

**ELKHART COUNTY, INDIANA**

**BID PACKAGE**

**FOR**

**STRUCTURED CABLING**

**New Elkhart County Courts Campus  
1905 Reliance Road  
Goshen, IN 46526**



**Elkhart County Administration Building  
117 N. Second Street  
Goshen, IN 46526  
Phone: (574) 534-3541**

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**Division 1:**

# **General Conditions**

For

## **STRUCTURED CABLING FOR NEW ELKHART COUNTY COURTS CAMPUS**

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OWNER: ELKHART COUNTY, INDIANA, ACTING THROUGH  
ITS BOARD OF COUNTY COMMISSIONERS

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Elkhart County Administration Building  
117 N. Second Street  
Goshen, IN 46526  
Phone: (574) 534-3541

## DEFINITIONS

The following terms, as used in these Contract Documents, are defined as follows:

"ADDENDA"	Written or graphic instruments issued prior to the opening of Bids, which clarify, correct, or change the bidding documents or Contract Documents.
"APPROVED"	The words "approved", "acceptable", "satisfactory", "in the judgment of", and words of like import, shall mean approval by, acceptable to, satisfactory to, or in the judgment of, the CONSULTANT or Owner.
"BONDS"	Bid, Performance, Payment, or Maintenance Bonds, and other instruments of security collectively or individually as applicable.
"CHANGE ORDER"	A document recommended by CONSULTANT, which is signed by CONTRACTOR and OWNER and authorizes an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Time, issued on or after the Effective Date of the Agreement.
"CONTRACTOR"	The person, firm, or corporation to whom the enclosed contract is awarded by the Owner and who is subject to the terms hereof.
"DIRECTED"	The words "directed", "required", "permitted", "ordered", "designated", and words of like import shall imply the direction, requirement, permission, order of designation of the CONSULTANT or Owner.
"CONSULTANT"	Lowell Davidson of DSA, Inc. or any duly authorized representative designated by DSA, Inc.
"FIELD ORDER"	A written order issued by CONSULTANT which orders minor changes in the Work in accordance with paragraph 7.5 but which does not involve a change in the Contract Price or the Contract Time.
"FINAL ACCEPTANCE"	The date when OWNER accepts CONSULTANT'S recommendation of final payment.
"GENERAL REQUIREMENTS"	Sections of Division 1 of the Specifications.
"LAWS AND REGULATIONS"	Laws, rules, regulations, ordinances, codes and/or

LAWS OR REGULATIONS"	orders.
"NOTICE TO PROCEED"	A written notice given by OWNER to CONTRACTOR (with a copy to CONSULTANT) fixing the date on which the Contract Time will commence to run and on which CONTRACTOR shall start to perform CONTRACTOR'S obligations under the Contract Documents.
"OWNER"	The public body or authority, corporation, association, firm or person with whom CONTRACTOR has entered into the Agreement and for whom the Work is to be provided. This typically being Elkhart County, Indiana, acting through its Board of County Commissioners.
"PARTIAL UTILIZATION"	Placing a portion of the Work in service for the purpose for which it is intended (or a related purpose) before reaching Substantial Completion for all the Work.
"PROJECT"	The total construction of the Work to be provided under the Contract Documents for the T-1 scope of work for structured cable systems including SM fiber optic cable and management devices, Category 6a cable, MDF/IDF equipment frames, patch panels, cable management, and station plates and ports.
"RESIDENT PROJECT REPRESENTATIVE"	The authorized representative of OWNER who is assigned to the site or any part thereof.
"SHOP DRAWINGS"	All drawings, diagrams, illustrations, schedules and other data which are specifically prepared by or for CONTRACTOR to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by a Supplier and submitted by CONTRACTOR to illustrate material or equipment for some portion of the Work.
"SPECIFICATIONS"	Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto.



"STOP ORDER or STOP WORK ORDER"	Written order from OWNER or CONSULTANT to stop all work covered by the Contract Documents.
"SUBCONTRACTOR"	An individual, firm or corporation having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the site.
"SUBSTANTIAL COMPLETION"	See Paragraph 12.5 of these General Conditions.
"SUPPLEMENTARY CONDITIONS"	The part of the Contract Documents which amends or supplements these General Conditions.
"SUBSTANTIAL COMPLETION"	See Paragraph 12.5 of these General Conditions.
"SURETY"	Financial guarantee that insures the CONTRACTOR'S obligation.
"UNDERGROUND FACILITIES"	All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments. In addition, any encasement containing such facilities that have been installed underground to furnish any of the following services or materials; electricity, gases, steam, liquid petroleum products, telephone or other communication means, cable television, sewage and drainage removal, traffic or other control systems or water.
"UNIT PRICE WORK"	Work to be paid for on the basis of unit prices.
"WORK"	Work to be done under this Contract at the site of the improvement.
"WORK DIRECTIVE CHANGE"	A written directive to CONTRACTOR, issued on or after the Effective Date of the Agreement and signed by OWNER and recommended by CONSULTANT, ordering an addition, deletion or revision in the Work, or responding to differing or unforeseen physical conditions under which the Work is to be performed.

"WRITTEN AMENDMENT"

A written amendment of the Contract Documents, signed by OWNER and CONTRACTOR on or after the Effective Date of the Agreement and normally dealing with the non-engineering or non-technical rather than strictly Work-related aspects of the Contract Documents.

**ARTICLE 1 - PRELIMINARY MATTERS**

**1.1 Delivery of Bonds**

When CONTRACTOR delivers the executed Agreement to OWNER, CONTRACTOR shall also deliver to OWNER such required Bonds as called for in the Contract Documents.

**1.2 Copies of Documents**

Bidders may obtain documents from the Project FTP site. Bidders will be provided the password and instructions after notification is sent to CONSULTANT at [ldavidson@dsa-web.com](mailto:ldavidson@dsa-web.com) indicating a desire to participate in this bid.

**1.3 Contract Documents**

These Contract Documents are complementary and what is called for in one shall be as binding as if called for in all. The intention of these Contract Documents is to include in the Contract Price the costs of all labor and materials, water, fuel, tools, plant, supplies, expendables, equipment, light, transportation, taxes, bonds, and all other expense and profit as may be necessary for the proper and complete execution of the Work.

**1.4 Commencement of Contract Time; Notice to Proceed**

The Contract Time will commence when the Contractor receives the Notice to Proceed from the CONSULTANT. CONTRACTOR shall not be paid for any Work performed prior to receiving the Notice to Proceed from the CONSULTANT.

**1.5 Starting the Project**

CONTRACTOR shall start to perform the Work on the date when the Contract Time commences to run, but no Work shall be done at the site prior to the date on which the Contract Time commences to run unless such Work is specifically approved by the Owner or CONSULTANT.

**1.6 Before Starting Construction**

Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. CONTRACTOR shall promptly report in writing to CONSULTANT any conflict, error or discrepancy which CONTRACTOR may discover and shall obtain a written interpretation or clarification from CONSULTANT before proceeding with any Work affected thereby; however, CONTRACTOR shall not be liable to OWNER or CONSULTANT for failure to report any conflict, error or discrepancy in the Contract Documents, unless CONTRACTOR had actual knowledge thereof or should

reasonably have known thereof.

#### **1.7 Submission for Review**

Within ten (10) days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), CONTRACTOR shall submit to CONSULTANT for review:

1.7.1 An estimated progress schedule indicating the starting and completion dates of the various stages of the Work; and

1.7.2 A preliminary schedule of Shop Drawings and/or sample submissions.

1.7.3 CONTRACTOR shall provide an updated progress schedule at all scheduled progress meetings.

#### **1.8 Delivery of Certificates**

Before any Work at the site is started, CONTRACTOR shall deliver to OWNER, with a copy to CONSULTANT, certificates (and other evidence of insurance requested by OWNER) which CONTRACTOR is required to purchase and maintain.

#### **1.9 Subcontracts**

The Contractor shall not execute an Agreement with any Subcontractor or permit any Subcontractor to perform any work in this Contract until he has received written approval of such Subcontractor from the Owner or Owner's appointed designee.

#### **1.10 Preconstruction Conference**

Following the Effective Date of the Agreement, but before CONTRACTOR starts the Work at the site, a conference attended by CONTRACTOR, CONSULTANT and others, as appropriate, will be held to discuss the schedules referred to in paragraph 1.7, as well as the Subcontractors proposed by Contractor for certain portions of the work, to discuss procedures for handling Shop Drawings and other submittals and for processing Applications for Payment, and to establish a working understanding among the parties as to the Work.

#### **1.11 Non-Discrimination**

In compliance with the Acts of Indiana General Assembly, 1933, Chapter 270, the Contractor hereby agrees:

1.11.1 That in the hiring of employees for the performance of the Work under this Contract or any Subcontract hereunder, no Contractor, Subcontractor, nor any person acting on behalf of such Contractor or Subcontractor shall, by reason of race or color,

discriminate against any citizen qualified to do work to which the employment relates;

1.11.2 That no Contractor, Subcontractor, nor any person on his behalf shall, in any manner, discriminate against or intimidate any employee hired for the performance of the Work under this Contract on account of race or color;

1.11.3 That there may be deducted from the amount payable to the Contractor by the Owner under this Contract, a penalty of Five Dollars (\$5.00) for each person for each calendar day during which such person was discriminated against or intimidated in violation of the provisions of this Contract; and

1.11.4 That this Contract may be canceled or terminated by the Owner, and all money due or to become due hereunder may be forfeited for a second or any subsequent violation of the terms or conditions of this section of the Contract.

## 1.12 Insurance

### 1.12.1 Contractor's Liability Insurance:

a) The Contractor shall maintain such insurance as well as protect himself from claims under Workmen's Compensation Acts and other employee benefit acts; from claims for damages because of bodily injury, including death, to his employees and all others; and from claims for damages to property, any or all of which may arise out of or result from the Contractor's operation under the Contract, whether such operations be by himself or by any subcontractor, or anyone directly or indirectly employed by either of them. This insurance shall be written for not less than any limits of liability specified herein and shall name Elkhart County, PSI, Inc., PMSI USA LLC, and DSA, Inc. as additional insureds.

### 1.12.2 Contractor's Insurance:

The types and minimum amount of insurance to be provided for by the Contractor shall be as follows:

#### a) Workmen's Compensation and Occupational Disease Insurance

The Contractor shall provide Workmen's Compensation and Occupational Disease Insurance as required by law. Such policy shall specifically include coverage for the State of Indiana, and such adjoining states as required by the Contractor's operations.

#### b) Employer's Liability Insurance

The Contractor shall provide Employer's Liability with a minimum coverage of \$1,000,000.

c) Comprehensive General Liability Insurance

The Contractor shall maintain a Comprehensive General Liability form of Insurance with limits of not less than \$1,000,000 for any one (1) occurrence, and \$2,000,000 aggregate. The insurance policy shall include the following:

1. Premises Operations: The policy shall include coverage for the following special hazards when applicable to the Project:

- i) Property damage arising out of blasting or explosion.
- ii) Property damage arising out of collapse of or structural injury to any building or structure due to grading of land, excavation, borrowing, filling, backfilling, tunneling, pile driving, cofferdam work or caisson work or to moving, shoring, underpinning, raising, or demolition of any building or structure or rebuilding of any structural support thereof.
- iii) Injury to or destruction of wires, conduits, pipes, mains, sewers, and other similar property of any apparatus in connection therewith below the surface of ground, if caused by use of mechanical equipment.

2. Contractual (Broad Form Indemnification): The Contractor agrees to indemnify and save harmless the Owner and the CONSULTANT, their agents and employees, from and against all loss or expense (including costs and attorneys' fees) by reason of liability imposed by law upon the Owner or the CONSULTANT for damages because of bodily injury, including death, at any time resulting there from, sustained by any person or persons or on account of damage to property that is due or claimed to be due to negligence of the Contractor, his Subcontractors, employees or agents.

3. Contractor's Protective: The Contractor shall maintain this type of coverage on a "Blanket" basis to cover the operations of any subcontractors.

d) Automobile Liability Insurance

The Contractor shall maintain Comprehensive Automobile Liability Insurance with liability limits of not less than \$1,000,000 for one (1) occurrence and \$2,000,000 aggregate. This coverage may be provided either as a separate policy or as part of the Comprehensive General Liability Policy described previously. The automobile insurance must include coverage for all owned, non-owned and hired vehicles.

- e) Furnish Indiana State Forms No. 19 (Workmen's Compensation) and No.105 (Occupational Disease Act).
- f) Umbrella Policy Insurance

The Contractor shall maintain a minimum \$3,000,000 Umbrella Policy in addition to its primary insurance.

#### **1.13 Proof of Carriage Insurance**

1.13.1 Contractor shall not commence the Work until he has obtained all insurance specified herein, has filed with the Owner one (1) copy of a Certificate of Insurance, and such insurance has been approved by the Owner.

1.13.2 Should any Coverage approach expiration during the Contract period, it shall be renewed prior to its expiration, and certificate again filed with the Owner.

1.13.3 If any of such policies are canceled or are changed so as to reduce the coverage evidenced by the Certificate, at least ten (10) days prior written notice by registered mail of such cancellation or change shall be sent to the Owner. Contractor shall at all times under this Contract maintain in effect the required insurance.

1.13.4 All insurance provided for under this Section shall be written by Insurance Companies licensed to do business in Indiana and Countersigned by resident Indiana agent. The insurance company shall file with the Owner, one (1) copy of Affirmation of Authority, on the form furnished by the CONSULTANT, as verification of the resident agent.

1.13.5 All insurance shall be maintained in full force and effect until the Contract has been fully and completely performed.

#### **1.14 Performance and Payment Bond**

The Contractor shall furnish a Performance and Payment Bond (form attached) equal to one hundred percent (100%) of the Contract Price at the time the executed Agreement is delivered to the Owner.

### **ARTICLE 2 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE**

#### **2.1 Intent**

The Contract Documents comprise the entire agreement between OWNER and

CONTRACTOR concerning the Work. The Contract Documents are complementary; what is called for by one is as binding as if called for by all. The Contract Documents will be construed in accordance with the law of the place of the Project.

2.1.1 It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any Work, materials or equipment that may reasonably be inferred from the Contract Documents as being required to produce the intended result will be supplied whether or not specifically called for.

2.1.2 If during the performance of the Work, CONTRACTOR finds a conflict, error or discrepancy in the Contract Documents, CONTRACTOR shall so report to CONSULTANT in writing at once and before proceeding with the Work affected thereby and shall obtain a written interpretation or clarification from CONSULTANT; however, CONTRACTOR shall not be liable to OWNER or CONSULTANT for failure to report any conflict, error or discrepancy in the Contract Documents unless CONTRACTOR had actual knowledge thereof or should reasonably have known thereof.

## 2.2 Amending and Supplementing Contract Documents:

The Contract Documents may be amended to provide for additions, deletions and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways:

2.2.1 A formal Written Amendment,

2.2.2 A Change Order, or

2.2.3 A Work Directive Change (pursuant to paragraph 8.1).

In addition, the requirements of the Contract Documents may be supplemented and minor variations and deviations in the Work may be authorized, in one or more of the following ways:

2.2.4 A Field Order,

2.2.5 CONSULTANT's approval of a Shop Drawing or sample, or

2.2.6 CONSULTANT's written interpretation or clarification.

## ARTICLE 3 - AVAILABILITY OF LANDS; PHYSICAL CONDITIONS; REFERENCE POINTS

### 3.1 Availability of Lands - Omitted



### 3.2 Physical Conditions - Facilities

The information and data shown or indicated in the Contract Documents with respect to existing Facilities at the site is based on information and data furnished to OWNER or CONSULTANT by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

3.2.1 OWNER and CONSULTANT shall not be responsible for the accuracy or completeness of any such information or data; and,

3.2.2 CONTRACTOR shall have full responsibility for reviewing and checking all such information and data, for locating all Facilities shown or indicated in the Contract Documents, for coordination of the Work with others during construction, for the safety and protection thereof, and repairing any damage thereto resulting from the Work, the cost of all of which will be considered as having been included in the Contract Price.

### 3.3 Not Shown or Indicated - Omitted

### 3.4 Assignment of Contract

The Contractor shall not assign this Contract or any part hereof without prior consent of the Owner.

## ARTICLE 4 - CONTRACTOR'S RESPONSIBILITIES

### 4.1 Supervision and Superintendence

4.1.1 CONTRACTOR shall supervise and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences and procedures of construction, but CONTRACTOR shall not be responsible for the negligence of others in the design or selection of a specific means, method, technique, sequence or procedure of construction which is indicated in and required by the Contract Documents. CONTRACTOR shall be responsible to see that the finished Work complies accurately with the Contract Documents.

4.1.2 CONTRACTOR shall keep on the Work at all times during its progress a competent resident superintendent, who shall not be replaced without written notice to OWNER and CONSULTANT except under extraordinary circumstances. The superintendent will be CONTRACTOR's representative at the site and shall have

authority to act on behalf of CONTRACTOR. All communications given to the superintendent shall be as binding as if given to CONTRACTOR.

#### **4.2 Labor, Materials and Equipment**

4.2.1 CONTRACTOR shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. CONTRACTOR shall at all times maintain good discipline and order at the site, particularly in connection with the safety or protection of persons or the Work or property at the site or adjacent thereto, and except as otherwise indicated in the Contract Documents.

4.2.2 Unless otherwise specified in the General Conditions, CONTRACTOR shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, supplies, expendables, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up and completion of the Work.

4.2.3 All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. If required by CONSULTANT, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable Supplier except as otherwise provided in the Contract Documents.

#### **4.3 Substitutes or "Or-Equal" Items**

4.3.1 Whenever materials or equipment are specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier the naming of the item is intended to establish the type, function and quality required. Unless the name is followed by words indicating that no substitution is permitted, materials or equipment of other Suppliers may be accepted by CONSULTANT if sufficient information is submitted by CONTRACTOR to allow CONSULTANT to determine that the material or equipment proposed is equivalent or equal to that named. The procedure for review by CONSULTANT will include the following as supplemented in the General Conditions. Requests for review of substitute items of material and equipment will not be accepted by CONSULTANT from anyone other than CONTRACTOR. If CONTRACTOR wishes to furnish or use a substitute item of material or equipment, CONTRACTOR shall make written application to CONSULTANT for acceptance thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar and of equal substance to that specified and be suited to the same use as that specified. The application will state that the evaluation and

acceptance of the proposed substitute will not prejudice CONTRACTOR's achievement of Substantial Completion on time, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents. All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which shall be considered by CONSULTANT in evaluating the proposed substitute. CONSULTANT may require CONTRACTOR to furnish at CONTRACTOR's expense additional data about the proposed substitute.

4.3.2 If a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, sequence, technique or procedure of construction acceptable to CONSULTANT, if CONTRACTOR submits sufficient information to allow CONSULTANT to determine that the substitute proposed is equivalent to that indicated or required by the Contract Documents.

4.3.3 CONSULTANT will be allowed a reasonable time within which to evaluate each proposed substitute. CONSULTANT will be the sole judge of acceptability, and no substitute will be ordered, installed or utilized without CONSULTANT's prior written acceptance which will be evidenced by either a Change Order or an approved Shop Drawing. OWNER may require CONTRACTOR to furnish at CONTRACTOR's expense a special performance guarantee or other surety with respect to any substitute. CONSULTANT will record time required by CONSULTANT in evaluating substitutions proposed by CONTRACTOR and in making changes in the Contract Documents occasioned thereby. Whether or not CONSULTANT accepts a proposed substitute, CONTRACTOR shall reimburse OWNER for the charges of CONSULTANT for evaluating each proposed substitute.

4.3.4 Alternates proposed by bidders and accepted by Owner at time of bid evaluation which reduce the costs of the Work and which meet the Bid Package requirements may be considered in determining the lowest responsible and responsive bidder.

#### **4.4 Contractor Responsibility**

CONTRACTOR shall be fully responsible to OWNER and CONSULTANT for all acts and omissions of the Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR just as CONTRACTOR is responsible for CONTRACTOR's own acts and omissions. Nothing in the Contract Documents shall create any contractual relationship between OWNER or CONSULTANT and any such Subcontractor, Supplier or other person or organization, nor shall it create any obligation on the part of OWNER or

CONSULTANT to pay or to see to the payment of any monies due any such Subcontractor, Supplier or other person or organization except as may otherwise be required by Laws and Regulations.

#### **4.5 Subcontractor Responsibility**

All Work performed for CONTRACTOR by a Subcontractor will be pursuant to an appropriate agreement between CONTRACTOR and the Subcontractor which specifically binds the Subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of OWNER and CONSULTANT.

#### **4.6 Permits**

Unless otherwise provided in the General Conditions, CONTRACTOR shall obtain and pay for all construction permits and licenses.

#### **4.7 Laws and Regulations**

4.7.1 CONTRACTOR shall give all notices and comply with all Laws and Regulations applicable to furnishing and performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither OWNER nor CONSULTANT shall be responsible for monitoring CONTRACTOR's compliance with any Laws or Regulations.

4.7.2 If CONTRACTOR observes that the Specifications or Drawings are at variance with any Laws or Regulations, CONTRACTOR shall give CONSULTANT prompt written notice thereof, and any necessary changes will be authorized by one of the methods indicated in paragraph 2.2. If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to such Laws or Regulations, and without such notice to CONSULTANT, CONTRACTOR shall bear all costs arising therefrom; however, it shall not be CONTRACTOR's primary responsibility to make certain that the Specifications and Drawings are in accordance with such Laws and Regulations.

#### **4.8 Taxes**

CONTRACTOR shall pay all sales, consumer, use and other similar taxes required to be paid by CONTRACTOR in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

#### **4.9 Use of Premises**

4.9.1 CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of workers to the Project site and land and areas identified in and permitted by the Contract Documents and other land and

areas permitted by Laws and Regulations, rights-of-way, permits and easements, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof or of any land or areas contiguous thereto, resulting from the performance of the Work. Should any claim be made against OWNER or CONSULTANT by any such owner or occupant because of the performance of the Work, CONTRACTOR shall promptly attempt to settle with such other party by agreement or otherwise resolve the claim by arbitration or at law. CONTRACTOR shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold OWNER and CONSULTANT harmless from and against all claims, damages, losses and expenses (including, but not limited to, fees of engineers, architects, attorneys and other professionals and court and arbitration costs) arising directly, indirectly or consequentially out of any action, legal or equitable, brought by any such other party against OWNER or CONSULTANT to the extent based on a claim arising out of CONTRACTOR's performance of the Work.

4.9.2 During the progress of the Work, CONTRACTOR shall keep the premises free daily from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work CONTRACTOR shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery, and surplus materials, and shall leave the site clean and ready for further work. CONTRACTOR shall restore to original condition all property not designated for alteration by the Contract Documents.

#### 4.10 Record Documents

CONTRACTOR shall maintain in a safe place at the site one (1) record copy of all Drawings, Specifications, Addenda, Written Amendments, Change Orders, Work Directive Changes, Field Orders and written interpretations and clarifications issued in good order and annotated to show all changes made during construction. These record documents together with all approved samples and a counterpart of all approved Shop Drawings will be available to CONSULTANT for reference. Upon completion of the Work, these record documents, samples and Shop Drawings will be delivered to CONSULTANT for OWNER.

#### 4.11 Safety and Protection

4.11.1 CONTRACTOR shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

- a) All employees on the Work and other persons and organizations who may

be affected thereby;

- b) All the Work and materials and equipment to be incorporated therein, whether in storage on or off the site; and
- c) Other property at the site or adjacent thereto.

4.11.2 CONTRACTOR shall comply with all applicable Laws and Regulations of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR shall notify owners of adjacent property and of other Facilities and utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property. All damage, injury or loss to any property referred to in paragraph 4.11.1(b) or 4.11.1(c) caused, directly or indirectly, in whole or in part, by CONTRACTOR, any Subcontractor, Supplier or any other person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR.

4.11.3 CONTRACTOR shall designate a responsible representative at the site whose duty shall be the prevention of accidents. This person shall be CONTRACTOR's superintendent unless otherwise designated in writing by CONTRACTOR to OWNER.

#### 4.12 Emergencies

In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, CONTRACTOR, without special instruction or authorization from CONSULTANT or OWNER, is obligated to act to prevent threatened damage, injury or loss. CONTRACTOR shall give CONSULTANT prompt written notice if CONTRACTOR believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby. If CONSULTANT determines that a change in the Contract Documents is required because of the action taken in response to an emergency, a Work Directive Change or Change Order will be issued to document the consequences of the changes or variations.

#### 4.13 Shop Drawings and Samples

4.13.1 After checking and verifying all field measurements and after complying with applicable procedures specified in the General Conditions, CONTRACTOR shall submit to CONSULTANT via email for review and approval copies of all Shop Drawings. All submissions will be identified as CONSULTANT may require. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to enable

CONSULTANT to review the information as required.

4.13.2 CONTRACTOR shall also submit to CONSULTANT for review and approval with such promptness as to cause no delay in Work, all samples required by the Contract Documents.

4.13.3 At the time of each submission, CONTRACTOR shall give CONSULTANT specific written notice of each variation that the Shop Drawings or samples may have from the requirements of the Contract Documents, and, in addition, shall cause a specific notation to be made on each Shop Drawing submitted to CONSULTANT for review and approval of each such variation.

4.13.4 CONSULTANT will review and approve with reasonable promptness Shop Drawings and samples, but CONSULTANT's review and approval will be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents and shall not extend to means, methods, techniques, sequences or procedures of construction.

4.13.5 CONSULTANT's review and approval of Shop Drawings or samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract Documents unless CONTRACTOR has in writing called CONSULTANT's attention to each such variation at the time of submission.

4.13.6 Where a Shop Drawing or sample is required by the Specifications, any related Work performed prior to CONSULTANT's review and approval of the pertinent submission will be the sole expense and responsibility of CONTRACTOR.

#### 4.14 Continuing the Work

CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by paragraph 13.4 or as CONTRACTOR and OWNER may otherwise agree in writing.

#### 4.15 Indemnification:

To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER and CONSULTANT and their consultants, agents and employees from and against all claims, damages, losses, and expenses, direct, indirect or consequential (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs) arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss or expense:

4.15.1 (a) is attributable to bodily injury, sickness, disease or death, or to injury to

or destruction of tangible property (other than the Work itself) including the loss of use resulting there from, and (b) is caused in whole or in part by any negligent act or omission of CONTRACTOR, any Subcontractor, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder or arises by or is imposed by Law and Regulations regardless of the negligence of any such party.

4.15.2 In any and all claims against OWNER or CONSULTANT or any of their consultants, agents or employees by any employee of CONTRACTOR, any Subcontractor, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, the indemnification obligation under this paragraph or paragraph 1.12.2 (c)2 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for CONTRACTOR or any such Subcontractor or other person or organization under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts.

#### 4.16 Sanitation

4.16.1 The Contractor shall introduce and enforce among his employees, such regulations in regard to cleanliness and the disposal of garbage and wastes as shall comply with the Local ordinances. The Contractor shall take such means as the Owner may direct to effectually prevent the creation of a nuisance at the work site or any part of the property of the Owner. Under no circumstances shall the Contractor create or maintain a nuisance.

4.16.2 All waste, rubbish and debris – whether personal or from construction related processes – shall be removed from the job site and adjacent properties by hauling away and shall not be buried or discarded.

### ARTICLE 5 - OTHER WORK

#### 5.1 Related Work at Site

OWNER may perform other work related to the Project at the site by OWNER's own forces, have work performed by utility owners, or let other direct contracts.

