a detailed system of cost control that will provide the Owner and Architect with timely information as to the anticipated total Cost of the Work. The cost control system shall compare the Control Estimate with the actual cost for activities in progress and estimates for uncompleted tasks and proposed changes. This information shall be reported to the Owner, in writing, no later than the Contractor's first Application for Payment and shall be revised and submitted with each Application for Payment.

§ 15.2.5 The Owner shall authorize preparation of revisions to the Contract Documents that incorporate the agreed-upon assumptions contained in the Control Estimate. The Owner shall promptly furnish such revised Contract Documents to the Contractor. The Contractor shall notify the Owner and Architect of any inconsistencies between the Control Estimate and the revised Contract Documents.

§ 15.3 Applications for Payment

§ 15.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 15.1, for completed portions of the Work. The application shall be notarized, if required; be supported by all data substantiating the Contractor's right to payment that the Owner or Architect require; shall reflect retainage if provided for in the Contract Documents; and include any revised cost control information required by Section 15.2.4. Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 15.3.2 With each Application for Payment where the Contract Sum is based upon the Cost of the Work, or the Cost of the Work with a Guaranteed Maximum Price, the Contractor shall submit payrolls, petty cash accounts, receipted invoices or invoices with check vouchers attached, and any other evidence required by the Owner to demonstrate that cash disbursements already made by the Contractor on account of the Cost of the Work equal or exceed progress payments already received by the Contractor plus payrolls for the period covered by the present Application for Payment, less that portion of the progress payments attributable to the Contractor's Fee.

§ 15.3.3 Payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment stored, and protected from damage, off the site at a location agreed upon in writing.

§ 15.3.4 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or other encumbrances adverse to the Owner's interests.

§ 15.4 Certificates for Payment

§ 15.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner of the Architect's reasons for withholding certification in whole or in part as provided in Section 15.4.3.

§ 15.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluations of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment in the amount certified. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Architect. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received

from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 15.4.3 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 15.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 15.4.1. If the Contractor and the Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 9.2.2, because of

- .1 defective Work not remedied or the Contractor in default on the Agreement;
- .2 third-party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a Separate Contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.
- .8 the Work not having proceeded to the extent set forth in the Application for Payment;
- .9 representations of the Contractor are untrue;
- .10 failure to conform to the Project schedule;
- .11 default in the performance of any of its obligations to the Owner under another contract; or
- .12 failure to provide sufficiently skilled labor.

§ 15.4.4 When either party disputes the Architect's decision regarding a Certificate for Payment under Section 15.4.3, in whole or in part, that party may submit a Claim in accordance with Article 21.

§ 15.4.5 If the Contractor disputes any determination by the Owner with regard to any Certificate for Payment, the Contractor shall nevertheless continue to expeditiously perform the Work and such dispute shall provide no basis for any manner of suspension of the Contractor's performance of the Work.

§ 15.5 Progress Payments

§ 15.5.1 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to sub-subcontractors in a similar manner.

§ 15.5.2 Neither the Owner nor Architect shall have an obligation to pay or see to the payment of money to a Subcontractor or supplier except as may otherwise be required by law.

§ 15.5.3 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 15.5.4 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

§ 15.6 Substantial Completion

§ 15.6.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 15.6.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 15.6.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. When the Architect determines that the Work or designated portion thereof is substantially complete, the Architect will issue a Certificate of Substantial Completion which shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 15.6.4 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 15.7 Final Completion and Final Payment

§ 15.7.1 Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions stated in Section 15.7.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 15.7.2 Final payment shall not become due until the Contractor has delivered to the Owner a complete release of all liens arising out of this Contract or receipts in full covering all labor, materials and equipment for which a lien could be filed, or a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including costs and reasonable attorneys' fees.

§ 15.7.3 The making of final payment shall constitute a waiver of claims by the Owner.

§ 15.7.4 Acceptance of final payment by the Contractor shall constitute a waiver of all claims by the Contractor except those previously made by the Contractor in writing and identified by the Contractor as unsettled at the time of the final Application for Payment.

ARTICLE 16 PROTECTION OF PERSONS AND PROPERTY

§ 16.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation, or replacement in the course of construction.

The Contractor shall comply with, and give notices required by, applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons and property and their protection from damage, injury, or loss. The Contractor shall promptly remedy damage and loss to property caused in whole or in part by the Contractor, a Subcontractor, a sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 16.1.2 and 16.1.3. The Contractor may make a claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 9.15.

The Contractor shall take all reasonable safety precautions with respect to its Work and the work of others, shall comply with all standard industry safety measures and shall comply with all applicable laws, ordinances, rules, regulations and orders of any public authority and all other requirements of the Contract Documents, including those applicable to the safety of persons or property. The Contractor shall be responsible for the safety of all of the Contractor's employees and the safety of all of the Contractor's Subcontractors, suppliers, and their employees. The Contractor shall report in writing to the Architect any injury to any of Contractor's or its Subcontractors' employees at the site within one (1) day after the occurrence of such injury.

If the Contractor suffers injury or damage to person or property because of an act or omission of the Owner, or of others for whose acts the Owner is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the Owner within a reasonable time not exceeding twenty-one (21) days after discovery. The notice shall provide sufficient detail to enable the Owner to investigate the matter. This provision shall be for investigative purposes only and shall not eliminate or reduce a party's obligation to pursue claims. The Contractor's failure to do so shall be an irrevocable waiver of any claim arising out of such injury or damage. Injury or damage to persons or property suffered by the Owner because of an act or omission of the Contractor or others for whose acts the Contractor is legally responsible shall be subject to the limitations provisions established by Michigan law.

§ 16.2 Hazardous Materials and Substances

§ 16.2.1 The Contractor is responsible for compliance with the requirements of the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents, and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

§ 16.2.2 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area, if in fact, the material or substance presents the risk of bodily injury or death as described in Section 16.2.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.

§ 16.2.3 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall indemnify the Contractor for all cost and expense thereby incurred.

ARTICLE 17 INSURANCE AND BONDS

§ 17.1 Contractor's Insurance

§ 17.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in this Section 17.1 or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the insurance required by this Agreement from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Contractor shall maintain the required insurance until the expiration of the period for correction of Work as set forth in Section 18.4, unless a different duration is stated below:

§ 17.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in this Section 17.1 or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the insurance required by this Agreement from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Contractor shall maintain the required insurance until the expiration of the period for correction of Work as set forth in Section 18.4, unless a different duration is stated below:

§ 17.1.2 Commercial General Liability insurance for the Project written on an occurrence form with policy limits of not less than one million dollars (\$ 1,000,000) each occurrence, one million dollars (\$ 1,000,000) general aggregate, and one million dollars (\$ 1,000,000) aggregate for products-completed operations hazard, providing coverage for claims including

- .1 damages because of bodily injury, sickness or disease, including occupational sickness or disease, and death of any person;
- .2 personal and advertising injury;
- .3 damages because of physical damage to or destruction of tangible property, including the loss of use of such property;
- .4 bodily injury or property damage arising out of completed operations; and
- .5 the Contractor's indemnity obligations under Section 9.15.

§ 17.1.3 Automobile Liability covering vehicles owned by the Contractor and non-owned vehicles used by the Contractor, with policy limits of not less than one million dollars (\$ 1,000,000) per accident, for bodily injury, death of any person, and property damage arising out of the ownership, maintenance, and use of those motor vehicles along with any other statutorily required automobile coverage.

§ 17.1.4 The Contractor may achieve the required limits and coverage for Commercial General Liability and Automobile Liability through a combination of primary and excess or umbrella liability insurance, provided such primary and excess or umbrella insurance policies result in the same or greater coverage as those required under Section 17.1.2 and 17.1.3, and in no event shall any excess or umbrella liability insurance provide narrower coverage than the primary policy. The excess policy shall not require the exhaustion of the underlying limits only through the actual payment by the underlying insurers.

§ 17.1.5 Workers' Compensation at statutory limits.

§ 17.1.6 Employers' Liability with policy limits not less than one million dollars (\$ 1,000,000) each accident, one million dollars (\$ 1,000,000) each employee, and one million dollars (\$ 1,000,000) policy limit.

§ 17.1.7 If the Contractor is required to furnish professional services as part of the Work, the Contractor shall procure Professional Liability insurance covering performance of the professional services, with policy limits of not less than one million dollars (\$ 1,000,000) per claim and one million dollars (\$ 1,000,000) in the aggregate.

§ 17.1.8 If the Work involves the transport, dissemination, use, or release of pollutants, the Contractor shall procure Pollution Liability insurance, with policy limits of not less than one million dollars (\$ 1,000,000) per claim and one million dollars (\$ 1,000,000) in the aggregate.

§ 17.1.9 Coverage under Sections 17.1.7 and 17.1.8 may be procured through a Combined Professional Liability and Pollution Liability insurance policy, with combined policy limits of not less than one million dollars (\$ 1,000,000) per claim and one million dollars (\$ 1,000,000) in the aggregate.

§ 17.1.10 The Contractor shall provide certificates of insurance acceptable to the Owner evidencing compliance with the requirements in this Section 17.1 at the following times: (1) prior to commencement of the Work; (2) upon renewal or replacement of each required policy of insurance; and (3) upon the Owner's written request. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment and thereafter upon renewal or replacement of such coverage until the expiration of the period required by Section 17.1.1. The certificates will show the Owner as an additional insured on the Contractor's Commercial General Liability and excess or umbrella liability policy.

§ 17.1.11 The Contractor shall disclose to the Owner any deductible or self-insured retentions applicable to any insurance required to be provided by the Contractor.

§ 17.1.12 To the fullest extent permitted by law, the Contractor shall cause the commercial liability coverage required by this Section 17.1 to include (1) the Owner, the Architect, and the Architect's Consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions for which loss occurs during completed operations. The additional insured coverage shall be primary and non-contributory to any of the Owner's general liability insurance policies and shall apply to both ongoing and completed operations. To the extent commercially available, the additional insured coverage shall be no less than that provided by Insurance Services Office, Inc. (ISO) forms CG 20 10 07 04, CG 20 37 07 04, and, with respect to the Architect and the Architect's Consultants, CG 20 32 07 04.

§ 17.1.13 Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by this Section 17.1, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

§ 17.1.14 Other Insurance Provided by the Contractor

(List below any other insurance coverage to be provided by the Contractor and any applicable limits.)

Coverage	Limits

§ 17.2 Owner's Insurance

§ 17.2.1 Owner's Insurance

The Owner shall be responsible for purchasing and maintaining the Owner's usual liability and other insurance.

§ 17.2.2 Property Insurance

§ 17.2.2.1 The Owner shall purchase and maintain, from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located, property insurance written on a builder's risk "all-risks" completed value or equivalent policy form and sufficient to cover the total value of the entire Project on a replacement cost basis. The Owner's property insurance coverage shall be no less than the amount of the initial Contract Sum, plus the value of subsequent Modifications and labor performed or materials or equipment supplied by others. The property insurance shall be maintained until Substantial Completion and thereafter as provided in Section 17.2.2.2, unless otherwise provided in the Contract Documents or otherwise agreed in writing by the parties to this Agreement. This insurance shall include the interests of the Owner, Contractor, Subcontractors, and Sub-subcontractors in the Project as insureds. This insurance shall include the interests of mortgagees as loss payees.

§ 17.2.2.2 Unless the parties agree otherwise, upon Substantial Completion, the Owner shall continue the insurance required by Section 17.2.2.1 or, if necessary, replace the insurance policy required under Section 17.2.2.1 with property insurance written for the total value of the Project that shall remain in effect until expiration of the period for correction of the Work set forth in Section 18.4.

§ 17.2.2.3 If the insurance required by this Section 17.2.2 is subject to deductibles or self-insured retentions, the Owner shall be responsible for all loss not covered because of such deductibles or retentions.

§ 17.2.2.4 If the Work involves remodeling an existing structure or constructing an addition to an existing structure, the Owner shall purchase and maintain, until the expiration of the period for correction of Work as set forth in Section 18.4, “all-risks” property insurance, on a replacement cost basis, protecting the existing structure against direct physical loss or damage, notwithstanding the undertaking of the Work. The Owner shall be responsible for all co-insurance penalties.

