**SECTION 280500 – Common Work Results for Security Systems**

# **GENERAL**

## SUMMARY

### This Section specifies the basic requirements for security installations as indicated or required and includes requirements common to more than one specification section of Division 28 (where included) such as related documents, related sections, definitions, governing requirements, owner requirements, warranty requirements, submittal requirements / procedures, and project closeout requirements/procedures, as well as other requirements.

## RELATED DOCUMENTS

### General provisions of the Contract, including Contract Requirements and Division 1 Specification Sections, and any Owner applicable General Conditions apply to this Section.

### Examine the Contract Documents in their entirety (including Drawings and Specification Sections in the other Divisions) for requirements or work which may affect work under this Section, regardless of whether such requirements or work are specifically indicated in this Section.

## related sections

### All Division 28 Specification in this Bid Package

### The applicable portions of the Governing Requirements (see Part 1 - General: Governing Requirements, herein) shall be incorporated by reference into each related Specification Section.

### Refer to “ICRA for WIC Infant Protection Replacement Project” document for Infection control requirements.

### Other Division Sections referencing this Section

## PROJECT SUMMARY

### General Scope of Work

#### In general, provide Access Control and Infant Protection system components, cabling, and infrastructures as directed in these specifications and the drawings.

### Provide, install, test, and warrant all work as required within these documents, unless specifically noted otherwise.

### Follow the general project construction schedule and phasing plan provided by the General Contractor and shall meet all construction and Owner move-in requirements.

### Follow the General Contractor’s schedule and attend progress meetings as needed.

### Development of Detailed Schedule

#### Within seven (7) days of the tentative award of contract, prepare and submit a detailed schedule using “Microsoft Project” software or equivalent. It shall be prepared in the Gantt chart format. The Contractor Project Schedule (CPS) shall indicate detailed activities for the projected life of the project. The CPS shall consist of detailed activities and their restraining relationships, including such milestones, constraints, and interfaces with separate Owner-awarded contracts as the Owner may elect to include. The CPS shall include indications of the activity points at which each key item of material or equipment must be available on-site in order that the scheduled work can proceed as planned.

#### Preparation of Detail Schedule: In preparing the Contractor Project Schedule (CPS), meet with the Owner/Owners Representative and the General Contractor to develop detailed activity information, including staffing for the project. Provide anticipated submittal date, for fabrication and delivery duration’s for key construction materials, systems and equipment. The CPS shall contain an adjustable time-scaled schedule using a critical path method (CPM) precedence diagramming system.

### Project Progress Meetings

#### Participate in Project Meetings held in facilities provided by the Owner/Owners’ Representative. These meetings shall be held weekly, at a time agreed by the Owner/Owners’ Representative to establish the current state of completion, review coordination issues, and revise the schedule as necessary.

### The construction schedule, as accepted by the Owner/Owners’ Representative shall be an integral part of the Contract with the Owner/Owners’ Representative, and shall establish interim contract completion dates for the various activities. The schedule must remain adjustable and flexible throughout the length of the project.

### Purchase critical materials at the time the Contract is awarded so that delays and substitutions will not be necessary when the time comes to incorporate these materials into the Work.

### Regulatory Requirements and Fees: Deliver copies of all permits, licenses, warranties and certificates to the Owner and General Contractor prior to final payment.

### Contract Document Format and Language

#### The Drawings: The Drawings are graphic and pictorial portions of the Contract Documents, wherever located and whenever issued, showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

#### The Specifications: The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, construction systems, standards and workmanship for the Work, and performance of related services.

#### In the event of conflict between the drawing and specification, the greater quantity/ quality is to be used.

#### The Project Manual: The Project Manual is the volume usually assembled for the Work which may include the bidding requirements, sample forms, Conditions of the Contract and Specifications.

#### Unless otherwise stated in the Contract Documents, words which have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

#### The Specifications are organized in sections of work based upon the Construction Specification Institute's (CSI) format.

##### The organization of the Specifications in sections is not intended to imply trade responsibilities.

##### Section titles are not intended to limit the meaning or content of a section, or to be completely descriptive of requirements specified within a section.

#### Colons are used in the Specifications to list requirements generally for products. The words “shall be” shall be supplied by inference where a colon (:) is used for such purpose.

#### Miscellaneous Definitions

##### The term “Contractor” refers to the IP vendor.

##### The term “Owner” refers to UAB.

##### The term “Engineer” refers to Introba.

##### The term “product” shall mean and includes materials, systems, and equipment.

##### Whenever the terms “accepted”, “directed”, “selected”, “required”, “submitted”, or similar words and phrases are used in the Contract Documents, it shall be assumed that the word “Project Engineer” follows the verb as the object of the clause, such as “...accepted by the Project Engineer”, and “...submitted to the Project Engineer”, the Project Engineer being a designated Owners on site representative.