5.1.1 CONTRACTOR shall afford each utility owner and other contractor who is a party to such a direct contract (or OWNER, if OWNER is performing the additional work with OWNER's employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such work, and shall properly connect and coordinate the Work with theirs, CONTRACTOR shall do all cutting, fitting and patching of the Work that



may be required to make its several parts come together properly and integrate with such other work.

## **ARTICLE 6 - OWNER'S RESPONSIBILITIES**

### **6.1 Communication**

OWNER shall issue all communications to CONTRACTOR through CONSULTANT.

### **6.2 Appointment of CONSULTANT**

In case of termination of the employment of CONSULTANT, OWNER shall appoint a CONSULTANT whose status under the Contract Documents shall be that of the former CONSULTANT.

### **6.3 Payment**

OWNER shall furnish the data required of OWNER under the Contract Documents promptly and shall make payments to CONTRACTOR promptly after they are due.

### **6.4 Change Orders**

OWNER is obligated to execute Change Orders as indicated in paragraph 8.4.

### **6.5 Inspection**

OWNER's responsibility in respect of certain inspections, tests and approvals is set forth in paragraph 11.3.

### **6.6 Service Termination**

In connection with OWNER's right to stop Work or suspend Work, see paragraphs 11.5 and 13.1. Paragraph 13.2 deals with OWNER's right to terminate services of CONTRACTOR under certain circumstances.

## **ARTICLE 7 - CONSULTANT'S STATUS DURING CONSTRUCTION**

### **7.1 Owner's Representative**

CONSULTANT will be OWNER's representative during the construction period. The duties and responsibilities and the limitations of authority of CONSULTANT as OWNER's representative during construction are set forth in the Contract Documents and shall not be extended without written consent of OWNER and CONSULTANT.

## **7.2 Visits to Site**

CONSULTANT will make visits to the site at intervals appropriate to the various stages of construction to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the Contract Documents. CONSULTANT will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. CONSULTANT's efforts will be directed toward providing for OWNER a greater degree of confidence that the completed Work will conform to the Contract Documents. On the basis of such visits and on-site observations as an experienced and qualified design professional, CONSULTANT will keep OWNER informed of the progress of the Work and will endeavor to guard OWNER against defects and deficiencies in the Work.

## **7.3 Project Representation**

OWNER will furnish a Resident Project Representative to assist CONSULTANT in observing the performance of the Work.

## **7.4 Clarifications and Interpretations**

CONSULTANT will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents (in the form of Drawings or otherwise) as CONSULTANT may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents.

## **7.5 Authorized Variations in Work**

CONSULTANT may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Time and are consistent with the overall intent of the Contract Documents. These may be accomplished by a Field Order and will be binding on OWNER, and also on CONTRACTOR who shall perform the Work involved promptly.

## **7.6 Rejecting Defective Work**

CONSULTANT will have authority to disapprove or reject Work which CONSULTANT believes to be defective, and will also have authority to require special inspection or testing of the Work at CONTRACTOR'S expense.

## **7.7 Decisions on Disputes**

7.7.1 CONSULTANT will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. Claims, disputes and other matters relating to the acceptability of the Work or the

interpretation of the requirements of the Contract Documents pertaining to the performance and furnishing of the Work and claims under Articles 9 and 10 in respect to changes in the Contract Price or Contract Time will be referred initially to CONSULTANT in writing with a request for a formal decision in accordance with this paragraph, which CONSULTANT will render in writing within a reasonable time. Written notice of each such claim, dispute and other matter will be delivered by the claimant to CONSULTANT and the other party to the Agreement promptly (but in no event later than thirty (30) days) after the occurrence of the event giving rise thereto, and written supporting data will be submitted to CONSULTANT and the other party within sixty (60) days after such occurrence unless CONSULTANT allows an additional period of time to ascertain more accurate data in support of the claim.

7.7.2 When functioning as interpreter and judge under paragraphs 7.7.1 CONSULTANT will not show partiality to OWNER or CONTRACTOR and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

#### **7.8 Limitations on CONSULTANT's Responsibilities**

Neither CONSULTANT's authority to act under this Article 7 or elsewhere in the Contract Documents nor any decision made by CONSULTANT in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of CONSULTANT to CONTRACTOR, any Subcontractor, any Supplier, or any other person or organization performing any of the Work, or to any surety for any of them.

7.8.1 CONSULTANT will not be responsible for CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, and CONSULTANT will not be responsible for CONTRACTOR's failure to perform or furnish the Work in accordance with the Contract Documents.

7.8.2 CONSULTANT will not be responsible for the acts or omissions of CONTRACTOR or of any Subcontractor, any Supplier, or of any other person or organization performing or furnishing any of the Work.

### **ARTICLE 8 - CHANGES IN THE WORK**

#### **8.1 Work Modifications**

Without invalidating the Agreement and without notice to any surety, OWNER may, at any time or from time to time, order additions, deletions or revisions in the Work; these will be authorized by a Written Amendment, a Change Order, or a Work Directive Change. Upon receipt of any such document, CONTRACTOR shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract

Documents (except as otherwise specifically provided).

## **8.2 Disagreement**

If OWNER and CONTRACTOR are unable to agree as to the extent, if any, of an increase or decrease in the Contract Price or an extension or shortening of the Contract Time that should be allowed as a result of a Work Directive Change, a claim may be made therefore as provided in Article 9 or Article 10.

## **8.3 Contract Price and Time**

CONTRACTOR shall not be entitled to an increase in the Contract Price or an extension of the Contract Time with respect to any Work performed that is not required by the Contract Documents.

## **8.4 Change orders**

OWNER and CONTRACTOR shall execute appropriate Change Orders covering:

8.4.1 Changes in the Work which is ordered by OWNER.

8.4.2 Changes in the Contract Price or Contract Time which are agreed to by the parties.

8.4.3 Changes in the Contract Price or Contract Time which embody the substance of any written decision rendered by CONSULTANT.

## **8.5 Notification of Change**

If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be CONTRACTOR's responsibility, and the amount of each applicable Bond will be adjusted accordingly.

# **ARTICLE 9 - CHANGE OF CONTRACT PRICE**

The Contract Price constitutes the total compensation (subject to authorized adjustments) payable to CONTRACTOR for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by CONTRACTOR shall be at his expense without change in the Contract Price.

## **9.1 Change Order**

The Contract Price may only be changed by a Change Order or by a Written Amendment.

## 9.2 Determination of Contract Price

The value of any Work covered by a Change Order for an increase or decrease in the Contract Price shall be determined in one of the following ways:

9.2.1 Where the Work involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of the items involved.

9.2.2 On the basis of the actual Cost of the Work for labor, plus an allowable Contractor's mark-up of four percent (4%) for overhead, insurance, taxes, and profit; and on the basis of the actual Cost of the Work for material, plus an allowable Contractor's mark-up of five percent (5%) for overhead, insurance, taxes, and profit.

## 9.3 Cost of the Work

The term Cost of the Work means the sum of all costs necessarily incurred and paid by CONTRACTOR in the proper performance of the Work. The term Cost of the Work shall **not** include any of the following:

9.3.1 Payroll costs and other compensation of CONTRACTOR's officers, executives, principals (of partnership and sole proprietorships), general managers, attorneys, auditors, accountants, purchasing and contracting agents, CONTRACTOR whether at the site or in CONTRACTOR's principal or a branch office for general administration of the Work.

9.3.2 Expenses of CONTRACTOR's principal and branch offices other than CONTRACTOR's office at the site.

9.3.3 Any part of CONTRACTOR's capital expenses, including interest on CONTRACTOR's capital employed for the Work and charges against CONTRACTOR for delinquent payments.

9.3.4 Cost of premiums for all Bonds and for all insurance whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same.

9.3.5 Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied and making good any damage to property.

**ARTICLE 10 - CHANGE OF CONTRACT TIME**

The Contract Time may only be changed by a Change Order or a Written Amendment. Any claim for an extension or shortening of the Contract Time shall be based on written notice delivered by the party making the claim to the other party and to CONSULTANT promptly (but in no event later than fifteen (15) days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the extent of the claim with supporting data shall be delivered within thirty (30) days after such occurrence (unless CONSULTANT allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by the claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant has reason to believe it is entitled as a result of the occurrence of said event. All claims for adjustment in the Contract Time shall be determined by CONSULTANT.

No extension of Contract Time shall be allowed for weather, changes in quantities placed, or CONSULTANT review times set forth in this Contract.

**ARTICLE 11 - WARRANTY AND GUARANTEE; TESTS AND INSPECTIONS;  
CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK**

**11.1 Warranty and Guarantee**

CONTRACTOR warrants and guarantees to OWNER and CONSULTANT that all Work will be in accordance with the Contract Documents and will not be defective. Prompt notice of all defects shall be given to CONTRACTOR. All defective Work, whether or not in place, may be rejected, corrected or accepted as provided in this Article 11.

**11.2 Access to Work**

CONSULTANT and CONSULTANT's representatives, other representatives of OWNER, testing agencies and governmental agencies with jurisdictional interests will have access to the Work at reasonable times for their observation, inspecting and testing. CONTRACTOR shall provide proper and safe conditions for such access.

**11.3 Tests and Inspections**

CONTRACTOR shall give CONSULTANT timely notice of readiness of the Work for all required inspections, tests or approvals.

11.3.1 If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) to specifically be inspected, tested or approved, CONTRACTOR shall assume full responsibility therefore, pay all costs in connection therewith and furnish CONSULTANT the required certificates of inspection, testing or approval.

11.3.2 The Contractor shall assume full responsibility for paying all costs in connection with testing or certification of materials required under the Specifications. In the case of failed or rejected materials or product used in construction of the Project either by CONTRACTOR or SUBCONTRACTORS, independent third-party testing may be used at CONTRACTOR'S expense.

11.3.3 If any Work (including the work of others) that is to be inspected, tested or approved is covered without written concurrence of CONSULTANT, it must, if requested by CONSULTANT, be uncovered for observation. Such uncovering shall be at CONTRACTOR's expense unless CONTRACTOR has given CONSULTANT timely notice of CONTRACTOR's intention to cover the same and CONSULTANT has not acted with reasonable promptness in response to such notice.

11.3.4 Neither observations by CONSULTANT nor inspections, tests or approvals by others shall relieve CONTRACTOR from CONTRACTOR's obligations to perform the Work in accordance with the Contract Documents.

#### **11.4 Uncovering Work**

11.4.1 If any Work is covered contrary to the written request of CONSULTANT, it must, if requested by CONSULTANT, be uncovered for CONSULTANT's observation and replaced at CONTRACTOR's expense.

11.4.2 If CONSULTANT considers it necessary or advisable that covered Work be observed by CONSULTANT or inspected or tested by others, CONTRACTOR, at CONSULTANT's request, shall uncover, expose or otherwise make available for observation, inspection or testing as CONSULTANT may require, that portion of the Work in question, furnishing all necessary labor, material and equipment.

#### **11.5 Owner May Stop the Work**

If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to the Contract Documents, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated.

#### **11.6 Correction or Removal of Defective Work**

If required by CONSULTANT, CONTRACTOR shall promptly, as directed, either correct all defective Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by CONSULTANT, remove it from the site and replace it with non-defective Work. CONTRACTOR shall bear all direct, indirect and consequential costs of such correction or removal (including but not limited to fees and charges of engineers,

attorneys and other professionals) made necessary thereby.

**11.7 Three Years Correction Period - Omitted**

**11.8 Maintenance Bond**

Contractor shall furnish prior to Final Acceptance a Maintenance Bond (form attached) in an amount at least equal to ten percent (10%) of the Contract Price, guaranteeing for a period of three (3) years after the date of acceptance by the Owner, that all workmanship and materials entered into the Contract are in accordance with the Plans and Specifications. Contractor shall remove any defects due to faulty workmanship and/or materials and shall pay for any damage to other work resulting there from which shall appear within the guarantee period. Should such quality assurance tests, as are called for in the Contract Plans and Specifications, not be performed or if the Work is not performed in conformity to the Plans and Specifications, the required maintenance bond period may be extended to six (6) years by Owner. The maintenance bond requirement does not eliminate nor negate any other contract requirement or warranty.

**11.9 Acceptance of Defective Work:**

If instead of requiring correction or removal and replacement of defective Work, OWNER prefers to accept it, OWNER may do so. CONTRACTOR shall bear all direct, indirect and consequential costs attributable to OWNER's evaluation of and determination to accept such defective Work. If any such acceptance occurs prior to CONSULTANT's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price.

**11.10 OWNER May Correct Defective Work:**

If CONTRACTOR fails within a reasonable time after written notice of CONSULTANT to proceed to correct and to correct defective Work or to remove and replace rejected Work as required by CONSULTANT in accordance with paragraph 11.6, or if CONTRACTOR fails to perform the Work in accordance with the Contract Documents, or if CONTRACTOR fails to comply with any other provision of the Contract Documents, OWNER may, after seven (7) days' written notice to CONTRACTOR, correct and remedy any such deficiency. All direct, indirect and consequential costs of OWNER in exercising such rights and remedies will be charged against CONTRACTOR in an amount approved as to reasonableness by CONSULTANT, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price.



**ARTICLE 12 - PAYMENTS TO CONTRACTOR AND COMPLETION**

**12.1 Schedule of Values**

The schedule of values established as the Contract price will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to CONSULTANT. Progress payments on account of the Work completed will be based on the proportion of the Work completed.

**12.2 Application for Progress Payment**

At least fifteen (15) days before each regularly scheduled County Commissioners Meeting, CONTRACTOR shall submit to CONSULTANT for review an Application for Payment filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents.

**12.3 Contractor's Warranty of Title**

CONTRACTOR warrants and guarantees that title to all Work, materials and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER no later than the time of payment free and clear of all Liens.

**12.4 Review of Applications for Progress Payment**

12.4.1 CONSULTANT will, within ten (10) days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to OWNER, or return the Application to CONTRACTOR indicating in writing CONSULTANT's reasons for refusing to recommend payment. In the latter case, CONTRACTOR may make the necessary corrections and resubmit the Application. Ten (10) days after presentation of the Application for Payment with CONSULTANT's recommendation, the amount recommended will become due and when due will be paid by OWNER to CONTRACTOR. All progress payments will be subject to a ten Percent (10%) retainage that will not be released until Maintenance Bond is received.

12.4.2 CONSULTANT's recommendation of any payment requested in an Application for Payment will constitute a representation by CONSULTANT to OWNER, based on CONSULTANT's on-site observations of the Work in progress as an experienced and qualified design professional and on CONSULTANT's review of the Application for Payment and the accompanying data and schedules that the Work has progressed to the point indicated; that, to the best of CONSULTANT's knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents and that CONTRACTOR is entitled to payment of the amount recommended. However, by recommending any such payment CONSULTANT will

not thereby be deemed to have represented that exhaustive or continuous on-site inspections have been made to check the quality or the quantity of the Work beyond the responsibilities specifically assigned to CONSULTANT in the Contract Documents or that there may not be other matters or issues between the parties that might entitle CONTRACTOR to be paid additionally by OWNER or OWNER to withhold payment to CONTRACTOR.

12.4.3 CONSULTANT's recommendation of final payment will constitute an additional representation by CONSULTANT to OWNER that the conditions precedent to CONTRACTOR's being entitled to final payment as set forth in paragraph 12.9 have been fulfilled.

12.4.4 CONSULTANT may refuse to recommend the whole or any part of any payment if, in CONSULTANT's opinion, it would be incorrect to make such representations to OWNER. CONSULTANT may also refuse to recommend any such payment, or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously recommended, to such extent as may be necessary in CONSULTANT's opinion to protect OWNER from loss because:

- a) The Work is defective, or completed Work has been damaged requiring correction or replacement.
- b) The Contract Price has been reduced by Written Amendment or Change Order.
- c) OWNER has been required to correct defective Work or complete Work in accordance with paragraph 11.10, or
- d) Of CONSULTANT's actual knowledge of the occurrence of any of the events enumerated in paragraphs 13.2.1 through 13.2.9 inclusive.

OWNER may refuse to make payment of the full amount recommended by CONSULTANT because claims have been made against OWNER on account of CONTRACTOR's performance or furnishing of the Work or Liens have been filed in connection with the Work or there are other items entitling OWNER to a set-off against the amount recommended, but OWNER must give CONTRACTOR immediate written notice (with a copy to CONSULTANT) stating the reasons for such action.

## **12.5 Substantial Completion**

When CONTRACTOR considers the entire Work ready for its intended use and all work items are complete, CONTRACTOR shall notify OWNER and CONSULTANT in writing that the entire Work is substantially complete and request that CONSULTANT issue a

certificate of Substantial Completion. Within seven (7) calendar days for a contract price under \$1,000,000.00 and fourteen (14) calendar days otherwise, OWNER, CONTRACTOR and CONSULTANT shall make an inspection of the Work to determine the status of completion. If CONSULTANT does not consider the Work substantially complete, CONSULTANT will notify CONTRACTOR in writing giving the reasons therefore. If CONSULTANT considers the Work substantially complete, CONSULTANT will prepare and deliver to OWNER a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be corrected before final payment.

The CONSULTANT may recommend to the OWNER that a Waiver of Time be provided to the CONTRACTOR for the seven (7) or fourteen (14) calendar days listed herein if the CONTRACTOR has demobilized from the site, and there are no remaining defective or incomplete Work items. A Waiver of Time is a document that waives the Liquidated Damages for the seven (7) or fourteen (14) day time-frame. A Waiver of Time may be given for part or the entirety of the seven (7) or fourteen (14) day period listed herein. The amount of time provided in the Waiver of Time is at the discretion of the OWNER.

#### 12.6 Partial Utilization (Omitted)

#### 12.7 Final Inspection

Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, CONSULTANT will make a final inspection with OWNER and CONTRACTOR and will notify CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. CONTRACTOR shall immediately take such measures as are necessary to remedy such deficiencies.

#### 12.8 Final Application for Payment

After CONTRACTOR has completed all such corrections to the satisfaction of CONSULTANT and delivered all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, marked-up record documents and other documents--all as required by the Contract Documents, and after CONSULTANT has indicated that the Work is acceptable, CONTRACTOR may make application for final payment following the procedure for progress payments.

#### 12.9 Final Payment and Acceptance

12.9.1 If, on the basis of CONSULTANT's observation of the Work during construction and final inspection, and CONSULTANT's review of the final Application for Payment and accompanying documentation--all as required by the Contract Documents, CONSULTANT is satisfied that the Work has been completed and CONTRACTOR's other obligations under the Contract Documents have been fulfilled, CONSULTANT will, within ten (10) days after receipt of final Application for

Payment, indicate in writing CONSULTANT's recommendation of payment and present the Application to OWNER for payment. Thereupon CONSULTANT will give written notice to OWNER and CONTRACTOR that the Work is acceptable subject to the provisions of paragraph 12.15. Otherwise, CONSULTANT will return the Application to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and resubmit the Application. Thirty (30) days after presentation to OWNER of the Application and accompanying documentation, in appropriate form and substance, and with CONSULTANT's recommendation and notice of acceptability, the amount recommended by CONSULTANT will become due and will be paid by OWNER to CONTRACTOR.

12.9.2 If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed and if CONSULTANT so confirms, OWNER shall, upon receipt of CONTRACTOR's final Application for Payment and recommendation of CONSULTANT, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted.

#### 12.10 Contractor's Continuing Obligation

CONTRACTOR's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. Neither recommendation of any progress or final payment by CONSULTANT, nor the issuance of a certificate of Substantial Completion, nor any payment by OWNER to CONTRACTOR under the Contract Documents, nor any use or occupancy of the Work or any part thereof by OWNER, nor any act of acceptance by OWNER nor any failure to do so, nor any review and approval of a Shop Drawing or sample submission, nor the issuance of a notice of acceptability by CONSULTANT, nor any correction of defective Work by OWNER will constitute an acceptance of Work not in accordance with the Contract Documents or a release of CONTRACTOR's obligation to perform the Work in accordance with the Contract Documents (except as provided in paragraph 12.11).

#### 12.11 Waiver of Claims

The making and acceptance of final payment will constitute:

12.11.1 A waiver of all claims by OWNER against CONTRACTOR, except claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to paragraph 12.10 or from failure to comply with the Contract Documents or the terms of any special guarantees specified therein; however, it will not constitute a waiver by OWNER of any rights in respect of CONTRACTOR's continuing obligations under the Contract Documents; and

12.11.2 A waiver of all claims by CONTRACTOR against OWNER other than those previously made in writing and still unsettled.

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**ARTICLE 13 - SUSPENSION OF WORK AND TERMINATION**

**13.1 OWNER May Suspend Work**

OWNER may, at any time and without cause, suspend the Work or any portion thereof for a period of not more than one hundred eighty (180) days by notice in writing to CONTRACTOR and CONSULTANT which will fix the date on which Work will be resumed. CONTRACTOR shall resume the Work on the date so fixed. CONTRACTOR shall be allowed an increase in the extension of the Contract Time directly attributable to any suspension.

**13.2 Conditions of Termination by Owner**

Upon the occurrence of any one or more of the following events, Owner may terminate the Contract:

13.2.1 If CONTRACTOR commences a voluntary case under any chapter of the Bankruptcy Code (Title 11, United States Code), as now or hereafter in effect, or if CONTRACTOR takes any equivalent or similar action by filing a petition or otherwise under any other federal or state law in effect at such time relating to bankruptcy or insolvency;

13.2.2 If a petition is filed against CONTRACTOR under any chapter of the Bankruptcy Code as now or hereafter in effect at the time of filing, or if a petition is filed seeking any such equivalent or similar relief against CONTRACTOR under any other federal or state law in effect at the time relating to bankruptcy or insolvency;

13.2.3 If CONTRACTOR makes a general assignment for the benefit of creditors;

13.2.4 If a trustee, receiver, custodian or agent of CONTRACTOR is appointed under applicable law or under contract, whose appointment or authority to take charge of property of CONTRACTOR is for the purpose of enforcing a Lien against such property or for the purpose of general administration of such property for the benefit of CONTRACTOR's creditors;

13.2.5 If CONTRACTOR admits in writing an inability to pay its debts generally as they become due;

13.2.6 If CONTRACTOR persistently fails to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the progress schedule established under paragraph 1.7 as revised from time to time);

13.2.7 If CONTRACTOR disregards Laws or Regulations of any public body having jurisdiction;

13.2.8 If CONTRACTOR disregards the authority of CONSULTANT; or

13.2.9 If CONTRACTOR otherwise violates in any substantial way any provisions of the Contract Documents;

**13.3 Termination by Owner**

13.3.1 OWNER may, after giving CONTRACTOR and the surety, if there be one, seven (7) days' written notice and to the extent permitted by Laws and Regulations, terminate the services of CONTRACTOR, exclude CONTRACTOR from the site and take possession of the Work and of all CONTRACTOR's tools, appliances, construction equipment and machinery at the site and use the same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere, and finish the Work as OWNER may deem expedient. In such case CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct, indirect and consequential costs of completing the Work (including but not limited to fees and charges of engineers, attorneys and other professionals and court and arbitration costs) such excess will be paid to CONTRACTOR. If such costs exceed such unpaid balance, CONTRACTOR shall pay the difference to OWNER. Such costs incurred by OWNER will be approved as to reasonableness by CONSULTANT and incorporated in a Change Order, but when exercising any rights or remedies under this paragraph OWNER shall not be required to obtain the lowest price for the Work performed.

13.3.2 Where CONTRACTOR's services have been so terminated by OWNER, the termination will not affect any rights or remedies of OWNER against CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of monies due CONTRACTOR by OWNER will not release CONTRACTOR from liability.

13.3.3 Upon seven (7) days' written notice to CONTRACTOR and CONSULTANT, OWNER may, without cause and without prejudice to any other right or remedy, elect to abandon the Work and terminate the Agreement. In such case, CONTRACTOR shall be paid for all Work executed and any expense sustained plus reasonable termination expenses, which will include, but not be limited to, direct, indirect and consequential costs (including, but not limited to, fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs).

**13.4 Conditions of Termination by Contractor**

13.4.1 If, through no act or fault of CONTRACTOR, the Work is suspended for a period of more than one hundred eighty (180) days by OWNER or under an order of court or other public authority, or CONSULTANT fails to act on any Application for Payment within thirty (30) days after it is submitted, or

13.4.2 If OWNER fails for thirty (30) days to pay CONTRACTOR any sum finally determined to be due, then CONTRACTOR may, upon seven (7) days' written notice to OWNER and CONSULTANT, terminate the Agreement and recover from OWNER payment for all Work executed and any expense sustained plus reasonable termination expenses. In addition and in lieu of terminating the Agreement, if CONSULTANT has failed to act on an Application for Payment or OWNER has failed to make any payment as aforesaid, CONTRACTOR may upon seven (7) days' written notice to OWNER and CONSULTANT stop the Work until payment of all amounts then due. The provisions of this paragraph shall not relieve CONTRACTOR of the obligations under paragraph 4.14 to carry on the Work in accordance with the progress schedule and without delay during disputes and disagreements with the OWNER.

**ARTICLE 14 - MISCELLANEOUS**

**14.1 Giving Notice**

Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

**14.2 Computation of Time**

When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

14.2.1 A calendar day of twenty-four hours measured from midnight to the next midnight shall constitute a day.

**14.3 Bid Questionnaire**

Each bidder who submits a proposal for any portion of the work included in the Project Bid Package must submit with its bid this questionnaire fully completed and signed by an

**Structured Cabling  
New Elkhart County Courts Campus**

**GENERAL CONDITIONS**

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authorized officer of the bidder and must provide the data requested by the form. Unless this form is fully completed and signed by the bidder, the proposal made by that bidder will be incomplete and may be rejected by the Board of County Commissioners.



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**BID QUESTIONNAIRE**

1. Name of Bidder \_\_\_\_\_
2. Business Address \_\_\_\_\_
3. Number of years engaged in contracting business under present firm's name: \_\_\_\_\_ years.
4. \*Experience in the contracting work generally similar to this project, including list of complexes, locations and approximate contract cost thereof.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
5. Have you ever defaulted on a contract? \_\_\_\_\_ Yes \_\_\_\_\_ No  
If Yes, when, with whom and why? \_\_\_\_\_  
\_\_\_\_\_
6. \*It is a necessary requirement of this Specification that each Contractor show evidence for five (5) jobs guaranteed for one (1) year on workmanship, unconditionally, and where Contractor has agreed to return and repair this work at no expense to the Owner.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
7. \*Have you ever filed bankruptcy or been adjudged bankruptcy?  
\_\_\_\_\_ Yes \_\_\_\_\_ No
8. Do you employ any black, Hispanic, female or oriental minority persons? If yes, please state the number of each of such minority persons you presently employ.  
\_\_\_\_\_ Yes \_\_\_\_\_ No  
  
If no, please state reasons.  
\_\_\_\_\_  
\_\_\_\_\_

**BID QUESTIONNAIRE**

9. Have you encouraged minority building subcontractors to submit proposals in connection with your bid? \_\_\_\_\_ Yes \_\_\_\_\_ No. If yes, state the name(s) of the minority subcontractors who have been contacted by you for the purpose of submitting a bid/proposal. If no, please state reasons.

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10. Do you intend to use any minority subcontractors in performing the work or providing the materials contained within your bid? \_\_\_\_\_ Yes \_\_\_\_\_ No. If yes, please state the name of the subcontractor. If no, please state reasons.