§ 17.2.2.5 Prior to commencement of the Work, the Owner shall secure the insurance, and provide evidence of the coverage, required under this Section 17.2.2 and, upon the Contractor’s request, provide a copy of the property insurance policy or policies required by this Section 17.2.2. The copy of the policy or policies provided shall contain all applicable conditions, definitions, exclusions, and endorsements.

§ 17.2.2.6 Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any insurance required by this Section 17.2.2, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.

§ 17.2.2.7 Waiver of Subrogation

§ 17.2.2.7.1 The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect’s consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by this Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect’s consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this Section 17.2.2.7 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

§ 17.2.2.7.2 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 17.2.2.7.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

§ 17.2.2.8 A loss insured under the Owner’s property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements, written where legally required for validity, the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

§ 17.2.3 Other Insurance Provided by the Owner

(List below any other insurance coverage to be provided by the Owner and any applicable limits.)

Coverage	Limits

§ 17.3 Performance Bond and Payment Bond

§ 17.3.1 The Owner hereby requires the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder each in the penal sum of 100% of the Contract Sum and in accordance with applicable law on the date of execution of the Contract. Bonds shall be obtained from a company licensed to do business in the State of Michigan and the cost thereof shall be included in the Contract Sum.

§ 17.3.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

§ 17.3.3 The Architect shall obtain copies of the Performance Bond and Payment Bond required by the Agreement from the Contractor prior to the Contractor beginning performance pursuant to the Agreement. The Contractor's obligation to provide such bonds shall not be waived in any fashion, including any failure to secure such bonds prior to the Contractor beginning performance pursuant to the Agreement.

ARTICLE 18 CORRECTION OF WORK

§ 18.1 The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed, or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 18.2 In addition to the Contractor's obligations under Section 9.4, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 15.6.3, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition.

§ 18.3 If the Contractor fails to correct nonconforming Work within a reasonable time, the Owner may correct it in accordance with Section 8.3.

§ 18.4 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 18.5 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Article 18.

§ 18.6 The Contractor shall respond immediately to correct Work deficiencies and/or punch list items. Failure to correct Work deficiencies and/or punch list items in a timely fashion shall be a material breach and the Owner may terminate the Contract. Whether or not the Contract is terminated, if the Contractor fails to make corrections in a timely fashion, such Work may be corrected by the Owner, in its sole discretion, at the Contractor's expense and the Contract Sum may be adjusted by back charge accordingly. The Contractor shall promptly notify the Architect in writing when Work deficiencies and/or punch list items are completed. If upon review of the Work by the Architect after such notification by the Contractor, Work deficiencies and/or punch list items shall continue to exist, the Contractor shall reimburse the owner for any costs incurred by the Owner. Failure to pay such costs within ten (10) days of receipt of a demand regarding the same shall permit the Owner to pay such costs out of retainage held by the Owner on the Contractor's contract.

ARTICLE 19 MISCELLANEOUS PROVISIONS

§ 19.1 Assignment of Contract

Neither party to the Contract shall assign the Contract without written consent of the other, except that the Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate such assignment.

§ 19.2 Governing Law

The Contract shall be governed by the law of the place where the Project is located, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 21.6.

§ 19.3 Tests and Inspections

Tests, inspections, and approvals of portions of the Work required by the Contract Documents or by applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities shall be made at an appropriate time. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

§ 19.4 The Owner's representative:

(Name, address, email address and other information)

Refer to signature page

§ 19.5 The Contractor's representative:

(Name, address, email address and other information)

Refer to signature page

§ 19.6 Neither the Owner's nor the Contractor's representative shall be changed without ten days' prior notice to the other party.

ARTICLE 20 TERMINATION OF THE CONTRACT

§ 20.1 Termination by the Contractor

If the Architect fails to certify payment as provided in Section 15.4.1 for a period of 30 days through no fault of the Contractor, or if the Owner fails to make payment as provided in Section 4.1.3 for a period of 30 days, the Contractor may, upon seven additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages.

§ 20.2 Termination by the Owner for Cause

§ 20.2.1 The Owner may terminate the Contract if the Contractor

- .1 refuses or fails to supply enough properly skilled workers or proper materials to the point of negatively impacting the Project and/or the related schedule;
- .2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- .3 disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents; or
- .5 fails to prosecute the Work or any part thereof with promptness and diligence, fails to perform any provisions of this Agreement, goes into bankruptcy or liquidation, makes an assignment for the benefit of creditors, enters into a composition with its creditors or becomes insolvent..

§ 20.2.2 When any of the reasons described in Section 20.2.1 exists, the Owner, upon certification by the Architect that sufficient cause exists to justify such action, may, without prejudice to any other remedy the Owner may have and after giving the Contractor three (3) days' notice, terminate the Contract and take possession of the site and of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor and may finish the Work by whatever reasonable method the Owner may deem expedient. Upon request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 20.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 20.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 20.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Architect, upon application, and this obligation for payment shall survive termination of the Contract.

§ 20.3 Termination by the Owner for Convenience

The District shall have the right to terminate this Contract or any order under this Contract for convenience, by providing Logicalis thirty (30) days written notice. The termination of this Contract will impact outstanding Statements of Work or Orders as follows:

- a. Orders for products are non-cancelable unless the manufacturer or supplier is able to cancel without penalty. The District shall pay for all losses related to such cancelation.
- b. Statements of Work or Orders for Services – shall be cancellable on no less than thirty days' notice provided the District agrees to pay all fees due under any Statement of Work or Orders which has been completed or fees due for any portion of work which has been completed.

ARTICLE 21 CLAIMS AND DISPUTES

§ 21.1 Claims, disputes, and other matters in question arising out of or relating to this Contract, including those alleging an error or omission by the Architect but excluding those arising under Section 16.2, shall be referred initially to the Architect for decision. Such matters, except those waived as provided for in Section 21.11 and Sections 15.7.3 and 15.7.4, shall, after initial decision by the Architect or 30 days after submission of the matter to the Architect, be subject to mediation as a condition precedent to binding dispute resolution. The Contractor shall not

knowingly (as "knowingly" is defined in the Federal False Claims Act, 31 USC 3729, et seq.) present or cause to be presented a false or fraudulent claim. As a condition precedent to making a claim by the Contractor, the claim shall be accompanied by an affidavit sworn to before a notary public or other person authorized to administer oaths in the State of Michigan and executed by an authorized representative of the Contractor, which states that "The claim which is submitted herewith complies with Section 21.1 of the Owner/Contractor Agreement, as amended, which provides that the Contractor shall not knowingly present or cause to be presented a false or fraudulent claim." Claims of the Contractor must be initiated by written notice to the Owner and to the Architect within twenty-one (21) days after occurrence of the event giving rise to such claim or within twenty-one (21) days after the claimant first recognizes the condition giving rise to the claim, whichever is later. A failure to timely raise such claims in accordance with the 21-day period stated in this section shall be an absolute bar against and waiver of pursuing such claims against the Owner. Claims of the Owner shall be governed by the relevant Michigan statutory limitations period.

§ 21.2 Notice of Claims

§ 21.2.1 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 18.2, shall be initiated by notice to the Architect within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 21.2.2 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 18.2, shall be initiated by notice to the other party.

§ 21.3 Time Limits on Claims

The Owner and Contractor shall commence all claims and causes of action against the other and arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in this Agreement whether in contract, tort, breach of warranty, or otherwise, within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all claims and causes of action not commenced in accordance with this Section 21.3.

§ 21.4 If a claim, dispute or other matter in question relates to or is the subject of a mechanic's lien, the party asserting such matter may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 21.5 The parties shall endeavor to resolve their disputes by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with their Construction Industry Mediation Procedures in effect on the date of this Agreement. A request for mediation shall be made in writing, delivered to the other party to this Agreement, and filed with the person or entity administering the mediation. The request may be made concurrently with the binding dispute resolution but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 21.6 If the parties have selected arbitration as the method for binding dispute resolution in this Agreement, any claim, subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association, in accordance with the Construction Industry Arbitration Rules in effect on the date of this Agreement. Demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 21.7 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party, at its sole discretion, may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation; (2) the arbitrations to be consolidated substantially involve common questions of law or fact; and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 21.8 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, any party to an arbitration may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of a Claim not described in the written Consent.

§ 21.9 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to this Agreement, shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

§ 21.10 Continuing Contract Performance

Pending final resolution of a Claim, except as otherwise agreed in writing, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 21.11 Waiver of Claims for Consequential Damages

The Contractor and Owner waive claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and

- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 20. Nothing contained in this Section 21.11 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

This Agreement entered into as of the day and year first written above.

OWNER *(Signature)*

(Printed name and title)

CONTRACTOR *(Signature)*

(Printed name and title)

Certification of Document's Authenticity

I, Bruce Snyder, hereby certify, to the best of my knowledge, information and belief, that I created the attached final document and that in preparing the attached final document I made no changes to the original text of AIA Document A104 – 2017 Standard Abbreviated Form of Agreement Between Owner and Contractor.

(Signed)

Senior Vice President
(Title)

December 15, 2026
(Dated)

SECTION 01 0000 – GENERAL REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Permits and Fees.
 - 2. Work Restrictions.
 - 3. Contract Modification Procedures.
 - 4. Payment Procedures.
 - 5. Project Management and Coordination.
 - 6. Project Progress Documentation.
 - 7. References.
 - 8. Temporary Facilities and Controls.
 - 9. Execution Requirements.
 - 10. Progress Cleaning.

1.3 PERMITS AND FEES

- A. Obtain all permits and licenses required. Contractor shall pay all permit fees.
- B. If required by the Bureau of Construction Codes, the Contractor shall be responsible for preparing and submitting any Drawings required for such permits, including retaining the services of a professional engineer licensed in the State of Michigan.
- C. If applicable, obtain all inspections and tests required. Upon completion of the work, obtain and send certificates of inspections and approvals to the Technology Designer/Engineer.
- D. Include time in your bid response to walk the inspector thru the buildings during inspections.

1.4 WORK RESTRICTIONS

- A. Use of Premises: Limit the use of the premises to work in areas indicated. Do not disturb portions of the site beyond areas in which the Work is indicated. Allow for Owner occupancy and use by the public.
- B. Repair damage caused by construction operations. Take all precautions necessary to protect the building and its occupants during the construction period.
 - 1. The Contractor and each Subcontractor will be expected to have visited the site and appraise the existing situation and circumstances of operation.
 - 2. Consult with the Owner as to the availability of space for storage of materials and places of access to the work, etc. Materials and equipment must be placed to avoid interferences with the Owner's operations and shall be moved when so required.
 - 3. Comply with the Owner's requirements with regard to entrance, movement within and exit of all trucks, equipment, and personnel.
 - 4. The Owner reserves the right to perform construction work similar in nature to the work included under this Contract, in the same area concurrently with the Contractor, with his own forces, or with other Contractors, without conflict of any nature.

- C. Full Owner Occupancy: The Owner will occupy the site and building during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner operations.
- D. Owner's Right to Place Equipment: The Owner reserves the right to occupy and to place and install equipment in completed areas of the building, prior to Substantial Completion, provided that such occupancy does not interfere with completion of the Work. Such placing of equipment and partial occupancy shall not constitute acceptance of the total Work.
- E. Owner-Furnished Equipment: The Owner will provide equipment as indicated. The Work includes providing support systems to receive Owner's equipment, and mechanical and electrical connections.
 - 1. The Owner will arrange and pay for delivery of Owner-furnished items in accordance with the Contractor's Construction Schedule, and will inspect deliveries for damage.
 - 2. If Owner-furnished items are damaged, defective or missing, the Owner will arrange for replacement. The Owner will also arrange for manufacturer's field services.
 - 3. The Contractor is responsible for designating the delivery dates of Owner-furnished items in the Contractor's Construction Schedule and for receiving, unloading and handling Owner-furnished items at the site. The Contractor is responsible for protecting Owner-furnished items from damage, including damage from exposure to the elements, and to repair or replace items damaged as a result of his operations.
- F. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
 - 1. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Owner will remove hazardous materials under a separate contract.
- G. Utility Tie-Ins: All utility connections, disconnections, tie-ins, shut-downs, and similar work to existing services which would interfere with Owner's operations, must be performed on premium or overtime (Owner's non-standard work hours) basis with all costs included in the proposal lump sum price. All required connections, disconnections, tie-ins and shut-downs of system shall be scheduled in advance, prearranged and approved by the Owner's Representative.
- H. No welding, flame cutting or other operations involving the use of flame, arcs or sparking devices will be allowed, unless prior approval is obtained from the Owner's Representative and all precautions are taken, including temporary fire resistant barriers and stand-by fire extinguishers.
- I. Damage to Other Work: The Contractor shall repair, replace, or touch-up all finished surfaces in the building which may be damaged as a result of his work or operations.
- J. Utilities or other services encountered or otherwise found shall be protected from any damage, unless or until they are abandoned. If the utilities or services are not abandoned, immediately repair any damage from work and operations of this Contract. Immediately repair any damage from the Work or operations and restore the utilities and services to an equal or better condition than that which existing prior to the damage or disruption.
- K. Enforce strict discipline and good order among the Contractor's employees and subcontractor's.
 - 1. Foul or abusive language or demeanor will not be tolerated.
 - 2. Contractor's employees and subcontractor's shall dress in a neat workmanlike manner.
 - 3. Smoking or vaping, or use of marijuana products of any kind is prohibited anywhere on school property.
 - 4. Conversations with students by the Contractor's employees or subcontractors are prohibited.
 - 5. Possession, sale or consumption of alcoholic beverages on Owner's property is strictly prohibited.
 - 6. The manufacturing, distribution, dispensing, possession or use of unlawful drugs on Owner's property is strictly prohibited and may result in criminal prosecution.