##### The term “furnish” shall mean to furnish products and supervision.

##### The term “install” shall mean to supply labor and supervision to erect, install and correct.

##### The term “provide” shall mean collectively furnish and install as defined above.

##### The term “exposed” shall mean exposed-to-view when the project is substantially complete.

##### The term “concealed” shall mean not exposed-to-view when the project is substantially complete.

##### The terms “acceptable”, “proper”, and other qualifying words shall imply evaluation and judgment by the Owner’s Project Engineer (OPM).

##### Singular words in the Contract Documents shall be considered plural where required by the subject under discussion.

##### The term “similar” shall mean and be interpreted in its general sense and not as meaning identical, and all details shall be suited to the location and to the connection with other parts of the work.

##### The term “as specified” shall mean collectively all terms, requirements, stipulations, etc., as described for the respective equipment, materials or methods in the Contract Documents.

##### The term “as indicated” shall mean as indicated on the Drawings.

##### The term “Engineer” or “Project Engineer” shall mean the Owner-designated representative having authority to issue instructions and allow approvals, and act as the Owner’s agent.

## PROJECT MANAGEMENT AND QUALITY ASSURANCE

### Description

#### General: Contractor shall be solely responsible for quality control and shall maintain quality control over supervision, subcontractors, suppliers, manufacturers, products, services, workmanship, and site conditions, to produce Work in accordance with Contract Documents.

#### Work shall be free from faults and defects in workmanship. Materials and equipment incorporated into the work shall be new, unless noted otherwise.

#### Required testing and inspection are intended to assist in determination of probable compliance of the work with the Contract Documents, but do not relieve Contractor of responsibility for this compliance. Specified testing and inspection are not intended to limit Contractor's quality control program.

### Workmanship

#### Standards: Comply with industry standards, except when tolerances that are more restrictive or specified requirements indicate more rigid standards or workmanship that is more precise.

#### Anchorage: Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, and racking.

### Services of Manufacturers and Suppliers

#### Manufacturer's Instructions: Require compliance with instructions in full detail, including each step in sequence. Should instruction conflict with Contract Documents, request clarification from Manufacturer before proceeding.

#### Manufacturer's Certificates: When required in individual Specifications section, submit manufacturer's certificate, in duplicate, certifying that products meet or exceed specified requirements, executed by responsible officer.

#### Manufacturer's Field Services: When required in individual Specifications section, have manufacturer or supplier provide qualified representative to observe field conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test and adjust equipment as applicable and to make written report of observations and recommendations.

### Coordination of Work

#### Carefully check space requirements and the physical confines of the area of work to insure that all material can be installed in the spaces allotted thereto, including conduits and cable supports.

#### Transmit to other trades in a timely manner all information required for work to be provided under their respective Sections in ample time for installation.

#### Wherever work interconnects with or contacts the work of other trades, coordinate with other trades to insure that all trades have the information necessary so that they may properly install all the necessary connections and equipment. Identify all items of work that require access so that the floor tile trade will know where to install tile cutouts.

#### Due to the type of installation, a fixed sequence of operation is required to properly install the complete systems. Coordinate project and schedule work with the Owner in accordance with the construction sequence. Provide progress status of the installation to the Owner to allow them to update their project schedules.

#### When directed by the Owner, the Contractor shall, without additional fee, make reasonable modifications in the layout as needed to prevent conflict with work of other trades or for proper compliance with the design intent.

### Supervision and Construction Procedures

#### Supervise and direct the Work, using your best skill and attention. You shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless Contract Documents give other specific instructions concerning these matters.

#### You are responsible to the Owner for acts and omissions of your employees, Subcontractors and their agents and employees, and other persons performing portions of the work under your contract.

#### You are not relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Project Engineer or his representatives in the administration of the Contract, or by tests, inspections or approvals required or performed by persons other than the Contractor.

#### You are responsible for inspection of portions of Work already performed under this Contract to determine that such portions are in proper condition to receive subsequent Work.

#### Take field measurements where applicable, and verify field conditions and shall carefully compare such field measurements and conditions and other information known to the Contractor with the Contract Documents before commencing activities. Errors, inconsistencies or omissions discovered shall be reported to the Engineer at once.

#### If you perform work contrary to laws, statues, ordinances, building codes, and rules and regulations, you shall assume full responsibility for such Work and shall bear the attributable costs.

#### Examine substrates and conditions under which product are to be installed and verify that the Work may commence. Do not proceed with the Work until unsatisfactory conditions have been fully resolved.

#### Manufacturer's Instructions: Comply with manufacturer's instructions and recommendations, except where more stringent requirements are shown and except where project conditions require extra precautions or provisions to ensure satisfactory performance of Work.

#### Have a lead foreman or supervisor on-site that can make decisions and represent the Contractor.

### Source Quality Control: Provide each type of material, product or system from a single source or manufacturer for the entire project and provide accessories, fittings, anchorages or similar items as provided or recommended by primary materials manufacturer. Do not change brand, type, or style.