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- 11 Have you been involved in any complaints or litigation relative to the use of minority subcontractors? \_\_\_\_\_ Yes \_\_\_\_\_ No. If yes, what is the status of the complaints of the litigation?

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- 12 Additional pertinent comments:

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BY: \_\_\_\_\_

\_\_\_\_\_  
(Signature of official completing this form)

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**BID BOND**

KNOW ALL MEN BY THESE PRESENTS, that we the undersigned \_\_\_\_\_

\_\_\_\_\_ as PRINCIPAL, and \_\_\_\_\_

\_\_\_\_\_ as SURETY, are held and firmly bound unto the Elkhart County Board of County Commissioners, hereinafter called the "Owner", in the penal sum of

\_\_\_\_\_ Dollars (\$\_\_\_\_\_) lawful

money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents:

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted the accompanying Bid, dated \_\_\_\_\_

for:                Structured Cabling for New Elkhart County Courts Campus

NOW, THEREFORE, if the Principal shall not withdraw said bid within the period specified herein after the opening of the same, or if no period be specified within or sixty (60) days after the said opening, and shall within the period specified therefore, or, if no period be specified within ten (10) days after the prescribed forms are presented to him for signature, enter into a written contract with the Owner in accordance with the bid as accepted, and give Bond for faithful performance and proper fulfillment of such Contract; or in the event of the withdrawal of said bid within the period specified, or the failure to enter into such Contract and give such Bond within the time specified if the Principal shall

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pay the Owner the difference between the amount specified in said Bid and the amount for which the Owner may procure the required work or suppliers or both, if the latter amount be in excess of the former, then the above obligation shall be void and of no effect, otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above bounden parties have executed this instrument under their several seals this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_ the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

IN PRESENCES OF:

INDIVIDUAL PRINCIPALS:

_____	_____ (SEAL)
_____	_____ (SEAL)
_____	_____ (SEAL)
_____	_____ (SEAL)

ATTEST:

CORPORATE PRINCIPAL:

_____	_____ (SEAL)
_____	_____ (SEAL)

Business Address \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

ATTEST:

CORPORATE SURETY:

_____	_____ (SEAL)
_____	_____ (SEAL)

Business Address \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

Power-of-Attorney for person signing for Surety Company must be attached to Bond.

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**CERTIFICATE AS TO COMPANY PRINCIPAL**

I, \_\_\_\_\_

certify that I am the \_\_\_\_\_

Secretary/Custodian of the Company named as Principal in the within Bond; that \_\_\_\_\_

\_\_\_\_\_ who signed the said Bond on behalf of the Principal

was then \_\_\_\_\_ of the company, that I know

his/her signature, and his/her signature thereto is genuine; and that said Bond was duly

signed, sealed, and attested to, for and in behalf of said company by authority of its

governing body.

\_\_\_\_\_ (SEAL)

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**PERFORMANCE AND PAYMENT BOND**

KNOW ALL MEN BY THESE PRESENTS,

That \_\_\_\_\_ as principal and

\_\_\_\_\_ as surety, are firmly bound unto Elkhart

County, Indiana, acting through its Board of County Commissioners (OWNER) in the

penal sum of an amount equal to one hundred percent (100%) the amount of his bid or

the contract price, if the proposal is accepted, for the payment of which, well and truly to

be made, we bind ourselves, jointly and severally, and our joint and several heirs,

executors, administrators, and assigns, firmly by these presents, this \_\_\_\_ day

of \_\_\_\_\_, 2023.

THE CONDITIONS OF THE ABOVE OBLIGATION ARE SUCH That, Whereas, the principal is herewith submitting a bid and proposal for the erection, construction and completion of Structured Cabling for New Elkhart County Courts Campus in accordance with the plans and specifications approved and adopted by said OWNER, which are made a part of this bond.

NOW, THEREFORE, if the said OWNER awards said principal the contract for work and said principal promptly enter into a contract with said OWNER ("Construction Agreement") for the said work and well and faithfully does and performs the same in all respects according to the plans and specifications provided by the said OWNER, and according to

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the time, terms, and conditions specified in the Construction Agreement, and in accordance with all requirements of law, and promptly pays all debts incurred by him or any subcontractor in the construction of said work, including labor, service, and materials furnished, then this obligation shall be void; otherwise to remain in full force, virtue and effect.

IT IS AGREED that the principal and surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the OWNER for the performance of the Construction Agreement including compliance with all of the plans and specifications provided by the OWNER, and according to the time, terms, and conditions specified in the Construction Agreement, and in accordance with all requirements of law. Principal and surety further agree to defend, indemnify, and hold harmless OWNER from claims, demands, liens or suits by any person or entity seeking payment for Principal's failure to perform under the Construction Agreement.

IT IS AGREED that the principal and surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the OWNER to pay for labor, materials and equipment furnished for use in the performance of the Construction Agreement, which is incorporated herein by reference. Principal and surety further agree to defend, indemnify, and hold harmless OWNER from claims, demands, liens or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Agreement. The payment bond granted to



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OWNER is also for the benefit of the subcontractors, laborers, material suppliers, and those performing services.

IT IS AGREED that no modifications, omissions, or additions in or to the terms and conditions of the Construction Agreement, plans, specifications, drawings, or profile; defect in the Construction Agreement; or defect in the proceedings preliminary to the letting and awarding of the Construction Agreement will discharge or any wise affect the obligation of surety on these bonds.

IN WITNESS WHEREOF, we hereunto set our hands and seal this \_\_\_\_\_day of \_\_\_\_\_, 2023.

NAME\_\_\_\_\_

NAME\_\_\_\_\_

ADDRESS\_\_\_\_\_

ADDRESS\_\_\_\_\_

BY\_\_\_\_\_

Signature

Title

BY\_\_\_\_\_

Signature

Title

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(Printed or Typed)  
Surety

---

(Printed or Typed)  
Principal

State of Indiana, County of \_\_\_\_\_ ss:

Personally appeared before me, \_\_\_\_\_

as principal and \_\_\_\_\_

as surety and each acknowledged the execution of the above bond this \_\_\_\_\_ day

of \_\_\_\_\_, \_\_\_\_\_.

BY \_\_\_\_\_  
Signature Notary Public

\_\_\_\_\_  
(Printed or Typed)

Witness my hand and notarial seal the said last named date.

My Commission Expires \_\_\_\_\_, \_\_\_\_\_.

\_\_\_\_\_  
(County of Residence)

Accepted and approved this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

\_\_\_\_\_  
Bradley D. Rogers, President

\_\_\_\_\_  
Suzanne Weirick, Vice President

\_\_\_\_\_  
Bob Barnes, Member

ATTEST: \_\_\_\_\_  
Patricia A. Pickens, Auditor

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**MAINTENANCE BOND**

KNOW ALL MEN BY THESE PRESENT: That we, \_\_\_\_\_

\_\_\_\_\_, as

Principal, \_\_\_\_\_ and

\_\_\_\_\_  
as Surety, are held and firmly bound to the \_\_\_\_\_

\_\_\_\_\_ in

the sum of \_\_\_\_\_

\_\_\_\_\_  
Dollars (\$ \_\_\_\_\_)

for the payment of which sum well and truly to be made, we jointly and severally bind ourselves, our heirs, executors, administrators, and successors, firmly by these present.

THE CONDITIONS OF THE ABOVE OBLIGATION are that, whereas the Principal, entered into a contract with the Owner on the \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, to construct Structural Cabling for the New Elkhart County Courts Campus according to the Plans and Specifications, and also warranting the work and materials as provided in the aforesaid Contract and Specifications, for a period of three (3) years from the date of final acceptance of work by the Owner.

Now, if the said Principal shall faithfully perform and fulfill all the requirements of said Warranty and Guaranty, and make all repairs required under said Guaranty and, in the manner provided for, then this Bond to be null and void, otherwise to be in full force and effect.

IN WITNESS WHEREOF, this statement is executed in two (2) counterparts, each one of which shall be deemed an original, this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

(SEAL)

Principal

ATTEST:

\_\_\_\_\_ BY: \_\_\_\_\_

Title

Title

(SEAL)

ATTEST:

\_\_\_\_\_ BY: \_\_\_\_\_

Title

Title

APPROVED this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

ELKHART COUNTY, INDIANA  
By and Through Its  
BOARD OF COUNTY COMMISSIONERS

\_\_\_\_\_  
Bradley D. Rogers, President

\_\_\_\_\_  
Suzanne Weirick, Vice President

\_\_\_\_\_  
Bob Barnes, Member

ATTEST: \_\_\_\_\_  
Patricia A. Pickens, Auditor

## **AGREEMENT**

THIS AGREEMENT, made and entered into this \_\_\_\_ day of \_\_\_\_\_, 2023, by and between \_\_\_\_\_ (a corporation organized and existing under the laws of the State of Indiana), hereinafter referred to as the “CONTRACTOR,” and “ELKHART COUNTY, INDIANA,” acting through the Board of Commissioners, hereinafter referred to as the “OWNER.”

WITNESSETH, that the Contractor and the Owner, for the considerations stated herein, mutually agree as follows:

### **ARTICLE 1 -- STATEMENT OF WORK**

The Contractor shall furnish all supervision, technical personnel, labor, materials, supplies, expendables, machinery, tools, equipment and services, and perform and complete all work required for Structured Cabling for New Elkhart County Courts Campus, in Elkhart County, Indiana, as more particularly described in the Bid Package, and items contained therein prepared by or for Elkhart County and referred to herein as the “Contract Documents.” All such Contract Documents have been reviewed and approved by the parties hereto and all are incorporated herein by reference as a part of this Agreement consistent with Article 4 below. All undertakings, duties, obligations, and performance required of Contractor by the Contract Documents and this Agreement are hereinafter referred to as the “Work.”

### **ARTICLE 2 – CONTRACTOR REPRESENTATIONS**

The Contractor represents to Owner that it is fully experienced and properly qualified as an expert to render the performance required for the Work, and that it is properly equipped, organized and financed for performance of this Agreement. Contractor further represents and acknowledges that it is an independent contractor, and that Contractor IS NOT, in any manner or form, an agent, employee, or representative of Owner.

## CONTRACTOR INDEMNIFICATION

The Contractor agrees to indemnify and save harmless the Owner and Consultant, their agents and employees, from and against all loss or expense (including court costs and attorneys' fees of defense or enforcement) by reason of liability imposed by law or otherwise upon the Owner or Consultant, for (1) damages because of bodily injury, including death at any time resulting therefrom, sustained by any person or persons, or (2) on account of damage to property or property rights or interests, including loss of use thereof, arising out of or in consequence of the performance of the Work, provided such injury to persons or damage to property is due or claimed to be due to negligence of the Contractor, its subcontractors, employees or agents, or in violation of this Agreement.

## REQUIREMENTS FOR CONTRACTORS ON PUBLIC WORKS PROJECTS

- 1) The provisions of Indiana Code Section 5-16-13 are hereby incorporated by reference including, but not limited to, the following specific provisions:
  - a) Contractor must contribute in work performed by its employees, materials supplied directly by Contractor, and services supplied directly by its employees of at least fifteen percent (15%) of the total contract price.
  - b) Contractor must maintain general liability insurance in the amounts provided in the Construction Documents but in no event less than One Million Dollars (\$1,000,000.00) for each occurrence limit and Two Million Dollars (\$2,000,000.00) for the general aggregate limit.
  - c) Contractor must implement and comply with the requirements of Indiana Code Section 22-5-1.7 concerning the E-Verify system with respect to its employee hiring. Contractor must submit, before work begins on the Agreement, the E-Verify case verification number for each individual who is required to be verified under Indiana Code Section 22-5-1.7. An individual who is required to be verified under Indiana Code Section 22-5-1.7 whose final case result is final non-confirmation may not be employed on this Work.

- d) Contractor may not pay cash to any individual employed by the Contractor for work done by the individual on this Work.
  - e) Contractor must be in compliance with the Federal Fair Labor Standards Act of 1938, as amended (29 USC 201-209) and Indiana Code Section 22-2-2-1 through Indiana Code Section 22-2-2-8.
  - f) Contractor must be in compliance with Indiana Code Section 22-3-5-1 and Indiana Code Section 22-3-7-34.
  - g) Contractor must be in compliance with Indiana Code Section 22-4-1 through Indiana Code Section 22-4-39.5.
  - h) Contractor must be in compliance with Indiana Code Section 4-13-18-1 through Indiana Code Section 4-13-18-7.
- 2) Drug Testing of Employees. Indiana Code Section 4-13-18 regarding the drug testing of employees of public works contractors applies to the Agreement as the estimated cost hereof is at least One Hundred Fifty Thousand Dollars (\$150,000.00) and has been awarded after June 30, 2015.
- 3) Nondiscrimination. Pursuant to Indiana Code Section 22-9-1-10, Contractor and its subcontractors, if any, shall not discriminate against any employee or applicant for employment to be employed in the performance of the Agreement with respect to hire, tenure, terms, conditions or privileges of employment or any matter directly or indirectly related to employment, because of race, religion, color, sex, disability, national origin, ancestry, or veteran status. Breach of this covenant may be regarded as a material breach of the Agreement.
- 4) Anti-nepotism. Contractor is aware of the provisions of Indiana Code Section 36-1-21 et seq. with respect to anti-nepotism in contractual relationships with governmental entities. Contractor certifies that none of the owners of Contractor is a relative of any elected Council Member or Commissioner of the County of Elkhart, Indiana.

5) Investment Activity. Pursuant to Indiana Code Section 5-22-16.5-13, Contractor certifies that Contractor is not engaged in investment activities in Iran.

### ARTICLE 3 – THE CONTRACT PRICE

The Owner will pay the Contractor for the performance of the Work subject to additions and deductions provided herein, in current funds, and per applicable Indiana law and the required procedures for payments by Owner, the sum of \$\_\_\_\_\_. The Contractor shall start the Work on or after \_\_\_\_\_, be substantially complete by June 30, 2024 and receive final acceptance on or before August 1, 2024.

### ARTICLE 4 -- CONTRACT DOCUMENTS

The Contract Documents forming a part of this Agreement by reference shall consist of the following:

- a. This Agreement.
- b. Notice to Bidders.
- c. Signed copy of Bid, Questionnaire, and Bid Form.
- d. General Conditions and Supplemental Provisions.
- e. Project Technical Specifications and Related Documents.
- f. Plans and Drawings.
- g. Any Addenda.

### ARTICLE 5 -- PROJECT CONTROL

The Contractor will carry out this project and complete the Work under the direction of the Owner and the Owner's agents, the Consultant, or other representative designated by the Owner. The Owner's designated representative during the construction period will make visits to the site at intervals appropriate to the various states of construction to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with



the Contract Documents.

This Agreement, to include the Contract Documents enumerated in Article 4 above, constitutes the full agreement and understanding of the parties hereto, and save for change orders and procedures therefore set forth within the Contract Documents, shall not be amended by the parties, other than by instrument executed by each party hereto.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed in various counterparts effective as of the date and year first above written.

CONTRACTOR:

By \_\_\_\_\_ Signature

\_\_\_\_\_ Printed Name

\_\_\_\_\_ Title

OWNER: **ELKHART COUNTY, INDIANA**, by and through its Board of County Commissioners

\_\_\_\_\_  
Bradley D. Rogers, President

\_\_\_\_\_  
Suzanne M. Weirick, Vice-President

\_\_\_\_\_  
Bob Barnes, Member

ATTEST: \_\_\_\_\_  
Patricia A. Pickens, Auditor

**Division 2:**

# **Supplemental Provisions**

For

## **STRUCTURED CABLING FOR NEW ELKHART COUNTY COURTS CAMPUS**

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OWNER: ELKHART COUNTY, INDIANA, ACTING THROUGH  
ITS BOARD OF COUNTY COMMISSIONERS

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Elkhart County Administration Building  
117 N. Second Street  
Goshen, IN 46526  
Phone: (574) 534-3541

## INDEX

SP1 – GENERAL INFORMATION

SP2 – REFERENCE DOCUMENTS

SP3 – PERFORMANCE SYSTEMS CRITERIA NARRATIVE

# Supplemental Provisions

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## **SECTION 1: GENERAL INFORMATION**

- 1.1.1** All bids must be consistent with and designed to achieve the goals and objectives set forth in the Criteria Package.
- 1.1.2** Contractors shall be entitled to reasonably rely on the accuracy of the information set forth in the Construction Documents as developed by Design Builder and the Bid Package. However, bidders are required to perform an independent evaluation of all information. The bidders are also responsible for notifying the Engineer of any inconsistencies, ambiguities, conflicts, or other issues.

Any bidder who knowingly contacts any Elkhart County employee or official during the formal bid process and selection process for this Work will be subject to declaration of disqualification. All communication must be directed to the Engineer in writing.

- 1.1.3** The Owner assumes no responsibility for conclusions or interpretations made by the bidders based on the information provided by the Owner. Oral statements made by the Owner representatives or consultants are not binding on the Owner unless the Owner confirms the statements and changes by written Addendum to the RFP. In the event of a conflict between codes, industry standards and the criteria or scope, the most stringent requirements shall apply, and bidders shall submit their bids based on the most stringent requirements.

### **1.2 Price Proposal**

- 1.2.1** Bidders shall carefully examine the Bid Package and ascertain the nature, scope, and location of the Work prior to submitting the bid. In completing the bid, bidders must investigate and assure themselves as to the general and local conditions that can affect the Work or its cost, all existing site conditions, and any and all Plans, Specifications, Addenda, and Contract forms, whether provided by the Owner or developed by the selected Design-Builder during execution Design-Build Services. The submittal of the bid shall be conclusive evidence that the bidder has made such examinations and understands all the requirements for the performance of the completed Work. Failure of the bidder to take these actions will not relieve it of responsibility for properly estimating the difficulty, quantities, and cost of successfully completing the Work, or for proceeding to successfully complete the Work without additional cost to the Owner. The bidder shall determine the final quantities, methods, materials, labor, and equipment required to perform the completed Work and shall reflect their cost in the bid.

## **SECTION 2: REFERENCE DOCUMENTS**

- 2.1** The following documents can be obtained on the Project Website: <https://ftp.performanceservices.com>, Username: ECC For construction Docs.
- 2.2** Contact the Engineer for access credentials to the website:
  - 2.2.1** Construction Documents prepared by Design-Builder
  - 2.2.2** Milestone Schedule prepared by Design-Builder
  - 2.2.3** Millwork shop submittals by Design-Builder

### **SECTION3: PERFORMANCE SYSTEMS CRITERIA NARRATIVE**

*The Owner's Performance Systems Criteria Narrative should be tested, updated, and appropriately expanded and revised with the selected bidder as appropriate.*

<b>TITLE</b>	<b>DESCRIPTION</b>
<b>Project Summary</b>	<p>Design, Construction, Equipping and Commissioning of a new County Courts Facility for Elkhart County, Indiana. The Courts will be re-organized into three (3) divisions: Criminal Courts, Civil Courts and Family Courts.</p> <p>All available Project information can be obtained on the Project Website. Contact the Consultant for access credentials to the website.</p> <ul style="list-style-type: none"><li>▪ Construction Documents prepared by Design-Builder</li><li>▪ Schedule Prepared by Design Builder</li><li>▪ Project Millwork shop drawings</li><li>▪ Project scope documents prepared by Consultants</li></ul>
<b>Site</b>	1905 Reliance Road, Goshen, IN 46526
<b>Code Analysis</b>	The bid must meet all current applicable codes and standards. Compliance with ADA should embrace the principles of Universal Design for all public and courtroom areas.
<b>Existing Conditions</b>	<p>The bidder must review all available Project related documents and become thoroughly familiar with existing site conditions and obtain any and all additional information needed to complete design and construction of the Work.</p> <p>No additional cost for differing site conditions will be granted unless site conditions are demonstrated to deviate substantially from all information available at the time of Owner's acceptance of the bidder's offer.</p>
<b>Logistics</b>	<ul style="list-style-type: none"><li>• The bidder shall be the single point of contact for the complete Work scope including <i>purchase, store, and installation</i>, all warranties and callbacks.</li><li>• Have the ability to purchase direct from manufacturers and get direct factory pricing from each manufacturer.</li><li>• Bidder must have direct access to suppliers and vendors that will be required in conformance with included scope for the courthouse,</li><li>• The bidder must have all necessary staff and subcontractor capability to receive (off site) all purchases and store them until installation.</li><li>• Bidder must have capability to order, receive, sort and stage delivery and manpower to accomplish a multi-phase installation floor by floor.</li><li>• Bidder must have a competent and talented installation team</li></ul>
<b>Owner's Work</b>	Bidder must collaborate with the Owner, Design-Builder, Engineer, and the Owner's Representatives.
<b>Permits and License</b>	As part of bidder's services, the selected bidder will prepare a permits and license lists and schedule. It is the bidder's responsibility to identify and plan for all required submittals, reviews, permits, license and approvals. The Owner will sign applications prepared by the bidder; fees will be paid by the bidder.
<b>Professional Services</b>	Bidders shall include all professional services as required in their proposal including all QA/QC testing, inspections, and commissioning shall be provided by the bidder.
<b>Other Activities</b>	<p>The Owner has separately retained PMSI.usa LLC as its Owner's Representative. PMSI has retained the following sub-consultants:</p> <p>Furnishings &amp; Enviroospace, Inc.   Candace Berger Loose Equipment: Information DSA, Inc.   Lowell Davidson Technology Design:</p>
<b>Delivery</b>	The Work will be delivered in accordance with the Bid Package and all related documents.
<b>Instructions for Procurement</b>	Instructions for phase procurement are found in the Bid Package
<b>Procurement Forms and Supplements</b>	Instructions for the format of the bid are found in the Bid Package.

TITLE	DESCRIPTION
<b>Procurement Subdivisions</b>	All materials, and labor associated with the following areas must be individually broken out and invoiced separately: <ul style="list-style-type: none"> <li>a. Public Defenders Department and Offices</li> <li>b. Title IV-D Court Room and Offices</li> </ul>
<b>Revisions, Clarifications and Modifications</b>	Any changes to the Bid Package after the published date will be by Addendum. After selection of the bidder any negotiated revisions, clarifications and modifications shall be reflected in the final form of Agreement.  After Owner's issuance of a Notice to Proceed, clarifications and modifications that do not affect Time, Cost or Performance Requirements shall be documented with meeting minutes. Revisions, clarifications and modifications that affect Time, Cost or Performance Requirements shall be documented by Change Order.
<b>Vertical Conveying Systems</b>	Three classifications of elevators are expected in the building and the bidder must coordinate use with Design-builder and bidder shall only use the Staff Service Elevator. <b>Security Service:</b> Elevators in secure staff areas its intended to be used by building staff having proper access credentials. .
<b>Electrical Service and Distribution</b>	See Design-Builders Construction Documents included on the Project Document website.
<b>Price and Payment Procedures</b>	See the Bid Package (Agreement).
<b>Administrative Requirements</b>	See the Bid Package.
<b>Quality Requirements</b>	See the Bid Package.
<b>Execution and Closeout Requirements</b>	See the Bid Package (Agreement).
<b>Taxes</b>	Project is Tax Exempt
<b>Insurance Requirements</b>	Proposer to provide Certificate of Insurance with the bid. Owner, PMSI.usa LLC, DSA, Inc., and Performance Service Inc. are to be named as an additional insureds.
<b>Bonding</b>	See Bid Package
<b>Overhead</b>	To be included in bid.
<b>Profit</b>	To be included in bid.
<b>Contingencies</b>	Bidder's contingencies if any, must be included in bid.

**Division 3:**

# **Project Technical Specifications**

For

## **STRUCTURED CABLING FOR NEW ELKHART COUNTY COURTS CAMPUS**

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OWNER:

ELKHART COUNTY, INDIANA, ACTING THROUGH  
ITS BOARD OF COUNTY COMMISSIONERS

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Elkhart County Administration Building  
117 N. Second Street  
Goshen, IN 46526  
Phone: (574) 534-3541

PROJECT SPECIFICATIONS  
for  
***NEW***  
***ELKHART COUNTY COURTS***  
***CAMPUS***  
***STRUCTURED CABLE PLANT***

AUGUST 2023

Bid Specifications  
Prepared for

ELKHART COUNTY COMMISSIONERS  
117 North Second Street  
Goshen, IN 46526

By

**DSA**, Inc.  
*Technology Design Consultants*  
16618 East 196<sup>th</sup> Street  
Noblesville, IN 46060-9530



NEW ELKHART COUNTY COURTS CAMPUS STRUCTURED  
CABLE

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27 05 10  
GENERAL TECHNOLOGY REQUIREMENTS

**PART 1 – GENERAL**

**1.01 GENERAL AND SPECIAL CONDITIONS**

- A. The Instructions to Bidders, General and Special Conditions, and all other Contracts shall apply to Section 27 System Contractor's (hereafter known as Contractor) work as well as to each of his sub-contractor's work. Each Contractor is directed to familiarize himself in detail with all documents pertinent to this Contract.
- B. Layout of equipment, accessories, and conduit systems is diagrammatic unless specifically detailed and does not necessarily indicate every item required for a complete installation. Quantities of installed equipment are determined by examining the various functional diagrams, plans, and riser diagrams. Where conflict may exist between the drawings and the specifications, the drawings shall prevail.

**1.02 SPECIFICATIONS AND WORKING DRAWINGS**

- A. If requested the Contractor shall be provided one (1) set of electronic files (for record drawing preparation).

**1.03 QUALITY ASSURANCE**

- A. All equipment and components provided by the Contractor shall be new and shall meet or exceed the latest published specifications of the manufacturer in all respects.
- B. The Contractor shall confirm the correctness of parts list and equipment model numbers and conformance of each component with manufacturer's specifications.
- C. The Contractor shall provide opportunity for the Technology Consultant, and/or Owner's representative to view the installation and wiring of the rack cabinets prior to delivery to the job site.

**1.04 LIABILITY INSURANCE – See General Conditions**

**1.05 EQUAL OPPORTUNITY CLAUSE**

- A. If the dollar amount of this purchase order exceeds \$10,000, the following clause is applicable to this purchase.
- B. During the performance of this contract or purchase order, the contractor agrees as follows:
  - 1. The Contractor shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, or national origin. The contractor will take affirmative action 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.
  - 2. The Contractor shall agree to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.
  - 3. The Contractor shall, in solicitations or advertisements, for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, religion, color, sex, or national origin.
  - 4. The Contractor shall send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided by

## GENERAL TECHNOLOGY REQUIREMENTS

the agency contracting office advertising the labor union or workers' representative of the Contractor's commitments under Section 202 of Executive Order 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment

5. The Contractor shall comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
  6. The Contractor shall furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and orders.
  7. In the event of the Contractor's non-compliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be canceled, terminated or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- C. The Contractor shall include the provisions of Paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase sanctions for non-compliance: Provided, however, that in the event the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor, as a result of such direction by the contacting agency, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

### 1.06 WARRANTY/GUARANTEE

- A. The Contractor shall provide a Certificate of Warranty in written form stating that all work, materials, equipment, software and parts shall be free of defect for a period of three year from the date of Owner's final acceptance, and shall repair, revise or replace at no cost to the Owner any such defects occurring within the guaranteed period. Any warranties provided or requested in the specifications for any manufacture of equipment supplied, beyond the three-year period, shall also be stated in the Certificate of Warranty with the terms and conditions.
- B. The Contractor shall also state in Certificate of Warranty that any items or occurrences arising during the warranty/guarantee period will be attended to in a timely manner and in no case can exceed four (4) working days from date of notification by Owner.
- C. Any defective items or work shall be removed and replaced at the Contractor's expense and to the satisfaction of the Owner.
- D. Paint and exterior finishes, fuses, lamps and video projection chips are excluded from above warranties except when defects or failure result from defective materials or workmanship as covered by the manufactures' warranties.
- E. The minimum warranty provision specified above shall not diminish the terms of the individual equipment manufactures' warranties.

