State Troopers
Dispatch Center Expansion
Fairbanks, Alaska

Final Construction Documents

For:
Department of Public Safety
5700 East Tudor Road
Anchorage, Alaska 99507

July 23, 2021

Design Alaska

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Dispatch Center Expansion
Fairbanks, Alaska

Final Construction Documents

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- **Specifications**

By:
Design Alaska, Inc.
601 College Road
Fairbanks, Alaska 99701

July 23, 2021

Specifications

PART 1 GENERAL

1.1 SCOPE: SECTION 01 10 00 - SUMMARY

A. This section summarizes the work covered by the contract documents including the owner and contractor use of the premises.

1.2 PROJECT INFORMATION

A. Work of this Contract comprises renovations of the Department of Public Safety building at 1979 Peger Rd, Fairbanks, Alaska for the Alaska State Troopers Dispatch Center.

B. Owners name: State of Alaska, Department of Public Safety – Alaska State Troopers

1. Point of Contact: John Rockwell, Statewide 9-1-1 Coordinator

C. A/E name: Design Alaska

1. Point of Contact: Ryan Morse, Architect

1.3 WORK COVERED BY CONTRACT DOCUMENTS

A. Work includes, but is not limited to, demolition, general construction, mechanical and electrical work.

B. The Construction is to be phased to accommodate 24/7 building occupancy and continual dispatch center operation.

1.4 LOCAL CONDITIONS

A. Bidders shall familiarize themselves with the Contract Documents and existing conditions, which affect Work, required by the Contract Documents. It will be assumed that bidders have made a personal examination of the jobsite, existing conditions, and documents for prior construction projects associated with this facility made available by the Owner for review by Bidders during the bid period.

B. Failure to visit the jobsite, to review existing conditions, or to review documents for prior construction projects associated with this facility made available by the Owner for review by Bidders during the bid period will in no way relieve the successful Bidder from the necessity of furnishing any materials or performing any Work that may be required to complete the Work in accordance with the Contract Documents with no additional cost to the Owner.

C. For building access and for access to the documents for prior construction projects associated with this facility contact:
Dave Henry
Building Maintenance
Alaska State Troopers
1979 Peger Rd

1.5 PERMITS, FEES, AND INSPECTIONS

A. Obtain, pay for, and comply with the requirements of all permits, fees, and inspections required by public authorities.

B. Transmit copies of permit applications, permits received, and public authority inspection reports to the Contracting Officer within three days of making permit application or receiving permits or reports.

1.6 REFERENCE STANDARDS

A. For products or workmanship specified by association, trade, or regulatory agency standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. Obtain a copy of standards referenced. Maintain a copy at the jobsite during execution of Work to which the standard applies.

C. The date of the standard is that in effect as of the bid date except when a specific date is specified.

1.7 WORK SEQUENCE

A. Construct Work in stages to accommodate Owner occupancy requirements during the construction period; coordinate construction schedule and operations with Owner.

B. The Dispatch Center will remain in operation at all times during the construction period.

C. Schedule Work to comply with the requirements of the dispatch manager.

D. Completed Work Areas or Work Areas not within the project scope for construction may have to be accessed to accomplish Work associated with the project. In addition to requirements for working in Owner occupied areas stated elsewhere:

1. Coordinate access with the various trades requiring access to minimize disruption of Owner activities.

2. Give written notice one week in advance of beginning Work. Include with notice a schedule of the Work requiring access.

E. Construct Work in stages to accommodate Owner occupancy requirements during the construction period; coordinate construction schedule and operations with Owner.

1.8 OWNER OCCUPANCY

A. The Owner will occupy premises during entire period of construction for the conduct of its normal operations.

B. Maintain IBC complying access to and through corridors, stairways, and building exits at all times.

C. Cooperate with Owner to minimize conflict and to facilitate its operations. In case of conflict accept Contracting Officer's direction as final and adjust use of premises accordingly.

D. Coordinate Work in and use of premises with the Owner.

1.9 CONTRACTOR USE OF PREMISES

A. Limit use of premises for Work and for construction operations, to allow for Owner occupancy, Work of other Contractors, and public access.

B. Limit areas of construction operations to those areas requiring renovation only.

C. Limit on site storage of materials to areas under construction. Contractor is responsible for security of stored materials.

D. Give written notice two weeks in advance of beginning of Work in any area.

E. Do not smoke except in specifically designated smoking areas.

F. Take reasonable and adequate precautions to protect the Owner’s property from damage during execution of Work. Restore any damage to Owner property resulting from execution of Work or replace in a manner satisfactory to the Contracting Officer.

G. Do not begin demolition of existing Work or construction of new Work in any area until all required construction materials for that Work area are stored on site or at Contractor's place of business.

H. Limit construction activities which generate noise levels in excess of NC=40 in dispatch center, NC=50 in office areas, and NC=60 in other areas to times prearranged with the contracting officer.

I. Limit construction parking and work area access to the loading dock area in the rear of the building and adjacent to the work area. Any other access points and parking areas must be coordinated with and designated by the contracting officer. An access code for building door and parking area gate will be provided. Keep construction access points locked at all times. Any openings in the building exterior created by the contractor's work must be secured at all times.

J. Move Owner tools, equipment, shelving, stored materials, etc. as required to accomplish Work. Return to original location as soon as possible.

K. Protect Owner tools, equipment, shelving, stored materials, and equipment, etc. from Work.

L. In Owner occupied areas:

1. Limit use of premises for Work and for construction operations to times arranged with contracting officer.

2. Cover and protect from dust and debris, at the start of each work day, electronic office equipment such as personal computers, computer terminals, facsimile machines, copiers, printers, postage meters, VCRs, monitors, typewriters, etc. Remove protection at the end of each work day.

3. Do not use furniture, such as countertops, desks, filing cabinets, book shelves, and tables as work surfaces or as steps to access Work.

4. At the end of each workday, move back to original location equipment and furniture moved to accommodate Work. Do not move electronic equipment unless absolutely necessary to accomplish Work.

5. At the end of each workday replace ceiling tiles removed to access Work.

6. At the end of each work day, clean work areas, including floors with a vacuum, and remove tools, equipment, and construction material from work areas.

M. Coordinate brief temporary shutdowns of any of the existing facilities' mechanical, electrical, and data systems affecting systems in Owner occupied areas with the Contracting Officer. Prolonged shutdowns are not allowed, this facility is in operation 24 hours per day 7 days per week. Provide a minimum five-day notice.

N. Existing systems shall be fully operational for intended purpose at all times.

O. Backgrounds checks and security clearance is required for all personell with access to the building. Uppon award of the project the contractor shall provide names & personal information to the contracting officer for approval, no exceptions will be made. Building Manager will be required to escort contractor personell when accessing or working in any areas of the building other than the primary work area.

P. Contractor shall be responsible to promptly remove all construction debries, demolished materials, packaging, and any other waste from the project site. Use of owner's onsite dumpsters and waste containers is prohibited.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

PART 1 GENERAL

1.1 SCOPE: SECTION 01 25 00 - SUBSTITUTION PROCEDURES

A. This section summarizes procedures to substitute products and procedures during the course of the project.

1.2 SUBSTITUTIONS

A. Whenever a material, article or piece of equipment is identified in the Contract Documents by reference to manufacturer's or vendor's names, trade names, catalog numbers, etc., it is intended to establish a minimum standard. Unless otherwise noted any material, article or equipment of other manufacturers or vendors which will perform adequately the duties imposed by the general design of the Project will be considered equally acceptable; provided, the material, article or equipment so proposed is, in the opinion of the Contracting Officer, of equal substance, function, dimension, appearance and quality.

