

Barrow County Board of Commissioners

30 North Broad Street Winder Georgia 30680 Phone: (770) 867-1977 Fax: (770) 307-3141

Cindy F. Clack
Purchasing Agent



MEMORANDUM

To: Parties Interested In RFP2015-9

From: Cindy Clack

Date: 4/8/2015

Re: RFP2015-9 Courthouse and Jail CCTV System Enhancements

RFP2015-9 is attached for your consideration. Anyone accessing this Request for Proposal from the Barrow County website www.barrowga.org is responsible to insure the latest documents are in their possession including any addenda. All addenda, questions and answers will be posted on this site. ***This site should be visited frequently to insure an awareness of any updates.***

Please insure bids are submitted exactly as specified in the RFP. If you have any questions, please submit them in writing to the Barrow County Purchasing Agent as called for in the RFP.

Thank you.



**Barrow County Board of Commissioners
30 North Broad Street
Winder, GA 30680**

**REQUEST FOR PROPOSALS
RFP2015-9**

**COURTHOUSE AND JAIL CCTV SYSTEM
ENHANCEMENTS**

**BARROW COUNTY, GEORGIA
APRIL 8, 2015**

REQUEST FOR PROPOSALS

RFP2015-9

**COURTHOUSE AND JAIL CCTV SYSTEM ENHANCEMENTS
BARROW COUNTY BOARD OF COMMISSIONERS**

Date: April 8, 2015

PURPOSE: The purposes of this request are to provide qualified Contractors with sufficient information to enable them to submit a uniform proposal for the County’s review for Courthouse and Jail CCTV System Enhancements (hereafter called “project”) as required by the Barrow County Board of Commissioners, and to set forth a systematic method that will be fair and impartial to all parties concerned in order to generate responses that can be equally evaluated by the County.

GENERAL: Barrow County is interested in entering into an agreement with a Contractor to provide CCTV System Enhancements per the attached Project Manual specifications and drawings for the Courthouse and Jail at 652 Barrow Park Drive Winder, Ga. 30680. You are invited to submit a response for this requirement.

OBJECTIVE: The Project, should all alternates be accepted, consists of the replacement of the existing 143 camera analog Closed Circuit Television System, additions and modifications of the same, in the Barrow County Courthouse and Jail with an IP Based Digital Closed Circuit TV system in accordance with the plans and specifications.

1. The base proposal must include:
 - a. The demolition and replacement of the “head end” equipment including, but not limited to, analog matrix switch, multiplexers, DVRs and monitoring stations with a new IP CCTV head end including, but not limited to, dedicated IP network, encoders, switches, servers, network attached storage and new monitoring stations.
2. The Scope of Alternate 1 includes (all new camera numbers appear in the documents containing the suffix “N”):
 - a. The replacement of six fixed cameras in courtrooms and hearing rooms with IP pan-tilt-zoom cameras – cameras # 085, 090, 092, 108, 113 and 127.
 - b. The replacement of one fixed camera and dedicated monitor in the Courthouse Screening Area A1066 with an IP camera and dedicated monitor (in Courts Security room A1068) on the IP Based CCTV system.
 - c. The addition of one fixed IP camera in the Courthouse Screening Area A1066 and a dedicated monitor in the Courts Security room A1068.
 - d. The addition of an IP fixed camera in Juv/Female Sallyport A3099

- e. The replacement of two fixed cameras in Dormitory B0001 (H1) with pan-tilt-zoom IP cameras – cameras # 036 and 037.
 - f. The addition of 1 each new pan-tilt-zoom IP camera (4 total) in the following four Dormitories - C0043, C0055, C0091 and C0105.
 - g. The relocation of existing cameras 053, 055, 057 and 059 approximate 10' towards the Staff Toilet in Dormitories C0091, C0105, C0055 and C0043 respectively.
 - h. The addition of one fixed IP camera in Magistrate's Court Waiting Area A2045.
 - i. The addition of one fixed IP camera in Public Defender's Reception Area A1060.
 - j. The addition of one fixed IP camera in Public Waiting Area A3001.
 - k. The addition of one fixed IP camera in Civil Waiting and Transaction Counter A0104.
 - l. The relocation of existing camera 001 closer to Elevator Vestibule A0087 while maintaining the ability to process traffic into the Detention area via Door A0089B.
3. The scope of Alternate 2 is, to remove and replace all existing 143 analog cameras in the matrix system with IP-Based cameras as specified.

COMPLIANCE WITH THE REQUEST FOR PROPOSAL (RFP): Each prospective Contractor must comply with all requirements of this RFP. Notice is hereby given to all Contractors that if their submittals are defective or irregular, the same may be rejected immediately. To facilitate comparative analysis and evaluation of submittals, it is desired that a uniform format be employed in structuring each. The required format will coincide with specifications given later in this notice. Each Contractor's degree of compliance with the requirements of this notice will be a factor in the subsequent evaluation and possible selection for providing designated services. All instructions are to be considered an integral part of this RFP.

FIRM PRICE: Prices quoted by Contractors shall be firm prices, not subject to increase and shall not include Federal or State Tax. All prices shall be for delivery, our destination, F.O.B. freight prepaid Winder, Georgia, unless otherwise shown. Firm prices shall include all associated costs as defined in the Specifications. Invoices covering required services payable by the County will be paid Net 30 days from date of invoice. Reference the enclosed Agreement for Barrow County's payment process.

LIQUIDATED DAMAGES: *PROJECT COMPLETION WILL BE 150 DAYS FROM DATE OF THE NOTICE TO PROCEED.* Liquidated damages of One Hundred Fifty Dollars (\$150.00) per day will be assessed for each day after completion date until project is completed.

SECURITY: Accompany proposal with a bid security in the amount of five percent (5%) of the proposal. The successful contractor will be required to submit to Barrow County a performance bond and payment bond in the amount equal to one hundred percent (100%) of the total contract amount. Surety companies executing Bonds must

appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in Georgia. **Only Barrow County bond forms will be accepted.**

RIGHT TO SUBMITTED MATERIALS: All responses, inquires, or correspondence relating or in reference to this schedule, exhibit, and other documentation by the Contractor shall be properly identified as to Contractor and will become the property of Barrow County when received. Barrow County will not be responsible for any expenses incurred by any Contractor in the development of a response to this Request for Proposal including any onsite (or otherwise) interviews and/or presentations, and/or supplemental information provided, submitted, or given to the County or its representatives. Further, the County shall reserve the right to cancel the work described herein prior to issuance and acceptance of any contractual agreement/purchase order by the recommended Contractor even if the Board of Commissioners has formally accepted a recommendation.

CLARITY AND THOROUGHNESS: Barrow County must determine which *single* Contractor best meets its immediate and long-term objectives. It is each proposing Contractor's responsibility to ensure that all information in the proposal is thorough and easily readable by County. County, at its sole discretion, may reject any submittal that is unclear in any way. It is requested that Contractors keep their responses concise, to the point and use as little technical jargon as possible.

INQUIRIES: Proposing Contractors, or their representatives or agents, **shall not** contact any members, or employees, of the Barrow County Board of Commissioners or any Barrow County Elected Official or employee of any Barrow County Elected Official regarding this RFP, proposal evaluation, or selection process from the time the RFP is issued until the time a notification of intent to award is announced. **Questions relating to this RFP must be submitted in writing to: Cindy Clack, Purchasing Agent (email: cclack@barrowga.org).** *Deadline for questions is April 30, 2015 at 12:00pm.* All questions submitted by this date will be answered and posted as an addendum on the website www.barrowga.org.

PRE-PROPOSAL CONFERENCE: A **Mandatory Pre-Proposal Conference** will be conducted **April 24, 2015 at 10:00am** starting at the Barrow County Courthouse at 652 Barrow Park Drive Winder, Ga. 30680 on the front steps of the Courthouse. **Failure to attend this mandatory conference disqualifies you from submitting a proposal. NO EXCEPTIONS.**

PRE-QUALIFICATION REQUIREMENT: **Mandatory Pre-Qualification Documents** are due by **April 27, 2015 by 12:00pm.** Documents must be submitted by email to cclack@barrowga.org. See Specifications Section 28 0000 Paragraph 1.5 D for requirements. *Any disqualified contractor may respond to disqualification within three (3) business days of disqualification by contacting Cindy Clack, Purchasing Agent, in writing with a response to the disqualification, which response shall be included in the County's file for this RFP.*

EVENTS: The following dates and times apply to this RFP:

1. Issue Request for Proposal -----April 8, 2015
2. Mandatory Pre-Proposal Conference-----April 24, 2015 (10:00 AM)
3. Mandatory Pre-Qualification Deadline----- April 27, 2015 (12:00 Noon)
4. Deadline for Questions ----- April 30, 2015 (12:00 Noon)
5. Proposal Due Date -----May 7, 2015 (12:00 Noon)
6. Proposal Opening -----May 7, 2015 (2:00 PM)
7. Selection Recommendation to BOC ----- May 26, 2015
8. Award of Agreement if Approved----- May 27, 2015

SEALED PROPOSALS: Each proposal must be submitted in a sealed envelope, addressed to the County. Each sealed envelope containing a proposal must be plainly marked on the outside with “**RFP2015-9 Courthouse and Jail CCTV System Enhancements**”. If a proposal is forwarded by mail, the sealed envelope containing the proposal must be enclosed in another envelope to the attention of the County at the address shown below and also plainly marked with “RFP2015-9 Courthouse and Jail CCTV System Enhancements”. The County will not be responsible for late mail deliveries and **no proposal will be accepted if received after the time stipulated by this RFP.** No proposal may be withdrawn or modified in any way after the deadline for RFP opening. **FAILURE TO COMPLY WITH THE ABOVE INSTRUCTIONS WILL DISQUALIFY THE PROPOSAL.**

PROPOSALS SHALL BE SUBMITTED TO:

Barrow County Board of Commissioners
Clerk’s Office
30 North Broad Street
Winder, GA 30680
770.307.3005

Sealed proposals will be accepted in the Clerk’s Office, no later than **12:00 pm (Noon) Thursday, May 7, 2015.** Proposals will be opened in the Second Floor Commission Meeting Room at the above address at 2:00 p.m. on May 7, 2015. All proposals will be evaluated and the project will be awarded, if it is awarded, within 120 days of the proposal opening.

LIABILITY AND RISK MANAGEMENT: See attached Agreement for requirements.

INSURANCE REQUIREMENTS:

- All Contractors and subcontractors shall provide certificates of insurance to the County for the minimum amounts of insurance prescribed by the County’s

Standard Construction Services Agreement and shall comply with all other insurance requirements contained therein.

- No contract will be awarded until the appropriate certificates of insurance are in the possession of the Purchasing Office.
- Indemnification. See Standard Construction Services Agreement.

PROPOSAL FORMAT: Contractors should submit an original and four (4) copies of the requested proposal. **Please do not bind the original copy.** The proposal shall consist of the following in the order shown:

- **Letter of Introduction** -- Provide a letter of introduction.
- **Company Profile** – Describe your business including, but not limited to, its years in business, number of clients using your services, and any distinctiveness of your business. Provide legal status and Federal Tax ID number.
- **References** – Include references of clients; please provide name, address, telephone number, contact name and contact title. Use the attached Reference Document (2 pages).
- **Proposal/Alternates** – Submit proposal with alternates per specifications and drawings.
- **Pricing** – Use the attached “Courthouse and Jail CCTV System Enhancements Proposal Form” in submitting pricing.
- **Bid Bond** – Use the attached Bid Bond document.
- **Non Collusion Affidavit** – Use the attached Non-Collusion Affidavit.
- **Optional Information** -- If any not covered above that the Contractor deems relevant.
- **Agreement** – CONSTRUCTION SERVICES AGREEMENT: **All submitting proposals are required to execute the Construction Services Agreement** (the “Agreement”) included in this package to indicate the willingness to comply with all terms of the Agreement and to submit the executed Agreement with the proposal. Upon award of the Project to the winning Contractor, the County will execute the Agreement. Please be advised that the proposing Contractor’s execution of the Agreement prior to the award of the Project does not constitute the acceptance of an offer by the County or otherwise bind the County in any way until such time as the County executes the Agreement.

Proposals are to be limited to thirty (30) pages single-sided (this does not include Non-Collusion, References, Bid Bond or the Executed Agreement).

PROPOSAL EVALUATIONS AND SELECTION PROCESS AND TIMELINE:

Proposals will be reviewed and one proposal will be selected that, in the opinion of the County, is most advantageous to meeting its needs. Evaluation will include pricing. Barrow County reserves the right to reject any and all proposals submitted, or where it may serve the best interest of the County, to request additional information or clarification from those submitting proposals. The County, in its sole discretion, also reserves the right to waive any formalities or technicalities relative to any or all proposals. Where two or more companies are deemed equal, the County reserves the right to make the award to one of the companies. At the County's discretion, presentations may be requested as part of the evaluation process.

ASSIGNMENT OF CONTRACTUAL RIGHTS: It is agreed that the CONTRACTOR selected will not assign, transfer, convey, or otherwise dispose of a contract that results from this invitation or his right, title, or interest in or to the same, any part thereof, without written consent by Barrow County.

DOCUMENTS: The following are included in this "Request for Proposal":

- Memo (1 Page)
- Request For Proposal (8 Pages)
- Specifications (151 Pages)
- Drawings (27 Pages)
- Proposal Form (1 Page)
- References Form (2 Pages)
- Non-Collusion Affidavit (1 Page)
- Bid Bond (2 Pages)
- Payment Bond (3 Pages)
- Performance Bond (3 Pages)
- Notice of Award (1 Page)
- Notice to Proceed (1 Page)
- Agreement (36 Pages)
- Barrow County Code of Ethics Ordinance (30 Pages)

LOCAL VENDOR'S PREFERENCE:

Because bids awarded to Local Vendors contribute to the County's tax base and promote the local economy, the County has determined that, under certain circumstances described in this Section, Local Vendors shall be provided an additional privilege, whenever not otherwise prohibited by State law (including, but not limited to, public works and road construction projects as contemplated by Section 1-7(6) of the County's Purchasing Policy), when bidding against non-Local Vendors.

For bids in the amount of \$25,000.00 or more, if a Local Vendor's bid shall meet all specifications and does not exceed four percent (4%) more than the lowest responsive and responsible bidder, the lowest bidding Local Vendor shall be offered three (3) business days from the opening of such bids in which to notify the Purchasing Office in

writing that it agrees to match the low bid submitted by any non-Local Vendor. If such Local Vendor shall not agree to match the low bid, then the next lowest Local Vendor, if any, shall be offered within three (3) business days thereafter to notify the Purchasing Office in writing that it agrees to match the low bid submitted by any non-Local Vendor, and so on until all applicable Local Vendors are offered the opportunity to match the low bid.

PROJECT MANUAL

Project:

**BARROW COUNTY COURTHOUSE
AND JAIL CCTV ENHANCEMENTS**

**652 Barrow Park Dr. N.W.
Winder, Georgia 30680**

Owner:

Barrow County Board of Commissioners

Historic Courthouse
30 North Broad Street
Winder, Georgia 30680

Architect:

ROSSER INTERNATIONAL, INC.

Two Peachtree Pointe,
1555 Peachtree Street N.E., Suite 800.
Atlanta, Georgia 30309
(404) 876-3800

April 2, 2015

DOCUMENT 000110

TABLE OF CONTENTS

PROCUREMENT AND CONTRACTING DOCUMENTS GROUP

Document Barrow County Courthouse and Jail Closed Circuit TV Enhancements

DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS

SPECIFICATIONS GROUP

INTRODUCTORY INFORMATION

000001 Project Title Page
000110 Table of Contents

BIDDING REQUIREMENTS

See separate document issued by Barrow County Purchasing Department

CONTRACTING REQUIREMENTS

See separate document issued by Barrow County Purchasing Department

CONSTRUCTION PRODUCTS AND ACTIVITIES

Section Title

General Requirements Subgroup

DIVISION 01 - GENERAL REQUIREMENTS

011000 Summary
012300 Alternates
012600 Contract Modification Procedures
012900 Payment Procedures
013113 Project Coordination
013200 Construction Progress Documentation
013235 Pre-Construction Video Documentation
013300 Submittal Procedures
013510 Request for Information (RFI) Procedures
014000 Quality Requirements
014200 References
015000 Temporary Facilities and Controls
016000 Product Requirements
016350 Substitutions fo Products During Bidding
017123 Field Engineering
017300 Execution Requirements
017329 Cutting and Patching
017423 Final Cleaning

017700 Project Closeout
017823 Operation and Maintenance Data
017836 Warranties
017839 Project Record Documents

Facility Construction Subgroup

DIVISION 02 - EXISTING CONDITIONS

Not Used

DIVISION 03 – CONCRETE

Not Used

DIVISION 04 – MASONRY

Not Used

DIVISION 05 – METALS

Not Used

DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES

Not Used

DIVISION 07 - THERMAL AND MOISTURE PROTECTION

Not Used

DIVISION 08 – OPENINGS

Not Used

DIVISION 09 – FINISHES

Not Used

DIVISION 10 – SPECIALTIES

Not Used

DIVISION 11 – EQUIPMENT

Not Used

DIVISION 12 – FURNISHINGS

Not Used

DIVISION 13 - SPECIAL CONSTRUCTION

Not Used

DIVISION 14 - CONVEYING EQUIPMENT

Not Used

Facility Services Subgroup

DIVISION 21 - FIRE SUPPRESSION

Not Used

DIVISION 22 – PLUMBING

Not Used

DIVISION 23 - HEATING VENTILATING AND AIR CONDITIONING

DIVISION 26 – ELECTRICAL

Not Used

DIVISION 27 – COMMUNICATIONS

Not Used

DIVISION 28 - ELECTRONIC SAFETY AND SECURITY

280000	Integrated Security Systems General
280513	Wires and Cables – splices and terminations
280528	Raceways
280529	Supporting Devices
280536	Cable Trays
280553	System Identification
282300	Integrated Video Surveillance System (CCTV)

Site and Infrastructure Subgroup

DIVISION 31 – EARTHWORK

Not Used

DIVISION 32 - EXTERIOR IMPROVEMENTS

Not Used

DIVISION 33 – UTILITIES

Not Used

DIVISION 34 – TRANSPORTATION

Not Used

DIVISION 35 – WATERWAY AND MARINE CONSTRUCTION

Not Used

DIVISION 36 – RESERVED

Not Used

DIVISION 37 – RESERVED

Not Used

DIVISION 38 – RESERVED

Not Used

DIVISION 39 – RESERVED

Not Used

Process Equipment Subgroup

DIVISION 40 – PROCESS INTEGRATION

Not Used

DIVISION 41– MATERIAL PROCESSING AND HANDLING EQUIPMENT

Not Used

DIVISION 42 – PROCESS HEATING, COOLING, AND DRYING EQUIPMENT

Not Used

DIVISION 43 – PROCESS GAS AND LIQUID HANDLING, PURIFICATION AND STORAGE EQUIPMENT

Not Used

DIVISION 44 – POLLUTION CONTROL EQUIPMENT

Not Used

DIVISION 45 – INDUSTRY-SPECIFIC MANUFACTURING EQUIPMENT

Not Used

DIVISION 46 – RESERVED

Not Used

DIVISION 47 – RESERVED

Not Used

DIVISION 48 – ELECTRICAL POWER GENERATION

Not Used

DIVISION 49 – RESERVED

Not Used

END OF SECTION

SECTION 011000

SUMMARY

PART 1 - GENERAL

1.1 SECTION SUMMARY

- A. Section includes the following:
 - 1. Definitions.
 - 2. Project information.
 - 3. Summary of the project.
 - 4. Use of site.
 - 5. Specification formats and conventions.
- B. This section has no force or effect on the Contract.

1.2 DEFINITIONS

- A. General Definitions:
 - 1. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
 - 2. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "approved," "required," and "permitted" have the same meaning as "directed."
 - 3. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
 - 4. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
 - 5. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
 - 6. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.
 - 7. "Provide": Furnish and install, complete and ready for the intended use.
 - 8. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- B. Specific Definitions to this Section: The following definitions are included in the Conditions of the Contract of which the following terms are repeated in parts here for understanding.
 - 1. Project: "The Project is the total construction of which the Work performed under the Contract Documents"
 - 2. The Work: "... means the construction and services required by the Contract Documents ..."

1.3 PROJECT INFORMATION

A. Project Identification:

Barrow County Courthouse and Jail Closed Circuit TV System Enhancements

Address:

B. 652 Barrow Park Dr NW, Winder, GA 30680

C. Owner:

Barrow County Board of Commissioners
Historic Courthouse
30 N. Broad Street
Winder, Georgia 30680

1. Owner's Representative:
Cindy Clack, Barrow County Purchasing Agent
Historic Courthouse
30 N. Broad Street
Winder, Georgia 30680
770-307-3005

2. Notices required under this Agreement shall be sent postage prepaid, U.S. mail or hand delivered to the party at the above address.

D. Architect:

Rosser International, Inc.
Two Peachtree Pointe
1555 Peachtree Street, N.E.
Suite 800
Atlanta, Georgia 30309
(404) 876-3800

1. Architect's Representative:
Larry Latimer
Director, Systems Engineering
404-888-6940

2. Notices required under this Agreement shall be sent postage prepaid, U.S. mail or hand delivered to the party at the above address.

3. The mailing address for the party above is as follows:

Rosser International, Inc.
Two Peachtree Pointe
1555 Peachtree Street, N.E.
Suite 800
Atlanta, Georgia 30309

4. Project Document Administrator (PDA): Architect will assign personnel to administer the receipt and distribution of submittals and Requests For Information (RFI). Send submittals and requests to the attention of this person at the Architect's office.

1.4 SUMMARY OF THE PROJECT

- A. Project will be constructed under a single prime contract.
- B. The Project, should all alternates be accepted, consists of the replacement of the existing 143 camera analog Closed Circuit Television System, additions and modifications of the same, in the Barrow County Courthouse and Jail with an IP Based Digital Closed Circuit TV system in accordance with the plans and specifications.
1. The base bid includes:
 - a. The demolition and replacement of the “head end” equipment including, but not limited to, analog matrix switch, multiplexers, DVRs and monitoring stations with a new IP CCTV head end including, but not limited to, dedicated IP network, encoders, switches, servers, network attached storage and new monitoring stations.
 2. The Scope of Alternate 1 includes (all new camera numbers appear in the documents containing the suffix “N”):
 - a. The replacement of six fixed cameras in courtrooms and hearing rooms with IP pan-tilt-zoom cameras – cameras # 085, 090, 092, 108, 113 and 127.
 - b. The replacement of one fixed camera and dedicated monitor in the Courthouse Screening Area A1066 with an IP camera and dedicated monitor (in Courts Security room A1068) on the IP Based CCTV system.
 - c. The addition of one fixed IP camera in the Courthouse Screening Area A1066 and a dedicated monitor in the Courts Security room A1068.
 - d. The addition of an IP fixed camera in Juv/Female Sallyport A3099
 - e. The replacement of two fixed cameras in Dormitory B0001 (H1) with pan-tilt-zoom IP cameras – cameras # 036 and 037.
 - f. The addition of 1 each new pan-tilt-zoom IP camera (4 total) in the following four Dormitories - C0043, C0055, C0091 and C0105.
 - g. The relocation of existing cameras 053, 055, 057 and 059 approximate 10’ towards the Staff Toilet in Dormitories C0091, C0105, C0055 and C0043 respectively.
 - h. The addition of one fixed IP camera in Magistrate’s Court Waiting Area A2045.
 - i. The addition of one fixed IP camera in Public Defender’s Reception Area A1060.
 - j. The addition of one fixed IP camera in Public Waiting Area A3001.
 - k. The addition of one fixed IP camera in Civil Waiting and Transaction Counter A0104.
 - l. The relocation of existing camera 001 closer to Elevator Vestibule A0087 while maintaining the ability to process traffic into the Detention area via Door A0089B.
 3. The scope of Alternate 2 is, to remove and replace all existing 143 analog cameras in the matrix system with IP-Based cameras as specified.
- C. The intent and meaning of the Contract Documents is that the Contractor, under the General Conditions and other terms of the Contract, shall take all actions necessary and required to provide all labor, materials, supplies, equipment, tools, machinery, utilities, transportation, facilities, services and appurtenances necessary and required for the proper construction and completion of the described Project.

1.5 USE OF SITE

- A. General contractor shall have restricted use of the site for construction operations limited by owner’s security control measures. The security of the existing facility shall not be compromised in any way when performing construction work, Contractor shall be responsible for coordinating and scheduling construction activities at the site with Owner’s security personnel.
- B. General Contractor's use of site is limited within location indicated on drawings and by Owner's right to perform work or to retain other contractors on portions of Project.
- C. The Contractor will have use of the site Mondays to Fridays, exclusive of holidays recognized by Barrow County Government, from the hours of 7:00 AM to 5:00 PM. Work in the courtrooms and ancillary

spaces occupied during court activity must be scheduled by written request to the owner – give 5 working days notice.

- D. Note that this is an occupied facility and security concerns of the facility staff will take precedence. Tools must be inventoried upon entering and leaving the facility. Vehicles must be locked at all times. There will be no interaction with the facility inmates at any time for any reason. Cell phones may be used only upon written approval of the owner. Contractor's staff must submit to and pass a background check.
- E. Any required interruption of services must be coordinated with the owner – give 5 working days notice.

1.6 SPECIFICATION FORMATS AND CONVENTIONS

- A. Specification Format: The Specifications are organized into Divisions and Sections using CSI/CSC's "MasterFormat" numbering system, 2004 edition.
 - 1. Section Identification: The Specifications use Section numbers and titles to help cross-referencing in the Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete because all available Section numbers are not used. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of Sections in the Contract Documents.
 - 2. Division 1: Sections in Division 1 govern the execution of the Work of all Sections in the Specifications.
- B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 - 1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
 - 2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor.
 - a. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
 - b. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 012300

ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be deducted from the Base Bid amount if the Base Bid exceeds the amount of money budgeted for the Project. Alternates change the scope of Work by changing either the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1. The value for each alternate is the net add from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.
 - 2. Alternates, if taken, will be taken in numerical sequence to a sum which is not in excess of the amount budgeted.

1.4 PROCEDURES

- A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project. Include as part of each alternate, the following:
 - 1. Costs listed for each alternate include costs of related coordination, modification, or adjustment of the Base Bid Documents.
 - 2. Miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted or rejected.
- C. Execute accepted alternates under the same conditions as other work of the Contract.
- D. Schedule: A Schedule of Alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

- A. Alternate No. 1:
 - 1. The Scope of Alternate 1 includes (all new camera numbers appear in the documents containing the suffix "N"):

- a. The replacement of six fixed cameras in courtrooms and hearing rooms with IP pan-tilt-zoom cameras – cameras # 085, 090, 092, 108, 113 and 127.
 - b. The replacement of one fixed camera and dedicated monitor in the Courthouse Screening Area A1066 with an IP camera and dedicated monitor (in Courts Security room A1068) on the IP Based CCTV system.
 - c. The addition of one fixed IP camera in the Courthouse Screening Area A1066 and a dedicated monitor in the Courts Security room A1068.
 - d. The addition of an IP fixed camera in Juv/Female Sallyport A3099
 - e. The replacement of two fixed cameras in Dormitory B0001 (H1) with pan-tilt-zoom IP cameras – cameras # 036 and 037.
 - f. The addition of 1 each new pan-tilt-zoom IP camera (4 total) in the following four Dormitories - C0043, C0055, C0091 and C0105.
 - g. The relocation of existing cameras 053, 055, 057 and 059 approximate 10' towards the Staff Toilet in Dormitories C0091, C0105, C0055 and C0043 respectively.
 - h. The addition of one fixed IP camera in Magistrate's Court Waiting Area A2045.
 - i. The addition of one fixed IP camera in Public Defender's Reception Area A1060.
 - j. The addition of one fixed IP camera in Public Waiting Area A3001.
 - k. The addition of one fixed IP camera in Civil Waiting and Transaction Counter A0104.
 - l. The relocation of existing camera 001 closer to Elevator Vestibule A0087 while maintaining the ability to process traffic into the Detention area via Door A0089B.
- B. Alternate No. 2:
1. Add new IP-Based CCTV cameras at 143 existing analog camera locations. Remove and replace all existing analog cameras with IP-Based cameras as specified. Except where otherwise specified, replace kind for kind (fixed with fixed, PTZ with PTZ). Where camera location is within 300' of the IP CCTV head end equipment, remove existing coaxial cabling and install CAT 6 cabling. Where the camera location is in excess of 300' of the IP CCTV head end equipment, utilize Ethernet over Coax device and leave exiting coaxial cabling in place

END OF SECTION

SECTION 012600

CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section specifies administrative and procedural requirements for handling and processing Contract modifications.

1.3 CHANGE ORDER PROCEDURES

- A. First Action: Architect prepares detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Change Order Proposals issued by Architect are for information only. It is not to be considered instructions either to stop work in progress or to execute the proposed change.
 - 2. Architect transmits Change Order Proposal to the owner.
- B. Second Action: Upon receipt of Change Order Proposal, the owner authorizes prepares and issue of a change order proposal request.
 - 1. The owner authorizes the transmittal of the change order proposal request to Contractor.
- C. Third Action: Within 20 days of date of Change Order proposal request, Contractor submits quotation estimating cost adjustments to the Contract Sum and Contract Time necessary to execute the change.
 - 1. Prepare response to Architect's Change Order Proposal request.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 - d. Comply with requirements in Division 1 Section Product Requirements if the proposed change requires substitution of one product or system for product or system specified.
 - 2. Failure to Respond: If Contractor fails to respond to Change Order Proposal request within stipulated time, the owner will assume no change in Contract Sum or contract Time is requested and will issue a Consent Change Order.
 - 3. Contractor transmits Change Order Breakdown to the architect.
- D. Fourth Action: Architect reviews quantities indicated in Contractor's Change Order Breakdown for reasonableness and accuracy.
 - 1. Rejection: If the Architect cannot certify Contractor's Change Order Breakdown, then Architect returns Change Order Breakdown to Contractor with explanation for rejection.
 - a. Contractor makes corrections necessary to obtain Architect's certification and resubmits to Architect.
 - 2. Acceptance: Architect certifies Change Order Breakdown and transmits to owner.

- E. Fifth Action: Upon receipt of certified Change Order Breakdown, owner:
1. Accepts the architects disposition as to certification of the Change Order Breakdown.
 2. If approved, issues a formal change order to the contractor.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 CHANGE ORDER PROCESSING

- A. Number of Copies: Each entity produces new documents in quadruplicate.
- B. Transmittal: Transmit using transmittal form as cover. Provide the following information on transmittal:
1. Project name.
 2. Project number.
 3. Project location.
 4. Date of transmittal.
 5. Encumbrance Record number.
 6. Description of enclosures.
 7. Destination (To:). Include name, company name, delivery address and telephone number of recipient.
 8. Source (From:). Include name, delivery address and telephone number of transmitter.
 9. Signature of transmitter.

END OF SECTION

SECTION 012900

PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Sections include the following:
 - 1. Division 1 Section "CONTRACT MODIFICATION PROCEDURES" for administrative procedures for handling changes to the Contract.
 - 2. Division 1 Section "CONSTRUCTION PROGRESS DOCUMENTATION" for administrative requirements governing preparation and submittal of Contractor's Construction Schedule and Submittals Schedule.

1.3 DEFINITIONS

- A. Schedule of Values (Also referred to as "Initial Breakdown"): A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.
- B. Application for Payment (Also referred to as "Periodical Estimate" or "Periodical Payments"): A request from Contractor for payment of Work completed at the end of a period of construction indicated in the Agreement between Owner and Contractor

PART 2 - PRODUCTS

2.1 SCHEDULE OF VALUES

- A. Format and Content: Using AIA Form G702 and CSI specification format 2004 submit a Schedule of Values to the Architect.

2.2 APPLICATIONS FOR PAYMENT

- A. Format and Content: Use and include as part of each Application for Payment, the following GSFIC Forms. Sample copies included at end of this Section.
 - 1. Periodical Estimate, AIA Form 702.
 - 2. Schedule of Change Orders.
 - 3. Work Performed To Date.
 - a. At initial Application for Payment, use pre-approved Schedule of Values.
 - b. Thereafter, update from previously approved Application for Payment.
 - 4. Summary of Materials Stored.

PART 3 - EXECUTION

3.1 SCHEDULE OF VALUES

- A. Contractor Action: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule and Submittals Schedule.
 - 1. Submit 4 copies of the Schedule of Values to Architect at earliest possible date but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
 - a. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports.
 - b. Round amounts to nearest whole dollar with total equaling Contract Sum.
 - 2. Rejection: Make corrections as noted and return to Architect.
- B. Architect's Action: Architect will review and take action on Contractor's Schedule of Values.
 - 1. Acceptance: Architect will note approval and forward 1 copy each to Contractor and owner. Architect will retain 1 copy.
 - 2. Rejection: Note cause for rejection and return to Contractor.

3.2 CONTRACTOR ACTION ON APPLICATIONS FOR PAYMENT

- A. General: Make each Application for Payment consistent with previous applications and payments as certified by Architect and paid for by Owner.
 - 1. Initial Application for Payment, Application for Payment prior to reduction in retainage and final Application for Payment involve additional requirements.
 - 2. The date for each progress payment and the period of construction Work covered by each Application for Payment is indicated in the Agreement between Owner and Contractor.
 - 3. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor.
 - 4. Transmittal: Submit 4 signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours.
 - a. Transmit using transmittal form as cover. Provide the following information on transmittal:
 - 1) Project name.
 - 2) Project number.
 - 3) Project location.
 - 4) Date of transmittal.
 - 5) Description of enclosures.
 - 6) Destination (To:). Include name, company name, delivery address and telephone number of recipient.
 - 7) Source (From:). Include name, delivery address and telephone number of transmitter.
 - 8) Signature of transmitter.
 - 5. Rejection: Make corrections as noted and return to Architect.
- B. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
 - 1. Schedule of Values.
 - 2. Contractor's Construction Schedule.
 - 3. Submittals Schedule.
 - 4. Initial progress report.
 - 5. Report of preconstruction conference.
 - 6. Initial settlement survey and damage report if required.
- C. Final Payment Application: Submit final Application for Payment showing 100 percent completion for portion of the Work claimed as complete. Include the following:
 - 1. Evidence of completion of Project closeout requirements.

2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
3. Lien waivers.
4. Evidence that claims have been settled.

3.3 ARCHITECT'S ACTION ON APPLICATIONS FOR PAYMENT

- A. Architect will review and take action on Contractor's Schedule of Values.
 1. Acceptance: Architect will certify and forward 1 copy each to Contractor and owner. Architect will retain 1 copy.
 2. Rejection: Note cause for rejection and return to Contractor.

END OF SECTION

SECTION 013113

PROJECT COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes Contractor's administrative and supervisory requirements necessary for coordinating construction operations including, but not necessarily limited to, the following:
 - 1. General project coordination procedures.
 - 2. Coordination Drawings.
 - 3. Administrative and supervisory personnel.
 - 4. Cleaning and protection.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 1 Section FIELD ENGINEERING specifies procedures for field engineering services, including establishment of benchmarks and control points.
 - 2. Division 1 Section PROJECT MEETINGS for progress meetings, coordination meetings, and preinstallation conferences.
 - 3. Division 1 Section CONSTRUCTION PROGRESS DOCUMENTATION for preparing and submitting Contractor's Construction Schedule.
 - 4. Division 1 Section PRODUCT REQUIREMENTS for coordinating general requirements for delivery, storage, handling and installation of materials and equipment.
 - 5. Division 1 Section EXECUTION REQUIREMENTS for procedures for coordinating general installation of products and examination of existing conditions.
 - 6. Division 1 Section PROJECT CLOSEOUT for coordinating contract closeout.

1.3 COORDINATION

- A. Coordinate construction operations included in various Sections of these Specifications to assure efficient and orderly installation of each part of the Work. Coordinate construction operations included under different Sections that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in the sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components to assure maximum accessibility for required maintenance, service, and repair.
 - 3. Make provisions to accommodate items scheduled for later installation.
 - 4. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair of all components, including mechanical and electrical.
 - 5. In addition to submittals required by each specification section, Contractor shall produce a complete set of coordinated and engineered shop drawings showing integration of all millwork, security door hardware, special equipment and mechanical equipment with electrical power, lighting controls, CCTV, locking controls, duress devices, public address, intercom, card access, fire and life safety, and television signal distribution.
 - a. Coordinated shop drawings shall also include all duct, piping and conduit placement in order to avoid conflicts.

- b. These coordinated drawing shall be submitted prior to any work proceeding and Contractor is entitled to no additional compensation if conflicts arise that could have been avoided through complete and coordinated shop drawings
 - B. If necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination.
 - 1. Include such items as required notices, reports, and attendance at meetings.
 - 2. Prepare similar memoranda for the Owner and separate contractors where coordination of their work is required.
 - C. Compliance with NPDES Rules: Insure that each secondary permittee is provided with a copy of the plan and that they understand their role in the implementation of the plan. Make every effort to establish utilities as secondary permittees. Provide participants in land disturbance activity on site a copy of the plan. Include language in all participants' contracts certifying that they understand the NPDES permit requirements and will adhere to the plan, if required by paragraph F-03 of Section F.
 - D. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and assure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of Contractor's Construction Schedule.
 - 2. Preparation of the Schedule of Values.
 - 3. Installation and removal of temporary facilities and controls.
 - 4. Delivery and processing of submittals.
 - 5. Progress meetings.
 - 6. Preinstallation conferences.
 - 7. Startup and adjustment of systems.
 - 8. Project closeout activities.
 - E. Conservation:
 - 1. Coordinate construction operations to assure that operations are carried out with consideration given to conservation of energy, water, and materials.
 - 2. Salvage materials and equipment involved in performance of, but not actually incorporated in, the Work.
- 1.4 SUBMITTALS
- A. Coordination Drawings: Prepare coordination drawings where careful coordination is needed for installation of products and materials fabricated by separate entities. Prepare coordination drawings where limited space availability necessitates maximum utilization of space for efficient installation of different components.
 - 1. Show the relationship of components shown on separate Shop Drawings.
 - 2. Indicate required installation sequences.
 - 3. Indicate dimensions shown on the Contract Drawings and make specific note of dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect for resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.
 - 4. Comply with requirements contained in Division 1 Section SUBMITTAL PROCEDURES.
 - 5. Refer to Division 28 Section ELECTRONIC SYSTEMS GENERAL for specific coordination requirements for plumbing, mechanical, electrical and security electronics installations.
 - 6. Failure on the part of the Contractor to properly coordinate installation of the various trades will not be considered changes to the Contract.
 - B. System Coordination Drawings: Prepare coordination drawings for Divisions 22, 23, 26, and 28 systems. Drawings shall be a composite drawing showing equipment, ductwork, piping, major conduit, and

supports.

1. Format: Drawings shall be prepared on electronic media. Entities responsibly for Divisions 28 shall agree on the electronic software and format to be used in preparation of the coordination drawings.
 - a. Where the software allows file referencing, each system shall be laid out in separate file. Using the separate files, a composite shall be printed of all systems.
 - b. Where the software does not allow file referencing, the entity responsible for Division 28 security systems respectively for addition of the layout of their systems.
 2. The layout drawings shall include:
 - a. Part Plans and elevations of equipment rooms showing proposed piping, ductwork, conduit, foundations, dimensions of openings in floors, roofs, and walls, and equipment to establish that the equipment will fit the allotted spaces with clearances for installation and maintenance.
 - b. Floor Plans, with elevations where necessary, of all piping, conduit 2-inches (50mm) in size and larger, wireways and cable trays, air duct distribution including air inlets and outlets, and suspended equipment. Plan shall show proposed routing, mounting heights, changes in elevation, and location of components including major support elements.
 - c. Plans, elevations and sections of property room showing conveyor storage system layout with locations of mechanical ductwork, piping, conduits, fire protection systems, light fixtures and other equipment to verify available space and clearances to fit all components.
 3. Coordination: After the initial layout of each system, the contractor shall assemble the entities responsible for Division 28 to review the layout, determine if any conflicts exist, and determine course of action to relieve the conflict. Coordination drawings shall not be submitted to the Architect until after the coordination review and conflicts have been corrected.
 4. Drawings shall be prepared at a scale of not less than 1/4" = 1'-0" (1:50), and drawings sheet size shall be 30-inches wide by 42-inches long. The drawing submittals by the Contractor shall consist of one reproducible sepia and three blue line prints. The sepia shall be Mylar, not less than 3 mils (0.08 m), single matte (on front), reverse reading, and the image shall be clear and distinct.
- C. Staff Personnel's Names: Within 15 days of commencement of construction operations, submit a list of the Contractor's principal staff assignments, including the superintendent and other personnel in attendance at the Project Site.
1. Identify individuals and their duties and responsibilities. List their addresses and telephone numbers.
 2. Post copies of the list in the Project meeting room, the temporary field office, and each temporary telephone.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 GENERAL COORDINATION PROVISIONS

- A. Inspection of Conditions:
 1. Require the Installer of each major component to inspect both the substrate and conditions under which Work is to be performed.
 2. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.
- B. Temporary Enclosures: Coordinate temporary enclosures with required inspections and tests to minimize the necessity of uncovering completed construction for that purpose.

3.2 CLEANING AND PROTECTION

- A. Clean and protect construction in progress and adjoining materials in place, during handling and installation. Apply protective covering where required to assure protection from damage or deterioration.
- B. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to assure operability without damaging effects.
- C. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period. Where applicable, such exposures include, but are not limited to, the following:
 - 1. Excessive static or dynamic loading.
 - 2. Excessive internal or external pressures.
 - 3. Excessively high or low temperatures.
 - 4. Thermal shock.
 - 5. Excessively high or low humidity.
 - 6. Air contamination or pollution.
 - 7. Water or ice.
 - 8. Solvents.
 - 9. Chemicals.
 - 10. Light.
 - 11. Radiation.
 - 12. Puncture.
 - 13. Abrasion.
 - 14. Heavy traffic.
 - 15. Soiling, staining, and corrosion.
 - 16. Bacteria.
 - 17. Rodent and insect infestation.
 - 18. Combustion.
 - 19. Electrical current.
 - 20. High-speed operation.
 - 21. Improper lubrication.
 - 22. Unusual wear or other misuse.
 - 23. Contact between incompatible materials.
 - 24. Destructive testing.
 - 25. Misalignment.
 - 26. Excessive weathering.
 - 27. Unprotected storage.
 - 28. Improper shipping or handling.
 - 29. Theft.
 - 30. Vandalism.

END OF SECTION

SECTION 013119
PROJECT MEETINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for project meetings, including, but not limited to, the following:
1. Preconstruction conferences.
 2. Preinstallation conferences.
 3. Progress meetings.
 4. Coordination meetings.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
1. Division 1 Section PROJECT COORDINATION for procedures for coordinating project meetings with other construction activities, including posting of information on internet website.
 2. Division 1 Section PRE-CONSTRUCTION VIDEO DOCUMENTATION for recording and inspection of existing site and facility conditions.
 3. Division 1 Section CONSTRUCTION PROGRESS DOCUMENTATION for preparing and submitting Contractor's Construction Schedule.

1.3 PRECONSTRUCTION CONFERENCE

- A. The Architect will schedule a preconstruction conference before the start of construction, at a time convenient to the Owner and the Contractor, but no later than 15 days after execution of the Agreement.
1. The conference will be held at the Project Site or another convenient location.
 2. The meeting will be conducted to review responsibilities and personnel assignments.
 3. The agenda will be prepared by the Architect.
- B. Attendees: Authorized representatives of the Owner, Architect, and their consultants; the Contractor and its superintendent; major subcontractors; manufacturers; suppliers; and other concerned parties shall attend the conference.
1. It shall be the responsibility of the Contractor to notify all subcontractors and other concerned parties of the time and place of the preconstruction conference.
 2. All participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the Work.
- C. Agenda: The Architect will prepare and distribute meeting agenda to all invited parties.
1. Items of significance that could affect progress of construction shall be discussed.
 2. Other items including the following shall be reviewed:
 - a. Tentative construction schedule.
 - b. Critical work sequencing.
 - c. Designation of responsible personnel.
 - d. Procedures for processing field decisions and Change Orders.
 - e. Procedures for processing Applications for Payment.
 - f. Distribution of Contract Documents.
 - g. Submittal of Shop Drawings, Product Data, and Samples.

- h. Preparation of record documents.
- i. Use of the premises.
- j. Parking availability.
- k. Office, work, and storage areas.
- l. Equipment deliveries and priorities.
- m. Safety procedures.
- n. First aid.
- o. Security.
- p. Housekeeping.
- q. Working hours.

- D. Meeting Minutes: Architect will record significant discussions and agreements achieved in form of meeting minutes.
 - 1. No later than 5 days after meeting, Architect will forward minutes of meeting to Contractor.
 - 2. No later than 3 days after receipt of meeting minutes, distribute meeting minutes to attendees and other concerned parties not in attendance.

1.4 PROGRESS MEETINGS

- A. Conduct progress meetings at the Project Site at intervals required by conditions of the contract, but not less than monthly. Notify the Owner and the Architect of scheduled meeting dates. Coordinate dates of meetings with preparation of the payment request.
- B. Conduct progress meetings at weekly intervals at Project site. Conduct the meeting to discuss items of significance that could affect progress of the Work, including the following:
 - 1. As first item of meeting, review and correct or approve minutes of previous progress meeting.
 - 2. Review progress of construction since the last meeting.
 - a. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule.
 - b. Determine how construction behind schedule will be expedited and secure commitments from parties involved to do so.
 - c. Discuss issues that are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 3. Review present and future needs of each entity present.
 - 4. As last item of meeting, discuss agenda for next meeting.
- C. Attendees: Architect, Contractor's Authority of Contract representative and Contractor's project superintendent; each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities. Participants at the conference shall be authorized to conclude matters relating to the Work.
- D. Agenda: Review and correct or approve minutes of the previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to the status of the Project.
 - 1. Contractor's Construction Schedule: Review progress since the last meeting. Determine where each activity is in relation to the Contractor's Construction Schedule, whether on time or ahead or behind schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to insure that current and subsequent activities will be completed within the Contract Time.
 - 2. Review the present and future needs of each entity present, including the following:
 - a. Interface requirements.
 - b. Time.
 - c. Sequences.
 - d. Status of submittals.

- e. Deliveries.
 - f. Off-site fabrication problems.
 - g. Access.
 - h. Site utilization.
 - i. Temporary facilities and services.
 - j. Hours of work.
 - k. Hazards and risks.
 - l. Housekeeping.
 - m. Quality and work standards.
 - n. Change Orders.
 - o. Documentation of information for payment requests.
- E. Schedule Updating: Revise the Contractor's Construction Schedule after each monthly progress meeting where revisions to the schedule have been made or recognized. Issue the revised schedule no later than 3 days after each meeting to Owner and Architect. Contractor shall provide Owner and Architect a license for scheduling software.
- F. Meeting Minutes: Architect will record significant discussions and agreements achieved in form of meeting minutes.
- 1. No later than 3 days after meeting, Architect will forward minutes of meeting to Contractor.
 - 2. No later than 2 days after receipt of meeting minutes, distribute meeting minutes to attendees and other concerned parties not in attendance.
- 1.5 PREINSTALLATION CONFERENCES
- A. The Contractor shall conduct a preinstallation conference at the Project Site before each construction activity that requires coordination with other construction.
- B. Attendees: The Installer and representatives of manufacturers and fabricators involved in or affected by the installation, and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise the Architect and the Owner of scheduled meeting dates.
- 1. Review the progress of other construction activities and preparations for the particular activity under consideration at each preinstallation conference, including requirements for the following:
 - a. Contract Documents.
 - b. Options.
 - c. Related Change Orders.
 - d. Purchases.
 - e. Deliveries.
 - f. Shop Drawings, Product Data, and quality-control samples
 - g. Review of mockups.
 - h. Possible conflicts.
 - i. Compatibility problems.
 - j. Time schedules.
 - k. Weather limitations.
 - l. Manufacturer's recommendations.
 - m. Warranty requirements.
 - n. Compatibility of materials.
 - o. Acceptability of substrates.
 - p. Temporary facilities.
 - q. Space and access limitations.
 - r. Governing regulations.
 - s. Safety.
 - t. Inspecting and testing requirements.