### 1.07 SUBMITTALS

#### A. Product Data Sheets

1. The Contractor shall provide descriptive literature, manufacturer cut sheets and other pertinent information relative to all equipment and components to be included for each portion of the work. Equipment performance data for all equipment and components by

## GENERAL TECHNOLOGY REQUIREMENTS

manufacturer and model shall be provided.

2. Submittals must be organized in the same order as listed in the equipment list and include reference to page and paragraph numbers to the specifications and shall be bound in sets, all sets identical.

### B. Shop Drawings

1. The Contractor shall submit detailed shop drawings in block diagram indicating proposed connections, terminations, pin-outs, color codes, panels, plates, and finishes of all equipment and components.
2. Included in this schedule of drawings to be submitted shall be drawings of equipment type and physical arrangement and equipment rack configurations.
3. Detailed drawings showing cable runs through conduits, riser shafts and placement under floors and in ceilings shall be submitted.
4. Before fabrication and/or modification, drawings of all equipment and/or components to be fabricated or modified shall be submitted.
5. Proposed programming instruction for relevant control systems shall be submitted in written form.

### C. Samples

1. In all cases, where the choice of more than one make or style of article or material is specified, the final selection of the article of material rests with the Owner. The quality of fitness of materials or workmanship shall be based on the requirements that all work executed, or materials furnished shall be first-class in every respect, and what is usual or customary on other projects shall in no way enter into any consideration or decision whatsoever.
2. Where any difference occurs in price of such articles or materials, such differences are to be given before the contracts are signed. After the contracts have been signed, the Owner reserves the right to choose whichever article or material he desires, assuming unless previously advised to the contrary that the price is not changed thereby. Where the specifications call for any stipulated item "or equal thereto and approved" or other words to that effect, it is to be taken same as if the choice of more than one material were specified and the selection will rest with the Owner same as above.
3. The Contractor shall provide samples of finishes for control panels, racks, cabinets, loudspeaker grilles, face plates, telephones, and other major components upon request and as directed by the Technology Consultant.
4. The Contractor shall provide samples of print for control panels and other labeling signage.
5. The Contractor shall submit proposed cable connectors, wiring harness examples and such other components, equipment and cable upon request and as directed by the Technology Consultant and/or Owner.

## 1.08 PROJECT CLOSEOUT

### A. Test Reports

1. Upon completion of System Performance Test and Adjustments as specified in EXECUTION sections, submit in writing to the Technology Consultant three (3) copies of test results (Attachment A – Checkout List). Also, submit written certification that the installation conforms to specifications, is complete and operable and is ready for Final Acceptance by the Owner.

### B. Operation and Maintenance Documents (Two sets)

1. The Operation and Maintenance document to be submitted shall conform to the following guidelines:
  - a. Size: 8.5" x 11", 20 lb. minimum weight white paper for printed pages.

**GENERAL TECHNOLOGY REQUIREMENTS**

- b. Drawings: Provide reinforced punched binder tab, bind in with text. Provide reduced size, legible drawings and fold to text size pages.
- c. Provide indexed tabs and fly-leaf for each separate product or each piece of operating equipment and software. Include type and description of product and major component parts of equipment.
- d. The cover shall be identified with printed or typed title:  
**New Elkhart County Judicial Center**  
**Operating and Maintenance Manuals**  
**Structured Cable Systems**  
**Volume "X"**
- e. The binder (s) shall be commercial quality three-ring binder(s) with durable and cleanable plastic covers with a 1" minimum and 2" maximum ring size.
- f. The contents shall be comprised of the following:
  - 1. Table of Contents.
  - 2. Contractor's name, name of responsible principal, address and telephone number.
  - 3. Certificate of Warranty.
  - 4. A proposal, to the Owner, for a one-year service contract to commence one year after the Certificate of Warranty expires. The proposal shall include two semi-annual visits for preventive maintenance and routine adjustments of all equipment and information regarding emergency calls including notification and fees. The Owner shall not be bound to accept the proposal.
  - 5. A functional, one-line wiring diagram of each complete system installation.
  - 6. Record Drawings to date (noted as such), which shall contain all components, equipment, terminal, wire, and cable designations including color and numeric coding. Two final As-Built set of the Record Drawings (noted as such), including a complete set in AutoCAD® electronic format shall be submitted within one (1) month after the Contractor receives written notice of Owner acceptance.
  - 7. Record information for cable assignments, device settings, terminations, port identifications and other relevant records throughout the installation. In addition, provide one copy of this information in Excel spread-sheet format on a Flash Drive for the Owner.
  - 8. Original copies (NOT photocopies) of manufacturers' installation, operation and servicemanuals, including schematic diagrams for each and all equipment items.
  - 9. Shop drawings of all custom-fabricated items.
  - 10. A schedule of all control settings including audio origination and processing, video origination and processing, and broadband device settings.
  - 10. A printout of any master programs for each system as installed.
  - 11. A written certification, signed by the owner, stating that the commissioning and training has been satisfactorily performed to specifications.

**1.09 SOFTWARE/PROGRAMMING****A. Packaged software (Off-the Shelf)**

- 1. The software shall be designed to run in the computer or device in which it is installed.
- 2. The Contractor shall provide a legal copy licensed to Owner with the original license agreement included.
- 3. The Contractor shall pre-install and adapt the software, ready to use, with original software media turned over to Owner.

## GENERAL TECHNOLOGY REQUIREMENTS

4. The Contractor shall provide the original copy of the instruction manual to the Owner.
5. The Contractor shall provide the latest release of software.
- B. Custom Software
  1. The Contractor shall design the software to the specifications and Owner's satisfaction.
  2. The Contractor shall provide software written in a structured format.
  3. The Contractor shall provide the final installed version on media with source code, compiled code, special programming software, any tools and passwords needed to load, edit or unload code included.
  4. The Contractor shall provide the Owner with a final flow diagram and applicable documentation for system and control panel custom software.
  5. The Contractor shall provide to the Owner with the legal rights to copy, duplicate, modify or use as is needed.
- C. Programmable Systems/Equipment
  1. The Contractor shall provide programming that is detailed to the specifications and Owner's satisfaction.
  2. The Contractor shall provide all related final documentation in detail to the owner.
  3. The Contractor shall provide written instruction or manual to allow the Owner to make changes to the programming.

### 1.10 SUBSTANTIAL COMPLETION

- A. When Contractor considers the work ready for its intended use and all work items are complete, Contractor shall notify the Project Manager/Consultant in writing that the entire work is substantially complete and ask the Project Manager/Consultant to issue a certificate of Substantial Completion.
- B. The Project Manager/Consultant shall conduct an inspection of the Work to determine the status of completion and inform the Contractor of the findings of the inspection.

### 1.11 TRAINING/COMMISSIONING

The Contractor shall provide training and commissioning in the procedures and schedules involved in operating, troubleshooting, servicing and preventative maintenance of the systems. This is to be performed as outlined in the following sections or if not outlined, a minimum of eight (8) hours.

### 1.12 EXISTING SYSTEMS

When referenced existing systems are to be integrated into this contract, it shall be the responsibility of the contractor and respective equipment manufacturers, prior to bidding, to familiarize themselves with the existing equipment, cabling, software, and accessories of all affected systems so that all expansions, extensions, or retrofits are fully compatible with existing conditions and a complete and fully operable system will be provided. Any resulting modifications and/or additions shall be included under the base bid.

### 1.13 PRODUCT SUBSTITUTIONS

- A. Prior to bidding basis
  1. The citing of manufacturers is accomplished to provide the standard of quality and performance the Owner expects. Prior to bid date, equivalent product (s) may be considered for substitution for those products specified, however, the equivalent product(s) shall show demonstrated and documented equivalence to the product(s) specified and any performance effects or impact to the system design.
  2. The written request shall be made to the Technology Consultant no later than five (5) workdays prior to bid date.

## GENERAL TECHNOLOGY REQUIREMENTS

B. After bidding basis:

1. Requests for acceptance of proposed equivalents will be considered by the Technology Consultant after bidding only in the following instances:
  - a. The named products cannot be obtained by the Contractor because of strikes, lockouts, bankruptcies or discontinuance by manufacturer.
  - b. The proposed equivalent, in the opinion of the Technology Consultant is equal or superior to the named product and its use is to the advantage of the Owner.
2. A formal request must be made for the substitution documenting fully one of the above reasons.

C. After bidding procedure:

1. The Contractor shall have the burden of proving, at the Contractor's own cost and expense, to the satisfaction of the Technology Consultant and Owner, that the proposed product is similar and equal or superior to the named product.
2. The formal request shall include specified product model number and description and proposed product model number and description. Further,
  - a. A detailed comparison of the two units shall be submitted including performance data, references and samples, where applicable,
  - b. A cost comparison including product and installation details,
  - c. A Statement of Impact regarding the scheduling of the installation, product acquisition and other related factors.

END OF 27 05 10

27 05 26  
TELECOMMUNICATIONS GROUNDING AND BONDING

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**PART 1 – GENERAL**

**1.01 SUMMARY**

- A. This Section includes grounding and bonding requirements for the telecommunications infrastructure and associated systems as specified and shown on associated drawings.

**1.02 RELATED SECTIONS**

- A. Division 27 05 10 – Telecommunications General Requirements
- B. Division 27 10 10 – Telecommunications Structured Cabling
- C. Drawing T-002 – Telecommunications Grounding Standards

**1.03 DEFINITIONS**

- A. BC (Bonding Conductor for Telecommunications): An insulated copper conductor that bonds the TMGB to the service equipment (power) ground.
- B. TMGB (Telecommunications Grounding Bus-bar): A copper ground reference bus-bar, Typically installed in the Entrance Facility (EF) or Main Distribution Room MDF, and is bonded to the service equipment (power) ground by the BC.
- C. TGB (Telecommunications Grounding Bus-bar): A copper ground reference bus-bar Typically installed in Intermediate Distribution Frame Room (IDFs) and is bonded to the TMGB by the TBB. The TGB references metallic entities in the IDF space to the ground.
- D. TBBC (Telecommunications Bonding Backbone Conductor): An insulated copper conductor extending from the TMGB to each TGB.
- E. TEBC (Telecommunications Equipment Bonding Conductor): An insulated copper conductor that bonds metallic items and equipment within the space to the TMGB and TGB.
- F. TBBIBC (Telecommunications Bonding Backbone Interconnecting Bonding Conductor) : An insulated copper conductor that bonds two or more surfaces together before connecting to the bus-bar with a TEBC.

**1.04 COMPLIANCE**

- A. Components and installation shall comply with NFPA 70, "National Electrical Code" (NEC).
- B. Comply with UL 467, "Grounding and Bonding Equipment."
- C. NEC Article 250, "Grounding".
- D. All installation practices shall be fully compliant with ANSI/TIA/EIA-607, "Commercial Building Grounding and Bonding Requirements for Telecommunications."
- E. All work shall comply fully with these Specifications and manufacturers recommended installation practices.



27 05 26  
TELECOMMUNICATIONS GROUNDING AND BONDING

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1.05 QUALITY ASSURANCE

A. See Section 27 05 10

1.06 SUBMITTALS

A. See Division 01330 and Section 27 05 10

1.07 RECORD DOCUMENTATION

A. See Section 27 05 10

B. Prepare and submit a Telecommunications Ground Connectivity diagram

1. Drawing shall indicate connectivity points:

- a. between system components,
- b. between system components and items being grounded, and
- c. between system components and building/electrical ground points.

C. Test Documentation

1. Complete and submit a grounding Test Data Sheet to Architect/Engineer before Substantial Completion
2. Information shall be typewritten.
3. Data for each TGB shall be submitted on individual forms.

1.08 WARRANTY

A. See Section 27 05 10

1.09 TRAINING

A. No specific training is required for this section.

1.10 SUMMARY OF WORK

- A. Provide, install and test a complete grounding system for the telecommunications infrastructure and system as described in this Contract.
- B. Reference the Grounding and Bonding diagram in the associated drawings for schematic of required connectivity.
- C. Minimum Requirements
  1. The grounding system shall bond together all racks/cabinets, tray, ladder rack, and risers in each wiring closet.
  2. Bond each IDF/TR to building steel to the MDF/ER
  3. Bond resulting grounding system to building steel and the Electrical grounding system at the main building ground points.
  4. Label, test and document entire system.

## TELECOMMUNICATIONS GROUNDING AND BONDING

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**PART 2 – PRODUCTS****2.01 PRODUCT STANDARDS**

- A. The following definitions are design to provide the Contractor a minimum standard of quality and functionality as required by the Owner for the installed telecommunications infrastructure.
- B. The standards established herein shall be comprehensive and shall include the original response and all changes or modifications to the Project.

**2.02 GROUNDING AND BONDING BUS-BARS**

- A. Telecommunications Main Grounding Bus-bar (TMGB)
  - 1. Acceptable Product
    - a. Erico Electrical Products ¼” thick x 4” x 15.5” ground bus-bar assembly  
PN# TMGB-A16L19PT
    - b. Panduit
    - c. Approved Equivalent
- B. Telecommunications Grounding Bus-bar (TGB)
  - 1. Acceptable Product
    - a. Erico Electrical Products ¼” thick x 2” x 15.5” ground bus-bar assembly  
PN# TGB-A08L19PT
    - b. Panduit
    - c. Approved Equivalent
- C. Equipment Rack Bus-bar
  - 1. Acceptable Product
    - a. Panduit ¼” thick x 1” x 19” ground bus-bar for equipment rack applications  
PN# TRGB191
    - b. Approved Equivalent

**2.03 BONDING CONDUCTORS**

- A. All bonding conductors shall be green insulated copper. Unless otherwise specified, size conductors as required by NEC.
- B. The BC shall be #6 AWG.
- C. The TBBC and TEBC shall be a #6 AWG.
- D. TBBIBC shall be #8 AWG.

**2.04 BONDING CONDUCTOR TERMINATIONS**

- A. Approved manufacturer(s):
  - 1. Erico Electrical Products
  - 2. Thomas and Betts
  - 3. Burndy

## TELECOMMUNICATIONS GROUNDING AND BONDING

- 
- 4. Approved equivalent
  - B. One hole compression lugs:
    - 1. Thomas and Betts, “Long Barrel One Hole Lugs” color code blue (example: Catalog Number 54816BE), high conductivity wrought copper, electro tin plate or approved equal.

**PART 3 – EXECUTION****3.01 INSTALLATION**

- A. All Work shall fully comply with these specifications and related Drawings and all manufacturers recommended installation practices.
- B. Provide all grounding and bonding as specified in the Contract Documents.
- C. Ground electrical systems and equipment as required by code, utility, local ordinances, and requirements within.
- D. Bonding conductors shall be continuous and routed in a direct path to point of termination.
- E. All grounding bus-bars shall be isolated from the structure support by a 2 inch minimum separation using manufacturer’s recommended insulating stand-offs and hardware.
- F. Clean grounding bus-bars before terminating conductors.
- G. Installation details:
  - 1. Install copper bus-bar on the plywood backboard.
  - 2. Install Rack/Cabinet grounding bus-bars on the rear rails.
  - 3. Install Green #6 AWG insulated copper grounding conductor from main building grounding electrode system at service entrance to ground bus in the MDF.
  - 4. Install Green #6 AWG insulated copper grounding conductor(s) from the MDF ground bus to each “IDF” ground bus.
    - a. Conductors shall be installed in continuous ¾” EMT conduit.
    - b. Install grounding bushings on conduit and bond, using Green #12 AWG wire, at both ends. Paint all conduit fittings, junction boxes and covers ‘GREEN.’
  - 5. Install Green #8AWG bonding jumper (12” max) with appropriate lugs at each cable tray joint or install manufactured braided copper grounding jumper equal to B-Line #CAM-GJ, T & B #BD12, OZ/Gedney type “FB” or Mono-Systems.
  - 6. Install Green #8AWG grounding conductor with appropriate lugs from side of cable tray down to ground bus-bar. Drill #tap side of cable tray (for appropriate size bolt, ¼” x 20 Min.), making sure that bolt does not extend into wire management part of tray.

**3.02 LABELING**

- A. Label the ends of all conductors as indicated on the Drawings.
- B. Label the TEBCs consecutively within each closet TEBC-01 through TEBC-03 with “xx” representing the last number in order.
- C. Label all TGBs and the TMGB as identified on the Drawings and with the following:

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WARNING!!  
IF THIS CONNECTOR OR CABLE  
IS LOOSE OR MUST BE REMOVED  
PLEASE CALL THE BUILDING  
TELECOMMUNICAITONS MANAGER

3.03 CONNECTIONS

- A. Bond the TMGB to the service equipment (power) ground, typically located in the electrical entrance facility, using the most direct route possible to minimize conductor length.
- B. Bond all TGBs to the TMGB using specified conductor.
- C. Whenever two or more TBBs are used in a multi-story building, bond them together on the top floor and at every third floor, at a minimum, with a TBBIBC.
- D. Bond the following to the TMGB when present:
  - 1. Telecommunications panel-board:
    - a. Alternating Current Equipment Ground Bus (ACEG), if equipped, or its enclosure.
  - 2. Building structural steel, if exposed. (Steel rebars of reinforced concrete are not required to be bonded.)
  - 3. Metallic equipment racks.
  - 4. Cable shields.
  - 5. All metal raceways and cable trays for telecommunications cabling extending from the same room or space where the TMGB is located.
  - 6. Floor tile ground tab if provided.
  - 7. Others as identified on the Drawings.
- E. Bond the following to the TGB when present:
  - 1. Telecommunications panel-board: Alternating Current Equipment Ground Bus (ACEG), if equipped, or its enclosure.
  - 2. Building structural steel, if exposed. (Steel re-bars of reinforced concrete are not required to be bonded.)
  - 3. TGBs within the same space if provided.
  - 4. TBBs terminated on the same floor to other TGBs.
  - 5. Metallic equipment racks.
  - 6. Cable shields.
  - 7. All metal raceways and cable trays for telecommunications cabling extending from the same room or space where the TMGB is located.
  - 8. Floor tile ground tab is provided.
  - 9. Others as identified on the Drawings.
- F. Terminate BC and TBB conductors with two-hole compression lugs.

## TELECOMMUNICATIONS GROUNDING AND BONDING

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G. Terminate TEBC conductors with one-hole compression lugs.

### 3.04 BONDING

#### A. General:

1. Make connections in such a manner as to minimize possibility of galvanic action or electrolysis. Select connectors, connection hardware, conductors, and connection methods so metals in direct contact will be galvanically compatible.
2. Used electroplated or hot-tin-coated materials to assure high conductivity and make contact points closer in order of galvanic series.
3. Make connections with clean bare metal at points of contact.
4. Coat and seal connections involving dissimilar metals with inert material such as red lead paint to prevent future penetration of moisture to contact surfaces.

#### B. Exothermic welded connections.

1. Use for connections to structural steel and for underground connections except those at test wells. Install at connections to ground rods. Comply with manufacturer's written recommendations. Welds that are puffed up or that show convex surfaces indicating improper cleaning are not acceptable.

#### C. Tightening

1. Tighten grounding and bonding connectors and terminals in accordance with the manufacturer's published tightening methods and practices. Where manufacturer's requirements are not indicated, tighten connections to comply with UL 486A and UL 486.

#### D. Compression-type connections:

1. Use hydraulic compression tools to provide the correct circumferential pressure for compression connectors. Use tools and dies recommended by the manufacturer of the connectors. Provide embossing die code or other standard method to make a visible indication that a connector has been adequately compressed on the ground conductor.

#### E. Moisture protection:

1. Where insulated ground conductors are connected to ground rods, insulate the entire area of the connection and seal against moisture penetration of the insulation and cable.

### 3.05 TESTING

#### A. Purpose:

1. The purpose of this test is to ensure proper grounding of the telecommunications system.

#### B. Standards and codes:

1. Testing is based on the following standards:
  - a. ANSI/TIA/EIA-607. Commercial Building Grounding and Bonding Requirement for Telecommunications

## TELECOMMUNICATIONS GROUNDING AND BONDING

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2. All work and materials shall comply with the latest rules, codes, and regulations, including but not limited to the following:
    - a. Occupational Safety and Health Act Standard (OSHA)
    - b. NFPA 70 – National Electrical Code (NEC)
    - c. ANSI/IEEE C-2 National Electrical Safety Code
    - d. All other applicable federal, state, and local laws and regulations
  - C. Tests to be performed include the following:
    1. Grounding Reference System Continuity Test (The continuity of each TEBC is NOT part of this procedure.)
  - D. Test equipment:
    1. Biddle Instruments, Megger DET2/2 Ground Tester or later approved model.
  - E. Testing guidelines:
    1. The following testing guidelines apply to all test procedures and shall be followed to promote efficient and accurate testing:
      - a. Be sure all connections are tight. Loose connections will drastically affect the test results.
      - b. The test lead shall be No. 14 AWG, stranded, insulated copper conductor. The test lead shall be long enough to reach all TGBs from the TMGB. One test lead shall be used for all tests.
      - c. The test lead may be spooled. However, the Biddle meter may produce inaccurate or erratic resistance measurements if the quantity of cable on the spool is too great. If the meter behaves erratically, first try to perform the test in the “low current” setting. If the behavior persists, the lead should be unspooled.
      - d. The current shall be set to “High.”
      - e. The filter shall be set to “On.”
      - f. The frequency shall be set to “150 Hz.”
      - g. Connect Terminals C2 and P2 by a jumper wire (if not connected by the manufacturer).
      - h. Connect Terminals P1 and C1 by a jumper wire (if not connected by the manufacturer).
      - i. Once the test lead is attached to the meter it should not be removed as identified in the specific test procedure.
  - F. Reference test:
    1. The reference test procedure is necessary to calibrate the test setup. Perform the reference test procedure before performing any test.
    2. Record the reference value and subtract from all the other measurements. If the length of the test lead is changed, perform and record new test data.
  - G. Reference test procedure:
    1. Perform the test procedure as follows:

## TELECOMMUNICATIONS GROUNDING AND BONDING

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- a. Connect one end of the test lead to Terminal C1 and the other end to Terminal C2.
  - b. Perform the Biddle Meter Resistance Test.
  - c. Record test lead resistance on the data sheet.
  - d. Disconnect the test lead from Terminal C1 ONLY. The test lead shall remain connected to Terminal C2 throughout the test.
- H. Ground reference system continuity test:
- 1. The ground reference system shall be tested to validate the continuity and integrity of the interconnection of the TMGB, TGB, TBB, BC, TEBC, TBBIBC, and the building's grounding electrode.
- I. Ground reference system continuity test procedure:
- 1. Perform the test procedure as follows.
    - a. Remove all TEBCs from the TMGB and TGBs. THE BC SHALL REMAIN ATTACHED TO THE TMGB. Remove panel-board and building steel bonds. The TBB between the TMGB and the TGBs shall remain attached at all bus-bars.
    - b. Move the meter and test lead to the first TGB to be tested. Route and connect the test lead to the TMGB. The other end of the test lead should still be connected to Terminal C2 from the reference test. Connect a short test lead from Terminal C1 to the TGB to be tested.
    - c. Perform the Biddle Meter Resistance Test.
    - d. Record the resistance on the data sheet.
    - e. Attach the equipment bonding conductor from the panel-board located within the room to the TGB and repeat the test. Record the resistance on the data sheet.
    - f. Attach the equipment bonding conductor from the building steel (if applicable) and repeat the test. Record the resistance on the data sheet.
    - g. Leave the building steel and panel-board ground connected to this TGB. Repeat the test for all other TGBs.

END OF SECTION 27 05 26

## **PART 1 – GENERAL**

### **1.01 SUMMARY:**

- A. This Section includes fire-stopping for penetrations through fire-rated walls and partitions and fire-stopping of the penetrating items.
  - 1. A through penetration is created when a cable, conduit, or sleeve passes through an opening in a fire-rated wall or floor. The opening offers a path for fire and smoke to spread. A firestop is a special seal designed and tested to restore the fire integrity of the barrier.

### **1.02 RELATED SECTIONS**

- A. Section 27 05 10 – General Technology Requirements
- B. Section 25 8 23 – Audio Video Systems
- C. Section 27 10 10 – Telecommunications Structured Cabling

### **1.03 REFERENCES**

- A. ASTM E 84 - Test Method for Surface Burning Characteristics of Building Materials.
- B. ASTM E 119 - Method for Fire Tests of Building Construction and Materials.
- C. ASTM E 814 - Standard Method of Fire Tests of Through-Penetration Fire-stops.
- D. Underwriters Laboratories (UL) - UL723 - Standard Test for Surface Burning Characteristics of Building Materials.
- E. Underwriters Laboratories (UL) - UL1479.
  - 1. Published Fire-Rated Assemblies: Underwriters Laboratories (UL) of Northbrook, IL runs ASTM E814 under their designation of UL1479 and publishes the results in their "Fire Resistance Directory" that is updated annually with a mid-year supplement.
  - 1. NEC- Article 300-2- Spread of Fire of Products of Combustion
  - 2. Underwriters Laboratories (UL) Fire Resistance Directory, 1997, Volumes 1 and 2.
- F. BICSI- TDM 9th Edition
  - NOTE: For information on ordering Underwriters Laboratories Fire Resistance Directory, 1997, (2-volume set), call (847) 272-8800 (cost per set us approximately \$34.00).

### **1.04 SYSTEM PERFORMANCE REQUIREMENTS**

- A. General: Provide fire-stopping systems that are produced and installed to resist the spread of fire, according to requirements indicated, and the passage of smoke and other gases.
- B. F-Rated Through-Penetration Fire-stop Systems: Provide through-penetration fire-stop systems with F ratings indicated, as determined per ASTM E 814, but not less than that equaling or exceeding the fire-resistance rating of the constructions penetrated.
  - 1. The F-Rated Fire-stop Systems Description- The firestop withstands the test fire for the rating period without:
    - a. Permitting flames to: Pass through the firestop or occur on any element of the unexposed side of the firestop (i.e., auto-ignition).
    - b. Developing any opening in the firestop during the hose stream test that permits a projection of water beyond the unexposed side.



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FIRESTOPPING

- C. Fire Resistive Joint Sealants: Provide joint sealants with fire-resistance ratings indicated, as determined per ASTM E 119, but not less than that equaling or exceeding the fire-resistance rating of the construction in which the joint occurs.
- D. For fire-stopping exposed to view, traffic, moisture, and physical damage, provide products that do not deteriorate when exposed to these conditions.
- E. For fire-stopping exposed to view, provide products with flame-spread values of less than 25 and smoke-developed values of less than 450, as determined per ASTM E 84.