B. Prior to the bid opening, the Bidder shall make their own determination in selecting which specified or substitute equipment to base their proposal upon. Substituted items shall be equal to or better than that specified or indicated in regards to quality, workmanship, finish, space requirements, electrical requirements, performance, or warranties.

C. After the bid opening, the Contractor shall submit sufficient data in accordance with this Section to establish equality. The Contracting Officer shall be the sole judge of equality and acceptability.

D. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents. Submit three copies of request for substitution on form provided by Contracting Officer.

E. Request for substitution constitutes a representation that the Contractor:

1. Has investigated proposed product and determined that it meets or exceeds, in all respects, specified product.

2. Will provide the same warranty for the substitution as for the specified product.

3. Will coordinate installation and make other changes that may be required for Work to be complete in all respects.

4. Waives claim for additional costs that may subsequently become apparent.

F. Acceptance of substitute materials will not relieve the Contractor of the responsibility for any changes in their own work or in the work of other crafts caused by the substitution. Any additional costs resulting from substitutions are the responsibility of the Contractor.

G. Any proposed substitution whose characteristics differ from the specified item to such an extent as to necessitate changes in the mechanical, electrical or other basic design of the Project, shall include the cost of any such changes, the design and the cost of design, which costs shall be borne by the Contractor. Determination of a substitution request will be based on the Contracting Officer's comparisons as to quality, adaptability, aesthetics, Contract amount change, if applicable, etc., between the proposed substitution and specified item.

H. Substitutions will not be considered when they are indicated or implied on Shop Drawings or Product Data submittals without separate written request, or when acceptance will require substantial revision of Contract Documents.

I. Only one request for substitution will be considered for each product. When substitution is not accepted, provide specified product.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

PART 1 GENERAL

1.1 SCOPE: SECTION 01 26 00 - CONTRACT MODIFICATION PROCEDURES

A. This section describes procedures for contract modifications including change orders.

1.2 SUBMITTALS

A. Submit name of the individual authorized to accept changes, and to be responsible for informing others in Contractor's employ of changes in the Work.

1.3 DOCUMENTATION OF CHANGE IN CONTRACT PRICE AND CONTRACT TIME

A. Maintain detailed records of Work done on a Cost of the Work plus a Fee basis. Provide full information required for evaluation of proposed changes, and to substantiate costs of changes in the Work.

B. Document each quotation for a change in cost or time with sufficient data to allow evaluation of the quotation.

C. On request, provide additional data to support computations:

1. Quantities of products, labor, and equipment.

2. Taxes, insurance, and bonds.

3. Overhead and profit.

4. Justification for any change in Contract Time.

5. Credit for deletions from Contract, similarly documented.

D. Support each claim for additional costs, and for Work done on a cost of the Work plus a Fee basis, with additional information:

1. Origin and date of claim.

2. Dates and times Work was performed, and by whom.

3. Time records and wage rates paid.

4. Invoices and receipts for products, equipment and subcontracts, similarly documented.

1.4 PRELIMINARY PROCEDURES

A. Contracting Officer may submit a Proposal Request which includes: Detailed description of change with supplementary or revised Drawings and Specifications, the projected time for executing the change and the period of time during which the requested price will be considered valid.

B. Contractor may initiate a change by submittal of a request to Contracting Officer describing the proposed change with a statement of the reason for the change, and the effect on Contract Price and Contract Time with full documentation.

1.5 LUMP SUM CHANGE ORDER

A. Will be based on Proposal Request and Contractor's lump sum quotation or Contractor's request for Change Order as approved by the Contracting Officer.

1.6 UNIT PRICE CHANGE ORDER

A. For pre-determined unit prices and quantities, Change Order will be executed on a lump sum basis.

B. For unit costs or quantities of units of work which are not predetermined, execute Work under a Work Order. Changes in Contract Price or Contract Time will be computed as specified for Cost of the Work plus Fee via Change Order.

1.7 COST OF THE WORK CHANGE ORDER

A. Submit itemized account and supporting data after completion of change, within time limits in Conditions of the Contract.

B. Contracting Officer will determine the change allowable in Contract Price and Contract Time as provided in Conditions of the Contract.

1.8 EXECUTION OF CHANGE ORDERS

A. Contracting Officer will issue Change Orders for signatures of parties as provided in Conditions of the Contract.

1.9 CORRELATION OF CONTRACTOR SUBMITTALS

A. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Price as shown on Change Order.

B. Promptly revise Progress Schedules to reflect any change in Contract Time and to adjust times for other items of Work affected by the change and resubmit.

C. Promptly enter changes in Project Record Documents.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

PART 1 GENERAL

1.1 SCOPE: SECTION 01 30 00 - ADMINISTRATIVE PROVISIONS

A. This section covers administration procedures as related to this specific project including meetings, applications for payment and safety.

1.2 PRE-CONSTRUCTION MEETING

A. Attend Owner initiated preconstruction meeting.

1.3 PROGRESS MEETINGS

A. Attend Contracting Officer scheduled and administered Project meetings throughout progress of Work at a maximum of one week intervals to discuss Work progress, status of submittals, pending changes and substitutions, and other items affecting progress and status of Work.

B. Make physical arrangements for meetings. Employ job superintendent to attend meetings. Instruct subcontractor representatives to attend meetings as appropriate to discuss progress and status of Work.

C. Notify Contracting Officer a minimum of 48 hours prior to meeting of any requested agenda items.

1.4 PRE-INSTALLATION CONFERENCES

A. When required by individual specification section, convene pre-installation conference prior to commencing work of that section.

B. Require attendance of entities directly affecting, or affected by, work of that section.

C. At the meeting review conditions of installation, preparation and installation procedures, and coordination with related work.

1.5 APPLICATIONS FOR PAYMENT

A. Submit in accordance with contract provisions.

B. Content and Format as required for Contracting Officer.

1.6 SAFETY

A. Comply with all Federal and State regulations concerning safety of personnel and equipment.

1.7 FIRE-SAFETY

A. Maintan the project site, to reduce hazards from fire. Provide protective equipment or fire watch personel as needed to support the project.

1.8 ONE YEAR CORRECTION PERIOD

A. If within one year after the date of Final Completion or such longer period of time as may be prescribed by Regulatory Requirements or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any Work, materials, or products are found to be defective, the Contractor shall promptly, without cost to the Owner and in accordance with the Contracting Officer's written instructions, either correct such defective Work, or, if it has been rejected by the Contracting Officer, remove it from the site and replace it with conforming Work.

B. If the Contractor does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, the Owner may have the defective Work corrected or the rejected Work removed and replaced, and all direct, indirect, and consequential costs of such removal and replacement (including but not limited to fees and charges of engineers, architects, attorneys, and other professionals) will be paid by the Contractor.

C. In special circumstances where a particular item of equipment is placed in continuous service for the benefit of the Owner before Substantial Completion of all the Work, the correction period for that item may begin on an earlier date if so provided in the Specifications of by Change Order.

D. Provisions of this paragraph are not intended to shorten the statute of limitations for bringing an action.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

PART 1 GENERAL

1.1 SCOPE: SECTION 01 33 00 – SUBMITTAL PROCEDURES

A. This section covers submittal procedures including submittal register, products and schedule of values.

1.2 PROCEDURES

A. Deliver submittals to Contracting Officer as directed under Contracting Officer accepted form.

B. Transmit submittals in accordance with approved Construction Progress Schedule, Submittal Register, and in such sequence to avoid delay in the Work or Work of other Contracts.