- u. Required performance results.
 - v. Recording requirements.
 - w. Protection.
2. Record significant discussions and agreements and disagreements of each conference, and the approved schedule. Promptly distribute the record of the meeting to everyone concerned, including the Owner and the Architect.
 3. Do not proceed with the installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of Work and reconvene the conference at the earliest feasible date.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 013200

CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work in accordance with Article E-50 of GFSIC General Conditions, including the following:
 - 1. Preliminary Construction Schedule.
 - 2. Contractor's Construction Schedule.
 - 3. Submittals Schedule.
 - 4. Daily construction reports.
 - 5. Material location reports.
 - 6. Field condition reports.
 - 7. Special reports.
- B. Related Sections include the following:
 - 1. Division 1 Section PAYMENT PROCEDURES for submitting the Schedule of Values.
 - 2. Division 1 Section PROJECT COORDINATION for submitting and distributing meeting and conference minutes.
 - 3. Division 1 Section PRE-CONSTRUCTION VIDEO DOCUMENTATION for recording and inspection of existing site and facility conditions.
 - 4. Division 1 Section SUBMITTAL PROCEDURES for submitting schedules and reports.
 - 5. Division 1 Section QUALITY REQUIREMENTS for submitting a schedule of tests and inspections.

1.3 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
 - 1. Critical activities are activities on the critical path. They must start and finish on the planned early start and finish times.
 - 2. Predecessor Activity: An activity that precedes another activity in the network.
 - 3. Successor Activity: An activity that follows another activity in the network.
- B. Cost Loading: The allocation of the Schedule of Values for the completion of an activity as scheduled. The sum of costs for all activities must equal the total Contract Sum, unless otherwise approved by Architect.
- C. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.
- D. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.

- E. Event: The starting or ending point of an activity.
 - F. Float: The measure of leeway in starting and completing an activity.
 - 1. Float time belongs to Owner as advised by the Architect.
 - 2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
 - 3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.
 - G. Fragnet: A partial or fragmentary network that breaks down activities into smaller activities for greater detail.
 - H. Major Area: A story of construction, a separate building, or a similar significant construction element.
 - I. Milestone: A key or critical point in time for reference or measurement.
 - J. Network Diagram: A graphic diagram of a network schedule, showing activities and activity relationships.
 - K. Resource Loading: The allocation of manpower and equipment necessary for the completion of an activity as scheduled.
- 1.4 SUBMITTALS
- A. Qualification Data: For scheduling consultant.
 - B. Submittals Schedule: Submit three copies of schedule. Arrange the following information in a tabular format:
 - 1. Scheduled date for first submittal.
 - 2. Specification Section number and title.
 - 3. Submittal category (action or informational).
 - 4. Name of subcontractor.
 - 5. Description of the Work covered.
 - 6. Scheduled date for Architect's final release or approval.
 - C. Preliminary Construction Schedule: Submit two opaque copies.
 - 1. Approval of cost-loaded preliminary construction schedule will not constitute approval of Schedule of Values for cost-loaded activities.
 - D. Preliminary Network Diagram: Submit two opaque copies, large enough to show entire network for entire construction period. Show logic ties for activities.
 - E. Contractor's Construction Schedule: Submit two opaque copies of initial schedule, large enough to show entire schedule for entire construction period.
 - F. CPM Reports: Concurrent with CPM schedule, submit three copies of each of the following computer-generated reports. Format for each activity in reports shall contain activity number, activity description, cost and resource loading, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float in calendar days.
 - 1. Activity Report: List of all activities sorted by activity number and then early start date, or actual start date if known.
 - 2. Logic Report: List of preceding and succeeding activities for all activities, sorted in ascending order by activity number and then early start date, or actual start date if known.
 - 3. Total Float Report: List of all activities sorted in ascending order of total float.
 - 4. Earnings Report: Compilation of Contractor's total earnings from the Notice to Proceed until most recent Application for Payment.

- G. Field Condition Reports: Submit two copies at time of discovery of differing conditions.
- H. Special Reports: Submit two copies at time of unusual event.

1.5 QUALITY ASSURANCE

- A. Scheduling Consultant Qualifications: An experienced specialist in CPM scheduling and reporting, with capability of producing CPM reports and diagrams within 48 hours of Architect's request.
 - 1. The Consultant shall be a recognized specialist, acceptable to the Architect, who is expert in the critical path methods (CPM) of scheduling and reporting.
 - 2. Upon request of the Architect and the Owner, the Contractor shall submit evidence that the proposed Consultant meets the qualifications identified above.
 - 3. Contractor's In-House Capabilities: The requirement to retain a Consultant may be waived if the Contractor can demonstrate to the Architect's satisfaction that:
 - a. It has the computer equipment required to produce CPM network diagrams, utilizing the method specified.
 - b. It employs skilled personnel who are experienced in CPM scheduling and reporting techniques.
 - c. Its employees have at least 5 years experience in preparing CPM schedules for projects of similar size and complexity.
 - 4. The Architect reserves the right to retain a scheduling consultant to assist in performing the Architect's functions under this Section and will inform the Contractor of its retention of such a consultant in writing.
 - a. The Contractor will cooperate with the scheduling consultant by furnishing the consultant the information required to be furnished to the Architect according to this Section.
 - b. The Contractor shall provide a copy of all submissions listed in this Section directly to the scheduling consultant.
- B. Prescheduling Conference: Conduct conference at Project site to comply with requirements in Division 1 Section PROJECT COORDINATION. Review methods and procedures related to the Preliminary Construction Schedule and Contractor's Construction Schedule, including, but not limited to, the following:
 - 1. Review of procedures for submitting GFSIC Form No 183 Construction Progress Schedule as required by Article E-50 of the General Conditions.
 - 2. Review software limitations and content and format for reports.
 - 3. Verify availability of qualified personnel needed to develop and update schedule.
 - 4. Discuss constraints, including work stages, area separations and interim milestones.
 - 5. Review delivery dates for Owner-furnished products.
 - 6. Review schedule for work of Owner's separate contracts.
 - 7. Review time required for review of submittals and resubmittals.
 - 8. Review requirements for tests and inspections by independent testing and inspecting agencies.
 - 9. Review time required for completion and startup procedures.
 - 10. Review and finalize list of construction activities to be included in schedule.
 - 11. Review submittal requirements and procedures.
 - 12. Review procedures for updating schedule.

1.6 COORDINATION

- A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.
- B. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.
 - 1. Secure time commitments for performing critical elements of the Work from parties involved.
 - 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 SUBMITTALS SCHEDULE

- A. Preparation: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates.
 - 1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.
 - 2. Initial Submittal: Submit concurrently with preliminary network diagram. Include submittals required during the first 60 days of construction. List those required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
 - 3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's Construction Schedule.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Procedures: Comply with procedures contained in AGC's "Construction Planning & Scheduling."
- B. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Final Completion.
 - 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- C. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:
 - 1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Architect.
 - 2. Procurement Activities: Include procurement process activities for long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
 - 3. Submittal Review Time: Include review and resubmittal times indicated in Division 1 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with Submittals Schedule.
 - 4. Startup and Testing Time: Include number of days for startup and testing.
 - 5. Final Completion: Indicate completion in advance of date established for Final Completion, and allow time for Architect's administrative procedures necessary for issuance of Final Certificate.
 - 6. Punch List: Indicate time for completion of punch items.
- D. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
 - 1. Work by Owner: Include a separate activity for each portion of the Work performed by Owner, if required by the conditions of the Contract.
 - 2. Products Ordered in Advance: Include a separate activity for each product. Include delivery date indicated in Division 1 Section "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
 - 3. Owner-Furnished Products: Include a separate activity for each product. Include delivery date indicated in Division 1 Section "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
 - 4. Work Restrictions: Show the effect of the following items on the schedule:
 - a. Use of premises restrictions.
 - b. Provisions for future construction.
 - c. Seasonal variations.
 - d. Environmental control.
 - 5. Work Stages: Indicate important stages of construction for each major portion of the Work,

- including, but not limited to, the following:
- a. Subcontract awards.
 - b. Submittals, including Architect's approval time and resubmittal time.
 - c. Purchases.
 - d. Mockups.
 - e. Fabrication.
 - f. Sample testing.
 - g. Deliveries.
 - h. Installation.
 - i. Tests and inspections.
 - j. Adjusting.
 - k. Curing.
 - l. Startup and placement into final use and operation.
6. Area Separations: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:
 - a. Structural completion.
 - b. Permanent space enclosure.
 - c. Completion of mechanical installation.
 - d. Completion of electrical installation.
 - e. Final Completion.
 7. Other Constraints: Indicate where construction of roads, parking areas, landscape development and similar work must be sequenced or integrated with other construction activities.
- E. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, and Final Completion.
- F. Cost Correlation: At the head of schedule, provide a cost correlation line, indicating planned and actual costs. On the line, show dollar volume of the Work performed as of dates used for preparation of payment requests.
 1. Refer to Division 1 Section "Payment Procedures" for cost reporting and payment procedures.
 2. Contractor shall assign cost to construction activities on the CPM schedule. Costs shall not be assigned to submittal activities unless specified otherwise but may, with Architect's approval, be assigned to fabrication and delivery activities. Costs shall be under required principal subcontracts for testing and commissioning activities, operation and maintenance manuals, punch list activities, Project Record Documents, and demonstration and training (if applicable), in the amount of 5 percent of the Contract Sum.
 3. Each activity cost shall reflect an accurate value subject to approval by Architect.
 4. Total cost assigned to activities shall equal the total Contract Sum.
- G. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using fragnets to demonstrate the effect of the proposed change on the overall project schedule.
- H. Computer Software: Prepare schedules using a program that has been developed specifically to manage construction schedules.
- 2.3 PRELIMINARY CONSTRUCTION SCHEDULE
- A. Bar-Chart Schedule: Submit preliminary horizontal bar-chart-type construction schedule within fourteen days of date established for the Notice to Proceed.
 - B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for first 60 days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

2.4 CONTRACTOR'S CONSTRUCTION SCHEDULE (CPM SCHEDULE)

- A. General: Prepare network diagrams using AON (activity-on-node) format.
- B. Preliminary Network Diagram: Submit diagram within 14 days of date established for the Notice to Proceed Outline significant construction activities for the first 90 days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.
- C. CPM Schedule: Prepare Contractor's Construction Schedule using a computerized time-scaled CPM network analysis diagram for the Work.
 - 1. Develop network diagram in sufficient time to submit CPM schedule so it can be accepted for use no later than 30 days after date established for the Notice to Proceed.
 - 2. Conduct educational workshops to train and inform key Project personnel, including subcontractors' personnel, in proper methods of providing data and using CPM schedule information.
 - 3. Establish procedures for monitoring and updating CPM schedule and for reporting progress. Coordinate procedures with progress meeting and payment request dates.
 - 4. Use "one workday" as the unit of time. Include list of nonworking days and holidays incorporated into the schedule.
 - 5. Failure to include any work item required for performance of this Contract shall not excuse Contractor from completing all work within applicable completion dates, regardless of Architect's approval of the schedule
- D. CPM Schedule Preparation: Prepare a list of all activities required to complete the Work. Using the preliminary network diagram, prepare a skeleton network to identify probable critical paths.
 - 1. Activities: Indicate the estimated time duration, sequence requirements, and relationship of each activity in relation to other activities. Include estimated time frames for the following activities:
 - a. Preparation and processing of submittals.
 - b. Mobilization and demobilization.
 - c. Purchase of materials.
 - d. Delivery.
 - e. Fabrication.
 - f. Utility interruptions.
 - g. Installation.
 - h. Work by Owner that may affect or be affected by Contractor's activities.
 - i. Testing and commissioning.
 - 2. Critical Path Activities: Identify critical path activities, including those for interim completion dates. Scheduled start and completion dates shall be consistent with Contract milestone dates.
 - 3. Processing: Process data to produce output data on a computer-drawn, time-scaled network. Revise data, reorganize activity sequences, and reproduce as often as necessary to produce the CPM schedule within the limitations of the Contract Time.
 - 4. Format:
 - a. Mark the critical path. Locate the critical path near center of network; locate paths with most float near the edges.
 - b. Subnetworks on separate sheets are permissible for activities clearly off the critical path.
- E. Initial Issue of Schedule: Prepare initial network diagram from a list of straight "early start-total float" sort. Identify critical activities. Prepare tabulated reports showing the following:
 - 1. Contractor or subcontractor and the Work or activity.
 - 2. Description of activity.
 - 3. Principal events of activity.
 - 4. Immediate preceding and succeeding activities.
 - 5. Early and late start dates.
 - 6. Early and late finish dates.
 - 7. Activity duration in workdays.

8. Total float or slack time.
 9. Average size of workforce.
 10. Dollar value of activity (coordinated with the Schedule of Values).
- F. Schedule Updating: Concurrent with making revisions to schedule, prepare tabulated reports showing the following:
1. Identification of activities that have changed.
 2. Changes in early and late start dates.
 3. Changes in early and late finish dates.
 4. Changes in activity durations in workdays.
 5. Changes in the critical path.
 6. Changes in total float or slack time.
 7. Changes in the Contract Time.
- G. Value Summaries: Prepare two cumulative value lists, sorted by finish dates.
1. In first list, tabulate activity number, early finish date, dollar value, and cumulative dollar value.
 2. In second list, tabulate activity number, late finish date, dollar value, and cumulative dollar value.
 3. In subsequent issues of both lists, substitute actual finish dates for activities completed as of list date.
 4. Prepare list for ease of comparison with payment requests; coordinate timing with progress meetings.

2.5 REPORTS

- A. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit with a request for interpretation. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.
- B. Special Reports:
1. When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report.
 - a. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information.
 - b. Advise Owner and Architect in advance when these events are known or predictable.
 2. Submit special reports directly to Architect and Owner within three days of an occurrence. Distribute copies of report to parties affected by the occurrence

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Scheduling Consultant: Engage a consultant to provide planning, evaluation, and reporting using CPM scheduling.
1. In-House Option: Architect and Owner may waive the requirement to retain a consultant if Contractor employs skilled personnel with experience in CPM scheduling and reporting techniques. Submit qualifications.
 2. Meetings: Scheduling consultant shall attend all meetings related to Project progress, alleged delays, and time impact.
- B. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.
1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.

2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 3. As the Work progresses, indicate Actual Completion percentage for each activity.
- C. Distribution: Distribute copies of approved schedule to Architect, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
1. Post copies in Project meeting rooms and temporary field offices.
 2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION

SECTION 013235

PRE-CONSTRUCTION VIDEO DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This section includes requirements for pre-construction video recording and inspection of existing conditions at site and facility.

1.3 SUBMITTALS

- A. Video Recording: Submit two (2) copies of each video recording on digital video discs (DVD) with protective sleeve or case within seven (7) days of recording.
 - 1. Identification: On each copy, provide an applied label with the following information:
 - a. Name and address of Project.
 - b. Owner's project number.
 - c. Name of Owner.
 - d. Name of Architect.
 - e. Name of Contractor.
 - f. Name of videographer.
 - g. Date video was recorded.
 - 2. Transcript: Prepared on 8-1/2-by-11-inch (215-by-280-mm) paper, punched and bound in heavy-duty, 3-ring, vinyl-covered binders. Mark appropriate identification on front and spine of each binder.
 - a. Include a cover sheet with same label information as corresponding video recording.
 - b. Include name of Project and date of video recording on each page.
 - c. Include description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
 - d. Include key plan of Project site and building with notation of vantage points marked for location and direction of video recording. Indicate elevation or story of construction. Include same label information as corresponding video recording.

1.4 PRE-CONSTRUCTION INSPECTION

- A. Upon Owner's notification to proceed and prior to commencement of work on the Project, an inspection will be conducted at the site to video record Owner's existing facilities and site, including area of perimeter security fencing at location where temporary construction entrance is to be erected, to document pre-construction conditions.
 - 1. Contractor, Architect and Owner, including the Warden for the facility and Owner's invited maintenance personnel shall be present.
 - 2. Contractor shall notify Architect and other attending parties at least four days prior to time of inspection.
 - 3. A survey of the existing site and facility shall be conducted to document conditions present prior to Contractor's commencement of work on the Project.
 - a. The site and facility shall be examined for damages, deteriorating construction, improper installation or use of materials and other conditions detrimental to operation and function of Owner's existing facility.

- b. Items of particular importance and conditions of construction critical to the function of the facility shall be brought to Contractor's attention, including the condition of existing plant life, limits of work operations and other matters affected by Contractor's presence on the site.
- 4. Contractor shall video record inspection and submit copies to Architect as specified.

PART 2 - PRODUCTS

2.1 VIDEO MEDIA

- A. Video Recording Equipment: Use digital video camcorders equipped with not less than 10x optical zoom and built-in microphone audio capabilities to record pre-construction inspection.
- B. Video Recording Format: Provide copies of video on DVD-R recordable media.
 - 1. Time length: 120 minutes.
 - 2. Media Capacity: 4.7 gigabytes.
 - 3. Recording Quality: Video quality shall be adequate to create photographic prints from individual frames.

PART 3 - EXECUTION

3.1 PRE-CONSTRUCTION VIDEO RECORDING

- A. Recording: Display continuous running time and date. At start of each video recording, indicate weather conditions and actual temperature reading at Project site. Record reference points identifying location and orientation where video is being taken.
- B. Narration: Describe scenes on video by audio narration on microphone while recording. Include description of items being viewed and concerns of Owner and Users. At each change in location, describe vantage point, location, direction (by compass point), and elevation or story of construction.
 - 1. Confirm date and time at beginning and end of recording.
 - 2. Begin recording with name of Project, Contractor's name, videographer's name, and Project location.
- C. Preconstruction Video Inspection: Video record Project site and surrounding properties from different vantage points, as directed by Architect and Owner.
 - 1. Show existing on-site conditions as well as conditions adjacent to Project site.
 - 2. Show existing buildings either on or adjoining Project site to accurately record physical conditions prior to start of construction work.
 - 3. Identify any damages or deteriorating construction existing on facility and at site in areas where construction work is to occur. Include zoom-in closeups of damaged and deteriorated areas.
 - 4. Show condition of existing plant life and grass areas.
 - 5. Show condition of existing perimeter security fencing at location where temporary construction entrance is to be constructed.
 - 6. Identify any areas of concerns or where special care will be required to maintain existing conditions as instructed by Owner and User of the facility.

END OF SECTION

SECTION 013300
SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.
- B. Related Sections include the following:
 - 1. Division 1 Section PAYMENT PROCEDURES for submitting Applications for Payment and the Schedule of Values.
 - 2. Division 1 Section PROJECT COORDINATION for submitting and distributing meeting and conference minutes and for submitting Coordination Drawings.
 - 3. Division 1 Section CONSTRUCTION PROGRESS DOCUMENTATION for submitting schedules and reports, including Contractor's Construction Schedule and the Submittals Schedule.
 - 4. Division 1 Section QUALITY REQUIREMENTS for submitting test and inspection reports and for mockup requirements.
 - 5. Division 1 Section PROJECT CLOSEOUT for submitting warranties.
 - 6. Division 1 Section PROJECT RECORD DOCUMENTS for submitting Record Drawings, Record Specifications, and Record Product Data.
 - 7. Division 1 Section OPERATION AND MAINTENANCE DATA for submitting operation and maintenance manuals.

1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action.
- B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements.
- C. File Transfer Protocol (FTP): Communications protocol that enables transfer of files to and from another computer over a network and that serves as the basis for standard Internet protocols. An FTP site is a portion of a network located outside of network firewalls within which internal and external users are able to access files.
- D. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

1.4 SUBMITTAL PROCEDURES

- A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
 - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 - 2. Coordinate transmittal of different types of submittals for related parts of the Work so processing

- will not be delayed because of need to review submittals concurrently for coordination.
3. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- B. Submittals Schedule: Comply with requirements in Division 1 Section CONSTRUCTION PROGRESS DOCUMENTATION for list of submittals and time requirements for scheduled performance of related construction activities.
- C. Identification: Place a permanent label or title block on each submittal for identification.
1. Indicate name of firm or entity that prepared each submittal on label or title block.
 2. Provide a space approximately 6 by 8 inches (150 by 200 mm) on label or beside title block to record Contractor's review and approval markings and action taken by Architect.
 3. Include the following information on label for processing and recording action taken:
 - a. Project name.
 - b. Owner's Project Number.
 - c. Date.
 - d. Name and address of Architect.
 - e. Name and address of Contractor.
 - f. Submittal number or other unique identifier, including revision identifier.
 - 1) Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 06100.01).
 - 2) Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 06100.01.A).
 - g. Drawing number and detail references, as appropriate.
 - h. Location(s) where product is to be installed, as appropriate.
 - i. Other necessary identification.
- D. Additional Copies: Unless additional copies are required for final submittal, and unless Architect observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.
1. Submit two copies of submittal to concurrent reviewer in addition to specified number of copies to Architect.
 2. Additional copies submitted for maintenance manuals will not be marked with action taken and will be returned.
- E. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form.
1. Transmittal Form: Use AIA Document G810 or CSI Form 12.1A.
 2. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same label information as related submittal.
 3. Submit copies of transmittal to Owner and User.
- F. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:
1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item. Note: Multiple submittal sections included under a single submittal section number shall be returned un-reviewed for correction.
 2. Name file with submittal number or other unique identifier, including revision identifier.
 - a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (Project Name Initials – Specification Section . Submittal Version) (e.g., LNHS-Project 061000.01).
 - b. Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.A).

3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.
 4. Transmittal Form for Electronic Submittals: Use electronic form acceptable to Owner, containing the following information:
 - a. Project name.
 - b. Date.
 - c. Name and address of Architect.
 - d. Name of Contractor.
 - e. Name of firm or entity that prepared submittal.
 - f. Names of subcontractor, manufacturer, and supplier.
 - g. Category and type of submittal.
 - h. Submittal purpose and description.
 - i. Specification Section number and title.
 - j. Specification paragraph number or drawing designation and generic name for each of multiple items.
 - k. Drawing number and detail references, as appropriate.
 - l. Location(s) where product is to be installed, as appropriate.
 - m. Related physical samples submitted directly.
 - n. Indication of full or partial submittal.
 - o. Transmittal number, numbered consecutively.
 - p. Submittal and transmittal distribution record.
 - q. Other necessary identification.
 - r. Remarks.
 5. Metadata: Include the following information as keywords in the electronic submittal file metadata:
 - a. Project name.
 - b. Number and title of appropriate Specification Section.
 - c. Manufacturer name.
 - d. Product name.
- G. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
1. Note date and content of previous submittal.
 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
- H. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- I. Use for Construction: Use only final submittals with mark indicating action taken by Architect in connection with construction.
- 1.5 CONTRACTOR'S USE OF ARCHITECT'S CAD FILES
- A. For a fee payable directly to Architect, electronic copies of CAD Drawings of the Contract Drawings may be provided for Contractor's use in preparing submittals. Make arrangements for processing with Architect.

PART 2 - PRODUCTS

2.1 SUBMITTALS

- A. General Submittal Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
1. Submit electronic submittals via email as PDF electronic files to PDA@rosser.com
 - a. Architect will return annotated file.
 - b. Annotate and retain one copy of file as an electronic Project record document file.

2. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
 - a. Provide a digital signature with digital certificate on electronically submitted certificates and certifications where indicated.
 - b. Provide a notarized statement on original paper copy certificates and certifications where indicated.

- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
 1. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
 2. Mark each copy of each submittal to show which products and options are applicable.
 3. Submit Product Data before or concurrent with Samples.
 4. Submittal Method: Submit Product Data in PDF electronic file format.

- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
 1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Dimensions.
 - b. Identification of products.
 - c. Fabrication and installation drawings.
 - d. Roughing-in and setting diagrams.
 - e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
 - f. Shopwork manufacturing instructions.
 - g. Templates and patterns.
 - h. Schedules.
 - i. Design calculations.
 - j. Compliance with specified standards.
 - k. Notation of coordination requirements.
 - l. Notation of dimensions established by field measurement.
 - m. Relationship to adjoining construction clearly indicated.
 - n. Seal and signature of professional engineer if specified.
 - o. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.
 2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches (215 by 280 mm) but no larger than 30 by 40 inches (750 by 1000 mm).
 3. Submittal Method: Submit Shop Drawings in PDF electronic file format.

- D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
 1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 2. Identification: Attach label on unexposed side of Samples that includes the following:
 - a. Generic description of Sample.
 - b. Product name and name of manufacturer.
 - c. Sample source.
 - d. Number and title of appropriate Specification Section.
 3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.

- b. Samples not incorporated into the Work are the property of the Owner.
- 4. Samples for Initial Selection:
 - a. Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 - b. Number of Samples: Submit three full sets of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return One (1) submittal with options selected.
- 5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected.
 - a. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
 - b. Number of Samples: Submit three sets of Samples. Architect will retain one Sample set; remainder will be returned. Mark up and retain one returned Sample set as a Project Record Sample.
 - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
 - 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.
- E. Product Schedule or List: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
 - 1. Type of product. Include unique identifier for each product.
 - 2. Number and name of room or space.
 - 3. Submittal Method: Submit in PDF electronic file format.
- F. Submittals Schedule: Comply with requirements specified in Division 1 Section "Construction Progress Documentation."
- G. Application for Payment: Comply with requirements specified in Division 1 Section "Payment Procedures."
- H. Schedule of Values: Comply with requirements specified in Division 1 Section "Payment Procedures."
- I. Contractor's Construction Schedule: Comply with requirements specified in Division 1 Section "Construction Progress Documentation."
- J. Coordination Drawings: Comply with requirements specified in Division 1 Section "Project Coordination."
- K. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- L. Certificates: A copy of each of each certificate specified shall be maintained at the job site for Architect.
 - 1. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.

2. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
 3. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
 4. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
 5. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- M. Schedule of Tests and Inspections: Comply with requirements specified in Division 1 Section "Quality Requirements."
- N. Test Reports: A copy of each of each test report specified shall be maintained at the job site for Architect.
1. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
 2. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
 3. Preconstruction Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
 4. Compatibility Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
 5. Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
- O. Research/Evaluation Reports: Prepare written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
1. Name of evaluation organization.
 2. Date of evaluation.
 3. Time period when report is in effect.
 4. Product and manufacturers' names.
 5. Description of product.
 6. Test procedures and results.
 7. Limitations of use.
- P. Maintenance Data: Prepare written and graphic instructions and procedures for operation and normal maintenance of products and equipment. Comply with requirements specified in Division 1 Section "Operation and Maintenance Data."
- Q. Design Data: Prepare written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.
- R. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include

name of product and name, address, and telephone number of manufacturer. Include the following, as applicable:

1. Preparation of substrates.
2. Required substrate tolerances.
3. Sequence of installation or erection.
4. Required installation tolerances.
5. Required adjustments.
6. Recommendations for cleaning and protection.

S. **Manufacturer's Field Reports:** Prepare written information documenting factory-authorized service representative's tests and inspections. Include the following, as applicable:

1. Name, address, and telephone number of factory-authorized service representative making report.
2. Statement on condition of substrates and their acceptability for installation of product.
3. Statement that products at Project site comply with requirements.
4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
6. Statement whether conditions, products, and installation will affect warranty.
7. Other required items indicated in individual Specification Sections.

T. **Insurance Certificates and Bonds:** Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.

2.2 DELEGATED DESIGN

A. **Performance and Design Criteria:**

1. Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
2. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

B. **Delegated-Design Submittal:** In addition to Shop Drawings, Product Data, and other required submittals, submit three copies of a statement, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.

1. Indicate that products and systems comply with performance and design criteria in the Contract Documents.
2. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

A. Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.

B. **Approval Stamp:** Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S REVIEW

- A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:
 - 1. "NO EXCEPTIONS TAKEN" indicates that fabrication may begin on all items.
 - 2. "MAKE CORRECTIONS NOTED" indicates that Contractor shall make the corrections indicated on the returned submittal. This notation will permit fabrication to begin on all items subject to the corrections indicated.
 - 3. "MAKE CORRECTIONS NOTED & RESUBMIT" indicates that contractor shall delay fabrication on items affected by the corrections, make appropriate changes and resubmit.
 - 4. "REJECTED" indicates that the submission is unacceptable and requires resubmission. In the case of mock-up, reconstruction will be required. Contractor shall make corrections as noted and resubmit. Fabrication shall not begin on items covered by shop drawings bearing this notation.
 - 5. "NOT REQUIRED FOR REVIEW" indicates that no submittal is required.
- C. If re-submittals are necessary, they shall be made as specified above for submittals. Re-submittals shall highlight all revisions made and cover shall include the phrase "RESUBMITTAL NO. ___".
- D. Partial submittals are not acceptable, will be considered nonresponsive, and will be returned without review.
- E. Submittals not required by the Contract Documents may not be reviewed and may be discarded.
- F. The Architect's review shall not be construed as an indication that submittal is correct or suitable nor that work represented by submittal complies with the Contract Documents, except as to matters of finish, color and other aesthetic matters left to the Architect's decision by the Contract Documents

END OF SECTION

SECTION 013510

REQUEST FOR INFORMATION (RFI) PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for submitting Requests for Information.
- B. Related Sections include the following:
 - 1. Division 1 Section SUMMARY for information on Architect's personnel assigned as Project Document Administrator (PDA).
 - 2. Division 1 Section PROJECT COORDINATION for requirements regarding posting of information on internet website.

1.3 DEFINITIONS

- A. "Incomplete Request for Information" – IRFI: Any request by the Contractor that is deemed incomplete and/or vague, or is not submitted on the required form will be rejected and returned with a brief explanation to the Contractor.
- B. "Non-Applicable Request": - NAR A Request for Information by the Contractor for information that in the Architect's professional opinion is readily apparent from reasonable observation of field conditions or review of the Contract Documents, or to be reasonably inferable therefrom. It will be rejected and returned with a brief explanation to the Contractor.
- C. "Request for Information" - RFI: A written request by Contractor for interpretation of an item pertaining to the Contract Documents that Contractor or Owner deemed is either ambiguous or missing from the contract documents.

1.4 COORDINATION

- A. Coordinate RFI responses with approved or un-submitted submittals.
- B. Architect reserves the right to withhold action on a submittal requiring coordination with another RFI until all related RFI response verification is received by Project Document Administrator.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

3.1 REQUESTS FOR INTERPRETATION PROCEDURES (RFI's)

- A. Procedure: If the need for interpretation of the Contract Documents is required, prepare and submit an RFI on the form specified.
 - 1. Exercise due diligence to adequately and appropriately review the Contract Documents to determine answer to RFI prior to submitting.
 - 2. If information is readily apparent from review of the Contract Documents, Architect will reject RFI. Architect will respond by indicating where information is located in the Contract

- Documents.
3. Requests that are deemed incomplete, vague or contain numerous errors will be rejected. Architect will respond by asking for clarification.
 4. RFIs shall originate with Contractor. RFIs submitted by entities other than Contractor will be returned with no response.
 5. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Form: Prepare RFI on "Request for Interpretation" form; a copy is included at the end of this Section. Use of other forms may be allowed if prior approval is obtained from Architect.
- C. Content of the RFI: Include a detailed, legible description of item needing interpretation and the following:
1. Field dimensions and conditions, as appropriate.
 2. Contractor's suggested solution(s). If Contractor's solution(s) impact the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 3. Attachments: Include drawings, descriptions, measurements, photos, Product Data, Shop Drawings, and other information necessary to fully describe items needing interpretation. Supplementary drawings prepared by Contractor shall include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments.
- D. Transmit RFI to PDA by method ensuring receipt within 24 hours. Number each RFI sequentially and date.
- 3.2 ARCHITECT'S INITIAL ACTION
- A. Upon receipt of RFI, PDA will forward to appropriate discipline and Project Manager.
 - B. PDA will issue Response to Contractor by courier, US Mail, UPS, facsimile, or email, as appropriate.

END OF SECTION

Attachment: "Request for Interpretation" Form

ROSSER

REQUEST FOR INTERPRETATION

PROJECT: **BARROW COUNTY COURTHOUSE & JAIL
CCTV ENHANCEMENTS**

**ARCHITECT'S
PROJECT NO:** **15016.00**

RFI No.: _____

DATE: _____

TO: PDA, Rosser International, Inc.

AUTHORED BY: _____

cc: _____

RFI Subject: _____

The following interpretation of the Contract Documents is requested in accordance with the General Conditions:

Drawing No.: _____ Detail No.: _____ Other Reference: _____

Specification Section No.: _____ Article No.: _____ Paragraph No.: _____

Date Response Requested By: _____

Description of Interpretation Needed:

Attachments: Drawings _____ Specification _____ Other _____

Signed: _____ Printed Name _____ Date: _____

Response:

Attachments: Drawings _____ Specification _____ Other _____

Signed: _____ Printed Name _____ Date: _____

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SECTION 014000
QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
 - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
 - 3. Requirements for Contractor to provide quality-assurance and -control services required by Architect or Owner are not limited by provisions of this Section.
- C. Related Sections include the following:
 - 1. Division 1 Section CONSTRUCTION PROGRESS DOCUMENTATION for developing a schedule of required tests and inspections.
 - 2. Division 1 Section CUTTING AND PATCHING for repair and restoration of construction disturbed by testing and inspecting activities.
 - 3. Divisions 2 through 33 Sections for specific test and inspection requirements.

1.3 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect.
- C. Mockups: Full-size, physical assemblies that are constructed on-site. Mockups are used to verify selections made under sample submittals, to demonstrate aesthetic effects and, where indicated, qualities of materials and execution, and to review construction, coordination, testing, or operation; they are not Samples. Approved mockups establish the standard by which the Work will be judged.
- D. Laboratory Mockups: Full-size, physical assemblies that are constructed at testing facility to verify performance characteristics.
- E. Preconstruction Testing: Tests and inspections that are performed specifically for the Project before products and materials are incorporated into the Work to verify performance or compliance with specified

criteria.

- F. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to Architect and Barrow County, to establish product performance and compliance with industry standards.
- G. Source Quality-Control Testing: Tests and inspections that are performed at the source, i.e., plant, mill, factory, or shop.
- H. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- I. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- J. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

1.4 SUBMITTALS

- A. Qualification Data: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- B. Reports: Prepare and submit certified written reports that include the following:
 - 1. Date of issue.
 - 2. Project title and number.
 - 3. Name, address, and telephone number of testing agency.
 - 4. Dates and locations of samples and tests or inspections.
 - 5. Names of individuals making tests and inspections.
 - 6. Description of the Work and test and inspection method.
 - 7. Identification of product and Specification Section.
 - 8. Complete test or inspection data.
 - 9. Test and inspection results and an interpretation of test results.
 - 10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
 - 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 - 12. Name and signature of laboratory inspector.
 - 13. Recommendations on retesting and reinspecting.
- C. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work. Refer to PROJECT RECORD DOCUMENTS section, OPERATION AND MAINTENANCE DATA section and PROJECT CLOSEOUT section for more detailed instructions.

1.5 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this Article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

- C. **Manufacturer Qualifications:** A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. **Fabricator Qualifications:** A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- E. **Professional Engineer Qualifications:** A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar to those indicated for this Project in material, design, and extent.
- F. **Specialists:** Certain sections of the Specifications require that specific construction activities shall be performed by entities who are recognized experts in those operations.
 - 1. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
 - 2. Requirement for specialists shall not supersede building codes and regulations governing the Work.
- G. **Testing Agency Qualifications:** An NRTL, an NVLAP, or an A2LA independent agency with the experience and capability to conduct testing and inspecting indicated, and with additional qualifications specified in individual Specification Sections; and where required by Architects, that is acceptable to Barrow County.
 - 1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
 - 2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.
 - 3. A2LA: A testing agency accredited by the American Association for Laboratory Accreditation.
- H. **Factory-Authorized Service Representative Qualifications:** An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. **Preconstruction Testing:** Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:
 - 1. Contractor responsibilities include the following:
 - a. Provide test specimens representative of proposed products and construction.
 - b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
 - c. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.
 - d. Build site-assembled test assemblies and mockups using installers who will perform same tasks for Project.
 - e. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.
 - f. When testing is complete, remove test specimens, assemblies, mockups, and laboratory mockups; do not reuse products on Project.
 - 2. **Testing Agency Responsibilities:** Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect, with copy to Contractor and Owner. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.
- J. **Mockups:** Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
 - 1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.

2. Notify Architect seven days in advance of dates and times when mockups will be constructed.
3. Demonstrate the proposed range of aesthetic effects and workmanship.
4. Obtain Architect's approval of mockups before starting work, fabrication, or construction. Allow seven days for initial review and each re-review of each mockup.
5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
6. Demolish and remove mockups when directed, unless otherwise indicated.

K. Laboratory Mockups: Comply with requirements of preconstruction testing and those specified in individual Sections in Divisions 2 through 33.

1.6 QUALITY CONTROL

A. Architect Responsibilities: Architect will engage testing agency to perform testing and inspection for verification of compliance with Contract Documents.

1. Architect will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and description of the types of testing and inspecting they are engaged to perform.
2. Testing agency will interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.
3. Testing agency will submit a certified written report of each test, inspection, and similar quality-control service to Architect with copy to Contractor.
4. Testing agency will notify Architect and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
5. Testing agency will submit a final report of special tests and inspections prior to Architect's Final Certificate, which includes a list of unresolved deficiencies.
6. Testing agency will retest and reinspect corrected work.

B. Contractor's Responsibilities:

1. Contractor shall notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.
3. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Provide the following:
 - a. Access to the Work.
 - b. Incidental labor and facilities necessary to facilitate tests and inspections.
 - c. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
 - d. Facilities for storage and field-curing of test samples.
 - e. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 - f. Security and protection for samples and for testing and inspecting equipment at Project site.

C. Contractor Quality-Control Services: Engage a qualified testing agency, as documented by ASTM E 329, to perform quality-control services for the following. Do not employ the same entity engaged by Architect.

1. Preconstruction testing.
2. Special tests or inspections to verify compliance with codes, ordinances, laws regulations.
3. Submit each written report to Architect.
4. Testing and inspecting requested by Contractor and not required by the Contract Documents.

D. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to

inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Division 1 Section "Submittal Procedures."

- E. Coordination:
 - 1. Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
 - 2. Schedule times for tests, inspections, obtaining samples, and similar activities.

1.7 SPECIAL TESTS AND INSPECTIONS

- A. Special Tests and Inspections: Conducted by a qualified testing agency or special inspector as required by Architect, as indicated in individual Specification Sections, and as follows:
 - 1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviewing the completeness and adequacy of those procedures to perform the Work.
 - 2. Notifying Architect and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
 - 3. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect with copy to Contractor and Owner.
 - 4. Submitting a final report of special tests and inspections prior to Final Inspection, which includes a list of unresolved deficiencies.
 - 5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
 - 6. Retesting and reinspecting corrected work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

- A. Prepare a record of tests and inspections. Include the following:
 - 1. Date test or inspection was conducted.
 - 2. Description of the Work tested or inspected.
 - 3. Date test or inspection results were transmitted to Architect.
 - 4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and modifications as they occur. Provide access to test and inspection log for Architect's reference during normal working hours.

3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
 - 1. Provide materials and comply with installation requirements specified in other Specification Sections. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible.
 - 2. Comply with the Contract Document requirements for Division 1 Section "Cutting and Patching."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION

SECTION 014200

REFERENCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. Directed: A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "approved," "required," and "permitted" have the same meaning as "directed."
- C. Indicated: Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- D. No Exceptions Taken: Term where used in conjunction with the Architect's action on the Contractor's submittals, applications, and requests, is limited to the Architect's duties and responsibilities as stated in General and Supplementary Conditions. Refer to the SUBMITTAL PROCEDURES Section for more specific information.
- E. Regulations: Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. Furnish: Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. Install: Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. Provide: Furnish and install, complete and ready for the intended use.
- I. Installer: The Contractor or an entity engaged by the Contractor, either as an employee, subcontractor, or sub-subcontractor, for performance of a particular construction activity, including installation, erection, application, and similar operations. Installers are required to be experienced in the operations they are engaged to perform.
 - 1. Trades: Use of titles such as "carpentry" is not intended to imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespersons of the corresponding generic name.
 - 2. Assignment of Specialists: Certain Sections of the Specifications require that specific construction activities shall be performed by specialists who are recognized experts in the operations to be performed. The specialists must be engaged for those activities, and assignments are requirements over which the Contractor has no choice or option. Nevertheless, the ultimate responsibility for fulfilling Contract requirements remains with the Contractor.
 - a. This requirement shall not be interpreted to conflict with enforcement of building codes and similar regulations governing the Work.
 - b. It is also not intended to interfere with local trade union jurisdictional settlements and similar conventions.

- J. Project Site: Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.
- K. Testing Laboratories or Testing Agency: An independent entity engaged to perform specific inspections or tests, either at the Project Site or elsewhere, and to report on and, if required, to interpret results of those inspections or tests. Refer to the QUALITY REQUIREMENTS Section for more specific information and qualifications criteria.

1.3 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
 - 1. Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity.
 - 2. Copies of applicable standards are not bound with the Contract Documents. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.
- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents, unless otherwise indicated.
- C. No provisions of any reference standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall be effective to change the duties and responsibilities of Owner, Contractor or Architect, or any of their consultants, agents or employees from those set forth in the Contract Documents, nor shall it be effective to assign to Architect, or any of Architect's consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of the Contract Documents.

1.4 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale Research's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the U.S."

1.5 CONFLICTING REQUIREMENTS

- A. General: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Architect for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 015000

TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes requirements for the following:
 - 1. Construction facilities and temporary controls, including temporary utilities, support facilities, and security and protection requirements.
 - 2. Additional temporary facilities and controls necessary for the proper execution of the Work.

1.3 DEFINITIONS

- A. Permanent Enclosure: As determined by Architect, permanent or temporary roofing is complete, insulated, and weathertight; exterior walls are insulated and weathertight; and all openings are closed with permanent construction or substantial temporary closures.
- B. Secondary Permittee: Subcontractor, utility company or other entity that conducts construction activity on the Project site.

1.4 USE CHARGES

- A. Owner's existing water, natural gas, and electric power systems are available for use without metering and without payment of use charges.
 - 1. Provide connections and extensions of services as required for construction operations.
 - 2. Testing agencies and Barrow County Government shall be permitted to use temporary services and facilities without cost.

1.5 QUALITY ASSURANCE

- A. Regulations: Comply with industry standards and applicable laws and regulations of the State of Georgia including, but not limited to, the following:
 - 1. Building code requirements.
 - 2. Health and safety regulations.
 - 3. Utility company regulations.
 - 4. Police, fire department, and rescue squad rules.
 - 5. Environmental protection regulations.
- B. Construction Safeguards: Comply with NFPA 241 "Standard for Safeguarding Construction, Alterations, and Demolition Operations," ANSI A10 Series standards for "Safety Requirements for Construction and Demolition," and NECA Electrical Design Library "Temporary Electrical Facilities."
- C. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- D. Tests and Inspections: Obtain required certifications and permits.

1.6 PROJECT CONDITIONS

- A. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Relocate temporary services and facilities as the Work progresses.
 - 1. Do not overload facilities or permit them to interfere with progress.
 - 2. Take necessary fire-prevention measures.
 - 3. Do not allow hazardous, dangerous, or unsanitary conditions, or public nuisances to develop or persist on-site.
- B. Perimeter Security Fencing: Maintain minimum 20 ft. clear distance from perimeter security fencing free and clear of obstructions from camera views at all times. Do not store materials or equipment or stage construction within this area.
 - 1. Keep area along perimeter fencing clean and free of construction debris and trash.
 - 2. Maintain grass area along interior perimeter fencing from excess growth. Cut grass at intervals not exceeding two week periods.
- C. Construction Limits: Work shall be confined within construction limits indicated on Drawings. Keep construction areas free of debris and trash. Clean and police area at end of each day or work period. Maintain grass areas inside construction limits cut on a regular basis.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Lumber and Plywood: Comply with requirements in Division 6 Section MISCELLANEOUS CARPENTRY.
 - 1. For job-built temporary offices, shops, and sheds within the construction area, provide UL-labeled, fire-treated lumber and plywood for framing, sheathing, and siding.
 - 2. For signs and directory boards, provide exterior-type, Grade B-B high-density concrete form overlay plywood of sizes and thicknesses indicated.
 - 3. For fences and vision barriers, provide minimum 3/8-inch- (9.5-mm-) thick exterior plywood.
 - 4. For safety barriers, sidewalk bridges, and similar uses, provide minimum 5/8-inch- (16-mm-) thick exterior plywood.
- B. Gypsum Board: Minimum 1/2-inch (12.7 mm) thick by 48-inches (1219 mm) wide by maximum available lengths; regular-type panels with tapered edges. Comply with ASTM C 36/C 36M.
- C. Roofing Materials: Provide UL Class A standard-weight asphalt shingles or UL Class C mineral-surfaced roll roofing on roofs of job-built temporary offices, shops, and sheds.
- D. Tarpaulins: Provide waterproof, fire-resistant, UL-labeled tarpaulins with flame-spread rating of 15 or less. For temporary enclosures, provide translucent, nylon-reinforced, laminated polyethylene or polyvinyl chloride, fire-retardant tarpaulins.
- E. Chain-Link Fencing: Minimum 2-inch (50-mm), 0.148-inch- (3.76-mm-) thick, galvanized steel, chain-link fabric fencing; minimum 8 feet (2.4 m) high with galvanized steel pipe posts; minimum 2-3/8-inch- (60-mm-) OD line posts and 2-7/8-inch- (73-mm-) OD corner and pull posts, with galvanized barbed-wire top strand.
- F. Paint: Comply with requirements in Division 9 Section PAINTING.
 - 1. For job-built temporary offices, shops, sheds, fences, and other exposed lumber and plywood, provide exterior-grade acrylic-latex emulsion over exterior primer.
 - 2. For sign panels and applying graphics, provide exterior-grade alkyd gloss enamel over exterior primer.
 - 3. For interior walls of temporary offices, provide 2 coats interior latex-flat wall paint.

- G. Water: Provide potable water approved by local health authorities.

2.2 TEMPORARY SECURITY FENCING

- A. Fencing Materials: As specified in Division 11 Section SECURITY FENCES.
- B. Visual Screening Fabric: Woven polypropylene or polyester fabric, not less than 78% solid mesh, 3 oz. per sq. yd. (100 g/m²) minimum, black color.

2.3 TEMPORARY FACILITIES

- A. Field Offices: Provide at least 2 field offices for the Project. Provide 1 unit for Contractor's field office and 1 unit for Contract Compliance Specialist.
 - 1. Provide prefabricated, weather-tight, mobile units with lockable entrances, operable windows, and serviceable finishes and lighting; heated and air conditioned; on foundations adequate for normal loading.
 - 2. Contract Compliance Specialist's Office: In 3 separate rooms, provide office of sufficient size to accommodate Contract Compliance Specialist office, restroom, and conference room.
 - a. Furnishings: Provide plan table, plan rack, desk and chair, legal-size fiber transfer file with 50 manila folders for the permanent records.
 - b. Conference Room: Provide a room of not less than 240 sq. ft. for Project meetings. Furnish room with conference table and 12 folding chairs.
 - c. Restroom: Provide individual restroom with lighting, lavatory, mirror, and water closet. Connect to local water and sewer lines.
 - 3. At Contractor's option, Contract Compliance Specialist's office may be part of Contractor's office if the following criteria is met:
 - a. Office has separate, lockable exterior entrance.
 - b. If there is a party wall with lockable door between Contract Compliance Specialist's office and Contractor's office.
 - c. If restroom is to be shared facility, party wall separates Contract Compliance Specialist's office and restroom.
 - 4. Common-Use Office: Provide of sufficient size to accommodate needs of construction personnel. Keep office clean and orderly. Furnish and equip offices as follows:
 - a. Furniture required for Project-site documents including 4-drawer file cabinets, plan tables, plan racks, and 6-shelf bookcase.
 - b. Private office area with desk and chair.
 - c. Private toilet facility with water closet, lavatory and medicine cabinet with mirror.
 - d. Water cooler, coffee machine and supplies.
 - e. Heating and cooling equipment necessary to maintain a uniform indoor temperature of 68 to 72 deg F (20 to 22 deg C).
 - f. Lighting fixtures capable of maintaining average illumination of 20 fc (215 lx) at desk height.
- B. Temporary Toilet Units: Provide self-contained, single-occupant toilet units of the chemical, aerated recirculation, or combustion type. Provide units properly vented and fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material; equipped with hand-wash station in each unit.
- C. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.
 - 1. Sheds may be open shelters or fully enclosed spaces within the building or elsewhere on-site.
 - 2. Store combustible materials apart from building.