### Replacement and Correction

#### Promptly replace or correct all work found not to be in compliance with the requirements of the Contract Documents and the requirements of any public authority having jurisdiction so as not to delay the Work or the work of other contractors regardless of how such failure to comply may be revealed. Replacement and correction shall be expedited as required to maintain interim contract completion dates and the full completion date.

#### The Engineer may require additional testing and inspection of work previously found not to be in compliance until such work has been properly replaced or corrected. Such additional testing and inspection shall be at Contractor's expense.

#### The Contractor shall promptly remedy damage wrongfully caused by the Contractor to completed or partially completed construction or to property of the Owner or separate contractors.

### Safety of Persons and Property

#### Institute a Safety Program and shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to:

##### Employees on the worksite and other persons who may be affected thereby.

##### The Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors.

##### Other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

#### Give notices and comply with applicable laws, ordinances, rules, regulations and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

### Transportation, Handling, Storage and Protection

#### Handle and store materials and equipment in accordance with manufacturer and supplier's recommendations and store packaged materials and equipment in original, undamaged condition with manufacturer's labels and seals intact.

#### Arrange for storage in protected and secured location. Provide for access for inspection. Maintain stored materials and equipment in a neat and orderly condition at all times.

#### All materials stored are the responsibility of the Contractor until final acceptance by the Owner.

### Daily Cleanup and Project Cleanliness

#### Coordinate and check all areas where work is performed to ensure that a complete and thorough cleanup is performed to allow for the regular operation of the activities the area is designed for on a daily/shift basis. This is especially critical in areas where the work is completed after hours and on weekends to prevent disruption of daily activities.

#### Cleanup shall include all equipment, parts, waste, liquid, and dust as a result of work being performed.

#### Clean-up shall be continuous when working during normal business hours, or when working in occupied spaces.

## DELIVERY, STORAGE, AND HANDLING

### Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.

### Storage: Store materials in clean, dry area indoors in accordance with manufacturer's instructions.

### Handling: Protect materials during handling and installation to prevent damage.

## PROJECT CONDITIONS

### Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

## PROJECT MEETINGS

### Participation

#### Contractor's Duties: Participate in weekly project meetings at the job site with the Owner and Owner’s Engineer or Representative.

#### Participate in Owner’s weekly meetings to facilitate timely coordination, schedule alignment, inspection reviews, information sharing, etc.

#### Participate in a weekly cabling system project meeting if deemed necessary by the Owner.

#### Authorized Representatives: Representatives of separate contractors, subcontractors and suppliers attending meetings shall be qualified and authorized to act on behalf of entity each represents.

### Pre-Construction Meeting

#### Scheduling: Schedule Pre-Construction Meeting within five (5) days of Contract Award.

#### Attendance:

##### Owner/Owners’ Representative

##### Engineer

##### Contractors’ Superintendents and Foremen

### Typical Technology System Project Meeting Requirements

#### Attendance

##### Owner’s Representative

##### Program Manager and Owner.

##### Contractors’ Project Manager and Superintendents.

#### Minimum Agenda

##### Previous Meeting Minutes.

##### The Contractor’s Project schedule.

##### Updated construction schedules.

##### Claims for modifications to contracted scope of work.

##### Critical work sequencing.

##### Major equipment deliveries, priorities, and stored materials.

##### Project Coordination.

###### Critical near term.

###### Designation of responsible personnel.

#### Procedures and processing of:

##### Field decisions.

##### Proposal requests.

##### Submittals and Submittals Schedule.

##### Change Orders.

##### Applications for Payment.

##### Contract close-out procedures.

#### Quality Control

##### Updated punch list.

##### Documentation of correction made during previous week.

#### Adequacy of distribution of Contract Documents.

#### Procedures for maintaining Record Documents.

#### Use of premises:

##### Office, work and storage areas.

##### Owner’s requirements.

#### Construction facilities, controls and construction aids.

#### Temporary utilities.

#### Safety and first-aid procedures.

#### Security procedures.

#### Parking/Transportation procedures.

#### Housekeeping procedures.

#### Special Contract requirements, including but not limited to:

##### Allowable locations of storage and temporary construction facilities.

##### Allowable delivery times.

##### Allowable use of public roads.

##### Workers’ conduct.

#### Review of work progress since previous meeting.

#### Review field observations, problems, and conflicts.

## TEMPORARY FACILITIES AND CONTROLS

### Conservation: Install and operate temporary facilities and perform construction activities in manner which reasonably will be conservative and avoid waste of energy and materials including water and electric power.

### Conditions of Use: Install, operate, maintain and protect temporary facilities in a manner and at locations which will be safe, non-hazardous, sanitary and protective of persons and property, and free of deleterious effects.

### Temporary Controls

#### General: Determine methods and procedures to be used and assume responsibility for proper protection and safety of personnel.

#### Temporary Barriers and Enclosures: Provide and maintain suitable temporary barriers, partitions and signs necessary to protect general public and workers for your work area.