C. Review submittals prior to transmittal; determine and verify field measurements, field construction criteria, manufacturer's catalog numbers, and conformance of submittal with requirements of Contract Documents.

D. Coordinate submittals with requirements of Work and of Contract Documents.

E. After Contracting Officer review of submittal, revise and resubmit as required, identifying changes made since previous submittal.

F. Distribute copies of reviewed submittals to concerned persons including one set to field office. Instruct recipients to promptly report any inability to comply with provisions.

G. Make resubmittals under procedures specified for initial submittals; identify changes made since previous submittal.

H. Acceptance of schedules, Shop Drawings, Product Data, or samples by the Owner or their representative in no way relieves the Contractor of obligation to perform Work in accordance with requirements of the Contract Documents.

1.3 SUBMITTAL REGISTER

A. Submit 3 copies of a Submittal Register. Attached is a Register to use as the basis of the Register submitted. The Register attached is not necessarily complete. Add items as required to provide a complete Submittal Register. Complete Contractor planned Submit Date column. No other form of Register will be accepted.

B. Other submittals will not be accepted for review until a submittal register acceptable to the Project Manager has been received by the Project Manager.

1.4 CONSTRUCTION PROGRESS SCHEDULES

A. Submit 3 copies of initial progress schedules not more than 14 days after Contract award.

B. Prepare schedule to comply with the requirements of the project.

C. The progress schedule must be approved by the Contracting Officer before any Application for Payment will be processed by the Contracting Officer.

D. Submit horizontal bar chart with separate bar for each major trade or operation, identifying first workday of each week.

E. Submit three copies of updated progress schedules monthly with each Application for Payment.

1. Reflect changes since previous submittal.

2. Indicate progress of each activity to date of submission.

3. Provide narrative identifying:

a. Problem areas, anticipated delays, and impact on schedule.

b. Corrective action recommended and its effect.

1.5 SCHEDULE OF VALUES

A. Submit three copies of Schedule of Values a minimum of 21 days prior to submitting first application for payment. Use Owner accepted form.

B. Provide with line item break down matching the line items on the Construction Progress Schedule.

C. Prepare a schedule that provides a total sum of line item values equal to the total contract amount. Include in each line item a directly proportional amount of Contractor's overhead and profit.

D. Provide substantiating information justifying information provided when requested.

E. Do not revise value attributed to each category once the Contracting Officer accepts the Schedule of Values.

F. Revise schedule to list change orders, for each application for payment.

1.6 SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

A. General:

1. Submit one (1) electronic copy (PDF format) of the review submittal or resubmittal for review and acceptance by the Contracting Officer, for each submittal group. Electronically Index (Bookmark) each section and item within the electronic submittal.

2. Submittals are required for all materials of construction and equipment specified and indicated on the Drawings.

3. Coordinate submittals into logical groupings to facilitate interrelation of the several items:

a. Interior finishes which involve Contracting Officer selection of colors, textures, or patterns. No selections will be made until all interior materials requiring color, texture, or pattern selection have been submitted.

b. Exterior finishes which involve Contracting Officer selection of colors, textures, or patterns. No selections will be made until all exterior materials requiring color, texture, or pattern selection have been submitted.

c. Associated items, which require correlation for efficient function or for installation.

d. Divisions 02 through 49 (excluding Divisions listed below): Group items by specification section. Submit items covered by a common specification section simultaneously.

e. Divisions 21, 22, and 23: Submit all Division items simultaneously unless otherwise indicated. See Division 23 for additional details.

1) Submit Sections 23 09 23 and 23 09 93 Controls as a separate group from the remainder of Division 23.

4. The Contracting Officer will consider expedited review of required submittals. Submit a list of items for which expedited reviews are requested at the preconstruction conference. Substantiate each request by reference to the Project schedule. The Contracting Officer will be the sole judge as to whether or not expedited reviews are warranted.

5. Apply Contractor's stamp, signed or initialed, certifying to review, verification of products, field dimensions and field construction criteria, and coordination of information with requirements of Work and Contract Documents. Notify Contracting Officer in writing at time of submittal of any deviations from requirements of Contract Documents. Note deviation on Item Data Sheet.

6. Precede each item with a completed Item Data Sheet. See required format attached to the end of this Specification Section.

7. Identify each item with an item number matching the item number for that item listed in the Submittal Schedule and Shop Drawing Record. Separate each item by divider sheets with plastic index tabs between each item. Type item numbers on both sides of paper inserts.

8. Each submittal or resubmittal shall be complete and shall contain all previously submitted material except that being replaced by new or revised material, which shall be removed. Partial or improperly indexed or tabbed submittals or resubmittals shall be rejected without review or comment.

9. With each resubmittal include a complete summary of all changes and additions made to the equipment review submittal since the previous submittal. Only those items included in the summary will be reviewed with the resubmitted package.

10. Do not submit "updates" for previous submittal packages with resubmittals. Previous submittals will not be updated.

11. A list of minimum submittals required is provided in each Section. These lists are not necessarily complete or all-inclusive and the Contractor is responsible for complete submittal.

12. See Mechanical and Electrical Divisions for additional submittal requirements, which affect those Divisions.

B. Shop Drawings:

1. Present in a clear and thorough manner. Label each Drawing with Owner Project name and Project number. Identify each element of Drawings by reference to sheet number and detail, schedule, or room number of Contract Documents.

2. Identify field dimensions; show relation to adjacent or critical features or Work or products.

3. Minimum Sheet Size: 11 inches by 17 inches.

C. Product Data:

1. Submit only pages that are pertinent; mark each copy of standard printed data to identify pertinent products, referenced to Specification Section and Article number. Show reference standards, performance characteristics, and capacities; wiring and piping diagrams and controls; component parts; finishes; dimensions; and required clearances.

2. Modify manufacturer's standard schematic Drawings and diagrams to supplement standard information and to provide information specifically applicable to the Work. Delete information not applicable.

D. Samples:

1. Submit full range of manufacturers' standard colors, textures, and patterns except when more restrictive requirements are specified.

2. Submit samples to illustrate functional characteristics of the product, with integral parts and attachment devices.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