2.4 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

- B. HVAC Equipment: Unless Owner authorizes use of permanent HVAC system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.
 - 1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
 - 2. Heating units shall be listed and labeled for type of fuel being consumed, by a testing agency acceptable to Barrow County, and marked for intended use.
- C. Water Hoses: Provide 3/4-inch (19-mm), heavy-duty, abrasion-resistant, flexible rubber hoses 100 feet (30 m) long, with pressure rating greater than the maximum pressure of the water distribution system. Provide adjustable shutoff nozzles at hose discharge.
- D. Electrical Outlets: Provide properly configured, NEMA-polarized outlets to prevent insertion of 110- to 120-Volt plugs into higher voltage outlets. Provide receptacle outlets equipped with ground-fault circuit interrupters, reset button, and pilot light for connection of power tools and equipment.
- E. Electrical Power Cords: Provide grounded extension cords. Use hard-service cords where exposed to abrasion and traffic. Provide waterproof connectors to connect separate lengths of electric cords if single lengths will not reach areas where construction activities are in progress. Do not exceed safe length-voltage ratio.
- F. Lamps and Light Fixtures: Provide general service incandescent lamps of wattage required for adequate illumination. Provide guard cages or tempered-glass enclosures where exposed to breakage. Provide exterior fixtures where exposed to moisture.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.
- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

- A. General: Install temporary service or connect to existing service.
 - 1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
 - 2. Provide adequate capacity at each stage of construction. Prior to temporary utility availability, provide trucked-in services.
 - 3. Obtain easements to bring temporary utilities to the site where the Owner's easements cannot be used for that purpose.
- B. Temporary Utilities: Make arrangements for and provide temporary utilities including light, power, fuel, and water needs for execution of work.
 - 1. The Using Agency will provide a source of water; however, it shall be the responsibility of the Contractor, at his own expense, to route the water to its usage area. The Owner will provide the normal electrical supply and currently installed electrical system serving the facility for the use of the Contractor. However, the Owner provides no guarantee or warranty as to the system's condition or capabilities. The Contractor shall assure himself that the electrical system is adequate for his requirements or supply additional temporary electrical power, at his own expense. The Contractor is not responsible for payment of any utilities.
 - 2. Any damage to the electrical system resulting from misuse or abuse to the existing electrical system shall be repaired or replaced by the Contractor at no additional expense to the Owner.

- C. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.
 - 1. If sewers are not available or cannot be used, provide drainage ditches, dry wells, stabilization ponds, and similar facilities. If neither sewers nor drainage facilities can be lawfully used for discharge of effluent, provide containers to remove and dispose of effluent off-site in a lawful manner.
 - 2. Connect temporary sewers to municipal system as directed by Architect.
 - 3. Filter out excessive amounts of soil, construction debris, chemicals, oils, and similar contaminants that might clog sewers or pollute waterways before discharge.
 - 4. Maintain temporary sewers and drainage facilities in a clean, sanitary condition. Following heavy use, restore normal conditions promptly.
- D. Water Service: Install water service and distribution piping in sizes and pressures adequate for construction until permanent water service is in use. Sterilize temporary water piping prior to use.
- E. Sanitary Facilities: Install temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities.
- F. Heating and Cooling: Provide temporary heating and cooling required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.
- G. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.
- H. Electric Power Service: Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations. Install electric power service underground, unless overhead service must be used.
- I. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
 - 1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
 - 2. Install lighting for Project identification sign.
- J. Telephone Service: Provide temporary telephone service in common-use facilities for use by all construction personnel. Install one telephone line for each field office.
 - 1. Provide additional telephone lines for each facsimile machine and computer in each field office.
 - 2. At each telephone, post a list of important telephone numbers.
 - a. Police and fire departments.
 - b. Ambulance service.
 - c. Contractor's home office.
 - d. Architect's office.
 - e. Engineers' offices.
 - f. Owner's office.
 - g. Principal subcontractors' field and home offices.
 - 3. Provide superintendent with cellular telephone for use when away from field office.
- K. Electronic Communication Service: Provide temporary electronic communication service, including electronic mail, in common-use facilities.

3.3 SUPPORT FACILITIES INSTALLATION

- A. General: Comply with the following:
1. Provide incombustible construction for offices, shops, and sheds located within construction area or within 30 feet (9 m) of building lines. Comply with NFPA 241.
 2. Maintain support facilities until near Final Completion. Remove before Final Completion. Personnel remaining after Final Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.
- B. Temporary Roads and Staging Areas: Construct and maintain temporary roads and staging areas adequate for construction operations. Locate within construction limits indicated on Drawings.
1. Provide dust-control treatment that is nonpolluting and nontracking.
 2. Reapply treatment as required to minimize dust.
- C. Traffic Controls: Comply with requirements of Georgia Department of Transportation.
1. Protect existing site improvements to remain including curbs, pavement, and utilities.
 2. Maintain access for fire-fighting equipment and access to fire hydrants.
- D. Parking: Temporary parking areas for construction personnel shall limited to locations as directed by Owner.
- E. Dewatering Facilities and Drains: Maintain Project site, excavations, and construction free of water.
1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties nor endanger permanent Work or temporary facilities.
 2. Remove snow and ice as required to minimize accumulations.
- F. Project Identification and Temporary Signs: Provide Project identification and other signs as specified. Install signs where indicated to inform public and individuals seeking entrance to Project. Unauthorized signs are not permitted.
1. Construct project identification sign from specified plywood material of 4 ft. by 8 ft. size bound by 2 by 4 framing.
 - a. Letter sizes, style and work shall be as directed by Architect.
 - b. Indicate Name of Project, name of Owner, name of Contractor, name of Architect and his consultants. Submit layout of sign to Architect for approval.
 - c. Mount sign on 4 by 4 posts projecting at least 6 ft. above ground and locate sign as directed.
 2. Provide temporary, directional signs for construction personnel and visitors.
 3. Maintain and touchup signs so they are legible at all times.
 4. Major subcontractors may display a sign on their storage shed not larger than 3 sq. ft. to facilitate job management and delivery of materials.
- G. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of U.S. Environmental Protection Agency. Comply with Division 1 Section EXECUTION REQUIREMENTS for progress cleaning requirements.
- H. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.
- I. Temporary Stairs: Until permanent stairs are available, provide temporary stairs where ladders are not adequate.
- J. Temporary Use of Permanent Stairs: Cover finished, permanent stairs with protective covering of plywood or similar material so finishes will be undamaged at time of acceptance.

3.4 TEMPORARY SECURITY FENCING AND BARRIERS INSTALLATION:

- A. The Contractor shall not breach, modify or demolish any portions of the existing security fencing system without the Owner's prior approval and close coordination to maintain the secured perimeter while the work is being performed.
- B. Construct temporary security fencing and barriers as indicated on drawings. Coordinate and sequence installation with Owner and obtain approval of completed fence installation before starting any other work within the existing security fence perimeter.
 - 1. Schedule and phase installation of temporary construction entrance through existing perimeter security fencing system with Owner so as not to disable or disrupt intrusion detection system on fencing. Cutting and tying-in of new construction entrance with the interior perimeter security fencing containing the intrusion detection system shall be performed within one work day of not more than an eight hour period.
 - 2. The Owner will install the intrusion detection system on the interior perimeter security fencing upon erection of temporary construction entrance gates and fencing.
 - a. Coordinate and sequence installation with Owner to maintain the integrity of perimeter security fencing system.
 - b. Contractor shall be responsible for erecting all fence posts, including isolation posts, and fabric, to perimeter fencing system to incorporate temporary construction entrance into the existing perimeter security fencing system. Contractor shall also re-tension existing fence fabric to ensure proper operation of intrusion detection system upon completion of temporary construction entrance installation.
- C. Where construction work requires access to other portions of Owner's existing facility, Contractor shall coordinate and schedule work with Owner so as not to compromise existing security systems.

3.5 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
- B. Temporary Erosion and Sedimentation Control: Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to adjacent properties and walkways, according to requirements of U.S. Environmental Protection Agency and Georgia Environmental Protection Division. Inspect, repair, and maintain erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
- C. Stormwater Control: Comply with Georgia Environmental Protection Division and NPDES. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.
- D. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.
- E. Security Enclosure and Lockup: Install substantial temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.
- F. Barricades, Warning Signs, and Lights: Comply with requirements of Barrow County for erecting structurally adequate barricades, including warning signs and lighting.
- G. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities.

1. Provide temporary weathertight enclosure for building exterior.
 2. Where heating or cooling is needed and permanent enclosure is not complete, insulate temporary enclosures.
- H. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241.
1. Prohibit smoking in hazardous fire-exposure areas and any dried-in area of the building.
 2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of Barrow County Fire Department Services.
 3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
 4. Provide temporary standpipes and hoses for fire protection. Hang hoses with a warning sign stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.
- 3.6 OPERATION, TERMINATION, AND REMOVAL
- A. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Final Completion.
- B. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Final Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
 2. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil.
 - a. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns.
 - b. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by Barrow County.
 3. At Final Completion, clean and renovate permanent facilities used during construction period. Comply with final cleaning requirements specified in Division 1 Section FINAL CLEANING.
- C. Temporary Construction Fence and Entrance Removal: Remove temporary construction fencing, including construction entrance upon completion of construction.
1. Coordinate and sequence removal of temporary construction entrance with Owner so as not to disable or disrupt intrusion detection system on fencing.
 - a. Replacement of interior perimeter security fencing and tying-in of intrusion detection system shall be performed within one work day of not more than an eight hour period.
 - b. Install and tension chain link fabric to perimeter security fence opening after removal of construction entrance gates.
 2. The Owner will install intrusion detection system after the Contractor has installed and tensioned fence fabric to existing interior perimeter security fencing.
 3. Restore perimeter security fencing system to same condition encountered prior to construction.

END OF SECTION

SECTION 016000

PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; and special warranties.
- B. Related Sections include the following:
 - 1. Division 1 Section – SUBSTITUTIONS OF PRODUCTS DURING BIDDING for requirements of substituting products before bid opening.
 - 2. Division 1 Section REFERENCES for applicable industry standards for products specified.
 - 3. Division 1 Section PROJECT CLOSEOUT for submitting warranties for Contract closeout.
 - 4. Divisions 2 through 33 Sections for specific requirements for warranties on products and installations specified to be warranted.

1.3 DEFINITIONS

- A. Products: Items purchased for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved through submittal process, or where indicated as a product substitution, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: Where a specific manufacturer's product is named and accompanied by the words "basis of design," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of other named manufacturers.
- C. Manufacturer's Warranty: Preprinted written warranty published by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
- D. Special Warranty: Written warranty required by or incorporated into the Contract Documents, either to extend time limit provided by manufacturer's warranty or to provide more rights for Owner.

1.4 SUBMITTALS

- A. Product List: Submit a list, in tabular form, showing specified products to be installed. Include generic

names of products required. Include manufacturer's name and proprietary product names for each product.

1. Coordinate product list with Contractor's Construction Schedule and the Submittals Schedule.
 2. Form: Tabulate information for each product under the following column headings:
 - a. Specification Section number and title.
 - b. Generic name used in the Contract Documents.
 - c. Proprietary name, model number, and similar designations.
 - d. Manufacturer's name and address.
 - e. Supplier's name and address.
 - f. Installer's name and address.
 - g. Projected delivery date or time span of delivery period.
 - h. Identification of the following items:
 - 1) Items that require early submittal approval for scheduled delivery date.
 - 2) Items that require early submittal approval for scheduled delivery date. Specification Sections that require samples to be submitted for initial selection.
 - 3) Items that require color selections and similar selections required by the Architect..
 3. Pre-Construction Submittal: As soon as possible after notice of award of the contract and in any event not later than three days prior to the time fixed in the contract for delivery of the executed form of agreement to the Owner, submit 4 copies of initial product list. Include a written explanation for omissions of data and for variations from Contract requirements.
 4. Completed List: Within 30 days after Execution of Contract, submit 4 copies of completed product list.
 5. Architect will respond in writing to Contractor within 15 days of receipt of completed product list.
 - a. Architect's response will include a list of unacceptable product selections and a brief explanation of reasons for this action.
 - b. Architect's response, or lack of response, does not constitute a waiver of requirement to comply with the Contract Documents.
- B. Basis-of-Design Product Specification Submittal: Comply with requirements in Division 1 Section "Submittal Procedures." Show compliance with requirements.

1.5 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, product selected shall be compatible with products previously selected, even if previously selected products were also options.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 4. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
- C. Storage:
1. Store products to allow for inspection and measurement of quantity or counting of units.
 2. Store materials in a manner that will not endanger Project structure.

3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
4. Store cementitious products and materials on elevated platforms.
5. Store foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
6. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
7. Protect stored products from damage and liquids from freezing.

1.7 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
 1. Manufacturer's Warranty: Preprinted written warranty published by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 2. Special Warranty: Written warranty required by or incorporated into the Contract Documents, either to extend time limit provided by manufacturer's warranty or to provide more rights for Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution. Submit a draft for approval before final execution.
 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 2. Specified Form: When specified forms are included with the Specifications, prepare a written document using appropriate form properly executed.
 3. Refer to Divisions 2 through 16 Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Division 1 Section PROJECT CLOSEOUT.

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, that are new at time of installation.
 1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
 4. Where products are accompanied by the term "as selected," Architect will make selection.
 5. Where products are accompanied by the term "match sample," sample to be matched is Architect's.
 6. Descriptive, performance, and reference standard requirements in the Specifications establish "salient characteristics" of products.
- B. Product Selection Procedures:
 1. Product: Where Specifications name a single product and manufacturer, provide the named product that complies with requirements.
 2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements.

3. Products: Where Specifications include a list of names of both products and manufacturers, provide one of the products listed that complies with requirements.
4. Manufacturers: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements.
5. Product Options: Where Specifications indicate that sizes, profiles, and dimensional requirements on Drawings are based on a specific product or system, provide the specified product or system. Comply with provisions in Part 2 "Product Substitutions" Article for consideration of an unnamed product or system.
6. Basis-of-Design Product: Where Specifications name a product and include a list of manufacturers, provide the specified product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with provisions in Part 2 "Comparable Products" Article for consideration of an unnamed product by the other named manufacturers.
7. Visual Matching Specification: Where Specifications require matching an established Sample, select a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
8. Visual Selection Specification: Where Specifications include the phrase "as selected from manufacturer's colors, patterns, textures" or a similar phrase, select a product that complies with other specified requirements.
 - a. Standard Range (or Selection): Where Specifications include the phrase "standard range (or standard selection) of colors, patterns, textures" or similar phrase, Architect will select color, pattern, density, or texture from manufacturer's product line that does not include premium items.
 - b. Full Range: Where Specifications include the phrase "full range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 CONTRACTOR'S OPTION

- A. Where specifications allow the Contractor to use another specified material, product, system or equipment as an option, the Contractor may choose to use the option on the condition that any additional costs, modifications, adjustments, redesign or alterations required to incorporate it into the construction of the Project are included in the Work in the Bid.
 1. Contractor shall be responsible for coordinating and incorporating the option, if taken, into the Project including all required submittals and specification provisions.
 2. Contractor waives rights to additional payment or time should specified options be chosen and incorporated into the Project.

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 016350

SUBSTITUTIONS OF PRODUCTS DURING BIDDING

PART 1 - GENERAL

1.1 SUMMARY

- A. Document includes administrative and procedural requirements for product substitutions before receipt of bids.
- B. Substitutions are changes in products, materials, equipment, and methods of construction from those required by the Contract Documents.

1.2 SUBMITTALS REQUIREMENTS FOR CONSIDERATION OF SUBSTITUTIONS

- A. Substitution Requests: Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Substitution Request Form: Use CSI Form 01.5CA. Copy of this form is included after the end of this Document.
 - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Coordination information, including a list of changes or modifications needed to other parts of the Work.
 - b. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 - c. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - d. Samples, where applicable.
 - e. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
 - f. Contractor's certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.
- B. Timing: Architect will consider requests for substitution if received within the time frame indicated in the General Conditions or 14 days.

1.3 ARCHITECT'S ACTIONS

- A. Architect will consider requests for substitutions when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
 - 1. Substitution request is fully documented and properly submitted.
 - 2. Requested substitution is compatible with other portions of the Work.
 - 3. Requested substitution provides specified warranty.
 - 4. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 - 5. Samples, if requested.
- B. If necessary, Architect will request additional information or documentation for evaluation.

C. Form of Acceptance: Acceptance indicated in an Addendum.

1.4 GENERAL PRODUCT REQUIREMENTS

A. Provide products that comply with the Contract Documents and that are complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

Attachment: Substitution Request (During the Bidding Phase) form



SUBSTITUTION REQUEST (During the Bidding Phase)

Project: _____ Substitution Request Number: _____

 From: _____
 To: _____ Date: _____

 A/E Project Number: _____
 Re: _____ Contract For: _____

Specification Title: _____ Description: _____
 Section: _____ Page: _____ Article/Paragraph: _____

Proposed Substitution: _____
 Manufacturer: _____ Address: _____ Phone: _____
 Trade Name: _____ Model No.: _____

Attached data includes product description, specifications, drawings, photographs, and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its proper installation.

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.

Submitted by: _____
 Signed by: _____
 Firm: _____
 Address: _____
 Telephone: _____

A/E's REVIEW AND ACTION

- Substitution approved - Make submittals in accordance with Specification Section 01330.
- Substitution approved as noted - Make submittals in accordance with Specification Section 01330.
- Substitution rejected - Use specified materials.
- Substitution Request received too late - Use specified materials.

Signed by: _____ Date: _____

Supporting Data Attached: Drawings Product Data Samples Tests Reports _____

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SECTION 017123

FIELD ENGINEERING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. General: This Section specifies administrative and procedural requirements for field-engineering services including, but not limited to, the following:
 - 1. Construction layout.
 - 2. Field engineering.
 - 3. Property surveys
 - 4. Damage surveys.
 - 5. Geotechnical monitoring.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 1 Section PROJECT COORDINATION for procedures for coordinating field engineering with other construction activities.
 - 2. Division 1 Section PROJECT RECORD DOCUMENTS for submitting Project record surveys.
 - 3. Division 1 Section PROJECT CLOSEOUT for submitting final property survey with Project Record Documents and recording of Owner-accepted deviations from indicated lines and levels.

1.3 SUBMITTALS

- A. Qualification Data: Submit for Land Surveyor indicating compliance with specified qualification requirements.
- B. Certificates: Submit certificate signed by Land Surveyor, or professional engineer where applicable, certifying that location and elevation of improvements comply with Project requirements.
- C. Certified Surveys: Submit two copies signed by Land Surveyor.
- D. Final Property Survey: Submit 10 copies showing the Work performed and record survey data.
- E. Project Record Documents: Submit a record of Work performed and record survey data as required under provisions of PROJECT RECORD DOCUMENTS and PROJECT CLOSEOUT Sections.

1.4 QUALITY ASSURANCE

- A. Surveyor Qualifications: Engage a Professional Land Surveyor registered in the State where the Project is located, who is experienced in providing land-surveying services to the extent required for this Project.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the following:
 - 1. The existence and location of mechanical and electrical systems and other construction affecting the Work.
 - 2. The location and points of connection of utility services.
- B. Existing Utilities: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed.
 - 1. Before beginning sitework, investigate and verify the following:
 - a. The existence and location of underground utilities and other construction affecting the Work.
 - b. The location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; and underground electrical services.
 - 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

3.2 PREPARATION

- A. Existing Utility Information: Furnish information to local utility and Owner that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect promptly.
- B. General: Engage a Land Surveyor to lay out the Work using accepted surveying practices.
 - 1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
 - 2. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
 - 3. Inform installers of lines and levels to which they must comply.
 - 4. Check the location, level and plumb, of every major element as the Work progresses.
 - 5. Notify Architect when deviations from required lines and levels exceed allowable tolerances.
 - 6. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.
- C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and invert elevations.
- D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.
- E. Record Log: Maintain a surveyor's log of layout control work and other surveying work required.
 - 1. Record deviations from required lines and levels.
 - a. Advise the Architect when deviations that exceed indicated or recognized tolerances are

detected.

- b. Record on Project Record Drawings, deviations that are accepted and not corrected.
2. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used.
3. Make the log available for reference by Architect.

3.4 FIELD ENGINEERING

- A. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.
 1. Do not change or relocate existing benchmarks or control points without prior written approval of Architect. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Architect before proceeding.
 2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.
- B. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.
 1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
 2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
 3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.
- C. Certified Survey: On completion of foundation walls, major site improvements, and other work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles, and elevations of construction and sitework.
- D. Final Property Survey: Prepare a final property survey showing significant features (real property) for Project. Include on the survey a certification, signed by Land Surveyor, that principal metes, bounds, lines, and levels of Project are accurately positioned as shown on the survey.
 1. Show boundary lines, monuments, streets, site improvements and utilities, existing improvements and significant vegetation, adjoining properties, acreage, grade contours, and the distance and bearing from a site corner to a legal point.
 2. Recording: At Final Completion, have the final property survey recorded by or with authorities having jurisdiction as the official "property survey."

END OF SECTION

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SECTION 017300

EXECUTION REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:
1. General installation of products.
 2. Coordination of Owner-installed products.
 3. Progress cleaning.
 4. Starting and adjusting.
 5. Protection of installed construction.
 6. Correction of the Work.
- B. Related Sections include the following:
1. Division 1 Section PROJECT COORDINATION for procedures for coordinating construction activities.
 2. Division 1 Section CUTTING AND PATCHING for procedural requirements for cutting and patching necessary for the installation or performance of other components of the Work.
 3. Division 1 Section PROJECT CLOSEOUT for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
1. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
 2. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 3. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 4. If conditions and substrates examined are not acceptable, prepare a written report listing conditions detrimental to performance of the Work, include the following:
 - a. Description of the Work.
 - b. List of detrimental conditions, including substrates.
 - c. List of unacceptable installation tolerances.
 - d. Recommended corrections.
 5. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding

with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product.
 - 1. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication.
 - 2. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- C. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents.

3.3 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
 - 4. Maintain minimum headroom clearance complying with governing code in spaces without a suspended ceiling.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Final Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels without personal protection.
- F. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- G. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- H. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

- I. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.4 OWNER-INSTALLED PRODUCTS

- A. Site Access: Provide access to Project site for Owner's construction forces.
- B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction forces.
 - 1. Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.
 - 2. Preinstallation Conferences: Include Owner's construction forces at preinstallation conferences covering portions of the Work that are to receive Owner's work. Attend preinstallation conferences conducted by Owner's construction forces if portions of the Work depend on Owner's construction.

3.5 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
 - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 - 2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F (27 deg C).
 - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
- B. Site: Maintain Project site free of waste materials and debris. Keep site clean and free of clutter. Comply with requirements specified in Division 1 Section TEMPORARY FACILITIES AND CONTROLS for maintaining grass areas.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
 - 1. Remove liquid spills promptly.
 - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration.
- G. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration.

- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.6 STARTING AND ADJUSTING

- A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- B. Adjust operating components for proper operation without binding. Adjust equipment for proper operation.
- C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- D. Manufacturer's Field Service: If a factory-authorized service representative is required to inspect field-assembled components and equipment installation, comply with qualification requirements in Division 1 Section "Quality Requirements."

3.7 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration.
- B. Comply with manufacturer's written instructions for temperature and relative humidity.

3.8 CORRECTION OF THE WORK

- A. Repair or remove and replace defective construction. Restore damaged substrates and finishes.
 - 1. Comply with requirements in Division 1 Section CUTTING AND PATCHING.
 - 2. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
- B. Restore permanent facilities used during construction to their specified condition.
- C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.
- E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION

SECTION 017329
CUTTING AND PATCHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes procedural requirements for cutting and patching.
- B. Related Sections include the following:
 - 1. Divisions 2 through 33 Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.
 - 2. Division 7 Section FIRESTOPPING for patching fire-rated construction.

1.3 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of other Work.
- B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

1.4 SUBMITTALS

- A. Cutting and Patching Proposal: Submit a proposal describing procedures at least 10 days before the time cutting and patching will be performed, requesting approval to proceed. Include the following information:
 - 1. Extent: Describe cutting and patching, show how they will be performed, and indicate why they cannot be avoided.
 - 2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building's appearance and other significant visual elements.
 - 3. Products: List products to be used and firms or entities that will perform the Work.
 - 4. Dates: Indicate when cutting and patching will be performed.
 - 5. Utility Services and Mechanical/Electrical Systems: List services/systems that cutting and patching procedures will disturb or affect. List services/systems that will be relocated and those that will be temporarily out of service. Indicate how long services/systems will be disrupted.
 - 6. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with original structure.
 - 7. Architect's Approval: Obtain approval of cutting and patching proposal before starting work. Approval does not waive right to later require removal and replacement of unsatisfactory work.

1.5 QUALITY ASSURANCE

- A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.
- B. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or

decreased operational life or safety. Operating elements include the following:

1. Primary operational systems and equipment.
2. Air or smoke barriers.
3. Fire-suppression systems.
4. Mechanical systems piping and ducts.
5. Control systems.
6. Communication systems.
7. Conveying systems.
8. Electrical wiring systems.

- C. Miscellaneous Elements: Do not cut and patch miscellaneous elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.

Miscellaneous elements include the following:

1. Water, moisture, or vapor barriers.
2. Roof membranes and flashings.
3. Metal roof panels.
4. Masonry walls.
5. Brick veneer.
6. Metal siding.
7. Equipment supports.
8. Piping, ductwork, vessels, and equipment.
9. Noise- and vibration-control elements and systems.

- D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

1.6 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
- B. In-Place Materials: Use materials identical to in-place materials.
1. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
 2. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with in-place finishes or primers.
 2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Temporary Support: Provide temporary support of Work to be cut.
- B. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.

3.3 PERFORMANCE

- A. General: Employ skilled workers to perform cutting and patching.
 - 1. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 2. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
 - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 - 3. Concrete or Masonry Materials: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 - 4. Excavating and Backfilling: Comply with requirements in applicable Division 2 Sections where required by cutting and patching operations.
 - 5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 - 6. Proceed with patching after construction operations requiring cutting are complete.
- C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.
 - 1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
 - 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
 - b. Restore damaged pipe covering to its original condition.
 - 3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - a. Where patching occurs in a painted surface, apply primer and intermediate paint coats over the patch and apply final paint coat over entire unbroken surface containing the patch.

- b. Provide additional coats until patch blends with adjacent surfaces.
 - 4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
 - 5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.
- D. Cleaning: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

END OF SECTION

SECTION 017423

FINAL CLEANING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for final cleaning prior to Final Inspection.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 1 Section EXECUTION REQUIREMENTS specifies general cleanup and waste-removal requirements.
 - 2. Division 1 Section PROJECT CLOSEOUT specifies general contract closeout requirements.
 - 3. Special cleaning requirements for specific construction elements are included in appropriate Sections of Divisions 2 through 33

1.3 PROJECT CONDITIONS

- A. Environmental Requirements: Conduct cleaning and waste-disposal operations in compliance with local laws and ordinances. Comply fully with federal and local environmental and antipollution regulations.
 - 1. Do not dispose of volatile wastes, such as mineral spirits, oil, or paint thinner, in storm or sanitary drains.
 - 2. Burning or burying of debris, rubbish, or other waste material on the premises is not permitted.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by the manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. Just prior to Date of Final Inspection, perform final cleaning for Architect' inspection of the Work to determine Final Completion.
- B. General: Employ experienced workers or professional cleaners for final cleaning.
 - 1. Clean each surface or unit of Work to the condition expected from a commercial building cleaning and maintenance program.
 - 2. Comply with manufacturer's instructions for cleaning installed products, materials and equipment.
- C. Complete the following cleaning operations before requesting inspection for for Final Acceptance for the

entire Project or a portion of the Project.

1. Clean the Project Site, yard and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, foreign substances and any items that could be used as a weapon (such as welding rods, wire ties, rebars, bolts, screws, etc.)
 2. Sweep paved areas broom clean. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 3. Remove petrochemical spills, stains, and other foreign deposits.
 4. Remove tools, construction equipment, machinery, and surplus material from the site.
 5. Remove snow and ice to provide safe access to the building.
 6. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 7. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 8. Broom clean concrete floors in unoccupied spaces.
 9. Vacuum clean sealed concrete floors in occupied spaces.
 10. Vacuum clean carpet and similar soft surfaces, removing debris and excess nap. Shampoo, if required.
 11. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other substances that are noticeable vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
 12. Remove labels that are not permanent labels.
 13. Touch up and otherwise repair and restore marred, exposed finishes and surfaces.
 - a. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - b. Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
 14. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 15. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 16. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 17. Clean ducts, blowers, and coils if units were operated without filters during construction.
 18. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs and defective and noisy starters in fluorescent and mercury vapor fixtures.
 19. Leave the Project clean and ready for occupancy.
- D. Pest Control: Engage an experienced, licensed exterminator to make a final inspection and rid the Project of rodents, insects, and other pests. Comply with regulations of local authorities.
- E. Removal of Protection: Remove temporary protection and facilities installed during construction to protect previously completed installations during the remainder of the construction period.
- F. Compliances: Comply with governing regulations and safety standards for cleaning operations.
1. Remove waste materials from the site and dispose of lawfully.
 2. Where extra materials of value remain after completion of associated Work, they become the Owner's property. Dispose of these materials as directed by the Owner.

END OF SECTION

SECTION 017720
PROJECT CLOSEOUT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout including, but not limited to, the following:
1. Inspection procedures.
 2. Project record document submittal.
 3. Operation and maintenance manual submittal.
 4. Warranties submittal.
 5. Demonstration and training procedures.
- B. Related Sections
1. Division 1 Section PROJECT RECORD DOCUMENTS for procedures and requirements for maintaining Record Drawings, Record Specifications, and Record Product Data.
 2. Division 1 Section OPERATION AND MAINTENANCE DATA for operation and maintenance manual requirements.
 3. Division 1 Section WARRANTIES for requirements and procedures for organizing and submitting warranties.
 4. Closeout requirements for specific construction activities are included in the appropriate Sections in Divisions 2 through 33.

1.3 DEFINITIONS

- A. False Start: Premature issue of "Notice of Readiness for Final Inspection."
- B. Punch List: Listing of items requiring action by Contractor to complete requirements of the Contract Documents.

1.4 FINAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of issuance of Final Certificate, complete the following: List items below that are incomplete in request.
1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
 2. Advise Owner of pending insurance changeover requirements.
 3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 5. Prepare and submit Project Record Documents, operation and maintenance manuals and similar final record information.
 6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.

7. Make final changeover of permanent locks and deliver keys to Owner.
 - a. Advise Owner's personnel of changeover in security provisions.
 - b. Include itemized key schedule as described elsewhere in the Contract Documents.
 8. Complete startup testing of systems. Submit test/adjust/balance records.
 9. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 10. Submit changeover information related to Owner' occupancy, use, operation, and maintenance.
 11. Complete final cleaning requirements, including touchup painting.
 12. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
 13. Submit pest-control final inspection report and warranty.
 14. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit evidence of such demonstration and training.
- B. Request for Inspection: Submit a written request, entitled "Notice of Readiness for Final Inspection." In written request, include statement as described elsewhere in the Contract Documents.
- C. Inspection: On receipt of request, Architect and Owner will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Final Certificate after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
 2. Reimbursement For False Start: Refer to General Conditions for Contractor responsibility for False Start.
 3. Results of completed inspection will form the basis of requirements for Final Completion.
- 1.5 ISSUANCE OF FINAL CERTIFICATE
- A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
1. Submit certified copy of completed or corrected punch list, endorsed and dated by Architect. On certified punch list copy, state that each item has been completed or otherwise resolved for acceptance.
 2. Submit a final Application for Payment according to the General Conditions of the Contract.
- 1.6 LIST OF INCOMPLETE ITEMS (PUNCH LIST)
- A. Preparation: Submit four (4) copies of list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction. Use CSI Form 14.1A. Copy of this form is included after the end of this Section.
- 1.7 CLOSEOUT SUBMITTALS
- A. Warranties: Compile and submit warranty documents as specified in WARRANTIES Section. Secure Architect's review and acceptance of documents prior to submittal.
- B. Certifications, Permits, and Licenses: Submit copies of permits, licenses, and certificates as specified in QUALITY REQUIREMENTS Section. Include certifications from local governmental agencies that building has been inspected as required by laws or ordinances, and that building is acceptable to the governing authorities and approved for occupancy.
- C. Project Record Documents: Submit record drawings and specifications, product data submittals, record samples and other miscellaneous records as specified in PROJECT RECORD DOCUMENTS Section. Secure Architect's review and acceptance of documents prior to submittal.

- D. Operation and Maintenance Data: Submit organized and assembled operations and maintenance documents bound into manuals as specified in OPERATION AND MAINTENANCE DATA Section. Secure Architect's review and acceptance of bound manuals prior to submittal.
- E. Materials and Services Lists: Submit list of subcontractors and suppliers who provided materials, equipment or services for the project.
 - 1. Indicate company names, addresses, phone numbers and person to contact in case of problems or for information concerning the installation of products, equipment or services performed.
 - 2. List shall be typed in a legible and organized format.
- F. Manufacturers Certificates: Submit manufacturers' certificates for major components in accord with requirements of the General Conditions.
 - 1. Assemble manufacturers certificates with required accompanying documents.
 - 2. Provide two copies. Organize manufacturers certificates and index data in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents. Identify each binder on front and spine with the printed title "MANUFACTURERS CERTIFICATES," Project name, and subject matter of contents.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 DEMONSTRATION AND TRAINING

- A. Instruction: Instruct Owner's personnel on how to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
 - 1. Provide instructors experienced in operation and maintenance procedures. Have factory-authorized service representative give instructions if indicated within an individual Specification Sections.
 - 2. Provide instruction at mutually agreed-on times. For equipment that requires seasonal operation, provide similar instruction at the start of each season.
 - 3. Schedule training with Owner, through Architect, with at least 15 days' advance notice.
 - 4. Coordinate instructors, including providing notification of dates, times, length of instruction, and course content.
- B. Program Structure: Develop an instruction program that includes individual training modules for each system and equipment not part of a system, as required by individual Specification Sections. For each training module, develop a learning objective and teaching outline. Include instruction for the following:
 - 1. System design and operational philosophy.
 - 2. Review of documentation.
 - 3. Operations.
 - 4. Adjustments.
 - 5. Troubleshooting.
 - 6. Maintenance.
 - 7. Repair.

END OF SECTION

Attachment: CSI Form 14.1A "PUNCH LIST"



PUNCH LIST

Project: _____

From (A/E): _____

Site Visit Date: _____

To (Contractor): _____

A/E Project Number: _____

Contract For: _____

The following items require the attention of the Contractor for completion or correction. This list may not be all-inclusive, and the failure to include any items on this list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

Item Number	Room Number	Location (Area)	Description	Correction/Completion Date	Verification A/E Check
-------------	-------------	-----------------	-------------	----------------------------	------------------------

Attachments

Signed by: _____ Date: _____

Copies: Owner Consultants _____ _____ _____ _____ _____ _____ _____ File

SECTION 017823

OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
 - 1. Operation and maintenance documentation directory.
 - 2. Emergency manuals.
 - 3. Operation manuals for systems, subsystems, and equipment.
 - 4. Maintenance manuals for the care and maintenance of products, materials and finishes, systems and equipment.
- B. Related Sections include the following:
 - 1. Division 1 Section PROJECT CLOSEOUT for submitting operation and maintenance manuals.
 - 2. Division 1 Section PROJECT RECORD DOCUMENTS for preparing Record Drawings for operation and maintenance manuals.
 - 3. Divisions 2 through 33 Sections for specific operation and maintenance manual requirements for products in those Sections.

1.3 DEFINITIONS

- A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.
- B. Subsystem: A portion of a system with characteristics similar to a system.

1.4 SUBMITTALS

- A. Initial Submittal: Submit two (2) draft copies of each manual at least 15 days before requesting Final Inspection. Include a complete operation and maintenance directory. Architect will return one (1) copy of draft and marked whether general scope and content of manual are acceptable.
- B. Final Submittal: Submit one (1) copy of each manual in final form at least 15 days prior to demonstration and training session with Owner's designated personnel. Architect will return copy with comments within 15 days after receipt.
 - 1. Correct or modify each manual to comply with Architect's comments.
 - 2. Submit 3 copies of each corrected manual within 15 days of receipt of Architect's comments.

1.5 COORDINATION

- A. Where operation and maintenance documentation includes information on installations by more than one factory-authorized service representative, assemble and coordinate information furnished by representatives and prepare manuals.
- B. Demonstration and Training: Schedule demonstration and training of Owner's designated personnel for the use, operation, care and maintenance of installed materials and equipment prior to Final Inspection. Coordinate demonstration and training with initial submittal of operations and maintenance manuals and requirements specified in Division 1 Section PROJECT CLOSEOUT.

PART 2 - PRODUCTS

2.1 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY

- A. Organization: Include a section in the directory for each of the following:
 - 1. List of documents.
 - 2. List of systems.
 - 3. List of equipment.
 - 4. Table of contents.
- B. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.
- C. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.
- D. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.
- E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with the same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

2.2 MANUALS, GENERAL

- A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
 - 1. Title page.
 - 2. Table of contents.
 - 3. Manual contents.
- B. Title Page: Enclose title page in transparent plastic sleeve. Include the following information:
 - 1. Subject matter included in manual.
 - 2. Name and address of Project.
 - 3. Name and address of Owner.
 - 4. Date of submittal.
 - 5. Name, address, and telephone number of Contractor.
 - 6. Name and address of Architect.
 - 7. Cross-reference to related systems in other operation and maintenance manuals.
- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.
- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
 - 1. Binders: Heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch (115-by-280-mm) paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
 - a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of

- equipment or system.
- b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents. Indicate volume number for multiple-volume sets.
- 2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
- 3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software diskettes for computerized electronic equipment.
- 4. Supplementary Text: Prepared on 8-1/2-by-11-inch (115-by-280-mm), 20-lb/sq. ft. (75-g/sq. m) white bond paper.
- 5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
 - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
 - b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

2.3 EMERGENCY MANUALS

- A. Content: Organize manual into a separate section for each of the following:
 - 1. Type of emergency.
 - 2. Emergency instructions.
 - 3. Emergency procedures.
- B. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:
 - 1. Fire.
 - 2. Flood.
 - 3. Gas leak.
 - 4. Water leak.
 - 5. Power failure.
 - 6. Water outage.
 - 7. Security systems.
 - 8. Locking control systems.
 - 9. System, subsystem, or equipment failure.
 - 10. Chemical release or spill.
- C. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.
- D. Emergency Procedures: Include the following, as applicable:
 - 1. Instructions on stopping.
 - 2. Shutdown instructions for each type of emergency.
 - 3. Operating instructions for conditions outside normal operating limits.
 - 4. Required sequences for electric or electronic systems.
 - 5. Special operating instructions and procedures.

2.4 OPERATION MANUALS

- A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:
 - 1. System, subsystem, and equipment descriptions.
 - 2. Performance and design criteria if Contractor is delegated design responsibility.

3. Operating standards.
 4. Operating procedures.
 5. Operating logs.
 6. Wiring diagrams.
 7. Control diagrams.
 8. Piped system diagrams.
 9. Precautions against improper use.
 10. License requirements including inspection and renewal dates.
- B. Descriptions: Include the following:
1. Product name and model number.
 2. Manufacturer's name.
 3. Equipment identification with serial number of each component.
 4. Equipment function.
 5. Operating characteristics.
 6. Limiting conditions.
 7. Performance curves.
 8. Engineering data and tests.
 9. Complete nomenclature and number of replacement parts.
- C. Operating Procedures: Include the following, as applicable:
1. Startup procedures.
 2. Equipment or system break-in procedures.
 3. Routine and normal operating instructions.
 4. Regulation and control procedures.
 5. Instructions on stopping.
 6. Normal shutdown instructions.
 7. Seasonal and weekend operating instructions.
 8. Required sequences for electric or electronic systems.
 9. Special operating instructions and procedures.
- D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.
- E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.
- 2.5 PRODUCT MAINTENANCE MANUAL
- A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
- B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.
- C. Product Information: Include the following, as applicable:
1. Product name and model number.
 2. Manufacturer's name.
 3. Color, pattern, and texture.
 4. Material and chemical composition.
 5. Reordering information for specially manufactured products.
- D. Maintenance Procedures: Include manufacturer's written recommendations and the following:
1. Inspection procedures.
 2. Types of cleaning agents to be used and methods of cleaning.

3. List of cleaning agents and methods of cleaning detrimental to product.
 4. Schedule for routine cleaning and maintenance.
 5. Repair instructions.
- E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
1. Include procedures to follow and required notifications for warranty claims.
 2. Indicate contact person or entity, including phone numbers and addresses as applicable, for notification of warranty claims.
- 2.6 SYSTEMS AND EQUIPMENT MAINTENANCE MANUAL
- A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.
- B. Source Information: List each system, subsystem, and piece of equipment included in the manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.
- C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:
1. Standard printed maintenance instructions and bulletins.
 2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
 3. Identification and nomenclature of parts and components.
 4. List of items recommended to be stocked as spare parts.
- D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:
1. Test and inspection instructions.
 2. Troubleshooting guide.
 3. Precautions against improper maintenance.
 4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 5. Aligning, adjusting, and checking instructions.
 6. Demonstration and training videotape, if available.
- E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
 2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.
- F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- G. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.

- H. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
 - 1. Include procedures to follow and required notifications for warranty claims.
 - 2. Indicate contact person or entity, including phone numbers and addresses as applicable, for notification of warranty claims.

PART 3 - EXECUTION

3.1 MANUAL PREPARATION

- A. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals.
- B. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.
- C. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- D. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.
 - 1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
 - 2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.
- E. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
 - 1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
- F. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in Record Drawings to ensure correct illustration of completed installation.
 - 1. Do not use original Project Record Documents as part of operation and maintenance manuals.
 - 2. Comply with requirements of newly prepared Record Drawings in Division 1 Section "Project Record Documents."
- G. Comply with Division 1 Section PROJECT CLOSEOUT requirements for submitting operation and maintenance documentation.

END OF SECTION

SECTION 017836

WARRANTIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for warranties required by the Contract Documents, including manufacturers standard warranties on products and special warranties. Refer to the General Conditions for terms of the Contractor's period for correction of the Work.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 1 Section PROJECT CLOSEOUT specifies contract closeout procedures.
 - 2. Division 1 Section OPERATION AND MAINTENANCE DATA for requirements for including warranties in maintenance manuals.
 - 3. Divisions 2 through 33 Sections for specific requirements for warranties on products and installations specified to be warranted.
- C. Certifications and other commitments and agreements for continuing services to Owner are specified elsewhere in the Contract Documents.
- D. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products. Manufacturer's disclaimers and limitations on product warranties do not relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

1.3 DEFINITIONS

- A. Standard product warranties are preprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the Owner.
- B. Special warranties are written warranties required by or incorporated in the Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for the Owner.

1.4 WARRANTY REQUIREMENTS

- A. Related Damages and Losses: When correcting failed or damaged warranted construction, remove and replace construction that has been damaged as a result of such failure or must be removed and replaced to provide access for correction of warranted construction.
- B. Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.
- C. Replacement Cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of the Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective Work regardless of whether the Owner has benefited from use of the Work through a portion of its anticipated useful service life.

- D. Owner's Recourse: Expressed warranties made to the Owner are in addition to implied warranties and shall not limit the duties, obligations, rights, and remedies otherwise available under the law. Expressed warranty periods shall not be interpreted as limitations on the time in which the Owner can enforce such other duties, obligations, rights, or remedies.
- E. Rejection of Warranties: The Owner reserves the right to reject warranties and to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
- F. Where the Contract Documents require a special warranty, or similar commitment on the Work or part of the Work, the Owner reserves the right to refuse to accept the Work, until the Contractor presents evidence that entities required to countersign such commitments are willing to do so.

1.5 SUBMITTALS

- A. Submit written warranties to the Architect for review prior to giving Notice of Readiness for Final Inspection.
 - 1. If the Architect's Final Certificate designates a commencement date for warranties other than the date of the Final Certificate of the Architect for the Work, or a designated portion of the Work, submit written warranties upon request of the Architect.
 - 2. When a designated portion of the Work is completed and occupied or used by the Owner, by separate agreement with the Contractor during the construction period, submit properly executed warranties to the Architect within 15 days of completion of that designated portion of the Work.
- B. When the Contract Documents require the Contractor, or the Contractor and a subcontractor, supplier or manufacturer to execute a special warranty, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties. Submit a draft to the Owner, through the Architect, for approval prior to final execution.
 - 1. Prepare written document utilizing an appropriate form, ready for execution by the Contractor, or by the Contractor, subcontractor, supplier, or manufacturer. Submit a draft to the Owner, through the Architect, for approval prior to final execution.
 - 2. Refer to Divisions 2 through 33 Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Compile two (2) copies of each required warranty properly executed by the Contractor, or by the Contractor, subcontractor, supplier, or manufacturer for submittal with contract closeout documents.
 - 1. Organize the warranty documents into an orderly sequence based on the table of contents of the Project Manual.
 - 2. Bind warranties and bonds in heavy-duty, commercial-quality, durable 3-ring, vinyl-covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch (115-by-280-mm) paper.
 - a. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product, and the name, address, and telephone number of the Installer.
 - b. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project title or name, and name of the Contractor.
 - 3. When warranted construction requires operation and maintenance manuals, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 LIST OF WARRANTIES

- A. Schedule: The list indicated is not all inclusive of the warranties required for the Project and is provided as a guide for compiling the documents required for submittal. Provide warranties on products and installations as specified in the following Sections:
1. Exterior Sealants: Section 079200 JOINT SEALANTS.
 2. Glass: Section 088000 - GLAZING.
 3. Security Glazing Materials: Section 111920 - SECURITY GLAZING.
 4. Security Door Closers: Section 111940 - SECURITY HARDWARE.
 5. HVAC Equipment: Division 23 – HEATING, VENTILATING AND AIR CONDITIONING sections.
 6. Security, Communication and Alarm Systems: Division 28 – ELECTRONIC SAFETY AND SECURITY AND COMMUNICATIONS sections.

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SECTION 017839

PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for Project Record Documents.
- B. Project Record Documents required include the following:
1. Marked-up copies of Contract Drawings.
 2. Marked-up copies of Shop Drawings.
 3. Marked-up copies of Specifications, addenda, and Change Orders.
 4. Marked-up Product Data submittals.
 5. Record Samples.
 6. Field records for variable and concealed conditions.
 7. Record information on Work that is recorded only schematically.
- C. Related Sections: The following Sections contain requirements that relate to this Section:
1. Division 1 Section PROJECT CLOSEOUT specifies general closeout requirements.
 2. Divisions 2 through 33 Sections for specifying Project Record Document requirements for specific pieces of equipment or building operating systems.

1.3 RECORD DRAWINGS

- A. Markup Procedure: During construction, maintain a set of blue- or black-line white prints of Contract Drawings and Shop Drawings for Project Record Document purposes.
1. Mark these Drawings to show the actual installation where the installation varies from the installation shown originally. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later. Items required to be marked include, but are not limited to, the following:
 - a. Dimensional changes to the Drawings.
 - b. Revisions to details shown on the Drawings.
 - c. Depths of foundations below the first floor.
 - d. Locations and depths of underground utilities.
 - e. Revisions to routing of piping and conduits.
 - f. Revisions to electrical circuitry.
 - g. Actual equipment locations.
 - h. Duct size and routing.
 - i. Locations of concealed internal utilities.
 - j. Changes made by change order or Construction Change Directive.
 - k. Changes made following the Architect's written orders.
 - l. Details not on original Contract Drawings.
 2. Mark record prints of Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. Where Shop Drawings are marked, show cross-reference on Contract Drawings location.
 3. Mark record sets with red erasable colored pencil. Use other colors to distinguish between

- changes for different categories of the Work at the same location.
4. Mark important additional information that was either shown schematically or omitted from original Drawings.
 5. Note Construction Change Directive numbers, alternate numbers, change-order numbers, and similar identification.
- B. Responsibility for Markup: The individual or entity who obtained record data, whether the individual or entity is the Installer, subcontractor, or similar entity, shall prepare the markup on record drawings.
1. Accurately record information in an understandable drawing technique.
 2. Record data as soon as possible after obtaining it. Record and check the markup prior to enclosing concealed installations.
 3. At time of giving Notice of Readiness for Final Inspection, submit record drawings to the Architect for the Owner's records. Organize into sets and bind and label sets for the Owner's continued use.
- C. Copies and Distribution: After completing the preparation of record drawings, print two additional copies of each drawing, whether or not changes and additional information were recorded. Organize the copies into manageable sets.
1. Organize and bind original marked-up set of prints that were maintained during the construction period and the copies of the set.
 - a. Bind sets with durable-paper cover sheets.
 - b. Include appropriate identification, including titles, dates, and other information on the cover sheets.
 2. Submit the marked-up record set and the two additional copies of the set to the Architect for the Owner's records; the Architect will retain 1 copy of the set.
 3. Submit drawings at contract closeout.