#### Keep the premises free from the accumulation of debris, rubbish and other waste material. Remove all such material from the project site at least once every week. In addition, the building concrete floor and your work area (i.e. electrical closets, etc.) shall be kept free from the accumulation of dust and dirt and shall be broom cleaned at least once every week. Should Contractor fail to provide cleaning as prescribed, Engineer may arrange for the cleaning and the costs thereof shall be deducted from the Contract Sum. Should a dispute arise between Contractor and other contractors as to the responsibility for cleaning, the Engineer or the Owner may arrange for the cleaning and the portion of the cost thereof, as the Engineer or Owner determines to be just, shall be deducted from the Contract Sum.

#### Take all precautions and provide all protection necessary to ensure that building floors or ceiling tiles will not be marked, spotted, stained or damaged in any way.

### Construction Equipment: Assume responsibility for construction strength, placing and operation of construction equipment used for work to ensure that any load supported thereon can be carried.

### Temporary Fire Protection

#### When burning, melting, welding or using any other flammable device a maintained ABC type fire extinguisher shall be located at location of such activity.

#### No burning or burying of debris on site is allowed.

#### Provide temporary fire proofing of ALL cores sleeves through floor slabs or fire rated partitions used in the installation of communications cabling. Use two-hour rated "pillows" to temporarily seal each core opening until permanent fire proofing sealant has been properly installed.

#### Comply with the Owner’s published site rules.

### Security: You are responsible for the good conduct of all personnel on site and for the security of equipment, tools, and project materials until the time of final acceptance by the Owner.

### Temporary Support Facilities: The types of temporary support facilities required include, but are not limited to: field offices, first aid facilities, bulletin board, telephones and temporary toilet facility. Locate temporary support facilities for convenience of users, and for minimum interference with construction activities.

## PROJECT RECORD DOCUMENTS

### Summary Description

#### General: Throughout progress of the Work, maintain an accurate record of changes in Contract Documents. Upon completion of Work, transfer recorded changes to a set of Record Documents using AutoCAD. An AutoCAD file of the drawings will be provided for your use.

#### Definitions: Record Documents are defined to include those documents or copies relating directly to performance of the Work, which Contractor is required to prepare or maintain for Owner's records recording Work as actually performed. In particular, Record Documents show changes in Work relation to way in which work was shown and specified by the original Contract Documents; and show additional information of value to Owner's records, but not indicated by original Contract Documents. The record AutoCAD files shall indicate all device locations, cable labeling, riser cabling routes, equipment room lay-outs, backboard elevations, detail drawings and head-end connections. Record Documents include newly-prepared Drawings (if any are specified), mark-up copies of Contract Drawings and Shop Drawings, marked-up copies of Specifications, Addenda and Change Orders, marked-up Product Data Submittals, record Samples, Product List, field records for variable and concealed conditions and miscellaneous record information on Work which is otherwise recorded only schematically or not at all. Certain individual Work sections of these specifications indicate specific Record Document requirements, which extend requirements of this Section.

### Quality Assurance

#### General: Delegate responsibility for maintenance of Record Documents to one person on Contractor's staff.

#### Accuracy of Records: Coordinate changes within the Record Documents, making adequate and proper entries on each page of Specifications and each sheet of Drawings and other Documents where such entry is required to show change. Accuracy of records shall be such that future searches for items shown in the Contract Documents may reasonably rely on information obtained from the Record Documents.

### Description of Requirements

#### Record Drawings:

##### Mark-up Procedure: During progress of Work, maintain a printed set of Contract Drawings and Shop Drawings in clean, undamaged condition with mark-up of actual installations which vary from Work as originally shown. Mark whatever drawing is most capable of showing actual physical condition, fully and accurately. Where Shop Drawings are marked up, mark cross-reference on Contract Drawings at corresponding location. Mark with erasable colored pencil, using separate colors where feasible to distinguish between changes for different categories of Work at same general location.

##### Mark-up important additional information which was either shown schematically or omitted from original Drawings. Give particular attention to information on Work concealed, which would be difficult to identify or measure and record at a later date. Note alternative numbers, Change Order numbers and similar identification. Each person preparing markup shall initial and date markup and indicate name of firm.

##### In preparation for Certification of Substantial Completion, review completed mark-up of Record Drawings with the Project Engineer. Prepare a full set of AutoCAD generated corrected drawings for Contract Drawings and Shop Drawings using AutoCAD software. Incorporate changes and additional information previously marked-up on print sets, by erasing and redrawing where applicable, and by adding details and notations where applicable; refer instances of uncertainty to the Project Engineer for determination. Identify and date each updated Drawing.

##### Prior to forwarding to the Engineer, submit corrected drawings to the Engineer for review and acceptance. The Engineer will review each drawing for general scope of changes and information recorded thereon, and of general quality of draftsmanship thereon (erasures and drafting). Drawings will be returned to Contractor for organizing into a set and for final submittal.