Printed on:									**Owner:**	**State of Alaska & DOT**	
7/23/2021		**Project: State Troopers Dispatch Center Extension**							**Contractor:**		
		Project No: 042101							**Consultant:**	**Design Alaska, Inc.**	
SD-01 Preconstruction; SD-02 Shop Drawings; SD-03 Product Data; SD-04 Samples; SD-05 Design Data; SD-06 Test Report; SD-07 Certificates; SD-08 Manufacturer's Instructions; SD-09 Manufacturer's Report; SD-10 O&M Data; SD-11 Closeout; SD-12 LEED											
						1=No Exception Taken; 2 = Accepted as Noted; 3 = Revise & Resubmit; 4 = Submit Specified Item; 5 = Rejected					
							Actual				
Item No.	**Transmittal No.**	**Spec. Section or Drawing No.**	**Submittal Description**	**Spec. Paragraph or Drawing Detail No.**	**Item Description**	**Contractor's Scheduled Submittal Date**	**Submittal Date**	**Return Date**	**Status**	*Corrections or comments do not relieve Contractor from compliance with Contract Documents. Submittals are reviewed only for general conformance with the design concept of the project and general compliance with the Contract Documents. The Contractor is responsible for confirming compliance with the Contract Documents, confirming & correlating all quantities & dimensions, selecting fabrication processes, techniques of construction, coordinating his work with that of other trades, and existing conditions; and* **Review Comments**	
01 26 00					**Change Order Procedures**						
1		1.2.A	SD-01		Name of Authorized Change Order Individual						
01 33 00					**Submittal Procedures**						
1		1.3	SD-01		Submittal Register						
2		1.4	SD-01		Construction Progress Schedules						
3		1.5	SD-01		Schedule of Values						
01 45 00					**Quality Control**						
1		1.2.A,B,C	SD-01		Testing Laboratory Information						
01 73 29					**Cutting and Patching**						
1		1.2.A	SD-01		Written Request - Cutting or Alteration						
02 41 19					**Selective Demolition**						
1		1.05.A	SD-01		Proposed Protection Measures						
2		1.05.B	SD-01		Schedule of Selective Demolition						
3		1.05.C	SD-01		Pre-demolition Photographs or Video						
4		1.05.D	SD-01		Warranties						
08 31 00					**Access Doors and Panels**						
1		1.2.A	SD-03	2.1.B	Wall and Ceiling Mounted Units						
2		1.2.B	SD-08		Manufacturer's Installation Instructions						
09 05 61					**Common Work Results for Flooring Preparation**						
1		1.3.A	SD-03		Floor Covering and Adhesive Manufacturer's Product Literature						
2		1.3.B	SD-06		Testing Agency's Report						
3		1.3.C	SD-06		Adhesive Bond and Compatibility Test Report						
09 21 16					**Gypsum Board Assemblies**						
1		1.3.B	SD-03	2.3.B	Gypsum Wallboard						
2		1.3.B	SD-03	2.4.A	Acoustic Insulation						
3		1.3.B	SD-03	2.4.B	Acoustic Sealant						
4		1.3.B	SD-03	2.4.C	Joint Materials						
5		1.3.B	SD-03	2.4.D	High Build Drywall Surfacer						
6		1.3.B	SD-03	2.4.E	Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033-inch in Thickness and Wood Members						
7		1.3.B	SD-03	2.4.F	Screws for Fastening of Gypsum Panel Products to Steel Members from 0.033 to 0.112-inch in Thickness						
09 65 00					**Resilient Flooring**						
1		1.4.A	SD-03	2.1.A	Static Control Tile						
2		1.4.A	SD-03	2.2.A	Resilient Base						
3		1.4.B	SD-10		Maintenance Data						

Reviewed By _____

Date _____

Printed on: 7/23/2021	Project: State Troopers Dispatch Center Extension	Owner:	State of Alaska & DOT
	Project No: 042101	Contractor:	
		Consultant:	Design Alaska, Inc.

SD-01 Preconstruction; SD-02 Shop Drawings; SD-03 Product Data; SD-04 Samples; SD-05 Design Data; SD-06 Test Report; SD-07 Certificates; SD-08 Manufacturer's Instructions; SD-09 Manufacturer's Report; SD-10 O&M Data; SD-11 Closeout; SD-12 LEED

1=No Exception Taken; 2 = Accepted as Noted; 3 = Revise & Resubmit; 4 = Submit Specified Item; 5 = Rejected

Item No.	Transmittal No.	Spec. Section or Drawing No.	Submittal Description	Spec. Paragraph or Drawing Detail No.	Item Description	Contractor's Scheduled Submittal Date	Actual: Submittal Date	Actual: Return Date	Status	Review Comments
09 80 00					**Acoustical Treatment**					
1		1.3.B	SD-03	2.2.C	Decortaive Fabric Wrapped Custom Acoustical Wall Panels					
2		1.3.C	SD-07		Certificates					
3		1.3.D	SD-02		Shop Drawings					
4		1.3.E	SD-04		Verification Samples					
09 91 23					**Interior Painting**					
1		1.5.B	SD-03	2.1.A	Paints and Finishes					
2		1.5.B	SD-03	2.1.B	Volatile Organic Compound (VOC) Content					
3		1.5.B	SD-03	2.2.A	Paint I-OP					
4		1.5.B	SD-03	2.2.B	Paint I-OP-MD-DT - Medium Duty Door/Trim					
5		1.5.B	SD-03	2.2.C	Paint I-TR -W - Transparent Finish on Wood					
6		1.5.B	SD-03	2.3	Accessory Materials					
7		1.5.C	SD-04		Samples					
8		1.5.F	SD-10		Maintenance Data					
26 05 10					**Basic Materials and Methods**					
1		1.5.A	SD-03	2.1	Raceways					
2		1.5.A	SD-03	2.2	Conduit and Tubing					
3		1.5.A	SD-03	2.3	Wires and Cables					
4		1.5.A	SD-03	2.4	Outlet Boxes					
5		1.5.A	SD-03	2.5	Wiring Devices and Plates					
6		1.5.A	SD-03	2.6.A	Circuit Breakers					
7		1.5.A	SD-03	2.7	Fasteners					
8		1.5.A	SD-03	2.8	Grounding					
9		1.5.A	SD-03	2.9	Interior Lighting					
10		1.5.A	SD-03	2.10	Telecommunication System					
Drawings										
M001			SD-02		Mechanical Abbreviations, Legends and Schedules					
M100			SD-02		Mechanical Plans and Details					

Corrections or comments do not relieve Contractor from compliance with Contract Documents. Submittals are reviewed only for general conformance with the design concept of the project and general compliance with the Contract Documents. The Contractor is responsible for confirming compliance with the Contract Documents, confirming & correlating all quantities & dimensions, selecting fabrication processes, techniques of construction, coordinating his work with that of other trades, and existing conditions; and

Reviewed By _____

Date _____

PART 1 GENERAL

1.1 SCOPE: SECTION 01 35 16 - ALTERATION PROJECT PROCEDURES

A. Alteration and renovation of existing spaces and materials.

B. Remediation of hazardous materials, if found.

PART 2 PRODUCTS

2.1 PRODUCTS FOR PATCHING AND EXTENDING WORK

A. New Materials: As specified in individual Specification Sections.

B. Match existing products and work for patching and extending Work. Determine quality of existing products by inspection and any necessary testing.

PART 3 EXECUTION

3.1 ALTERATION AND RENOVATION

A. Coordinate Work of alterations and renovations of existing spaces and materials to expedite completion and to accommodate Owner occupancy.

B. Patch Work in a manner to minimize damage and restore products and finishes to original condition.

C. Install products as specified in individual Specification Sections.

D. Refinish visible existing surfaces to remain in renovated rooms and spaces with a neat transition to adjacent new finishes.

E. In addition to specified replacement of equipment restore existing mechanical and electrical systems to full operational condition.

F. Where removal of partitions results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.

G. Trim existing doors as necessary to clear new floor finishes; refinish trimmed areas.

H. Fit Work at penetrations of surfaces as specified in Cutting and Patching Specification.

3.2 TRANSITIONS

A. Where new Work abuts or aligns with existing, make a smooth and even transition. Patched Work shall match existing adjacent work in texture and appearance.

B. Where a change of plane of 1/4-inch or more occurs, submit recommendation for providing a smooth transition for Contracting Officer review.

C. When finished surfaces are cut so that a smooth transition with new Work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Contracting Officer.

3.3 REPAIR OF DAMAGED SURFACES

A. Patch or replace portions of existing surfaces which are disturbed, damaged, or otherwise made defective in appearance or function by the execution of Work under this Contract. Restore to original condition.

B. Repair substrate prior to patching finish.

3.4 FINISHES

A. Finish surfaces as specified in individual Sections.

B. Finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest intersections.

C. Remove existing work, materials and items as indicated on the Drawings, as required by job site conditions, as scheduled, and as specified herein, to accomplish Work and alteration in the existing building.