1.05 SUBMITTALS

- A. General: Submit the following according to General Conditions of Contract and Division 1 Specification Sections.
  - 1. Provide product data for each type of product specified.
    - a. Certification by fire-stopping manufacturer that products supplied comply with local regulations controlling use of volatile organic compounds (VOCs) and are nontoxic to building occupants.
  - 2. Shop drawings detailing materials, installation methods, and relationships to adjoining construction for each through-penetration fire-stop system, and each kind of construction condition penetrated and kind of penetrating item.
    - a. Submit documentation, including illustrations, from a qualified testing and inspecting agency that is applicable to each through-penetration fire-stop configuration for construction and penetrating items.
    - b. Where Project conditions require modification of qualified testing and inspecting agency's illustration to suit a particular through-penetration fire-stop condition, submit illustration approved by fire-stopping manufacturer's fire protection engineer with modifications marked.
- B. Qualification data for firms and persons specified in Paragraph 1.06 to demonstrate their capabilities and experience.

1.06 QUALITY ASSURANCE

- A. Fire-Test-Response Characteristics: Provide fire-stopping that complies with the following requirements and those specified under Paragraph 1.04:
  - 1. Fire-stopping tests are performed by a qualified testing and inspecting agency. A qualified testing and inspecting agency is UL, Warnock Hersey, or another agency performing testing and follow-up inspection services for fire-stop systems that is acceptable to authorities having jurisdiction.
  - 2. Through-penetration fire-stop systems are identical to those tested per ASTM E 814 under conditions where positive furnace pressure differential of at least 0.01 inch of water is maintained at a distance of 0.78 inch below the fill materials surrounding the penetrating items in the test assembly. Provide rated systems complying with the following requirements:
    - a. Through-penetration fire-stop system products bear classification marking of qualified testing and inspecting agency.
    - b. Through-penetration fire-stop systems correspond to those indicated by reference to through-penetration fire-stop system designations listed by UL in

their “Fire Resistance Directory,” by Warnock Hersey, ICBO Evaluation Report or by another qualified testing and inspecting agency.

- B. Information on drawings referring to specific design designations of through-penetration fire-stop systems is intended to establish requirements for performance based on conditions that are expected to exist during installation. Any changes in conditions and designated systems require the Owner’s and Engineer’s prior approval. Submit documentation showing that the performance of proposed substitutions equals or exceeds that of the systems they would replace and are acceptable to authorities having jurisdiction.
- C. Installer Qualifications: Engage an experienced Installer who has completed fire-stopping that is similar in material, design, and extent to that indicated for Project and that has performed successfully.
- D. Single-Source Responsibility: Obtain through-penetration fire-stop systems for each kind of penetration and construction condition indicated from a single manufacturer.
- E. Provide fire-stopping products containing no detectable asbestos as determined by the method specified in 40 CFR Part 763, Subpart F. Appendix A, Section 1, “Polarized Light Microscopy.”
- F. Coordinating Work: Coordinate construction of openings and penetrating items to ensure that designated through-penetration fire-stop systems are installed per specified requirements.
- G. Pre-installation Conference: Conduct conference at Project site to inform those making penetrations of fire-stopping practices to ensure maintaining penetration hole sizes to comply fire-stop system requirements.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver fire-stopping products to Project site in original, unopened containers or packages with intact and legible manufacturer’s labels identifying project and manufacturer; date of manufacture; lot number; shelf life, if applicable; qualified testing and inspecting agency’s classification marking applicable to Project; curing time; and mixing instructions for multi-component materials.
- B. Coordinate delivery of materials with scheduled installation date to allow minimum storage time at job site.
- C. Store and handle fire-stopping materials to prevent their deterioration or damage due to moisture, temperature changes, contaminants, or other causes.
- D. Comply with recommended procedures, precautions or remedies described in Material Safety Data Sheets as applicable.
- E. Do not use damaged or expired materials.

1.08 ENVIRONMENTAL REQUIREMENTS

- A. Do not install fire-stopping when ambient or substrate temperatures are outside limits permitted by fire-stopping manufacturers or when substrates are wet due to rain, frost, condensation, or other causes.
- B. Maintain this minimum temperature before, during, and for 3 days after installation of materials.

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- C. Ventilate fire-stopping per fire-stopping manufacturers' instructions by natural means or, where this is inadequate, forced air circulation.
- D. During installation, provide masking and drop cloths to prevent fire-stopping materials from contaminating any adjacent surfaces.
- E. Do not use materials that contain flammable solvents.

1.09 SEQUENCING

- A. Sequence Work to permit fire-stopping materials to be installed after adjacent and surrounding work is complete.

**PART 2 – PRODUCTS**

2.01 FIRE-STOPPING, GENERAL

- A. Provide fire-stopping composed of components that are compatible with each other, the substrates forming openings, and the items, if any, penetrating the fire-stopping under conditions of application and service, as demonstrated by fire-stopping manufacturer based on testing and field experience.
- B. Provide components for each fire-stopping system that are needed to install fill materials and to comply with Paragraph 1.4. Use only components specified by the fire-stopping manufacturer and approved by the qualified testing and inspecting agency for the designated fire-resistance-rated systems. Accessories include but are not limited to the following items:
  - 1. Permanent forming/damming/backing materials including the following:
    - a. Semi-refractory fiber (mineral wool) insulation.
    - b. Ceramic fiber.
    - c. Sealants used in combination with other forming/damming materials to prevent leakage of fill materials in liquid state.
    - d. Fire-rated form-board.
    - e. Joint fillers for joint sealants.
  - 2. Temporary forming materials
  - 3. Substrate primers.
  - 4. Collars.
  - 5. Steel sleeves.

2.02 MANUFACTURERS

- A. DOW-CORNING
- B. HILTI CONSTRUCTION CHEMICALS, INC.
- C. 3M FIRE PROTECTION PRODUCTS.
- D. THE RECTORSEAL CORPORATION
- E. Substitutions: Under provisions of Special Conditions, Article 3 - Substitutions.

2.03 MATERIALS

- A. Penetration Sealants: Non-combustible penetrating items (conduit, steel pipe, EMT, copper).
  - 1. Approved manufacturers/products:

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- a. Hilti CS 240 Fire-stop Sealant.
- b. Dow Corning Fire-stop Sealant 2000.
- c. 3M Brand "Fire Barrier" Caulk CP-25 and CP25WB.
- d. Rectorseal Metacaulk 950/1000.
- B. Intumescent fire-stop materials for use at openings and sleeves involving combustible penetrating items (plastic pipe, insulated pipe, or PVC coated flexible cable):
  - 1. Approved manufacturers/products:
    - a. Hilti CS 2420 Intumescent Wrap.
    - b. Dow Corning Fire-stop Intumescent Wrap Strip 2002.
    - c. 3M Brand "Fire Barrier" FS-195 Wrap Strip.
- C. Intumescent fire-stop materials for use within the annulus (interior of the sleeve) of sleeves involving penetrating items (flexible cable):
  - 1. Approved manufacturers/products:
    - a. 3M Brand "Fire Barrier" MPS-2 Plus Moldable Putty Stix.
    - b. Rectorseal Metacaulk "Fire Rated Putty". NOTE: PRODUCT SHALL HAVE A BATCH DATE ON THE INDIVIDUAL PACKAGING THAT IS EARLIER THAN 6 MONTHS PREVIOUS TO INSTALLATION. REFER TO PARAGRAPH 2.1.A ABOVE. ALSO REFER TO PARAGRAPH 3.2.D.
- D. UL Classification: Provide material classified by UL to provide fire-stopping equal to time rating of construction being penetrated.
- E. Fire-stopping materials shall be asbestos-free, emit no toxic or combustible fumes, and be capable of maintaining an effective barrier against flame, smoke, water and toxic gases in compliance with referenced standards in Paragraph 1.3 of this specification section.
- F. Fire-stopping materials/systems shall be flexible to allow for normal movement of building structure and penetrating item(s) without affecting the adhesion or integrity of the system.
- G. Primer: Type recommended by fire-stopping manufacturer for specific substrate surfaces.

### **PART 3 – EXECUTION**

#### **3.01 EXAMINATION**

- A. Verify that openings are ready to receive the Work of this Section.

#### **3.02 PREPARATION**

- A. Surface Cleaning: Clean out openings and joints immediately prior to installing fire-stopping to comply with recommendations of fire-stopping manufacturer and the following requirements:
  - 1. Remove all foreign materials from surfaces of opening and joint substrates and from penetrating items that could interfere with adhesion of fire-stopping.
  - 2. Clean opening and joint substrates and penetrating items to produce clean, sound surfaces capable of developing optimum bond with fire-stopping. Remove loose particles remaining from cleaning operation.
  - 3. Remove laitance and form release agents from concrete.

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- B. Priming: Prime substrates where recommended by fire-stopping manufacturer using that manufacturer's recommended products and methods. Confine primers to areas of bond; do not allow spillage and migration onto exposed surfaces.
- C. Masking Tape: Use masking tape to prevent fire-stopping from contacting adjoining surfaces that will remain exposed upon completion of Work and that would otherwise be permanently stained or damaged by such contact or by cleaning methods used to remove smears from fire-stopping materials. Remove tape as soon as it is possible to do so without disturbing fire-stopping's seal with substrates.
- D. Do not reuse the existing fire-stopping materials that do not meet all requirements of Section 07270. In particular remove and dispose of the existing putty within the annulus of conduit sleeves through walls and floors where the putty was manufactured by Rectorseal Corporation and dated prior to 50697. This is typical of most locations where the putty is encountered. If uncertain contact Owner for approximate date of installation of putty.

3.03 INSTALLING THROUGH-PENETRATION FIRE-STOPS

- A. Regulatory Requirements: Install penetration seal materials in accordance with published "Through-Penetration Fire-stop Systems" in UL's Fire Resistance Directory.
- B. General: Comply with the System Performance Requirements (Paragraph 1.4) and the through-penetration fire-stop manufacturer's installation instructions and drawings pertaining to products and applications indicated.
- C. Install forming/damming materials and other accessories of types required to support fill materials during their application and in the position needed to produce the cross-sectional shapes and depths required to achieve fire ratings of designated through-penetration fire-stop systems. After installing fill materials, remove combustible forming materials and other accessories not indicated as permanent components of fire-stop systems.
- D. Install fill materials for through-penetration fire-stop systems by proven techniques to produce the following results:
  - 1. Completely fill voids and cavities formed by openings, forming materials, accessories, and penetrating items.
  - 2. Apply materials so they contact and adhere to substrates formed by openings and penetrating items.
  - 3. For fill materials that will remain exposed after completing Work, finished to produce smooth, uniform surfaces that are flush with adjoining finishes.

3.04 FIELD QUALITY CONTROL

- A. Where deficiencies are found, repair or replace fire-stopping so that it complies with requirements.
- B. Keep areas of work accessible until inspection by applicable code authorities.
- C. Perform under this Section, patching and repairing of fire-stopping caused by cutting or penetrating by other trades.

3.05 ADJUSTING AND CLEANING

- A. Remove equipment, materials and debris, leaving area in undamaged, clean condition.

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- B. Neatly cut and trim materials as required.
- C. Clean off excess fill materials and sealants adjacent to openings and joints as work progresses by methods and with cleaning materials approved by manufacturers of fire-stopping products and of products in which openings and joints occur.

3.06 PROTECTION OF FINISHED WORK

- A. Protect fire-stopping during and after curing period from contact with contaminating substances or form damage resulting from construction operations or other causes so that they are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated fire-stopping immediately and install new materials to produce fire-stopping complying with specified requirements.

END OF SECTION 27 05 28

27 10 10  
STRUCTURED CABLE

**PART 1 - GENERAL**

**1.01 GENERAL**

- A. This section includes general administrative and procedural requirements for the Horizontal Structured Cable System.
- B. The “Telecommunications Contractor” shall hereafter be identified as “Contractor” in Division 27 10 10.
- C. The Contractor is directed to familiarize himself in detail with all documents pertinent to the work. In case of conflict between the Division 0/1 General Provisions and the 27 05 10 General Technology Requirements, the Contractor shall contact the Technology Consultant for clarification and final determination.

**1.02 SUMMARY**

- A. It is the intent of the Division 27 10 10 Specifications to provide visual and written design criteria for a structured cable plant to be used for administrative and operational telecommunication and data systems to be included in the Elkhart County Judicial Center in Elkhart County, Indiana. Division 27 10 10 includes the following:
  - 1. A Horizontal Structured Cabling System, which shall herein be referred to as the HSCS and provides for Category 6A standards as set forth in EIA/TIA 568B and other accepted standards. The structured cabling is to be used to provide voice, data, and streaming video capability. The system shall be employed for use by the building telephone system, the operation of the Local Area Network (LAN), extension of the County Wide Area Network (WAN) systems, and digital video applications as may exist or may be adopted in the future by the Owner/Client.
  - 2. Fiber optic Light Interface Units (LIU) to be used as cross-connect points in the building MDF (ER) and IDF (TR) rooms.
  - 3. Extension of the county fiber optic wide-area network via a 48-strand single mode cable. This cable by Owner will enter the building via the exterior man-hole and one of three 4” conduit that enter the MDF/Demarc Room 1M06. and terminate cable on new LIU devices as may be necessary. 24-strands will be used by the new LAN and 24 strands will continue to the Elkhart County Correctional Complex by Owner.
  - 4. Provide, Install, terminate, label, and test structured cable plant from respective ER and TR locations to all points as designated on associated T-Series drawings.
  - 5. Delivery of training as described elsewhere within this Manual.

**1.03 SINGLE SOURCE RESPONSIBILITY**

It is the intent of these Specifications that:

- A. One (1) Contractor shall be responsible for providing, installing, and training in the operation and maintenance of the structured cable plant described in these specifications.
- B. Components provided by a sub-contractor, or equipment supplied to this contractor shall be the total responsibility of the Contractor submitting a proposal in response to these Specifications.
- C. Any “Pass-Through” contracts or warranties shall be accompanied by a written contract and warranty from this Contractor matching and providing assurance to the Owner of a “single source” responsibility.

**1.04 STANDARD OF QUALITY AND PERFORMANCE FOR THIS SOLUTION.**

- A. Panduit has been adopted as Approved cable manufacturer for the HSCS in this project.

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STRUCTURED CABLE

- B. The citing of the above manufacturer is accomplished to establish a standard of quality and performance the Owner expects and to expand a uniform county communications platform that has been established.
- C. To establish comparative standards of quality, the system indicated herein shall be represented installed by an authorized and certified contractor or approved equal.
- D. The HSCS shall include the Panduit Certification Plus System Warranty for a period of 20 years.
- E. Any contractor who wishes to bid shall submit qualification information to the Technology Consultant. The Proposal shall include all the information listed below.
- F. Submit only upon request the following additional information with proposal:
  - 1. Statement of financial responsibility for the past three (3) years showing assets and liabilities.
  - 2. Names of Individuals holding in excess of 33-1/3% of stock in firm, and coventureships or joint ventures.
  - 3. List of principal officers and design and service engineers in an organizational structure flow chart.
  - 4. List of not less than one (1) project completed within the last two (2) years with project being similar in system design and scope to bidding project. For the project list the following information:
    - a. Scope of Work,
    - b. Sample of Record Drawing CAD print,
    - c. Engineering system design drawing and detail,
    - d. Name, address, phone number of Owner and name of Owner's Contractor or person directly responsible for the project,
    - e. Name of Owner's person directly involved with service and maintenance of system.
  - 5. List of three (3) current projects and approximate contract value and completion date(s). Include list of names, phone numbers, and addresses of Owner, Primary contractor, and Architect.
  - 6. List of employees who would be involved directly in project management, supervision, installation, preparation of CAD drawings, and validation/certification of the system.
  - 7. Include list of other bonded projects coinciding with this project.
- G. Pre-qualification Training Certificates
  - 1. Training certificates for design, engineering and installation of proposed products shall be submitted with contractor's bid.
  - 2. Training certificates shall provide date of certification and level of qualification.
- H. Pre-qualified Contractors.
  - 1. Advanced Systems Group ASG
  - 2. Communication Company of South Bend
  - 3. Communications Wiring Specialists
  - 4. Direct Line Communications/Pemberton-Davis
  - 5. Electronic Strategies ESI
  - 6. Fairchild Communications
  - 7. Hermann and Goetz Services
  - 8. Indiana Electronics, Inc
  - 9. L-A Electric Premier Communications



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STRUCTURED CABLE

10. Martell Electric
11. NETech Corporation
12. Network Solutions, Inc.
13. Teledata, Inc.

1.05 CONTRACTOR QUALIFICATIONS

A. Contractor Selection

1. The contractor selected for this Project shall be certified by the manufacturer of the products, adhere to the engineering, installation and testing procedures and utilize the authorized manufacturer's components and distribution channels in provisioning this Project.

B. Contractor Experience and Training

1. The contractor shall be experienced in all aspects of this work and shall be required to demonstrate direct experience on recent systems of similar type and size.
2. Contractor shall have been engaged in telecommunications systems design, engineering, custom fabrication, installation and servicing of horizontal structured cabling systems for a minimum of three (3) years and shall maintain its own facility and staff for this purpose.
3. Contractor shall have the ability to undertake the work within the time available, judged against other currently contracted work.
4. Contractor shall have the ability to meet bidding specifications and project requirements of bid specifications without sub-contracting portions of the contract.
5. The contractor shall own and maintain tools and equipment necessary for successful installation and testing of optical and Category 6A metallic premise distribution systems and have personnel who are adequately trained in the used of such tools and equipment.

C. Contractor Resume

1. A resume of qualification shall be submitted by the Contractor indicating the following:
  - a. A list of recently completed projects of similar type and size with contact names and telephone numbers for each.
  - b. A technical resume of experience for the Contractor's Project Manager and on-site installation supervisor who will be assigned to this project.
  - c. Any sub-Contractor who shall assist the HSCS contractor in performance of this work shall have the same training and certification as the HSCS contractor.

D. To request approval as a Communications Contractor

1. Contact:  
Technology Consultant – Elkhart County Judicial Center  
DSA, Inc.  
16618 East 196<sup>th</sup> Street  
Noblesville, IN 46060-9530  
Telephone: 765.534.5152  
E-Mail: ldavidson@dsa-web.com
2. Refer to 27 05 10 General Technology Requirements, Supplementary Conditions and Division 01330 Section "Product Substitutions.

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STRUCTURED CABLE

1.06 WORK INCLUDED

A. Structured Cabling System

1. Furnish and install a Horizontal Structured Cabling System (HSCS) complete with all accessories and standard components.
2. The HSCS shall serve as a vehicle for transport of data, video, and voice telephony signals throughout the network from designated demarcation points to outlets located at various desk(s), workstation(s) and other locations as indicated on the contract drawings and described herein.
3. The complete HSCS shall be comprised of Category 6A copper cable and Single-Mode OS1 fiber optic cable and their respective termination components.
4. Basic applications standards supported shall include, but not be limited to IEEE 802.3, 10Base-T, 10Base5, 100BaseTX, 1000BaseT, IEEE 802.5.
5. Category 6 links/channels shall be capable of supporting evolving high-end applications such as 1000 Base-T and 52/155/622 Mbps ATM.
6. The Fiber Optic installation shall support all reference applications above and shall include 1GB Ethernet applications.

B. System Description

1. The system shall utilize a network comprised of unshielded twisted pair, riser, tie and station cables and multi-mode fiber optic cable.
2. Cables and terminations shall be provided and located as shown and in the quantities indicated on the drawings and in these specifications.
3. Fiber cables shall terminate on Fiber Distribution Centers (FDC's) and/or modular patch panels (Light Interface Units) located in each ER/TR.
4. All cables and terminations shall be identified at all locations.
5. All cables shall be terminated in an alpha-numeric sequence at all termination locations.
6. All copper cable terminations shall comply with and be tested to TIA/EIA 568B standards for Category 6.
7. Available and unused copper pairs between the MDF (ER) and IDF (TR) shall be terminated and identified as spare at each location.
8. Station cables shall terminate on jacks positioned in one, two or three gang wall plates, dual compartment raceways, and/or multi-unit floor-boxes equipped as shown on the drawings.
9. Indoor, plenum-rated, minimum 12-strand Single-Mode fiber optic cable shall connect each TR (IDF) with the ER (MDF). Provide cable, FDC/LIU cabinets for each location, terminations, testing and labeling.
10. Provide/Install grounding to be fully compliant with ANSI/TIA/EIA 607 Commercial Building Grounding and Bonding Requirements for Telecommunications.
11. Test all fiber optic cable and connections and all copper cable and connections per these specifications and provide Owner with test results.

C. Data and Voice

1. Wiring utilized for voice and data communications shall originate at patch panels, in vertical free standing equipment racks, and/or enclosed vertical equipment racks located at the Equipment Room (ER), and/or the Telecommunication Rooms (TR).
2. Wiring, terminations, patch bays, and all rack vertical/ horizontal cable management devices within and between these designated demarcation points and outlet locations designated on the plans shall be considered part of the contact.

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D. Fire Stopping

1. Where Division 27 wire and/or cable penetrate fire-rated walls, the respective Division 27 Contractor shall be responsible for providing and installing fire-stopping material. See 27 05 28 Telecommunications Fire-Stopping for specifics.

1.07 WORK NOT INCLUDED

- A. The HSCS Contractor shall NOT provide nor install conduits, wire-ways, connection boxes, pull boxes, junction boxes and outlet boxes permanently mounted in walls, floors, and ceilings.
- B. The HSCS Contractor shall NOT provide nor install room lighting fixtures, lighting dimmers and control modules, energy conservation devices, power receptacle outlets and interconnecting wiring for these circuits.
- C. The HSCS Contractor shall NOT provide nor install electric breaker panels required to power the equipment.
- D. The HSCS Contractor shall NOT provide nor install structural work, wall openings, platforms, railings, stairs, fire prevention and safety devices, rough and finished trim, painting and patching, carpets, floor coverings, computer floors, and heating, ventilating and air conditioning systems.

1.08 RELATED WORK SPECIFIED ELSEWHERE

- A. Electrical Specifications - Division 26

1.08 WORK EXTERNAL TO THE BUILDINGS

- A. Any work external to the confines of this building as shown on the drawings shall be governed by the provisions of this specification and the applicable drawings.

1.10 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Divisions 0 and 1 apply to this Section.

1.11 DRAWINGS

- A. Layout of equipment, accessories, and conduit systems is diagrammatic unless specifically detailed and does not necessarily indicate every item required for a complete installation. Quantities of installed equipment are determined by examining the various functional diagrams, plans, and riser diagrams. *The building matrix 27 10 15 is provided for reference only. Where conflict may exist between the drawings and the matrix, the drawings shall prevail.*
- B. The plans show the general locations of outlets and equipment, unless dimensioned thereon. The HSCS Contractor shall coordinate with the Electrical Contractor to make minor relocation as required to provide a symmetrical appearance or to avoid conflict with other structural, architectural, or mechanical features.
- C. Locations and dimensions of equipment and materials in the drawings are based upon information available during the design process. Make adjustments as required to meet the intent of the drawings when equipment varies from contract documents. Verify the scale and noted dimensions in the field.
- D. Division 27 connectivity requirements were coordinated with the Division 26 Electrical Contractors for determination and placement of all back-box, floor-box and conduit/raceway locations and their respective quantities for connectivity devices as

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required for Division 27 work. The Division 27 Contractor(s) is/are required to cooperate and coordinate their work requirements with the Division 26 Contractor.

E. Problems with regard to box locations shall be referred to the Technology Consultant.

1.12 DEFINITIONS FOR DIVISION 27 10 10 SECTIONS

These definitions shall apply to this section of the Specifications, and where they appear in any form shall be interpreted to comply as defined:

ER (MDF)	Equipment Room (Main Distribution Frame)
TR (IDF)	Telecommunications Room (Intermediate Distribution Frame)

1.13 NEW TELECOMMUNICATION ROOM LOCATIONS

Telecommunication room locations are as follows:

- A. 1M06 Demarc/MDF/ER
- B. 2M06 IDF 1 / TR-1
- C. 3M06 IDF-2 / TR-2
- D. 4M06 IDF-3 / TR-3

1.14 SUBMITTALS

A. Product Data Sheets

- 1. Refer to 1330 Section "Submittal Procedures" and 27 05 10 "General Technology Requirements" for general requirements and as follows.
- 2. The Contractor shall provide descriptive literature, manufacturer cut sheets and other pertinent information relative to all equipment and components to be included for each portion of the work including but not limited to:
  - a. All wire and cable,
  - b. All connectors and required tooling,
  - c. All termination system components for each cable type,
  - d. All MDF/ER and IDF/TR equipment frame types, hardware LAN equipment,
  - e. All grounding and circuit protection, and surge suppression system components.
- 3. Equipment performance data for all equipment and components by manufacturer and model shall be provided. This data sheet shall include the physical specifications as well as the following electrical transmission characteristics:
  - a. Mutual Capacitance
  - b. Impedance
  - c. DC Resistance
  - d. Attenuation
  - e. Worst Pair-to-Pair Near End Crosstalk
  - f. Power Sum Near End Crosstalk

B. Factory Test Reports

- 1. Contractor shall submit all factory test information prior to installation to the Technology Consultant.
- 2. If equivalent product(s) are proposed for substitution, the equivalent product(s) shall show demonstrated and documented equivalence to the products(s) specified.

C. Material Guarantee

The Contractor shall guarantee at the time of the bid that all Category 6A cabling and components and Single-Mode Fiber Optic cabling and components meet or exceed specifications (including installation) of TIA/EIA 568B and EIA/TIA 569.

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D. Shop Drawings

1. Refer to Section 01330 "Submittals Procedures" for general requirements and as follows.
2. The Contractor shall submit detailed shop drawings in block diagram indicating proposed connections, terminations, pin-outs, color codes, panels, plates, and finishes of all equipment and components.
3. Included in this schedule of drawings to be submitted shall be drawings or equipment type and layout, and equipment rack configurations.
4. Detailed drawings showing cable runs through conduits, riser shafts and placement under floors and in ceilings shall be submitted.
5. Before fabrication and/or modification, drawings of all equipment and/or components to be fabricated or modified shall be submitted.
6. All shop drawings are to be submitted complete at one time no later than one (1) month after award of contract. Isolated items shall not be considered for approval, except by prior approval.
7. Shop drawings shall be submitted on reproducible 30" x 42" media.
8. Rejected items and items requiring correction shall be re-submitted at one time, except by prior approval.

E. Samples

1. Refer to Section 01330 "Submittal Procedures" for general requirements and as follows.
2. The Contractor shall provide samples of finishes for control panels, racks, cabinets, face plates, telephones, and other major components as directed by the Engineer.
3. The Contractor shall provide samples of print for control panels and other labeling signage.
4. As requested, the Contractor shall submit proposed cable connectors, wiring harness examples and such other components, equipment and cable as may be requested by the Technology Consultant and/or Owner.

F. Test Reports

1. Upon completion of System Performance Test and Adjustments as specified in EXECUTION, submit in writing copies of test results. Refer to Section 01330 "Submittal Procedures".
2. Also, submit written certification that the installation conforms to Specifications, is complete and operable, and is ready for Final Adjustment and Acceptance Testing as specified in EXECUTION.

G. Operation and Maintenance Documents

1. Prior to Final Adjustment and Acceptance Testing, provide draft copies of all specified diagrams, schedules and manuals to the Engineer and Owner for inspection during demonstration and acceptance testing.
2. The final version of As-Built drawing and Operation and Maintenance manuals shall be submitted one (1) month after the Contractor receives written notice of Owner acceptance.
3. The Operation and Maintenance document to be submitted in accordance with Division 1 "PROJECT CLOSEOUT" See 27 05 10.
4. The contents shall be comprised of the following:
  - a. Table of Contents.
  - b. Contractor's name, name of responsible principal, address and telephone number.