#### Record Specifications: During progress of the Work, maintain one copy of Specifications, including Addenda, Change Orders and similar modifications issued in print form during construction, and mark-up variations (of substance) in actual Work in comparison with text of Specifications and Modifications as issued. Give particular attention to substitutions, selection of options, and similar information on Work where it is concealed or cannot otherwise be readily discerned at a later date by direct observation. Note related Record Drawing information and Product Data, where applicable. Mark up exact locations of equipment, racks, cable rack trays, cabinets, etc. on the furnished drawings in the specifications. Upon completion provide changes in an AutoCAD format and, submit to the Engineer.

#### Record Product Data:

##### Mark-up Procedure: During progress of Work, maintain one copy of each Product Data submittal, and mark-up significant variations in actual Work in comparison with submitted information. Include both variations in product as delivered to project site, and variations from manufacturer's instructions and recommendations for installation. Give particular attention to concealed products and portions of the Work which cannot otherwise be readily discerned at a later date by direct observation. Note related Change Orders and mark-up of Record Drawings and Specifications. Upon completion of mark-up, provide changes using AutoCAD and submit completed AutoCAD set of documents to the Engineer.

##### Product List: Prior to final completion, submit final up-to-date Products List.

#### Miscellaneous Record Submittals: Refer to other sections of Specifications for requirements of record keeping and Submittals in connection with actual performance of Work. Prior to dates of Substantial Completion, complete records and place in good order, identified and bound or filed, ready for continued use and reference. Submit to the Engineer.

## PROJECT CLOSEOUT

### Cleaning

#### Maintain a clean working environment throughout the entire job.

#### Prior to final inspection and acceptance of the Work, remove all debris, rubbish, waste material, tools, construction equipment, machinery and surplus materials from the Project site and thoroughly clean your work area.

#### Thoroughly clean all system materials and components. All surfaces shall be free of dust and dirt.

### Substantial Completion

#### Contractor:

##### Submit written notice to Engineer that Project is Substantially Complete.

##### Submit list of items (punch list) to be completed or corrected. Failure to include any items on such list does not alter responsibility of Contractor to complete all Work in accordance with Contract Documents.

#### Inspection:

##### Engineer will make an inspection after receipt of notice.

##### Should Engineer consider that Work is Substantially Complete:

###### Owner will accept work as noted "Acceptably Completed".

###### Contractor shall complete Work listed for completion or correction, within designated time.

##### Should Engineer consider that Work is not Substantially Complete:

###### He shall notify Contractor in writing, stating reasons.

###### Contractor will complete Work, and send second written notice stating that Project is Substantially Complete.

###### Engineer will re-inspect Work.

### Final Inspection

#### Contractor shall submit written notice that:

##### Contract Documents have been reviewed.

##### Project has been inspected for compliance with Contract.

##### Work has been completed in accordance with the Contract.

##### Project is completed, ready for final inspection as described in the General Conditions.

#### Inspection:

##### Engineer will make final inspection after receipt of notice.

##### Should Engineer consider that Work is finally complete in accordance with Contract Documents, he shall request Contractor to make Project Closeout submittals.

##### Should Engineer consider that Work is not finally complete:

###### He shall notify Contractor, in writing, stating reasons.

###### Contractor shall take immediate steps to remedy the stated deficiencies, and send second written notice certifying that Work is complete.

###### Engineer will re-inspect Work.

### Closeout Submittals: Submittals: On or before Date of Substantial Completion submit:

#### Operation and Maintenance Manuals.

#### Test Report:

##### Spreadsheet of all access control components tested for proper functionality.

##### Spreadsheet of all cameras tested for proper viewing angle, proper focus and correct recording specifications.

##### Spreadsheet of all emergency call stations tested for proper functionality.

#### Spare Parts and Maintenance Materials.

#### Return any existing equipment which had been removed during the Project.

#### Deliver evidence of compliance with requirements of governing authorities: Low voltage certificates of Inspection.

#### Service contracts.

#### Project record documents in electronic format.

#### As-built documentation in electronic format.

### Instructions

#### Section Cross-Reference: Refer to Division 1 Sections.

#### Operational Instructions: Instruct Owner's personnel in operation of any system and equipment.

### Final Application for Payment: Contractor shall submit final application in accord with requirements of General Conditions of Contract.

### Return of Contract Documents: Drawings, details, sketches and specifications, are property of Owner, and are issued to Contractor as instruments of service only. If required, Contractor shall return same to Owner.

### Post-Construction Inspection

#### Prior to expiration of one year from Date of Substantial Completion, Engineer will make visual inspection of Project to determine whether correction of Work is required, in accordance with provisions of Conditions of Contract.

#### Engineer will notify Contractor, in writing, of observed deficiencies.

## SUBMITTALS

### General

#### Contractor:

##### The Contractor shall review, accept and submit to the Engineer and Owner, shop drawings, product data, samples and similar submittals for all products and material; and as required by the Contract Documents. Submittals made by the Contractor which are not required by the Contract Documents may be returned without action.