D. Remove work carefully and only to the extent required for the final Work. Minimize damage to adjacent materials.

E. When portions of existing conditions are shown, it is not meant to indicate that all existing conditions are shown.

F. Patch existing surfaces which are made defective in appearance or function by the execution of Work.

G. Cut rigid materials using masonry saw or core drill. Pneumatic tools and electric hammers are not permitted.

H. Conduct all operations with a minimum of noise.

3.5 HAZARDOUS MATERIALS

A. There are no known hazardous materials present at the Project work area. However, owing to the nature of the work, the presence of hazardous materials may not be discovered until the Contractor begins its work. The Contractor should be alert to the possible presence of hazardous materials when unfamiliar materials are encountered in any demolition, rehabilitation, or maintenance on a Project.

B. If a hazardous material is disturbed or the Contractor suspects it has encountered such material it shall immediately stop work in the area, order all persons out and notify the Contracting Officer of the hazardous or suspected hazardous materials.

C. The Contracting Officer upon receipt of notification shall cause an investigation to be conducted and shall make such tests as are necessary to determine whether such material exists and if so whether the hazardous material poses a health hazard. The Contracting Officer may ask the Contractor to revise its schedule or issue a change modifying the work. An equitable adjustment in the contract shall be made for any additions or deletions to the work. However, the Contractor shall not be entitled to any costs in addition to the Contract from any delay or subsequent extension of time from any act, omission, or work under this article.

D. The Contractor shall provide the appropriate safeguards in order to avoid disturbing hazardous materials when warned and for the protection of its employees. The Contractor shall be liable for all costs resulting from its negligence in fulfilling its responsibilities under this Specification.

END OF SECTION

PART 1 GENERAL

1.1 SCOPE: SECTION 01 35 43 - ENVIRONMENTAL PROTECTION

A. This section covers procedures for environmental protection including Storm Water protection.

1.2 MIGRATORY BIRD PROTECTION

A. Do not disturb migratory bird nests at any time.

1.3 ENVIRONMENTAL PROTECTION

A. Prevent environmental pollution resulting from Work within and outside project boundaries.

1. Environmental pollution is defined as the presence of solid waste; noise; or chemical, physical, or biological elements or agents; which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to man; or degrade the utility of the environment for aesthetic and recreational purposes.

B. Contain, clean-up, and dispose of discharges of petroleum fuels, oil, and other substances hazardous to the environment. Comply with 18 AAC 75 and Title 46 of the Alaska Statutes.

C. Maintain general job site awareness of hazardous materials to workers and the environment throughout the work. Report suspect construction materials to Contracting Officer if observed.

D. Burning: Not permitted.

1.4 NOTIFICATION

A. Notify immediately the Contracting Officer and the State of Alaska Department of Environmental Conservation in the event of any spills or discharges of petroleum products or other hazardous substances.

B. Provide Contracting Officer with any notifications of non-compliance given to the Contractor.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

PART 1 GENERAL

1.1 SCOPE: SECTION 01 42 16 - DEFINITIONS

A. Explanation of terminology used within the Drawings and Specifications.

1.2 SPECIFICATION FORMAT AND COMPOSITION

A. Specifications are divided into Divisions and Sections for the convenience of writing and using. Titles are not intended to imply a particular meaning or to fully describe the Work of each Division or Section and are not an integral part of the text that specifies the requirements. Contracting Officer is not bound to define the limits of any subcontract and will not enter into disputes between the Contractor and their employees, including subcontractors.

B. Pages are numbered independently for each Section. Section number is shown with the page number at the bottom of each page. "End of Section" is noted on the last page of each Section. It is Contractor's responsibility to verify that Contract Documents received for bidding and construction are complete in accordance with Table of Contents.

C. These Specifications are of the abbreviated, or "streamlined" type, and include incomplete sentences.

D. Omissions of words or phrases such as "the Contractor shall," "in conformity therewith," "shall be," "as noted on the Drawings," "according to the Drawings," "a," "an," "the" and "all" are intentional.

E. Omitted words or phrases shall be supplied by inference in the same manner as they are when a "note" occurs on the Drawings.

1.3 DRAWINGS: CONTENT EXPLANATION

A. Where on any of the Drawings a portion of the Work is drawn out and the remainder is indicated in outline, the parts drawn out shall apply also to all other portions of the Work.

B. Wherever a detail is referenced and developed for a specific condition, same or similar detail shall apply to identical or similar conditions elsewhere on Project even though not specifically referenced.

C. Where the word "similar" occurs on the Drawings, it shall be interpreted in its general sense and not as meaning identical, all details shall be worked out in relation to their location and their connection with other parts of the Work.

D. The figured dimensions on the Drawings or notes indicating dimensions shall be used instead of measurements of the Drawings by scale. No scale measurements shall be used as a dimension.

E. Provide piping, ductwork, equipment, and accessories indicated on the Drawings unless it is specifically indicated that the piping, ductwork, equipment, or accessory is existing.

F. Unless otherwise indicated, abbreviations and symbols used in the Drawings and Specifications are intended to have the meaning commonly accepted in the construction industry. Contact the Contracting Officer for definition if any question arises concerning them.

G. Certain items used generally throughout the Specifications and Drawings are used as follows:

1. Indicated: The term "indicated" is a cross reference to details, notes or schedules on the Drawings, other paragraphs or schedules in the Specifications, and similar means of recording requirements in the Contract Documents. Where terms such as "shown", "noted", "schedules", and "specified" are used in lieu of "indicate", it is for the purpose of helping the reader accomplish the cross reference, and no limitation of location is intended except as specifically noted.

2. Installer: The person or entity engaged by Contractor, their subcontractor or sub-subcontractor for the performance of a particular unit of work at the Project site, including installation, erection, application, and similar required operations. It is a general requirement that installers be recognized experts in the Work they are engaged to perform.

3. Provide: Except to the extent further defined, the term "provide" means to supply and install, complete and ready for the intended use.

4. Furnish: Except as otherwise defined in greater detail, the term "furnish" is used to mean the same as "provide".

5. Guarantee and Warranty: "Warranty" is generally used in conjunction with products manufactured or fabricated away from the Project site, and "guarantee" is generally used in conjunction with units of work which require both products and substantial amounts of labor at the Project site. The resulting difference is that warranties are frequently issued by manufacturers, and guarantees are generally issued by Contractor and frequently supported (partially) by product warranties from manufacturers.

6. Work: Work is the act of, and the result of, performing services, furnishing labor, furnishing and incorporating materials and equipment into the Project and performing other duties and obligations, all as required by the Contract Documents. Such Work, however incremental, shall culminate in the entire completed Project, or the various separately identifiable parts thereof.

7. Owner: As defined in the agreement of the project, which includes the owners designated representatives to bind the owner.

8. Contracting Officer: Contracting Officer means Owners Representative that is responsible for the administrative portions of the project.

9. Contractor: As defined in the agreement as the performer of the work.

10. Architect: As defined in in the agreement as the administrator of the contract and for the owner as defined in the contract documents.

1.4 CONFLICTS

A. Report any conflicts to Contracting Officer for clarification.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

PART 1 GENERAL

1.1 SCOPE: SECTION 01 45 00 - QUALITY CONTROL

A. This section covers quality control plan and procedures.

1.2 SUBMITTALS

A. Testing laboratory name, address, and telephone number.

B. Evidence of testing laboratory's authorization to operate in the State of Alaska.

C. Name, registration, address, and telephone number of registered engineer employed by testing agency to review services provided by testing agency.