- L. The Owner's facilities are considered a "weapon free school zone" as defined in Section 237a of the Michigan penal code, Act No. 328 of the Public Acts of 1931, being section 750.237a of the Michigan Compiled Laws and are subject to the following:
 - 1. If you own a firearm and obtain a concealed weapons permit, you are required by Michigan law to know that there are "Pistol Free" zones in Michigan. It is illegal to carry a pistol on school property, into public or private day care centers, sports arenas, churches, hospitals, casinos, a dormitory, or classroom of a college or university, an entertainment facility that seats 2,500 people or more, and a dining room, lounge, or bar area of a premises licensed under the Liquor Control Commission (MCL 28.425.01).
- M. Use of Owner's Cafeteria: Contractor will not be allowed the use of the Owner's cafeteria.
- N. Follow all procedures, as directed by the Owner, to observe social distancing restrictions and COVID-19 building access procedures.

1.5 CONTRACT MODIFICATION PROCEDURES

- A. Engineer/Technology Designer's Supplemental Instructions: After award of Contract, the Engineer/Technology Designer has the authority to order minor changes in the Work, not involving adjustments in the contract sum or extension of the contract time and not inconsistent with the intent of the contract Documents.
- B. Construction Change Directive (CCD): A written order prepared by the Engineer/Technology Designer and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract sum or contract time or both.
 - 1. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the construct Sum and Contract Time being adjusted accordingly.
- C. Bulletins: After award of Contract, the Contractor as required shall quote changes in the work described in Bulletins or otherwise. Bulletins are a request by the Owner for pricing for work not included in the original contract. Bulletins are not authorization to proceed with the quoted work.
- D. Except as otherwise specifically mentioned, the general character of the work covered by these Bulletins shall be the same as originally specified for the project and all incidental items required in connection with the work hereinafter described shall be included even though not specifically mentioned. Where an item is mentioned with no additional specifications given, reference is to be made to the original specifications. All applicable parts of the original specifications shall apply.
- E. Submit detailed itemized quotations for each item of work described, stating fully the amounts for additions and deductions.
- F. Quotations should be received by the Technology Designer/Engineer within one (1) week of issuance of the Bulletin.
- G. Bulletins accepted by the Owner will be issued as a change order to the original contract. An executed change order is authorization for the Contractor to proceed with and bill for the quoted work as defined on the bulletin.

1.6 PAYMENT PROCEDURES

- A. All billing for services and equipment MUST occur on or after July 1, 2026, to comply with the E-rate 2026-2027 years.
- B. Schedule of Values: Submit the Schedule of Values as a preliminary Application for Payment to the Technology Designer/Engineer at least 7 days before submittal of the initial Application for Payment.
 - 1. Format and Content: Use AIA Documents G702 and G703.
 - a. Provide a breakdown of the Contract Sum building by building in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports. Break principal subcontract amounts down into several line items. Coordinate breakdown with the District, the District's Technology Consultant and the District's E-rate Consultant. Include % of E-Rate eligibility for each line item.
 - b. Round amounts off to the nearest whole dollar; the total shall equal the Contract Sum.
 - c. Where an Application for Payment may include materials or equipment, purchased or fabricated and stored, but not yet installed, provide separate line items on the Schedule of Values for initial cost of the materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
 - d. Margins of Cost: Show line items for indirect costs, and margins on actual costs, only to the extent that such items will be listed individually in Applications for Payment. Each item in the Schedule of Values and Applications for Payment shall be complete including its total cost and proportionate share of general overhead and profit margin.
 - 1) At the Contractor's option, temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown as separate line items in the Schedule of Values or distributed as general overhead expense.
- C. Each Application for Payment shall be consistent with previous applications and payments as certified by the Technology Designer/Engineer and paid for by the Owner.
 - 1. The Application for Payment at time of Substantial Completion and the final Application for Payment involve additional requirements.
- D. Payment Application Times: Should E-rate funding be denied prior to July 1, 2027, the following procedure will prevail. The date for each progress payment submission is the 10th day of each month. The period of construction Work covered by each Application for Payment is the period ending 10 days prior to the date for each progress payment and starting the day following the end of the preceding period.
- E. Application Preparation: Complete every entry on the form, including notarization and execution by person authorized to sign legal documents on behalf of the Contractor. Incomplete applications will be returned without action.
 - 1. Include amounts of Change Orders and Construction Change Directives issued prior to the last day of the construction period covered by the application.
- F. Transmittal: Submit 3 executed copies of each Application for Payment to the Technology Designer/Engineer. One copy shall be complete, including waivers of lien and similar attachments, when required.
 - 1. Transmit each copy with a transmittal form listing attachments, and recording appropriate information related to the application in a manner acceptable to the Technology Designer/Engineer.

- G. Waivers of Mechanics Lien: With each Application for Payment, submit waivers of mechanics lien from every entity who may lawfully be entitled to file a mechanics lien arising out of the Contract, and related to the Work covered by the payment.
1. Submit partial waivers on each item for amount requested, before deduction for retainage, on each item.
 2. Where an application shows completion of an item, submit final or full waivers.
 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
- H. Michigan Sworn Statement of Contractor: With each Application for Payment, submit a Sworn Statement listing all subcontractors, supplier, individuals and companies who have provided improvements, materials or labor toward the project including an accounting of all monies due to those parties.
1. For each party listed, show the name of the individual or company, the contracted price, amount previously paid, amount currently owed with this payment application and the balance to complete.
- I. Application for Payment at Substantial Completion: Actions and submittals that shall proceed or coincide with this application include:
1. Warranties (guarantees) and maintenance agreements.
 2. Test/adjust/balance reports.
 3. Use, operation and maintenance instructions.
 4. Final cleaning.
 5. Application for reduction of retainage, and consent of surety.
 6. Punch list of incomplete Work, recognized as exceptions to Certificate of Substantial Completion.
- J. Final Payment Application: Actions and submittals that shall precede or coincide with this application include:
1. Completion of Project closeout requirements.
 2. Completion of items specified for completion after Substantial Completion.
 3. Transmittal of required Project record documents to Technology Designer/Engineer and Owner.
 4. Proof that taxes, fees and similar obligations have been paid.
 5. Removal of surplus materials, rubbish and similar elements.
 6. Delivery of spare parts.

1.7 PROJECT MANAGEMENT AND COORDINATION

- A. Coordination: Coordinate construction operations included in various Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection and operation.
- B. Project Kick-off Meeting:
1. Technology Designer/Engineer will schedule a virtual project kick-off meeting after execution of the Agreement and prior to commencement of construction to review responsibilities and personnel assignments.
 2. Attendees: The Owner, the Technology Designer/Engineer, the Contractor and its Project Manager, major subcontractors, manufacturers, suppliers and other concerned parties shall each be represented at the conference.
 3. Agenda: Discuss items of significance that could affect progress including such topics as:
 - a. Tentative construction schedule
 - b. Critical Work sequencing
 - c. Designation of responsible personnel
 - d. Procedures for processing field decisions and Change Orders
 - e. Procedures for processing Applications for Payment

- f. Distribution of Contract Documents
- g. Preparation of record documents
- h. Use of the premises
- i. Office, Work and storage areas
- j. Equipment deliveries and priorities
- k. Safety procedures
- l. First aid
- m. Security
- n. Housekeeping
- o. Working hours

C. Progress Meeting:

1. Progress meetings with the Contractor will be held online on a weekly basis by the Technology Designer/Engineer and Owner. The Minutes of these meetings will be recorded by the Technology Designer/Engineer and copies sent to all interested parties. The dates of progress will be coordinated with preparation of payment request.
2. Agenda: Review and correct or approve minutes of the previous progress meeting. Include topics for discussion as appropriate to the current status of the Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine where each activity is in relation to the Contractor's Construction Schedule, whether on time or ahead or behind schedule. Determine how construction that is behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - b. Review including such items as:
 - 1) Interface requirements
 - 2) Time
 - 3) Sequences
 - 4) Equipment deliveries
 - 5) Access
 - 6) Site utilization
 - 7) Hours of Work
 - 8) Hazards and risks
 - 9) Housekeeping
 - 10) Quality and Work standards
 - 11) Change orders
 - 12) Documentation of information for payment requests

1.8 PROJECT PROGRESS DOCUMENTATION

- A. Project Schedule: Submit a comprehensive, fully developed, construction/installation schedule.
1. Submit schedule within two (2) weeks after award of Contract. Base schedule on the Times of Completion specified for the Project.
 2. Update project schedule monthly after project progress meetings, to reflect actual installation progress and activities.
 3. Indicate each significant construction activity separately.
 4. Time Frame: Extend schedule from date established for commencement of the Work to date of final completion.
 5. Activities: Treat each building or separate area as a separate activity for each principal element of the Work. Comply with the following:
 - a. Procurement Activities: Include procurement activities for long lead items.
 - b. Start-Up and Testing Time: Include time for start-up and testing.

- c. Substantial Completion: Indicate completion in advance of date of substantial completion; allow time for Technology Designer/Engineer inspection and punchlist.
6. Constraints: Include constraints and work restrictions.
 - a. Phasing: Arrange list of activities on schedule by phase.
 - b. Work by Owner: Indicate a separate activity for each portion of Work performed by Owner.
 - c. Work Restrictions: Show effect on the schedule of limitations of continued occupancies, uninterruptible services and use of premises restrictions.
 - d. Work Stages: Indicate important stages of installation for each major portion of the Work.
7. Milestones: Include milestones such as Notice to Proceed, Substantial Completion and Final Completion.

1.9 REFERENCES

A. Specifications & Drawings To be Cooperative:

1. These Specifications and accompanying Drawings are intended to describe and provide for finished work. They are intended to be cooperative and what is called for by either shall be as binding as if called for by both. The Drawings accompanying the Specifications are intended to show the general design and arrangement of the installation and in some cases are more or less diagrammatic. They are not intended to serve as shop drawings nor are they to be scaled for dimensions or exact locations of equipment.
2. It is the intent of the Drawings and Specifications to provide for a complete and satisfactory installation. The Contractor shall furnish Labor and/or materials neither shown nor specified but obviously necessary for the completion of the proper functioning of the systems.
3. Drawings pertaining to this specification shall be considered as a part of said specification and shall be a part of the bid documents.
4. The following sections specifically list the acceptable equipment types and items for this project. Where quantities are not noted, they may be obtained from the Drawings. In the event of a discrepancy between the Specifications and the Drawings, the greater quantity or better quality shall be furnished.

B. Specification Format and Content Explanation:

1. Specification Format: These Specifications are organized into Divisions and Sections based on the Construction Specifications Institute's 49 Division format and MASTER FORMAT 2012 numbering system.
2. Words, which have well known technical or construction industry meanings are used in the Contract Documents in accordance with such, recognized meanings.
3. Abbreviated Language: In the interest of brevity, the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an" but the fact that a modifier or an article is absent from a statement and appears in another is not intended to affect the interpretation of either statement.
4. Trades: Use of titles such as "carpentry" is not intended to imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespersons of the corresponding generic name.