1.4 RECORD SPECIFICATIONS

- A. During the construction period, maintain 3 copies of the Project Specifications, including addenda and modifications issued, for Project Record Document purposes.
1. Mark the Specifications to indicate the actual installation where the installation varies from that indicated in Specifications and modifications issued.
 - a. Note related project record drawing information, where applicable.
 - b. Give particular attention to substitutions, selection of product options, and information on concealed installations that would be difficult to identify or measure and record later.
 2. In each Specification Section where products, materials, or units of equipment are specified or scheduled, mark the copy with the proprietary name and model number of the product furnished.
 3. Record the name of the manufacturer, supplier, installer, and other information necessary to provide a record of selections made and to document coordination with record Product Data submittals and maintenance manuals.
- B. Upon completion of markup, submit record Specifications to the Architect for the Owner's records.

1.5 RECORD PRODUCT DATA

- A. During the construction period, maintain one copy of each Product Data submittal for Project Record Document purposes.
1. Mark Product Data to indicate the actual product installation where the installation varies substantially from that indicated in Product Data submitted. Include significant changes in the product delivered to the site and changes in manufacturer's instructions and recommendations for installation.
 2. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 3. Note related Change Orders and markup of record Drawings, where applicable.
 4. Upon completion of markup, submit a complete set of record Product Data to the Architect for the

Owner's records.

5. Where record Product Data is required as part of maintenance manuals, submit marked-up Product Data as an insert in the manual instead of submittal as record Product Data.

1.6 RECORD SAMPLE SUBMITTAL

- A. Immediately prior to date of Final Inspection meet with the Architect and the Owner's personnel at the site to determine which of the Samples maintained during the construction period shall be transmitted to the Owner for record purposes.
 1. Comply with the Architect's instructions for packaging, identification marking, and delivery to the Owner's Sample storage space.
 2. Dispose of other Samples in a manner specified for disposing surplus and waste materials.

1.7 MISCELLANEOUS RECORD SUBMITTALS

- A. Immediately prior to Final Inspection, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for use and reference. Submit to the Architect for the Owner's records.
 1. Refer to other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities.
 2. Categories of requirements resulting in miscellaneous records include, but are not limited to, the following:
 - a. Field records on excavations and foundations.
 - b. Field records on underground construction and similar work.
 - c. Survey showing locations and elevations of underground lines.
 - d. Invert elevations of drainage piping.
 - e. Surveys establishing building lines and levels.
 - f. Authorized measurements utilizing unit prices or allowances.
 - g. Records of plant treatment.
 - h. Ambient and substrate condition tests.
 - i. Certifications received in lieu of labels on bulk products.
 - j. Batch mixing and bulk delivery records.
 - k. Testing and qualification of tradesmen.
 - l. Documented qualification of installation firms.
 - m. Load and performance testing.
 - n. Inspections and certifications by governing authorities.
 - o. Leakage and water-penetration tests.
 - p. Fire-resistance and flame-spread test results.
 - q. Final inspection and correction procedures.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

- A. Recording: Post changes and modifications to the Documents as they occur. Do not wait until the end of the Project. Recording changes and modifications to the documents shall be a condition of payment and will be verified by Architect upon submission of pay requests.
- B. Maintenance of Documents and Samples: Store record documents and Samples in the field office apart from the Contract Documents used for construction.
 1. Do not use Project Record Documents for construction purposes.

2. Maintain record documents in good order and in a clean, dry, legible condition.
3. Protect record documents from deterioration and loss in a secure, fire-resistant location.
4. Make documents and Samples available for the Architect's inspections. Provide access to record documents for the Architect's reference during normal working hours.

END OF SECTION

SECTION 28 0000 - INTEGRATED SECURITY SYSTEMS GENERAL

PART 1 - GENERAL

1.1 SCOPE

- A. The scope of this contract is to replace the existing 143 camera analog Closed Circuit Television System in the Barrow County Courthouse and Jail with an IP Based Digital Closed Circuit TV system, to move certain cameras and to add certain cameras in accordance with the plans and specifications.

1. Refer to Sections 011000 Summary and 012300 Alternates for specific project scope.

- B. This project requires pre-qualification of Systems Integrators – see Section 1.5 of this specification.

1.2 RELATED DOCUMENTS

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

- B. The Division 28 series of specifications describe systems that are integrated and or connected together to provide coordinated operations; therefore, individual sections do not stand alone. The installation and operation of any given system may be determined only by review of the total series of Division 28 specifications, as well as other referenced specifications.

- C. Related Work specified elsewhere:

1. Site Utilities
2. Concrete
3. Painting
4. Security Hardware
5. Builders Hardware
6. Mechanical
7. Power – See Division 26 Panel designations for power requirements to support all Division 28 systems.
8. Division 26 Electrical for low voltage control relays that will be controlled by Division 28.
9. Division 26 Electrical for power to UPS.
10. Division 26 Electrical for raceway and conduit requirements
11. Refer to Section 26 05 53 and 28 05 53 Electrical Identification for identification requirements. Note there are specific color requirements for the signs, labels, and boxes installed on this project. Fire alarm conduit shall be painted bright RED throughout.
12. Coordinate with Division 21 for fire protection and Division 23 for duct detector, and HVAC control requirements.

1.3 SUMMARY

- A. The Division 28 series of specifications covers the complete security, communication and alarm systems as indicated on the drawings and specified herein. The Division 28 work establishes three separate local area networks not related to the facility administration network. One network services the Security Control and Monitoring system, a second services the IP based Video Surveillance (Closed Circuit TV) system and a third services the Video Visitation system. The systems form the basis of a digital security system integrated as indicated here and in the rest of the Division 28 specifications.

- B. Provide all labor materials, equipment and supervision to install specified systems and systems indicated on the plans which include, but are not limited to, the following:
 - 1. Security Monitoring and Control System
 - 2. Closed Circuit Television System
 - 3. Passive Duress System
 - 4. Television Signal Distribution Systems
 - 5. Fire Alarm System
 - 6. Telephone / Data Premises Distribution Systems
 - 7. Inmate Kiosk Data Premises Distribution Systems
 - 8. Inmate Telephone control, conduit and wiring system
 - 9. Video Visitation Systems
 - 10. Intercommunications System
 - 11. Public Address and Monitoring System
 - 12. Radio booster signal distribution conduit system
 - 13. Raceway / Conduit System, refer to Division 26 and 28 for requirements
 - 14. Underground Duct Bank, refer to Division 26 and 28 for requirements
 - 15. System Wiring, refer to Divisions 26 and 28 for requirements
 - 16. UPS Systems
 - 17. Surge Protection Equipment

- C. It is a requirement of these specifications that the Division 28 systems be provided and installed by an electronic security Contractor (hereinafter referred to as Systems Integrator or "SI") whose normal business is the provision and installation of electronic security systems and equipment.
 - 1. Systems Integrator shall have been installing systems of similar size and scope for not less than five (5) years.

1.4 QUALITY ASSURANCE

- A. All work specified under this division of the specifications shall be in accordance with the following codes and agencies:
 - 1. The National Electrical Code (NFPA 70) Latest Edition
 - 2. National Fire Protection Association (NFPA 72) Latest Edition
 - 3. National Fire Protection Association (NFPA 101) Latest Edition
 - 4. ANSI EIA/TIA Standards

- B. The equipment furnished under Division 28 of the specifications shall be the standard product of manufacturers who have been supplying equipment similar to that specified for a period of not less than five (5) years, custom products shall not be acceptable.

- C. The SI shall provide a full-time superintendent dedicated to the project on site to supervise the work. The superintendent shall have the following qualifications:
 - 1. Experienced in the application engineering, installation, and supervision of similar construction projects, both in scope and systems types, for a minimum of five (5) years.
 - 2. Full time employee of the SI.
 - 3. Have a working knowledge of all systems installed under Division 28.

1.5 ACCEPTABLE SYSTEMS INTEGRATOR (SI)

- A. The intent of these specifications is to ensure the systems described in Division 28 are provided and installed by a technically experienced SI and further that the Division 28 work is fully coordinated between the various systems by a single installer who is technically qualified as described herein.

- B. The following SI's are approved Systems Integrators for the services specified in Division 28:
 - 1.
 - 2.

- 3.
 - 4.
- C. Systems Integrators must submit their proposal for consideration for owner approval no later than 10 days prior to the bid date. Approved systems integrators will be named by addendum. The proposal shall demonstrate compliance with the requirements of paragraph 1.5 .D. below.
- D. It is a requirement of these contract documents that System Integrators interested in bidding this project be pre-qualified by the Owner prior to bidding the project.
1. SI firms shall request approval and shall submit the following qualification data to the Architect/Engineer in writing no later than ten (10) days prior to bid date and, if approved, shall be acknowledged by Addendum prior to bid date. Verbal approval will not satisfy this requirement. All SI's shall submit a completed AIA 305 form and all additional information herein requested or will not be allowed to bid. Grounds for disqualification shall exist if in the opinion of the Architect/Engineer, the information submitted is inaccurate or, does not satisfy the qualification requirements.
 2. Where the installer is a branch office or other division of a larger organization, the qualifications of the branch office or other division shall meet the requirements of Contract Documents
 3. List at least five (5) correctional facility installations of IP based closed circuit TV system integrated into PLC based security monitoring and control systems similar to the requirements of this project furnished and installed by this firm. The minimum period of operation for each of the five facilities is 36 months. This experience is mandatory.
 - a. For each facility: List name and location of installation, date of occupancy by Owner, and Owner's representative to contact and telephone number. Construction Manager or General Contractor, and Architect.
- E. The Owner reserves the right to disqualify manufacturers, equipment suppliers, and installers who do not comply with the requirements of paragraph 1.5 D. of this section of the specifications. The intent of these specifications is to insure the systems described in Division 28 are provided and installed by a technically experienced installer and further that the Division 28 work is fully coordinated between the various systems by a single installer who is technically qualified as described herein.
- F. Approval of a firm as an SI does not relieve that SI firm from furnishing all materials from manufacturers as herein specified.
- G. The responsibilities of the SI include but are not limited to:
1. Submittals on all Division 28 systems and equipment.
 2. Provisions, supervision, and installation of all Division 28 systems and equipment.
 3. Coordination between Division 28 systems and equipment, and coordination with other trades.
 4. Conduit, raceways, cable trays and wire for all Division 28 systems and equipment.
 5. Conduit systems for all Division 28 empty raceway systems (and where specified, wiring)
 6. Wiring termination for all Division 28 systems and equipment.
 7. Power and environmental conditioning for all Division 28 systems and equipment for protection of equipment during construction.
 8. Testing and check-out of all Division 28 systems and equipment.
 9. Training of Owner's personnel for all Division 28 systems and equipment.
 10. Warranty for all Division 28 systems and equipment.
- H. Portions of the Division 28 work may be provided by other divisions and shall be limited to the following:
1. The power raceways and wiring between circuit breaker panels and equipment, (including connections to the circuit breaker but not including the actual connections to direct connect equipment), may be performed by other divisions. Receptacle types shall be

- coordinated with Division 28 equipment requirements. The wire for power wiring above may be supplied by the installing electrical Contractor.
2. The Division 28 raceway may be provided and installed by other divisions provided the raceway requirements are fully coordinated with the Systems Integrator to insure all raceway necessary for functional systems are provided.
 3. Low voltage (less than 120 VAC), and signal wiring may be installed in raceway systems by other divisions, however, the Systems Integrator shall supply all wiring, make all terminations and check-out all wiring.
 4. Wiring between hardware and control devices may be supplied and installed by other divisions, however, the size, quantity, type, and color shall be coordinated with the Systems Integrator. The systems integrator shall make all terminations.
 5. All work optioned out to other divisions is the sole responsibility of the Systems Integrator for this project.
 6. All branch power circuits for equipment specified within this division of work shall be on the Emergency Power System and on the UPS system (where specified). All associated wiring, conduit system, and connection for branch circuitry shall be provided and installed by Division 28 (see Division 26 panel board schedule for circuits).
 7. All power connections to Division 28 equipment and devices shall be part of the Systems Integrator's work.

1.6 DRAWINGS

- A. The drawings indicate the arrangement of security and communication equipment. Review architectural drawings for reflected ceiling plans, door swings, cabinets, counters and built-in equipment; conditions indicated on architectural drawings shall govern for this work. Coordinate installation of equipment with the structural, mechanical, and electrical equipment and access thereto. Coordinate installation of recessed equipment with concealed ductwork and piping, and wall thickness.
- B. Do not scale security drawings. Device locations are approximate. Actual device locations shall be field coordinated with all other trades and applicable code requirements.
- C. All raceways required for Division 28 equipment are not shown on the drawings. Raceways that are shown are minimum sizes and quantities. The SI shall provide all additional quantities, routing, and sizes of raceways and pull/junction boxes to meet all code, plan, and specification requirements.
- D. Raceway home runs as shown on the Division 28 drawings shall be installed as shown on the drawings.

1.7 SUBMITTALS

- A. Shop Drawings
 1. The Integrated Security Systems installation shall be approved by the appropriate fire and building inspection authority prior to installation, after installation and prior to final inspection or initial use. Vendor submittals including shop drawings describing all Integrated Security Systems shall be provided for review and approval to those authorities prior to submission and installation and as-built drawings shall be provided prior to occupancy.
 2. Submit for review by the Architect complete engineering data for each system for evaluation of the proposed system with respect to specification requirements. Submittals for each system shall consist of:
 - a. Certifications required elsewhere in these specifications
 - b. Equipment cut sheets (manufacturer's catalog sheets)

- 1) Clearly mark each item to indicate its use in the overall project by specification section or reference to specific components shown on contract or shop drawings.
- 2) Cut sheets indicating multiple models shall be clearly marked as to which model(s) will be supplied for this project.
- 3) Where options are described, mark out all options that do not apply to this project.
- c. Block diagrams, specific for this project, of each system indicating:
 - 1) Location of components
 - 2) Point to point wiring diagrams
 - 3) Interconnections between systems
 - 4) Nature of interconnections including:
 - a) Signal type
 - b) Signal purpose
 - c) Wire or fiber type
 - d) Conduit size if contained in conduit
- d. Layout drawings of equipment
 - 1) Scaled and dimensioned placement in the facility on large scale floor plans including but not limited to:
 - .1 Equipment rooms
 - .2 Control rooms
 - 2) Scaled and dimensioned placement of equipment in the rack or cabinet including overall dimensions.
 - 3) Detail wiring diagrams of equipment racks and cabinets indicating wire sizes and types, terminations and interconnecting cabling.
 - 4) Other drawings necessary to demonstrate contract conformance
- e. Operational Narrative
 - 1) Step-by-step operational sequences for each individual control function.
- f. Calculations
 - 1) Provide calculations used for UPS selection.
 - 2) Provide calculations for Fire Alarm secondary power supply.
 - 3) Provide calculations for video storage in various sections
 - 4) Provide other calculations as specified.
- g. Paint Colors
 - 1) Submit paint chips for the colors of all paint used to identify conduit and boxes on this project. Submit samples of the paint chips for the fire alarm, telephone, data, television, paging, emergency and security systems.
- h. Equipment/System Identification
 - 1) Submit individual samples of the engraved plastic/laminate signs for the fire alarm, telephone, data, television, paging, emergency and security systems.
 - 2) See individual specifications for additional system specific requirements
- i. Wire and Cable Identification Labels
 - 1) Submit sample labels with text applied.
3. The shop drawing shall be submitted at the same time.
 - a. Shop drawings shall be submitted in no more than two formats as follows:
 - b. 8-1/2 x 11 inch format
 - 1) Bind in three ring binders no larger than three inches containing not more than 2 inches of materials. Smaller binders shall not be filled beyond the ratio for three inch binders.
 - 2) Divide contents by specification section or system and label with tab dividers.
 - 3) If submittal items do not fit one 3 inch binder, provide multiple binders. Do not split a tabbed section between two binders.
 - 4) The cover of binders shall indicate the following:
 - a) Project name
 - b) Date submitted
 - c) Company name of the submitter

- d) Submittal number
- e) Index
- c. Plans no larger than the contract document plan size
 - 1) Bind in sets no larger than one inch thick.
 - 2) Plan sheets shall be numbered or lettered uniquely from each other and bound in logical sequence.
 - 3) If necessary, provided multiple bound sets.
 - 4) The cover of each set shall indicate the following:
 - a) Project name
 - b) Date submitted
 - c) Company name of the submitter
 - d) Submittal number
 - e) Index
- d. Prior to submitting shop drawings, the Systems Integrator shall review the submittal for compliance with the Contract Documents and place a stamp or other confirmation thereon which states that the submittal complies with Contract requirements. Submittals without such verification will be returned disapproved without review. Any re-submittals required shall be labeled "RE-SUBMITTAL" and the number given.
- e. Pre-Shop Drawing Preparation Meeting:
 - 1) Not later than 30 days after the Notice to Proceed, a pre-shop drawing preparation meeting shall be held at the office of the Architect. The purpose of the meeting shall be to establish the following as defined by the contract documents for Division 28.
 - a) Manufacturer's qualifications are met.
 - b) Proposed methods and materials are as defined.
 - c) The Division 28 superintendent has an understanding of required system and security hardware configuration and operation, and shall explain in detail the operation of all systems.
 - d) Shop drawing submittal requirements.
 - 2) The above shall serve as the agenda for the meeting and the necessary information shall be presented by the Division 28 superintendent.
 - 3) As a minimum requirement, the Division 28 Superintendent shall address each specified system under Division 28, including the proposed material, operation and all interfaces to the other systems and divisions.
 - 4) It is anticipated that this meeting will take two working days to complete; however, the Systems Integrator shall be prepared to spend additional time as necessary to complete the stated objectives.
 - 5) Systems Integrator's questions will be taken by the Architect.
 - 6) The Systems Integrator costs for this meeting shall be borne by the Systems Integrator.
 - 7) The Architect shall determine if the objectives of the meeting were met. The cost of any delays and all other costs incurred by required subsequent meetings to satisfy the stated objectives shall be borne solely by the Systems Integrator.
- f. When the Systems Integrator has completed the design work on the various systems and is prepared to submit the shop drawings, the Systems Integrator shall set up a meeting with the Architect to present the shop drawings. The meeting must take place no later than 60 days after Pre-Shop Drawing Preparation Meeting. The Systems Integrator shall explain the entire system operation, equipment and other items as called for in this specification. Any drawings required will be preliminarily reviewed at this meeting. Any corrections required from the meeting shall be made by the SI and submitted for approval. This meeting shall be held in the offices of the design team in Atlanta, Georgia.

1.8 RECORD DOCUMENTS

- A. Fourteen days prior to final inspection, the SI shall submit three sets of record documents. Record documents shall include but not be limited to the following:
1. Copies of approved shop drawings modified as follows:
 - a. Covers shall indicate that the submittal is part of record documents as described below.
 - b. The shop drawings shall be modified to indicate as-built conditions and each change shall be clouded or otherwise noted.
 2. Manufacturer's Operational and Maintenance manuals for each system:
 - a. Mark out all subjects or portions of the manuals that do not apply to the systems installed for this project.
 3. Conduit riser diagrams for all systems indicating the following:
 - a. Individual runs of conduit between equipment rooms
 - b. Individual runs of conduit between equipment rooms and control posts
 - c. Individual runs of conduit between other major system components
 - d. Where junction boxes, pull boxes, man holes, or other intermediate location exists between the points above, indicate their type size and location.
 - e. Each individual run of conduit shall be marked with the following:
 - 1) Size of conduit(s)
 - 2) Purpose of conduit(s)
 - 3) Type and size of wire(s), cable(s), and / or fiber.
 4. Conduit layout diagrams including
 - a. Source equipment
 - b. Destination equipment
 - c. All raceway components and their location in the building
 - d. Each individual run of conduit shall be keyed to the riser diagrams or be marked with the following:
 - 1) Size of conduit(s)
 - 2) Purpose of conduit(s)
 - 3) Type and size of wire(s), cables(s), and / or fiber.
- B. Record documents shall be bound as required for shop drawings except they shall be marked as record documents with appropriate dates and submittal numbers.
- C. All record documents for systems installed on this project shall be submitted at the same time.
- D. Certification from system manufacturers that systems are installed in accordance with manufacturer's recommendations and are functioning correctly at the time of final inspection.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Materials or equipment specified by manufacturer's name shall be provided, unless approval of other manufacturers is listed in addendum to these specifications. Any materials or equipment approved in addendum shall function the same as the equipment specified.
- B. Where substitution of materials alters space requirements indicated on the drawings, submit shop drawings indicating proposed layout of space, all equipment to be installed therein and clearances between equipment. All cost for space requirements shall be borne by the Systems Integrator including all cost to the Architect.
- C. Where substitution of materials alters electrical requirements indicated on the drawing, the contractor shall coordinate with Division 26 and bear the costs associated with the substitution.

- D. All material shall be new and shall conform to the applicable standard or standards where such have been established for the particular material in question. Publications and standards of the organizations listed below are applicable to those materials specified herein:
 - 1. American Society for Testing and Materials (ASTM)
 - 2. Underwriters Laboratories (UL)
 - 3. National Electrical Manufacturer Association (NEMA)
 - 4. Institute of Electrical and Electronic Engineers (IEEE)
 - 5. National Fire Protection Association (NFPA)
 - 6. American National Standards Institute (ANSI)
- E. UL listed material shall bear UL label.
- F. All like materials shall be of the same manufacturer.
- G. All materials and connections shall be installed in strict accordance with all applicable codes, UL standard and manufacturer's written requirements including torque requirements for terminal connections.
- H. The Architect reserves the right to require a sample of equipment submitted for approval or to require a demonstration of any specific system.

2.2 SOFTWARE

- A. All software for this project that requires licensing shall be licensed in the name of the Owner and proof of licensing shall be turned over to the Owner at Substantial Completion as well as the original install media, manuals, and copies of the modified software. All software licenses shall be included and they shall be perpetual (shall not require annual subscriptions or renewals).
- B. All software shall be installed on the maintenance laptop computer fully functional. Provide all cables/connectors to connect the laptop to all systems. See Section 284619.
- C. Software shall be installed in all spare equipment to be turned over to the Owner for all systems.

PART 3 - EXECUTION

3.1 TESTING

- A. General
 - 1. The Systems Integrator shall fully test and correct errors in the installed systems prior to calling for testing to be witnessed and directed by the Architect and / or Owner, hereafter referred to as "performance testing".
 - 2. The SI shall provide the following during performance and progress tests.
 - a. The project superintendent
 - b. Sufficient other personnel to:
 - 1) Operate equipment
 - 2) Manipulate devices
 - 3) Provide access to equipment and spaces
 - c. Keys to equipment and spaces
 - d. Tools
 - 1) Security tools for security fasteners
 - 2) Test equipment to test specified performance levels of the equipment
 - 3) Other tools as necessary for access and adjustments
 - e. Portable radios or other communications devices sufficient to communicate between any locations in the facility.
 - 3. All costs incurred by the SI for testing shall be included in the Base Bid.

- B. Progress Testing
1. Progress testing will be performed to determine the progress of the work and contract compliance.
 2. Progress testing shall be performed at the following times
 - a. As determined by the Architect
 3. Progress testing will consist of but is not limited to the following:
 - a. Review of materials in place and in storage for the purpose of determining:
 - 1) Progress of the work
 - 2) Approved materials
 - 3) Approved installation
 - 4) Approved storage methods
 - b. Operational tests will be performed on the work in place consistent with Performance Testing except as follows:
 - 1) Manufacturer's certification is not required
 - 2) SI testing prior to the progress testing however the Superintendent will brief the reviewer as to the portions of the system(s) that have been tested and are considered ready for performance testing.
- C. Performance Testing
1. Performance testing shall be performed to verify that all Division 28 work has been accomplished and that it is in compliance with the contract documents.
 2. Performance testing shall occur:
 - a. Prior to substantial completion of the project
 - b. After the SI certifies in writing to the Owner that all work has been completed in accordance with the contract documents and has been tested and found operationally in compliance with the contract documents.
 - c. After the various manufacturer's technical representatives has certified in writing to the Owner that the systems are:
 - 1) Installed in compliance with the manufacturer's recommendations
 - 2) In compliance with the requirements of the contract documents
 - 3) Operating in compliance with the contract documents
 3. The performance testing shall consist of testing to determine the proper installation and operation of the following:
 - a. Each device that is monitored or controlled
 - b. Each control device
 - c. Circuit supervision and enunciation of system faults
 - d. Simultaneous control, monitoring, and alarm events
 - e. Integration between systems
 - f. Connections to other systems
 - g. Annunciation
 - h. Messaging
 - i. Printing
 - j. Logging
 - k. Displays
- D. Systems Demonstration Testing
1. Not later than 6 months prior to Substantial Completion date and in sufficient time to cause no project delays, a system demonstration and test shall be performed by the Systems Integrator. All travel and per diem costs for the attendance of two owner's representatives and two architect's representative and all Systems Integrators costs for this demonstration shall be borne by the Systems Integrator. All necessary materials, labor and space shall be provided to meet the following requirements:
 - a. The complete security control and monitoring system shall be demonstrated complete with interfaces to other systems including but not limited to:
 - 1) All required software shall be installed, fully configured and demonstrated.
 - 2) All operational provisions shall be demonstrated.

- 3) All central equipment including the Computer, Touchscreen, printers, etc. shall be provided, operational and demonstrated.
 - 4) All PLC panels shall be connected and fully operational. Except those points required to be connected to actual equipment as specified herein, all points shall be configured in a manner to not cause off-normal conditions. However, they're off normal condition or control provisions must be demonstrated by connection to equipment as required during the demonstration.
 - 5) The total communications loops or links shall be configured as required for this project. Loops or lines shall be tested for open, ground shorts, direct shorts, and switching of loops and links. The test shall show that the system will not slow down or tie up system during a malfunction of any part of the system. System shall pinpoint the location of malfunction. This test is to show that no matter what the status of equipment or wiring is in the remote locations, the system will still work normally.
- b. One dayroom touch screen control system shall be provided which shall be fully operational and shall meet the requirements of the contract documents. The system shall demonstrate all operational and central features of the locking control systems specified in Division 28. The following shall be provided:
- 1) One typical housing touch screen control system configured for lock controls and monitoring. All other provisions of the housing panel shall be provided and demonstrated.
 - 2) One touch screen system as required above which shall demonstrate all operations not included on the panel described above.
 - 3) A programmable controller shall be provided in an enclosed rack and shall be configured to fully demonstrate the operation of the locking controls and typical interfaces to other systems as required in the contract documents.
 - 4) All required types of input/output devices required for this project shall be provided and demonstrated.
 - 5) All system interfaces shall be fully implemented and demonstrated.
 - 6) A system monitor/keyboard/programmer shall be provided with all necessary equipment to modify the system program and modify EEPROMS or other volatile and non-volatile memory elements.
 - 7) Where two or more input/output devices are required to fully demonstrate operations, (such as interlocks, monitored door security provisions, etc.) they shall be provided.
 - 8) Interface of electrical lighting control, etc
- c. One fire alarm panel shall be provided to fully demonstrate its operation and interfaces to other systems including but not limited to the following:
- 1) One of each type initiating device.
 - 2) One of each type signal device minimum.
 - 3) One of each type of auxiliary device.
 - 4) Demonstrate signal outputs for HVAC shutdown, and smoke control/override.
 - 5) Sufficient equipment to fully demonstrate interface to locking central system including that necessary to demonstrate provisions required for the typical dayroom demonstration and head end equipment must be connected and working in accordance with the contract requirements.
 - 6) Head end and data paths must be connected for testing. Test will be conducted for the type and style of system provided.
 - 7) Remote annunciator with silence and reset for fire alarm.
- d. Two intercom stations shall be provided to fully demonstrate system operation and interfaces to other systems including but not limited to the following:
- 1) Housing control.
 - 2) Unless additional equipment is required elsewhere, at least one of each type input and output device shall be provided, connected, and demonstrated.

- e. UPS, standby power provisions of the contract documents may be simulated for this demonstration. DC power supplies, secondary sources of 120V or other methods approved by the Design Consultant may be provided. However, new batteries are required at time of final testing after installation at the facility.
- f. Space for the demonstration and test shall be provided by the Systems Integrator and shall be bonded, environmentally conditioned to that required for the facility control rooms and be of sufficient size to test each piece of equipment simultaneously without moving the equipment for access. The space shall have its location approved by the Architect. Demonstration must be within 50 miles of the project.
- g. The following information shall be provided as part of shop drawings.
 - 1) The configurations of each system and the interfaces showing each piece of equipment.
 - 2) The sequence of operations and testing plan proposed to demonstrate each operational requirement of these systems.
- h. Prior to the demonstration and test, the Systems Integrator shall fully test the system for proper operation and correct any deficiencies found.
- i. After the demonstration and test has been completed, the Systems Integrator shall correct any deficiencies found, retest the system, and conduct a demonstration of the completed system.
- j. The Architect shall be present at each demonstration and shall direct the Systems Integrator to make additional tests at that time.
- k. After the successful demonstration and tests, as determined by the Architect, have been completed, security control and monitoring system shall be stored in bonded space, in its original protective shipping cartons. The storage provision shall be in compliance with the general and special conditions and shall be environmentally controlled consistent with the manufacturer's published requirements.

3.2 TRAINING

- A. Training shall be scheduled by the SI with the Owner/User.
- B. The SI shall include in the base contract all costs required to train the Owner's operating and maintenance personnel in the use and maintenance of systems provided under this division of the specifications. Training sessions shall be conducted by instructors certified in writing by the manufacturer of the specific system.
 - 1. Sessions shall be conducted for not less than four hour periods during normal working hours, i.e., Monday through Friday, 8:00 AM to 5:00 PM. Training session schedules shall conform to the requirements of the Owner; therefore, such schedules shall be submitted to the Owner for approval not less than two weeks prior to the training session. Training sessions for different systems shall not be scheduled concurrently. All training sessions shall be video-recorded on DVD disks for future use. At Owner's discretion, provisions shall be made to allow up to 4 Owner's personnel to participate in final system check out of all systems. Training shall be conducted on the project.
 - 2. Video DVDs shall be of good quality both for video and audio and must be approved by the Architect. Provide FIVE copies to the Owner.
- C. Training time to be included in base contracts for specific systems shall be as follows:
 - 1. Security Monitoring and Control System - 20 hours
 - 2. Surveillance Closed Circuit Television - 2 hours
 - 3. Fire Alarm System - 8 hours
 - 4. Integrated Communications- 8 hours
 - 5. UPS Back Up and Connections - 2 hours
 - 6. Duress System – 2 hours
 - 7. Television Distribution System – 2 hours

3.3 EQUIPMENT CONNECTIONS

- A. Interconnection with Electrical, Telephone/Data systems, HVAC, sprinkler control systems, kitchen fire extinguishing systems and gas shut off systems for complete monitoring or operation of the system as required by codes and these documents.
- B. Interface to the lighting control system where required.

3.4 GROUNDING AND TRANSIENT VOLTAGE SURGE SUPPRESSION (TVSS)

- A. For the purpose of determining the applicability of transient voltage surge suppression, the following applies:
 - 1. Conductors originating and terminating in the same building without transitioning the building footprint or the roof line at any point along its path is considered an interior circuit. Otherwise the circuit(s) are considered exterior.
 - 2. Conductors serving devices that are totally flush-mounted in an exterior wall, and in all other respects are an interior circuit as described above, is considered an interior circuit.
 - 3. Conductors serving exterior wall mounted or roof-mounted devices are considered an exterior circuit.
- B. All interior 120 volt power circuits supplying power to Division 28 components shall be protected by surge protection devices prior to the connected components.
 - 1. Where the components are designed to connect to a standard 120 volt power outlet, plug strip type surge protection may be utilized.
 - 2. Where 120 volt circuits are routed totally interior to the building or are serving multiple wide spread components of the system, the surge protection shall be provided in an enclosure in close proximity to the breaker panel.
- C. Exterior signal and/or power conductors (including conductors connected to power supplies), surge protection devices shall be provided at the origin and destination locations including arrangements where the origin and destination locations are in the same building.
 - 1. Conductors serving multiple exterior devices shall be equipped with surge suppression devices at each connection point.
- D. For surge protection devices mounted in interior spaces or surface-mounted on the exterior of a building, connect all surge protection components, except plug strips, to a No. 6 AWG copper conductor from the building grounding system in accordance with Article 250 of the National Electrical Code.
 - 1. Grounding conductors for equipment surface-mounted to the building shall be routed to the interior of the building in conduit with no other conductors.
 - 2. Surge protection devices shall be housed in separate enclosure's from the equipment being served.
- E. In equipment rooms, control rooms and other locations containing Division 28 equipment connect all non-current carrying metal parts to building ground as prescribed above, provide a ground bus bar, connected to building ground, in each location to collect the individual grounding conductors. Ground all equipment enclosures, including computers, monitors, and the associated raceway system.
- F. Enclosures and surge protection devices for equipment mounted remotely from buildings shall be bonded to 10 foot ground rod(s) buried with top of rod 12 inches below grade. Surge protection devices shall be enclosed within their own protective enclosure.
- G. Surge suppression devices shall be multi-stage series hybrid devices (MOV and Capacitive Filtering) which shall fail open or shorted to prevent the operation of the connected equipment. Fuses shall not be used for surge protection. The devices shall be modular plug-in type for easy replacement. The devices shall be the product of a manufacturer whose primary function is

manufacturing TVSS devices and shall meet the requirements of the following standards/publications:

1. UL 497B
2. UL 1449 (must meet the 330 Volt suppression rating)
3. IEEE 587 Category B impulse and ring wave tests
4. The National Electric Code (NFPA 70 - Current Edition)

- H. Provide shop drawings detailing the protection application and letters from the manufacturer(s) confirming the devices are of the type compatible with the equipment served and will cause no operational difficulties.

3.5 ENGINEER'S APPROVAL

- A. Installation of the Security Control and Monitoring System and the Fire Alarm System shall not begin until detailed shop drawings, cut sheets for the system, and specifications have been approved by the Engineer.

END OF SECTION

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SECTION 28 0513 - WIRES AND CABLES - SPLICES AND TERMINATIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. The work covered under this section of the specifications consists of the installation of "all wiring" for conductor types for the security, communications and alarm systems as specified in Division 28. Conductors used for electronic signals transmission are specified with the specific system or equipment in other sections of Division 28 but shall also comply with this section of the specifications. Conductors or cables that extend beyond the buildings are included. All materials shall be provided under this section of the specifications.
 - 1. Coordinate installation of conductors with other work required under Division 28 specifications.
 - 2. Each type of system wiring shall not be installed in same raceway with other systems.
 - 3. Homeruns for locking shall be installed as shown on drawing. Combination of several locking devices shall not be grouped in single homerun unless shown on the drawings.
 - 4. Homeruns for systems specified in Division 28 shall not be combined in single homerun conduits in housing units from pod-to-pod, for systems such as intercoms, PA, microphones, etc. This is to isolate wiring in an associated POD from any other POD.
 - 5. Wire fill for any conduits shall not exceed 40 percent fill in any locations.
 - 6. Junction box and outlet boxes wire fill shall not exceed that allowed by NEC.
 - 7. All wiring or cables installed in a damp or wet location as defined by the NEC shall be UL listed for damp and wet locations.
 - 8. All conductors or cables shall have size, grade of insulation, voltage, UL listing, manufacturer's name and (if rated for damp and wet locations) permanently marked on the outer cover or jacket not exceeding 24".
- B. Related Work specified elsewhere, as listed below but not limited to:
 - 1. Raceway Systems: see Division 28
 - 2. All systems as specified in Division 28
 - 3. Builder's Hardware
 - 4. Security Hardware
 - 5. Division 26 Electrical
 - 6. Division 21 Fire Suppression Systems
 - 7. Division 23 HVAC

1.3 QUALITY ASSURANCE

- A. Industry Referenced Standards. The following specifications and standards are incorporated into and become a part of this Specification by Reference.
 - 1. Underwriters' Laboratories, Inc. (UL) Publications:
 - a. No. 44 Rubber - Insulated Wire and Cables
 - b. No. 83 Thermoplastic - Insulated Wires
 - c. No. 493 Thermoplastic - Insulated Underground Feeder and Branch Circuit Cables
 - d. No. 486 Wire Connectors and Soldering Lugs
 - 2. Insulated Cable Engineers Association Standards (ICEA):
 - a. S-61-402 Thermoplastic Insulated Wire and Cable
 - 3. National Electrical Manufacturer's Standards (NEMA):

- a. WC-5 Thermoplastic Insulated Wire and Cable
 4. National Fire Protection Association Publication (NFPA):
 - a. No. 70 National Electrical Code (NEC)
 5. ANSI EIA/TIA Standards
- B. Acceptable Manufacturers. Products produced by the following manufacturers which conform to this specification are acceptable.
 1. Hydraulically applied conductor terminations:
 - a. Square D
 - b. Burndy
 - c. IlSCO
 - d. Scotch (3M)
 - e. Thomas and Betts (T&B)
 - f. Anderson
 2. Mechanically applied (crimp) conductor terminations:
 - a. Scotch (3M)
 - b. Ideal
 - c. Thomas and Betts (T&B)
 - d. Burndy
 3. Vinyl electrical insulating tape:
 - a. Scotch (3M)
 - b. Tomic
 - c. Permacel
 4. Encapsulated insulating kits:
 - a. Scotch (3M)
 - b. Raychem
 - c. Essex Group, Inc.
 5. Portable cable fittings:
 - a. Crouse Hinds
 - b. Appleton
 - c. T&B
 6. Insulated cable:
 - a. Brand-Rex Co.
 - b. Cablec Corp.
 - c. Carol Cable Co., Inc.
 - d. The Okonite Co.
 - e. Pirelli Cable Corp.
 - f. Senator Wire and Cable Co.
 - g. Southwire Co.
 - h. Bolden
 7. Cables & wire shall be from the same manufacturer for like materials
- C. Performance: Conductors shall be electrically continuous and free from splices, short circuits or grounds. All open, spliced, shorted or grounded conductors and any with damaged insulation shall be removed and replaced with new material free from defects.

PART 2 - PRODUCTS

2.1 GENERAL MATERIALS REQUIREMENTS

- A. Provide all materials under this section of the specifications.
- B. All wire and cable shall be UL listed and shall bear a UL label along the conductor length at intervals not exceeding 24 inches.

- C. All conductors shall have size, grade of insulation, voltage and manufacturer's name permanently marked on the outer cover at intervals not exceeding 24 inches and as required by NEC.
- D. The minimum size of emergency electrical systems conductors feeding equipment shall not be smaller than allowed per NEC.
- E. Insulation voltage level must comply with NEC for cable used on specific system.

2.2 PRODUCT/MATERIALS DESCRIPTION

- A. Conductors No. 10 AWG and smaller shall be stranded copper, 90°C type THHN/THWN or XHHN, unless otherwise indicated on the drawings, as required by the National Electrical Code.
- B. Control conductors for use on 120 volt control wiring systems shall be No. 12 AWG stranded type THHN/THWN/XHHW, unless indicated otherwise on the drawings.
- C. Taps (No. 10 AWG and smaller) Connectors for stranded conductors shall be crimp-on type with integral insulating cover, or heat shrink rated at 600 volt 105°C.
- D. Taps (No. 8 and larger) - Hydraulically applied crimping sleeve or tap connector sized for the conductors. Insulate the hydraulically applied connector with 90°C, 600 volt insulating cover provided by the connector manufacturer. Insulator materials and installation shall be approved for the specific application, location, voltage and temperature and shall not have an insulation value less than the conductors being joined.
- E. Electrical insulating tape shall be 600 volt, flame retardant, cold and weather resistant, minimally .85 mil thick plastic vinyl material; Scotch No. 88, Tomic No. 85, Permacel No. 295.

PART 3 - EXECUTION

3.1 EXECUTION

- A. Install all wiring in raceway system unless noted otherwise on the drawings.

3.2 Connect all conductors. Torque each terminal connection to the manufacturers recommended torque value. A calibrated torquing tool shall be used to insure proper torque application. Termination torque values shall be provided as part of the shop drawings. At the request of the architect the systems integrator shall provide certification of calibration for each torquing device on the site as part of final testing and acceptance.

- A. All conductors shall be tested to be continuous and free of short circuits and grounds.
- B. Identification
 - 1. Conductors within pull boxes shall be grouped and identified with nylon tie straps with identification tag.
 - 2. Identify each control conductor at its terminal points with wrap around tape wire markers. I.D. to indicate terminal block and point designation, or other appropriate identifying indication.
 - 3. Refer to IDENTIFICATION section of these specifications for additional identification requirements.
- C. Color Code Conductors.
 - 1. Color code branch circuit conductors.
 - 2. Coding shall be as follows:
 - a. 208Y/120 volt three-phase four-wire wye system:
 - 1) Phase A: Black

- 2) Phase B: Red
 - 3) Phase C: Blue
 - 4) Neutral: White
- b. Grounding conductors shall be green. Grounding conductors for isolated ground circuits shall be green with a yellow trace.
- D. Group and lace with nylon tie straps all conductors within enclosures, i.e., terminal cabinets, fire alarm cabinets, program instruments, control cabinets control panels etc.
- E. Terminate conductors No. 10 AWG and smaller specified in this division to be stranded, with crimp type lug or stud. Direct termination of stranded conductors without crimp terminator to terminal screws, lugs, or other points is not permitted even if terminal is rated for stranded conductors. Crimp terminal shall be of a configuration suitable for termination point. Make all crimps with a tool as listed by the manufacturer and as listed by UL for the crimp lug being used.
- F. Splices in conductors or cables are not permitted even if conductors are installed in a pull box.
- G. All cables installed in conduit underground or in slabs that is outside of the foot print of the building shall be shielded cable and be rated for direct burial.
- H. Install a #6 bare ground wire on top of all conduit runs outside of the footprint of the building and ground to a 10 ft ground rod at each end and every 100', this includes all duct banks. All connections shall be CAD welded.

END OF SECTION

SECTION 28 0528 - RACEWAYS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Section 26 05 48 Vibration and Seismic Control for Electrical Systems applies to the work of this section.

1.2 SUMMARY

- A. This section covers the complete interior and exterior raceway system.
- B. Definition: The term conduit, as used in this Specification, shall mean any or all of the raceway types specified.

1.3 QUALITY ASSURANCE

- A. Referenced Industry Standard: The following specifications and standards are incorporated into and become a part of this Specification by reference.
 - 1. Underwriters' Laboratories, Inc. (UL) Publications:
 - a. No. 1 Flexible Metal Electrical Conduit
 - b. No. 6 Rigid Galvanized Conduit
 - c. No. 467 Electrical Grounding and Bonding
 - d. No. 651 Rigid Nonmetallic Electrical Conduit
 - e. No. 797 Electrical Metallic Tubing
 - f. No. 1242 Intermediate Metal Conduit
 - 2. American National Standards Institute (ANSI):
 - a. C-80.1 Rigid Galvanized Conduit.
 - b. C-80.3 Electrical Metallic Tubing.
 - 3. National Fire Protection Association (NFPA):
 - a. No. 70 National Electrical Code (NEC).
- B. Acceptable Manufacturers: Products of the following manufacturers, which comply with these specifications, are acceptable.
 - 1. Metallic Conduit Fittings:
 - a. Appleton
 - b. Carlon
 - c. Crouse Hinds
 - d. Killark
 - e. O-Z/Gedney
 - f. RACO
 - g. Thomas and Betts
 - 2. Support Channel:
 - a. Kindorf
 - b. Powers
 - c. Unistrut
 - 3. Non-Metallic Conduit and Fittings:
 - a. Carlon
 - b. Certainteed
 - c. Thomas and Betts

- C. Coordination
 - 1. Coordinate conduit installation with all equipment furnished.
 - 2. Coordinate conduit installation with contract documents and other contractors. Adjust installation to eliminate conflicts. Review all shop drawings submitted under this and other sections to insure coordination with all equipment requiring service and to avoid conflict interferences. Coordinate installation sequence with other contractors to avoid conflicts including equipment access and provide the fastest overall installation schedule.
 - 3. The systems integrator shall provide certification of raceway coordination as part of the shop drawing submittals.

1.4 STORAGE AND HANDLING

- A. All materials shall be protected until installed in place on the project.
- B. All conduits stored on site prior to installation shall be stored on a surface off of the ground and shall be protected from the direct rays of the sun and from debris.
- C. Damaged, oxidized, warped, improperly stored material or material with foreign debris will be removed from the project and replaced with new materials.

PART 2 - PRODUCTS

2.1 GENERAL MATERIALS REQUIREMENTS

- A. Furnish all materials specified herein.
- B. All conduit and fittings shall be UL listed and bear a label by Underwriters' Laboratories for use as raceway system for electrical conductors.
- C. Raceway is required for all wiring, unless specifically indicated or specified otherwise.
- D. Size: The minimum size of conduit shall be 3/4". The size of all conduits shall be in accordance with the NEC, but, not less than indicated on the drawings. 3/8" flexible conduits may not be used for any application or connections to equipment specified in these sections of the specifications.

2.2 EMT CONDUIT FITTINGS

- A. Electrical Metallic Tubing (EMT) couplings and connectors shall be steel "concrete tight" type. Malleable iron, die cast or pressure cast fittings are not permitted. Fittings 2.0" and smaller shall be gland and ring compression type. Connectors for conduits 2.5" and larger shall be set screw type with two (2) screws each or compression type. Couplings for conduits 2.5" and larger shall be set screw type with four (4) screws each or compression type. All connectors shall be insulated throat type.

2.3 RIGID AND IMC CONDUIT FITTINGS

- A. Fittings for rigid steel and IMC conduit shall be standard threaded couplings, locknuts, bushings and elbows. All materials shall be steel or malleable iron only. Set screw or non-threaded fittings are not permitted. Bushings shall be metallic insulating type consisting of insulating insert molded or locked into the metallic body of the fittings.

2.4 NON-METALLIC CONDUIT AND FITTINGS

- A. Non-metallic conduit shall be heavy wall, Schedule 80 PVC.

- B. Non-metallic conduit fittings shall be of the same material as the conduit furnished and be the product of the same manufacturer. Glue used for non-metallic conduit shall be as specified by the manufacturer of the conduit provided.

2.5 METALLIC CONDUIT AND FITTINGS

- A. All parts and hardware shall be zinc-coated or have equivalent corrosion protection.
- B. Conduit straps shall be single-hole cast metal type or two-hole galvanized metal type. Conduit clamps made of spring steel shall not be used for any reason, except on metal stud walls.
- C. Conduit support channels shall be 1.5" x 1.5" x 14 gauge galvanized (or with equivalent treatment) channel. Channel suspension shall be 3/8" threaded steel rods. Use swivel type connector to attach suspension rods to structure. Spring steel clips are not acceptable. Wire or chain is not acceptable for conduit hangers.
- D. Individual conduit hangers shall be galvanized spring steel specifically designed for the purpose, sized appropriately for the conduit type and diameter, and have pre-assembled closure bolt and nut and provisions for receiving threaded hanger rod. Support with 1/4" threaded steel rod for individual conduits 1.5" and smaller and 3/8" rod for individual conduits 2.0" and larger.
- E. Individual conduit straps on metal studs shall be spring steel and should wrap around entire face of stud securely biting into both edges and have provisions for screwing into stud. Sized for conduit to be supported. Tie wraps are not acceptable.
- F. Support multiple conduits from metal studs using preassembled bar hanger assembly consisting of hanger bar, retaining clips and conduit straps.
- G. Refer to Section 28 05 28 29 - SUPPORTING DEVICES of these specifications for additional material requirements.