1.3 QUALITY CONTROL, GENERAL

A. Maintain quality control over suppliers, manufacturers, products, services, site conditions, and workmanship to produce Work of specified quality.

1.4 WORKMANSHIP

A. Comply with industry standards except when more restrictive tolerances or specified requirements indicate more rigid standards or more precise workmanship.

B. Perform Work by persons qualified to produce workmanship of specified quality.

C. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, and racking and to minimize the transfer of sound and vibration.

D. Provide finishes to match approved samples.

1.5 MANUFACTURERS' INSTRUCTIONS

A. Comply with instructions in full detail, including each step in sequence. Provide accessories recommended by manufacturer for service intended and accessories indicated. Should instructions conflict with Contract Documents, request clarification from Contracting Officer before proceeding.

1.6 CONSTRUCTION PHOTOGRAPHS

A. Take photographs of construction throughout progress of construction. At a minimum, take twelve photographs of construction at end of each work week. Photograph interior, exterior, and stored materials.

B. During each phase of construction, also take photographs providing full coverage of the following elements of construction at the beginning and completion of that element of construction.

1. Demolition.

2. Site clearing.

3. Excavations.

4. Foundations.

5. Structural framing.

6. Exterior envelop insulation.

7. Exterior envelop vapor barrier.

8. Mechanical rough-ins.

9. Electrical rough-ins.

10. Enclosure of building.

11. Final completion.

C. Deliver prints of photographs taken since previous Application for Payment to the Contracting Officer with subsequent Application for Payment.

D. Deliver photo to the Contracting Officer with Record Documents. Catalog and index files in chronological sequence.

1.7 CODES, ORDINANCES, AND STANDARDS

A. Federal, State and Local Codes and Ordinances take precedence over these Specifications and Drawings where conflicts occur unless the Drawings or Specifications call for more stringent requirements. Notify the Contracting Officer in writing of conflicts.

B. Follow latest adopted editions of Code of Federal Regulations, Alaska Administrative Code, International Building Code, International Mechanical Code, Uniform Plumbing Code, International Fire Code, National Electrical Code, ADA Accessibility Guidelines, NFPA, ASME, NEMA, ASHRAE, SMACNA, etc. as applicable.

C. Comply with all applicable laws, building and construction codes, OSHA Safety and Health Regulations and applicable requirements of any governmental agency under whose jurisdiction this Work is being performed.

1.8 AUTHORITY HAVING JURISDICTION PERMITS AND INSPECTIONS

A. The Authority Having Jurisdiction (AHJ) and public authorities for this project is as follows:

1. City of Fairbanks
   Building Department, City Hall
   800 Cushman Street
   Fairbanks, AK 99701
   (907) 459-6270

2. Alaska Department of Environmental Conservation
   610 University Ave
   Fairbanks, AK 99709

B. Apply for and obtain a plan review and permits for the project in accordance with AHJ policies and procedures. Pay any applicable fees for the permits. Submit copies of applications, permits and any correspondence with the AHJ to the owner for information.

C. Obtain all required inspections by the AHJ. Schedule all inspection with AHJ and provide information to the owner. Inform owner immediately if inspection is rescheduled. Provide copied of all inspection reports and follow-up items. Provide support and assistance for all AHJ inspections.

D. Post all permits on jobsite in a location which can observed by AHJ when entering the job site. Keep plan reviewed, signed, construction drawings and specifications available for the AHJ use when inspecting the site.

E. Obtain certificate of occupancy, if applicable. Provide a bond at no additional expense to the owner if needed to allow for completion of work after a certificate of occupancy has been granted. Deliver certificate of occupancy to the owner.

1.9 OWNER INSPECTION SERVICES

A. The Owner will periodically inspect the Work. Provide assistance to inspection personnel required for complete and thorough inspections.

B. Submit written requests for inspections and testing by the Owner at the following stages of construction and at stages specified elsewhere:

1. At completion of demolition Work.

2. At completion of mechanical and electrical rough-in installations and before rough-ins are concealed.

3. At completion of exterior thermal insulation installation before vapor retarder has been installed.

4. After installation of vapor retarder and before gypsum board is installed.

5. Substantial completion inspection.

6. Final inspection.

C. Inspection of Work or the witnessing of testing of Work by the Owner or their representative in no way relieves the Contractor of obligation to perform Work in accordance with requirements of the Contract Documents.

D. Request shall identify the Project, Project No., its location, the Contractor, and a contact person and describe the nature of the desired test or inspection.

E. If the request is for testing or inspection of Work previously tested or inspected, include the Owner's prior listing of deficiencies accompanied by the remedies provided since the prior test or inspection.

F. Provide a minimum of three (3) working days notice to Contracting Officer and public authorities prior to performing testing of Work. The Contracting Officer or their representative will not necessarily witness testing.

1. Record the performance of tests.

2. Include date, time and time interval, test results, brief description of method of tests, and witnesses.

3. Submit this record to the Contracting Officer prior to scheduling substantial completion and final inspections.

G. Provide minimum of 14-calendar days written notice to Contracting Officer and public authorities of intent to have Work ready for inspection. Confirm that Work will be ready for inspection a minimum of three (3) working days notice prior to date of inspection.

H. Substantial Completion and Final Inspections:

1. Prior to inspection:

a. Deliver to the Contracting Officer required equipment, Drawings, and records.

b. Clean fixtures and equipment. Remove manufacturer's stickers and leave free of dust and dirt.

c. Remove boxes, scrap, and other debris.

d. Touch up holidays or damaged painted surfaces.

e. Contractor's Superintendent shall review Work for conformance with Contract Documents and develop a list of items not conforming to the Contract Documents. Correct Work identified as not conforming to the Contract Documents. With request for inspection, Contractor's Superintendent shall verify in writing that this review has been performed, that the Work conforms with the Contract Documents, and submit their original list of items not conforming to the Contract Documents, annotated with corrective action taken to resolve each deficiency noted.

f. Deliver to Owner personnel all special tools and devices furnished by the manufacturer with items, specialties or equipment to allow installation, disassembly, adjustment, repair, or maintenance. Identify special tools or devices as to item to which it is applicable.

g. Deliver to the Contracting Officer a Certificate of Instruction signed by all Owner personnel receiving instruction, all Contractor personnel providing instruction, and indicating dates of instruction.

2. During inspection:

a. Provide complete and operating systems suitable for the season.

b. Demonstrate that mechanical and electrical systems perform in accordance with the Contract Documents. Provide material and personnel required to perform the demonstration.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

PART 1 GENERAL

1.1 SCOPE: SECTION 01 60 00 - PRODUCT REQUIREMENTS

A. This section covers product requirement, transportation and storage of materials.

1.2 PRODUCTS

A. Products include material, equipment, and systems.

B. Comply with Specifications and referenced standards as minimum requirements.

C. Components required to be supplied in quantity within a Specification Section shall be the same, and shall be interchangeable.

D. Do not use materials and equipment removed from existing structure, except as specifically required, or allowed, by Contract Documents.

E. Provide products and systems that do not contain asbestos or asbestos-containing materials.

1.3 TRANSPORTATION AND HANDLING

A. Transport products by methods to avoid product damage; deliver in undamaged condition in manufacturer's unopened containers or packaging, dry.

B. Provide equipment and personnel to handle products by methods to prevent soiling or damage.

C. Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged.