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- c. Certificate of Warranty. Provide statement of individual manufacturer's standard warranty and statement of Contractor's contract warranty.
- d. Proposed Service Contract. Include a preliminary schedule of specified semi-annual site visits for the first year.
- e. A functional, one-line wiring diagram of each complete system installation.
- f. Complete as-built wiring diagrams for the complete system. The as-built wiring diagram shall contain all components, equipment, terminal, wire and cable designations including color and numeric coding.
- g. Original copies (NOT photocopies) of manufacturers' installation, operation and service manuals, including schematic diagrams for each and all equipment items.
- h. Shop drawings of all custom-fabricated items.
- i. A schedule of all control settings including audio origination and processing, video origination and processing, and broadband device settings.

1.15 QUALITY ASSURANCE

- A. All equipment and components provided by the Contractor shall be new and shall meet or exceed the latest published specifications of the manufacturer in all respects.
- B. The Contractor shall maintain the same person in charge of work throughout the installation and testing phases.
- C. The Contractor shall provide and install any incidental equipment needed in order to result in a complete and operable system even if not specified or shown on drawings without claim for additional payment.
- D. The Contractor shall confirm the correctness of parts list and equipment model numbers and conformance of each component with manufacturer's specifications.
- E. The Contractor may arrange for sub-contract field and special work to be done by others.

1.16 SUBSTITUTIONS

- A. Refer to 27 05 10, General Technology Requirements

1.17 PROJECT CONDITIONS

- A. The Contractor shall maintain a complete set of system drawings and specifications at the site at all times during installation.
- B. The Contractor shall be responsible for proper coordination of his work with other trades and shall strive for labor harmony in order to facilitate timely construction.
- C. The Contractor is responsible for protection of his work from acts of vandalism and environmental conditions.
- D. The Contractor is responsible for maintaining a clean work area and shall clean up and repair all areas affected by his installation to the satisfaction of the Owner.
- E. The Contractor shall provide a sufficient labor force to keep pace with other trades.
  - 1. Contractor shall provide and maintain a sufficient work force to accommodate the Construction Manager's Master Schedule.
  - 2. Contractor shall be prepared to immediately follow Electrical Contractor (Division 26) upon completion of his work.
  - 3. The Owner reserves the right to require an increase in labor force or overtime work without additional expense to the Owner if the installation lags behind other trades to the detriment of the construction project.
- F. The Contractor shall abide by the decision of the Construction Manager, Architect, Technology Consultant and/or Owner in case of conflict or interference by other trades.

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- G. Upon request by the Construction Manager or Technology Consultant, the Contractor shall provide a schedule listing his activities during each construction phase, including manpower allocation and material procurement that demonstrates how he shall meet the master construction schedule. This schedule is due upon the request of the Construction Manager.

1.18 WARRANTY

- A. A minimum twenty (20) year Panduit Certification System Warranty and System Assurance Warranty for this wiring system shall be provided.
- B. Extended Product Warranty  
The Extended Product Warranty shall ensure against product defects, that all approved cabling components exceed the specifications of TIA/EIA 568B and ISO/IEC IS 11801, exceed the attenuation and NEXT requirements of ISO/IEC IS 11801 for cabling links/channels, and that the installation shall exceed the loss and bandwidth requirements of ISO/IEC IS 11801 for fiber links/channels, for a minimum twenty (20) year period. The warranty shall apply to all passive HSCS components.
- C. System Assurance  
The System 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 568B or ISO/IEC IS 11801 component and link/channel specifications for cabling, for a minimum fifteen (15) year period.
- D. Extended Product Warranty  
The Extended Product Warranty and the System Assurance shall cover the replacement or repair of defective product(s) and labor for the replacement or repair of such defective product(s).
- E. System Certification  
Upon successful completion of the installation and subsequent inspection, the customer shall be provided with a numbered certificate, from the manufacturing company, registering the installation.
- F. Acceptable Warranty
1. Panduit Certification System Warranty and System Assurance Warranty
  2. Approved Equivalent

1.19 GROUNDING AND BONDING

- A. Communication bonding and grounding shall be in accordance with the National Electrical Code - 2023, NFPA, local codes and Owner requirements that specify additional grounding and/or bonding requirements.
- B. Horizontal cables shall be grounded in compliance with ANSI/NFPA 70, local and Owner requirements and practices. Horizontal equipment includes cross connect frames, patch panels, racks, cable tray, active telecommunication equipment, and test apparatus and equipment.
- C. See 26 05 26 Telecommunications Grounding and Bonding for specific details.

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D. Label all TGB and TMGB devices with the following:

WARNING!!  
IF THIS CONNECTOR OR CABLE  
IS LOOSE OR MUST BE REMOVED  
PLEASE CALL THE BUILDING  
TELECOMMUNICATIONS MANAGER

1.20 CABLING BASIC REQUIREMENTS

A. Cable Pathway

1. Extension of all data and voice cables shall be within raceway, conduit, cable tray or other designated cable delivery system provided and installed by the Division 16 Contractor where concealed in walls and exposed above ceilings in plenum spaces.
2. All wire and cable shall be fully supported from conduit exit to cable tray entry. D-Rings or J-Hooks shall be used to support cable or cable shall be secured to building steel. In no instance shall cable rest on lay-in ceiling.
3. Bundling of cable and securing of cable to building steel shall be accomplished by using Velcro® straps. Plastic tie wraps shall not be acceptable.

B. Hardware

1. Required hardware includes, but is not limited to termination blocks, fastening devices, data outlets, voice outlets and all required accessories to comply with this specification.

C. Cable Rating

1. Plenum-Rated cable shall be used throughout.
2. Indoor/Outdoor cable OSP shall be used to connect the County WAN to the building

D. Termination Standard

1. 568A shall be the standard for wiring termination.

1.21 APPLICABLE STANDARDS

A. All work specified under this Section shall be fully compliant with the following:

1. ANSI/TIA/EIA-568-B – Commercial Building Telecommunications Cabling Standard.
2. ANSI/EIA/TIA-569-A – Commercial Building Standard for Telecommunications Pathways and Spaces.
3. ANSI/EIA/TIA-606 – The Administrative Standard for the Telecommunications Infrastructure of Commercial Buildings.
4. ANSI/EIA/TIA-607 – Commercial Building Grounding and Bonding Requirements for Telecommunications.

B. All work shall fully comply with these specifications and related drawings and all manufacturers recommended installation practices.

C. Owner standards, methods, and practices.

**PART 2 – PRODUCTS**

2.01 EQUIVALENT PRODUCTS

A. Equivalent product(s) will be considered for substitution for products specified.



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STRUCTURED CABLE

2.02 CABLE

- A. Single Mode Plenum Fiber Optic Cable
  - 1. Cable shall be Plenum Rated
  - 2. 6/12/24-Strand SM OS2, 900 uM Buffered
  - 3. Acceptable Product
    - a. PANDUIT FSPP906Y
    - b. Approved Equivalent
- B. Multi-mode Plenum Fiber Optic Cable – **(NOT REQUIRED)**
  - 1. Cable shall be Plenum Rated
  - 2. 6-Strand MM
  - 3. 50 micron/125
  - 4. Acceptable Product
    - a. PANDUIT
    - b. Approved Equivalent
- C. Category 6A Cable
  - 1. The CAT-6A horizontal copper cabling system shall comply with the CAT-6A ANSI/TIA/EIA-568-B standards.
  - 2. Category 6A cable shall be compliant with and an integral part of the vendor specified CAT-6A system.
  - 3. Cable shall be CMP Plenum rated internal to building.
  - 4. Cable Colors
    - a. VoIP – White
    - b. Data – Blue
  - 5. Acceptable Product – Performance Standard
    - a. BLUE - PANDUIT PUP6AHD04BU-G / FEP
    - b. WHITE – PANDUIT PUPXHD04WH-G / FEP
    - c. Approved Equivalent

2.03 WALL JACK MODULES

- A. Wall jacks shall comply with CAT-6A, ANSI/EIA/TIA-568-B Standards.
- B. Wall jacks shall be compliant with, and an integral part of the vendor specified CAT-6A system.
- C. Acceptable Products
  - 1. Panduit Mini-Com CJS6X88TGY (White-VoIP; Blue-Data)
  - 2. Approved Equivalent

2.04 WALL PLATES

- A. Wall plates shall be compliant with, and an integral part of the vendor specified CAT-6A system.
- B. The wall plate manufacturers shall be registered to ISO 9001.
- C. In dual compartment raceways, provide mounting device to accommodate installation of specified plate.
- D. Provide compatible and color matching blanks to fill unused port(s) in all plates.
- E. Plates shall be plastic
- F. Color – Ivory or Black
- G. Acceptable Products
  - 1. Panduit Mini-Com 2-port Faceplate - CFPE2WHY
  - 2. Panduit Mini-Com Modular Furniture Faceplate - CFFP4BL

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3. Herman Miller Modular Furniture faceplate - CFFPHM4BL
4. Approved Equivalent

2.05 PATCH PANELS

- A. Structured Cable Patch Panels
  1. Patch panels shall comply with CAT-6A ANSI/EIA/TIA-568-A Standards
  2. Patch panels shall be compliant with and an integral part of the specified CAT-6A system.
  3. The patch panel manufacturers shall be registered to ISO 9001.
  4. Acceptable Products
    - a. PANDUIT Punchdown Keystone Patch Panel
      1. 48 Port – NK6XPPG48Y
      2. Approved Equivalent
- B. Single-Mode Fiber Termination Patch Panels
  1. Patch panels shall comply with ANSI/EIA/TIA-568-B Standards
  2. Patch Panels shall be provided with duplex LC connectors equipped with Zirconia sleeve material.
  3. The patch panel shall be registered to ISO 9001.
  4. Acceptable Products
    - a. Panduit – FWMHSSGS-6912
    - b. Approved Equivalent
- C. Multi-Mode Fiber Termination Patch Panels – (**NOT REQUIRED**)
  1. Patch panels shall comply with ANSI/EIA/TIA-568-B Standards
  2. Patch Panels shall be provided with duplex LC connectors equipped with Zirconia sleeve material.
  3. The patch panel shall be registered to ISO 9001.
  4. Acceptable Products
    - a. Panduit
    - b. Approved Equivalent

2.06 CAT-6A DATA PATCH CABLES

- A. Patch Cables shall comply with CAT-6A ANSI/EIA/TIA-568-B Standards
- B. Patch Cables shall be an integral part of the vendor specified CAT-6A system.
- C. The cable manufacturers shall be registered to ISO 9001.
- D. Acceptable Products
  - (*For Quantities see 17800 Telecommunication Building Matrix*)
  1. Panduit Slimline UTP Patch Cords 6D460-XX\*
  2. Approved Equivalent

2.07 FIBER OPTIC PATCH CORDS

- A. Single Mode Patch Cords
  1. Patch Cords shall be of the indoor type.
  2. The Patch Cords shall be listed as Type OFNR in accordance with the *National Electrical Code®*.
  3. Patch Cords shall meet the requirements ANSI/ICEA S-83-696, “Premises Distribution Cables”.
  4. Optical fibers shall comply with ANSI/EIA/TIA-492-CAAA, except as otherwise noted herein.

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STRUCTURED CABLE

5. The cable and fiber manufacturers shall be registered to ISO 9001.
  6. The patch cords shall be Single-Mode LC/LC fiber patch cords.
  7. Acceptable Products
    - a. Panduit
    - b. Approved Equivalent
  8. Approved Equivalent
  9. Provide Quantities as per Matrix.
- B. Multi-Mode Patch Cords – (NOT REQUIRED)**
1. Patch Cords shall be of the indoor type.
  2. The Patch Cords shall be listed as Type OFNR in accordance with the *National Electrical Code*®.
  3. Patch Cords shall meet the requirements ANSI/ICEA S-83-696, “Premises Distribution Cables”.
  4. Optical fibers shall comply with ANSI/EIA/TIA-492-AAAA, except as otherwise noted herein.
  5. The cable and fiber manufacturers shall be registered to ISO 9001.
  6. The patch cords shall be LC-LC Multimode Laser Optimized Fiber Patch Cords.
  7. Acceptable Products
    - a. Panduit
    - b. Approved Equivalent
  8. Provide Quantities as per Matrix.

**2.12 EQUIPMENT CABINETS**

- A. 84” Enclosed Cabinet AV – (NOT REQUIRED)**
1. Equipment cabinets shall be enclosed 84”(H) x 23”(W) x 30”(D), constructed of aluminum, suitable for supporting 19” equipment.
  2. Each cabinet shall be provided with a “smoked” plexiglas®, lockable front door and a metal, lockable rear door.
  3. Each cabinet shall be provided with internal vertical cable managers and horizontal cable managers as required.
  4. An internal power strip shall be installed with a twist-loc plug compatible with the Uninterruptible Power Supply.
  5. When cabinets are installed immediately adjacent to each other, the common side will be open to allow internal placement of cables.
  6. Racks shall comply with ANSI/TIA/EIA-568-A Standards
  7. The equipment rack manufacturers shall be registered to ISO 9001.
  8. Acceptable Products:

- a. Chatsworth Products, Inc. (CPI)

Part #	Description
M1033	Basic Cabinet
12488-701	Fan Kit
12465-X07	Vertical Cable Management
11753-719	Horizontal Cable Management
12470-005	Power Strip
10610-019	Grounding Bar

9. Approved Equivalent
  - a. Panduit

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STRUCTURED CABLE

**B. 41" Wall Mount Enclosed Cabinet – Description (NOT REQUIRED)**

1. Equipment cabinets shall be enclosed 41"(H) x 24"(W) x 24"(D), constructed of aluminum, suitable for supporting 19" equipment.
2. Cabinet shall be provided with a "smoked" plexiglas®, lockable front door.
3. Each cabinet shall be provided with internal vertical cable managers and horizontal cable managers as required.
4. An internal power strip shall be installed with a twist-loc plug compatible with the Uninterruptible Power Supply.
5. The equipment rack manufacturers shall be registered to ISO 9001.
6. Acceptable Products:
  - a. Chatsworth Products, Inc. (CPI)

Part #	Description
11685-719	Basic Cabinet
11755-003	Fan Kit
12821-700	Power Strip
	Panduit Grounding Kit

7. Approved Equivalent
  - a. Panduit
  - b. Middle Atlantic:

**C. 84" Standard Data Frame**

1. Equipment frames shall be 84" (H) x 19" (W), constructed of aluminum, suitable for supporting 19" equipment.
2. Frames will be bolted to the floor.
3. Each frame shall be provided with 2 GVCS, black vertical cable managers and minimum 4 2-RMU and 2 1-RMU 19" horizontal cable managers per frame.
4. A vertical 15A 120VAC power strip with minimum 8 outlets shall be installed with a twist-loc plug compatible with the Uninterruptible Power Supply.
5. Frames shall comply with ANSI/TIA/EIA-568-A Standards
6. The equipment frame manufacturer shall be registered to ISO 9001.
7. Acceptable Products:
  - a. Chatsworth Products, Inc. (CPI)

Part #	Description
55053-X03	Basic 2-Post Frame
12465-X07	Vertical Cable Management
12541-X19	1 RMU Horizontal Cable Management
12542-X19	2 RMU Horizontal Cable Management
12821-702	Power Strip
RGRB19U	Panduit or Equivalent Grounding Kit

8. Approved Equivalent
  - a. Panduit

**2.13 GROUND BARS – See also 27 05 26 Telecommunication Grounding and Bonding**

- A. Ground Bars shall be 12"x 4" solid copper bars drilled to accept a minimum of four 2-hole compression connectors.
- B. Acceptable Products
  1. Panduit Grounding Products
  2. Chatsworth Products, Inc.

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STRUCTURED CABLE

3. Newton Instrument Company
4. Approved Equivalent

2.14 GROUND CABLE

- A. Ground Cable shall be #6 AWG Green stranded copper wire.

2.15 COMPRESSION CONNECTORS

- A. Compression connectors shall be 2-hole standard or long barrel.
- B. Compression connectors shall be drilled to accept ¼” bolts with .75” or 1” spacing center to center.
- C. Acceptable Products
  1. Burndy
  2. Thomas Betts
  3. Approved Equivalent

2.16 Uninterruptible Power Supply (**NOT REQUIRED**)

- A. Description
  1. 2000VA/1400W, 120VAC True Sinewave
  2. Line Interactive
  3. Transfer <6ms
  4. Rack Mountable
  5. Include Power Management Software
- B. Acceptable Product
  1. Powerware 5125-2400
- C. Approved Equivalent
  1. APC – Smart 2200RMXL
  2. Minuteman – E2300

**PART 3 - EXECUTION**

3.01 GENERAL

- A. All cables, connectors, distribution frames, etc. that comprise this system shall be installed in accordance with the specifications and as per manufacturers’ recommendations, unless otherwise noted.
- B. The contractor shall purchase installation guides from manufacturers and become familiar with the installation requirements prior to commencement of the work. Any discrepancies between plans, specifications and the manufacturers’ recommendations shall be brought to the attention of the Construction Manager or Technology Consultant.
- C. The plans and specifications indicate the general arrangement and scope of work. To facilitate the installation and coordination with other trades, the contractor may deviate from this general arrangement so long as the scope does not change.
- D. Refer to installation details on drawings for equipment rack, ER, TR, and patch panel configurations.
- E. Cables shall be continuous with no factory or field splices.
- F. Install cable in risers, conduits, cable-tray, and in sleeves as indicated on drawings.
- G. Develop pulling schedules for all cable routing and labeling.
- H. Contractor shall provide, where necessary, cable support bridges over obstructions i.e. under-floor conduit, pipes, supports, etc.

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STRUCTURED CABLE

- I. Cables shall be secured with Velcro® straps to appropriate building structure every three feet.
- J. As cables leave riser conduits or stubbed conduit, secure with Velcro® straps and/or mount cable to wall for strain relief.
- K. Contractor shall coordinate the installation of data patch cords at each distribution frame with Owner who will specify the locations to be connected to the data network and for telephone use.

3.02 RESPONSIBILITIES

- A. The Contractor shall: provide all supervision, labor construction tools, equipment, hardware and wiring materials as specified, transportation, erection, construction, unloading, inspecting, inventory maintenance, and returning spare or unused material.
- B. Whenever in this document the terms “provide”, “furnish”, “supply”, or “install”, shall appear, they shall be interpreted as requiring the Contractor to both furnish, install, terminate, test, and label all materials, unless specific provisioning/installation of the materials by Technology Consultant is denoted.

3.03 IDENTIFICATION

- A. The Contractor shall identify to Architect/Construction Manager/Technology Consultant, any work necessitating cutting into or through any part of the building structure such as girders, beams, concrete, tile floors or partition ceilings.
- B. Architect/Construction Manager/Technology Consultant shall arrange for these services at Contractors expense.

3.04 PERMITS

- A. The Contractor shall obtain all necessary municipal work/building permits.

3.05 DAMAGE

- A. The Contractor shall be responsible for and repair all damage to the building due to negligence of its workmen.
- B. Report to Architect/Engineer/Technology Consultant any such damage to the building that may exist or may occur during the occupancy of the quarters.

3.06 INSTALLATION

- A. Copper Cables
  - 1. Horizontal - Plenum cable
    - a. Install one (1) 4-pair Category 6A cable and terminate on duplex RJ-45 connecting blocks mounted:
      - i. in each floor box location,
      - ii. on/in walls as noted on drawings, and
      - iii. in modular furniture raceways as shown.
    - b. Quantities indicated on drawings and 27 10 05 Building Matrix.
    - c. Install per drawings.
- B. Fiber Optic Cables
  - 1. Horizontal
    - a. Single-mode fiber optic, plenum rated cable to be installed and terminated at LC port locations as noted.

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STRUCTURED CABLE

1. Install in accordance with all manufacturers' specifications, details, and recommendations.
  2. Terminate on both ends with LC type connectors.
  3. Install terminated cables on bulkhead adapters located in fiber distribution panel.
  4. Install quantities in locations as shown on drawings.
- C. Contractor shall comply with the following installation provisions:
1. Sleeves and cable guides shall be used to maintain recommended cable bending radii when pulling.
  2. Pulling tension shall be monitored with a dynamometer (tension gauge) to ensure that recommended tensile ratings are not exceeded.
  3. All pulls shall be done by hand. Mechanical assistance shall not be employed.
  4. Cable shall be lubricated (if necessary) with a lubricant that is compatible with the cable's outer jacket material.
  5. Cable ends shall be protected with end caps at all times except during pulling operations.
  6. Cable shall be pulled using a wire-mesh, pulling grip in conjunction with a pulling eye and a swivel.
  7. The cable shall be carefully inspected for jacket defects as it plays off the reel.
  8. At no time shall the cable be bent to less than ten times its outside diameter.
  9. Precautions shall be taken to prevent the cable from being kinked, crushed, or subjected to excessive heat or moisture.
- D. Grounding
1. Contractor shall provide/install a #6 AWG ground wire into each ER/TR and terminate at an approved building ground.
  2. See 27 05 26.

3.07 TESTING AND CERTIFICATION

A. GENERAL

1. All testing shall be performed in accordance with the manufacturer's recommendations.
2. All testing shall be "Link Tests" as defined in TIA/EIA 568B Specification and TIA/EIA TSB67 Specifications.
3. Test all cables under contract.
4. Provide complete test results to Technology Consultant and Customer in hard copy and on flash drive. The installation shall not be considered 100% complete until all optical fibers and Category 6A cables have passed the appropriate tests.

B. The following tests are for copper cables only:

1. Perform Basic Link Acceptance Tests per the TIA/EIA TSB67 Specification and the TIA/EIA TSB95 Specification.
2. All tests shall be performed with a Level III tester such as the Microtest OMNIScanner™ or an acceptable equivalent.
3. All tests shall be recorded and submitted to the Technology Consultant for approval.

C. The following tests are for fiber cables only:

1. Perform end-to-end attenuation tests on all optical fibers installed under contract.
  1. Single-mode fibers - end-to-end tests shall be performed at both 1310 nm and 1550 nm wavelengths.
  2. Multi-mode fibers - end-to-end tests shall be performed at both 850 nm and 1300 nm wavelengths.

27 10 10  
STRUCTURED CABLE

2. All attenuation tests are to be performed with Microtest OMNIScanner™ with the snap-on SM/MM fiber adaptor or an acceptable equivalent.
3. Tests shall comply with the following for Single-mode optical fibers:
  1. ANSI/TIA/EIA-568B, Annex H, “Optical Fiber Link Performance Testing.”
  2. ANSI/TIA/EIA-526-7, “Method 1: Optical Power Loss Measurements of Installed Single-mode Fiber Cable Plant.”
4. Tests shall comply with the following for Multi-mode optical fibers:
  1. ANSI/TIA/EIA-568B, Annex H, “Optical Fiber Link Performance Testing.”
  2. ANSI/TIA/EIA-526-14, “Method 1: Optical Power Loss Measurements of Installed Multi-mode Fiber Cable Plant.”
5. Perform Optical Time Domain Reflectometer (OTDR) on all fibers for signature trace documentation and benchmark performance records.
6. All tests shall be recorded and submitted to the Technology Consultant for approval.

2.07 LABELING

- A. Labeling shall be performed in accordance with AT&T PDS labeling conventions. This shall include but is not limited to, identifying pair modularity and location of cable termination.
- B. Labeling shall include, but is not limited to cable labels, IDF (TR) labels, connecting labels, and station wire adapter labels.
- C. Permanently attach Brady-type labels to both ends of all cables and on plastic covers of the modular jacks.
- D. Label shall be typed and covered with clear plastic laminate.
- E. Attach label 8” from the end of sheath in telephone rooms; and 2” from the end of sheath at drop location.
- F. Color code or label all junction boxes and exposed conduit at 20 ft. intervals. Coding shall be accomplished by painting or labels of pre-manufactured type permanently secured with metal or plastic band.
- G. Provide a color identification scheme for boxes and conduit laminated and hanging in the electrical room, Equipment Room (ER) and/or Telecommunication Rooms (TR). Color standard shall be as follows:

1. Fire Alarm	Orange
2. Voice VoIP	White
3. Data	Blue
4. Security	Yellow
5. Temperature Control	Gray
6. Paging	Black
- H. Wire Identification
  1. Identify communications and signaling system wiring by circuit number in equipment cabinets by means of permanent durable wire markers wrapped around or fastened to conductor(s).
  2. This shall be done concurrently with pulling of wire and/or cable.
- I. Equipment Identification
  1. Tabs labeling the selector keys, terminals, enunciator lamps, switches, 110 blocks, etc. shall be typed in by this contractor in accordance with Owner's requirements.



27 10 10  
STRUCTURED CABLE

- J. Label Numbering Plan
    - 1. Telecommunications ports and cables are to be labeled with a five-digit code indicating the room number and the number of the communications outlet.
    - 2. Rooms, closets, corridors, etc. are identified by a five (5) digit code beginning with the building number and the room number within the building, i.e., number 11015 references room 110 and port 15.
    - 3. Port number 10104 would refer to room 101 and port 04.
  - K. Where multiple cables are pulled through one conduit, cables shall be labeled with the five-digit code described above plus a single alphabetical character, "a" through "z".
- 3.09 DOCUMENTATION OF LABELS
- A. A permanent record of each station jack or patch panel termination, including jack number, pin number, circuit number, and carrier shall be maintained in current condition on site.
  - B. All documentation described above, and such other documentation as may be appropriate shall be maintained, in current condition, on Owner's premises. Documentation shall be updated at such times as work that changes the meaning or accuracy of the then existing documentation, is performed.
- 3.10 COMPLETION NOTIFICATION
- A. Promptly notify Technology Consultant of the completion of work on equipment of such portions thereof that are ready for inspection.
- 3.11 INTENDED COMPLETION
- A. Give Technology Consultant notice of intended completion of the installation at least one week prior to completion.
- 3.12 DEFECTS
- A. The Contractor shall promptly correct all defects in work by others for which the Contractor is responsible.
- 3.13 CUSTOMER CONTACT
- A. The Contractor shall coordinate all work with the Technology Consultant and Construction Manager.
- 3.14 INSURANCE
- A. The Contractor shall maintain insurance, equal to total installed cost, on the proposed wiring system until such time when it is accepted by Owner, or as required by the General Conditions and approved by the Owner.
- 3.15 CLEAN UP
- A. Upon completion of the work each day, the Contractor shall remove all tools, equipment, rubbish and debris from the premises and shall leave the premises clean and neat.
- 3.16 SUBCONTRACTORS
- A. Contractor may use sub-contractors to perform work. Contractor shall identify sub-contractors during bid process. However, all responsibilities shall rest with the Contractor.

27 10 10  
STRUCTURED CABLE

3.17 RECORD INFORMATION

A. Record Drawings

1. Upon completion of the installation, the Contractor shall furnish three (3) complete sets of Record (As-Built) drawings showing cable routes and termination points based on the Construction Document preliminary drawings.
2. Contractor shall furnish Record drawings in AutoCad 2023 electronic format to Owner for his records.
  - a. Electronic files in AutoCad Version LT2023 are available for Contractor use in preparing the Record Drawings. Contractor shall create a separate layer for the record information. Store all files on USB Drive or DVD for submission to Owner. Confirm with Technology Consultant as to Owner preferred medium

B. Cable Assignment Records

1. Upon completion of the installation, the Contractor shall furnish the Owner with three (3) complete sets of cable assignment records showing pair assignments and terminations for copper cables throughout the installation. Record information in Excel spread-sheet format on USB Drive, or DVD for submission to Owner.