2.6 FLEXIBLE CONDUIT AND FITTINGS

- A. Flexible conduit shall be steel metallic type. Where specified herein, indicated on the drawings, or when used in damp or wet locations, as classified by the National Electrical Code, flexible conduit shall be liquid tight.
- B. All flexible conduit shall be classified as suitable for system grounding.
- C. Connectors for flexible conduit shall be steel insulated throat type rated as suitable for system ground continuity. Connectors for liquid tight flexible conduit shall be screw-in ground cone type.
- D. Flexible conduit shall not be less than 1/2" trade size and in no case shall flexible conduit size be less than permitted by the National Electrical Code for the number and size of conductors to be installed herein.

2.7 MISCELLANEOUS CONDUIT FITTINGS AND ACCESSORIES

- A. Vinyl all weather electrical tape for corrosion protection shall be Scotch #88, Tomic #85, Permacel #295.
- B. Expansion and deflection couplings shall be in accordance with UL 467 and UL 514. They shall accommodate 3/4" deflection, expansion, or contraction in any direction and shall allow 30 degree angular deflections. Couplings shall contain an internal flexible metal braid to maintain raceway system ground continuity.
- C. Fire and smoke stop materials shall be rock wool fiber, silicone foam, or silicone sealant, UL rated to maintain the fire floor or fire wall partition rating.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General

1. Conceal all conduits, except in unfinished spaces such as equipment rooms or where indicated by symbol on the drawings.
2. Leave all empty conduits with a 200 pound test nylon cord pull line extending a minimum of 24 inches from the end of the conduits.
3. Install complete raceway runs prior to installation of cables or wires. Cables and wire run in incomplete raceways shall be removed and replaced.
4. Flattened, dented, or deformed conduits are not permitted and shall be removed and replaced.
5. Secure rigid conduit i.e., rigid galvanized conduit and intermediate metal conduit, to sheet metal enclosures with two (2) locknuts and insulated bushing. Secure EMT to sheet metal enclosures with insulated throat connectors.
6. Fasten conduit support device to structure with wood screws on wood, toggle bolts on hollow masonry, anchors as specified on solid masonry or concrete, and machine bolts, clamps, or spring steel clips, on steel. Nails are not acceptable.
7. Protect conduits against dirt, plaster, and foreign debris with conduit plugs. Plugs shall remain in place until all masonry is complete. Protect conduit stub-ups during construction from damage; any damaged conduits shall not be used.
8. Seal all conduits originating from outside building from below grade, all conduits entering refrigerated spaces, i.e., freezers and coolers, and all conduits entering exterior mounted electrical equipment with insulating electrical putty to prevent entrance of moisture.
9. Install conduit with wiring, including homeruns as indicated on the drawings. Any change resulting in a savings in labor or materials is to be made only in accordance with a contract change. Deviations shall be made only where necessary to avoid interferences and when approved by Architect by written authorization.
10. Conduits which penetrate roof membranes shall be installed in accordance with manufacturer's recommendations and architectural specifications. The systems integrator shall coordinate roof penetrations with the roofing contractor.
11. Install a complete telephone/data, video visitation/arraignment raceway systems as specified in other section of these specifications and as indicated on the drawings. The minimum conduit size shall be not less than 1 inch. All bends in conduit shall be long sweep radius. Install no more than two 90 degree bends in raceways between pull or outlet boxes and backboard/cabinets. Install no more than two outlet boxes on the same home run unless approved by the Owner.
12. Separate raceway systems are to be installed for power systems and for control, signal and communications systems. Do not install control, signal or communications cables in the same raceways, unless indicated otherwise on the drawings.
13. Provide expansion fitting in all conduits where length of run exceeds 200 feet or where conduits pass building expansion joints.

B. Uses Permitted

1. Conduits installed within concrete floor slabs which are in direct contact with grade shall be galvanized rigid steel (GRS) or intermediate metal conduit (IMC). Conduits which penetrate the building roof shall be galvanized rigid steel (GRS) or intermediate metal conduit (IMC). Conduits installed within concrete floor slabs which are above grade shall be galvanized rigid steel (GRS), intermediate metal conduit (IMC), or schedule 40 Heavy Wall PVC. Where transition is made from raceway in slab to any type of raceway out of slab, make transition with rigid galvanized elbow. For corrosion protection, where elbow penetrates surface, wrap with vinyl all weather electrical tape or coat with bituminous asphaltic compound, for 6" above and below concrete surface.
2. Conduits installed in direct contact with earth shall be schedule 40, heavy wall PVC.

3. All other conduit, unless excluded herein, not permitted in accordance with the National Electrical Code, or otherwise indicated on the drawings, shall be electrical metallic tubing (EMT).
4. Conduit types shall not be mixed indiscriminately with other types in the same run, unless specified herein or required by the NEC.
5. Use flexible conduit for connections flush mounted Division 17 Devices.
 - a. Flexible conduit shall not be used above hard ceilings sheetrock or plaster, etc.
 - b. Flexible conduit from outlet box to flush mounted devices shall not exceed 6-ft. in length.
 - c. Maintain ground continuity through flexible conduit with green equipment grounding conductor; do not use flexible conduit for ground continuity.
 - d. Liquid tight conduit shall be used to connect equipment in the kitchen area, laundry area, mechanical equipment rooms, exterior installations, below access floors connecting data processing other equipment.
6. No conduit requiring cutting of cross-webs of concrete masonry units is permitted. Conduit shall be threaded through cells or concrete masonry units lowered around conduit. Neither horizontal joint reinforcement nor bond beam reinforcement shall be cut for conduit installation.
7. All conduits installed exposed from the finished floor to a minimum height of 10 ft. above the floor shall be galvanized rigid steel (GRS) or intermediate metallic conduit (IMC).
8. Any conduits installed exposed, which have been specifically indicated on the drawings as acceptable, in areas accessible to inmates shall be galvanized rigid steel.
9. Where hazardous locations, as classified by the National Electrical Code, exist, all conduits and fittings and the installation of these materials shall comply with Article 500 of the National Electrical Code.
10. All conduits entering refrigerated spaces shall be galvanized rigid steel.
11. Concrete encased underground duct banks shall be installed where indicated on the drawings for communication cable system. Duct bank conduits shall be non-metallic.

C. Below Grade Raceway Installations

1. Direct Burial Conduit
 - a. Install top of conduits 24" minimum below finished grade.
 - b. Install top of conduits 6" minimum below bottom of building slabs.
 - c. Install top of conduits 30" minimum below grade, below roads and any other paved surfaces.
 - d. Where transition is made from below grade PVC installation to a metallic conduit system above grade or slab, make transition with long sweep rigid galvanized elbow and extend through slab or above grade with galvanized rigid steel conduit. For corrosion protection, where the elbow penetrates surface, wrap with vinyl all weather electrical tape or coat with bituminous asphaltic compound, for 6" above and below concrete surface.
 - e. For excavation and backfilling, refer to earthwork specification section.
 - f. Conduit shall be run following the most direct route between points.
2. Duct Bank
 - a. Duct bank configuration shall be in accordance with the details indicated on the drawings.
 - b. Duct banks shall be installed with top of concrete not less than 24" below finished grade or pavement nor more than 36" unless position of existing underground utilities prevents installation at this depth. Under such conditions, depth may be reduced in accordance with the National Electrical Code. Refer to EARTHWORK section of the specification for excavation and backfilling. The bottom of the conduit trench shall be flat and level.
 - c. Conduits shall be anchored to and supported in the trench with fiber or plastic conduit spacers, designed and provided by the manufacturer for the purpose, and installed not more than 5 foot on center. Stagger conduit couplings a minimum of 12".

- d. Change in direction exceeding 10 degrees shall be made with long sweep bends with minimum radius of curvature of 25 ft. All 90 degree elbows shall be factory made and shall be long sweep type (24" minimum radius).
- e. Conduit joints shall be watertight and shall be made by the application of PVC solvent, specified by the manufacturer of the conduit. Solvent shall be applied to interior of coupling and exterior of conduit, in accordance with manufacturer's recommendations.
- f. Concrete for use with duct banks shall be 2500 lb. concrete with 1/2" aggregate. Slump shall be between 7" and 8". Refer to CONCRETE section of these specifications for additional requirements for concrete.
- g. Below all roads and paved areas, duct banks shall be reinforced by the installation of No. 5 bars 6" on center at each corner and on all sides, parallel to duct, and with continuous No. 3 bar perpendicular to duct on 16" centers. Concrete cover for reinforced duct banks shall be not less than 6" with not less than 3" of concrete cover on reinforcing steel. Where reinforced duct bank is provided, reinforcing shall extend not less than 10 ft. beyond each side of road or paved area.
- h. All open conduit ends shall be plugged during construction to prevent water, mud, concrete and debris from entering duct banks and manholes. Prior to the installation of cables, each conduit shall be cleaned by pulling a standard, flexible mandrel not less than 12" long, with diameter approximately 1/4" less than inside diameter of conduit, through the conduit. In addition, a brush with soft bristles and diameter approximately equal to inside diameter of conduit shall be pulled through conduit.
- i. All duct banks shall be sloped to drain toward manholes and shall be laid with a minimum grade of 4" per 100 ft. Terminations in manholes shall be made with bell ends.
- j. Construction of duct banks shall proceed from one end to the other, not from each end to the center.
- k. The Contractor shall notify the Owner's personnel prior to backfilling any trenches to allow the Owner to review and witness the backfilling of trenches.

D. Raceway Installations Within Concrete

- 1. Conduit shall be run following the most direct route between points.
- 2. Conduit shall not be installed in concrete which is less than 3" thick or where the outside diameter is larger than 1/3 of the slab thickness.
- 3. Conduits installed in concrete slabs shall be buried in the concrete slab. Wire low conduits to upper side of the bottom reinforcing steel, and upper conduits to the lower side of the top reinforcing steel. Separate parallel runs of conduits within slab by at least 1".
- 4. Conduits shall not be installed within shear walls unless specifically indicated on the drawings. Conduits shall not be run directly below and parallel with load bearing walls
- 5. Protect each metallic conduit installed in concrete slab or conduits 1.5" and smaller passing through a concrete slab against corrosion where conduit enters and leaves concrete by wrapping conduit with vinyl all-weather electrical tape.
- 6. The maximum projection of conduit stub-up and bushing above slab shall be 3".
- 7. Protect all conduits entering and leaving concrete floor slabs from physical damage during construction.
- 8. Install all conduits penetrating rated fire floors to maintain the fire rating of the floor penetrated.

E. Concealed (Above Ceilings and in Walls) and Exposed Raceway Installation

- 1. Conduit shall be run parallel or at right angles to existing walls, ceilings, and structural members.
- 2. Support conduits at intervals not exceeding 10 ft. and within three feet of each outlet, junction box, cabinet or fitting. Attach individual conduits to structural steel members with beam conduit clamps and to non-metallic structural members with two-hole conduit straps. For exposed conduits and where conduits must be suspended below structure,

single conduit runs shall be supported from structure by hangar rod and conduit clamp assembly. Multiple conduits shall be supported by trapeze type support suspended from structure. Do not attach conduits to ceiling suspension system channels or suspension wires.

3. Attach conduits larger than 1 inch trade diameter to or from structure on intervals not exceeding 10 ft. with conduit beam clamps, one-hole conduit straps or trapeze type support in accordance with support systems described for conduits.
4. Exposed conduits shall be painted, see painting section of the specifications.
5. Conduits shall not pass through structural members.
6. Install conduit sleeves in slabs where conduits 2 inches and larger pass through. Sleeves shall extend 1 inch minimum above finished slab. Seal all spare sleeves and between conduits and sleeves to maintain fire rating and to make watertight and smoketight.
7. Install all conduits or sleeves penetrating rated fire walls or fire floors to maintain fire rating of wall or floor.
8. Conduits rigidly secured to building construction on opposite sides of a building expansion joint shall be provided with an expansion and deflection coupling. In lieu of an expansion coupling, conduits 2-1/2 inches and smaller may be provided with junction boxes on both sides of the expansion joint connected by 15 inches of slack flexible conduit with bonding jumper.
9. Do not install exposed conduit systems in inmate housing area and other areas normally accessible to inmates unless such installations are specifically indicated on the drawings. Where exposed conduit is indicated on the drawings, all conduits shall be rigid metallic type and all outlet boxes shall be cast metal type with threaded hubs.
 - a. Install conduits flat against wall; offsets or "kicks" shall be permitted only to enter outlet box.
 - b. Support conduits on centers not exceeding 5 feet and within 12 inches of each outlet box using two-hole conduit straps attached to surface with nonremovable break off security type bolts.

3.2 ADJUSTMENT, CLEANING AND PROTECTION

- A. Clean: Upon completion, clean all installed materials of paint, dirt, and construction debris. All conduit systems shall be cleaned of water and debris prior to the installation of any conductors. The Owner shall observe the cleaning of the conduit systems prior to pulling wire.
- B. All open conduit ends shall be plugged during construction to prevent water, mud, concrete and debris from entering duct banks and manholes. Prior to installation of cables, each conduit shall be cleaned by pulling a standard, flexible mandrel not less than twelve inches long, with diameter approximately 1/4" less than inside diameter of conduit, through the conduit. In addition, a brush with soft bristles and diameter approximated equal to inside diameter of conduit shall be pulled through conduit.

3.3 EXCAVATION, TRENCHING AND BACKFILLING

- A. Perform all excavation to install conduits, duct banks, manholes as indicated on the drawings or specified herein. During excavation, pile material for backfilling back from the banks of the trench to avoid overloading and to prevent slides and cave-ins. Provide shoring as required by OSHA Standards. Remove and dispose of all excavated materials not to be used for backfill. Grade to prevent surface water from flowing into trenches and excavation. Remove any water accumulating therein by pumping. Do all excavation by open cut. No tunneling shall be done unless indicated on the drawings or unless written permission is received from the Architect.
- B. Grade the bottom of trenches to provide uniform bearing and support for conduits, or duct bank on undisturbed soil at every point along its entire length. Tamp overdepths with loose, granular, moist earth. Remove unstable soil that is not capable of supporting equipment or installation and replace with specified material for a minimum of 12 inches below invert of equipment or installation.

- C. Backfill the trenches with excavated materials approved for backfilling, consisting of earth, loam, sandy clay, sand and gravel or soft shale, free from large clods of earth and stones, deposited in 6 inch layers and rammed until the installation has a cover of not less than the adjacent ground but not greater than 2 inches above existing ground. Backfilling shall be carried on simultaneously on both sides of the trench so that injurious pressures do not occur. Compaction of the filled trench shall be at least equal to that of the surrounding undisturbed material. Do not settle backfill with water. Reopen any trenches not meeting compaction requirements or where settlement occurs, refill, compact, and restore surface to grade and compaction indicated on the drawings, mounded over and smoothed off. The Owner shall observe all backfilling of trenches and excavations.

END OF SECTION

SECTION 28 0529 - SUPPORTING DEVICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Section 26 05 48 Vibration and Seismic Control for Electrical Systems applies to the work of this section.

1.2 SUMMARY

- A. Extent of supports, anchors, sleeves and seals is indicated by drawings and schedules and/or specified in other Division or sections of these specifications.
- B. Types of supports, anchors, sleeves and seals specified in this section include the following:
 - 1. Clevis hangers.
 - 2. Riser clamps.
 - 3. C-clamps.
 - 4. I-beam clamps.
 - 5. One-hole conduit straps.
 - 6. Two-hole conduit straps.
 - 7. Round steel rods.
 - 8. Expansion anchors.
 - 9. Toggle bolts.
 - 10. Wall and floor seals.
- C. Supports, anchors, sleeves and seals furnished as part of factory fabricated equipment are specified as part of that equipment assembly in other Division or sections of these specifications.

1.3 QUALITY ASSURANCE

- A. NEC Compliance: Comply with NEC requirements as applicable to construction and installation of electrical supporting devices.
- B. NECA Compliance: Comply with National Electrical Contractors Association's "Standard of Installation" pertaining to anchors, fasteners, hangers, supports, and equipment mounting.
- C. UL Compliance: Provide electrical components which are UL-listed and labeled.
- D. FS Compliance: Comply with Federal Specification FF-S-760 pertaining to retaining straps for conduit, pipe and cable.

1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's data on supporting devices including catalog cut sheets, specifications, and installation instructions, for each type of support, anchor, sleeve and seal.
- B. Shop Drawings: Submit dimensioned drawings of fabricated products, indicating details of fabrication and materials.

PART 2 - PRODUCTS

2.1 MANUFACTURED SUPPORTING DEVICES

- A. General: Provide supporting devices which comply with manufacturer's standard materials, design and construction in accordance with published product information, and as required for complete installation; and as herein specified. Where more than one type of supporting device meets indicated requirements, selection is Installer's option.
- B. Supports: Provide supporting devices of types, sizes and materials indicated; and having the following construction features:
1. Clevis Hangers: For supporting 2" rigid metal conduit; galvanized steel; with 1/2" diameter hole for round steel rod; approximately 54 lbs. per 100 units.
 2. Riser Clamps: For supporting 5" rigid metal conduit; black steel; with 2 bolts and nuts, and 4" ears; approximately 510 lbs. per 100 units.
 3. Reducing Couplings: Steel rod reducing coupling, 1/2" x 5/8"; black steel; approximately 16 lbs. per 100 units.
 4. C-Clamps: Black malleable iron; 1/2" rod size; approximately 70 lbs. per 100 units.
 5. I-Beam Clamps: Black steel, 1-1/4" x 3/16" stock; 3/8" cross bolt; flange width 2"; approximately 52 lbs. per 100 units.
 6. One-Hole Conduit Straps: For supporting 3/4" rigid metal conduit; galvanized steel; approximately 7 lbs. per 100 units.
 7. Two-Hole Conduit Straps: For supporting 3/4" rigid metal conduit, galvanized steel; 3/4" strap width; and 2-1/8" between center of screw holes.
 8. Hexagon Nuts: For 1/2" rod size; galvanized steel; approximately 4 lbs. per 100 units.
 9. Round Steel Rod: Black steel; 1/2" diameter; approximately 67 lbs. per 100 feet.
 10. Offset Conduit Clamps: For supporting 2" rigid metal conduit; black steel; approximately 200 lbs. per 100 units.
- C. Anchors: Provide anchors of types, sizes and materials indicated, with the following construction features:
1. Toggle Bolts: Springhead; 3/16" x 4"; approximately 5 lbs. per 100 units.
 2. Expansion sleeve anchors by Hilti or Phillips Redhead: 1/2"; approximately 38 lbs. per 100 units.
 3. Manufacturers: Subject to compliance with requirements, provide anchors of one of the following:
 - a. Ackerman Johnson Fastening Systems Inc.
 - b. Hilti
 - c. Ideal Industries, Inc.
 - d. Joslyn Mfg and Supply Company
 - e. McGraw Edison Company
 - f. Phillips Redhead
 - g. Rawlplug Company Inc.
- D. Sleeves and Seals: Provide sleeves and seals, of types, sizes and materials indicated, with the following construction features:
1. Wall and Floor Seals: Provide factory assembled watertight wall and floor seals, of types and sizes indicated; suitable for sealing around conduit, pipe, or tubing passing through concrete floors and walls. Construct seals with steel sleeves, malleable iron body, neoprene sealing grommets and rings, metal pressure rings, pressure clamps, and cap screws.
- E. U-Channel Strut Systems:
1. Provide U channel strut system for supporting electrical equipment, 12 gage hot dip galvanized steel, of types and sizes indicated; construct with 9/16" diameter holes, 8" o.c. on top surface, with standard green finish, and with the following fittings which mate and match with U channel.

- a. Channel hangers.
 - b. End caps.
 - c. Beam clamps.
 - d. Wiring studs.
 - e. Thinwall conduit clamps.
 - f. Rigid conduit clamps.
 - g. Conduit hangers.
 - h. U bolts.
2. Manufacturers: Subject to compliance with requirements, provide channel systems of one of the following:
- a. Allied Tube and Conduit Corporation.
 - b. B Line Systems, Inc.
 - c. Elcen Metal Products Company.
 - d. Greenfield Mfg Company, Inc.
 - e. Midland-Ross Corporation.
 - f. OZ/Gedney Div.; General Signal Corporation.
 - g. Power-Strut Div.; Van Huffel Tube Corporation.
 - h. Unistrut Div.; GTE Products Corporation.

2.2 FABRICATED SUPPORTING DEVICES

- A. Pipe Sleeves: Provide pipe sleeves of one of the following:
1. Sheet Metal: Fabricate from galvanized sheet metal; round tube closed with snaplock joint, welded spiral seams, or welded longitudinal joint. Fabricate sleeves from the following gage metal: 3" and smaller, 20-gage; 4" to 6", 16-gage; over 6", 14" gage.
 2. Steel Pipe: Fabricate from Schedule 40 galvanized steel pipe.
 3. Iron Pipe: Fabricate from cast-iron or ductile-iron pipe.
 4. Plastic Pipe: Fabricate from Schedule 80 PVC plastic pipe.
- B. Sleeve Seals: Provide modular mechanical type seals, consisting of interlocking synthetic rubber links shaped to continuously fill annular space between pipe and sleeve, connected with bolts and pressure plates which cause rubber sealing elements to expand when tightened, providing watertight seal and electrical insulation.

PART 3 - EXECUTION

3.1 INSTALLATION OF SUPPORTING DEVICES

- A. Install hangers, anchors, sleeves and seals as indicated, in accordance with manufacturer's written instructions and with recognized industry practices to insure supporting devices comply with requirements. Comply with requirements of NECA and NEC for installation of supporting devices.
- B. Coordinate with other Division 28 work, including raceway and wiring work, as necessary to interface installation of supporting devices with other work.
- C. Install hangers, supports, clamps and attachments to support piping properly from building structure. Arrange for grouping of parallel runs of horizontal conduits to be supported together on trapeze type hangers where possible. Install supports in compliance with NEC requirements.
- D. Torque sleeve seal nuts, complying with manufacturer's recommended values. Ensure that sealing grommets expand to form watertight seal.
- E. Remove burrs from ends of pipe sleeves.

END OF SECTION

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SECTION 28 0536 - CABLE TRAYS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Section 26 05 48 Vibration and Seismic Control for Electrical Systems applies to the work of this section.
- C. The Division 28 series of specifications describe systems that are integrated and or connected together to provide coordinated operations; therefore, individual sections do not stand alone. The installation and operation of any given system may be determined only by review of the total series of Division 28 specifications, as well as the Mechanical Divisions 21, 22, 23, and the Electrical Division 26 specifications and other referenced specifications.
- D. Related Work: Coordinate with other trades for routing of cable trays.

1.2 SUMMARY

- A. This Section includes tubular steel cable trays and accessories.

1.3 SUBMITTALS

- A. Product Data: Include data indicating dimensions and finishes for each type of cable tray indicated.
- B. Shop Drawings: For each type of cable tray.
 - 1. Show fabrication and installation details of cable tray, including plans, elevations, and sections of components and attachments to other construction elements. Designate components and accessories, including clamps, brackets, hanger rods, splice-plate connectors, expansion-joint assemblies, straight lengths, fittings and grounding.
- C. Coordination Drawings: Floor plans and sections, drawn to scale. Include scaled cable tray layout and relationships between components and adjacent structural, electrical, and mechanical elements. Show the following:
 - 1. Vertical and horizontal offsets and transitions.
 - 2. Clearances for access above and to side of cable trays.
 - 3. Vertical elevation of cable trays above the floor or bottom of ceiling structure.
- D. Field quality-control reports.
- E. Operation and Maintenance Data: For cable trays to include in emergency, operation, and maintenance manuals.

1.4 QUALITY ASSURANCE

- A. Source Limitations: Obtain cable tray components through one source from a single manufacturer.

- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- C. Comply with NFPA 70, latest adopted edition.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store indoors to prevent water or other foreign materials from staining or adhering to cable tray.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Cooper B-Line, Inc.
 - 2. CPI, Chatsworth Products, Inc.
 - 3. Hubbell
 - 4. MONO-SYSTEMS, Inc.

2.2 MATERIALS AND FINISHES

- A. Cable Trays, Fittings, and Accessories: Tubular Steel, complying with NEMA VE 1.
 - 1. Factory-standard powder coat black finish.

2.3 CABLE TRAY ACCESSORIES

- A. Fittings: Tees, crosses, risers, elbows, and other fittings as indicated, of same materials and finishes as cable tray.
- B. Cable tray supports and connectors, including bonding jumpers, as recommended by cable tray manufacturer.

2.4 WARNING SIGNS

- A. Lettering: 1-1/2-inch- high, black letters on yellow background with legend "WARNING! NOT TO BE USED AS WALKWAY, LADDER, OR SUPPORT FOR LADDERS OR PERSONNEL."
- B. Materials and fastening are specified in 280553 System Identification.

2.5 SOURCE QUALITY CONTROL

- A. Perform design and production tests according to NEMA VE 1.

PART 3 - EXECUTION

3.1 CABLE TRAY INSTALLATION

- A. The Contractor shall install a Ladder Rack type cable tray in corridors and within the telecommunications rooms to support all horizontal and backbone cables. All ladder racks shall be black. Ladder rack shall be attached to the relay rack using a rack top cable tray. Size as needed.
- B. Cable Tray shall be supported at 5' intervals minimum. This will necessitate attachment to beams and ceiling deck. All beams will be coated with a spray on Firestop. If the Contractor disrupts any Firestop for attachment of structured cable support, it shall be the cabling contractor's responsibility to restore Firestop to its original condition.
- C. Comply with recommendations in NEMA VE 2. Install as a complete system, including all necessary fasteners, hold-down clips, splice-plate support systems, barrier strips, hinged horizontal and vertical splice plates, elbows, reducers, tees, and crosses.
- D. Remove burrs and sharp edges from cable trays.
- E. Fasten cable tray supports to building structure.
 - 1. Design each fastener and support to carry load indicated by seismic requirements.
 - 2. Construct supports from channel members, threaded rods, and other appurtenances furnished by cable tray manufacturer. Arrange supports in trapeze or wall-bracket form as required by application.
 - 3. Support bus assembly to prevent twisting from eccentric loading.
 - 4. Manufacture center-hung support, designed for 60 percent versus 40 percent eccentric loading condition, with a safety factor of 3.
 - 5. Locate and install supports according to NEMA VE 1.
- F. Make connections to equipment with flanged fittings fastened to cable tray and to equipment. Support cable tray independent of fittings. Do not carry weight of cable tray on equipment enclosure.
- G. Install expansion connectors where cable tray crosses building expansion joint and in cable tray runs that exceed dimensions recommended in NEMA VE 1. Space connectors and set gaps according to applicable standard.
- H. Make changes in direction and elevation using standard fittings.
- I. Make cable tray connections using standard fittings.
- J. Seal penetrations through fire and smoke barriers according to Division 7 Section "Penetration Firestopping."
- K. Sleeves for Future Cables: Install capped sleeves for future cables through firestop-sealed cable tray penetrations of fire and smoke barriers.
- L. Workspace: Install cable trays with enough space to permit access for installing cables.
- M. Install barriers to separate cables of different systems, such as power, communications, and data processing; or of different insulation levels, such as 600, 5000, and 15 000 V.
- N. After installation of cable trays is completed, install warning signs in visible locations on or near cable trays.

3.2 CABLE INSTALLATION

- A. Install cables only when cable tray installation has been completed and inspected.
- B. Fasten cables on horizontal runs with cable clamps or cable ties as recommended by NEMA VE 2. Tighten clamps only enough to secure the cable, without indenting the cable jacket. Install cable ties with a tool that includes an automatic pressure-limiting device.
- C. On vertical runs, fasten cables to tray every 18 inches. Install intermediate supports when cable weight exceeds the load-carrying capacity of the tray rungs.
- D. In existing construction, remove inactive or dead cables from cable tray.

3.3 CONNECTIONS

- A. Ground cable trays according to manufacturer's written instructions.
- B. Install an insulated equipment grounding conductor with cable tray, in addition to those required by NFPA 70.

3.4 FIELD QUALITY CONTROL

- A. After installing cable trays and after electrical circuitry has been energized, survey for compliance with requirements. Perform the following field quality-control survey:
 - 1. Visually inspect cable insulation for damage. Correct sharp corners, protuberances in cable tray, vibration, and thermal expansion and contraction conditions, which may cause or have caused damage.
 - 2. Verify that the number, size, and voltage of cables in cable tray do not exceed that permitted by NFPA 70. Verify that communication or data-processing circuits are separated from power circuits by barriers.
 - 3. Verify that there is no intrusion of such items as pipe, hangers, or other equipment that could damage cables.
 - 4. Remove deposits of dust, industrial process materials, trash of any description, and any blockage of tray ventilation.
 - 5. Visually inspect each cable tray joint and each ground connection for mechanical continuity. Check bolted connections between sections for corrosion. Clean and retorquing in suspect areas.
 - 6. Check for missing or damaged bolts, bolt heads, or nuts. When found, replace with specified hardware.
 - 7. Perform visual and mechanical checks for adequacy of cable tray grounding; verify that all takeoff raceways are bonded to cable tray.
- B. Report results in writing.

3.5 PROTECTION

- A. Protect installed cable trays.
 - 1. Repair damage to galvanized finishes with paint recommended by cable tray manufacturer.
 - 2. Install temporary protection for cables in open trays to protect exposed cables from falling objects or debris during construction. Temporary protection for cables and cable tray can be constructed of wood or metal materials until the risk of damage is over.

END OF SECTION

SECTION 28 0553 - SYSTEM IDENTIFICATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Extent of Division 28 identification work is as outlined by this specification.
- B. Types of identification work specified in this section include the following but not limited to. See other Sections of these specifications:
 - 1. Buried cable warnings.
 - 2. Electrical power, control and communication conductors.
 - 3. Operational instructions and warnings.
 - 4. Danger signs.
 - 5. Equipment/system identification signs.
- C. Refer to Division 28 section INTEGRATED SECURITY SYSTEMS GENERAL, for equipment and system nameplates, and performance data; not work of this section.

1.3 QUALITY ASSURANCE

- A. NEC Compliance: Comply with NEC as applicable to installation of identifying labels and markers for wiring and equipment.
- B. UL Compliance: Comply with applicable requirements of UL Std 969, "Marking and Labeling Systems", pertaining to electrical identification systems.
- C. ANSI Compliance: Comply with applicable requirements of ANSI Std A13.1, "Scheme for the Identification of Piping Systems".
- D. NEMA Compliance: Comply with applicable requirements of NEMA Std No's WC-1 and WC-2 pertaining to identification of power and control conductors.

1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's data on electrical identification materials and products.
- B. Samples: Submit samples of each color, lettering style and other graphic representation required for each identification material or system.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide electrical identification products of one of the following (for each type marker):
 - 1. Almetek
 - 2. Brady, W.H. Company
 - 3. Calpico Inc.
 - 4. Cole-Flex Corporation
 - 5. Direct Safety Company

6. George-Ingraham Corporation
7. Griffolyn Company
8. Ideal Industries, Inc.
9. LEM Products, Inc.
10. Markal Company
11. National Band and Tag Company
12. Panduit Corporation
13. Seton Name Plate Company
14. Tesa Corporation

2.2 ELECTRICAL IDENTIFICATION MATERIALS

- A. Except as otherwise indicated, provide manufacturer's standard products of categories and types required for each application. Where more than single type is specified for an application selection is Installer's option, but provide single selection for each application.
- B. Color-Coded Plastic Tape:
 1. Provide manufacturer's standard self-adhesive vinyl tape not less than 3 mils thick by 1-1/2" wide.
 - a. Colors: Unless otherwise indicated or required by governing regulations, provide orange tape.
- C. Underground-Type Plastic Line Marker:
 1. Manufacturer's standard permanent, bright-colored, continuous-printed plastic tape, intended for direct-burial service; not less than 6" wide x 4 mils thick. Provide tape with printing which most accurately indicates type of service of buried cable.
- D. Cable/Conductor Identification Bands:
 1. Provide manufacturer's standard vinyl-cloth self-adhesive cable/conductor markers of wrap-around type, either pre-numbered plastic coated type, or write-on type with clear plastic self-adhesive cover flap; numbered to show circuit identification.
- E. Plasticized Tags:
 1. Manufacturer's standard pre-printed or partially pre-printed accident-prevention and operational tags, of plasticized card stock with matte finish suitable for writing, approximately 3-1/4" x 5-5/8", with brass grommets and wire fasteners, and with appropriate pre-printed wording including large-size primary wording, e.g., DANGER, CAUTION, DO NOT OPERATE.
- F. Self-Adhesive Plastic Signs:
 1. Provide manufacturer's standard, self-adhesive or pressure-sensitive, pre-printed, flexible vinyl signs for operational instructions or warnings; of sizes suitable for application areas and adequate for visibility, with proper wording for each application, e.g., 208V, EXHAUST FAN, RECTIFIER.
 2. Colors: Unless otherwise indicated, or required by governing regulations, provide white signs with black lettering.
- G. Baked Enamel Danger Signs:
 1. General: Provide manufacturer's standard "DANGER" signs of baked enamel finish on 20-gage steel; of standard red, black and white graphics; 14" x 10" size except where 10" x 7" is the largest size which can be applied where needed, and except where larger size is needed for adequate vision; with recognized standard explanation wording, e.g., HIGH VOLTAGE, KEEP AWAY, BURIED CABLE, DO NOT TOUCH SWITCH.
- H. Engraved Plastic-Laminate Signs:
 1. Provide engraving stock melamine plastic laminate, complying with FS L-P-387, in sizes and thicknesses indicated, engraved with engraver's standard letter style of sizes and

wording indicated, black face and white core plies (white letter color) except as otherwise indicated, punched for mechanical fastening except where adhesive mounting is necessary because of substrate.

2. Thickness: 1/8", except as otherwise indicated.
3. Fasteners: Self-tapping stainless steel screws, except contact-type permanent adhesive where screws cannot or should not penetrate substrate.

2.3 LETTERING AND GRAPHICS

- A. General: Coordinate names, abbreviations and other designations used in electrical identification work, with corresponding designations shown, specified or scheduled. Provide numbers, lettering and wording as indicated or, if not otherwise indicated, as recommended by manufacturer or as required for proper identification and operation/maintenance of electrical systems and equipment. Comply with ANSI A13.1 pertaining to minimum sizes for letters and numbers.
- B. As part of the close out documentation the systems integrator shall provide a complete typed legend of all wire and equipment including full descriptions and locations.

PART 3 - EXECUTION

3.1 APPLICATION AND INSTALLATION

- A. General Installation Requirements:
 1. Install electrical identification products as indicated, in accordance with manufacturer's written instructions, and requirements of NEC and OSHA.
 2. Coordination: Where identification is to be applied to surfaces which require finish, install identification after completion of painting.
 3. Regulations: Comply with governing regulations and requests of governing authorities for identification of electrical work.
- B. Conduit Identification:
 1. Where electrical conduit is specified to be exposed identified by color-coded method, apply color-coded identification on electrical conduit. Color code for conduit must be submitted with shop drawings for approval.
- C. Box Identification:
 1. After completion, use an indelible wide tip marker to indicate on each junction and pull box and their covers the designation of the circuits contained therein, i.e., A-1, 3, 5, fire alarm, locking, etc., for each system specified in Division 28.
- D. Underground Cable Identification:
 1. During back-filling/top-soiling of each exterior underground electrical, signal or communication cable, install continuous underground type plastic line marker, located directly over buried line at 6" to 8" below finished grade. Where multiple small lines are buried in a common trench and do not exceed an overall width of 16", install a single line marker.
 2. Install line marker for every buried cable, regardless of whether direct-buried or protected in conduit or duct bank.
- E. Cable/Conductor Identification:
 1. Apply cable/conductor identification, including voltage, phase and feeder number, on each cable/conductor in each box/enclosure/cabinet where wires of more than one circuit or communication/signal system are present. Match identification with marking system used in panelboards, shop drawings, contract documents, and similar previously established identification for project's electrical work. Refer to WIRES AND CABLES section of these

specifications for color coding requirements. All wiring identification shall match as built drawings.

F. Operational Identification and Warnings:

1. Wherever required by OSHA or directed by the Owner, to ensure safe and efficient operation and maintenance of electrical systems, and electrically connected mechanical systems and general systems and equipment, including prevention of misuse of electrical facilities equipment by unauthorized personnel, install self-adhesive plastic signs or similar equivalent identification, instruction or warnings on switches, outlets and other controls, devices and covers of electrical enclosures. Where detailed instructions or explanations are needed, provide plasticized tags with clearly written messages adequate for intended purposes.

G. Danger Signs:

1. In addition to installation of danger signs required by governing regulations and authorities, install appropriate danger signs at locations indicated and at locations subsequently identified by Installer of electrical work or the Owner as constituting similar dangers for persons in or about project.
 - a. High Voltage: Install danger signs wherever it is possible, under any circumstances, for persons to come into contact with electrical power of voltages higher than 110-120 volts.
 - b. Critical Switches/Controls: Install danger signs on switches and similar controls, regardless of whether concealed or locked up, where untimely or inadvertent operation (by anyone) could result in significant danger to persons, or damage to or loss of property.

H. Equipment/System Identification:

1. Install engraved plastic-laminate sign on each major unit of equipment in building; including central or master unit of each electrical system including communication/control/signal systems, unless unit is specified with its own self-explanatory identification or signal system. Except as otherwise indicated, provide single line of text, 1/2" high lettering, on 1-1/2" high sign (2" high where 2 lines are required), white lettering in black field. Provide text matching terminology and numbering of the contract documents and shop drawings. Provide signs for each unit of the following categories of electrical work:
 - a. Access panel/doors to electrical facilities.
 - b. Battery racks.
 - c. Telephone switching equipment.
 - d. Call system master station.
 - e. TV/audio monitoring master station.
 - f. Fire alarm master station.
 - g. Security monitoring master station.
 - h. All Division 28 Equipment Cabinets.
2. Install signs at locations indicated or, where not otherwise indicated, at location for best convenience of viewing without interference with operation and maintenance of equipment. Secure to substrate with fasteners, except use adhesive where fasteners should not or cannot penetrate substrate. Identification of flush mounted cabinets and panelboards shall be on the outside of the device.

END OF SECTION

SECTION 28 2300 - INTEGRATED VIDEO SURVEILLANCE SYSTEM (CCTV)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General, Supplementary and Special Conditions and Division 01 Specification Sections, apply to this Section.
- B. The Division 28 series of specifications describe systems that are integrated and or connected together to provide coordinated operations; therefore, individual sections do not stand alone. The installation and operational requirements of any given system may be determined only by review of the total series of Division 28 specifications, as well as other referenced specifications.

1.2 SUMMARY

- A. This section of the specifications requires the complete installation of an integrated Video Surveillance System (VSS) as specified herein. Provide all labor, materials, equipment, and supervision to install, check out, adjust, and calibrate total system. All VSS switching and recording equipment shall be sized to provide 20% future growth capacity. All pictures shall be clear and free of snow, ground loops, or other conditions that will degrade the picture. When switching from camera to camera no delay shall exist and no roll or static shall be present on the monitors.
- B. The work shall consist of the installation of a complete integrated closed circuit television system consisting essentially of, but not limited to, the following major components:
 - 1. Remote IP cameras, including lens, housings, motion operators, and mounting devices.
 - 2. Power over Ethernet (POE) provisions
 - 3. LCD Monitors with mounting devices for installation where indicated.
 - 4. Ethernet network
 - 5. Network Attached Storage - RAID-5 Video storage
 - 6. Remote camera motion control provisions.
 - 7. Equipment mounting racks and cabinets.
 - 8. Systems wiring.
 - 9. System Local Area Network, video cards
 - 10. System Control, Management, Applications and Computer software
 - 11. Integration with the Security Control and Monitoring system for touch screen switching, Picture in Picture and control of live and recorded video.
 - 12. Integration of legacy cameras via digital video encoders (where applicable).
 - 13. Integration of audio, both by products provided herein and that of other systems (where applicable).
 - 14. Video Viewing and Archiving stations
 - 15. Encoders
 - 16. Ethernet over Coax devices
- C. The VSS system shall provide remote monitoring and control at locations specified herein and elsewhere.
- D. Digital video server and network attached storage (NAS) shall be utilized for recording of cameras as specified. Recording storage shall be sized to accommodate the required recording speeds, resolutions, and quality settings for a period of 30 days for all cameras.
- E. In addition to the VSS coverage shown for the facility interior provide fixed and pan-tilt-zoom camera coverage of the parking lot(s) and entrances as indicated on the drawings. Where noted,

the cameras shall be mounted on dedicated poles or building parapets and cover the total parking lot, exterior facility entrances, building entrances, fence control points and parking gates in their "home" preset position.

- F. Pan-tilt-zoom and fixed cameras at the perimeter of the facility shall cover the loading dock, and all other areas contained inside the secured perimeter.

PART 2 - PRODUCTS

2.1 CAMERAS GENERAL

- A. Installation of each camera shall include mounting brackets and/or camera housings fully compatible with the camera provided. In general, interior camera will be dome type ceiling, corner or wall mount. At inmate accessible area cameras enclosures must be abuse or vandal resistant.
- B. All camera installations shall be securely attached to mounting surface. Use lead shields or steel push anchors on solid masonry, wood screws for wood, toggle bolts for hollow masonry, and machine bolts for steel. Exposed fasteners will be torx pin reject security screws. All anchoring devices shall be rated to support not less than five times the total equipment weight.
- C. In exterior applications the housing shall be fully weather proofed and the heater shall have sufficient power to keep snow, ice and condensation build-up from interfering with the line of sight. If the heater supplied as an integral part of the housing assembly is not of sufficient power to accomplish the above, provide a second heater with thermostatic control. Heaters nor Pan Tilt Zoom power are not to be sourced via POE. They must be connected to separate voltage source and connected to UPS and emergency power. Pan Tilt Zoom signal shall may be powered over POE if it and camera power are within the POE voltage and amperage limits per port calculated for voltage drop over distance.
- D. All cameras shall be UL listed.

2.2 INTERIOR/EXTERIOR FIXED POSITION CAMERAS

- A. CCTV cameras shall be UL listed and shall be the standard product of Samsung, Pelco, Vicon, Panasonic, or Bosch complying with not less than the specifications contained herein. Installation of each camera shall include mounting brackets and/or camera housings fully compatible with the camera provided.
- B. Most interior fixed cameras shall be integral dome assemblies semi-flush ceiling mounted. Pendant mounting or bracket mounting may be utilized as required where compatible ceilings do not exist or to provide desired sight lines. Domes shall be similar to interior pan/tilt domes, camera shall be as follows:
 1. Color, solid state charge coupled device 1/3-inch format.
 2. Resolution for interior fixed and PTZ cameras – 4CIF: 480 TVL minimum, 704x480, 30 IPS/FPS.
 3. Resolution – for exterior PTZ camera: 1.3MP: 720p, 1280x720, 30 IPS/FPS, 16:9 format
 4. Direct RJ45 network connection
 5. Compression at the camera using H.264 compression
 6. Individually configurable multi-streaming outputs up to native resolution satisfy all video viewing and recording requirements
 7. Power Over Ethernet (POE) for camera – PTZ/Heater 12-24VDC or 12-24VAC
 8. Provide video motion detection analytics at the camera

9. Provide cameras with Video Analytics capability at the camera (video analytics not required to be activated and licensed unless otherwise noted).
 - a. Idle Object
 - b. Removed Object
 - c. Multiple crossings
 - d. Objects in the field of view
 - e. Loitering
 - f. Condition change
 - g. Route Following
 - h. Tampering
 - i. Entering field
 - j. Leaving field
10. Video Motion Detection and camera operation software license shall be included and shall be perpetual.
11. Video Analytics software license shall be optional and, if elected, shall be perpetual.
12. Minimum two user configurable video masking areas
13. Automatic back focus (remote focus)
14. Provides internal character generation
15. Provides alarm input and output. Input is capable of displaying a user defined message, output can be NO or NC and respond to external input, video motion or video loss – user selectable.
16. Scene illumination required for full video with f/1.2 lens and 75% reflective surface 0.08 fc.
17. Signal to noise ratio > 46 dB.
18. Automatic light range with f/1.4 to f/360 auto iris lens 1 million to 1.
19. Video Output 1.0 V p p, 75 ohm composite for service monitor.
20. Network: 10Base-T, 100Base-T, RJ-45
21. Lens – Varifocal lenses sized for the specific location and shot, auto iris control.
22. Operating temperature range – minus 14 to 122 degrees F.
23. Operating humidity range 0 to 90% relative noncondensing.
24. Audio 1 line in, 1 line out, SNR >50dB
25. Dark Tint dome interior, clear dome exterior
26. Concealed wiring
27. Dome – Smoked polycarbonate interior – Clear in low light areas

2.3 INTERIOR/EXTERIOR PAN TILT ZOOM DOME CAMERAS

- A. All interior/exterior Pan Tilt Zoom cameras shall be an integral dome assembly. The assembly shall be either pendent or semi-flush ceiling mounted as appropriate to the location.
- B. The dome camera assembly shall conform to the requirements of 2.2 INTERIOR/EXTERIOR FIXED POSITION CAMERAS paragraph B, and the following specifications.
 1. AGC, 30 dB
 2. Lens, 1/3 inch, f/1.8, 4 to 40 mm zoom or f/1.9, 15 to 150 mm zoom as suits the desired scene.
 3. Pan Range, 0 to 360 degrees continuous.
 4. The variable speed /high speed pan/tilt dome drive unit shall meet or exceed the following design and performance specifications.
 - a. Vertical Tilt, Unobstructed tilt of +2 to -92 degrees.
 - b. Pan speed, Variable between 400 degrees per second continuous to 0.1 degree per second.
 - c. Manual Control Speed, Pan speed of 0.1 degree to 80 degree per second, and pan at 150 degree per second in turbo mode. Tilt operation shall range from 0.1 degree to 40 degree per second.

- d. Automatic Preset Speed, Pan speed of 400 degrees and tilt speed of 200 degrees per second.
5. Integral receiver fully compatible with control system.
6. Integral blower, thermostat, and heater assemblies for exterior cameras.
7. Minimum of 4 motion presets for alarm inputs.
8. Day/Night function
9. Presets only changeable by administrative level authorization.

2.4 CAMERA HOUSING AND SUPPORTS

- A. All camera housings and support brackets shall be compatible with VSS camera specified to be installed within housings and/or mounted on brackets. Housings shall be provided with all cable entrance facilities for camera control and shall be adaptable to mounting devices used with cameras. If fisheye lenses are required to be used on cameras the housing shall not block view of lens.

2.5 CAMERA MOTION CONTROL

- A. At all work stations camera pan and tilt control shall be accomplished via the touch-screen control stations and provide proportional movement and by the VSS manufacturer's standard joystick selector controller.
- B. At remote control locations the motion controller will "follow" selected image.
- C. Call-up camera, and at PTZ call up specific preset, at various portals when intercom station is activated.

2.6 VSS MONITORS

- A. VSS monitors shall be the standard products of Samsung, Vicon, Pelco, Bosch, or Panasonic compatible with the total system specified herein and complying with these specifications.
- B. VSS monitors shall be liquid crystal display type, mounted as specified herein. Monitor controls shall be on off, brightness, contrast, vertical hold, and horizontal hold. Monitors shall contain differential input amplifier, voltage regulation and shall be rated for continuous duty. All monitors shall be UL listed.
- C. Monitors for the Surveillance VSS system shall be color and sized as required in these specifications unless otherwise indicated on the drawings. These monitors shall conform to the following:
 1. 20-inch color monitor at "spot" or "dedicated" monitor locations
 2. 32-inch color monitors for "matrix" view at Central Control and Courts Security. Place monitors in such a fashion to avoid blocking line of sight out of the security stations.
 3. 25-inch color monitors at Officer Station D1022 and at dedicated Central Control monitor for Housing Unit B0001 (H1).
 4. Size: as specified TFT, LCD active matrix
 5. Power Source: 120 VAC, 60 Hz
 6. Resolution 1920x1080 at 60 Hz
 7. Video: Connections compatible with the system components.
 8. Front panel control for color, tint, brightness, contrast
 9. Geometric distortion less than 3%
- D. Provide surface stand mount kits for installation at millwork (see drawings).