C. Definitions:

1. Contract Documents: Contract documents consist of the Agreement between Owner and Contractor, Conditions of the Contract, Drawings, Specifications, Addenda issued prior to execution of the Contract, and modifications issued after execution of the Contract. A modification is (1) a written amendment to the contract signed by both parties, (2) a change Order, (3) a construction Change Directive or (4) a written order for a minor change in the Work issued by the Architect

(Architect's supplemental Instructions). Contract Documents also includes bidding requirements or portions of Addenda relating to bidding requirements.

- a. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the work by the contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.
 2. Indicated: Refers to graphic representations, notes or schedules on the Drawings, or other Paragraphs or Schedules in Specifications, and similar requirements in Contract Documents. Where terms such as "shown", "noted", "scheduled", and "specified" are used, it is to help locate the reference; no limitation on location is intended except as specifically noted.
 3. Directed: Terms such as "directed", "requested", "authorized", "selected", "approved", "required", and "permitted" mean "directed by the Architect", "requested by the Architect", and similar phrases. However, no implied meaning shall be interpreted to extend the Architect's responsibility into the Contractor's area of construction supervision.
 4. Approve: The term "approved", where used in conjunction with the Architect's action on the contractor's applications and requests, is limited to the duties and responsibilities of the Architect as stated in General and Supplementary Conditions. Such approval shall not release the Contractor from responsibility to fulfill Contract requirements unless otherwise provided in the Contract Documents.
 5. Regulation: The term "Regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work, whether lawfully imposed by authorities having jurisdiction or not.
 6. Furnish: The term "furnish" is used to mean "supply and deliver to the Project site, ready for unloading, unpacking, assembly, installation, and similar operations."
 7. Install: The term "install" is used to describe operations at project site including the actual "unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations."
 8. Provide: The term "provide" means "to furnish and install, complete and ready for the intended use."
 9. Installer: An "Installer" is the Contractor engaged by the Contractor, either as an employee, subcontractor, or sub-subcontractor for performance of a particular construction activity, including installation, erection, application, and similar operations. Installers are required to be experienced in the operations they are engaged to perform.
 10. Project Site: Is the space available to the Contractor for performance of construction activities, either exclusively or in conjunction with others performing other construction activities as part of the Project. The extent of the Project Site is shown on the Drawings and may or may not be identical with the description of the land upon which the Project is to be built.
 11. Testing Laboratories: A "testing laboratory" is an independent entity engaged to perform specific inspections or tests, either at the Project Site or elsewhere, and to report on and, if required, to interpret results of those inspections or tests.
- D. Standards of Industry: Reference to standards, codes, and recommendations shall be the latest edition of such publications adopted and published at date of bids. Work shall be installed according to the following industry standards when applicable:
1. UL - Underwriter's Laboratories, Inc.
 2. ASA - American Standard Association
 3. ASHRAE - American Society of Heating, Refrigeration and Air Conditioning Engineers
 4. ASME - American Society of Mechanical Engineers
 5. ASTM - American Society for Testing and Materials
 6. Any local state or national plumbing and building codes having jurisdiction.

1.10 TEMPORARY FACILITIES AND CONTROLS

- A. Temporary Toilets:
 - 1. The Owner will allow the use of designated toilet facilities for use by all workers employed on the project. Keep the facilities clean and in sanitary condition at all times. In educational facilities, use of student toilet facilities is prohibited.
- B. Temporary Parking: Park in designated spaces only.
 - 1. Do not park vehicles on sidewalks or lawn areas surrounding the building unless written approval is received from the Owner.
 - 2. Loading and unloading shall be done only at designated areas. Coordinate with Owner.
 - a. No vehicles shall be left unattended for more than 30 minutes and no vehicle will be permitted to be left in the loading dock overnight.
- C. Contractor Employee Identification: All persons working on-site are required to have and wear an identification badge at all times. Badges will be provided by the Owner at no charge and must be returned to the Owner. Additional badges to replace lost badges will be charged at the Owner's standard rate/charge.

1.11 EXECUTION REQUIREMENT

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.
- B. Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
- C. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- D. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- E. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- F. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Engineer/Technology Designer.
- G. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

1.12 PROGRESS CLEANING

- A. Waste Material Removal and Cleaning: Remove and properly dispose of, on a daily basis all waste materials and debris resulting from the Work. The Owner's dumpsters and trash receptacles shall not be used. The Project and adjacent grounds shall be kept free of accumulations of rubbish.
 - 1. Construction debris shall not be stored overnight, nor shall it be left in common corridors. Keep debris confined to work areas only until such time as it is being removed.
 - 2. No burning of waste materials will be permitted on the premises.
 - 3. Provide general "broom cleaning" of the site at the completion of the project.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
 - 1. Remove liquid spills promptly.
 - 2. Do not wash waste materials down sewers or into waterways
 - 3. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 0000

SECTION 27 0015 - TECHNOLOGY GENERAL REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Bidding Documents and the Contract, including the Division 01 Specification Section, apply to work of this Section.

1.2 SUMMARY

- A. This Section includes general administrative and procedural requirements for technology installations. The following administrative and procedural requirements are included in this Section to expand the requirements specified in the Division 01 section.
 - 1. Work Restrictions
 - 2. Job Conditions
 - 3. Quality Assurance
 - 4. Delivery, Storage and Handling
 - 5. Guarantee Service and Training
 - 6. Project Record Documents
- B. This Section includes basic requirements for materials and installations for technology work, including but not limited to:
 - 1. Cutting, patching and painting
 - 2. Anchors and fasteners
 - 3. Access doors
 - 4. Sealing of openings
 - 5. Sleeves
 - 6. Expansion fittings
 - 7. Grounding procedures
 - 8. Coordination with other trades
 - 9. Installation of user accounts

1.3 WORK RESTRICTIONS

- A. Design Requirements: Furnish all labor, materials, equipment, technical supervision, and incidental services required to complete, test and leave ready for operation the technology systems as specified and as indicated on Drawings.
- B. Performance Requirements: Perform all work in a first class and workmanlike manner, in accordance with the latest accepted standards and practices for the Trades involved.
 - 1. All equipment of the same or similar systems shall be by the same manufacturer.
 - 2. All equipment shall be new, of modern design, and current standard production of the manufacturer.
- C. Substitutions: Base Bid must be in accordance with materials or products specified. Any exceptions to this must be approved in writing by the Technology Designer ten (10) days or more prior to bidding.

1.4 JOB CONDITIONS

- A. Verify conditions at the job site prior to installation.

- B. It is the responsibility of the installing contractor to provide any and all types of specialty equipment needed to provide a complete installation of the equipment and systems specified (i.e. lift, scaffolding, extension ladders, boom trucks).
- C. Keep the job adequately staffed at all times. Unless illness, loss of personnel or other circumstances beyond the control of the contractor, maintain the same individual in charge throughout.
- D. Cooperate with all appropriate parties in order to achieve well-coordinated progress with the overall construction completion schedule and satisfactory final results.
- E. Watch for conflicts with work of other contractors on the job and execute, without claim for extra payment, moderate moves or changes as are necessary to accommodate other equipment or to preserve symmetry and aesthetically pleasing appearance.
- F. Immediately report to the Engineer/Technology Designer any design or installation irregularities, so that appropriate action may be taken.

1.5 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. All materials shall be new and the system shall be registered under the most current applicable rulings of the Federal Communications Commission (FCC). All components and installations shall bear an Underwriters' Laboratories (UL) listing.
 - 2. Ordinances and Codes: Perform all work in accordance with applicable Federal, State and local ordinances and regulations and in accordance with the Rules, Regulations and Accepted Practices of the following Agencies:
 - a. ANSI American National Standards Institute
 - b. ASTM American Society for Testing and Materials
 - c. BICSI Building Industry Consulting Service International
 - d. CSA Canadian Standards Association
 - e. EIA Electronics Industries Association
 - f. ETL Intertek Testing Services (ETL Testing Laboratories)
 - g. FCC Federal Communications Commission
 - h. ICEA Insulated Cable Engineers Association
 - i. IEEE Institute of Electrical and Electronics Engineers
 - j. ISO International Organization for Standardization
 - k. NEC National Electrical Code
 - l. NEMA National Electrical Manufacturer's Association
 - m. NFPA National Fire Protection Association.
 - n. TIA Telecommunications Industry Association
 - o. UL Underwriters Laboratories, Inc.
 - p. VESA Video Electronics Standards Association
 - 3. Notify the Engineer/Technology Designer before submitting this proposal should any changes in Drawings or Specifications be required to conform to the above codes, rules or regulations. After entering into Contract, make all changes required to conform to above ordinances, rules and regulations without additional expense to the Owner.
 - 4. The code or standard establishing the more stringent requirement shall be followed where areas of conflict occur between codes and standards or between codes and standards and specifications.
 - 5. Barrier-Free Regulations: All materials and installations shall comply with the requirements of the State of Michigan Handicapped Barrier-Free Regulations and with the Americans with Disabilities Act (ADA).
 - 6. Comply with federal, state and local labor regulations and applicable union regulations.

- B. Equipment Manufacturer Qualifications: The equipment shall be built and tested by a manufacturer who has regularly engaged in the production of said equipment for a minimum of five (5) years to assure one source of supply and responsibility.
- C. Equipment Supplier Qualifications: The supplier of the equipment shall maintain permanent service facilities geographically located within a reasonable distance of the installation in order to provide the support and service specified in paragraph "GUARANTEE, SERVICE AND TRAINING". The supplier of the equipment shall be able to design, program and support the equipment and have experience on the design and installation of projects of this size or larger and certify they have no less than five (5) years of continuous experience in this area. The facilities shall include a permanent source of factory-trained service technicians on 24-hour call experienced in servicing this type of equipment and shall provide warranty and routine maintenance service to afford the Owner maximum coverage. They shall also provide a central source of support to warranty immediate answers to Owner's problems resulting from misunderstanding of the operation of the equipment.
- D. Equipment Installer Qualifications: The installation of the equipment shall be performed by fully qualified personnel, having had experience on the installation of this type and able to certify that they have had no less than three (3) years of continuous experience in this area and have made installation similar to this and of this size or larger.
- E. Project Management Qualifications: The Contractor Project Manager shall be PMP certified or shall have a minimum of three (3) years of project management experience. Contractor shall provide a resume for all staff assigned to these positions.
- F. Sequencing and Scheduling: Sequence and schedule work so as to avoid interference with the work of other Trades and the Owner's operating environment. Be responsible for removing and relocating any work, which in the opinion of the Owner's Representatives causes interference.
- G. Parts listed shall be complete, accurate part/model numbers and equipment furnished shall conform to manufacturer's specifications.
- H. All materials shall be new and shall conform to applicable provisions of Underwriters Laboratories and the American Standards Association.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Store technology equipment, at the vendor's location, as recommended in manufacturer's written instructions and in manufacturer's sealed protective packages until time of installation.
- B. If spare parts are specified, store spare parts at the vendor's location, as recommended in manufacturer's written instructions and in manufacturer's sealed protective packages. Deliver spare parts as part of the project close-out procedure.
- C. Protect technology equipment from damage and theft.

1.7 GUARANTEE, SERVICE AND TRAINING

- A. General:
 - 1. Warranty: All products shall be warranted to be free from defects in material and workmanship upon installation.
 - 2. The warranty shall begin on the date of acceptance. The date of acceptance shall be defined as the date the Certificate of Substantial Completion is signed by the Technology Designer/Engineer and the Owner.
 - 3. The Contractor shall register all equipment in the name of the Owner and activate all warranties upon Owner acceptance as required by the equipment manufacturer.

4. Provide to the Owner direct access to all equipment manufacturers' technical support structures for hardware and software support. All equipment shall have direct manufacturer support for the duration of the warranty period.
5. All services shall be provided on-site at the Owner's facilities.
6. As part of the project closeout documentation, provide proof of warranty showing the Owner as the warranty holder. Documentation shall list warranty terms and Owner contact information including shipping address and phone contact information.