1.4 STORAGE AND PROTECTION

A. Store products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive products in weather-tight enclosures; maintain within temperature and humidity ranges required by manufacturer's instructions.

B. For exterior storage of fabricated products, place on sloped supports above ground. Cover products subject to deterioration with impervious sheet covering; provide ventilation to avoid condensation.

C. Store loose granular materials on solid surfaces in a well-drained area; prevent mixing with foreign matter.

D. Arrange storage to provide access for inspection. Periodically inspect to assure products are undamaged, and are maintained under required conditions.

1.5 PRODUCT OPTIONS

A. Products specified by reference standards or by description only: Use any product meeting those standards.

B. Products specified by naming one or more manufacturers followed by the term "No Substitutions": Use only specified manufacturers, no substitutions allowed.

C. Products specified by naming one or more manufacturers followed by the term “or equal”: Submit a request for substitution for any manufacturer not specifically named.

D. When only one product manufacturer is specified, it is intended only to establish the level of quality against which the proposed substitutions shall be judged, and shall not be construed as attempting to limit competition.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

PART 1 GENERAL

1.1 SCOPE: SECTION 01 70 00 - CLOSEOUT REQUIREMENTS

A. This section covers contract closeout requirements, operation and maintenance manual, warranties, spare parts and maintenance, and systems demonstrations.

1.2 CLOSEOUT PROCEDURES

A. Comply with procedures stated in General Conditions of the Contract for issuance of Certificate of Substantial Completion.

B. Owner will occupy Project for the purpose of conducting business under provision stated in Certificate of Substantial Completion.

C. When Contractor considers Work to be substantially complete, submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Owner inspection.

D. Substantial Completion is obtained when the Work has progressed to the point where, in the opinion of the Owner, the Work is sufficiently complete in accordance with the Contract Documents so that the Work can be utilized for the purposes for which it was intended. Irrespective of other Work, Substantial Completion cannot be obtained until electrical, detection, mechanical, and life-safety systems are in place, balanced, and tested for proper operation. When the Contractor, by written notice to the Owner, certifies that the Work is substantially complete, the Owner and its representatives, within a reasonable time, will conduct an inspection to determine the actual status of completion. When the Owner, on basis of said inspection, determines that the Work is substantially complete, the Contractor will be so notified and a list of deficiencies, to be corrected or completed by the Contractor, will be attached to said notice. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

E. In addition to submittals required by the conditions of the Contract, provide submittals required by governing authorities, and submit a final statement of accounting giving total adjusted Contract Price, previous payments, and sum remaining due.

F. Owner will issue a final Change Order reflecting approved adjustments to Contract Price not previously made by Change Order.

1.3 FINAL CLEANING

A. Execute prior to substantial completion.

B. Clean interior and exterior surfaces exposed to view; remove temporary labels, stains, and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces. Clean equipment and fixtures to a sanitary condition. Clean roofs, gutters, downspouts, and drainage systems.

C. Clean site; sweep paved areas, rake clean other surfaces.

1.4 PROJECT RECORD DOCUMENTS

A. Maintain one record copy of:

1. Contract Drawings.

2. Specifications.

3. Addenda.

4. Design Clarifications and Verification Report (DCVRs).

5. Change Orders and other modifications to the Contract.

6. Reviewed Shop Drawings, Product Data, and Samples.

7. Inspection certificates.

8. Manufacturer's certificates.

9. Construction photographs.

B. Store Record Documents and samples in clean, dry, and legible condition in Field Office apart from documents used for construction.

C. Keep Record Documents and samples available for inspection by Contracting Officer.

D. Record actual construction information on a set of Construction Document Drawings.

E. Record information concurrently with construction progress. Do not conceal any work until required information is recorded.

F. Legibly mark Contract Drawings and Shop Drawings to record actual construction, including:

1. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of construction.

2. Field changes of dimension and detail.

3. Changes made by Addenda.

4. Changes made by Modifications.

5. Details not on original Contract Drawings.

6. References to related shop drawings and Modifications.

G. Legibly mark Contract Specifications to record actual construction, including:

1. Manufacturer, trade name, and catalog number of each product actually installed, particularly optional items and substitute items.

2. Changes made by Addenda and Modifications.

H. Upon request by the Contracting Officer submit complete collection of Record Documents to the Contracting Officer for review and duplication as desired.

I. Prior to request for final inspection, submit record documents to the Contracting Officer for review. Documents shall bear a statement signed by a legal representative of the Contractor indicating that the Record Documents reflect "as-built" conditions. Correct and resubmit to Contracting Officer until Contracting Officer accepts the Record Documents as complete.

J. Final Operation and Maintenance Manuals:

1. Provide five (5) hard copies of the complete, reviewed, corrected, and accepted Operation and Maintenance Manuals to the Contracting Officer

2. Provide three (3) complete electronic copies of the accepted Operation and Maintenance Manuals to the Contracting Officer.

3. Provide a minimum of five working days prior to Project Substantial Completion Inspection and 5 working days prior to any scheduled training on equipment.

K. Provide data in separate volumes for:

1. Architectural materials and finishes. Include:

a. Building Products, Applied Materials, and Finishes: Include product data, with catalog number, size, composition, and color and texture designations. Provide information for re-ordering custom manufactured products.

b. Instructions for Care and Maintenance: Include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.

c. Moisture-protection and Weather-exposed Products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.

d. Additional Requirements: As Specified in individual Specifications sections.

2. Mechanical equipment:

a. Provide data for all items, equipment, and equipment components specified or indicated, so that the Owner's maintenance personnel will have complete service and replacement information required for routine maintenance and repair and to provide maximum usable life. Include data not only for maintainable and repairable items, but also for replaceable but not repairable items.

b. Names and addresses of the suppliers from which the equipment was obtained.

c. For additional requirements see Division 20.

3. Electrical equipment:

a. Manufacturer’s repair manuals, including complete listings of repair and replacement parts for all equipment.

b. Names and addresses of the suppliers from which the equipment was obtained.

c. Complete listing of all equipment which may require periodic servicing, with recommended schedules and complete instructions for performing said servicing.

d. For additional requirements see Division 26.

L. General Form:

1. Identify each item of the O&M Manual with an item number. Number the first item within a Specification section "#1", the second item within a Specification section "#2", and so forth. Restart numbering sequence with each Specification section. Further separate sections by divider sheets with plastic index tabs between each item. Type item numbers on both sides of paper inserts.

2. Include equipment indicated on the Drawings, but not covered by a Specification section, with the appropriate volume under a tab marked "Drawings". Rules for item numbering and item data sheets apply.

3. Provide an alphabetical index at the front of the binder that locates individual items by tab number.

4. Precede each item by a copy of the item data sheet attached at the end of specification section 01 33 00.

5. Material included shall indicate the specific item(s) utilized for this project. Delete or cross out all other items.

6. All material must be clearly readable. "Faxed" then photocopied information is not acceptable.

7. Provide complete operation and maintenance manual submittals. Partial or incomplete submittals required under this section will be returned without review.

8. Provide copies of warranties combined with the rest of the data provided for the equipment warrantied.

M. Electronic Form:

1. Provide in PDF file format, current version. Provide a single file for each volume.

2. Electronically Index (Bookmark) each section and item, by item data number and name within the electronic submittal.

3. Provide digital copies on Compact Disc (CD) or USB compatible memory card (Flash Drive). Review submittals may be by file transfer or email if coordinated.

1.5 WARRANTIES

A. All manufacturer and supplier standard equipment, item or accessory warranties shall be the Contractor's responsibility under Project warranty period.