3.18 TRAINING

- A. Operator/technician training (five hours) shall be comprehensive, and shall include such items as training on 110 type hardware installation, cable termination, cross-connect maintenance and administration, labeling, making moves and changes, etc.

3.19 DOCUMENTATION

- A. Complete and thorough documentation shall be available for Owner's use. Copies shall be included in Contractor's as-built documentation provided to Owner at system acceptance.

END OF SECTION 27 10 10

ELKHART COUNTY NEW JUDICIAL CENTER  
Telecommunications Matrix

LEVEL ONE

Room #	Label	Qty	Port Type		TOT		FiBox	Poke thru	Chge Station	Fax	Kiosk	WAP	DAS	NOTE
			V	D	V	D								
1001	VESTIBULE													
1002	SCREENING STATIONS	3	F	0	2	0	6	3			4			
1002	SCREENING STATIONS	1	W	0	1	0	1					1		WAP 120"AFF
1002A	QUEUE	2	W	0	2	0	4							VID 96"AFF
1002B	KIOSK	2	F	0	4	0	8	2						4 KIOSK
1003	FIRE CONTROL	1	S	1	1	1	1							
1004	STORAGE ALCOVE													
1005	FOOD KIOSK	2	S	0	2	0	4							
1006	INFORMATION	1	S	1	1	1	1							
1006	INFORMATION	3	W	0	2	0	6							VID
1007	CONTROL ROOM	2	S	1	1	2	2							
1008	OFFICE	1	S	1	1	1	1							
1010	PUBLIC CORRIDOR	4	C	0	1	0	4					4		WAP
1010	PUBLIC CORRIDOR	3	S	0	1	0	3							COURT INFORM
1011	PUBLIC WAITING	1	S	1	1	1	1		4					
1011	PUBLIC WAITING	1	S	0	2	0	2				1			KIOSK
1011A	COURT WAITING	1	S	0	1	0	1							INFO
1020	TLT													
1021	TLT													
1022	PUBLIC CORRIDOR													
1023	ELECTRICAL													
1024	JANITOR													
1025	INTERVIEW													
1026	INTERVIEW													
1030	JUSTICE CTR ACCESS	1	C	0	1	0	1					1		WAP
1030	JUSTICE CTR ACCESS	2	F	0	2	0	4		2					
1030	JUSTICE CTR ACCESS	2	F	0	1	0	2		2					
1030	JUSTICE CTR ACCESS	1	F	2	2	2	2		1					
1030	JUSTICE CTR ACCESS	9	S	0	2	0	18							
1040	BREAK ROOM	1	W	0	2	0	2							TV
1050	TLT													

ELKHART COUNTY NEW JUDICIAL CENTER  
Telecommunications Matrix

LEVEL ONE

Room #	Label	Qty	Port Type			TOT		FiBox	Poke thru	Chge Station	Fax	Kiosk	WAP	DAS	NOTE
				V	D	V	D								
1060	JURY ASSEMBLY	2	C	0	1	0	2		14				2		PWR ONLY
1060	JURY ASSEMBLY	4	S	1	1	4	4								
1060	JURY ASSEMBLY	5	W	0	2	0	10								MON FEEDS
1062	JA CORRIDOR														
1063	STORAGE														
1064	ELECTRICAL														
1065	JUROR CLOSET														
1066	JUROR TLT														
1067	STORAGE														
1068	JUROR TLT														
1069	VENDING	1	S	0	2	0	2								
1070	STORAGE														
1100	WAITING	2	S	0	2	0	4								
1100	WAITING	1	S	0	4	0	4								Public Access
1100	PUB SERVICE COUNTER	7	S	0	1	0	7								
1100	PUB SERVICE COUNTER	1	S	2	2	2	2								
1101	INTERVIEW	1	S	0	1	0	1								
1102	CLERK	36	R	1	1	36	36		6						
1102	CLERK	1	R	0	1	0	1								PRIN / SCANNER
1102	CLERK	2	S	1	1	2	2								
1102	CLERK	4	C	0	1	0	4					4			WAP
1103	BOOKKEEPER	2	S	1	1	2	2								
1104	ELECTION CHIEF	2	S	1	1	2	2								
1105	CLERK OFFICE	2	S	1	1	2	2								
1106	CONFERENCE	1	F	1	1	1	1		1						
1106	CONFERENCE	1	S	0	1	0	1								
1106	CONFERENCE	1	W	0	1	0	1								Monitor
1106	CONFERENCE	1	S	1	1	1	1								
1107	WORK/COPY	1	S	0	1	0	1								PRIN/COPIER
1108	STORAGE														
1109	KITCHEN														
1110	CHIEF DEPUTY	1	S	1	1	1	1								
1111	QUIET ROOM	1	S	0	1	0	1								
1200	JUDGES PARKING														

ELKHART COUNTY NEW JUDICIAL CENTER  
Telecommunications Matrix

LEVEL ONE

Room #	Label	Qty	Port Type		TOT		FiBox	Poke thru	Chge Station	Fax	Kiosk	WAP	DAS	NOTE
			V	D	V	D								
1201	STAFF ENTRANCE													
1202	JANITOR													
1203	STAFF CORRIDOR	3	C	0	2	0	6					3		WAP
1204	EXBT STORAGE													
1205	AV	1	W	0	2	0	2							
1205	AV	1	S	1	1	1	1							
1206	STORAGE													
1207	VESTIBULE													
1208	TLT													
1209	TLT													
1211	CHAMBER	2	S	1	1	2	2	1						
1211	CHAMBER	1	S	0	1	0	1							
1211	CHAMBER	1	F	1	1	1	1							
1212	CLOSET													
1213	OPEN OFFICE	2	S	1	1	2	2							
1214	WORK/COPY	1	S	0	1	0	1							
1214	WORK/COPY	1	W	1	0	1	0							WALL PHONE
1215	OPEN OFFICE	2	S	1	1	2	2							
1216	CHAMBER	2	S	1	1	2	2	1						
1216	CHAMBER	1	F	1	1	1	1							
1216	CHAMBER	1	S	0	1	0	1							
1217	TLT													
1218	CLOSET													
1219	OPEN OFFICE	1	S	2	2	2	2							
1220	CR	2	S	1	1	2	2							
1221	SUPPLY STORAGE													
1222	COFFEE STATION													
1300	VESTIBULE	1	S	0	1	0	1							SIGN-IN MONT
1301	HEARING ROOM	1	W	0	2	0	2							65" MON
1301	HEARING ROOM	3	S	0	1	0	3	2						
1301	HEARING ROOM	1	S	1	2	1	2							
1301	HEARING ROOM	1	C	0	1	0	1					1		WAP
1400	VESTIBULE													
1401	HV COURT	2	W	0	2	0	4							85" MON

ELKHART COUNTY NEW JUDICIAL CENTER  
Telecommunications Matrix

LEVEL ONE

Room #	Label	Qty	Port Type			TOT		FiBox	Poke thru	Chge Station	Fax	Kiosk	WAP	DAS	NOTE
				V	D	V	D								
1401	HV COURT	4	S	0	1	0	4	3							
1401	HV COURT	1	C	0	1	0	1						1		WAP
1401	HV COURT	1	S	1	2	1	2								
1402	A/C CONFERENCE														
1403	A/C CONFERENCE														
1E10	ELEVATOR	1	W	1	0	1	0								BY ELEVATOR CO
1E20	ELEVATOR	1	W	1	0	1	0								BY ELEVATOR CO
1E30	ELEVATOR	1	W	1	0	1	0								BY ELEVATOR CO
1E40	ELEVATOR	1	W	1	0	1	0								BY ELEVATOR CO
1E60	ELEVATOR	1	W	1	0	1	0								BY ELEVATOR CO
1H01	SALLYPORT														
1H02	SALLYPORT CORRIDOR														
1H04	SHOWER														
1H05	JUV CORRIDOR														
1H06	ADA JUV HOLDING														
1H07	JUV HOLDING														
1H08	JUV HOLDING														
1H09	JUV HOLDING														
1H10	FEMALE CORRIDOR														
1H11	FEMALE GRP HOLDING														
1H12	FEMALE HOLDING														
1H13	MALE CORRIDOR														
1H14	STORAGE														
1H15	STORAGE														
1H16	MALE HOLDING														
1H17	MALE HOLDING														
1H18	MALE GRP HOLDING														
1H19	MALE GRP HOLDING														
1H20	HOLDING CORRIDOR	1	C	0	1	0	1						1		
1H22	WORKSTATION CC2	1	S	1	1	1	1								
1H23	SWING CORRIDOR														
1H24	SWING CELL														
1H25	SWING GRP HOLDING														
1H26	SWING GRP HOLDING														

ELKHART COUNTY NEW JUDICIAL CENTER  
Telecommunications Matrix

LEVEL ONE

Room #	Label	Qty	Port Type			TOT		FIBox	Poke thru	Chge Station	Fax	Kiosk	WAP	DAS	NOTE
				V	D	V	D								
1H27	COURT CORRIDOR														
1H28	BREAKROOM	1	W	0	2										TV
1M01	BLDF SUPPORT	3	C	0	1	0	3						3		WAP
1M02	TOILET														
1M03	BREAKROOM	1	S	1	1	1	1								MONITOR FEED
1M04	IT OFFICE	1	S	2	2	2	2								
1M05	SECURITY ELECTRONIC														
1M06	DEMARC/MDF														
1M07	MAINTENANCE SHOP														
1M08	MAINTENANCE STOR														
1M09	MAINTENANCE OFFICE	1	C	0	1	0	1						1		WAP
1M09	MAINTENANCE OFFICE	4	S	1	1	4	4								
1M10	EMERG GENERATOR	1	S	1	1	1	1								
1M11	ELECTRICAL	1	S	1	1	1	1								
1M12	MAILROOM	1	S	1	1	1	1								
1M13	MECHANICAL	1	S	0	1	0	1								
1M14	RECEIVING	1	S	0	1	0	1								PKG SCANNER
1M15	MECHANICAL ROOM														
2M16	SHREDDER BINS														
1ST1	STAIR														
1ST2	STAIR														
1ST3	STAIR														
1ST4	STAIR														
						V	D	FIBox					WAP	DAS	
	Totals					95	230	12	26	4	0	5	16	0	

TOTAL PORTS	325
48PORT PATCH PANEL	7
48 PORT HP SWITCH	7
1M PATCH CABLE	315
EQUIPMENT FRAME	3
SERVER - RACK MOUNT	1

ELKHART COUNTY NEW JUDICIAL BUILDING  
Telecommunication Matrix

FLOOR 2

Room#	Label	Qty	Port Type			TOTALS		FIBox	Poke Thru	Chg Station	Fax	Kiosk	WAP	DAS	NOTE
				V	D	V	D								
2010	PUBLIC CORRIDOR	6	C	0	1	0	6			8			6		WAP
2010	PUBLIC CORRIDOR	8	S	0	2	0	16								SIGN-IN / INFO
2020	TOILET					0	0								
2021	TOILET					0	0								
2022	VESTIBULE					0	0								
2023	JC					0	0								
2024	INTERVIEW					0	0								
2030	TOILET					0	0								
2031	VESTIBULE					0	0								
2032	INTERVIEW					0	0								
2034	BLDG SUPPORT					0	0								
2047	BLDG SUPPORT					0	0								
2052	BLDG SUPPORT					0	0								
2100	FAMSUPPSERVWAIT														
2101	FAMILY SUPPORT SRVC	4	C	0	1	0	4						4		WAP
2101A	PUBLIC COUNTER	1	S	2	2	2	2								
2102	PROB SUP JUV	1	S	1	1	1	1								
2103	COMM CORR	1	S	1	1	1	1								
2104	COMM CORR	1	S	1	1	1	1								
2105	TRAINING COORD	1	S	1	1	1	1								
2106	PROGRAMMING AIDE	1	S	1	1	1	1								
2107	CHIEF PROB OFFICER	1	S	1	1	1	1								
2108	PO	1	S	1	1	1	1								
2109	PO	1	S	1	1	1	1								
2110	PO	1	S	1	1	1	1								
2111	PO	1	S	1	1	1	1								
2112	PO	1	S	1	1	1	1								
2113	PO	1	S	1	1	1	1								
2114	PO	1	S	1	1	1	1								
2115	PO	1	S	1	1	1	1								
2116	PO	1	S	1	1	1	1								



ELKHART COUNTY NEW JUDICIAL BUILDING  
Telecommunication Matrix

FLOOR 2

Room#	Label	Qty	Port Type			TOTALS		FIBox	Poke Thru	Chg Station	Fax	Kiosk	WAP	DAS	NOTE
				V	D	V	D								
2117	STORAGE														
2118	INTV														
2119	INTV														
2120	INTV														
2121	DRUG TEST ANTE ROOM														
2122	TOILET														
2123	LAB														
2124	KITCHEN														
2125	PO	1	S	1	1	1	1								
2126	PO	1	S	1	1	1	1								
2127	PO	1	S	1	1	1	1								
2128	PO	1	S	1	1	1	1								
2129	PO	1	S	1	1	1	1								
2130	PO	1	S	1	1	1	1								
2131	PO	1	S	1	1	1	1								
2132	WORK/COPIER	1	S	0	1	0	1								PRINTER/COPY
2133	CLOSET														
2134	CLOSET														
2200	WAITING	1	W	1	0	1	0								RING DOWN
2201	STAFF CORRIDOR	1	W	1	0	1	0								WALL PHONE
2201	STAFF CORRIDOR	8	C	0	1	0	8						8		WAP
2202	VESTIBULE														
2203	TOILET														
2204	TOILET														
2205	TOILET														
2206	CRIM DIV CONF	1	S	0	2	0	2								MON
2206	CRIM DIV CONF	1	S	1	1	1	1								
2207	LACTATION														
2208	JC														
2209	OPEN OFFICE	2	S	1	1	2	2								
2210	CHAMBER	2	S	1	1	2	2								
2210	CHAMBER	1	S	0	1	0	1								
2210	CHAMBER	1	F	1	1	1	1	1							

ELKHART COUNTY NEW JUDICIAL BUILDING  
Telecommunication Matrix

FLOOR 2

Room#	Label	Qty	Port Type			TOTALS		FIBox	Poke Thru	Chg Station	Fax	Kiosk	WAP	DAS	NOTE
				V	D	V	D								
2211	TOILET														
2212	CLOSET														
2213	CHAMBER	2	S	1	1	2	2								
2213	CHAMBER	1	S	0	1	0	1								
2213	CHAMBER	1	F	1	1	1	1	1							
2214	CLOSET														
2215	TOILET														
2216	OPEN OFFICE	2	S	1	1	2	2								
2218	OPEN OFFICE	2	S	1	1	2	2								
2218	OPEN OFFICE	1	S	2	2	2	2								
2219	CR	2	S	1	1	2	2								
2219A	WORK/COPIER	1	S	0	1	0	1								PRN/COPY
2220	BREAK ROOM	1	S	0	2	0	2								
2221	OPEN OFFICE	2	S	1	1	2	2								
2222	CHAMBER	2	S	1	1	2	2								
2222	CHAMBER	1	S	0	1	0	1								
2222	CHAMBER	1	F	1	1	1	1	1							
2223	TOILET														
2224	CLOSET														
2225	CHAMBER	2	S	1	1	2	2								
2225	CHAMBER	1	S	0	1	0	1								
2225	CHAMBER	1	F	1	1	1	1	1							
2226	CLOSET														
2227	TOILET														
2228	OPEN OFFICE	2	S	1	1	2	2								
2229	STORAGE														
2230	EXIBIT STORAGE														
2231	TOILET														
2232	AV	1	W	0	2	0	2								
2233	LC	1	S	1	1	1	1								
2233A	WORK/COPIER	1	S	0	1	0	1								PRN/COPY
2234	OPEN OFFICE	1	S	2	2	2	2								
2234	OPEN OFFICE	2	S	1	1	2	2								
2235	VISITING JUDGE	1	S	1	1	1	1								

ELKHART COUNTY NEW JUDICIAL BUILDING  
Telecommunication Matrix

FLOOR 2

Room#	Label	Qty	Port Type			TOTALS		FIBox	Poke Thru	Chg Station	Fax	Kiosk	WAP	DAS	NOTE
				V	D	V	D								
2236	FAMILY CONFERENCE	1	S	0	1	0	1								
2237	FAMILY	1	S	0	1	0	1								
2238	LACTATION														
2300A	KITCHEN														
2301	BOOK KEEPER	1	S	1	1	1	1								
2302	WORK/COPIER	1	S	0	1	0	1								PRN/COPY
2303	CONFERENCE ROOM	1	S	1	1	1	1	1							
2303	CONFERENCE ROOM	1	S	0	1	0	1								
2303	CONFERENCE ROOM	1	F	1	1	1	1								
2304	COURTADMINISTRATOR	1	S	1	1	1	1								
2304	COURTADMINISTRATOR	1	S	1	1	1	1								
2305	COURT SERVICES	1	S	1	1	1	1								
2306	CHIEF FINANCIAL MGR	1	S	1	1	1	1								
2307	OFFICE MANAGER	1	S	1	1	1	1								
2308	OPEN OFFICE	4	S	1	1	4	4								
2308	OPEN OFFICE	3	S	2	2	6	6								
2308	OPEN OFFICE	2	C	0	1	0	2						2		WAP
2339	WAITING	1	W	1	0	1	0								RING DOWN
2400	VESTIBULE														
2401	FAMILY COURT	3	F	0	2	0	6								
2401	FAMILY COURT	1	C	0	1	0	1						1		WAP
2401	FAMILY COURT	2	S	0	1	0	2								
2401	FAMILY COURT	2	W	0	2	0	4								MONITORS
2401	FAMILY COURT	1	S	1	2	1	2								
2402	A/C CONFERENCE												1		
2403	A/C CONFERENCE														
2500	VESTIBULE														
2501	FAMILY COURT	3	F	0	2	0	6								
2501	FAMILY COURT	1	C	0	1	0	1						1		WAP
2501	FAMILY COURT	2	S	0	1	0	2								
2501	FAMILY COURT	2	W	0	2	0	4								MONITORS
2501	FAMILY COURT	1	S	1	2	1	2								
2502	A/C CONFERENCE														
2503	A/C CONFERENCE														

ELKHART COUNTY NEW JUDICIAL BUILDING  
Telecommunication Matrix

FLOOR 2

Room#	Label	Qty	Port Type			TOTALS		FIBox	Poke Thru	Chg Station	Fax	Kiosk	WAP	DAS	NOTE
				V	D	V	D								
2503	VESTIBULE														
2600	VESTIBULE														
2601	FAMILY COURT	3	F	0	2	0	6								
2601	FAMILY COURT	1	C	0	1	0	1						1		WAP
2601	FAMILY COURT	2	S	0	1	0	2								
2601	FAMILY COURT	2	W	0	2	0	4								MONITORS
2601	FAMILY COURT	1	S	1	2	1	2								
2601	A/C CONFERENCE														
2602	A/C CONFERENCE														
2603	A/C CONFERENCE														
2700	VESTIBULE	3	S	1	1	3	3	3							
2701	FAMILY COURT	3	F	0	2	0	6								
2701	FAMILY COURT	1	C	0	1	0	1						1		WAP
2701	FAMILY COURT	2	S	0	1	0	2								
2701	FAMILY COURT	2	W	0	2	0	4								MONITORS
2701	FAMILY COURT	1	S	1	2	1	2								
2702	A/C CONFERENCE														
2703	ELEVATOR														
1E10	ELEVATOR														
1E20	ELEVATOR														
1E30	ELEVATOR														
1E40	ELEVATOR														
1E50	ELEVATOR														
1E60	SECURE CORRIDOR														
2H01	HOLDING														
2H02	ADA HOLDING														
2H02	INTERVIEW														
2H04	COURT SALLYPORT														
2H05	COURT SALLYPORT														
2H06	SECURE CORRIDOR														
2H11	ADA HOLDING														
2H12	HOLDING														
2H13	INTERVIEW														
2H14	COURT SALLYPORT														

ELKHART COUNTY NEW JUDICIAL BUILDING  
Telecommunication Matrix

FLOOR 2

Room#	Label	Qty	Port Type			TOTALS		FIBox	Poke Thru	Chg Station	Fax	Kiosk	WAP	DAS	NOTE
				V	D	V	D								
2H15	COURT SALLYPORT														
2H16	IDF														
2M01	ELECTRICAL														
2M02	ELECTRICAL														
2M03	ELECTRICAL														
2M04	ELECTRICAL														
2ST1	STAIR														
2ST3	STAIR														
	Totals					85	191	8	0	8	0	0	25	0	

TOTAL PORTS	276
48 PORT PATCH PANEL	6
48 PORT HP SWITCH	6
1M PATCH CABLE	207
EQUIPMENT FRAME	2

ELKHART COUNTY NEW JUDICIAL BUILDING  
Telecommunications Matrix

LEVEL THREE

Room#	Label	Qty	Port Type			Vt	Dt	FIBox	Poke Thru	Chge Station	Fax	Kiosk	WAP	DAS	NOTE
3010	PUBLIC CORRIDOR	4	C	0	1	0	4			10			4		WAP
3010	PUBLIC CORRIDOR	8	S	0	2	0	16								
3020	TOILET														
3021	TOILET														
3023	JC														
3100	WAITING ADULT														
3101	PUBLIC COUNTER	1	S	2	2	2	2								
3102	PROB SUPV ADULT	1	S	1	1	1	1								
3103	PROB SUPV ADULT	1	S	1	1	1	1								
3104	PROB SUPV ADULT	1	S	1	1	1	1								
3105	DRUG COURT COORD	1	S	1	1	1	1								
3106	ASSIST CHIEF	1	S	1	1	1	1								
3107	CHIEF PROB OFFICER	1	S	1	1	1	1								
3108	COPY/WORK	1	R	0	1	0	1								
3109	KITCHEN														
3110	PO	3	R	1	1	3	3								
3111	INTERVIEW	1	S	0	1	0	1								
3112	INTERVIEW	1	S	0	1	0	1								
3113	PO	1	S	1	1	1	1								
3114	PO	1	S	1	1	1	1								
3115	PO	1	S	1	1	1	1								
3116	PROBATION ASSIST	1	S	1	1	1	1								
3117	PROBATION ASSIST	1	S	1	1	1	1								
3118	PROBATION ASSIST	1	S	1	1	1	1								
3119	PROBATION ASSIST	1	S	1	1	1	1								
3120	SECURITY IDACS	1	S	0	1	0	1								DIRECT TO MDF
3121	DRUG TEST ANTE ROOM														
3122	DRUG TEST TOILET														
3123	PO	1	S	1	1	1	1								
3124	PO	1	S	1	1	1	1								
3125	PO	1	S	1	1	1	1								
3126	PO	1	S	1	1	1	1								

ELKHART COUNTY NEW JUDICIAL BUILDING  
Telecommunications Matrix

LEVEL THREE

Room#	Label	Qty	Port Type			Vt	Dt	FIBox	Poke Thru	Chge Station	Fax	Kiosk	WAP	DAS	NOTE
3127	PO	1	S	1	1	1	1								
3128	PO	1	S	1	1	1	1								
3129	PO	1	S	1	1	1	1								
3130	PO	1	S	1	1	1	1								
3131	PO	1	S	1	1	1	1								
3132	PO	1	S	1	1	1	1								
3133	PO	1	S	1	1	1	1								
3134	PO	1	S	1	1	1	1								
3135	PO	1	S	1	1	1	1								
3136	PO	1	S	1	1	1	1								
3137	PO	1	S	1	1	1	1								
3138	PO	1	S	1	1	1	1								
3139	PO	1	S	1	1	1	1								
3140	PO	1	S	1	1	1	1								
3141	PO	1	S	1	1	1	1								
3142	PO	1	S	1	1	1	1								
3143	PO	1	S	1	1	1	1								
3144	PO	1	S	1	1	1	1								
3145	PO	1	S	1	1	1	1								
3146	PO	1	S	1	1	1	1								
3147	PO	1	S	1	1	1	1								
3148	PO	1	S	1	1	1	1								
3149	PO	1	S	1	1	1	1								
3150	PO	1	S	1	1	1	1								
3151	PO	1	S	1	1	1	1								
3152	PO	1	S	1	1	1	1								
3153	PO	1	S	1	1	1	1								
3154	PO	1	S	1	1	1	1								
3155	PO	1	S	1	1	1	1								
3156	PO	1	S	1	1	1	1								
3157	PO	1	S	1	1	1	1								
3200	WAITING	1	W	1	0	1	0								RING-DOWN
3201	STAFF CORRIDOR	1	W	1	0	1	0						5		WALL PHONE
3201	STAFF CORRIDOR	17	C	0	1	0	17						17		WAP
3202	VESTIBULE														

ELKHART COUNTY NEW JUDICIAL BUILDING  
Telecommunications Matrix

LEVEL THREE

Room#	Label	Qty	Port Type			Vt	Dt	FIBox	Poke Thru	Chge Station	Fax	Kiosk	WAP	DAS	NOTE
3203	TOILET														
3204	TOILET														
3205	TOILET														
3206	OPEN OFFICE	1	S	1	1	1	1								
3206	OPEN OFFICE	1	S	2	2	2	2								
3207	CR	1	S	1	1	1	1								
3208	CR	1	S	1	1	1	1								
3210	JC														
3211	OPEN OFFICE	1	S	2	2	2	2								
3212	CHAMBER	2	S	1	1	2	2								
3212	CHAMBER	1	F	1	1	1	1								
3212	CHAMBER	1	W	0	2	0	2								
3213	TOILET														
3214	CLOSET														
3215	CHAMBER	3	S	1	1	3	3								
3215	CHAMBER	1	F	1	1	1	1								
3215	CHAMBER	1	W	0	2	0	2								
3216	CLOSET														
3217	TOILET														
3218	EXHIBIT STORAGE														
3219	EXHIBIT STORAGE														
3220	EXHIBIT STORAGE														
3221	EXHIBIT STORAGE														
3222	OPEN OFFICE	1	S	2	2	2	2								
3223	CR	2	S	1	1	2	2								
3224	CR	2	S	1	1	2	2								
3225	CR	2	S	1	1	2	2								
3226	CR	2	S	1	1	2	2								
3227	BREAK ROOM	1	W	0	2	0	2								
3228	OPEN OFFICE	1	S	2	2	2	2								
3229	CHAMBER	2	S	1	1	2	2								
3229	CHAMBER	1	F	1	1	1	1								
3229	CHAMBER	1	W	0	2	0	2								
3230	TOILET														
3231	CLOSET														