B. Structured Cabling Systems:

1. The network cabling and related components, upon completion, will be warranted by the manufacturer. The warranty for this wiring system shall be provided as follows:
 - a. A minimum fifteen (15) year Warranty shall ensure against product defects, that all approved cabling components exceed the specifications of TIA 568-C.2, TIA 568-C.3 and ISO/IEC IS 11801. The warranty shall apply to all passive network cabling components.
 - b. A minimum fifteen (15) year Product Warranty shall cover the replacement or repair of defective product(s) including travel and labor for the replacement or repair of such defective product(s) for a minimum of fifteen (15) year period.
 - c. A minimum (15) year Application Assurance shall cover the failure of the wiring system to support the application which it was designed to support, as well as additional application(s) introduced in the future by recognized standards or user forums that use the TIA/EIA 568-C or ISO/IEC IS 11801 component and link/channel specifications for cabling, for a twenty (20) year period.

1.8 PROJECT RECORD DOCUMENTS - GENERAL

A. Upon project close-out, provide the following:

1. Hard and electronic copies of the system configuration.
2. Spare parts, if specified in the technology sections.
3. Operating manuals and original installation media for all hardware, software and components installed under this contract.
4. Warranty, support and licensing documentation organized in a 3-ring binder including a table of contents. A document from the manufacturer that specifies that the warranty begins at the time of substantial completion as specified for all equipment included in this bid.
5. Refer to technology sections for additional requirements.

1.9 PRODUCTS - GENERAL

- A. During the installation, make provisions for all equipment included in the Base Bid and any alternates, whether taken or not, so that items which are to be provided as alternates may be added to the system without rewiring or additional construction.
- B. All miscellaneous equipment required for a complete, professional installation shall be included in the Base Bid. No allowances for any additional equipment, cabling, or miscellaneous will be considered unless specifically excluded from the base bid.
- C. Time shall be allocated in the job for the purposes of training Owner's personnel in the proper use and maintenance of the provided equipment.
- D. No exposed cabling shall be permitted in the wiring of any functions of the provided system. All cable shall be housed in appropriate raceways suitable and designed for such purposes.
- E. All work materials shall be removed at the end of the workday and the work area left in the same condition as found.

- F. For educational facilities, while classes are in session, work shall be performed after normal school hours or during periods in which the building is not occupied by students (i.e. construction period, holiday breaks, half days, etc.). Adherence to a schedule of working hours, which is agreeable with the Owner, will be required.

1.10 CUTTING, PATCHING AND PAINTING

- A. Direct miscellaneous cutting and patching of the existing building construction for the installation of the Technology Work.
- B. The cutting of holes through the building construction shall only be done by the use of abrasive saws and rotary coring machines. The use of hammer and drill points will not be permitted. The openings shall not be cut larger than necessary for the installation of the technology work. Openings shall then be grouted in.
- C. The drilling or punching of structural members, such as holes through beams or columns, shall not be done without the specific permission of the Technology Designer/Engineer.
- D. Cutting of holes through floors and walls shall be done only at such locations as may be directed by the Technology Designer/Engineer.
- E. Where equipment is removed or a wall is otherwise left in an unfinished or damaged state, Contractor shall patch and make ready for paint.
- F. Cooperate with the other Contractors so that all cutting and repairing in any given area will be done simultaneously.

1.11 ANCHORS AND FASTENERS

- A. The Contractor shall provide and install anchors, fasteners and supports in accordance with manufacturer's instructions and NECA "Standard of Installation".
- B. Anchors and fasteners:
 - 1. Concrete Structural Elements: Use expansion anchors.
 - 2. Steel Structural Elements: Use beam clamps.
 - 3. Concrete Surfaces: Use expansion anchors.
 - 4. Hollow Masonry, Plaster and Gypsum Board Partitions: Use hollow wall fasteners.
 - 5. Solid Masonry Walls: Use expansion anchors.
 - 6. Sheet Metal: Use sheet metal screws.
 - 7. Wood Elements: Use wood screws.
- C. The Contractor shall not fasten supports to pipes, ducts, mechanical equipment or conduit.
- D. The Contractor shall obtain permission from the Owner or Technology Designer/Engineer before drilling or cutting structural members.
- E. Roof or roof deck shall not be penetrated with any type of fastener.

1.12 SEALING OF OPENINGS

- A. Seal openings around technology materials where floors, fire rated walls (both sides of wall) and smoke barriers are penetrated. (Fiberglass is not acceptable.) Fire and/or smoke barriers shall be UL Listed fire and smoke stop fittings and shall have fire rating equal to or greater than the penetrated barrier.

1.13 SLEEVES

- A. Provide conduit sleeves where conduits and/or low-voltage cables pass through concrete floors, walls, beams and ceilings.
- B. Sleeves shall be galvanized rigid steel conduit. Do not use aluminum conduit. Where specific sizes are not indicated on the Drawings, sleeves shall be sized to provide one-half (1/2) inch clearance around the outside surface of the item for which they were installed. They shall be cut flush with wall surfaces, and shall extend one inch, or as directed through floor. Sleeves shall be packed with approved non-combustible packing material and sealed with sealant to prevent passage of air, liquid or fumes from one area to another. The filler and sealant materials used shall be rated at least equal in fire resistance to the construction material being penetrated. Floor sleeves shall be sealed between floor and sleeve with concrete grout.

1.14 EXPANSION FITTINGS

- A. Provide expansion fittings in all conduits that cross building expansion joints, both in concrete slabs and where exposed.

1.15 GROUNDING PROCEDURES

- A. Communication bonding and grounding shall be in accordance with the NEC® and NFPA. Horizontal cables shall be grounded in compliance with ANSI/NFPA 70 and local requirements and practices. Horizontal equipment includes cross connect frames, patch panels and racks, active telecommunication equipment and test apparatus and equipment. When required by local code, provide a Telecommunications Bonding Backbone utilizing a #6-AWG or larger bonding conductor that provides direct bonding between equipment rooms and telecommunications closets. This is part of the grounding and bonding infrastructure (part of the telecommunications pathways and spaces in the building structure), and is independent of equipment or cable.
- B. In order to minimize problems resulting from improper grounding, and to achieve maximum signal-to-noise ratios, the following grounding procedures shall be adhered to:
 - 1. Under no circumstances shall the racks contact the conduit raceway system, the steel structure of the building, or ventilation ducts.
 - 2. Under no conditions shall the AC neutral conductor, at any location, be used for a system ground.
- C. There shall be no deviations from the above unless specifically required by the manufacturer of the equipment or when necessary to minimize crosstalk and to maximize signal-to-noise ratios.
- D. If a different installation practice is desired by the Installing Contractor in regards to the signal grounding, the Installing Contractor may submit alternate grounding methods to the Consultant for approval. Installing contractor shall bear all responsibility for any deviations from the above stated grounding procedure, even if allowed by the Consultant, Owner, or Technology Designer/Engineer.

1.16 COORDINATION WITH OTHER TRADES

- A. Install Work so as to avoid interferences with the Work of other trades. Be responsible for removing and relocating any work, which, in the opinion of the Owner's Representative, causes interferences.
- B. Should construction conditions prevent the installation of technology equipment at locations shown on the drawings, minor deviations may be permitted and shall be as directed by the Technology Designer/Engineer and shall be made without additional cost to Owner.
- C. The Technology Trades will be responsible for all damage to other Work caused by their Work or through the neglect of their workers.
 - 1. All patching and repairing of any such damaged Work shall be performed by the trades that installed the Work, but the cost shall be paid by the Technology Trades.

- D. The District has hired a Construction Manager (CM) to manage all construction trades. Coordinate your construction with the District's CM. Attend CM-lead meetings as requested.

1.17 INSTALLATION USER ACCOUNTS

- A. The Contractor shall provide evidence that all installation and temporary passwords and accounts have been disabled and removed at the conclusion of the Project.

END OF SECTION 27 0015

SECTION 27 1000 – STRUCTURED CABLING SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including the Division 01 specification section, apply to work of this Section.
- B. Section 27 0015 “Technology General Requirements”.

1.2 SUMMARY

- A. This Specification, in conjunction with the Drawings, establishes the requirements necessary to achieve the intended performance and function of the Structured Cabling Systems (SCS).
- B. The SCS consists of information processing, and/or information delivery and distribution equipment integrated together to form a cohesive integrated data system.
- C. Provide as part of the bid proposal a complete bill of materials, including catalog cut sheets and equipment configuration for the data system.
- D. The SCS shall be comprised of new and existing equipment that is of modern design, and current standard production of the manufacturer.
- E. Verify dimensions and conditions at the job site prior to installation, and perform installation in accordance with these Specifications, Manufacturers recommendations and the latest edition or revision of all applicable codes and standards.
- F. Furnish and install a SCS system incorporating the hardware, equipment, Ethernet LAN, and appropriate testing equipment to perform testing as hereinafter described.
- G. Provide any additional items, not specifically mentioned herein, necessary to meet system requirements as specified, without claim for additional payment.

1.3 SYSTEM DESCRIPTION

- A. This contract consists of providing Category 6 to network drop locations and IDF closets where indicated on the Drawings.
- B. Provide labor, material, equipment, terminations, and accessories necessary for a complete new and operational communications copper horizontal cabling system as indicated on the Drawings and specified herein. The contractor shall furnish the equipment, accessories and necessary material as described herein.
- C. Provide and install a separate pathway for the new Category 6 cabling infrastructure.
- D. Provide wide base cable support that meets UL, NEC, and TIA/EIA requirements for the structured cabling system.
- E. The support system shall attach to the building structural elements, do not fasten directly to the roof deck.
- F. Cabling infrastructure shall be supported by cable supports that meet BICSI, EIA, TIA requirements and must be provided by the cabling contractors unless otherwise noted. (NO cable shall be allowed to be supported at or on ceiling grid, ceiling supports, mechanical or electrical piping, HVAC ductwork, etc.).

- G. The supports shall be made of fire retardant and low smoke emission products, which meet UL 2034 requirements for air plenum spaces.
- H. Minimum clearances from sources of EMI and RFI must be adhered to as specified in TIA/EIA-568B, TIA/EIA-569 and the latest version of the BICSI TDMM.

1.4 QUALITY ASSURANCE

- A. Communications cabling system components and equipment shall be listed by Underwriters Laboratories, Inc. for Computer use, and the components shall bear the UL label.
- B. The system shall be installed in accordance with requirements set by ANSI/NFPA-70 National Electric Code.
- C. All equipment shall comply with the latest ANSI/TIA 607-B grounding and bonding standards.
- D. All equipment and installation practices shall comply with latest BICSI (TDMM) standards.
- E. All equipment shall comply with the latest ANSI/TIA/EIA-568, 569, 60, 607, and 862 standards, as applicable.
- F. Cables shall be installed in accordance with ANSI/EIA/TIA and BICSI standards.
- G. Provide labeling per ANSI/EIA/TIA-606 requirement and in accordance with the Owner and the Technology Consultant.
- H. All cabling shall be tested in accordance with the ANSI/TIA/EIA-568-B2 standards with the required testing equipment.

1.5 WARRANTY

- A. Refer to Specification Section 27 0015, Article 1.7 "GUARANTEE, SERVICE AND TRAINING" for warranty requirements.

1.6 SPECIAL EQUIPMENT INSTALLER QUALIFICATIONS

- A. This contractor must meet one of the two (2) following special criteria:
 - 1. Demonstrate that at least 30 percent of installation personnel are BICSI Registered Telecommunications Installers. Of that number, at least 15 percent shall be registered at the Technician Level, at least 40 percent shall be registered at the Installer Level 2, Installer Level 2, Copper or Installer Level 2, Optical Fiber, and the balance shall be registered at the Installer Level 1.
 - OR
 - 2. Demonstrate that all work will be performed by fully qualified personnel having had experience on the installation of this type of system and able to certify that the primary on-site field foreman has no less than fifteen (15) years of continuous experience in this area and have made installations similar to this and of this size or larger. Additionally, 30 percent of installation personnel shall have an average of no less than ten (10) years of continuous experience in this area and have made installations similar to this and of this size or larger.
- B. This contractor must include references of similar jobs. Final determination of equipment installer qualifications shall be the decision of the owner and may include inspections of recent work.