2.7 VIDEO WIRING SYSTEMS

- A. Video cable shall be CAT 6 data cable and devices complying with EIA/TIA standards. All CAT 6 cabling and ports for the VSS system will be yellow in color.
- B. Motion control signal cable shall be as specified by the camera manufacturer and shall be compatible with the Recording and Control System. All cabling shall be in concealed conduit system or in cable tray system. Cables shall have outer jacket and shall be suitable for either direct burial, installation in concrete encased ductbank, in cable tray system or in conduit system.
- C. Protect all communication and data equipment induced on all control, sensor video, and data cables. All cables and conductors which serve as control, sensor video or data conductors shall have surge protection circuits installed at each end that meet the IEEE472 surge withstand capability test and the electrical transient tests as established in UL365. Fuses shall not be used for surge protection.
- D. Control and signal cables for pan-tilt-zoom cameras shall be coiled from junction box to camera housing. Coiled cables shall not exceed 150 mm in length.
- E. Raceway system shall be sized by the Systems Integrator to allow all video cables to be installed as required by the cable manufacturer for pulling tension and bending ratios for cable. Under no conditions shall cable exceed 40-% fill of conduit system.

2.8 CAMERA LENSES

- A. Camera lenses shall be varifocal and be compatible with camera construction and iris control circuit. The lenses shall be compatible with remote control devices as specified herein. The lenses shall be supplied by the camera manufacturer.
- B. All lenses shall be auto iris type driven by the camera iris control circuit. Additionally, all exterior lenses shall be equipped with spot filters giving the lens a minimum effective aperture of f/360.
- C. All exterior Pan-Tilt-Zoom cameras shall be equipped with 4-40 mm, f/1.8 or 15-150 mm, f/1.9 lenses based upon desired scene field of view.
- D. See interior Pan-Tilt-Zoom Dome camera specification for lens size.
- E. At the time of shop drawing submittals, provide a schedule of lenses for each camera, which includes the angle of view. Pick lenses for interior cameras based on the door or scene covered. Expect adjustments to the lens selection.
- F. Cameras in elevators and sally ports shall be equipped with wide angle lens and installed in vandal resistant corner-mount housings.

2.9 NETWORK ATTACHED STORAGE

- A. All VSS equipment shall be networked together through a separate network dedicated to the VSS. The VSS network and security network shall be VLAN connected for interface between the systems.
- B. The digital and network recorders shall be multiple rack mounted computers installed in racks in the security equipment rooms.
 - 1. Network Attached Storage shall be RAID-5 array devices.

2. Network Attached Storage shall be sized to suit number of cameras and recording requirements for cameras and encoders at each location.
3. Network Attached Storage may function as video server (NVR) or as storage attached to separate video server.
4. Network Attached Storage shall have redundant fans and power supplies.
5. All equipment shall be connected to UPS.
6. All equipment shall be IP based and communicate via CAT 6 RJ45 connection to the dedicated network for the VSS system.
7. Transfer of video to DVD or other storage media shall not reduce the quality of the image. Transfer protocol must be provided that will authenticate video for use as evidence in a court of law. The system shall not allow tampering with video images so that originated video can be confirmed as authentic original.
8. The Network Attached Storage shall have loss of video detection for each camera. The system shall alert the Master Control Stations of any equipment or network malfunctions.
9. The Network Attached Storage shall have the ability to change recording date, cameras to be recorded, time of recording, etc.
10. Frame rate shall be 15 frames per second, recording at 4 CIF and 1.3 MP dependent upon the cameras, with the highest quality setting, and recording resolution shall be adjustable via the video management system as well as be event driven. Net storage of the RAID 5 array must be calculated to allow 60 days storage for all areas except booking. Allow 182 days storage for all cameras in the booking area or viewing openings which access the booking area. Provide calculations of video storage sizing with shop drawings submittal.
11. The Network Attached Storage shall be capable of recording audio either from the camera via the network or as a direct connection from the source. The source may be a single microphone, line amplifier, or mixer depending on the distance from the recorder and the number of microphones connected to a single recording input. The impedance shall be matched with the source and the input shall provide automatic gain qualities.

2.10 VSS WORK STATION CPU

- A. VSS Work Station CPU will comply with the following minimum requirements or manufacturer's recommendations whichever is greater:
 1. Windows 7 Professional 64 Bit Operating System
 2. Eight Gigabytes RAM
 3. SATA 3, 500 Gigabyte Hard Drive
 4. 1 Gigabyte Video card
 5. Intel Quad Core, eight thread, I7 processor
 6. Rack mount kit

2.11 VIDEO NETWORK SWITCH

- A. The VSS system shall have a dedicated CAT 6 network.
- B. The VSS system network and the Security Monitoring and Control network will be connected at each Security Equipment room via VLAN in such a way as to allow selected traffic between the networks and to avoid single point of failure that may occur if only connected at the Central Security Equipment room. The systems networks will be designed to maintain local VSS operation and video recording in the event of communication failure between the Mech/Elec Room 123 and the satellite security equipment rooms or equipment failure within the Mech/Elec Room 123.
- C. The VSS network shall have the capability through the Barrow County Administrative Intranet to send network video over a standard administrative computer and client/server software. Access to the VSS video will be limited to the Barrow County Administrative Intranet and will be password protection on the desk machine. The web site or software will enable video source selection,

including live and archived video, without interfering with normal VSS operations. Licensing fees will be included for 10 connections simultaneously and will be perpetual. Share any required data and between the VSS network and the Administrative network via secure firewall – CISCO ASA5110 or equal.

- D. Network Switch devices on the VSS system shall be capable of routing live or archived video and video control via the VSS network without a loss of quality, resolution or speed. The Network switch shall be as follows:
1. Level 3, IP Based, Managed switch
 2. Multicast capable
 3. Stackable
 4. Produce 10/100/1000 at each port simultaneously – minimum 8 ports, maximum 48 port devices
 5. Have redundant power supplies
 6. Have gigabit, wire speed backplane
 7. Have POE+ 800 Watt at 48 port unit, 400 Watt at 24 port unit

2.12 VIDEO MANAGEMENT SYSTEM

- A. The Video Management System (VMS) shall be centrally located at the Main Security Equipment room. It shall be 19" rack mounted unit of the VSS manufacturer or rack mounted server per VSS manufacturer's specifications and VSS manufacturer's VMS software. All software licenses shall be included and shall be perpetual. VMS Software of GENETEC, ONSSI, MILESTONE are acceptable alternatives to the VSS Manufacturer's product. The SI must select software capable of meeting the performance requirements of these specifications. SI must include all licensing costs for all the project cameras plus the 20% spare capacity and the license must be perpetual.
- B. The Video Management System will utilize the 280000 Central Security Equipment Room shared keyboard, mouse and video monitor via KVM switch.
- C. The Video Management System shall:
1. Be the product of the VSS system manufacturer or recommended and supported by the VSS system manufacturer. The VMS appliance/server must contain a gigabit network adapter.
 2. Be designed and programmed to balance video storage and retrieval among all video storage resources on the network – responding to demand use or re-routing video in the event of a storage device failure.
 3. Support simultaneous viewing of video from multiple cameras and sources.
 4. Manage video events sourced from within the VSS system and triggers from within the system and from other systems, notably the Security Monitoring and Control system, Card Access system and the Intercom and Public Address system.
 5. Perform camera administration and management – take advantage of intelligence and functionality at the camera to reduce the administration and management workload of the VMS.
 6. Program VSS video sources for constant or alarmed recording, base frame rate, frame rate on alarm, quality, compression and resolution of recording on each stream of camera output. The recording parameters shall be time and date customizable.
 7. Coordinate VSS components for viewing, listening and recording of video and audio sources from multiple locations simultaneously
 8. Support multi-camera playback at multiple locations simultaneously.
 9. Support VSS video source firmware upgrades by group or individually
 10. Manage user access rights to VSS system features.
 11. Provide system activity data and reporting capability.
 12. Support web based intranet access to system live and recorded video and VSS components.

13. Be scalable for future VSS expansion of up to 100%.
14. Manage Video Motion detection setup and settings for VSS cameras.
15. Be capable of event responses based upon programming to include, automatic uploading of images, activating camera output ports, sending e-mail, text or HTTP/TCP notifications, signal PTZ to go to a preset, activate audio systems, communicate to the Security Monitoring and Control system for specific action(s), provide customizable screen messages or operator instructions.
16. The VMS software shall be licensed in the name of the owner and shall be perpetual. All passwords and software documentation will be turned over to the owner upon final inspection.

2.13 VIDEO VIEWING AND ARCHIVING STATIONS

- A. One each video archiving station to be located at Room A0028. Three video viewing stations to be provided (Major's Office, Capt's Office, Lt's Office) using existing work stations owned by the county. Additionally, provide client/server based software solution for up to 7 additional work stations located at various county buildings on the Sheriff's intranet. Access will be password protected. The CCTV network and the county's administrative network will be tied together for essential data transfer via CISCO ASA5110 or equal.
- B. The specifications for the video archiving station CPU will be identical to the specification for VSS CPUs at the workstations except as follows:
 1. Minimum 8 Gigabyte RAM
 2. Minimum 2 TB SATA 3 hard drive
 3. High speed CD/DVD recording drive, multi-format solid state memory drive, USB 3.0 ports
 4. High quality color Laser Printer
- C. The monitor for the video viewing and archiving stations shall be 25" minimum, high resolution monitor a product of the VSS system manufacturer as at VSS CPU workstations.
- D. The video viewing and archiving stations will be direct connected to the VSS network and be capable of access to all video and video controls as would the Master Control video workstations. The video archiving station(s) will contain high speed CD/DVD burners, multi-format solid state memory card reader/writer and USB 3 ports for video downloading.

2.14 EXTERIOR POLES FOR CAMERA MOUNTING

- A. Square taper concrete poles 30 feet height above finish grade – see drawings.
- B. Cabling shall be internal via separate conduit system for power and signal.
- C. Provide lightning rod, #6 ground wire and triangular ground rod array at each pole. Cadweld all ground wire to ground rod and ground wire to ground wire connections. Drive ground rods and bury ground wire minimum 12" below grade.

2.15 AUDIO EQUIPMENT FOR VIDEO/AUDIO EQUIPMENT

- A. The microphones shall be either condenser or dynamic type. Boundary layer type microphones may be utilized. The coverage pattern shall be selected to provide the optimum reception at the installed location. The frequency response of the microphone shall be optimal to recording the human voice. The output shall be balanced-low impedance. The microphones may be either ceiling, wall, or desk mounted per plans. Ceiling and wall mountings shall be mechanically isolated from structure vibrations and shall not extend farther than one inch from the surface of the ceiling or wall. Provide built in pre-amp to produce line level audio output. Provide Louroe

Verifact A LE-070 or equal. Where microphones are installed in inmate accessible spaces they shall be of rugged construction or be protected from damage.

- B. Where conditions exist that multiple microphone locations are covered by a single camera, provide passive mixing equipment to combine the various microphone signals into a single signal. Provide Louroe MLA series mixer or equal.
- C. Provide line amplifying equipment as required to insure sufficient signal level arrives at the recorder(s).

2.16 FLEXIBLE MONITOR MOUNT

- A. Flexible Monitor Mounts shall be provided for both touch-screen monitors and VSS monitors in Master Control and Sub-Control rooms except where monitor troughs are provided in the millwork.
- B. The mount shall bolt to the work surface in a location to provide adjustments for sitting and standing positions with-in easy reach of the operator.
- C. The monitor shall be movable by grasping the monitor and moving it to the desired location. Mounts requiring un-locking or turning of knobs or levers are not acceptable.
- D. Mount shall be equipped with VESA mounting plates sized to match the monitor's requirements.
- E. The mount shall adjust a minimum of 18 inches in the vertical direction and 27 inches horizontally. The mount shall allow for at least 180 degree rotation of the monitor both horizontally and vertically without requiring the mounting arms to change direction.

2.17 VIDEO ENCODER

- A. Provide up to 16 position video encoder in sufficient quantities in rack mount configuration – comply with the following requirements:
 - 1. Provide one H.264 and one MJPEG stream per channel at full frame rate in 4CIF resolution.
 - 2. Use a single Ethernet port to serve all 16 channels.
 - 3. Provide SFP for data communication over fiber.
 - 4. Provide for analytics within the encoder
 - a. Motion Detection
 - b. Tampering Alarm
 - c. Audio Detection
 - 5. Provide for two way audio transmission
 - 6. Provide for edge video storage using SD or Micro SD card media
 - 7. Provide PTZ support for all major CCTV manufacturers.
- B. Provide API software integration in the form of a software development kit (SDK)
- C. Comply with ONVIF Profile S specification.

2.18 ETHERNET OVER COAX DEVICE

- A. Provide up to 16 position Ethernet over Coax device in sufficient quantities in rack mount configuration – comply with the following requirements:
 - 1. Supports up to 100Mbps Ethernet
 - 2. Supports pass through PoE.

3. Supports transmissions up to 1500 lf over standard 75 ohm coax at 100Mbps.
4. Meets IEEE 802.3 and IEEE 802.3af

PART 3 - EXECUTION

3.1 EQUIPMENT

- A. Mount exterior cameras to poles. Base, supports, and grounding shall be installed as detailed in the drawings and in accordance with manufacturer's literature and in compliance with the Electrical Code.

3.2 WIRING

- A. All system wiring shall be installed in concealed conduit. Wiring for exterior pole mounted cameras shall be routed inside with strain relief connectors. Provide lightning (surge) protection devices at camera locations for all copper conductors. Also provide lightning (surge) protection devices on copper signal and power conductors where they enter or depart the building envelope. Provide lightning protection aerial on top of all poles and connected to ground rods system with a #6 AWG solid copper conductor. All underground, in slab or under slab wiring shall be rated for wet applications.

END OF SECTION

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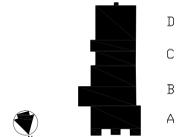
CONSULTANTS

STAMP

**Barrow County Courthouse &
 Detention Center
 CCTV Enhancements**
 Winder, Georgia

CONSTRUCTION DOCUMENTS

KEY PLAN



PRINTING AND REVISIONS

4/22/15 CONSTRUCTION DOCUMENTS

MARK DATE DESCRIPTION

ROSSER PROJECT NUMBER 15016

DRAWN BY

CHECKED BY

DATE RELEASED FOR CONSTRUCTION MM-DD-YYYY

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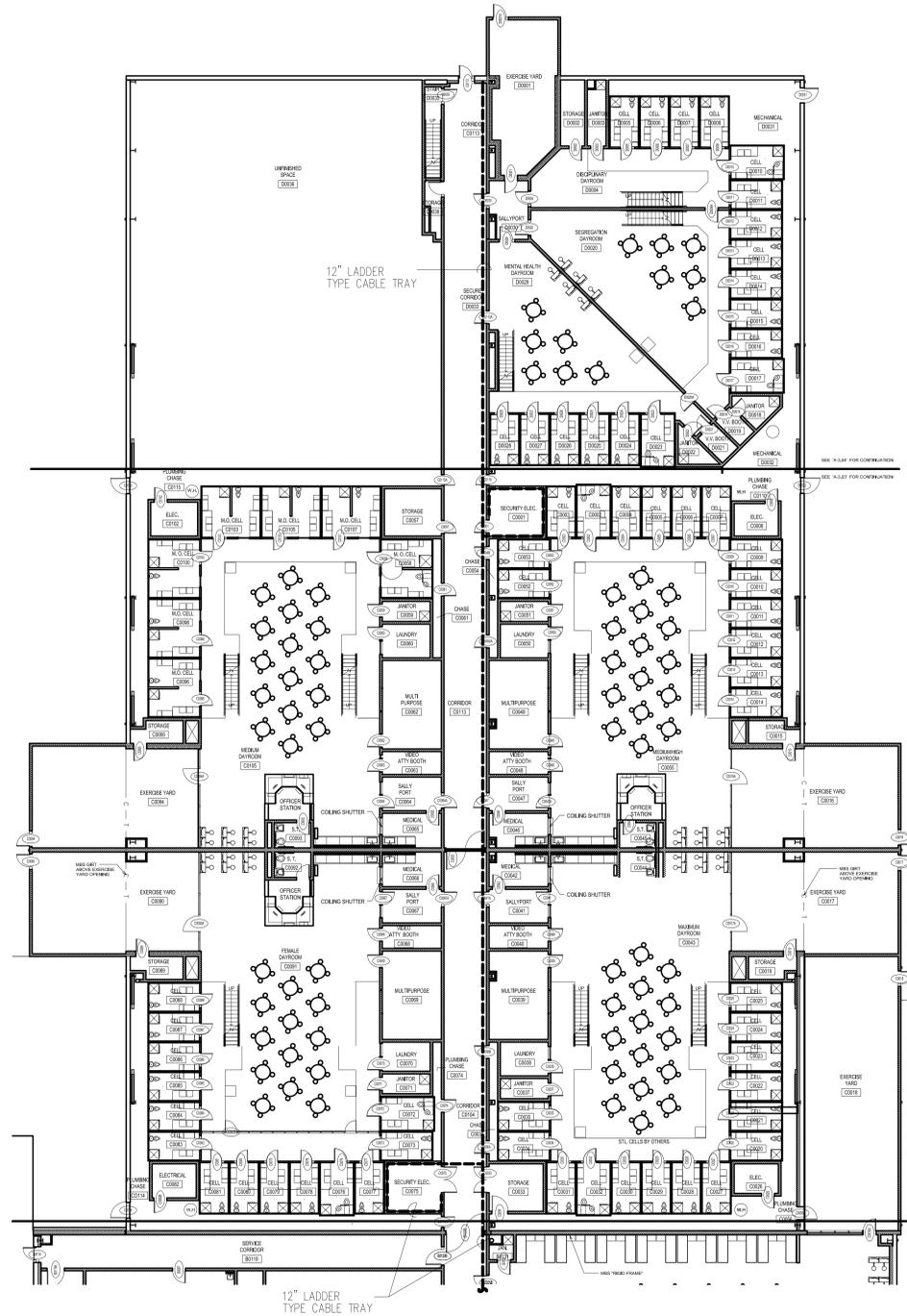
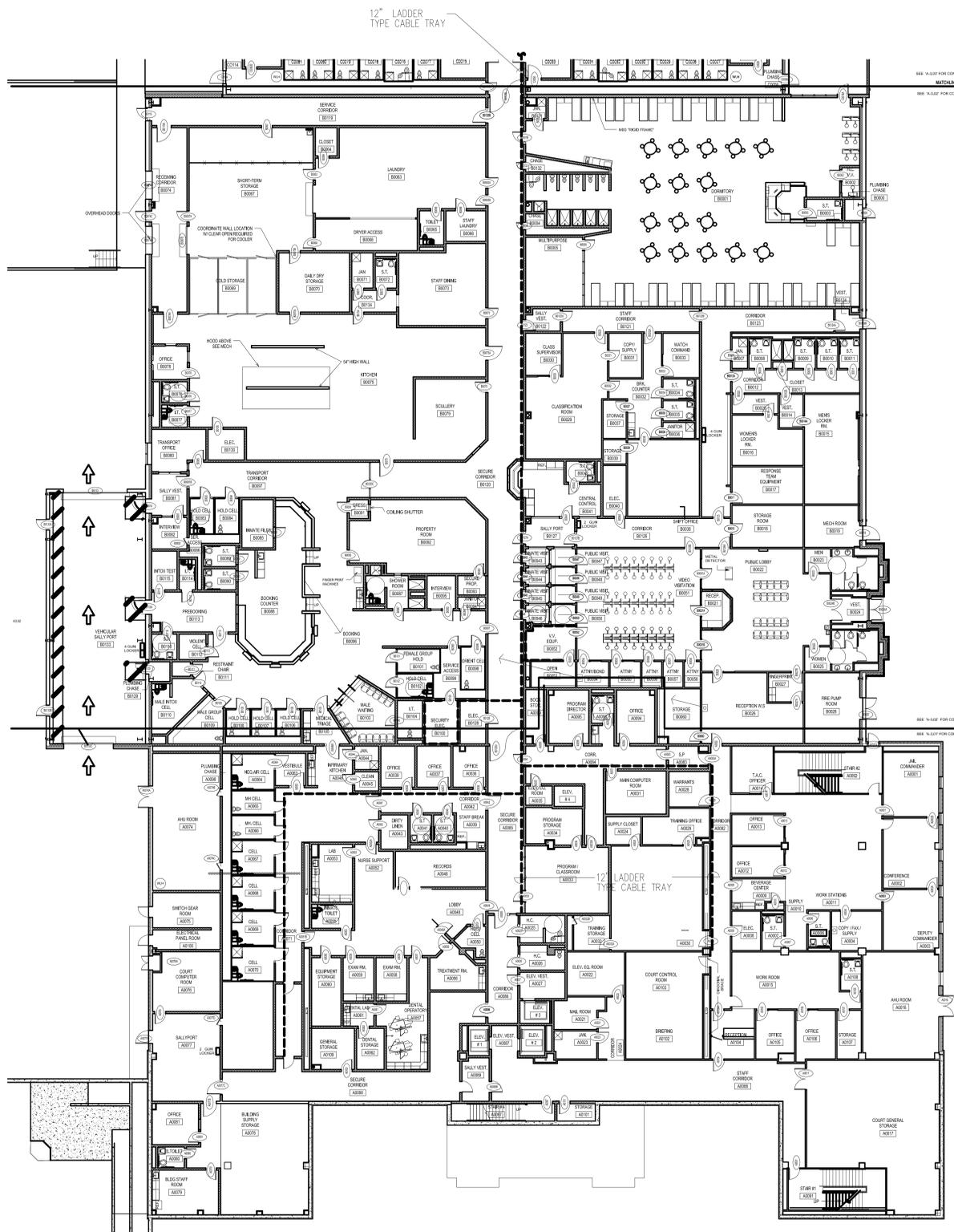
CADD SHEET FILE NAME

SHEET TITLE

EXISTING CABLE TRAY
 LEVEL 0

SHEET NUMBER

X2.01



1 FLOOR PLAN LEVEL 0 - CABLE TRAY LAYOUT
 X2.01 SCALE: 1/8" = 1'-0"

NOTES:

- EXISTING CABLE TRAY SIZE AND LOCATIONS ARE APPROXIMATE - FIELD VERIFY
- ALL WIRING MUST EITHER BE IN CONDUIT OR CABLE TRAY - FIELD RUNS FROM CABLE TRAY TO EDGE DEVICE MUST BE IN CONDUIT THE ENTIRE PATH.

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CONSULTANTS

STAMP

Barrow County Courthouse & Detention Center CCTV Enhancements
Winder, Georgia
CONSTRUCTION DOCUMENTS

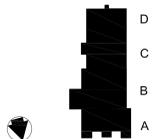
CLOSED CIRCUIT TELEVISION CAMERA SCHEDULE

CAM#	CAMERA LOCATION	CAM. CALL	PTZ	REMARKS / COVERAGE
1	STAFF CORRIDOR A0088	YES	PTZ	VIEWING CORRIDOR DOORS A0017, A0089B
2	SECURE CORRIDOR A0090	YES	PTZ	VIEWING DOORS A0089A, A0077C, A0071A
3	CORRIDOR A0090 VIEWING	YES	FIXED	VIEWING CORRIDOR A0088 ENTRY DOOR
4	IN CORRIDOR A0086	YES	FIXED	VIEWING SECURE CORRIDOR A0085 ENTRY DOOR
5	IN CORRIDOR A0086	YES	FIXED	VIEWING DOOR A0086
6	IN SECURE CORRIDOR A0085	YES	PTZ	VIEWING CORRIDOR DOORS A0085, A0084
7	IN CORRIDOR A0071	YES	PTZ	VIEWING DOORS A0071A, A0071B
8	AT NURSES STATION A0051	YES	PTZ	VIEWING DOORS A0051B, A0049A
9	IN CORRIDOR A0056	YES	FIXED	VIEWING DOOR A0071B
10	AT NURSES STATION A0047	YES	FIXED	VIEWING DOOR A0047
11	IN STAFF CORRIDOR A0042	YES	FIXED	VIEWING DOOR A0047
12	SALLYPORT A0077	YES	PTZ	VIEWING ENTRY DOORS A0077A, A0077C
13	OUTSIDE VEHICLE SALLYPORT ENTRY	YES	PTZ	VIEWING SALLYPORT ENTRY DOORS
14	ELEVATOR #3	NO	FIXED	INSIDE ELEVATOR #3 CAB
15	CORRIDOR A0084	YES	PTZ	VIEWING DOORS A0083, A0088A
16	CORRIDOR A0082	YES	FIXED	VIEWING DOOR A0083A
17	ELEVATOR LOBBY A0027	YES	FIXED	VIEWING ELEVATOR LOBBY AND DOOR A0027
18	STAIR #4	NO	FIXED	GENERAL SURVEILLANCE OF STAIRWELL
19	STAIR #2	NO	FIXED	GENERAL SURVEILLANCE OF STAIRWELL
20	STAIR #1	NO	FIXED	GENERAL SURVEILLANCE OF STAIRWELL
21	PROGRAM/CLASSROOM A0033	YES	FIXED	VIEWING DOOR A0033
22	INSIDE VEHICLE SALLYPORT B0133	YES	PTZ	VIEWING SALLYPORT EXIT GATE AND ENTRY DOOR
23	IN VIOLENT CELL B0112	NO	FIXED	GENERAL SURVEILLANCE
24	IN BOOKING B0096	YES	PTZ	VIEWING DOOR AND GENERAL SURVEILLANCE
25	AT BOOKING COUNTER	NO	FIXED	VIEWING BOOKING COUNTER AREA
26	IN PROPERTY ROOM B0092	NO	FIXED	GENERAL SURVEILLANCE OF PROPERTY ROOM B0092
27	IN TRANSPORT CORRIDOR B00	YES	PTZ	VIEWING TRANSPORT ENTRY AND EXIT DOORS
28	IN KITCHEN	NO	FIXED	GENERAL SURVEILLANCE
29	IN KITCHEN	NO	FIXED	GENERAL SURVEILLANCE
30	RECEIVING CORRIDOR B0074	YES	PTZ	VIEWING RECEIVING DOORS
31	LOADING DOCK	YES	PTZ	VIEWING LOADING DOCK DOORS
32	CORRIDOR B0119	YES	FIXED	VIEWING CORRIDOR DOOR
33	CORRIDOR B0119	YES	FIXED	VIEWING VESTIBULE B1118 DOOR
34	SECURE CORRIDOR B0120	YES	PTZ	VIEWING STAFF CORRIDOR B0121 DOOR
35	IN DORMITORY B0001	NO	FIXED	GENERAL SURVEILLANCE
36	IN DORMITORY B0001	NO	FIXED	GENERAL SURVEILLANCE - REPLACE WITH PTZ
37	IN DORMITORY B0001	NO	FIXED	GENERAL SURVEILLANCE - REPLACE WITH PTZ
38	STAFF CORRIDOR B0121	YES	PTZ	VIEWING CORRIDOR ENTRY DOORS
39	IN LAUNDRY B0063	NO	FIXED	GENERAL SURVEILLANCE
40	IN LAUNDRY B0063	NO	FIXED	GENERAL SURVEILLANCE
41	CORRIDOR B0123	YES	PTZ	VIEWING CORRIDOR ENTRY DOORS
42	IN VIDEO VISITATION B0051	NO	FIXED	GENERAL SURVEILLANCE
43	PUBLIC LOBBY B0022	NO	FIXED	GENERAL SURVEILLANCE
44	VESTIBULE B0024	YES	FIXED	VIEWING PUBLIC ENTRY DOORS
45	PREBOOKING B0113	YES	PTZ	VIEWING BOOKING ENTRY & EXIT DOORS
46	EXTERIOR ADJACENT TO DOOR A0092A	NO	FIXED	VIEWING DOOR A0092A
47	SHORT TERM STORAGE B0067	YES	FIXED	VIEWING DOOR B0067A
48	SHORT TERM STORAGE B0067	YES	FIXED	VIEWING DOOR B0063
49	PUBLIC LOBBY B0022	YES	FIXED	GENERAL SURVEILLANCE, VIEWING DOOR B0024B
50	PUBLIC LOBBY B0022	YES	FIXED	GENERAL SURVEILLANCE, VIEWING DOOR B0126A
51	PUBLIC LOBBY B0022	YES	FIXED	GENERAL SURVEILLANCE, VIEWING DOOR B0026
52	SECURE CORRIDOR C0113	YES	PTZ	VIEWING SALLYPORT ENTRY DOORS
53	DAYROOM	YES	PTZ	SALLYPORT ENTRY DOOR AND GENERAL SURVEILLANCE
54	RECREATION YARD	NO	FIXED	GENERAL SURVEILLANCE
55	DAYROOM	YES	PTZ	SALLYPORT ENTRY DOOR AND GENERAL SURVEILLANCE
56	RECREATION YARD	NO	FIXED	GENERAL SURVEILLANCE
57	DAYROOM	YES	PTZ	SALLYPORT ENTRY DOOR AND GENERAL SURVEILLANCE
58	RECREATION YARD	NO	FIXED	GENERAL SURVEILLANCE
59	DAYROOM	YES	PTZ	SALLYPORT ENTRY DOOR AND GENERAL SURVEILLANCE
60	RECREATION YARD	NO	FIXED	GENERAL SURVEILLANCE
61	SECURE CORRIDOR D0033	YES	FIXED	VIEWING SALLYPORT ENTRY DOORS AND FIRE EXIT
62	SECURE CORRIDOR D0033	NO	FIXED	VIEWING CORRIDOR TOWARD CENTRAL
63	DAYROOM	NO	PTZ	GENERAL SURVEILLANCE
64	DAYROOM	NO	PTZ	GENERAL SURVEILLANCE
65	DAYROOM	NO	PTZ	GENERAL SURVEILLANCE
66	RECREATION YARD	NO	PTZ	GENERAL SURVEILLANCE
67	CORRIDOR A1075	NO	FIXED	GENERAL SURVEILLANCE
68	CORRIDOR A1075	NO	FIXED	GENERAL SURVEILLANCE
69	IN CORRIDOR OUTSIDE A1049	NO	FIXED	GENERAL SURVEILLANCE
70	IN CORRIDOR A1017	NO	FIXED	GENERAL SURVEILLANCE
71	IN RECEPTION A1020	NO	FIXED	GENERAL SURVEILLANCE
72	RECEPTION WAITING A1044	NO	FIXED	GENERAL SURVEILLANCE
73	EXTERIOR WALL	YES	FIXED	VIEWING CORRIDOR A1071 ENTRY DOOR A1071A
74	STAIR #3	NO	FIXED	GENERAL SURVEILLANCE OF STAIRWELL
75	CORRIDOR A1073	NO	FIXED	VIEWING COURT SCREENING & MAIN LOBBY

THE REPLACEMENT OF THE EXISTING 143 ANALOG CAMERAS WITH IP CAMERAS IS THE SCOPE OF ALTERNATE NO.2
"N" SUFFIX ON CAMERA NUMBER INDICATES NEW CAMERA - ALL NEW CAMERAS AND REPLACED CAMERAS ARE PART OF ALTERNATE NO.1
ALL NEW OR REPLACED CAMERAS MUST BE IP CCTV CAMERAS

CAM#	CAMERA LOCATION	CAM. CALL	PTZ	REMARKS / COVERAGE
76	PUBLIC CORRIDOR A1075	NO	FIXED	VIEWING SECURITY SCREENING & ENTRY DOORS
77	STAIR #1	NO	FIXED	GENERAL SURVEILLANCE OF STAIRWELL
78	STAIR #2	NO	FIXED	GENERAL SURVEILLANCE OF STAIRWELL
79	CORRIDOR A1072	NO	FIXED	GENERAL SURVEILLANCE OF CORRIDOR
80	CORRIDOR A1089	NO	FIXED	GENERAL SURVEILLANCE OF CORRIDOR
81	CORRIDOR A2082	NO	FIXED	GENERAL SURVEILLANCE
82	CORRIDOR A2081	NO	FIXED	GENERAL SURVEILLANCE
83	LARGE JURY COURTROOM A2043	NO	FIXED	GENERAL SURVEILLANCE OF COURT PROCEEDING
84	LARGE JURY COURTROOM A2043	NO	FIXED	GENERAL SURVEILLANCE OF COURT PROCEEDING
85	LARGE JURY COURTROOM A2043	NO	FIXED	GENERAL SURVEILLANCE - REPLACE WITH PTZ
86	INMATE HOLDING VESTIBULE A2034	NO	FIXED	GENERAL SURVEILLANCE
87	INMATE HOLDING VESTIBULE A2034	NO	FIXED	GENERAL SURVEILLANCE
88	COURTROOM A2025	NO	FIXED	GENERAL SURVEILLANCE OF COURT PROCEEDING
89	COURTROOM A2025	NO	FIXED	GENERAL SURVEILLANCE OF COURT PROCEEDING
90	COURTROOM A2025	NO	FIXED	GENERAL SURVEILLANCE - REPLACE WITH PTZ
91	HEARING ROOM A2014	NO	FIXED	GENERAL SURVEILLANCE OF COURT PROCEEDING
92	HEARING ROOM A2014	NO	FIXED	GENERAL SURVEILLANCE - REPLACE WITH PTZ
93	STAIR #3	NO	FIXED	GENERAL SURVEILLANCE OF STAIRWELL
94	STAIR #1	NO	FIXED	GENERAL SURVEILLANCE OF STAIRWELL
95	STAIR #2	NO	FIXED	GENERAL SURVEILLANCE OF STAIRWELL
96	CORRIDOR A2083	NO	FIXED	GENERAL SURVEILLANCE OF CORRIDOR
97	CORRIDOR A2084	NO	FIXED	GENERAL SURVEILLANCE OF CORRIDOR
98	CORRIDOR A2010	NO	FIXED	GENERAL SURVEILLANCE OF CORRIDOR
99	WORKSTATIONS A2012	NO	FIXED	VIEWING TRANSACTION WINDOWS
100	WORKSTATIONS A2007	NO	FIXED	VIEWING TRANSACTION WINDOWS
101	CORRIDOR A3081	NO	FIXED	GENERAL SURVEILLANCE
102	CORRIDOR A3080	NO	FIXED	GENERAL SURVEILLANCE
103	CORRIDOR A3021	YES	FIXED	VIEWING PUBLIC WAITING A3001 ENTRY DOOR
104	CORRIDOR A3024	NO	FIXED	GENERAL SURVEILLANCE
105	CORRIDOR A3024	NO	FIXED	GENERAL SURVEILLANCE
106	LARGE JURY COURTROOM A3039	NO	FIXED	GENERAL SURVEILLANCE OF COURT PROCEEDING
107	LARGE JURY COURTROOM A3039	NO	FIXED	GENERAL SURVEILLANCE OF COURT PROCEEDING
108	LARGE JURY COURTROOM A3039	NO	FIXED	GENERAL SURVEILLANCE - REPLACE WITH PTZ
109	INMATE HOLDING VESTIBULE A3045	NO	FIXED	GENERAL SURVEILLANCE
110	INMATE HOLDING VESTIBULE A3045	NO	FIXED	GENERAL SURVEILLANCE
111	LARGE JURY COURTROOM A3051	NO	FIXED	GENERAL SURVEILLANCE OF COURT PROCEEDING
112	LARGE JURY COURTROOM A3051	NO	FIXED	GENERAL SURVEILLANCE OF COURT PROCEEDING
113	LARGE JURY COURTROOM A3051	NO	FIXED	GENERAL SURVEILLANCE - REPLACE WITH PTZ
114	STAIR #3	NO	FIXED	GENERAL SURVEILLANCE OF STAIRWELL
115	STAIR #1	NO	FIXED	GENERAL SURVEILLANCE OF STAIRWELL
116	STAIR #2	NO	FIXED	GENERAL SURVEILLANCE OF STAIRWELL
117	CORRIDOR A3023	NO	FIXED	GENERAL SURVEILLANCE OF CORRIDOR
118	EXTERIOR POLE MOUNTED	YES	PTZ	VIEWING JUDGE'S AND JAIL STAFF PARKING ENTRIES
119	EXTERIOR WALL MOUNTED	NO	FIXED	VIEWING SERVICE YARD AND STAFF PARKING
120	EXTERIOR POLE MOUNTED	YES	FIXED	VIEWING EAST EAST BUILDING EXTERIOR
121	EXTERIOR WALL MOUNTED	NO	PTZ	VIEWING SOUTHWEST BUILDING EXTERIOR
122	EXTERIOR WALL MOUNTED	NO	PTZ	VIEWING SOUTHWEST BUILDING EXTERIOR
123	EXTERIOR WALL MOUNTED	NO	PTZ	VIEWING NORTHWEST BUILDING EXTERIOR
124	INTERCOM PEDESTAL	YES	FIXED	IC CALL-UP VIEWING VEHICLES ENTERING STAFF PARKING
125	EXTERIOR WALL MOUNTED	NO	PTZ	VIEWING NORTH BUILDING EXTERIOR
126	EXTERIOR WALL MOUNTED	NO	PTZ	VIEWING NORTH EAST BUILDING EXTERIOR
127	JUV COURT/HEARING ROOM A3090	NO	FIXED	GENERAL SURVEILLANCE - REPLACE WITH PTZ
128	JUV COURT/HEARING ROOM A3090	NO	FIXED	GENERAL SURVEILLANCE OF COURT PROCEEDING
129	EXERCISE YARD C00018	NO	FIXED	GENERAL SURVEILLANCE OF RECREATION YARD
130	EXERCISE YARD C00018	NO	FIXED	GENERAL SURVEILLANCE OF RECREATION YARD
131	PREBOOKING B0113	NO	FIXED	BOOKING ENTRY AND COUNTER
132	BOOKING B0096	NO	FIXED	BOOKING COUNTER
133	BOOKING B0096	NO	FIXED	BOOKING CELLS NORTH
134	CORRIDOR A0085	NO	FIXED	CORRIDOR A0085 LEVEL 0 AREA A
135	SECURE CORRIDOR B0120	NO	FIXED	CORRIDOR B0120 TOWARD BOOKING
136	SECURE CORRIDOR B0120	NO	FIXED	CORRIDOR B0120 TOWARD AREA A
137	SECURE CORRIDOR B0120	NO	FIXED	CORRIDOR B0120 TOWARD AREA C
138	CORRIDOR C0104	NO	FIXED	GENERAL SURVEILLANCE CORRIDOR C0104
139	RECEPTION B0026	NO	FIXED	RECEPTION WORK AREA B0026
140	CORRIDOR C0104	NO	FIXED	GENERAL SURVEILLANCE CORRIDOR C0104
141	JAIL OFFICE A0011	NO	FIXED	WALK PATH TOWARD CORRIDOR A0082
142	JAIL OFFICE A0011	NO	FIXED	GENERAL SURVEILLANCE OFFICE A0011
143	CORRIDOR A0082	NO	FIXED	GENERAL SURVEILLANCE CORRIDOR A0082
144N	COURTS SCREENING A0086 (EXIST LOCATION)	NO	FIXED	REPL EXIST ANALOG WITH IP IN SYSTEM - DED MONITOR
145N	COURTS SCREENING A0086 (NEW LOCATION)	NO	FIXED	OBSERVE X-RAY MACHINE CONVEYOR - DED MONITOR
146N	JUV/FEMALE SALLYPORT A3099	NO	FIXED	OBSERVES TRAFFIC ENTERING JUV/FEMALE HOLD A3042
147N	HOUSING UNIT C0043	NO	PTZ	OBSERVES OFFICER STATION AND SURROUNDING AREA
148N	HOUSING UNIT C0055	NO	PTZ	OBSERVES OFFICER STATION AND SURROUNDING AREA
149N	HOUSING UNIT C0091	NO	PTZ	OBSERVES OFFICER STATION AND SURROUNDING AREA
150N	HOUSING UNIT C0105	NO	PTZ	OBSERVES OFFICER STATION AND SURROUNDING AREA
151N	MAGISTRATE'S COURT WAITING AREA A2045	NO	FIXED	GENERAL SURVEILLANCE
152N	PUBLIC DEFENDER'S RECEPTION AREA A1060	NO	FIXED	GENERAL SURVEILLANCE
153N	PUBLIC WAITING AREA A3001	NO	FIXED	GENERAL SURVEILLANCE
154N	CIVIL WAITING AND TRANSACTION A0104	NO	FIXED	GENERAL SURVEILLANCE

KEY PLAN



PRINTING AND REVISIONS

4/2/2015 CONSTRUCTION DOCUMENTS

MARK DATE DESCRIPTION

ROSSER PROJECT NUMBER 15018

DRAWN BY

CHECKED BY

DATE RELEASED FOR CONSTRUCTION MM-DD-YYYY

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CADD SHEET FILE NAME

SHEET TITLE

CAMERA SCHEDULE

SHEET NUMBER

X8.01

1
X8.01 **CAMERA SCHEDULE**
SCALE: NTS

PROPOSAL FORM

FOR THE

RFP2015-9 COURTHOUSE AND JAIL CCTV SYSTEM ENHANCEMENTS

**PROPOSALS ARE DUE AT 12:00 P.M., MAY 7, 2015 at Barrow County Board of Commissioners
30 North Broad Street, Clerk's Office,
Winder, Georgia 30680**

Having thoroughly reviewed the proposal documents and verifying existing conditions at the project site, I/we propose to furnish all labor, tools, equipment and materials for the complete execution of the Specifications and drawings included in this Request for Proposal. Please list pricing below for each requested option:

Base Bid (Per Specifications and Drawings). \$ _____

Alternate 1 (Per Specifications and Drawings). \$ _____

Alternate 2 (Per Specifications and Drawings). \$ _____

(Company Name)

(Address)

(City, State, Zip)

(Print or Type Name)

(Signature-When signed, this proposal is legal and binding to the Barrow County Board of Commissioners and acknowledges that ALL Specifications, Terms and Conditions and/or instructions to Bidders have been read and understood).

(Date)

(Phone Number)

Include and attached is a Bid Bond in the amount of not less than 5% of the base bid.

Included in the amount above is the sum of \$_____ for providing a Performance and Payment Bond for 100% of the total base bid. Same shall be provided by a surety corporation licensed in the State of Georgia and a certified Power of attorney shall be attached.

ADDENDUM ACKNOWLEDGMENT

Addendum # 1 _____

Addendum # 2 _____

Addendum #3 _____

Addendum #4 _____

Addendum #5 _____

Addendum #6 _____

**REQUEST FOR PROPOSALS
RFP2015-9**

**COURTHOUSE AND JAIL CCTV SYSTEM ENHANCEMENTS
BARROW COUNTY, GEORGIA
REFERENCES**

Project: _____ **Value:** _____

Owner: _____

Address: _____

Contact Person: _____

Contact Title, Phone No., & Email Address: _____

Project: _____ **Value:** _____

Owner: _____

Address: _____

Contact Person: _____

Contact Title, Phone No., & Email Address: _____

Project: _____ **Value:** _____

Owner: _____

Address: _____

Contact Person: _____

Contact Title, Phone No., & Email Address: _____

REFERENCES – PAGE 2
RFP2015-9

COURTHOUSE AND JAIL CCTV SYSTEM ENHANCEMENTS

Project: _____ **Value:** _____

Owner: _____

Address: _____

Contact Person: _____

Contact Title, Phone No., & Email Address: _____

Project: _____ **Value:** _____

Owner: _____

Address: _____

Contact Person: _____

Contact Title, Phone No., & Email Address: _____

Project: _____ **Value:** _____

Owner: _____

Address: _____

Contact Person: _____

Contact Title, Phone No., & Email Address: _____

NON-COLLUSION AFFIDAVIT
RFP2015-9
(This Affidavit is Part of the Proposal Documents)

PROPOSAL DATE: _____

PROJECT DESCRIPTION: _____

STATE OF GEORGIA

COUNTY OF BARROW

_____, being first duly sworn, deposes

and says that he/she is _____ (sole owner,

partner, president, etc.) of _____, the Company making the foregoing Proposal or Bid; that such Proposal/Bid is genuine and not collusive or sham; that said Company has not colluded, conspired, connived, or agreed, directly or indirectly, with any other Proposer, Bidder, or person, to put in a sham Proposal/Bid, or that such other person refrain from bidding, and has not in any manner, directly or indirectly sought by agreement or collusion, or communication or conference, with any person, to fix the Proposal/Bid Price of affiant or any other Proposer/Bidder, or to fix any overhead, profit or cost element of said Proposal/Bid Price, or of that of any other Proposer/Bidder, or to secure any advantage against Barrow County, or any person interested in the proposed Agreement; and that all statements in said Proposal/Bid are true; and further, that such Company has not, directly or indirectly submitted this Proposal/Bid, or the contents thereof, or divulged information or data relative thereto to any association or to any member or agent thereof.

Affiant: _____

Sworn to and subscribed before me this _____ day of _____, 20____.

Notary Public

My Commission Expires _____, 20____.

BID BOND

BARROW COUNTY, GEORGIA

BIDDER (Name and Address):

SURETY (Name and Address of Principal Place of Business):

OWNER (hereinafter referred to as the "County" (Name and Address):

Barrow County, Georgia
30 North Broad Street
Winder, Georgia 30680

BID

BID DUE DATE:

PROJECT (Brief Description Including Location):

BOND

BOND NUMBER:

DATE (Not later than Bid due date):

PENAL SUM: _____

(Words)

(Figures)

IN WITNESS WHEREOF, Surety and Bidder, intending to be legally bound hereby to the County, subject to the terms printed below or on the reverse side hereof, do each cause this Bid Bond to be duly executed on its behalf by its authorized officer, agent or representative.

BIDDER

SURETY

_____(Seal)

_____(Seal)

Bidder's Name and Corporate Seal

Surety's Name and Corporate Seal

By: _____

By: _____

Signature and Title:

Signature and Title:

(Attach Power of Attorney)

Attest: _____

Attest: _____

Signature and Title:

Signature and Title:

Note:

- (1) Above addresses are to be used for giving any notice required by the terms of this Bid Bond.
- (2) Any singular reference to Bidder, Surety, the County or any other party shall be considered plural where applicable.

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to pay to the County upon Default of Bidder the penal sum set forth on the face of this Bond.

2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension of that time agreed to in writing by the County) the executed Agreement required by the Bidding Documents and any performance and payment Bonds required by the Bidding Documents.

3. This obligation shall be null and void if:

3.1 The County accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension of that time agreed to in writing by the County) the executed Agreement required by the Bidding Documents and any performance and payment Bonds required by the Bidding Documents; or

3.2 All Bids are rejected by the County; or

3.3 The County fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension of that time agreed to in writing by Bidder and, if applicable, consented to by Surety when required by paragraph 5 hereof).

4. Payment under this Bond will be due and payable upon Default by Bidder within 30 calendar days after receipt by Bidder and Surety of a written Notice of Default from the County, which Notice will be given with reasonable promptness and will identify this Bond and the Project and include a statement of the amount due.

5. Surety waives notice of, as well as any and all defenses based on or arising out of, any time extension to issue a Notice of Award agreed to in writing by the County and Bidder, provided that the total time, including extensions, for issuing a Notice of Award shall not in the aggregate exceed 120 days from Bid due date without Surety's written consent.

6. No suit or action shall be commenced under this Bond either prior to 30 calendar days after the Notice of Default required in paragraph 4 above is received by Bidder and Surety or later than one year after Bid due date.

7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the State of Georgia.

8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.

9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent or representative who executed this Bond on behalf of Surety to execute, seal and deliver such Bond and bind the Surety thereby.

10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.

11. The term "Bid" as used herein includes a Bid, offer or proposal, as applicable under the particular circumstances.

12. The terms of this Bid Bond shall be governed by the laws of the State of Georgia.

PAYMENT BOND

BARROW COUNTY, GEORGIA

KNOW ALL MEN BY THESE PRESENTS THAT _____ (as CONTRACTOR, hereinafter referred to as the “Principal”), and _____ (as SURETY COMPANY, hereinafter referred to as the “CONTRACTOR’S SURETY”), are held and firmly bound unto Barrow County, Georgia (as OWNER, hereinafter referred to as the “County”), for the use and benefit of any “Claimant,” as hereinafter defined, in the sum of Dollars (\$_____), lawful money of the United States of America, for the payment of which the Principal and the Contractor’s Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered, or is about to enter, into a certain written agreement with the County, dated _____, which is incorporated herein by reference in its entirety (hereinafter referred to as the “CONTRACT”), for the construction of a project known as RFP2015-9 COURTHOUSE AND JAIL CCTV SYSTEM ENHANCEMENTS, (hereinafter referred to as “the PROJECT”).