ELKHART COUNTY NEW JUDICIAL BUILDING  
Telecommunications Matrix

LEVEL THREE

Room#	Label	Qty	Port Type			Vt	Dt	FIBox	Poke Thru	Chge Station	Fax	Kiosk	WAP	DAS	NOTE
3232	CHAMBER	2	S	1	1	2	2								
3232	CHAMBER	1	F	1	1	1	1								
3232	CHAMBER	1	W	0	2	0	2								
3233	CLOSET														
3234	TOILET														
3235	OPEN OFFICE	1	S	2	2	2	2								
3236	STORAGE														
3237	TOILET														
3238	WORK/COPY	1	S	0	1	0	1								
3239	OPEN OFFICE	2	S	2	2	4	4								
3240	LC	2	S	1	1	2	2								
3241	LC	2	S	1	1	2	2								
3242	VESTIBULE														
3243	JURY DELIBERATION	1	S	1	1	1	1	1							
3243	JURY DELIBERATION	1	W	0	2	0	2								
3243	JURY DELIBERATION	1	F	1	1	1	1								
3244	TOILET														
3245	TOILET														
3247	JURY DELIBERATION	1	S	1	1	1	1	1							
3247	JURY DELIBERATION	1	S	0	1	0	1								
3247	JURY DELIBERATION	1	F	1	1	1	1								
3248	TOILET														
3249	TOILET														
3250	AV	1	W	0	2	0	2								
3401	CRIMINAL COURT	4	F	0	2	0	8	4							
3401	CRIMINAL COURT	2	W	0	2	0	4								VIDEO
3401	CRIMINAL COURT	2	S	0	1	0	2								
3401	CRIMINAL COURT	1	C	0	1	0	1						1		WAP
3401	CRIMINAL COURT	1	S	1	2	1	2								
3402	ATT BREAK ROOM														
3403	A/C CONFERENCE														
3501	CRIMINAL COURT	2	S	0	1	0	2	5							
3501	CRIMINAL COURT	2	S	1	2	2	4								
3501	CRIMINAL COURT	1	C	0	1	0	1						1		WAP
3501	CRIMINAL COURT	7	F	0	1	0	7	7							

ELKHART COUNTY NEW JUDICIAL BUILDING  
Telecommunications Matrix

LEVEL THREE

Room#	Label	Qty	Port Type			Vt	Dt	FIBox	Poke Thru	Chge Station	Fax	Kiosk	WAP	DAS	NOTE
3501	CRIMINAL COURT	4	W	0	2	0	8								VIDEO
3502	A/C CONFERENCE														
3503	A/C CONFERENCE														
3601	CRIMINAL COURT	2	S	0	1	0	2	5							
3601	CRIMINAL COURT	2	S	1	2	2	4								
3601	CRIMINAL COURT	1	C	0	1	0	1						1		WAP
3601	CRIMINAL COURT	7	F	0	1	0	7	7							
3601	CRIMINAL COURT	4	W	0	2	0	8								
3602	A/C CONFERENCE														
3603	A/C CONFERENCE														
3701	CRIMINAL COURT	2	S	0	1	0	2	5							
3701	CRIMINAL COURT	2	S	1	2	2	4								
3701	CRIMINAL COURT	1	C	0	1	0	1						1		WAP
3701	CRIMINAL COURT	7	F	0	1	0	7	7							
3701	CRIMINAL COURT	4	W	0	2	0	8								
3702	A/C CONFERENCE														
3703	A/C CONFERENCE														
1E10	ELEVATOR														
1E20	ELEVATOR														
1E30	ELEVATOR														
1E60	ELEVATOR														
3M01	IDF														
3M02	ELECTRICAL														
3M03	ELECTRICAL														
3ST2	STAIR														
3ST3	STAIR														
			PORTS												
			V	D		Vt	Dt	FIBox					WAP	DAS	
	Totals	193	0	90	137	108	188	42	0	10	0	0	30	0	

TOTAL PORTS	326
48PORT PATCH PANEL	7
48 PORT HP SWITCH	7
1M PATCH CABLE	261
EQUIPMENT FRAME	2

ELKHART COUNTY NEW COURTS FACILITY  
Telecommunicaitons Matrix

Level Four

Room #	Label	Qty	Port Type		TOT		FIBox	Poke thru	Chge Station	Fax	Kiosk	WAP	DAS	NOTE
			V	D	V	D								
4010	PUBLIC CORRIDOR	7	C	0	1	0	7			9		7		
4010	PUBLIC CORRIDOR	8	S	0	2	0	16							INFO.SIGN-IN
4020	TOILET					0	0							
4021	TOILET					0	0							
4023	JC					0	0							
4024	INTERVIEW					0	0							
4030	TOILET													
4032	INTERVIEW													
4062	BUILDING SUPPORT													
4100	COORIDOR	8	C	0	1	0	8					6		
4101	WAITING ADULT													
4102	WAITING JUV													
4104	CONFERENCE													
4105	INVESTIGATOR	1	S	1	1	1	1							
4106	ADVOCATE	1	S	1	1	1	1							
4107	SOCIAL WORKER	1	S	1	1	1	1							
4108	CHIEF PUBLIC DEFEND	1	S	1	1	1	1							
4109	CONFERENCE	1	S	1	1	1	1							
4109	CONFERENCE	1	F	1	1	1	1							
4109	CONFERENCE	1	W	0	2	0	2							VIDEO
4110	ATTORNEY	1	S	1	1	1	1							
4111	WORK/COPY	1	S	0	1	0	1							PRN/COPIER
4112	WORK/COPY	1	S	0	1	0	1							PRN/COPIER
4113	OFFICE MANAGER	1	S	1	1	1	1							
4114	PARALEGAL	4	S	1	1	4	4							
4115	ATTORNEY	1	S	0	1	0	1							
4116	CLOSET					0	0							
4117	UNASSIGNED	4	S	1	1	4	4							
4118	ATTORNEY	1	S	1	0	1	0							
4119	ATTORNEY	1	S	1	0	1	0							
4120	ATTORNEY	1	S	1	0	1	0							
4121	ATTORNEY	1	S	1	0	1	0							
4122	ATTORNEY	1	S	1	0	1	0							

ELKHART COUNTY NEW COURTS FACILITY  
Telecommunicaitons Matrix

Level Four

Room #	Label	Qty	Port Type		TOT		FIBox	Poke thru	Chge Station	Fax	Kiosk	WAP	DAS	NOTE
			V	D	V	D								
4123	ATTORNEY	1	S	1	0	1	0							
4124	ATTORNEY	1	S	1	1	1	1							
4125	ATTORNEY	1	S	1	1	1	1							
4126	ATTORNEY	1	S	1	1	1	1							
4127	ATTORNEY	1	S	1	1	1	1							
4128	ATTORNEY	1	S	1	1	1	1							
4129	ATTORNEY	1	S	1	1	1	1							
4130	ATTORNEY	1	S	1	1	1	1							
4131	ATTORNEY	1	S	1	1	1	1							
4132	ATTORNEY	1	S	1	1	1	1							
4133	ATTORNEY	1	S	1	1	1	1							
4134	ATTORNEY	1	S	1	1	1	1							
4135	ATTORNEY	1	S	1	1	1	1							
4136	ATTORNEY	1	S	1	1	1	1							
4137	ATTORNEY	1	S	1	1	1	1							
4138	ADVOCATE	1	S	1	1	1	1							
4139	INVESTIGATOR	1	S	1	1	1	1							
4140	INVESTIGATOR	1	S	1	1	1	1							
4141	CONFERENCE													
4142	CHIEF DEPUTY	1	S	1	1	1	1							
4200	WAITING	1	W	0	2	0	2							
4201	STAFF CORRIDOR	10	C	0	1	0	10					2		
4201	STAFF CORRIDOR	1	W	1	0	1	0							RING-DOWN
4203	TOILET													
4204	TOILET													
4205	TOILET													
4206	CIVIL DIV CONF	1	S	1	1	1	1							
4206	CIVIL DIV CONF	1	F	1	1	1	1							
4206	CIVIL DIV CONF	1	W	0	2	0	2							
4207	CR	1	S	1	1	1	1							
4208	CR	1	S	1	1	1	1							
4209	WORK/COPY	1	S	0	1	0	1							PRN/COPIER
4210	JC													

ELKHART COUNTY NEW COURTS FACILITY  
Telecommunicaitons Matrix

Level Four

Room #	Label	Qty	Port Type		TOT		FIBox	Poke thru	Chge Station	Fax	Kiosk	WAP	DAS	NOTE
			V	D	V	D								
4211	OPEN OFFICE	1	S	2	2	2	2							
4212	CHAMBER	2	S	1	1	2	2							
4212	CHAMBER	1	F	1	1	1	1	1						
4212	CHAMBER	1	W	0	2	0	2							VIDEO
4213	TOILET													
4214	CLOSET													
4215	CHAMBER	2	S	1	1	2	2							
4215	CHAMBER	1	F	1	1	1	1	1						
4215	CHAMBER	1	W	0	2	0	2							VIDEO
4216	TOILET													
4217	CLOSET													
4218	EXHIBIT STORAGE													
4219	EXHIBIT STORAGE													
4220	EXHIBIT STORAGE													
4221	EXHIBIT STORAGE													
4222	OPEN OFFICE	1	S	2	2	2	2							
4223	BREAK ROOM	1	W	0	2	0	2							TELEVISION
4224	UNASSIGNED													
42252	TOILET													
4226	TOILET													
4227	JURY DELIBERATION	2	S	1	1	2	2							
4227	JURY DELIBERATION	1	W	0	2	0	2							MONITOR
4227	JURY DELIBERATION	1	F	1	1	1	1							
4228	OPEN OFFICE	1	S	2	2	2	2							
4229	CHAMBER	2	S	1	1	2	2							
4229	CHAMBER	1	F	1	1	1	1	1						
4229	CHAMBER	1	W	0	2	0	2							VIDEO
4230	TOILET													
4231	CLOSET													
4232	CHAMBER	2	S	1	1	2	2							
4232	CHAMBER	1	F	1	1	1	1	1						
4232	CHAMBER	1	W	0	2	0	2							VIDEO
4233	TOILET													

ELKHART COUNTY NEW COURTS FACILITY  
Telecommunicaitons Matrix

Level Four

Room #	Label	Qty	Port Type		TOT		FIBox	Poke thru	Chge Station	Fax	Kiosk	WAP	DAS	NOTE
			V	D	V	D								
4234	CLOSET													
4235	OPEN OFFICE	1	S	2	2	2	2							
4236	STORAGE													
4237	TOILET													
4238	WORK/COPY	1	S	0	1	0	1							PRN/COPIER
4239	OPEN OFFICE	1	S	2	2	2	2							
4239	OPEN OFFICE	1	S	1	1	1	1							
4240	LC	1	S	1	1	1	1							
4241	LC	1	S	1	1	1	1							
4242	UNASSIGNED													
4243	JURY DELIBERATION	1	W	0	2	0	2							
4243	JURY DELIBERATION	1	F	1	1	1	1							
4244	TOILET													
4245	TOILET													
4246	OPEN OFFICE	1	S	2	2	2	2							
4247	CR	1	S	1	1	1	1							
4248	CR	1	S	1	1	1	1							
4400	VESTIBULE													
4401	CIVIL COURT	4	F	0	1	0	4	4						
4401	CIVIL COURT	2	S	0	1	0	2							
4401	CIVIL COURT	1	S	1	2	1	2							
4401	CIVIL COURT	1	C	0	1	0	1					1		WAP
4401	CIVIL COURT	2	W	0	2	0	4							MONITOR
4402	A/C CONFERENCE													
4403	A/C CONFERENCE													
4500	VESTIBULE													
4501	CIVIL COURT	4	F	0	1	0	4	4						
4501	CIVIL COURT	2	S	0	1	0	2							
4501	CIVIL COURT	1	S	1	2	1	2							
4501	CIVIL COURT	1	C	0	1	0	1					1		WAP
4501	CIVIL COURT	4	W	0	2	0	8							MONITOR
4502	A/C Conference													
4503	A/C Conference													

ELKHART COUNTY NEW COURTS FACILITY  
Telecommunicaitons Matrix

Level Four

Room #	Label	Qty	Port Type		TOT		FIBox	Poke thru	Chge Station	Fax	Kiosk	WAP	DAS	NOTE
			V	D	V	D								
4600	VESTIBULE													
4601	CIVIL COURT	6	F	0	1	0	6	4						
4601	CIVIL COURT	8	S	0	1	0	8							
4601	CIVIL COURT	1	S	1	2	1	2							
4601	CIVIL COURT	1	C	0	1	0	1					1		WAP
4601	CIVIL COURT	4	W	0	2	0	8							MONITOR
4602	A/C CONFERENCE													
4603	A/C CONFERENCE													
4700	VESTIBULE													
4701	CIVIL COURT	6	F	0	1	0	6	6						
4701	CIVIL COURT	2	S	0	1	0	2							
4701	CIVIL COURT	1	S	1	2	1	2							
4701	CIVIL COURT	1	C	0	1	0	1					1		WAP
4701	CIVIL COURT	4	W	0	2	0	8							MONITOR
4702	A/C CONFERENCE													
4703	A/C CONFERENCE													
1E10	ELEVATOR													
1E20	ELEVATOR													
1E30	ELEVATOR													
1E40	ELEVATOR													
1E50	ELEVATOR													
4H01	SECURE CORRIDOR													
4H02	ADA HOLDING													
4H03	HOLDING													
4H04	INTERVIEW													
4H05	COURT SALLYPORT													
4H06	COURT SALLYPORT													
4H07	UNASSIGNED													
4H08	UNASSIGNED													
4H09	UNASSIGNED													
4H10	UNASSIGNED													
4H11	SECURE CORRIDOR													
4H12	ADA HOLDING													

ELKHART COUNTY NEW COURTS FACILITY  
Telecommunicaitons Matrix

Level Four

Room #	Label	Qty	Port Type		TOT		FIBox	Poke thru	Chge Station	Fax	Kiosk	WAP	DAS	NOTE
			V	D	V	D								
4H13	HOLDING													
4H14	INTERVIEW													
4H15	COURT SALLYPORT													
4H16	COURT SALLYPORT													
4M01	IDF / AV	1	W	0	2	0	2							
4M02	ELECTRICAL	1	S	0	1	0	1							
4M03	ELECTRICAL	4	S	0	1	0	4							
4M04	ELECTRICAL	1	S	0	1	0	1							
4ST1	STAIR													
4ST2	STAIR													
4ST3	STAIR													
4ST4	STAIR													
					TOT									
					V	D	FIBox					WAP	DAS	
	Totals				82	219	22	0	9	0	0	19	0	

TOTAL PORTS	320
48 PORT PATCH PANEL	7
48 PORT HP SWITCH	7
1M PATCH CABLE	256
EQUIPMENT RACK	2
DATA FRAME	2



**Division 4:**

# **Bid Documents**

For

## **STRUCTURED CABLING FOR NEW ELKHART COUNTY COURTS CAMPUS**

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OWNER:

ELKHART COUNTY, INDIANA, ACTING THROUGH  
ITS BOARD OF COUNTY COMMISSIONERS

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Elkhart County Administration Building  
117 N. Second Street, Goshen, IN 46526  
Phone: 574-534-3541

## NOTICE TO BIDDERS

Notice is hereby given that the Board of County Commissioners of Elkhart County, Indiana, will receive bids up to **9:00 AM on October 16, 2023** for the **Structured Cabling for New Elkhart County Courts Campus**. It is the responsibility of the bidder to ensure that its bid is delivered on time to the Office of the Elkhart County Commissioners, County Administration Building, 117 N. Second Street, Goshen, IN 46526. Bids must also be submitted electronically to Consultant at: [ldavidson@dsa-web.com](mailto:ldavidson@dsa-web.com).

Plans, Specifications and bidding documents may be obtained from the **Elkhart County website** at [www.elkhartcounty.com](http://www.elkhartcounty.com) and the Project FTP site starting at **9:00 AM on September 15, 2023**. Any addenda issued for the Bid Package will be posted to the Elkhart County Website and the Project FTP site.

Plans, Specifications and Bidding Documents will also be available for inspection at the Elkhart County Commissioner's Office, 117 N. Second St., Goshen, Indiana starting on **September 15, 2023**. A pre-bid meeting will be held at the Jobsite Project House, 1905 Reliance Road, Goshen, Indiana at **10 a.m. on September 26, 2023**.

Proposals shall be properly and completely executed on proposal forms furnished by the County in accordance with Revised Indiana Form 96 and shall be accompanied by the Contractor's Financial Statement form taken from Form 96 for any proposal of \$5,000 or more.

The Contractor shall submit an itemized proposal of the approximate quantities and components of labor and materials to complete the contract. Said proposal shall be upon the standard bid sheets used by Elkhart County, and said sheet must contain an authorized signature of the Contractor, or the bid of the Contractor may, at the discretion of Elkhart County, be rejected and declared invalid. Each proposal shall be accompanied by a non-collusion affidavit as required by the Statutes of Indiana. Bids shall be enclosed in a sealed envelope, bearing the title of the project and name and address of bidder.

All work shall commence and be completed as provided in the Bid Package.

A satisfactory bid bond (10% of bid), payable to the Board of County Commissioners of Elkhart County, Indiana executed by the bidder shall be submitted with each bid.

No bids shall be withdrawn after the opening of the bids without the consent of the Board of Commissioners of Elkhart County for a period of sixty (60) days after the scheduled time of closing.

Said work shall be subject to all the provisions of the plans and specifications therefore herein above referred to including the completion date thereof.

The Board of County Commissioners reserves the right to reject any and all Bids or to waive any informalities in the bidding.

Dated this 15th day of September, 2023.  
Board of County Commissioners of Elkhart County  
By Patricia A. Pickens, Auditor

To be published in the Middlebury Independent and the Goshen News two (2) times with one (1) week between publication dates on September 20, 2023 and September 27, 2023.

STRUCTURED CABLE SYSTEM  
BID FORM

Elkhart County Board of Commissioners  
117 North Second Street  
Goshen, Indiana 46526

Commissioners:

I/We \_\_\_\_\_  
of \_\_\_\_\_ the  
undersigned, having visited the site and carefully examined the Drawings and Specifications for this  
project, prepared by DSA, Inc., do hereby propose to furnish all labor, material, tools, and equipment,  
and perform all work necessary to the performance and completion of such item or items as are  
enumerated below as provided in the Bid Package for Structural Cabling for the new Elkhart County Courts  
Campus project in accordance with the Drawings and the Specifications, including all work necessary  
and appurtenant thereto within the scope and intent of the above mentioned documents, including  
addenda Nos. \_\_\_\_\_, issued prior to the date of  
opening, receipt of which is/are hereby acknowledged for the sums stated in the following items:

**11.12 PROPOSAL - BASE BID T-1 – STRUCTURED CABLE SYSTEM**

Provide, install, and test all new elements including all fiber optic cable and devices, Category 6A cable,  
data frames, vertical and horizontal cable management devices, station plates and ports, all origination,  
receiving, processing of equipment, and associated equipment as detailed in the Specifications and the  
associated Drawing set, all in accordance with the Bid Package.

Total \$ \_\_\_\_\_

Total in Words: \_\_\_\_\_.

**11.13 UNIT PRICING**

1. New Cat S10 6A Voice Port including plate, RJ-45 Port, Cat 6A cable, terminations, and testing:  
\$ \_\_\_\_\_

Total In Words: \_\_\_\_\_

2. New Cat S01 6A Data Port including plate, RJ-45 Port, Cat 6A cable, terminations, and testing:  
\$ \_\_\_\_\_

Total In Words: \_\_\_\_\_

3. New Cat S11 6A Voice/Data Ports including plate, (2) RJ-45 Ports, Cat 6A cable, terminations,  
and testing: \$ \_\_\_\_\_

Total In Words: \_\_\_\_\_

4. Provide/Install Qty (1) 27 10 10 2.12-C CPI 84" Standard Data Frame with accessories as stated.  
\$ \_\_\_\_\_ Total In Words: \_\_\_\_\_

BID FORM

STRUCTURED CABLE SYSTEM  
BID FORM

The pricing for the enumerated items under Unit Pricing is to be used in the event an increased or decreased number of such enumerated items are requested beyond the Base Bid requirements. The Base Bid amount would then be adjusted accordingly for the increased or decreased number of the enumerated items requested based upon the Unit Pricing bid.

**TIME OF COMPLETION**

The undersigned agrees that all work will be substantially complete by June 30, 2024 with final completion by August 1, 2024.

**CONDITIONS**

In submitting this bid, the undersigned agrees:

Bids may not be withdrawn during the period of sixty days following the opening date without forfeiture of the bid bond.

To accept provisions of the Bid Package.

To accomplish the work in accordance with the Contract Documents.

**CONTRACT:**

If the undersigned be notified of the acceptance of the Proposal within sixty (60) days after the date of this Proposal, he agrees to execute a Contract for the above work for the above stated compensation, in the form of the Agreement as provided in the Bid Package and to furnish the required bonds and insurance.

STRUCTURED CABLE SYSTEM  
BID FORM

SIGNATURES:

When bidder is an individual:

_____ Witness	_____ Bidder
_____ Date	_____ Address

When bidder is a partnership:

	_____ Name of Partner (or Company)
	_____ Address
	_____ Partner
	_____ Partner
_____ Date	_____ Partner

When bidder is corporation or llc

	_____ Name of Company
	_____ Address
	By: _____
_____ Date	_____ President
_____ Attest - Secretary	

(Company Seal)

STRUCTURED CABLING FOR NEW  
ELKHART COUNTY COURTS CAMPUS

BID CHECKLIST

Bid Questionnaire	_____
Indiana Bid Form 96 Parts I and II including Sections I through V	_____
Bid Bond	_____
Structured Cable System Bid Form and Acknowledgment of any Addenda	_____
Bid Documents executed by authorized representative of bidder	_____
Bid Documents delivered timely to Elkhart County Commissioners for bid opening	_____
Bid Documents delivered electronically to DSA, Inc. at <a href="mailto:ldavidson@dsa-web.com">ldavidson@dsa-web.com</a>	_____



# CONTRACTOR'S BID FOR PUBLIC WORK - FORM 96

State Form 52414 (R2 / 2-13) / Form 96 (Revised 2013)

Prescribed by State Board of Accounts

## PART I

*(To be completed for all bids. Please type or print)*

Date (month, day, year): \_\_\_\_\_

1. Governmental Unit (Owner): \_\_\_\_\_

2. County : \_\_\_\_\_

3. Bidder (Firm): \_\_\_\_\_

Address: \_\_\_\_\_

City/State/ZIPcode: \_\_\_\_\_

4. Telephone Number: \_\_\_\_\_

5. Agent of Bidder (if applicable): \_\_\_\_\_

Pursuant to notices given, the undersigned offers to furnish labor and/or material necessary to complete the public works project of \_\_\_\_\_

(Governmental Unit) in accordance with plans and specifications prepared by \_\_\_\_\_

\_\_\_\_\_ and dated \_\_\_\_\_ for the sum of

\_\_\_\_\_ \$ \_\_\_\_\_

The undersigned further agrees to furnish a bond or certified check with this bid for an amount specified in the notice of the letting. If alternative bids apply, the undersigned submits a proposal for each in accordance with the notice. Any addendums attached will be specifically referenced at the applicable page.

If additional units of material included in the contract are needed, the cost of units must be the same as that shown in the original contract if accepted by the governmental unit. If the bid is to be awarded on a unit basis, the itemization of the units shall be shown on a separate attachment.

The contractor and his subcontractors, if any, shall not discriminate against or intimidate any employee, or applicant for employment, to be employed in the performance of this contract, with respect to any matter directly or indirectly related to employment because of race, religion, color, sex, national origin or ancestry. Breach of this covenant may be regarded as a material breach of the contract.

## CERTIFICATION OF USE OF UNITED STATES STEEL PRODUCTS

*(If applicable)*

I, the undersigned bidder or agent as a contractor on a public works project, understand my statutory obligation to use steel products made in the United States (I.C. 5-16-8-2). I hereby certify that I and all subcontractors employed by me for this project will use U.S. steel products on this project if awarded. I understand that violations hereunder may result in forfeiture of contractual payments.

## ACCEPTANCE

The above bid is accepted this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, subject to the following conditions: \_\_\_\_\_

Contracting Authority Members:

_____	_____
_____	_____
_____	_____

## PART II

*(For projects of \$150,000 or more – IC 36-1-12-4)*

Governmental Unit: \_\_\_\_\_

Bidder (Firm) \_\_\_\_\_

Date (month, day, year): \_\_\_\_\_

These statements to be submitted under oath by each bidder with and as a part of his bid.  
Attach additional pages for each section as needed.

## SECTION I EXPERIENCE QUESTIONNAIRE

1. What public works projects has your organization completed for the period of one (1) year prior to the date of the current bid?

Contract Amount	Class of Work	Completion Date	Name and Address of Owner

2. What public works projects are now in process of construction by your organization?

Contract Amount	Class of Work	Expected Completion Date	Name and Address of Owner



3. Have you ever failed to complete any work awarded to you? \_\_\_\_\_ If so, where and why?

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4. List references from private firms for which you have performed work.

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## SECTION II PLAN AND EQUIPMENT QUESTIONNAIRE

1. Explain your plan or layout for performing proposed work. *(Examples could include a narrative of when you could begin work, complete the project, number of workers, etc. and any other information which you believe would enable the governmental unit to consider your bid.)*

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2. Please list the names and addresses of all subcontractors *(i.e. persons or firms outside your own firm who have performed part of the work)* that you have used on public works projects during the past five (5) years along with a brief description of the work done by each subcontractor.

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3. If you intend to sublet any portion of the work, state the name and address of each subcontractor, equipment to be used by the subcontractor, and whether you will require a bond. However, if you are unable to currently provide a listing, please understand a listing must be provided prior to contract approval. Until the completion of the proposed project, you are under a continuing obligation to immediately notify the governmental unit in the event that you subsequently determine that you will use a subcontractor on the proposed project.

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4. What equipment do you have available to use for the proposed project? Any equipment to be used by subcontractors may also be required to be listed by the governmental unit.

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5. Have you entered into contracts or received offers for all materials which substantiate the prices used in preparing your proposal? If not, please explain the rationale used which would corroborate the prices listed.

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### SECTION III CONTRACTOR'S FINANCIAL STATEMENT

Attachment of bidder's financial statement is mandatory. Any bid submitted without said financial statement as required by statute shall thereby be rendered invalid. The financial statement provided hereunder to the governing body awarding the contract must be specific enough in detail so that said governing body can make a proper determination of the bidder's capability for completing the project if awarded.

#### SECTION IV CONTRACTOR'S NON – COLLUSION AFFIDAVIT

The undersigned bidder or agent, being duly sworn on oath, says that he has not, nor has any other member, representative, or agent of the firm, company, corporation or partnership represented by him, entered into any combination, collusion or agreement with any person relative to the price to be bid by anyone at such letting nor to prevent any person from bidding nor to include anyone to refrain from bidding, and that this bid is made without reference to any other bid and without any agreement, understanding or combination with any other person in reference to such bidding.

He further says that no person or persons, firms, or corporation has, have or will receive directly or indirectly, any rebate, fee, gift, commission or thing of value on account of such sale.

#### SECTION V OATH AND AFFIRMATION

I HEREBY AFFIRM UNDER THE PENALTIES FOR PERJURY THAT THE FACTS AND INFORMATION CONTAINED IN THE FOREGOING BID FOR PUBLIC WORKS ARE TRUE AND CORRECT.

Dated at \_\_\_\_\_ this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_

\_\_\_\_\_  
(Name of Organization)

By \_\_\_\_\_

\_\_\_\_\_  
(Title of Person Signing)

#### ACKNOWLEDGEMENT

STATE OF \_\_\_\_\_ )  
COUNTY OF \_\_\_\_\_ ) ss

Before me, a Notary Public, personally appeared the above-named \_\_\_\_\_ and  
swore that the statements contained in the foregoing document are true and correct.

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

\_\_\_\_\_  
Notary Public

My Commission Expires: \_\_\_\_\_

County of Residence: \_\_\_\_\_

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BID OF

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(Contractor)

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(Address)

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FOR  
PUBLIC WORKS PROJECTS  
OF

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Filed \_\_\_\_\_, \_\_\_\_\_

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Action taken \_\_\_\_\_

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