1.7 SPARE PARTS

- A. None.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Description of System:

1. The SCS shall include providing complete operational and tested data wiring to support the network communications needs. The SCS will consist of providing new equipment as they pertain to the following principle features:
 - a. Category 6 Horizontal cabling
 - b. Category 6 patch cables
 - c. Media outlets and connectors
 - d. Cable termination equipment
 - e. Testing
 - f. Documentation
2. Design, manufacture, test, and install telecommunications cabling networks per manufacturer's requirements and in accordance with NFPA-70 (2011 edition of the *National Electrical Code®*), IEEE C2 2007 (NESC 2007), state codes, local codes, requirements of authorities having jurisdiction, and particularly the following standards:
 - a. ANSI/TIA/EIA Standards
 - 1) TIA-568-C.0 –Generic Telecommunications Cabling for Customer Premises
 - 2) ANSI/TIA/EIA-568-C.1 -- Commercial Building Telecommunications Cabling Standard, Part 1: General Requirements
 - 3) ANSI/TIA/EIA-568-C.2 -- Commercial Building Telecommunications Cabling Standard, Part 2: Balanced Twisted Pair Cabling Components
 - 4) ANSI/TIA/EIA-568-C.3 -- Optical Fiber Cabling Components Standard
 - 5) TIA-569-B -- Commercial Building Standard for Telecommunications Pathways and Spaces
 - 6) TIA/EIA-606(A) -- The Administration Standard for the telecommunications Infrastructure of Commercial Buildings
 - 7) J-STD-607(A) -- Commercial Building Grounding and Bonding Requirements for Telecommunications
 - 8) TIA-526-14A –OFSTP-14 Optical Power Loss Measurements of Installed Multimode Fiber Cable Plant
 - 9) TIA TSB-140 Additional Guidelines for Field Testing Length, Loss and Polarity of Optical Fiber Cabling Systems
3. Install cabling in accordance with the most recent edition of BICSI® publications:
 - a. BICSI -- Telecommunications Distribution Methods Manual
 - b. BICSI -- Installation Transport Systems Information Manual
 - c. BICSI - Electronic Safety and Security Design Reference Manual

- B. Refer to Section 27 0015 for additional general requirements.

2.2 CATEGORY 6 CABLING

A. Description of System:

1. The Contractor is responsible for providing a complete and operational structured cabling system. Provide the following principle items:
 - a. Provide new Category 6 unshielded twisted pair cabling.
 - b. Provide new 24 and 48 port Category 6 patch panels.
 - c. Tone, test, label and certify all new data drops.
 - d. Provide new data outlets.

B. Products:

1. Horizontal Category 6 Cable:
 - a. Solid copper, 22 AWG to 24 AWG, 100 ohm balanced twisted-pair, plenum rated Category 6 cables with four individually twisted-pairs with a crossfiller spline, which exceeds the mechanical and transmission performance specifications in TIA-568-C up to 250 MHz and sweep tested to at least 550 MHz. Listed Type CMP. Category 6 cables installed between floors shall be riser rated. Color shall be blue for standard network cabling and green for security cameras. Minimum spec cable is unacceptable and will be rejected.
 - b. Approved Manufacturers:
 - 1) Berk-Tek – Lanmark 1000
 - 2) Belden/CDT – 3600 series
 - 3) Mohawk – Advance Net
 - 4) General – Genspeed 6000
 - 5) Panduit – PanGen 6 Enhanced
 - 6) Superior/Essex – DataGain Cat 6+
 - 7) Hitachi – Premium Series
 - 8) Commscope - Ultramedia 7504
2. Category 6 Patch Cables:
 - a. Category 6 compliant per TIA 568-C.
 - b. Compliant per TIA-568-C and TIA/EIA-606-A for cable management and administration.
 - c. Each patch cable shall be bootless.
 - d. Patch cables shall be color coded as follows:
 - 1) Telecommunications Closet Patch Cables:
 - a) Data Ports: Blue.
 - b) Security Cameras: Green
 - e. Patch cables within the equipment closets shall be a minimum of 6-inches (6") in length and have a maximum of two feet (2') access coil length to avoid excess cable in the rack. The contractor shall install the cable to provide neat and organized patches to equipment. The contractor is required to review site conditions to ensure the proper cable lengths are installed.
 - f. Approved Manufacturers:
 - 1) Berk-Tek – Lanmark 1000
 - 2) Belden/CDT – 3600 series
 - 3) Mohawk – Advance Net
 - 4) General – Genspeed 6000
 - 5) Panduit – PanGen 6 Enhanced
 - 6) Superior/Essex – DataGain Cat 6+

- 7) Hitachi – Premium Series
- 8) Commscope - Ultramedia 7504

3. Media Outlets and Connectors

a. Unshielded Twisted Pair media outlet terminations shall conform to the following:

- 1) Eight (8) position, eight (8) conductor modular plug, certified Category 6, T568B plug pin assignment. Modular Category 6 plug will be a five (5) piece connector with an integral plug housing, load bar, divider, strain relief boot and collar. Category 6 modular plugs will be specifically designed for use in conjunction with 22-24 AWG solid conductor unshielded twisted pair cabling. All Horizontal data cable will be terminated with a Category 6 modular plug to mate directly to the equipment.

OR

- 2) Eight (8) position, eight (8) conductor, 110 IDS, modular snap-in jacks, certified Category 6, T568 jack pin assignment.
- 3) Faceplates shall be stainless steel of a size to accommodate the raceway and gang boxes identified on drawings with adequate punch-outs for appropriate snap-in jacks.
- 4) Approved Manufacturers:
 - a) Hubbell
 - b) Uniprise
 - c) Leviton
 - d) ICC
 - e) Superior Modular
 - f) AMP
 - g) Ortronics
 - h) Panduit
 - i) Engineer approved equal

4. Telecommunication Room Termination Hardware:

a. Horizontal Category 6 cables shall be terminated in the telecommunication room on new rack mounted, 24-port or 48-port pre-populated patch panels. Refer to Drawings for exact quantities and locations.

- 1) Patch panels shall have a rear mounted strain relief bar to organize cables and maintain Category 6 bend radius.
- 2) Category 6 compliant per TIA 568-C.
- 3) Compliant per TIA-568-C and TIA/EIA-606-A for cable management and administration.
- 4) Approved Manufacturers:
 - a) Hubbell
 - b) Uniprise
 - c) Leviton
 - d) ICC
 - e) Superior Modular
 - f) AMP
 - g) Ortronics
 - h) Panduit
 - i) Engineer approved equal

PART 3 - EXECUTION

3.1 GENERAL

- A. Recognizing District and community events occur during the day or evenings, network outages shall be minimized and coordinated with the Owner's operations.
- B. All cables must be routed and managed for a neat and aesthetically pleasing appearance. All work must be installed in a neat and workman like manner.
- C. Install patch cables in a professional manner. Utilize existing wire management where applicable. Where wire management is not available, provide wire management, route patches neatly in such a way to protect the patch cables from damage. Utilize Velcro tie wraps as needed. Plastic tie wraps are not acceptable and will be rejected.
- D. Communication bonding and grounding shall be in accordance with the NEC® and NFPA. Horizontal cables shall be grounded in compliance with ANSI/NFPA 70 and local requirements and practices. Horizontal equipment includes cross connect frames, patch panels and racks, active telecommunication equipment and test apparatus and equipment.
- E. The Contractor shall not place any distribution cabling alongside power lines, or share the same conduit, channel or sleeve with electrical apparatus unless the conduit, channel or sleeve is divided and manufactured specifically for the purpose of cohabitation. Maintain separation as follows:
 - 1. 5' for large motors and transformers
 - 2. 1' for conduit and cables used for electrical power distribution
 - 3. 6" for fluorescent lights
- F. The Contractor shall provide any necessary screws, anchors, clamps, distribution rings, miscellaneous grounding and support hardware, etc., necessary to facilitate the installation of the system.
- G. It shall be the responsibility of the contractor to furnish any special installation equipment or tools necessary to properly complete the system.
- H. It may be necessary to remove ceiling tiles to accommodate new work under this Contract. Notify Owner of any damaged tiles prior to removal. Tiles damaged during construction shall be replaced by this Contractor.
- I. Refer to Specification Section 27 0015 for additional general requirements.

3.2 PRE-INSTALLATION SITE SURVEY

- A. Prior to start of systems installation, meet at the project site with the owner's representative and Technology Designer/Engineer to coordinate efforts. Review areas of potential interference and resolve conflicts before proceeding with the work.
- B. Examine areas and conditions under which the system is to be installed. Do not proceed with the work until satisfactory conditions have been achieved.
- C. The New Middle School consists of primarily lay-in ceilings with hard ceilings in spaces as shown on the Drawings and open ceiling spaces in spaces such as ELA spaces, Mainstreet, electrical, IT, and storage rooms. It is the contractor's responsibility to visit the sites and include all access doors, conduit and any other miscellaneous equipment necessary for a neat, complete and professional installation.

3.3 INSTALLATION – DATA WIRING

- A. Provide, install, test and tag Category 6 data drops to each location as indicated on the drawings.
- B. Installation practices shall follow BICSI standards and guidelines. TIA/EIA-568-C standards will be strictly followed and practiced.
- C. All cabling in equipment cabinets/racks shall be managed utilizing new wire organizers provided by the Contractor. All cabling and patch cables in closets shall be secured using velcro straps.
- D. Category 6 cables shall be continuous from telecommunications room to work area outlet and free from splices, reverses, grounds or other connections. Provide a minimum 10-foot service loop within telecommunications closet. Service loop shall be neatly coiled and secured above accessible ceiling, for each terminated cable, to accommodate future changes. Refer to drawings for service loop footages, where not indicated on the Drawings, provide a minimum of 10-foot service loop.
- E. Terminate Category 6 cable according to T568B jack pin assignments.
 - 1. Remove only the amount of cable jacket necessary for termination. Maintain wire twist for all pairs of Category 6 cable to within 0.5 inches maximum from termination point.
- F. Do not run cable longer than maximum 90 meter EIA/TIA recommended length.
- G. All cables installed in ceiling spaces shall be plenum-rated.
- H. Horizontal data cable pairs shall run from each work area outlet to the telecommunications room and terminate on Category 6 patch panels as appropriate.
- I. All cables shall be installed using “J” hooks, conduits, cable tray or an approved raceway system. Where cable tray is not available, horizontal cable will be supported every five feet with “J” hooks sufficient in size to handle all bundled cables while minimizing crushing. If cable slack exceeds twelve (12) inches between supports, additional supports will be installed to take up slack and relieve cable stress.
- J. The use of “bridle rings” is strictly prohibited.
- K. Carefully lay all cable with appropriate radius of curvature and protect at bends and corners. Observe minimum bend radius and tension limitations as specified by EIA/TIA for Category 6 cable.
- L. Loosely bundle cables with plastic tie wraps, suitable for Plenum environments, every twenty feet.
- M. Patch panels shall be arranged to allow for natural wiring progression in functional fields, minimize crossing of wires and allow for the easy access to each component.
- N. The contractor shall assure that at the completion of cable installation, cables are free from twists, kinks, sharp bends, cuts, gouges or any other physical damage that might cause alterations to the electrical or optical characteristics of the cables.
- O. Installation of new communications cabling through existing cable bundles is strictly prohibited to minimize cable burning.

3.4 LABELING

- A. All cable designations and color-coding shall be in full compliance with EIA/TIA 606-A.

- B. Clearly label all horizontal copper cables at both ends with permanently applied mechanically printed labels. Hand written labels will not be acceptable. Use standardized colors and alphanumeric codes. Technology Designer/Engineer will approve labeling system and method.
- C. In work areas, place cable ID labels around each cable in outlet box, and on front of faceplate.
- D. In the telecommunications room or at wireless access points, clocks, or security cameras, place ID labels around each cable. Labels shall be located within six inches of the termination.
- E. Front label each patch panel port with a mechanically produced identification label utilizing the Owner's existing labeling scheme.
- F. Label each faceplate and cable mated directly to equipment with a mechanically produced identification label utilizing the Owner's existing label scheme.