##### Preparation: Prepare shop drawings, product data and samples and other submittals for submission.

###### Determine and verify:

Field measurements.

Field construction criteria.

Catalog numbers and similar data.

Conformance with specifications.

###### Coordinate each submittal with requirements of Work and of Contract Documents.

Representation: By acceptance and submittal of shop drawings, samples or product data, the Contractor represents determination and verification of field measurements, field construction criteria, materials, dimensions, catalog numbers, and similar data, and that Contractor has checked and coordinated each item with other applicable accepted shop drawings and contract requirements.

Conformance: Project work, materials, fabrication, and installation shall conform to accepted shop drawings, applicable samples, and product data.

##### The Engineer and the Owner will review and accept or take other appropriate action upon the Contractor’s submittals such as shop drawings, product data and samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor. The review of the Contractor’s submittals shall not relieve the Contractor of any specified obligations. The review shall not constitute acceptance of safety precautions or, of any construction means, methods, techniques, sequences or procedures. The acceptance of a specific item shall not indicate acceptance of an assembly of which the item is a component. The Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Project Engineer’s acceptance of shop drawings, product data, and samples of similar submittals. The Contractor shall not be relieved of responsibility for errors or omissions in shop drawings, product data, samples or similar submittals by the Engineer thereof.

##### When professional certification of performance criteria of materials, systems or equipment is required by the Contract Documents, the Engineer shall be entitled to rely upon the accuracy and completeness of such calculations and certifications.

### General Submittal Requirements

#### General:

##### Shop drawings, product data, samples and similar submittals are not Contract Documents. The purpose of their submittal is to demonstrate for those portions of the Work for which submittals are required the way the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents.

##### The Contractor shall perform no portion of the Work requiring submittal and review of shop drawings, product data, samples or similar submittals until the respective submittal has been accepted by the reviewers.

#### All submittals which require product data, shop drawings and samples shall be prepared together and submitted to the Engineer at one time in PDF electronic format.

#### Transactions: Transactions shall be through the Project Engineer. Inform each manufacturer, vendor, distributor, and material supplier of requirements concerning submission of required submittals.

#### Submission Date: The submittal and associated samples shall be submitted to the Project Engineer and received within five (5) days of contract award. Submittals will be reviewed and returned to the Contractor within three (3) days. Submittals shall be emailed or transferred via an online file sharing service.

### Identification

#### General: Submittals shall have the following identification data, as applicable.

##### The date of submission.

##### The Project title and location.

##### Contract identification.

##### The names of:

###### Contractor

###### Installer

###### Supplier

###### Manufacturer

##### Identification of product (brand name, model number), use, and location with specification section number.

##### Field dimensions, clearly identified as such.

##### Relation to adjacent or critical features of Work or materials.

##### Applicable standards.

##### Identification of deviations from Contract Documents.

##### Identification of revisions on resubmittals.

##### An 8” x 3“ blank space for Engineer’s stamp. (Where Applicable)

#### Shop Drawings: Title, drawing number, revision number, and date of drawing and revision.

#### Project Data: Each separate catalog, brochure, or single page submitted shall have an attached number. Catalogs or brochures submitted containing multiple items need the identification only on the cover, however, specific products for the project within such multiple item catalogs must be clearly identified including item name or designation, page, specific product number, or other available identification.

### Specific-Category Submittal Requirements

#### General: Except as otherwise indicated in individual work sections, comply with requirements specified herein for each indicated category of submittal.

##### Where testing or inspections are specified in individual sections or where Testing or Inspections are required by governing authorities, submit test or inspection reports to the Engineer.

##### The requirements for submission of other types of submittals are specified in individual sections.

##### Submit a detailed description and shop drawings describing how each outlet will be installed and how the cabling will be installed to each outlet. Describe the mounting type, raceway types and paths. Submit to engineer for approval prior to purchasing materials.

##### Construction Schedule: Within five (5) days after execution of the Contract or the date of issuance of a letter of intent, whichever is earlier; submit a detailed construction schedule to Engineer and Owner. This document will be finalized after submitting it with bid. Include with construction schedule a separate schedule of the following meetings:

###### Project Weekly Progress Meetings: Day of week and time.

###### Other Proposed Meetings: Purpose, Date and Time for each.

##### Section Cross-Reference: Refer to Divisions 01 and 17 for construction schedule requirements.

##### Submit a construction schedule with monthly invoice. Indicate:

###### Activities or portions of activities completed up to the end of the previous month.

###### The progress along the critical path in terms of days ahead of or behind the allowable dates.

##### The accepted construction schedule shall not be changed without the Owner's consent. In such instance, promptly submit a revised schedule to the Engineer and Owner.

#### Shop Drawings

##### Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

##### Provide newly prepared information on project drawings with graphic information at accurate scale (except as otherwise indicated), with name of preparer indicated (firm name). Show dimensions and note which are based on field measurement. Identify materials and products for the work shown. Indicate compliance with standards, and coordination requirements. Do not allow shop drawing copies without appropriate final "Action" markings by the Engineer to be used in connection with the work.