NOW THEREFORE, the condition of this obligation is such that if the Principal shall promptly make payment to any Claimant, as hereinafter defined, for all labor, services and materials used or reasonably required for use in the performance of the Contract, then this obligation shall be void; otherwise to remain in full force and effect.

A "Claimant" shall be defined herein as any Subcontractor, person, Party, partnership, corporation or other entity furnishing labor, services or materials used or reasonably required for use in the performance of the Contract, without regard to whether such labor, services or materials were sold, leased or rented, and without regard to whether such Claimant is or is not in privity of the Contract with the Principal or any Subcontractor performing Work on the Project.

In the event of any claim made by the Claimant against the County, or the filing of a Lien against the property of the County affected by the Contract, the Contractor's Surety shall either settle or resolve the Claim and shall remove any such Lien by bond or otherwise as provided in the Contract.

The Parties further expressly agree that any action on this Bond may be brought within the time allowed by Georgia law for suit on contracts under seal.

IN WITNESS WHEREOF, the Principal and Contractor's Surety have hereunto affixed their corporate seals and caused this obligation to be signed by their duly authorized officers on this ____ day of _____, 20____.

(Name of Principal)

By: _____ (Print/Type)

_____ (Signature)

Title: _____ (SEAL)

(Signatures Continued on Next Page)

Attest:

_____ (Print/Type)

_____ (Signature)

Title: _____

Date: _____

(Name of Contractor's Surety)

By: _____ (Print/Type)

_____ (Signature)

Title: _____ (SEAL)

Attest:

_____ (Print/Type)

_____ (Signature)

Title: _____

Date: _____

(ATTACH SURETY'S POWER OF ATTORNEY)

PERFORMANCE BOND

BARROW COUNTY, GEORGIA

KNOW ALL MEN BY THESE PRESENTS THAT _____ (as CONTRACTOR, hereinafter referred to as the “Principal”), and _____ (as SURETY COMPANY, hereinafter referred to as the “CONTRACTOR’S SURETY”), are held and firmly bound unto Barrow County, Georgia (as OWNER, hereinafter referred to as the “County”), for the use and benefit of any “Claimant,” as hereinafter defined, in the sum of Dollars (\$_____), lawful money of the United States of America, for the payment of which the Principal and the Contractor’s Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered, or is about to enter, into a certain written agreement with the County, dated the ____ of _____, 20__ which is incorporated herein by reference in its entirety (hereinafter referred to as the “CONTRACT”), for the construction of a project known as RFP2015-9 COURTHOUSE AND JAIL CCTV SYSTEM ENHANCEMENTS, (hereinafter referred to as “the PROJECT”).

NOW THEREFORE, the conditions of this obligation are as follows:

1. That if the Principal shall fully and completely perform each and all of the terms, provisions and requirements of the Contract, including and during the period of any warranties or guarantees required thereunder, and all modifications, amendments, changes, deletions, additions, and alterations thereto that may hereafter be made, and if the Principal and the Contractor’s Surety shall indemnify and hold harmless the County from any and all losses, liability and

damages, claims, judgments, liens, costs and fees of every description, including but not limited to, any damages for delay, which the County may incur, sustain or suffer by reason of the failure or default on the part of the Principal in the performance of any and all of the terms, provisions and requirements of the Contract, including all modifications, amendments, changes, deletions, additions, and alterations thereto and any warranties or guarantees required thereunder, then this obligation shall be void; otherwise to remain in full force and effect;

2. In the event of a failure of performance of the Contract by the Principal, which shall include, but not be limited to, any breach of default of the Contract:
 - a. The Contractor's Surety shall commence performance of its obligations and undertakings under this Bond no later than thirty (30) days after written notice from the County to the Contractor's Surety; and
 - b. The means, method or procedure by which the Contractor's Surety undertakes to perform its obligations under this Bond shall be subject to the advance written approval of the County.

The Contractor's Surety hereby waives notice of any and all modifications, omissions, additions, changes and advance payments or deferred payments in or about the Contract, and agrees that the obligations undertaken by this Bond shall not be impaired in any manner by reason of any such modifications, omissions, additions, changes, and advance payments or deferred payments. The Parties further expressly agree that any action on this Bond may be brought within the time allowed by Georgia law for suit on contracts under seal.

IN WITNESS WHEREOF, the principal and Contractor's Surety have hereunto affixed

their corporate seals and caused this obligation to be signed by their duly authorized officers or attorneys-in-fact, this _____ day of _____, 20____.

(Name of Principal)

By: _____ (Print/Type)

_____ (Signature)

Title: _____ (SEAL)

Attest:

_____ (Print/Type)

_____ (Signature)

Title: _____

Date: _____

(Name of Contractor's Surety)

By: _____ (Print/Type)

_____ (Signature)

Title: _____ (SEAL)

Attest:

_____ (Print/Type)

_____ (Signature)

Title: _____

Date: _____

(ATTACH SURETY'S POWER OF ATTORNEY)

NOTICE OF AWARD

TO: _____

PROJECT TITLE: RFP2015-9 COURTHOUSE AND JAIL CCTV SYSTEM ENHANCEMENTS

Barrow County Board of Commissioners (Owner) has considered the Bid submitted by you for the above described Project which was opened and read on _____, 2015. You are hereby notified that your Bid has been accepted for the Project in the amount of \$_____ dollars.

You are required in the bid documents to furnish the required Payment Bond and Performance Bond each in the amount of one hundred percent (100%) of the Contract amount. Also, a Certificate(s) of Insurance is to be submitted as called for in the bid documents. Attached please find the fully executed Construction Agreement for your use. Upon Barrow County's receipt of the other stated documents, a NOTICE TO PROCEED will be generated.

If you fail to furnish the other stated documents within ten (10) days from the date of receipt of this document, Owner will be entitled to such rights as may be granted by law to insure Project is completed on schedule.

Please acknowledge a copy of this Notice of Award and return it to: Cindy Clack, Purchasing Agent, Barrow County Board of Commissioners, 30 North Broad Street, Winder, GA 30680.

Dated this _____ day of _____, 2015.

BARROW COUNTY BOARD OF COMMISSIONERS (OWNER)

By: _____

Randall Dowling, County Manager

ACCEPTANCE OF NOTICE OF AWARD:

RECEIPT OF THIS NOTICE OF AWARD IS HEREBY ACKNOWLEDGED:

BY: _____ TITLE: _____

DATED THIS THE _____ DAY OF _____, 2015.

NOTICE TO PROCEED

TO: _____

PROJECT DESCRIPTION: RFP2015-9 COURTHOUSE AND JAIL CCTV SYSTEM ENHANCEMENTS

You are hereby notified to commence Work in accordance with the Agreement dated _____ on or before _____ and you are to complete the Work in accordance with Agreement.

Date this ___ day of _____, 2015.

BY: _____, Randall Dowling, County Manager
BARROW COUNTY BOARD OF COMMISSIONERS (OWNER)

Receipt of the above "Notice to Proceed" is hereby acknowledged by _____
_____ this the _____ day of
_____, 2015.

BY: _____ (CONTRACTOR)
TITLE: _____

This is the Standard Construction Services Agreement of Barrow County. Any Contractor doing business with the County must enter into this Agreement.

CONSTRUCTION SERVICES AGREEMENT

This Construction Services Agreement (the "Agreement") is made and entered into this ____ day of _____, 20__, by and between BARROW COUNTY, a political subdivision of the State of Georgia, acting by and through its governing authority, the Barrow County Board of Commissioners ("County"), and _____, a _____, ("Contractor"), collectively referred to as the "Parties".

W I T N E S S E T H:

WHEREAS, the County desires to employ a contractor to perform services for the construction of a Project, as defined below; and

WHEREAS, the County solicited proposals for construction of the Project pursuant to Barrow County Request for Proposal RFP2015-9, dated _____, 20__; and

WHEREAS, the Contractor submitted a complete and timely proposal and met all proposal requirements such that the County awarded RFP2015-9 to the Contractor; and

WHEREAS, the County finds that specialized knowledge, skills, and training are necessary to perform the Work contemplated under this Agreement; and

WHEREAS, the Contractor has represented that it is qualified by training and experience to perform the Work; and

WHEREAS, based upon Contractor's proposal to perform the construction services described herein, the County has selected Contractor as the successful proposer, and

WHEREAS, Contractor desires to perform the Work as set forth in this Agreement under the terms and conditions provided in this Agreement; and

WHEREAS, the public interest will be served by this Agreement; and

WHEREAS, Contractor has familiarized itself with the nature and extent of the Contract Documents, the Project, and the Work, with all local conditions and federal, state and local laws, ordinances, rules and regulations in any manner that may affect cost, progress or performance of Work, and Contractor is aware that he must be licensed to do business in the State of Georgia.

NOW THEREFORE, for and in consideration of the mutual promises contained herein and other good and adequate consideration, the sufficiency of which is hereby acknowledged, the

Parties hereto do mutually agree as follows:

Section 1. Contract Documents

The following documents, attached hereto (except as expressly noted otherwise below) and incorporated herein by reference, constitute the Contract Documents:

- A. This Agreement;
- B. Request for Proposal RFP2015-9 (maintained on file with the Purchasing Department) ;
- C. Proposal Documents from Contractor, dated _____, _____, _____, attached hereto as Exhibit “A”;
- D. Performance Bond and Payment Bond (maintained on file with the Purchasing Department);
- E. Noncollusion Affidavit of Prime Proposer, attached hereto as Exhibit “B”;
- F. Final Affidavit, attached hereto as Exhibit “C”;
- G. Alien Employment affidavits attached hereto as Exhibits “D” and “E”;
- H. Plans and specifications (included in RFP maintained on file with the Purchasing Department), with any modifications (if issued) attached as Exhibit “F” ;
- I. Key Personnel, attached hereto as Exhibit “G”;
- J. Contract Administration provisions (if issued), attached hereto as Exhibit “H”;
- K. Notice of Award, attached hereto as Exhibit “I”;
- L. Barrow County Code of Ethics;
- M. The following, which may be delivered or issued after the Effective Date of the Agreement and are not attached hereto: All Written Amendments and other documents amending, modifying, or supplementing the Contract Documents if properly adopted in writing and executed by the Parties.

Section 2. Project Description; Consultant

- A. Project. The Project is defined generally as follows: RFP2015-9 Courthouse and Jail CCTV System Enhancements (the “Project”).

- B. Consultant. The Project has been designed by Rosser International, Inc. (hereinafter referred to as the “Consultant”). The Consultant is to act as the County’s representative with respect to the Project, and shall assume all duties and responsibilities and have the rights and authority assigned to the Consultant in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

Section 3. The Work

- A. The Project, should all alternates be accepted, consists of the replacement of the existing 143 camera analog Closed Circuit Television System, additions and modifications of the same, in the Barrow County Courthouse and Jail with an IP Based Digital Closed Circuit TV system in accordance with the plans and specifications.
1. The base bid includes:
 - a. The demolition and replacement of the “head end” equipment including, but not limited to, analog matrix switch, multiplexers, DVRs and monitoring stations with a new IP CCTV head end including, but not limited to, dedicated IP network, encoders, switches, servers, network attached storage and new monitoring stations.
 2. The Scope of Alternate 1 includes (all new camera numbers appear in the documents containing the suffix “N”):
 - a. The replacement of six fixed cameras in courtrooms and hearing rooms with IP pan-tilt-zoom cameras – cameras # 085, 090, 092, 108, 113 and 127.
 - b. The replacement of one fixed camera and dedicated monitor in the Courthouse Screening Area A1066 with an IP camera and dedicated monitor (in Courts Security room A1068) on the IP Based CCTV system.
 - c. The addition of one fixed IP camera in the Courthouse Screening Area A1066 and a dedicated monitor in the Courts Security room A1068.
 - d. The addition of an IP fixed camera in Juv/Female Sallyport A3099
 - e. The replacement of two fixed cameras in Dormitory B0001 (H1) with pan-tilt-zoom IP cameras – cameras # 036 and 037.
 - f. The addition of 1 each new pan-tilt-zoom IP camera (4 total) in the following four Dormitories - C0043, C0055, C0091 and C0105.
 - g. The relocation of existing cameras 053, 055, 057 and 059 approximate 10’ towards the Staff Toilet in Dormitories C0091, C0105, C0055 and C0043 respectively.
 - h. The addition of one fixed IP camera in Magistrate’s Court Waiting Area A2045.
 - i. The addition of one fixed IP camera in Public Defender’s Reception Area A1060.
 - j. The addition of one fixed IP camera in Public Waiting Area A3001.
 - k. The addition of one fixed IP camera in Civil Waiting and Transaction Counter A0104.

1. The relocation of existing camera 001 closer to Elevator Vestibule A0087 while maintaining the ability to process traffic into the Detention area via Door A0089B.
3. The scope of Alternate 2 is, to remove and replace all existing 143 analog cameras in the matrix system with IP-Based cameras as specified.

The Work includes all material, labor, insurance, tools, equipment, and any other miscellaneous items and work reasonably inferable from the Contract Documents. The term “reasonably inferable” takes into consideration the understanding of the Parties that some details necessary for completion of the Work may not be shown on the drawings or included in the specifications, but they are a requirement of the Work if they are a usual and customary component of the Work or are otherwise necessary for complete installation and operation of the Work. Contractor shall complete the Work in strict accordance with the Contract Documents. In the event of any discrepancy among the terms of the various Contract Documents, the provision most beneficial to the County, as determined by the County in its sole discretion, shall govern.

The County will issue a Notice to Proceed, which Notice to Proceed shall state the dates for beginning Work and for achieving Final Completion of Work. Work shall commence within five (5) days of County’s issuance of the Notice to Proceed.

Unless otherwise approved, the Contractor shall perform its obligations under this Agreement as expeditiously as is consistent with reasonable skill and care and the orderly progress of the Work.

Section 4. Contract Periods; Liquidated Damages

- A. Contract Periods/Contract Term. Contractor warrants and represents that it will perform its Work in a prompt and timely manner, which shall not impose delays on the progress of the Work. The Contractor shall commence Work pursuant to this Agreement on or before a date to be specified on a written “Notice to Proceed” provided by the County (the “Commencement Date”), and the Parties intend that all Work shall be completed on or before 150 days following the commencement specified in the Notice to Proceed. Every effort will be made by Contractor to shorten this period. If the Term of this Agreement is longer than one year, the Parties agree that this Agreement, as required by O.C.G.A. § 36-60-13, shall terminate absolutely and without further obligation on the part of the County on December 31 each calendar year of the Term [**unless this box is checked, in which case the Agreement shall terminate absolutely and without further obligation on the part of the County at the end of the County’s fiscal year each year of the Term**], and further, that this Agreement shall automatically renew on January 1 of each subsequent calendar year [**unless this box is checked, in which case the Agreement shall automatically renew on the first day of each subsequent County fiscal year of the Term**] absent the County’s provision of

written notice of non-renewal to Contractor at least five (5) days prior to the end of the then current calendar or fiscal year, as applicable. Title to any supplies, materials, equipment, or other personal property shall remain in Contractor until fully paid for by the County.

- B. Liquidated Damages. The County and Contractor recognize that time is of the essence of this Agreement and that County will suffer financial loss if the Work is not completed in accordance with the deadlines specified in Section 4(A) above and within the Contract Documents. The County and Contractor also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by the County if the Work is not completed within the specified times. Accordingly, instead of requiring any such proof, the County and Contractor agree that, as liquidated damages for delay (but not as a penalty), the Contractor shall pay to the County **One Hundred Fifty and 00/100 Dollars (\$150.00)** for each and every day that expires after the deadlines provided herein, or agreed to in writing by both Parties in a change order.
- C. Expediting Completion. The Contractor is accountable for completing the Work within the time period provided in the Contract Documents, or as otherwise amended by a change order. If, in the judgment of the County, the Work is behind schedule and the rate of placement of work is inadequate to regain scheduled progress to insure timely completion of the entire Work or a separable portion thereof, the Contractor, when so informed by the County, shall immediately take action to increase the rate of work placement by:
- (1) An increase in working forces;
 - (2) An increase in equipment or tools;
 - (3) An increase in hours of work or number of shifts;
 - (4) Expediting delivery of materials; and/or
 - (5) Other action proposed if acceptable to County.

Within five (5) calendar days after such notice from County that the Work is behind schedule, the Contractor shall notify the County in writing of the specific measures taken and/or planned to increase the rate of progress. The Contractor shall include an estimate as to the date of scheduled progress recovery. Should the County deem the plan of action inadequate, the Contractor shall take additional steps to make adjustments as necessary to its plan of action until it meets with the County's approval.

Section 5. Contractor's Compensation; Time and Method of Payment

- A. The total amount paid under this Agreement as compensation for Work performed and reimbursement for costs incurred shall not, in any case, exceed \$ _____.

except as outlined in Section 6 below (the "Contract Price"). The compensation for Work performed shall be based upon the Contractor's proposal attached herein as Exhibit "A".

- B. County agrees to pay the Contractor for the Work performed and costs incurred by Contractor upon certification by Rosser International, Inc and the County that the Work was actually performed and costs actually incurred in accordance with this Agreement. Compensation for Work performed and reimbursement for costs incurred shall be paid to the Contractor upon receipt and approval by the County of invoices setting forth in detail the Work performed and costs incurred. Invoices shall be submitted on a monthly basis, and such invoices shall reflect charges incurred versus charges budgeted. Each invoice shall be accompanied by an Interim Waiver and Release upon Payment (or a Waiver and Release upon Final Payment in the case of the invoice for final payment) procured by the Contractor from all subcontractors in accordance with O.C.G.A. § 44-14-366.
- C. County and Contractor shall comply with the provisions of O.C.G.A. § 13-10-80. The Contractor through each invoice may request payment of no more than ninety percent (90%) of that portion of the Work completed during the term covered by such invoice until fifty percent (50%) of the Contract Price, as may be adjusted, is due and the manner of completion of the Work and its progress are reasonably satisfactory to the County. Payment for the remaining ten percent (10%) of Work completed and covered by such invoices shall be retained by the County until Final Completion. Once fifty percent (50%) of the Contract Price, as may be adjusted, is due and the manner of completion of the Work and its progress are reasonably satisfactory to the County, no additional retainage shall be withheld, except as provided below. At the discretion of the County and with the written approval of the Contractor, the retainage of each subcontractor may be released separately as the subcontractor completes his or her work.

If, after discontinuing the retention, the County determines that the Work is unsatisfactory or has fallen behind schedule, retention may be resumed at the previous level. If retention is resumed by the County, the Contractor and subcontractors shall be entitled to resume withholding retainage accordingly. At Final Completion of the Work and as the County determines the Work to be reasonably satisfactory, the County shall, within 30 days after the invoice and other appropriate documentation as may be required by the Contract Documents are provided to the County, pay the retainage to the Contractor. If at that time there are any remaining incomplete minor items, an amount equal to 200 percent of the value of each item as determined by the County shall be withheld until such item or items are completed. The reduced retainage shall be shared by the Contractor and subcontractors as their interests may appear.

The Contractor shall, within ten (10) days from its receipt of retainage from the County, pass through payments to subcontractors and shall reduce each subcontractor's retainage in the same manner as the Contractor's retainage is reduced by the County; provided, however, that the value of each subcontractor's work complete and in place equals fifty percent (50%) of his or her subcontract value, including approved change orders and other additions to the subcontract value, provided, further, that the work of the subcontractor is proceeding satisfactorily and the subcontractor has provided or provides such satisfactory reasonable assurances of continued performance and financial responsibility to complete his or her work including any warranty work as the Contractor in his or her reasonable discretion may require, including, but not limited to, a payment and performance bond. The subcontractor shall, within ten (10) days from the subcontractor's receipt of retainage from the Contractor, pass through payments to lower tier subcontractors and shall reduce each lower tier subcontractor's retainage in the same manner as the subcontractor's retainage is reduced by the Contractor; provided, however, that the value of each lower tier subcontractor's work complete and in place equals fifty percent (50%) of his or her subcontract value, including approved change orders and other additions to the subcontract value; provided, further, that the work of the lower tier subcontractor is proceeding satisfactorily and the lower tier subcontractor has provided or provides such satisfactory reasonable assurances of continued performance and financial responsibility to complete his or her work including any warranty work as the subcontractor in his or her reasonable discretion may require, including, but not limited to, a payment and performance bond.

Neither final payment nor any retained percentage shall become due until the Contractor submits to the County: (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the County or County property might be responsible or encumbered (less amounts withheld by County) have been paid or otherwise satisfied; (2) a certificate evidencing that insurance, required by the Contract Documents to remain in force after final payment, is currently in effect and will not be canceled or allowed to expire until at least 30 calendar days prior written notice has been given to the County; (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents; (4) consent of surety, if any, to final payment; (5) a release or waiver of liens, claims, security interests, and encumbrances by all subcontractors and material suppliers; and (6), if required by the County, other data establishing payment or satisfaction of obligations, such as receipts, to the extent and in such form as may be designated by the County. If a subcontractor or material supplier refuses to furnish a release or waiver as required by the County, the Contractor may furnish a bond satisfactory to the County to indemnify the County against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall

refund to the County all money that the County may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

Acceptance of final payment by the Contractor, a subcontractor or material supplier shall constitute a waiver of claims by that payee, except those claims previously made in writing and identified by that payee as unsettled at the time of final application for payment.

- D. Any material deviations in tests or inspections performed, or times or locations required to complete such tests or inspections, and like deviations from the Work described in this Agreement shall be clearly communicated to the County *before charges are incurred* and shall be handled through change orders, as described in Section 6 below. The County shall pay the Contractor within thirty (30) days after approval of the invoice by County staff, less any retainage as described in this Section. No payments will be made for unauthorized work. Payment will be sent to the designated address by U. S. Mail only; payment will not be hand-delivered, though the Contractor may arrange to pick up payments directly from the County or may make written requests for the County to deliver payments to the Contractor by Federal Express delivery at the Contractor's expense.

Section 6. Change Orders

- A. "Change order" means a written modification of the Contract Documents, signed by the County and the Contractor.
- B. The County reserves the right to order changes in the Work to be performed under this Agreement by altering, adding to, or deducting from the Work. All such changes shall be incorporated in written change orders and executed by the Contractor and the County. Such change orders shall specify the changes ordered and any necessary adjustment of compensation and completion time. If the Parties cannot reach an agreement on the terms for performing the changed work within a reasonable time to avoid delay or other unfavorable impacts as determined by the County in its sole discretion, the County shall have the right to determine reasonable terms, and the Contractor shall proceed with the changed work.
- C. Any work added to the scope of this Agreement by a change order shall be executed under all the applicable conditions of this Agreement. No claim for additional compensation or extension of time shall be recognized, unless contained in a written change order duly executed on behalf of the County and the Contractor.
- D. The County Manager has authority to execute without further action of the Barrow County Board of Commissioners, any number of change orders so long as their total effect does not materially alter the terms of this Agreement or materially

increase the total amount to be paid under this Agreement, as set forth in Section 5 above. Any such change orders materially altering the terms of this Agreement, or increasing the total amount to be paid under this Agreement in excess of \$25,000.00, must be approved by the resolution of the Barrow County Board of Commissioners.

Section 7. Covenants of Contractor.

A. Ethics Code

Contractor agrees that it shall not engage in any activity or conduct that would result in a violation of the Barrow County Code of Ethics or any other similar law or regulation.

B. Time is of the Essence

Contractor specifically acknowledges that TIME IS OF THE ESSENCE for completion of the Project.

C. Expertise of Contractor

Contractor accepts the relationship of trust and confidence established between it and the County, recognizing that the County's intention and purpose in entering into this Agreement is to engage an entity with the requisite capacity, experience, and professional skill and judgment to provide the Work in pursuit of the timely and competent completion of the Work undertaken by Contractor under this Agreement. The Contractor agrees to use its best efforts, skill, judgment, and abilities to perform its obligations and to further the interests of County and the Project in accordance with County's requirements and procedures.

Contractor represents that it has familiarized itself with the nature and extent of the Contract Documents, the Work, work site(s), locality, and all local conditions, laws and regulations that in any manner may affect cost, progress, performance, or furnishing of the Work. Contractor further represents and agrees that it has correlated the results of all such observations, examinations, investigations, explorations, tests, reports, and studies with the terms and conditions of the Contract Documents. Contractor represents that it has given the County written notice of all conflicts, errors, or discrepancies that the Contractor has discovered in the Contract Documents, and the written resolution thereof by the County is acceptable to the Contractor.

Contractor agrees that it will perform its services in accordance with the usual and customary standards of the Contractor's profession or business and in compliance

with all applicable federal, state, and local laws, regulations, codes, ordinances, or orders applicable to the Project. Further, the Contractor agrees to bear the full cost of correcting the Contractor's negligent or improper Work, the negligent or improper work of its contractors and subcontractors, and any harm caused by such negligent Work.

The Contractor's duties shall not be diminished by any approval by the County of Work completed or produced; nor shall the Contractor be released from any liability by any approval by the County of Work completed or produced, it being understood that the County is ultimately relying upon the Contractor's skill and knowledge in performing the Work required under the Contract Documents.

In the event that during the course of performing the Work, the Contractor discovers or reasonably should discover that there exists in any drawings, specifications, plans, sketches, instructions, information, requirements, procedures, and other data supplied to the Contractor (by the County or any other party) that is, in the Contractor's opinion, unsuitable, improper, or inaccurate for the purposes for which the document or data is furnished, Contractor shall promptly inform the County of such inaccuracies, impropriety, issues or concerns.

D. Budgetary Limitations

Contractor agrees and acknowledges that budgetary limitations are not a justification for breach of sound principals of Contractor's profession and industry. Contractor shall take no calculated risk in the performance of the Work. Specifically, Contractor agrees that, in the event it cannot perform the Work within the budgetary limitations established without disregarding sound principals of Contractor's profession and industry, Contractor will give written notice immediately to the County.

E. County's Reliance on the Work

The Contractor acknowledges and agrees that the County does not undertake to approve or pass upon matters of expertise of the Contractor and that therefore, the County bears no responsibility for Contractor's Work performed under this Agreement. The Contractor acknowledges and agrees that the acceptance of Work by the County is limited to the function of determining whether there has been compliance with what is required to be produced under this Agreement. The County will not, and need not, inquire into adequacy, fitness, suitability or correctness of Contractor's performance. Contractor further agrees that no approval of designs, plans, or specifications by any person, body, or agency shall relieve Contractor of the responsibility for adequacy, fitness, suitability, and correctness of Contractor's Work under professional and industry standards, or for

performing services under this Agreement in accordance with sound and accepted professional and industry principals.

F. Contractor's Reliance on Submissions by the County

Contractor must have timely information and input from the County in order to perform the Work required under this Agreement. Contractor is entitled to rely upon information provided by the County, but Contractor shall be required to provide immediate written notice to the County if Contractor knows or reasonably should know that any information provided by the County is erroneous, inconsistent, or otherwise problematic.

G. Contractor's Representative

_____ shall be authorized to act on Contractor's behalf with respect to the Work as Contractor's designated representative.

H. Assignment of Agreement

The Contractor covenants and agrees not to assign or transfer any interest in, nor delegate any duties of this Agreement, without the prior express written consent of the County. As to any approved subcontractors, the Contractor shall be solely responsible for reimbursing them, and the County shall have no obligation to them.

I. Responsibility of Contractor and Indemnification of County

The Contractor covenants and agrees to take and assume all responsibility for the Work rendered in connection with this Agreement. The Contractor shall bear all losses and damages directly or indirectly resulting to it and/or the County on account of the performance or character of the Work rendered pursuant to this Agreement. Contractor shall defend, indemnify, and hold harmless the County, its officers, boards, commissions, elected and appointed officials, employees, servants, volunteers and agents (hereinafter referred to as "County Parties") from and against any and all claims, injuries, suits, actions, judgments, damages, losses, costs, expenses, and liability of any kind whatsoever, including but not limited to, attorney's fees and costs of defense (hereinafter "Liabilities"), which may be the result of willful, negligent, or tortious conduct arising out of the Work, performance of contracted services, or operations by the Contractor, any subcontractor, anyone directly or indirectly employed by the Contractor or subcontractor, or anyone for whose acts the Contractor or subcontractor may be liable, regardless of whether or not the negligent act is caused in part by a party indemnified hereunder. This indemnity obligation does not include Liabilities caused by or resulting from the sole negligence of the County or County Parties. Such obligation shall not be

construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this provision.

In any and all claims against the County or County Parties, by any employee of the Contractor, any subcontractor, anyone directly or indirectly employed by the Contractor or subcontractor, or anyone for whose acts the Contractor or subcontractor may be liable, the indemnification obligation set forth in this provision shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the Contractor or any subcontractor under workers' or workmen's compensation acts, disability benefit acts, or other employee benefit acts. This obligation to indemnify, defend, and hold harmless the County and County Parties shall survive expiration or termination of this Agreement, provided that the claims are based upon or arise out of actions that occurred during the performance of this Agreement.

J. Independent Contractor

Contractor hereby covenants and declares that it is engaged in an independent business and agrees to perform the Work as an independent contractor and not as the agent or employee of the County. The Contractor agrees to be solely responsible for its own matters relating to the time and place the services are performed; the instrumentalities, tools, supplies, and/or materials necessary to complete the Work; hiring of subcontractors, agents, or employees to complete the Work; and the payment of employees, including compliance with Social Security, withholding, and all other regulations governing such matters. The Contractor agrees to be solely responsible for its own acts and those of its subordinates, employees, and subcontractors during the life of this Agreement. Any provisions of this Agreement that may appear to give the County the right to direct Contractor as to the details of the services to be performed by Contractor or to exercise a measure of control over such services will be deemed to mean that Contractor shall follow the directions of the County with regard to the results of such services only.

Inasmuch as the County and the Contractor are independent of each other, neither has the authority to bind the other to any third person or otherwise to act in any way as the representative of the other, unless otherwise expressly agreed to in writing signed by both parties hereto. The Contractor agrees not to represent itself as the County's agent for any purpose to any party or to allow any employee of the Contractor to do so, unless specifically authorized, in advance and in writing, to do so, and then only for the limited purpose stated in such authorization. The Contractor shall assume full liability for any contracts or agreements the Contractor enters into on behalf of the County without the express knowledge and prior written consent of the County.

K. Insurance

- (1) Requirements: The Contractor shall have and maintain in full force and effect for the duration of this Agreement, insurance insuring against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the Work by the Contractor, its agents, representatives, employees or subcontractors. All policies shall be subject to approval by the County Attorney to form and content. These requirements are subject to amendment or waiver if so approved in writing by the County Manager.
- (2) Minimum Limits of Insurance: Contractor shall maintain the following insurance policies with limits no less than:
 - (a) Comprehensive General Liability policy of \$1,000,000 (one million dollars) combined single limit per occurrence \$2,000,000 (two million dollars) aggregate for bodily and personal injury, sickness, disease or death, injury to or destruction of property, including loss of use resulting therefrom.
 - (b) Comprehensive Automobile Liability policy (covering owned, non-owned, and hired automobiles) of \$1,000,000 (one million dollars) combined single limit per occurrence \$2,000,000 (two million dollars) aggregate for bodily and personal injury, sickness, disease or death, injury to or destruction of property, including loss of use resulting therefrom.
 - (c) Professional Liability policy of \$1,000,000 (one million dollars) for claims arising out of professional services and caused by the Contractor's errors, omissions, or negligent acts.
 - (d) Workers' Compensation policy with limits as required by the State of Georgia and Employers Liability limits of \$1,000,000 (one million dollars) per accident.
- (3) Deductibles and Self-Insured Retentions: Any deductibles or self-insured retentions must be declared to and approved by the County in writing.
- (4) Other Insurance Provisions: The policy is to contain, or be endorsed to contain, the following provisions:
 - (a) General Liability and Automobile Liability Coverage.

- (i) The County and County Parties are to be covered as insureds as respects: liability arising out of activities performed by or on behalf of the Contractor; products and completed operations of the Contractor; premises owned, leased, or used by the Contractor; automobiles owned, leased, hired, or borrowed by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to the County or County Parties.
 - (ii) The Contractor's insurance coverage shall be primary noncontributing insurance as respects to any other insurance or self-insurance available to the County or County Parties. Any insurance or self-insurance maintained by the County or County Parties shall be in excess of the Contractor's insurance and shall not contribute with it.
 - (iii) Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the County and County Parties.
 - (iv) Coverage shall state that the Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought.
 - (v) Coverage shall be provided on a "pay on behalf" basis, with defense costs payable in addition to policy limits. There shall be no cross liability exclusion.
 - (vi) The insurer shall agree to waive all rights of subrogation against the County and County Parties for losses arising from work performed by the Contractor for the County.
- (b) Workers' Compensation Coverage: The insurer providing Workers' Compensation Coverage will agree to waive all rights of subrogation against the County and County Parties for losses arising from work performed by the Contractor for the County.
- (c) Builder's Risk Insurance. Contractor shall provide a Builder's Risk Insurance Policy to be made payable to the County and Contractor, as their interests may appear. The policy amount shall be equal to 100% of the Contract price, written on a Builder's Risk "All Risk," or its equivalent. The policy shall provide, or be endorsed to

provide, as follows: “The following may occur without diminishing, changing, altering or otherwise affecting the coverage and protection afforded the insured under this policy: i) Equipment may be delivered to the insured premises and installed in place ready for use; and ii) Partial or complete occupancy by Owner; and iii) Performance of Work in connection with construction operations insured by the Owner, by agents or lessees, or other Contractors of the Owner or Using Agency.”

(d) All Coverages:

(i) Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, canceled, reduced in coverage or in limits except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the County.

(ii) Policies shall have concurrent starting and ending dates.

(5) Acceptability of Insurers: Insurance is to be placed with insurers licensed to do business in Georgia and with an A.M. Best's rating of no less than A:VII.

(6) Verification of Coverage: Contractor shall furnish the County with certificates of insurance and endorsements to the policies evidencing coverage required by this Section prior to the start of work. The certificate of insurance and endorsements shall be on a form utilized by Contractor's insurer in its normal course of business and shall be received and approved by the County prior to execution of this Agreement by the County. The County reserves the right to require complete, certified copies of all required insurance policies, at any time. The Contractor shall provide proof that any expiring coverage has been renewed or replaced at least two (2) weeks prior to the expiration of the coverage.

(7) Subcontractors: Contractor shall include all subcontractors as insureds under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverage for subcontractors shall be subject to all of the requirements stated in this Agreement, including but not limited to naming the County and County Parties as additional insureds.

(8) Claims-Made Policies: Contractor shall extend any claims-made insurance policy for at least six (6) years after termination or final payment under the Agreement, whichever is later.

- (9) County as Additional Insured and Loss Payee: The County and County Parties shall be named as additional insureds and loss payees on all policies required by this Agreement, except the County need not be named as an additional insured and loss payee on any Professional Liability policy or Workers' Compensation policy.

L. Bonds

The Contractor shall provide Performance and Payment bonds with a surety licensed to do business in Georgia and listed on the Treasury Department's most current list (Circular 570 as amended). Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall permit a copy to be made.

M. Employment of Unauthorized Aliens Prohibited – E-Verify Affidavit

It is the policy of County that unauthorized aliens shall not be employed to perform work on County contracts involving the physical performance of services. Therefore, the County shall not enter into a contract for the physical performance of services within the State of Georgia unless:

- (1) the CONTRACTOR shall provide evidence on County-provided forms, attached hereto as Exhibits "D" and "E" (affidavits regarding compliance with the E-Verify program to be sworn under oath under criminal penalty of false swearing pursuant to O.C.G.A. § 16-10-71), that it and CONTRACTOR's subcontractors have conducted a verification, under the federal Employment Eligibility Verification ("EEV" or "E-Verify") program, of the social security numbers, or other identifying information now or hereafter accepted by the E-Verify program, of all employees who will perform work on the County contract to ensure that no unauthorized aliens will be employed, **or**
- (2) the CONTRACTOR provides evidence that it is not required to provide an affidavit because it is licensed pursuant to Title 26 or Title 43 or by the State Bar of Georgia and is in good standing as of the date when the contract for services is to be rendered.

The CONTRACTOR hereby verifies that it has, prior to executing this Agreement, executed a notarized affidavit, the form of which is provided in Exhibit "D", and submitted such affidavit to County or provided the County with evidence that it is not required to provide such an affidavit because it is licensed and in good standing as noted in subsection (2) above. Further, CONTRACTOR hereby agrees to

comply with the requirements of the federal Immigration Reform and Control Act of 1986 (IRCA), P.L. 99-603, O.C.G.A. § 13-10-91 and Rule 300-10-1-.02.

In the event the CONTRACTOR employs or contracts with any subcontractor(s) in connection with the covered contract, the CONTRACTOR agrees to secure from such subcontractor(s) attestation of the subcontractor's compliance with O.C.G.A. § 13-10-91 and Rule 300-10-1-.02 by the subcontractor's execution of the subcontractor affidavit, the form of which is attached hereto as Exhibit "E", which subcontractor affidavit shall become part of the contractor/subcontractor agreement, or evidence that the subcontractor is not required to provide such an affidavit because it is licensed and in good standing as noted in subsection (2) above. If a subcontractor affidavit is obtained, CONTRACTOR agrees to provide a completed copy to the County within five (5) business days of receipt from any subcontractor.

Where CONTRACTOR is required to provide an affidavit pursuant to O.C.G.A. § 13-10-91, the County Manager or his/her designee shall be authorized to conduct an inspection of the CONTRACTOR's and CONTRACTOR's subcontractors' verification process at any time to determine that the verification was correct and complete. The CONTRACTOR and CONTRACTOR's subcontractors shall retain all documents and records of their respective verification process for a period of three (3) years following completion of the contract. Further, where CONTRACTOR is required to provide an affidavit pursuant to O.C.G.A. § 13-10-91, the County Manager or his/her designee shall further be authorized to conduct periodic inspections to ensure that no County CONTRACTOR or CONTRACTOR's subcontractors employ unauthorized aliens on County contracts. By entering into a contract with the County, the CONTRACTOR and CONTRACTOR's subcontractors agree to cooperate with any such investigation by making their records and personnel available upon reasonable notice for inspection and questioning. Where a CONTRACTOR or CONTRACTOR's subcontractors are found to have employed an unauthorized alien, the County Manager or his/her designee may report same to the Department of Homeland Security. The CONTRACTOR's failure to cooperate with the investigation may be sanctioned by termination of the contract, and the CONTRACTOR shall be liable for all damages and delays occasioned by the County thereby.

CONTRACTOR agrees that the employee-number category designated below is applicable to the CONTRACTOR. [Information only required if a contractor affidavit is required pursuant to O.C.G.A. § 13-10-91.]

_____ 500 or more employees.

_____ 100 or more employees.

_____ Fewer than 100 employees.

CONTRACTOR hereby agrees that, in the event CONTRACTOR employs or contracts with any subcontractor(s) in connection with this Agreement and where the subcontractor is required to provide an affidavit pursuant to O.C.G.A. § 13-10-91, the CONTRACTOR will secure from the subcontractor(s) such subcontractor(s)' indication of the above employee-number category that is applicable to the subcontractor.

The above requirements shall be in addition to the requirements of State and federal law, and shall be construed to be in conformity with those laws.

N. Records, Reports and Audits

(1) Records:

- (a) Records shall be established and maintained by the Contractor in accordance with requirements prescribed by the County with respect to all matters covered by this Agreement. Except as otherwise authorized, such records shall be maintained for a period of three years from the date that final payment is made under this Agreement. Furthermore, records that are the subject of audit findings shall be retained for three years or until such audit findings have been resolved, whichever is later.
- (b) All costs shall be supported by properly executed payrolls, time records, invoices, contracts, or vouchers, or other official documentation evidencing in proper detail the nature and propriety of the charges. All checks, payrolls, invoices, contracts, vouchers, orders, or other accounting documents pertaining in whole or in part to this Agreement shall be clearly identified and readily accessible.

(2) Reports and Information: Upon request, the Contractor shall furnish to the County any and all statements, records, reports, data, and information related to matters covered by this Agreement in the form requested by the County.

(3) Audits and Inspections: At any time during normal business hours and as often as the County may deem necessary, there shall be made available to the County for examination all records with respect to all matters covered by this Agreement. The Contractor will permit the County to audit, examine, and make excerpts or transcripts from such records, and to audit

all contracts, invoices, materials, payrolls, records of personnel, conditions of employment, and/or data relating to all matters covered by this Agreement.

O. Confidentiality

Contractor acknowledges that it may receive confidential information of the County and that it will protect the confidentiality of any such confidential information and will require any of its subcontractors, contractors, and/or staff to likewise protect such confidential information. The Contractor agrees that confidential information it receives or such reports, information, opinions, or conclusions that Contractor creates under this Agreement shall not be made available to, or discussed with, any individual or organization, including the news media, without prior written approval of the County. Contractor shall exercise reasonable precautions to prevent the unauthorized disclosure and use of County information whether specifically deemed confidential or not.

Contractor acknowledges that the County's disclosure of documentation is governed by Georgia's Open Record's Act, and Contractor further acknowledges that, if Contractor submits records containing trade secret information and if Contractor wishes to keep such records confidential, Contractor must submit and attach to such records an affidavit affirmatively declaring that specific information in the records constitutes trade secrets pursuant to Article 27 of Chapter 1 of Title 10, and the Parties shall follow the requirements of O.C.G.A. § 50-18-72(a)(34) related thereto.

P. Licenses, Certifications and Permits

The Contractor covenants and declares that it has obtained all diplomas, certificates, licenses, permits, or the like required by any and all national, state, regional, county, local boards, agencies, commissions, committees or other regulatory bodies in order to perform the Work contracted for under this Agreement; provided that some permits or licenses related to the Project may be obtained as part of the Work and shall be obtained as required. All work performed by Contractor under this Agreement shall be in accordance with applicable legal requirements and shall meet the standard of quality ordinarily expected of competent professionals. The Contractor shall furnish copies of all such permits, licenses, or approvals to the County within ten (10) days after issuance.

Q. Key Personnel

All of the individuals identified in Exhibit "G" are necessary for the successful completion of the Work due to their unique expertise and depth and breadth of

experience. There shall be no change in Contractor's Project Manager or members of the project team, as listed in Exhibit "G", without written approval of the County. Contractor recognizes that the composition of this team was instrumental in the County's decision to award the work to Contractor and that compelling reasons for substituting these individuals must be demonstrated for the County's consent to be granted. Any substitutes shall be persons of comparable or superior expertise and experience. Failure to comply with the provisions of this Section shall constitute a material breach of Contractor's obligations under this Agreement and shall be grounds for termination. Contractor shall not subcontract with any third party for the performance of any portion of the Work without the prior written consent of the County. Contractor shall be solely responsible for any such subcontractors in terms of performance and compensation.

R. Authority to Contract

The Contractor covenants and declares that it has obtained all necessary approvals of its board of directors, stockholders, general partners, limited partners, or similar authorities to simultaneously execute and bind Contractor to the terms of this Agreement, if applicable.

S. Ownership of Work

All reports, designs, drawings, plans, specifications, schedules, work product, and other materials prepared or in the process of being prepared for the Work to be performed by the Contractor ("Materials") shall be the property of the County, and the County shall be entitled to full access and copies of all such Materials. Any such Materials remaining in the hands of the Contractor or subcontractor upon completion or termination of the Work shall be delivered immediately to the County. The Contractor assumes all risk of loss, damage or destruction of or to such Materials. If any Materials are lost, damaged, or destroyed before final delivery to the County, the Contractor shall replace them at its own expense. Any and all copyrightable subject matter in all Materials is hereby assigned to the County, and the Contractor agrees to execute any additional documents that may be necessary to evidence such assignment.

T. Meetings

The Contractor is required to meet with the County's personnel, or designated representatives, to resolve technical or contractual problems that may occur during the term of the contract at no additional cost to the County. Meetings will occur as problems arise and will be coordinated by the County. The Contractor will be given a minimum of three full working days notice of meeting date, time, and location. Face-to-face meetings are desired. However, at the Contractor's option and

expense, a conference call meeting may be substituted. Consistent failure to participate in problem resolution meetings, two consecutive missed or rescheduled meetings, or to make a good faith effort to resolve problems, may result in termination of the contract.

U. Nondiscrimination

In accordance with Title VI of the Civil Rights Act, as amended, 42 U.S.C. § 2000d, section 303 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. § 6102, section 202 of the Americans with Disabilities Act of 1990, 42 U.S.C. § 12132, and all other provisions of Federal law, the Contractor agrees that, during performance of this Agreement, Contractor, for itself, its assignees and successors in interest, will not discriminate against any employee or applicant for employment, any subcontractor, or any supplier because of race, color, creed, national origin, gender, age or disability. In addition, Contractor agrees to comply with all applicable implementing regulations and shall include the provisions of this Section 7(U) in every subcontract for services contemplated under this Agreement.

Section 8. Covenants of the County

A. Right of Entry

The County shall provide for right of entry for Contractor to enter the respective property in order for Contractor to complete the Work.

Section 9. Warranty

A. Warranty

Except as may be otherwise specified or agreed, the Contractor shall repair or replace all defects in materials, equipment, or workmanship appearing within 1 (ONE) year from the date of Final Completion at no additional cost to the County. Further, Contractor shall provide all maintenance services, including parts and labor, for 1 (ONE) year from the date of Final Completion at no additional cost to the County. An inspection shall be conducted by the County or its representative(s) near the completion of the 1 (ONE)-year general warranty period to identify any issues that must be resolved by the Contractor. After the expiration of such warranty period, County shall be responsible for repairing issues resulting from normal wear and tear and shall be responsible for general maintenance of the equipment; however, expiration of such warranty period shall not affect the Contractor's continued liability under an implied warranty of merchantability and fitness. All other warranties implied by law, including fitness for a particular purpose and suitability, are hereby preserved and shall apply in full force and effect

beyond the 1 (ONE)-year warrant period. County may purchase additional maintenance services from the Contractor upon a written proposal for such services being executed by authorized representatives of both Parties, and upon execution, such proposal for additional services shall be incorporated herein by this reference.

Section 10. Termination

A. The County may terminate this Agreement for convenience at any time upon providing written notice thereof to Contractor at least seven (7) calendar days in advance of the termination date. In the event of a termination for convenience, Contractor shall take immediate steps to terminate work as quickly and effectively as possible and shall terminate all commitments to third-parties, unless otherwise instructed by the County. Provided that no damages are due to the County for Contractor's failure to perform in accordance with this Agreement, the County shall pay Contractor for work performed to date in accordance with Section 5 herein. The County shall have no further liability to Contractor for such termination. Further, at its sole discretion, the County may pay Contractor for additional value received as a result of Contractor's efforts, but in no case shall said payment exceed any remaining unpaid portion of the Contract Price.

B. The County may terminate this Agreement for cause if Contractor breaches any material provision of this Agreement. The County shall give Contractor seven (7) days written notice of its intent to terminate the Agreement and the reasons therefore, and if Contractor, or its Surety, fails to cure the default within that period, the termination shall take place without further notice. The County shall then make alternative arrangements for completion of the Project. The County will make no payment to the Contractor or its Surety until all costs of completing the Project are paid. If the unpaid balance of the amount due the Contractor, according to this Agreement, exceeds the cost of finishing the Project, County shall provide payment to the Contractor (or its Surety) for services rendered and expenses incurred prior to the termination date, provided that such payment shall not exceed the unpaid balance of the amount otherwise payable under this Agreement minus the cost of completing the Project. If the costs of completing the Project exceed the unpaid balance, the Contractor or its Surety will pay the difference to the County.

The County reserves the right in termination for cause to take assignment of all contracts between the Contractor and its subcontractors, vendors, and suppliers. The County will promptly notify the Contractor of the contracts the County elects to assume. Upon receipt of such notice, the Contractor shall promptly take all steps necessary to effect such assignment.

C. If the County terminates this Agreement for cause, and it is later determined that the County did not have grounds to do so, the termination will be treated as a

termination for convenience under the terms of Section 10(A) above.

- D. Upon termination, the Contractor shall: (1) promptly discontinue all services affected, unless the notice directs otherwise; and (2) promptly deliver to the County all data, drawings, reports, summaries, and such other information and materials as may have been generated or used by the Contractor in performing this Agreement, whether completed or in process, in the form specified by the County.
- E. The Contractor shall have no right to terminate this agreement prior to completion of the Work, except in the event of the County's failure to pay the Contractor within thirty (30) days of Contractor providing the County with notice of a delinquent payment and an opportunity to cure.
- F. The rights and remedies of the County and the Contractor provided in this Section are in addition to any other rights and remedies provided under this Agreement or at law or in equity.