3.5 CATEGORY 6 UTP CABLE TESTING

- A. The Contractor shall, at all times, permit and facilitate work inspection by the Owner's Representative and by public authorities having jurisdiction. The Owner's Representative shall have the authority to stop the work, if required, to insure proper execution.
- B. Each Category 6 UTP cable pair shall be tested end to end from the data outlet termination to the closet patch panel.
- C. Test shall be performed with connectors installed.
- D. Cable performance shall meet the standards outlined in EIA/TIA-568-C for Category 6 cabling.
- E. Tone, verify and certify cable and jack/connectors as free from shorted pairs, open pairs, reversed pairs, crossed pairs and grounded pairs. One hundred percent of all pairs must be in good working condition.
- F. Check cable length and labeling at both ends.
- G. Cables and connectors comprising of Category 6 must be certified compliant with the performance requirements listed in TIA-568-C.
 - 1. As a minimum, test documentation will include:
 - a. Cable Identification Number
 - b. Worst Case Near End Cross Talk (NEXT)
 - c. Attenuation
 - d. PSNEXT
 - e. Return Loss
 - f. PSELFEXT
 - g. Signal-to-Noise Ratio
 - h. Ambient Noise
 - i. Loop Resistance
 - j. Equal Level Far-End Crosstalk (EL-FEXT)
 - k. Return Loss
 - l. Propagation Delay
 - m. Propagation Delay Skew
 - n. Cable Length
 - o. Test Date

2. Each data circuit, including all connectors shall be tested to verify all bandwidth performance and crosstalk specifications as outlined for Category 6 cable. Any cables not in one hundred percent compliance with the minimum performance criteria relating to these requirements will be replaced with no additional cost to Owner.
- H. Cable testing will be conducted by a programmable micro-computer based tester capable of testing all specific standard requirements and generating completed printed test results.
 1. Test equipment shall be a Fluke, or approved equivalent. Equipment will be designed, and of such grade, so as to provide reliable certification and testing.
- I. A detailed copy of all test reports shall be provided to the Owner in CD format. Additionally, the Contractor shall provide hardcopy documentation indicating cable length and the pass test results for each Category 6 cable installed.
- J. Any outlet, cable or component that does not meet the required operational tests or fails to meet installation standards as specified shall be repaired or replaced and re-tested by the Contractor as directed by the Owner and at no expense to the Owner.

3.6 PROJECT RECORD DOCUMENTS

- A. Fully detailed documentation and record drawings of installation layout and performance shall be submitted for review within thirty (30) days of completion of work and shall include as a minimum:
 1. Marked drawings showing distance and routing of all inside cable with gauge, type and numbering scheme.
 2. Location of outlets with their identification number prepared on the most recent installation drawing.
 3. Drawings showing distribution frame layouts, cross connect locations, cable routing from rooms.
 4. Drawings showing layout of panels and equipment in cabinets.
 5. Drawings shall accurately record actual locations of each item of fixed equipment, and show interconnecting wiring. Drawings will indicate location of equipment and tagged circuits. A functional block diagram will also be required.
 6. On electronic drawings, provide data cabling on a separate layer from the architectural layer so the Owner can turn the data layer on and off.
- B. Documentation Requirements:
 1. Drawings, whenever submitted, shall be submitted with three (3) hard copies to the Owner.
 2. Cable and outlet identification, locations, performance and test results will be entered into Excel or approved PC based spreadsheet. The Contractor spreadsheet template and format will be approved by the Owner.
 3. Final record drawings shall be submitted as three (3) sets of scaled 20# bond drawings and two (2) USB keys containing both PDF and AutoCAD LT 2004 formats. Drawings shall be professionally done with architectural floor plan on one layer and all technology equipment and cabling on a second layer. Hand drawings and notations will not be accepted.
- C. Cable Record Book:
 1. The Contractor shall prepare and deliver complete and accurate cable records entered into Excel or approved PC based spreadsheet. Minimum information to be included for each cable in the Cable Record Book is:
 - a. Location (room number)
 - b. Jack Number
 - c. Serving Closet

- d. Patch Panel Number
 - e. Patch Panel Port
 - f. Cable Type and Use (Cat 6, voice)
- D. Refer to Specification Section 27 0015 for additional general project record document requirements.
- E. All drawings and the information contained therein become the sole property of the Owner.

END OF SECTION 27 1000

SECTION 27 1517 – STRUCTURED CABLING SYSTEMS (AUGMENTED CATEGORY 6 CABLE)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including the Division 01 specification section, apply to work of this Section.
- B. Section 27 0015 “Technology General Requirements”.

1.2 SUMMARY

- A. This Specification, in conjunction with the Drawings, establishes the requirements necessary to achieve the intended performance and function of the Structured Cabling Systems (SCS).
- B. The SCS consists of information processing, and/or information delivery and distribution equipment integrated together to form a cohesive integrated data system.
- C. Provide as part of the bid proposal a complete bill of materials, including catalog cut sheets and equipment configuration for the data system.
- D. The SCS shall be comprised of new and existing equipment that is of modern design, and current standard production of the manufacturer.
- E. Verify dimensions and conditions at the job site prior to installation, and perform installation in accordance with these Specifications, Manufacturers recommendations and the latest edition or revision of all applicable codes and standards.
- F. Furnish and install a SCS system incorporating the hardware, equipment, Ethernet LAN, and appropriate testing equipment to perform testing as hereinafter described.
- G. Provide any additional items, not specifically mentioned herein, necessary to meet system requirements as specified, without claim for additional payment.

1.3 SYSTEM DESCRIPTION

- A. This contract consists of providing augmented Category 6 (6A) cabling to wireless access point locations where indicated on the Drawings.
- B. Provide labor, material, equipment, terminations, and accessories necessary for a complete new and operational communications copper horizontal cabling system as indicated on the Drawings and specified herein. The contractor shall furnish the equipment, accessories and necessary material as described herein.
- C. Provide and install a separate pathway for the new Augmented Category 6 cabling infrastructure. This Contractor shall not utilize pathways for the other Category 6 cabling.
- D. Provide wide base cable support that meets UL, NEC, and TIA/EIA requirements for the structured cabling system.
- E. The support system shall attach to the building structural elements, do not fasten directly to the roof deck.
- F. Cabling infrastructure shall be supported by cable supports that meet BICSI, EIA, TIA requirements and must be provided by the cabling contractors unless otherwise noted. (NO cable shall be allowed to be supported at or on ceiling grid, ceiling supports, mechanical or electrical piping, HVAC ductwork, etc.).

- G. The supports shall be made of fire retardant and low smoke emission products, which meet UL 2034 requirements for air plenum spaces.
- H. Minimum clearances from sources of EMI and RFI must be adhered to as specified in TIA/EIA-568B, TIA/EIA-569 and the latest version of the BICSI TDMM.
- I. The data horizontal cabling system shall be capable of 10 Gig transmissions via 4 PR UTP copper Augmented Category 6 horizontal cables and shall comply with TIA/EIA 568B, 2-10 requirements.

1.4 QUALITY ASSURANCE

- A. Communications cabling system components and equipment shall be listed by Underwriters Laboratories, Inc. for Computer use, and the components shall bear the UL label.
- B. The system shall be installed in accordance with requirements set by ANSI/NFPA-70 National Electric Code.
- C. All equipment shall comply with the latest ANSI/TIA 607-B grounding and bonding standards.
- D. All equipment and installation practices shall comply with latest BICSI (TDMM) standards.
- E. All equipment shall comply with the latest ANSI/TIA/EIA-568, 569, 60, 607, and 862 standards, as applicable.
- F. Cables shall be installed in accordance with ANSI/EIA/TIA and BICSI standards.
- G. Provide labeling per ANSI/EIA/TIA-606 requirement and in accordance with the Owner and the Technology Consultant.
- H. All cabling shall be tested in accordance with the ANSI/TIA/EIA-568-B2 standards with the required testing equipment.

1.5 WARRANTY

- A. Refer to Specification Section 27 0015, Article 1.7 "GUARANTEE, SERVICE AND TRAINING" for warranty requirements.

1.6 SPECIAL EQUIPMENT INSTALLER QUALIFICATIONS

- A. This contractor must meet one of the two (2) following special criteria:
 - 1. Demonstrate that at least 30 percent of installation personnel are BICSI Registered Telecommunications Installers. Of that number, at least 15 percent shall be registered at the Technician Level, at least 40 percent shall be registered at the Installer Level 2, Installer Level 2, Copper or Installer Level 2, Optical Fiber, and the balance shall be registered at the Installer Level 1.
 - OR
 - 2. Demonstrate that all work will be performed by fully qualified personnel having had experience on the installation of this type of system and able to certify that the primary on-site field foreman has no less than fifteen (15) years of continuous experience in this area and have made installations similar to this and of this size or larger. Additionally, 30 percent of installation personnel shall have an average of no less than ten (10) years of continuous experience in this area and have made installations similar to this and of this size or larger.

- B. This contractor must include references of similar jobs. Final determination of equipment installer qualifications shall be the decision of the owner and may include inspections of recent work.

1.7 SPARE PARTS

- A. None.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Description of System:

1. The SCS shall include providing complete operational and tested data wiring to support the network communications needs. The SCS will consist of providing new equipment as they pertain to the following principle features:
 - a. Category 6 Horizontal cabling
 - b. Category 6 patch cables
 - c. Media outlets and connectors
 - d. Cable termination equipment
 - e. Testing
 - f. Documentation
2. Design, manufacture, test, and install telecommunications cabling networks per manufacturer's requirements and in accordance with NFPA-70 (2011 edition of the *National Electrical Code®*), IEEE C2 2007 (NESC 2007), state codes, local codes, requirements of authorities having jurisdiction, and particularly the following standards:
 - a. ANSI/TIA/EIA Standards
 - 1) TIA-568-C.0 –Generic Telecommunications Cabling for Customer Premises
 - 2) ANSI/TIA/EIA-568-C.1 -- Commercial Building Telecommunications Cabling Standard, Part 1: General Requirements
 - 3) ANSI/TIA/EIA-568-C.2 -- Commercial Building Telecommunications Cabling Standard, Part 2: Balanced Twisted Pair Cabling Components
 - 4) ANSI/TIA/EIA-568-C.3 -- Optical Fiber Cabling Components Standard
 - 5) TIA-569-B -- Commercial Building Standard for Telecommunications Pathways and Spaces
 - 6) TIA/EIA-606(A) -- The Administration Standard for the telecommunications Infrastructure of Commercial Buildings
 - 7) J-STD-607(A) -- Commercial Building Grounding and Bonding Requirements for Telecommunications
 - 8) TIA-526-14A –OFSTP-14 Optical Power Loss Measurements of Installed Multimode Fiber Cable Plant
 - 9) TIA TSB-140 Additional Guidelines for Field Testing Length, Loss and Polarity of Optical Fiber Cabling Systems
3. Install cabling in accordance with the most recent edition of BICSI® publications:
 - a. BICSI -- Telecommunications Distribution Methods Manual
 - b. BICSI -- Installation Transport Systems Information Manual
 - c. BICSI - Electronic Safety and Security Design Reference Manual

- B. Refer to Section 27 0015 for additional general requirements.

2.2 AUGMENTED CATEGORY 6 (6A) CABLING

A. Description of System:

1. The Contractor is responsible for providing a complete and operational structured cabling system. Provide the following principle items:

- a. Provide new augmented Category 6 unshielded twisted pair cabling.
- b. Provide new 24 and 48 port unpopulated augmented Category 6 patch panels.
- c. Tone, test, label and certify all new data drops.

B. The computer/data cable shall be four unshielded twisted pair (UTP), 23 AWG, solid bare copper.

C. The augmented Category 6 cable jacket shall be yellow in color.

D. Patch cables shall be bootless. Patch cables within the equipment closets shall be a minimum of 6-inches (6") in length and have a maximum of two feet (2') access coil length to avoid excess cable in the rack. The contractor shall install the cable to provide neat and organized patches to equipment. The contractor is required to review site conditions to ensure the proper cable lengths are installed.

E. The insulated conductors shall be twisted in pairs and shall be insulated with FEP material, and all 4 insulated pairs shall be set into an insulated plastic jacket.

F. UL listed CMP-LP with transmission characteristics that meet or exceed those of FCC-68/ TIA /EIT, 568A-5 and TIA /EIT TSB-95 performance and NEMA low loss, extended frequency, jacket shall be sequentially marked at 2 foot intervals and must be plenum rated. UL listed 1459 and 1863.

G. Pair twisting shall be maintained to meet the cable performance, but maximum cable, untwisting allows is one half (1/2) inch.

H. Cable shall meet ANSI/TIA/EIA-658-B2-AD10 transmission performance specifications for 4 pair UTP augmented category 6 cabling.