##### Drawing Requirements: Shop drawings shall indicate dimensions necessary for construction and erection; arrangement and sectional views; complete details including relationship and connection with adjoining work of other trades; kind of materials, thickness and finish, and other data necessary.

###### Identify details by reference to sheet and detail numbers shown on Contract Drawings.

###### Size PDF documents to print and be legible at the following print sizes: Minimum: 18" x 24"; maximum: 30" x 42".

##### Related Work: Associated drawings relating to a complete assembly shall be submitted at same time to greatest extent possible, so that each may be checked in relation to proposed assembly. Furnish necessary templates, patterns and setting drawings to other trades as required for coordination.

##### Reference Set: Maintain one copy of each accepted set of shop drawings at project site, available for reference by the Engineer and others.

##### Installer's Copy: Do not proceed with installation of materials, products, or systems until copy of accepted applicable shop drawings is in possession of Installer.

#### Product Data

##### Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

##### General: Collect required data into one submittal for each unit of Work or system; and mark each copy to show which choices and options are applicable to project. Include manufacturer's standard printed recommendations for application and use, compliance with standards, application of labels and seals, notation of field measurements which have been checked, and coordination requirements.

###### Modify drawings and diagrams to delete information which is not applicable to the Work.

###### Supplement standard information to provide information specifically applicable to the Work.

###### Clearly mark each copy to identify pertinent products, brand names or models.

###### Show performance characteristics and capacities.

###### Show dimensions and clearances required.

###### Show wiring or piping diagrams and controls.

##### Manufacturer’s Standard Specifications: Submit manufacturer's specifications modified to reflect job conditions and project requirements.

##### Manufacturer’s Required Recommendations: Where specifications sections require manufacturer's recommendations, submit such recommendations with product data.

##### Reference Set: Maintain one set of product data (for each submittal) at project site, available for reference by the Engineer, the Owner and others.

##### Required Copies: Provide a preliminary submittal where required for selection of options by the Engineer.

##### Installer’s Copy: Do not proceed with the purchase or installation of materials, products or systems until copy of accepted applicable product data is in possession of Installer.

#### Inspection and Test Reports: Provide all test reports to the Engineer as specified. All reports to be typed. Submit format for approval prior to commencing test.

#### Warranties:

##### General: Refer to individual specifications sections for additional requirements on warranties, product/workmanship bonds and maintenance agreements.

##### Copies: In addition to copies desired for Contractor’s use, furnish one executed copy in each conformed Operation and Maintenance Manual.

#### Close-out Submittals:

##### Record Documents: Refer to Division 01.

##### Maintenance/Operating Manuals: Refer to Division 01.

##### Materials and Tools: Refer to individual work sections for required quantities of spare parts, extra and overrun stock, maintenance tools and devices, keys, and similar physical units to be submitted.

#### Action on Submittals

##### Engineer’s Action:

###### Where action and return of submittal is specified, Engineer will review each submittal, mark with "Action", and return submittal. Where submittal must be held for coordination, Contractor will be so advised.

###### Unrestricted Release: Work may proceed, provided it complies with Contract Documents, when submittal is returned with the following marking: “No Exceptions Taken”.

###### Restricted Release: Work may proceed, provided it complies with notations and corrections on submittal and with Contract Documents, when submittal is returned with the following marking: “Make Corrections Noted.”

###### Returned for Resubmittal: Do not proceed with Work. Revise submittal in accordance with notations thereon, and resubmit without delay. Do not allow submittals with the following marking “Rejected – See Remarks” or Submit Specified Item” (or unmarked submittals where a marking is required) to be used in connection with performance of the Work.

###### Other Action: Where submittal is returned for other reasons, Project Engineer will note reason and return it marked as follows: “Action Not Required” or “No Action Taken.”

###### Non-Conforming Submission: Submittals which do not comply with Contract Documents shall not be submitted. Should a submission which does not comply with the Contract Documents be forwarded, said submission will be returned without action, marked “Non-Complying Submission.”

###### Where submittals are noted as “For Information Only”, “For Owner’s File”, or similar designation, Engineer will accept submittal but will take no action and will not return submittal to Contractor. Submittals including, but not limited to, Inspection and Test Reports, Warranties, Certifications, Standards and Maintenance Manuals and other Close-Out Submittals do not require Engineer’s action and will not be returned to Contractor.

##### Contractor’s Action:

###### Contractor’s Review: Prior to submission, check, correct, stamp and sign submission for coordination with Work of other trades, field dimensions and conditions, and for compliance with the Contract Documents. Mechanical and electrical submissions shall bear stamps of acceptance and certification indicating that coordination between mechanical and electrical trades has been carried out and that no conflict exists. Notify in writing of any deviations from Contract Documents, or of any changes required for coordination or field conditions.