Section 11. Construction Administration

- A. Rosser International's (contract administrator) administration of the construction of the Project shall be as described in Exhibit "J." The Contractor agrees to the construction administration provisions contained in Exhibit "J."
- B. Rosser International's (contract administrator) decisions in matters relating to aesthetic effect shall be final if consistent with the intent of this Agreement.
- C. THE DUTIES, OBLIGATIONS, AND RESPONSIBILITIES OF THE CONTRACTOR UNDER THIS AGREEMENT SHALL IN NO MANNER WHATSOEVER BE CHANGED, ALTERED, DISCHARGED, RELEASED, OR SATISFIED BY ANY DUTY, OBLIGATION, OR RESPONSIBILITY OF ROSSER INTERNATIONAL (CONTRACT ADMINISTRATOR). THE CONTRACTOR IS NOT A THIRD-PARTY BENEFICIARY OF ANY AGREEMENT BY AND BETWEEN THE COUNTY AND ROSSER INTERNATIONAL (CONTRACT ADMINISTRATOR). IT IS EXPRESSLY ACKNOWLEDGED AND AGREED THAT THE DUTIES OF THE CONTRACTOR TO THE COUNTY ARE INDEPENDENT OF, AND ARE NOT DIMINISHED BY, ANY DUTIES OF ROSSER INTERNATIONAL (CONTRACT ADMINISTRATOR) TO THE COUNTY.

Section 12. Miscellaneous

- A. Defined Terms. Terms used in this Agreement shall have their ordinary meaning,

unless otherwise defined below or elsewhere in the Contract Documents.

(i) “Final Completion” means when the Work has been completed in accordance with terms and conditions of the Contract Documents.

- B. Complete Agreement. This Agreement, including the Contract Documents, constitutes the complete agreement between the Parties and supersedes any and all other agreements, either oral or in writing, between the Parties with respect to the subject matter of this Agreement. No other agreement, statement, or promise relating to the subject matter of this Agreement not contained in this Agreement or the Contract Documents shall be valid and binding. This Agreement may be modified or amended only by a written document signed by representatives of both Parties with appropriate authorization.
- C. Governing Law. This Agreement shall be governed by and construed under the laws of the State of Georgia. If any action at law or in equity is brought to enforce or interpret the provisions of this Agreement, the rules, regulations, statutes and laws of the State of Georgia will control. Any action or suit related to this Agreement shall be brought in the Superior Court of Barrow County, Georgia.
- D. Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original, but all of which together shall constitute one and the same instrument.
- E. Invalidity of Provisions; Severability. Should any article(s) or section(s) of this Agreement, or any part thereof, later be deemed unenforceable by a court of competent jurisdiction, the offending portion of the Agreement should be severed, and the remainder of this Agreement shall remain in full force and effect to the extent possible as if this Agreement had been executed with the invalid portion hereof eliminated, it being the intention of the parties that they would have executed the remaining portion of this Agreement without including any such part, parts, or portions which may for any reason be hereafter declared invalid.
- F. Business License. Prior to commencement of the Work to be provided hereunder, Contractor shall apply to the County for a business license, pay the applicable business license fee, and maintain said business license during the term of this Agreement.
- G. Notices.

(1) Communications Relating to Day-to-Day Activities.

All communications relating to the day-to-day activities of the Work shall be

exchanged between _____ for the County and _____ for the Contractor.

(2) *Official Notices.*

All other notices, requests, demands, writings, or correspondence, as required by this Agreement, shall be in writing and shall be deemed received, and shall be effective, when (1) personally delivered, or (2) on the third day after the postmark date when mailed by certified mail, postage prepaid, return receipt requested, or (3) upon actual delivery when sent *via* national overnight commercial carrier to the Parties at the addresses given below, or at a substitute address previously furnished to the other Parties by written notice in accordance herewith:

NOTICE TO THE COUNTY shall be sent to:

County Manager
c/o Barrow County Board of Commissioners
30 North Broad Street
Winder, Ga. 30680

NOTICE TO CONTRACTOR shall be sent to:

Future changes in address shall be effective only upon written notice being given by the County to the Contractor or by the Contractor to the County Manager via one of the delivery methods described in this Section.

- H. Waiver of Agreement. No failure by the County to enforce any right or power granted under this Agreement, or to insist upon strict compliance by Contractor with this Agreement, and no custom or practice of the County at variance with the terms and conditions of this Agreement shall constitute a general waiver of any future breach or default or affect the County’s right to demand exact and strict compliance by Contractor with the terms and conditions of this Agreement.
- I. Sovereign Immunity. Nothing contained in this Agreement shall be construed to be a waiver of the County’s sovereign immunity or any individual’s qualified good faith or official immunities.
- J. No Personal Liability. Nothing herein shall be construed as creating any individual or personal liability on the part of any County Party. No County Party shall be

personally liable to the Contractor or any successor in interest in the event of any default or breach by the County or for any amount which may become due to the Contractor or successor or on any obligation under the terms of this Agreement. Likewise, Contractor's performance of services under this Agreement shall not subject Contractor's individual employees, officers, or directors to any personal liability. The Parties agree that their sole and exclusive remedy, claim, demand, or suit shall be directed and/or asserted only against Contractor or the County, respectively, and not against any employee, officer, director, or elected or appointed official.

- K. Force Majeure. Neither the County nor Contractor shall be liable for their respective non-negligent or non-willful failure to perform or shall be deemed in default with respect to the failure to perform (or cure a failure to perform) any of their respective duties or obligations under this Agreement or for any delay in such performance due to: (i) any cause beyond their respective reasonable control; (ii) any act of God; (iii) any change in applicable governmental rules or regulations rendering the performance of any portion of this Agreement legally impossible; (iv) earthquake, fire, explosion, or flood; (v) strike or labor dispute, excluding strikes or labor disputes by employees and/or agents of CONTRACTOR; (vi) delay or failure to act by any governmental or military authority; or (vii) any war, hostility, embargo, sabotage, civil disturbance, riot, insurrection, or invasion. In such event, the time for performance shall be extended by an amount of time equal to the period of delay caused by such acts, and all other obligations shall remain intact.
- L. Headings. All headings herein are intended for convenience and ease of reference purposes only and in no way define, limit, or describe the scope or intent thereof, or of this Agreement, nor in any way affect this Agreement.
- M. No Third Party Rights. This Agreement shall be exclusively for the benefit of the Parties and shall not provide any third parties with any remedy, claim, liability, reimbursement, cause of action, or other right.
- N. Successors and Assigns. Each Party binds itself, its partners, successors, assigns, and legal representatives to the other Party hereto, its partners, successors, assigns, and legal representatives with respect to all covenants, agreements, and obligations contained in the Contract Documents.

IN WITNESS WHEREOF, the County and the Contractor have executed this Agreement effective as of the date first above written.

[SIGNATURES ON FOLLOWING PAGE]

CONTRACTOR: _____

BARROW COUNTY, GEORGIA

By: _____

_____, _____
[NAME AND TITLE]

_____, _____
[NAME AND TITLE]

[CORPORATE SEAL]

[COUNTY SEAL]

SIGNED, SEALED, AND DELIVERED
in the presence of:

SIGNED, SEALED, AND DELIVERED
in the presence of:

Witness

Witness

Notary Public

Notary Public

[NOTARY SEAL]

[NOTARY SEAL]

My Commission Expires:

My Commission Expires:

EXHIBIT “A”

[PROPOSAL DOCUMENTS]

EXHIBIT "B"

NONCOLLUSION AFFIDAVIT OF PRIME

(PROPOSER/BIDDER)

**STATE OF GEORGIA
COUNTY OF BARROW**

_____, being first duly sworn, deposes and says that:

(1) He is _____ (Owner, Partner, Officer, Representative, or Agent) of _____ (the "_____" (Proposer/Bidder)) that has submitted the attached _____ (Proposal/Bid);

(2) He is fully informed respecting the preparation and contents of the attached _____ (Proposal/Bid) and of all pertinent circumstances respecting such _____ (Proposal/Bid);

(3) Such _____ (Proposal/Bid) is genuine and is not a collusive or sham _____ (Proposal/Bid);

(4) Neither the said _____ (Proposer/Bidder) nor any of its officers, partners, owners, agents, representatives, employees, or parties in interest, included in this affidavit, has in any way colluded, conspired, connived, or agreed, directly or indirectly, with any other _____ (Proposer/Bidder), firm or person to submit a collusive or sham _____ (Proposal/Bid) in connection with the Contract for which the attached _____ (Proposal/Bid) has been submitted to or refrain from proposing in connection with such Contract, or has in any collusion or communication or conference with any other _____ (Proposer/Bidder), firm or person to fix the price or prices in the attached _____ (Proposal/Bid) or of any other _____ (Proposer/Bidder), or to secure through any collusion, conspiracy, connivance, or unlawful agreement any advantage against Barrow County or any person interested in the proposed Contract; and,

(5) The price or prices quoted in the attached _____ (Proposal/Bid) are fair and proper and are not tainted by any collusion, conspiracy, connivance, or unlawful agreement on the part of the _____ (Proposer/Bidder) or any of its agents, representatives, owners, employees, or parties in interest, included in this affidavit.

(6) _____ (Proposer/Bidder) has not directly or indirectly violated any law, ordinance or regulation related to the _____ (Proposal/Bid).

Signature of Authorized Officer or Agent

Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME
ON THIS THE _____ DAY OF _____,
20__.

Notary Public

[NOTARY SEAL]

My Commission Expires:

EXHIBIT "C"

FINAL AFFIDAVIT

TO BARROW COUNTY, GEORGIA

I, _____, hereby certify that all suppliers of materials, equipment and service, subcontractors, mechanics, and laborers employed by _____ or any of its subcontractors in connection with the construction of _____ for Barrow County have been paid and satisfied in full as of _____, 20____, and that there are no outstanding obligations or claims of any kind for the payment of which Barrow County on the above named project might be liable, or subject to, in any lawful proceeding at law or in equity.

Signature

Title

Personally appeared before me this ____ day of _____, 20____. _____, who under oath deposes and says that he is _____ of the firm of _____, that he has read the above statement, and that to the best of his knowledge and belief same is an exact true statement.

Notary Public

[NOTARY SEAL]

My Commission Expires

EXHIBIT "D"

STATE OF GEORGIA

COUNTY OF BARROW

CONTRACTOR AFFIDAVIT AND AGREEMENT

By executing this affidavit, the undersigned contractor verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm, or corporation which is engaged in the physical performance of services on behalf of Barrow County has registered with, is authorized to use, and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91.

Furthermore, the undersigned contractor will continue to use the federal work authorization program throughout the contract period, and the undersigned contractor will contract for the physical performance of services in satisfaction of such contract only with subcontractors who present an affidavit to the contractor with the information required by O.C.G.A. § 13-10-91(b).

Contractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

Federal Work Authorization User Identification
Number

Date of Authorization

Name of Contractor

Name of Project

Name of Public Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.
Executed on _____, ____, 20__ in _____
(city), _____ (state).

Signature of Authorized Officer or Agent

Printed Name and Title of Authorized Officer or
Agent

SUBSCRIBED AND SWORN BEFORE ME
ON THIS THE _____ DAY OF _____,
20__.

Notary Public

[NOTARY SEAL]

My Commission Expires:

EXHIBIT "E"

STATE OF GEORGIA

COUNTY OF BARROW

SUBCONTRACTOR AFFIDAVIT

By executing this affidavit, the undersigned subcontractor verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services under a contract with _____ (name of contractor) on behalf of Barrow County has registered with, is authorized to use, and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91. Furthermore, the undersigned subcontractor will continue to use the federal work authorization program throughout the contract period, and the undersigned subcontractor will contract for the physical performance of services in satisfaction of such contract only with sub-subcontractors who present an affidavit to the subcontractor with the information required by O.C.G.A. § 13-10-91(b). Additionally, the undersigned subcontractor will forward notice of the receipt of an affidavit from a sub-subcontractor to the contractor within five (5) business days of receipt. If the undersigned subcontractor receives notice that a sub-subcontractor has received an affidavit from any other contracted sub-subcontractor, the undersigned subcontractor must forward, within five (5) business days of receipt, a copy of the notice to the contractor.

Subcontractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

Federal Work Authorization User Identification
Number

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on _____, ____, 201__ in _____(city),
_____(state).

Date of Authorization

Signature of Authorized Officer or Agent

Name of Subcontractor

Printed Name and Title of Authorized Officer or
Agent

Name of Project

SUBSCRIBED AND SWORN BEFORE ME
ON THIS THE _____ DAY OF
_____,201__.

Name of Public Employer

NOTARY PUBLIC

[NOTARY SEAL]

My Commission Expires:

EXHIBIT “F”

[MODIFICATIONS TO PLANS AND SPECIFICATIONS TO BE INSERTED(IF ISSUED)]

EXHIBIT “H”

[INSERT NOTICE OF AWARD]

COUNTY OF BARROW

STATE OF GEORGIA

BARROW COUNTY ETHICS ORDINANCE

AN ORDINANCE TO AMEND THE CODE OF ORDINANCES OF BARROW COUNTY, TO ESTABLISH THE CODE OF ETHICS FOR BARROW COUNTY; TO FURTHER AND INCORPORATE THE POLICIES AND LAWS OF THE STATE OF GEORGIA RELATING TO ETHICAL STANDARDS; TO CREATE THE BOARD OF ETHICS AND PROVIDE FOR ITS CONSTITUENT MEMBERSHIP, DUTIES, AND RESPONSIBILITIES; TO PROVIDE FOR THE INVESTIGATION OF ETHICS COMPLAINTS; TO PROVIDE FOR THE ENFORCEMENT OF ETHICAL STANDARDS; TO PROVIDE FOR SEVERABILITY; TO PROVIDE FOR AN EFFECTIVE DATE; AND FOR OTHER PURPOSES.

WHEREAS, the Constitution of the State of Georgia, approved by the voters of the State in November of 1982, and effective July 1, 1983, provides in Article IX, Section II, Paragraph I Thereof, that the governing authority of the county may adopt clearly reasonable ordinances, resolutions and regulations;

WHEREAS, O.C.G.A. § 36-1-20 authorizes counties to enact ordinances for protection and preserving the public health, safety and welfare of the population of the unincorporated areas of the County;

WHEREAS, the governing authority of Barrow County, to wit, the Board of Commissioners, desires to exercise its authority in adopting this Ordinance;

WHEREAS, it is essential to the proper operation of democratic government that public officials of independent and impartial, that governmental decisions and policy be made in the proper channels of the governmental structure, that public office not be used for private gain other than the remuneration provided by law, and that there be public confidence in the integrity of government;

WHEREAS, the attainment of one or more of these ends is impaired whenever there exists a conflict between the private interests of an elected official or a governmental employee and his duties as such;

WHEREAS, the public interest, therefore, requires that the law protect against such conflicts of interest and establish appropriate ethical standards with respect to the conduct of elected officials and government employees in situations where conflicts exist;

WHEREAS, it is also essential to the proper operation of government that those best qualified be encouraged to serve the government. Accordingly, legal safeguards against conflicts of interest must be so designed as not unnecessarily or unreasonably to impede the recruitment and retention by the government of those men and women who are best qualified to serve it;

WHEREAS, an essential principle underlying the staffing of our government structure is that its elected officials and employees should not be denied the opportunity, available to all other citizens, to acquire and retain private economic and other interests, except where conflicts with the responsibility of such elected officials and employees to the public cannot be avoided;

WHEREAS, in recognition of these goals and principles, it is the policy of the Board of Commissioners to institute, establish, promote and enforce standards of ethical conduct for all of Barrow County's officers and employees; and

WHEREAS, it is a further policy of the Board of Commissioners that the proper administration of Barrow County's government and the promotion and enforcement of standards of ethical conduct for Barrow County's officers and employees would be best served by the creation of a Barrow County Board of Ethics for the investigation of complaints related to ethical standards;

NOW, THEREFORE, BE IT ORDAINED AND RESOLVED BY THE BOARD OF COMMISSIONERS OF BARROW COUNTY, GEORGIA AS FOLLOWS:

ARTICLE ONE: GENERAL PROVISIONS

Section One. Short Title.

This Ordinance shall be known as "The Barrow County Ethics Ordinance," and may be Cited and referred to as such.

Section Two. Definitions.

For the purposes of this Ordinance, the following terms, phrases, words and their derivations shall have the meaning provided herein. When no inconsistent with the context, words used in the present tense include the future, words in the plural number included the singular number and words in the singular number include the plural number.

- (A) **"Board"** means the Barrow County Board of Commissioners.
- (B) **"Board of Ethics"** means the Barrow County Board of Ethics as formed and described herein.
- (C) **"Business Entity"** means any business of whatever nature regardless of how designated or formed, whether a sole proprietorship, partnership, joint venture, association, trust, corporation, limited liability company, or any other type of business enterprise and whether a person acting on behalf of, or as a representative or agent of, the business entity.
- (D) **"Confidential Information"** means any information that, by law or practice, is not reasonably available to the public.
- (E) **"County Official"** means the Barrow County Board of Commissioners, any member of a board, commission or authority appointed by the Board, the Chief of

Operations or his/her equivalent and any other elected or appointed officer or employee of Barrow County, including those employees who are exempt from the Barrow County Civil Service System, except to the extent prohibited by law.

- (F) **“Employee”** means all those persons employed on a regular or part-time basis by The County, as well as those persons whose services are retained under the terms of a contract with the County, including those employees who are exempt from the Barrow County Civil Service System, except to the extent prohibited by law.
- (G) **“Family”** means the spouse, parents, children, brothers and sisters, related by blood or marriage of a county official or employee.
- (H) **“Interest”** means direct or indirect pecuniary or material benefit accruing to a County Official or Employee as a result of a contract or transaction which is or may be the subject of an official act or action by or with the County, except for such contracts or transactions which, by their terms and by the substance of their provisions, confer the opportunity and right to realize the accrual of similar benefits to all other persons and/or property similarly situated. The term “interest” shall not include any remote interest. For purposes of this Ordinance, a County Official or Employee shall be deemed to have an interest in the affairs of:
- (1) His or her family;
 - (2) Any business entity in which the county official or employee is a member, officer, director, employee or prospective employee;
 - (3) Any business entity as to which the stock, legal ownership, or beneficial ownership of a county official or employee is in excess of five percent (5%) of the total stock or total legal and beneficial ownership, or which is

controlled or owned directly or indirectly by the county official or employee.

- (l) **“Official Act” or “Official Duties”** means any legislative, administrative, appointive or discretionary act of any County Official or Employee of the County or any agency, board, authority or commission thereof.

ARTICLE TWO: CODE OF ETHICS FOR COUNTY SERVICE GENERALLY AND FOR EMPLOYEES

This Article Two is intended to adopt and incorporate herein for local enforcement the ethical standards of O.C.G.A. § 45-10-1, as it may be amended from time to time.

Any person in County service shall;

Section One.

Put loyalty to the highest moral principles and to country above loyalty to person, party, or government department.

Section Two.

Uphold the Constitution, laws and legal regulations of the United States and the State of Georgia and of all governments therein and never be a party to their evasion.

Section Three.

Give a full day's labor for a full day's pay and give to the performance of his duties his earnest effort and best thought.

Section Four.

Seek to find and employ more efficient and economical ways of getting tasks accomplished.

Section Five

Never discriminate unfairly by the dispensing of special favors or privileges to anyone, whether for remuneration or not, and never accept, for himself or his family, favors or benefits under circumstances which might be construed by reasonable persons as influencing the performance of his governmental duties.

Section Six

Make no private promises of any kind binding upon the duties of office, since a government employee has no private word that can be binding on public duty.

Section Seven.

Engage in no business with the government, either directly or indirectly, which is inconsistent with the conscientious performance of his governmental duties.

Section Eight.

Never use any information coming to him confidentially in the performance of governmental duties as a means for making private profit.

Section Nine.

Expose corruption wherever discovered.

Section Ten.

Uphold these principles, ever conscious that public office is a public trust.

ARTICLE THREE: CODE OF ETHICS FOR COUNTY OFFICIALS AND DEPARTMENT DIRECTORS

This Article Three is intended to adopt and incorporate herein for local enforcement the ethical standards of O.C.G.A. § 45-10-3, as it may be amended from time to time.

All County Officials and Department Directors shall:

Section One.

Uphold the Constitution, laws and regulations of the United States, the State of Georgia, the County of Barrow and all governments therein and never be a party to their evasion.

Section Two.

Never discriminate by the dispensing of special favors or privileges to anyone, whether or not for remuneration.

Section Three.

Not engage in any business with the government, either directly or indirectly, which is inconsistent with the conscientious performance of his governmental duties.

Section Four.

Never use any information coming to him confidentially in the performance of governmental duties as a means for making private profit.

Section Five.

Expose corruption wherever discovered.

Section Six.

Never solicit, accept, or agree to accept gifts, loans, gratuities, discounts, favors, hospitality or services from any person, association or corporation under circumstances from which it could reasonably be inferred that a major purpose of the donor is to influence the performance of the member's official duties.

Section Seven.

Never accept any economic opportunity under circumstances where he knows or should know that there is a substantial possibility that the opportunity is being afforded him with intent to influence his conduct in the performance of his official duties.

Section Eight.

Never engage in other conduct which is unbecoming to a member or which constitutes a breach of public trust.

Section Nine.

Never take any official action with regard to any matter under circumstances in which he knows or should know that he has a direct or indirect monetary interest in the subject matter of such matter or in the outcome of such official action.

ARTICLE FOUR: SPECIFIC PROVISIONS RELATED TO CONFLICT OF INTEREST TRANSACTIONS AND DISCLOSURES

The following provisions related to conflict of interest transactions and disclosures are intended to supplement and elaborate upon the Code of Ethics set forth in Articles Two and Three above and all such provisions shall be read and interpreted in accordance therewith.

Section One. Compliance with Applicable Law.

No County Official or Employee shall engage in any activity or transaction that is prohibited by law, now existing or hereafter enacted, which is applicable to him or her by virtue of his or her office or employment. Other provisions of law or regulations shall apply when any provisions of this Ordinance shall conflict with the laws of the State of Georgia or the United States, except to the extent that this Ordinance permissibly sets forth a more stringent standard of conduct. The laws of the State of Georgia or the United States shall apply when this Ordinance is silent.

Section Two. Conflict of Interest Transactions.

- (A) No County Official or Employee shall acquire or maintain an interest in any contract or transaction if a reasonable basis exists that such an interest will be affected directly by his or her official act or action or by official acts or actions of

the County, which the County Official or Employee has a reasonable opportunity to influence, except consistent with the disclosure and abstention provisions set forth herein.

(B) Barrow County shall not enter into any contract involving services or property with a County Official or Employee or with a business entity in which the County Official or an Employee has an interest. Provided that the disclosure and abstention provisions set forth herein are followed, this paragraph shall not apply to the following:

- (1) The designation of a bank or trust company as a depository for county funds;
- (2) The borrowing of funds from any bank or lending institution which offers competitive rates for such loans;
- (3) Contracts entered into with a business which employs a consultant, provided that the consultant's employment with the business is not incompatible with this Ordinance;
- (4) Contracts for services entered into with a business which is the only available source for such goods or services; and
- (5) Contracts entered into under circumstances that constitute an emergency situation, provided that a record explaining the emergency is prepared by the Board and submitted to the Chief of Operations (or his/her equivalent) to be kept on file.

Section Three. **Financial Disclosures.**

Financial disclosures shall be governed by federal and state law as it may be amended from time to time and this Ordinance shall not require any additional financial disclosure reports to be filed other than those required by federal and state law.

Section Four. **Zoning Application Disclosures.**

All disclosures with regard to zoning applications shall be governed in their entirety by the Conflict of Interest in Zoning Actions provisions contained in O.C.G.A. § 36-67A-1, et seq., as it may be amended from time to time.

Section Five. **Disclosures Related to Submission of Bids or Proposals for County Work or Contract.**

Persons submitting bids or proposals for county work who have contributed \$250.00 or more to a County Official must disclose on their bid or proposal the name of the County Official(s) to whom the contribution was made and the amount contributed. Such a disclosure must also be made prior to a request for any change order or extension of any contract awarded to the person who submitted the successful bid or proposal.

Section Six. **Withholding of Information.**

No County Official or Employee shall knowingly withhold any information that would impair the proper decision making of the Board or any of the County's boards, agencies, authorities or departments.

Section Seven. **Incompatible Service.**

No County Official or Employee shall engage in or accept private or public employment or render service for any private or public entity, when such employment or service is incompatible with the proper discharge of his or her official duties or would tend to impair his or her independence of judgment or action in the performance of his or her official duties, unless

otherwise permitted by law and unless public disclosure is made.

Section Eight. **Unauthorized Use of Public Property.**

No County Official or Employee shall request or permit the unauthorized use of county-owned vehicles and equipment, including but not limited to computers, pagers and cellular telephones, materials or property for personal convenience or profit.

Section Nine. **Political Recrimination and Activity.**

- (A) No County Official or Employee, whether elected or appointed, shall either cause the dismissal or threaten the dismissal from any county position as a reward or punishment for any political activity. No County Official or Employee shall direct any person employed by the County to undertake political activity on behalf of such County Official or Employee, any other County Official or Employee, or any other individual, political party, group or business organization, during such time that the Employee is required to conduct county business. This section does not prohibit incidental telephone calls made for the purpose of scheduling a County Official's daily county business.
- (B) Employees of the county are encouraged to exercise their right to vote, but no employee shall make use of government time or equipment to aid a political candidate, party or cause; or use a government position to influence, coerce, or intimidate any person in the interest of a political candidate, party or cause. No employee shall be hired, promoted, favored or discriminated against with respect to employments because of his or her political opinions or affiliations.
 - (1) *Seeking elective office.* A government employee seeking elective office within the county may, upon declaring candidacy, either resign or submit a

request in writing to the Chief of Operations (or his/her equivalent) for a leave of absence without pay from the date of his or her announcement through the duration of the campaign or announcement of the election results. In the alternative, the government employee seeking elective office within the County may continue to work for the County, provided, however, that the employee shall not engage in election activities during his or her County working hours or with use of County equipment. If elected to office, the employee shall immediately, upon the date of election, be separated from employment with the county upon written request and approval of the Chief of Operations (or his/her equivalent).

- (2) *Political campaign involvement.* A government employee may not be involved in any political activity which would constitute a conflict of interest; including participation in any aspect of any political campaign for any office in Barrow County Government.
- (3) *Solicitation of contributions.* A government employee may not knowingly solicit, accept or receive political contributions from any person, to be used in support of or opposition to any candidate for office in the county.

Section Ten. **Appearance Before County Entities.**

No County Official or Employee shall appear on behalf of any private person other than himself or herself, his or her spouse, or his or her minor children, before any county agency, authority or board. However, a member of the Board of Commissioners may appear before such groups on behalf of his constituents in the course of his duties as a representative of the electorate or in the performance of public or civic obligations.

Section Eleven. Timely Payment of Debts to the County and Fiscal Responsibility.

All County Officials and Employees shall pay and settle, in a timely and prompt fashion, all accounts between them and Barrow County, including the prompt payment of all taxes and shall otherwise demonstrate personal fiscal responsibility.

Section Twelve. Solicitation or Acceptance of Gifts.

- (A) County Officials and employees shall not accept gifts, gratuities or loans from organizations, business concerns, or individuals with whom he or she has official relationships on business of the county government. These limitations are not intended to prohibit the acceptance of articles of negligible value which are distributed generally, nor to prohibit employees from accepting social courtesies which promote good public relations, or to prohibit employees from obtaining loans from regular lending institutions. It is particularly important that inspectors, contracting officers and enforcement officers guard against relationships which might be construed as evidence of favoritism, coercion, unfair advantage or collusion.
- (B) Consistent with the provisions set forth in Articles Two and Three and Section 12(A) above, there shall be no violation of this Ordinance in the following circumstances:
- (1) Meals and beverages given in the usual course of entertaining associated with normal and customary business or social functions.
 - (2) An occasional gift from a single source of \$101.00 or less in any calendar year.
 - (3) Ceremonial gifts or awards.

- (4) Gifts of advertising value only or promotional items generally distributed
To public officials.
- (5) Awards presented in recognition of public service.
- (6) Reasonable expenses of food, travel, lodging and scheduled entertainment
for a meeting that is given in return for participation in a panel or speaking
engagement at the meeting.
- (7) Courtesy tickets or free admission extended for an event as a courtesy or
for ceremonial purposes, given on an occasional basis and not to include
season tickets of any nature.
- (8) Gifts from relatives or members of the County Official or Employee's
household.
- (9) Honorariums or awards for professional achievement.
- (10) Courtesy tickets or free admission to educational seminars, educational or
information conventions or other similar events.

Section Thirteen. Disclosure of Interest.

Any member of the Board who has a financial or personal interest in any proposed legislation or action before the Board shall immediately disclose publicly the nature and extent of such interest.

Any other County Official or Employee who has a financial or personal interest in any proposed legislation or action before the Board and who participates in discussion with or gives an official opinion or recommendation to the Board in connection with such proposed legislation or action shall disclose publicly the nature and extent of such interest.

Section Fourteen. Abstention to Avoid Conflicts of Interest.

- (A) Except as otherwise provided by law, no County Official or Employee shall participate in the discussion, debate, deliberation, vote or otherwise take part in the decision-making process on any item before him in which the County Official or Employee has a conflict of interest as set forth above.
- (B) To avoid the appearance of impropriety, if any County Official or Employee has a conflict of interest or has an interest that he or she has reason to believe either violates this Ordinance or may affect his or her official acts or actions in any matter, the County Official or Employee shall immediately leave the meeting room, except that if the matter is being considered at a public meeting, the County Official or Employee may remain in the meeting room.
- (C) In the event of a conflict of interest, the County Official or Employee shall announce his or her intent to abstain prior to the beginning of the discussion, debate, deliberation or vote on the item, shall not participate in any way, and shall abstain from casting a vote.

ARTICLE FIVE: THE BOARD OF ETHICS

Section One. Creation and Composition of Board of Ethics.

There is hereby created a five-member Barrow County Board of Ethics, which shall consist of the following members:

- (A) One appointee by the Board of Directors of the Barrow County Chamber of Commerce.
- (B) One appointee selected by a majority of the voting County elected officials (not including the members of the Board of Commissioners) who shall each have one vote for such appointee:

- (C) One appointee selected by a majority of the voting employees of Barrow County (not including the County elected officials or the members of the Board of Commissioners) who are in the employ of Barrow County on a full-time basis on The effective date of the vote, which vote shall be conducted by the Director of Human Resources or his/her designee;
- (D) One appointee of the Barrow County Personnel Review Board; and
- (E) One appointee of the Barrow County Board of Commissioners, which appointee Shall be selected by a majority vote of the Board of Commissioners.

Section Two. **Appointment Procedures.**

The initial appointments of the members of the Board of Ethics shall be accomplished as follows: Within five (5) business days of the effective date of this Ordinance, the Barrow County Chief of Operations (or his/her equivalent) or his/her designee shall notify the respective appointing body or individuals of the duty to appoint or vote upon a member for placement on the Board of Ethics. The body or individuals so notified shall have thirty (30) days in which to conduct their appointment process and provide the Chief of Operations (or his/her equivalent) with the name of the appointment, or the name of the individual for whom he or she is voting as the appointee in the case of the elected officials. Within five (5) business days of receipt of the appointment information or calculation of the votes as the case may be, the Chief of Operations (or his/her equivalent) shall thereafter provide the names of the appointees to the Board of Commissioners. The Board of Commissioners shall appoint the five persons so identified at the next regular meeting of the Board of Commissioners following receipt of the names of the appointees from the Chief of Operations (or his/her equivalent).

All appointments following the expiration of the initial terms and all appointments made

In the cases of vacancies created during a particular term shall be made by the applicable body or individuals as indicated in Section One of this Article. The Chief of Operations (or his/her equivalent) or his/her designee shall notify the applicable body or individuals responsible for making an appointment at least forty-five (45) days prior to the expiration of the respective term or immediately upon knowledge of a vacancy created during a term. Upon such notification, the appointment process shall proceed as set forth above in this Section.

Section Three. **Qualifications of Members of Board of Ethics.**

A person is eligible to be appointed as a member of the Board of Ethics if the person, while serving:

- (A) Resides in the County and is a registered voter;
- (B) Is not an Employee or County Official and has not been an Employee or County Official during the three (3) months immediately preceding his or her appointment
Or be the spouse, parent, child or sibling of an Employee or County Official;
- (C) Is not an officer or employee of any political party;
- (D) Does not hold any elected or appointed office and is not a candidate for office of the United States, this State or the County and has not held any elected or appointed office during the three (3) months immediately preceding his or her appointment.

Section Four. **Terms; Vacancies.**

Members of the Board of Ethics shall each serve a two (2) year term without compensation, and shall continue to serve until their successors are appointed and qualified. The Board positions appointed pursuant to sub-sections (A), (B), and (C) of Section One of this

Article shall serve an initial full two-year term and shall thereafter serve two-year terms upon appointment. The Board positions appointed pursuant to sub-sections (D) and (E) of Section One of this Article shall serve an initial one-year term and shall thereafter serve two-year terms upon appointment. If any vacancy occurs during a term, the remaining members shall at that time choose an alternate member mutually agreed upon to temporarily serve until the position is filled by appointment as provided in Section One and Section Two to fulfill the remainder of the then existing term.

Section Five. **Removal of Member.**

The Board of Commissioners may remove a member of the Board of Ethics on the grounds of neglect of duty, misconduct in office or engagement in political activity in violation of this Ordinance. Before initiating the removal of a member from the Board of Ethics, the Board of Commissioners shall give the member written notice of the reason for the intended action and the member shall have the opportunity to reply. Thereafter, the Board of Commissioners shall afford such member an opportunity for a hearing before the Board of Commissioners.

Section Six. **Organization and Internal Operating Regulations.**

- (A) Members of the Board of Ethics shall not be compensated.
- (B) The Board of Ethics shall elect one of its members to act as Chairperson for a term of one year or until a successor is duly elected. The Board of Ethics shall also elect one of its members to act as Vice-Chairperson for the same term and to act for the Chairperson in his or her absence, because of disqualification or vacancy.
- (C) There shall be no regularly scheduled monthly or bimonthly meetings of the

Board of Ethics, however, the Board of Ethics shall meet at least once annually in January of each year for purposes of election of officers and such other business as the Board of Ethics deems proper and in accordance with this Ordinance. Meetings shall be called by majority vote or by call of the chairperson. Meetings of the Board of Ethics shall be conducted in the public hearing room utilized by the Board of Commissioners, shall be duly publicized, and shall be otherwise conducted in accordance with the open meetings requirements under state law.

- (D) Three members of the Board of Ethics shall constitute a quorum for the transaction of business. The Chairperson shall be entitled to the same voting rights as the other members of the Board of Ethics.
- (E) No official action concerning complaints shall be taken by the Board of Ethics, except by the affirmative vote of at least four (4) members of the Board of Ethics.

Section Seven. Duties and Powers.

The Board of Ethics shall have the following duties and powers:

- (A) To establish any procedures, rules and regulations governing its internal organization and conduct of its affairs, provided that such procedures, rules and regulations do not conflict with any provision contained herein.
- (B) To receive and hear complaints of violations of standards required by this Ordinance.
- (C) To make investigations as it deems necessary to determine whether any person has violated this Ordinance, but only after a least four (4) members of the Board of Ethics have voted affirmatively to conduct the investigation.
- (D) To take such action as provided in this Ordinance as deemed appropriate because of any violation of this Ordinance.

- (E) To perform any other function authorized by this Ordinance.
- (F) To issue advisory opinions as provided in this Ordinance.

Section Eight. Staffing and Expenses.

The Board of Ethics shall be provided sufficient meeting space and other reasonable supportive services to carry out its duties required under this Ordinance. The Chief of Operations (or his/her equivalent) shall designate an administration employee who shall serve as the filing clerk for the Board of Ethics and who shall be authorized to receive all filings before the Board of Ethics to publish notices of all meetings upon request of the Board of Ethics' Chairperson and to serve as the recording clerk for the Board of Ethics.

Section Nine. Counsel.

The Board of Ethics may petition the Barrow County Board of Commissioners for appointment of counsel on a case-by-case basis to assist it in carrying out its responsibilities or to act as a hearing officer. Any such appointed counsel shall be approved by the Board of Commissioners, shall perform services at an approved hourly rate, and shall serve at the joint pleasure of the Board of Ethics and the Board of Commissioners.

Section Ten. Adherence to the Ethics Ordinance.

The Board of Ethics shall be governed by and subject to this Ordinance, except as to any requirements related to financial disclosures. If a member of the Board of Ethics has a conflict of interest or must disqualify himself under this Ethics Code or by law, the remaining members shall at that time choose an alternate person mutually agreed upon to hear that matter.

Section Eleven. Prohibition Against Certain Conflicting Political Activity.

(A) **Definitions.** The following words, terms and phrases, when used in this section, shall have the meanings ascribed to them, except where the context clearly indicates a different meaning:

- (1) **“Member of the Board of Ethics”** means an individual who occupies the position of a member of the Board of Ethics or a prospective member of the Board of Ethics.
- (2) **“Political Party”** means a national political party, a state political party, a political action committee, and/or any affiliated organization.
- (3) **“Election”** includes a primary, special and general election.
- (4) **“Nonpartisan Election”** means:
 - (a) An election at which none of the candidates is to be nominated or elected as representing a political party, any of whose candidates for presidential elector received votes in the last preceding election at which presidential electors were selected; and
 - (b) An election involving a question or issue which is not specifically identified with a political party, such as a constitutional amendment, referendum, approval of a governmental ordinance, or any question or issue of similar character
- (5) **“Partisan”** when used as an adjective, refers to a political party.
- (6) **“Political Fund”** means any fund, organization, political action committee or other entity that, for purposes of influencing in any way the outcome of any partisan election, receives or expends money or

anything of value or transfers money or anything of value to any other fund, political party, candidate, organization, political action committee or other entity.

- (7) “**Contribution**” means any gift, subscription, loan, advance, deposit of money, allotment of money, or anything of value given or transferred by one person to another, including in cash, by check, by draft, through a payroll deduction or allotment plan, by pledge or promise, whether or not enforceable, or otherwise.

(B) **Permissible Activities.** All members of the Board of Ethics are free to engage in political activity to the widest extent consistent with the restrictions imposed in this Section, which restrictions are imposed for the sole purpose of ensuring neutrality and the appearance of neutrality of the Board of Ethics. Each member of the Board of Ethics retains the right to:

- (1) Register and vote in any election;
- (2) Participate in the nonpartisan activities of a civic, community, social, labor, or professional organization or of a similar organization;
- (3) Be a member of a political party or other political organization and participate in its activities to the extent consistent with law;
- (4) Attend a political convention, rally, fundraising function, or other political gathering;
- (5) Sign a political petition as an individual;
- (6) Make a financial contribution to a political party or organization;
- (7) Take an active part, as a candidate or in support of a candidate, in a

nonpartisan election;

- (8) Be politically active in connection with a question which is not specifically identified with a political party, such as a constitutional amendment, referendum, approval of a governmental ordinance or any other question or issue of a similar character;
- (9) Serve as an election judge or clerk or in a similar position to perform nonpartisan duties as prescribed by state or local law; and
- (10) Otherwise participate fully in public affairs in a manner which does not materially compromise his or her efficiency or integrity as a member of the Board of Ethics or the neutrality, efficiency or integrity of the Board of Ethics.

(C) Prohibited Activities.

- (1) A member of the Board of Ethics may not take an active part in political management or in a political campaign, except as permitted by subsection of this section.
- (2) A member of the Board of Ethics shall not take part in or be permitted to do any of the following activities:
 - (a) Serve as an officer of a political party, a member of a national, state or local committee of a political party, an officer or member of a committee of a partisan political club, or be a candidate for any of these positions;
 - (b) Organize or reorganize a political party organization or political club;
 - (c) Directly or indirectly solicit, receive, collect, handle, disburse, or

account for assessments, contributions or other funds for a partisan political purpose;

- (d) Organize, sell tickets to, promote or actively participate in a fundraising activity of a candidate in a partisan election or of a political party or political club;
- (e) Take an active part in managing the political campaign of a Candidate for public office in a partisan election or a candidate for political party office;
- (f) Become a candidate for, or campaign for, an elective public office In a partisan election;
- (g) Solicit votes in support of or in opposition to a candidate for Public office in a partisan election;
- (h) Act as recorder, watcher, challenger or similar officer at the polls on behalf of a political party or a candidate in a partisan election;
- (i) Drive voters to the polls on behalf of a political party or a candidate in a partisan election;
- (j) Endorse or oppose a candidate for public office in a partisan election or a candidate for political party office in a political advertisement, broadcast, campaign literature, or similar material;
- (k) Serve as a delegate, alternate or proxy to a political party convention;
- (l) Address a convention, caucus, rally or similar gathering of a political party in support of or in opposition to a partisan

candidate for public office or political party office;

(m) Initiate or circulate a partisan nominating position.

- (3) Nothing contained in this section shall prohibit activity in political management or in a political campaign by any member of the Board of ethics connected with a nonpartisan election or a nonpartisan issue of any type.

Section Twelve. Limitation of Liability.

No member of the Board of Ethics, or any person acting on behalf of the Board of Ethics, shall be liable to any person for any damages arising out of the enforcement or operation of this Ethics Ordinance, except in the case of willful or wanton conduct. This limitation of liability shall apply to the County, the members of the Board of Ethics, the employees of the Board of Ethics and any person acting under the direction of the Board of Ethics.

Section Thirteen. Advisory Opinion.

The Board of Ethics shall render an advisory opinion based on a real or hypothetical set of circumstances when requested to do so in writing by a County Official or Employee related to that County Official's or Employee's conduct or transaction of business. Such advisory opinions shall be rendered pursuant only to a written request, fully setting forth the circumstances to be reviewed by the Ethics Board. The proceedings of the Ethics Board pursuant to this section shall be held in public to the extent consistent with state law and the opinions of the Ethics Board shall be made available to the public.

Section Fourteen. Complaints.

The Board of Ethics shall be responsible for hearing and deciding any complaints filed regarding alleged violations of this Ordinance by any person. The following procedures shall be followed when filing a complaint:

- (A) Any person may file a complaint alleging a violation of any of the provisions of This Ordinance by submitting it to the Chief of Operations (or his/her equivalent), who shall immediately deliver such complaint to the Chairman of the Board of Ethics or his or her designee. A copy of such complaint shall immediately be forwarded by registered mail to the County Official or Employee against whom the complaint was filed. The complaint must be supported by affidavits based on personal knowledge, shall set forth such facts as would be admissible in evidence, and shall show affirmatively that the affiant is competent to testify to the matters stated therein. All documents referred to in an affidavit(s) should be attached to the affidavits(s). The person filing the complaint shall verify the complaint by his or her signature thereon. A complaint must be filed within six (6) months of the date the alleged violation is said to have occurred, or in case of concealment or nondisclosure within six (6) months of the date the alleged violation should have been discovered after due diligence. In the event the Board of Ethics makes an initial determination that a complaint is technically deficient, the Board of Ethics shall submit a list of deficiencies to the complainant and offer the complainant the opportunity to correct the deficiencies within seven (7) days prior to the complaint being dismissed for technical deficiencies.
- (B) Upon receipt of a complaint alleging misconduct, the County Official or Employee against whom the complaint was filed may reply to the complaint within thirty (30) days, unless such time for reply is extended by the Board of Ethics upon good cause shown. The response of the County Official or Employee must be supported by affidavits based on personal knowledge, must set forth such facts as would be admissible in evidence and must show

affirmatively that the affiant is competent to testify to the matters stated therein.

All documents referred to in an affidavit(s) should be attached to the affidavit(s).

- (C) Within sixty (60) days of receipt of a complaint, the Board of Ethics shall conduct an investigatory review to determine whether specific substantiated evidence from a credible source(s) exists to support a reasonable belief that there has been a violation of this Ordinance. If after reviewing the complaint the Board of Ethics by vote determines that no specific, substantiated evidence from a credible source(s) exists to support a reasonable belief that there has been a violation of this Ordinance or determines that no violation occurred, it may dismiss the complaint without further proceedings. In the event a complaint is dismissed based upon the merits of the complaint, the complaint may not be re-filed.
- (D) If the Board of Ethics determines that specific, substantiated evidence from a credible sources(s) exists to support a reasonable belief that there has been a violation of this Ordinance, certified written notice of a hearing, containing the time, date and place of such hearing, shall be given to each party by the Board of Ethics and a formal public hearing shall be conducted and both parties afforded an opportunity to be heard. Any formal public hearing shall be conducted in accordance with the requirements of due process. The Board of Ethics is authorized to swear witnesses.
- (E) Any final determination resulting from the hearing shall include written findings of fact and conclusions of law. The Board of Ethics shall determine if clear and convincing evidence shows any violation of this Ordinance.
- (F) Nothing in this section shall be considered to limit or encumber the right of the Board of Ethics to initiate an investigation on its own cognizance as it deems

Necessary to fulfill its obligations under this Ordinance.

Section Fifteen. Disciplinary Action.

- (A) Upon a determination that an employee has violated this Ordinance, the Board of Ethics may recommend the following penalties and actions:
 - (1) Written warning or reprimand;
 - (2) Suspension without pay;
 - (3) Termination of employment; and
 - (4) Repayment to the County of any unjust enrichment.

- (B) Upon a determination that a County Official has violated this Ordinance, the Board of Ethics may recommend the following penalties and actions:
 - (1) Written warning, censure or reprimand;
 - (2) Removal from office to the extent provided by Georgia law; and
 - (3) Repayment to the County of any unjust enrichment.

- (C) Upon direction of the Board of Ethics, a petition may be filed for injunctive relief, or any other appropriate relief, in the county superior court or in any other court having proper venue and jurisdiction, for the purpose of requiring compliance with the provisions of this Ordinance. In addition, the court may issue an order to cease and desist from the violation of the Ordinance. The court also may void an official action that is the subject of the violation, provided that the legal action to void the matter was brought within ninety (90) days of the occurrence of the official action, if the court deems voiding the action to be in the best interest of the public. The Court, after hearing and considering all the circumstances in the case, may grant all or part of the relief sought. However, the court may not void any official action appropriating public funds, levying taxes or providing for the

issuance of bonds, notes or other evidence of public obligation under this Ordinance.

- (D) In addition to any other remedy provided herein, upon determination of a Violation of this Ordinance, the Board of Ethics may recommend to the Board of Commissioners in writing that any contract, bid or change order that was the Subject of the violation should be cancelled or rescinded. The Board of Commissioners, however, shall retain the discretion to determine whether such a Cancellation or rescission would be in the best interest of the County and shall not be bound in any way by a recommendation of the Board of Ethics.
- (E) The Ethics Board may also forward its findings of fact and conclusions of law to the Barrow County District Attorney's Office and/or the Office of the Governor for appropriate action.

Section Sixteen. Judicial review.

- (A) Any party against whom a decision of the Board of Ethics is rendered may obtain judicial review of the decision by writ of certiorari to the superior court of the County. The application for the writ must be filed within thirty (30) days from the date of the written decision. Judicial review shall be based upon the record. No party shall be entitled to a de novo appeal.
- (B) Upon failure to timely request judicial review of the decision by writ of certiorari as provided in this section, the decision shall be binding and final upon all parties.
- (C) The appellate rights afforded hereunder shall be in lieu of any right to appeal an adverse employment action under the Barrow County Civil Service

System, to the extent the County Official or employee may be subject to the Civil Service System.

ARTICLE SIX: MISCELLANEOUS

Section One. Severability.

If any provision of this Ordinance is found by a court of competent jurisdiction to be invalid or unconstitutional, or if the application of this Ordinance to any person or circumstances is found to be invalid or unconstitutional, such invalidity or unconstitutionality shall not affect other provisions or applications of this Ordinance which can be given effect without the invalid or unconstitutional provision or application.

Section Two. Repealer

All laws, resolution, or ordinances or parts thereof that conflict with the provisions of this Ordinance are repealed.

Section Three. Effective Date.

The effective date of this Ordinance shall be July 1, 2004.

AMENDED:

Article Five, Section 1, Subparagraph (A) January 25, 2005

Article Five, Section 6, Subparagraph (C) January 8, 2008