I. Design bandwidth - 500 MHZ, cable bandwidth - 500+ MHZ, standard data rate 10 Gig.

J. Approved Manufacturers:

1. General 10MTP
2. Hubbell NextSpeed Ascent 10GbE
3. Commscope/Uniprise Ultra 10
4. Berk-Tek 10G2
5. Belden 10GX13
6. Mohawk M5864X
7. Superior/Essex 10Gain XP
8. Hitachi Supra 10G
9. Engineer approved equivalent

K. Media Outlets and Connectors:

1. Unshielded Twisted Pair media outlet terminations shall conform to the following:

- a. Eight (8) position, eight (8) conductor modular plug, certified augmented Category 6, T568B plug pin assignment. Modular augmented Category 6 plug will be a five (5) piece connector with an integral plug housing, load bar, divider, strain relief boot and collar. Augmented Category 6 modular plugs will be specifically designed for use in conjunction with 22-24 AWG solid conductor unshielded twisted pair cabling. All Horizontal data cable will be

terminated with an augmented Category 6 modular plug to mate directly to the wireless access point.

2. Telecommunication Room Termination Hardware:

- a. Horizontal Category 6 cables shall be terminated in the telecommunication room on new rack mounted, 24-port or 48-port pre-populated patch panels. Refer to Drawings for exact quantities and locations.
 - 1) Patch panels shall have a rear mounted strain relief bar to organize cables and maintain augmented Category 6 bend radius.
 - 2) Augmented Category 6 compliant per TIA 568-C.
 - 3) Compliant per TIA-568-B and TIA/EIA-606-A for cable management and administration.
 - 4) Approved Manufacturers:
 - a) Hubbell
 - b) Uniprise
 - c) Leviton
 - d) ICC
 - e) Superior Modular
 - f) AMP
 - g) Ortronics
 - h) Panduit
 - i) Engineer approved equal

3. Augmented Category 6 Patch Cables:

- a. Augmented Category 6 compliant per TIA 568-C.
- b. Compliant per TIA-568-C and TIA/EIA-606-A for cable management and administration.
- c. Each patch cable shall be bootless.
- d. Patch cables shall be color coded as follows:
 - 1) Telecommunications Closet Patch Cables:
 - a) Wireless Access Points: Yellow.

PART 3 - EXECUTION

3.1 GENERAL

- A. Recognizing District and community events occur during the day or evenings, network outages shall be minimized and coordinated with the Owner's operations.
- B. All cables must be routed and managed for a neat and aesthetically pleasing appearance. All work must be installed in a neat and workman like manner.
- C. Install patch cables in a professional manner. Utilize existing wire management where applicable. Where wire management is not available, provide wire management, route patches neatly in such a way to protect the patch cables from damage. Utilize Velcro tie wraps as needed. Plastic tie wraps are not acceptable and will be rejected.
- D. Communication bonding and grounding shall be in accordance with the NEC® and NFPA. Horizontal cables shall be grounded in compliance with ANSI/NFPA 70 and local requirements and practices. Horizontal equipment includes cross connect frames, patch panels and racks, active telecommunication equipment and test apparatus and equipment.

- E. The Contractor shall not place any distribution cabling alongside power lines, or share the same conduit, channel or sleeve with electrical apparatus unless the conduit, channel or sleeve is divided and manufactured specifically for the purpose of cohabitation. Maintain separation as follows:
 - 1. 5' for large motors and transformers
 - 2. 1' for conduit and cables used for electrical power distribution
 - 3. 6" for fluorescent lights
- F. The Contractor shall provide any necessary screws, anchors, clamps, distribution rings, miscellaneous grounding and support hardware, etc., necessary to facilitate the installation of the system.
- G. It shall be the responsibility of the contractor to furnish any special installation equipment or tools necessary to properly complete the system.
- H. It may be necessary to remove ceiling tiles to accommodate new work under this Contract. Notify Owner of any damaged tiles prior to removal. Tiles damaged during construction shall be replaced by this Contractor.
- I. Refer to Specification Section 27 0015 for additional general requirements.

3.2 PRE-INSTALLATION SITE SURVEY

- A. Prior to start of systems installation, meet at the project site with the owner's representative and Technology Designer/Engineer to coordinate efforts. Review areas of potential interference and resolve conflicts before proceeding with the work.
- B. Examine areas and conditions under which the system is to be installed. Do not proceed with the work until satisfactory conditions have been achieved.
- C. The New Elementary School consist of primarily lay-in ceilings with hard ceilings in spaces such as the Lobby and open ceiling spaces in spaces such as electrical IT, and storage rooms. It is the contractor's responsibility to visit the sites and include all access doors, conduit and any other miscellaneous equipment necessary for a neat, complete and professional installation.

3.3 INSTALLATION – DATA WIRING

- A. Provide, install, test and tag augmented Category 6 data drops to each wireless access point location shown on the Drawings.
- B. Installation practices shall follow BICSI standards and guidelines. TIA/EIA-568-C standards will be strictly followed and practiced.
- C. All cabling in equipment cabinets/racks shall be managed utilizing new wire organizers provided by the Contractor. All cabling and patch cables in closets shall be secured using velcro straps.
- D. Augmented Category 6 cables shall be continuous from telecommunications room to work area outlet and free from splices, reverses, grounds or other connections. Provide a minimum 10-foot service loop within telecommunications closet. Service loop shall be neatly coiled and secured above accessible ceiling, for each terminated cable, to accommodate future changes. Provide a minimum of 10-foot service loop.
- E. Terminate augmented Category 6 cable according to T568B jack pin assignments.
 - 1. Remove only the amount of cable jacket necessary for termination. Maintain wire twist for all pairs of augmented Category 6 cable to within 0.5 inches maximum from termination point.
- F. Do not run cable longer than maximum 90 meter EIA/TIA recommended length.

- G. All cables installed in ceiling spaces shall be plenum-rated.
- H. Horizontal data cable pairs shall run from each work area outlet to the telecommunications room and terminate on Category 6 patch panels as appropriate.
- I. All cables shall be installed using “J” hooks, conduits, cable tray or an approved raceway system. Where cable tray is not available, horizontal cable will be supported every five feet with “J” hooks sufficient in size to handle all bundled cables while minimizing crushing. If cable slack exceeds twelve (12) inches between supports, additional supports will be installed to take up slack and relieve cable stress.
- J. The use of “bridle rings” is strictly prohibited.
- K. Carefully lay all cable with appropriate radius of curvature and protect at bends and corners. Observe minimum bend radius and tension limitations as specified by EIA/TIA for augmented Category 6 cable.
- L. Loosely bundle cables with plastic tie wraps, suitable for Plenum environments, every twenty feet.
- M. Patch panels shall be arranged to allow for natural wiring progression in functional fields, minimize crossing of wires and allow for the easy access to each component.
- N. The contractor shall assure that at the completion of cable installation, cables are free from twists, kinks, sharp bends, cuts, gouges or any other physical damage that might cause alterations to the electrical or optical characteristics of the cables.
- O. Installation of new communications cabling through existing cable bundles is strictly prohibited to minimize cable burning.

3.4 LABELING

- A. All cable designations and color-coding shall be in full compliance with EIA/TIA 606-A.
- B. Clearly label all horizontal copper and fiber cables at both ends with permanently applied mechanically printed labels. Hand written labels will not be acceptable. Use standardized colors and alphanumeric codes. Technology Designer/Engineer will approve labeling system and method.
- C. In work areas, place cable ID labels around each cable in outlet box, and on front of faceplate.
- D. In the telecommunications room or at wireless access points, clocks, or security cameras, place ID labels around each cable. Labels shall be located within six inches of the termination.
- E. Front label each patch panel port with a mechanically produced identification label utilizing the Owner's existing labeling scheme.
- F. Label each cable mated directly to equipment with a mechanically produced identification label utilizing the Owner's existing label scheme.

3.5 AUGMENTED CATEGORY 6 UTP CABLE TESTING

- A. The Contractor shall, at all times, permit and facilitate work inspection by the Owner's Representative and by public authorities having jurisdiction. The Owner's Representative shall have the authority to stop the work, if required, to insure proper execution.
- B. Each augmented Category 6 UTP cable pair shall be tested end to end from the data outlet termination to the closet patch panel.
- C. Test shall be performed with connectors installed.

- D. Cable performance shall meet the standards outlined in EIA/TIA-568-C for augmented Category 6 cabling.
- E. Tone, verify and certify cable and jack/connectors as free from shorted pairs, open pairs, reversed pairs, crossed pairs and grounded pairs. One hundred percent of all pairs must be in good working condition.
- F. Check cable length and labeling at both ends. Cables and connectors comprising of Category 6 must be certified compliant with the performance requirements listed in TIA-568-C.
 - 1. As a minimum, test documentation will include:
 - a. Cable Identification Number
 - b. Worst Case Near End Cross Talk (NEXT)
 - c. Attenuation
 - d. PSNEXT
 - e. Return Loss
 - f. PSELFEXT
 - g. Signal-to-Noise Ratio
 - h. Ambient Noise
 - i. Loop Resistance
 - j. Equal Level Far-End Crosstalk (EL-FEXT)
 - k. Return Loss
 - l. Propagation Delay
 - m. Propagation Delay Skew
 - n. Cable Length
 - o. Test Date
 - 2. Each data circuit, including all connectors shall be tested to verify all bandwidth performance and crosstalk specifications as outlined for augmented Category 6 cable. Any cables not in one hundred percent compliance with the minimum performance criteria relating to these requirements will be replaced with no additional cost to Owner.
- G. Cable testing will be conducted by a programmable micro-computer based tester capable of testing all specific standard requirements and generating completed printed test results.
 - 1. Test equipment shall be a Fluke, or approved equivalent. Equipment will be designed, and of such grade, so as to provide reliable certification and testing.
- H. A detailed copy of all test reports shall be provided to the Owner on a USB key. Additionally, the Contractor shall provide three (3) hardcopies of the documentation indicating cable length and the pass test results for each augmented Category 6 cable installed.
- I. Any outlet, cable or component that does not meet the required operational tests or fails to meet installation standards as specified shall be repaired or replaced and re-tested by the Contractor as directed by the Owner and at no expense to the Owner.

3.6 PROJECT RECORD DOCUMENTS

- A. Fully detailed documentation and record drawings of installation layout and performance shall be submitted for review within thirty (30) days of completion of work and shall include as a minimum:
 - 1. Marked drawings showing distance and routing of all inside cable with gauge, type and numbering scheme.
 - 2. Location of outlets with their identification number prepared on the most recent installation drawing.
 - 3. Drawings showing distribution frame layouts, cross connect locations, cable routing from rooms.
 - 4. Drawings showing layout of panels and equipment in cabinets.

5. Drawings shall accurately record actual locations of each item of fixed equipment, and show interconnecting wiring. Drawings will indicate location of equipment and tagged circuits. A functional block diagram will also be required.
 6. On electronic drawings, provide data cabling on a separate layer from the architectural layer so the Owner can turn the data layer on and off.
- B. Documentation Requirements:
1. Drawings, whenever submitted, shall be submitted with three (3) hard copies to the Owner.
 2. Cable and outlet identification, locations, performance and test results will be entered into Excel or approved PC based spreadsheet. The Contractor spreadsheet template and format will be approved by the Owner.
 3. Final record drawings shall be submitted as three (3) sets of scaled 20# bond drawings and two (2) USB keys containing both PDF and AutoCAD LT 2004 formats. Drawings shall be professionally done with architectural floor plan on one layer and all technology equipment and cabling on a second layer. Hand drawings and notations will not be accepted.
- C. Cable Record Book:
1. The Contractor shall prepare and deliver complete and accurate cable records entered into Excel or approved PC based spreadsheet. Minimum information to be included for each cable in the Cable Record Book is:
 - a. Location (room number)
 - b. Jack Number
 - c. Serving Closet
 - d. Patch Panel Number
 - e. Patch Panel Port
 - f. Cable Type and Use (Cat 6a, wireless)
- D. Refer to Specification Section 27 0015 for additional general project record document requirements.
- E. All drawings and the information contained therein become the sole property of the Owner.

END OF SECTION 27 1517

Project Schedule

Task	Completion Dates
Anticipated Award	December 15, 2026
Contracts	December 22, 2026
Installation Services	December 22, 2026 – July 30, 2027
Substantial Completion	July 30, 2027
Closeout Documentation	August 29, 2027

AUCH is managing this project during the day. Generally, hours of construction are from 6:00 AM to 4:00 PM Monday through Friday. Exact times shall be coordinated with AUCH.

Contractor is expected to be flexible with their schedules to accommodate other Owner conflicts such as building construction projects, cleaning schedules, summer programs, open houses and parent/teacher conferences.