###### Contractor’s Stamp: The Contractor’s stamp shall have following wording: "The Contractor certifies that he has reviewed this Shop Drawing or Sample and Work indicated complies with the Contract Documents."

###### Contractor’s Distribution: When submittals are returned “Accepted for Design”, or “Accepted For Design as Noted”, the Contractor shall provide reproductions of Shop Drawings and copies of Product Data which carry the Engineer and Contractor’s stamp to subcontractors, suppliers, fabricators, installers, governing authorities and others as necessary for performance of Work. Show such distributions on transmittal forms.

### Submission Procedure

#### In the event that first submission is considered unsatisfactory as to make it unwise for Contractor to proceed with any work indicated, the submission will be marked “Rejected-Resubmit”, and returned to Contractor.

#### Second and subsequent submissions shall follow the procedures for a first submission until submission is stamped “Accepted for Design” or “Accepted for Design as Noted.”

#### Resubmission: When transparencies are returned as “Rejected-Resubmit”, original tracing shall be corrected, a new reproducible transparency made and resubmitted until is obtained.

#### The Contractor shall direct specific attention, in writing, on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those noted by the Engineer on previous submittals.

#### If submittals, upon review by the Owner or Engineer are found not to conform to the requirements of these specifications, the Contractor shall be required to resubmit with modifications. The Contractor shall be responsible for the Owner’s extra expenses for subsequent review(s) of rejected submittals necessitated by the Contractor’s failure to make the requested modifications. Such extra fees shall be deducted from payments by the Owner to the Contractor. Acceptance of submittals by the Owner or Engineer shall not relieve the Contractor of responsibility to meet the requirements of this Section.

## WARRANTIES

### General

#### In general, the Contractor shall warrant the Technology Systems they are providing for a period of one (1) year after acceptance by the Owner or more. Contractor can indicate additional months/years covered by warranty as desired. All materials, equipment, parts and labor are included within the warranty. System failures, faulting operations, system components, parts, etc. shall all be remedied and corrected to 100% satisfaction of the Owner. Contractor must indicate duration of warranties for all system parts/pieces.

#### If any failure or defect occurs within the warranty period, the Manufacturer/ Contractor shall remedy it within 48 hours at no cost to the Owner, or any Owners’ Representative or consultant.

### Provide a warranty certificate at the Project closeout from the Contractor.

# **PRODUCTS**

## GENERAL

### In general, all products shall be new and free of any defects.

# **EXECUTION**

## GENERAL

### All work shall conform to the standards and codes of the following organizations and publications as applicable. When a conflict occurs, follow the most stringent requirements:

#### NFPA 70 – National Fire Code

#### FCC – Federal Communications Commission

#### NBC – National Building Code (as adopted for site location)

#### NFPA – National Fire Protection Association

#### All local codes and regulations

#### Manufacturers recommendations and requirements

### In general, the Infant Protection Contractor shall provide a new, complete, certified, tested, and warranted secured system as described in the Specifications and Drawings.

### The complete installation shall be installed with highly skilled and trained technicians providing a quality and professional system.

### Provide a supervisory work force sufficient to efficiently and effectively execute the Contractor’s responsibilities.

### Generally accepted industry standards, as well as manufacturer’s written installation instructions and recommendations, shall be used for in-process quality control and final acceptance of the Work installation.

### System and Product Manufacturers: Certified and experienced craft personnel will be required to provide and use the proper tools and test equipment in the performance of each activity. Tools must be in good working order and test equipment must be properly calibrated. Contractor is responsible for safe storage of tools, and is responsible for the security of their tools, materials, and work in place until final acceptance by the Owner.

### Cable Placement

#### Adequate care shall be exercised when handling, storing reels, or during the installation of cable to prevent damage to the cable. Cable with dents, flat spots, or other sheath distortions shall not be installed. Do not leave pulled cable above the floor, susceptible to damage prior to terminating.

#### After pulling cable, coil neatly and tie-up, so it is not lying above the floor.

### Securing Cable: Cables and equipment shall be supported and secured as indicated on the Drawings. Where the specific method of support is not shown, adequate supports and fasteners shall be used to secure cable and equipment in position in accordance with Section 27 1500 Communications Horizontal Cabling. Metallic supports and fasteners shall have a corrosion-resistant finish. All methods used to secure or transport cables shall be in accordance with the applicable codes, standards, and Owner Guidelines.

### Damage:

#### The cable shall be carefully inspected for sheath defects or other irregularities as it is payed off the reel. If defects are detected, pulling sheath shall stop immediately and the cable section shall be repaired or replaced at the discretion of the Owner. A system of communications, visual or otherwise, shall be maintained between feed and pulling locations so that pulling can be stopped instantly, if necessary.

#### Ensure that cable is not coated with any foreign material such as paint, drywall mud, etc. through the project duration. Cleaning coatings off cabling (beyond small incidental splatters) is not an acceptable remedy. At Owner’s discretion, any cabling found with coatings shall be replaced at no additional cost to Owner.

END OF SECTION