B. System, equipment, item, or accessory warranties shall commence upon the date of Substantial Completion.

C. All warranties longer than the Project warranty period shall be assigned to the Owner.

D. Specified or indicated warranties in the project may remain the responsibility of the Contractor after expiration of Project warranty period.

E. For equipment put into use during construction the warranties will start at Substantial Completion. Warranty start date may be provided during construction by permission of Owner, submit warranty data within 10 days after first operation.

F. For items of Work delayed materially beyond Date of Substantial Completion, provide updated warranty data within ten days after Owner acceptance, listing date of acceptance as start of warranty period.

1.6 SPARE PARTS AND MAINTENANCE MATERIALS

A. Provide products, spare parts, and maintenance materials in quantities specified in each Section, in addition to that used for construction of Work. Coordinate with Owner, deliver to Project site, and obtain receipt prior to final payment.

B. Provide a table listing extra stock materials required by the various specification sections. At a minimum include specification section number, section name, paragraph, material, date received, received by, and placed stored.

1.7 SYSTEMS DEMONSTRATION AND INSTRUCTIONS TO OWNER

A. Prior to substantial completion, demonstrate operation of each system to Contracting Officer.

B. Prepare a comprehensive training schedule and submit to the Contracting Officer for review and approval a minimum of 14 days prior to planned date of first training session.

C. Prior to substantial completion instruct designated Owner personnel in proper operation, adjustment, and maintenance of equipment and systems, utilizing an accepted Operations and Maintenance Manual.

D. Instruct only those Owner personnel specifically designated by the Contracting Officer. Instruction of other Owner personnel will not meet the requirements of this section.

E. Reference individual Specification Sections for additional Owner instruction requirements.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

PART 1 GENERAL

1.1 SCOPE: SECTION 01 73 29 - CUTTING AND PATCHING

A. Requirements and limitations for cutting and patching of Work.

1.2 SUBMITTALS

A. Submit written request two weeks in advance of cutting or alteration which affects:

1. Structural integrity of any element of Project.
2. Integrity of weather-exposed or moisture-resistant element.
3. Efficiency, maintenance, or safety of any operational element.
4. Visual qualities of sight-exposed elements.
5. Work of Owner or separate Contractor.

B. Include in request:

1. Identification of Project and Owner's Project number.
2. Location and description of affected Work.
3. Necessity for cutting or alteration.
4. Description of proposed Work and products to be used.
5. Alternatives to cutting and patching.
6. Effect on Work of Owner or separate Contractor.
7. Written permission of affected separate Contractor.
8. Date and time that Work will be executed.

PART 2 PRODUCTS

2.1 PRODUCTS FOR PATCHING AND EXTENDING WORK

A. New Materials: As specified in individual Specification Sections.

B. Match existing products and work for patching and extending Work. Determine quality of existing products by inspection and any necessary testing.

C. For any change in materials, submit request under provisions of Section 01 33 00 the General Requirements.

PART 3 EXECUTION

3.1 GENERAL

A. Locate penetrations to avoid structural members.

B. Execute cutting, fitting, and patching including excavation and fill to complete Work, and to:

1. Fit the several parts together, to integrate with other Work.

2. Uncover Work to install ill-timed Work.

3. Remove and replace non-conforming and defective Work.

4. Remove samples of installed Work for testing.

5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.

3.2 INSPECTION

A. Inspect existing conditions, including elements subject to damage or movement during cutting and patching.

B. After uncovering, inspect conditions affecting performance of Work.

C. Beginning of cutting or patching means acceptance of existing conditions.

3.3 PREPARATION

A. Provide supports to assure structural integrity of surroundings. Provide devices and employ methods as required to protect other portions of Project from damage.

B. Provide protection from elements for areas that may be exposed by uncovering Work; maintain excavations free of water.

C. Provide devices and employ methods as required to protect Contractor and Owner personnel from openings in walls, floors, and ceilings through which personnel may fall or through which objects may fall on to personnel below.

3.4 PERFORMANCE

A. Execute Work by methods to avoid damage to other Work, and which will provide proper surfaces to receive patching and finishing.

B. For all new Work, employ original installer to perform cutting and patching for weather-exposed and moisture-resistant elements, and sight-exposed surfaces.

C. Cut rigid materials using masonry saw or core drill. Pneumatic tools and electric hammers are not permitted.

D. Restore Work with new products in accordance with requirements of Contract Documents.

E. Fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

F. Seal pipe and conduit penetrations at rated floors and walls with firestopping installed in accordance with firestopping manufacturer's UL listed installation requirements for indicated rating.

G. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for an assembly, refinish entire unit.

END OF SECTION

PART 1 GENERAL

1.1 SCOPE: SECTION 02 41 19 - SELECTIVE DEMOLITION

A. This Section covers 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. Section Includes:

1. Demolition and removal of selected portions of building or structure.

2. Salvage of existing items to be reused or recycled.

1.3 DEFINITIONS

A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged or reinstalled.

B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and store.

C. Remove and Reinstall: Detach items from existing construction, in a manner to prevent damage, prepare for reuse, and reinstall where indicated.

D. Existing to Remain: Leave existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled.

1.4 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition waste becomes property of Contractor.

1.5 INFORMATIONAL SUBMITTALS

A. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property, for dust control and, for noise control. Indicate proposed locations and construction of barriers.

B. Schedule of Selective Demolition Activities: Indicate the following:

1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's tenants on-site operations are uninterrupted.

2. Interruption of utility services. Indicate how long utility services will be interrupted.

3. Coordination for shutoff, capping, and continuation of utility services.

4. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.

C. Pre-demolition Photographs or Video: Show existing conditions of adjoining construction, including finish surfaces that might be misconstrued as damage caused by demolition operations. Comply with Division 1 Section 01 32 33 "Photographic Documentation." Submit before Work begins.

D. Warranties: Documentation indicating that existing warranties are still in effect after completion of selective demolition.

1.6 CLOSEOUT SUBMITTALS

A. Inventory: Submit a list of items that have been removed and salvaged.

1.7 FIELD CONDITIONS

A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.

B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

1. Before selective demolition, Owner will remove the following items:

a. Stored Materials, Furnishings, and Equipment.

C. Notify Engineer of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

D. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

1. Maintain fire-protection facilities in service during selective demolition operations.

1.8 COORDINATION

A. Arrange selective demolition schedule so as not to interfere with Owner's operations.

PART 2 PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Standards: Comply with ASSE A10.6 and NFPA 241.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that utilities have been disconnected and capped before starting selective demolition operations.

B. Perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.

1. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

C. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or video.

1. Comply with requirements specified in Division 1 Section 01 32 33 "Photographic Documentation."

2. Inventory and record the condition of items to be removed and salvaged. Provide photographs or video of conditions that might be misconstrued as damage caused by salvage operations.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.

1. Arrange to shut off utilities with utility companies.

2. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.

3. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated on Drawings to be removed.

   a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.

   b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material and leave in place.

   c. Equipment to Be Removed: Disconnect and cap services and remove equipment.

   d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.

   e. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.

   f. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.

   g. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material and leave in place.

3.3 PROTECTION

A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.

2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.

3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.

4. Cover and protect furniture, furnishings, and equipment that have not been removed.

5. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in Division 1 Section 01 50 00 "Temporary Facilities and Controls."

B. Remove temporary barricades and protections where hazards no longer exist.

3.4 SELECTIVE DEMOLITION, GENERAL

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.

2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.

3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.

4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.

5. Maintain fire watch during and for at least 4 hours after flame-cutting operations.

6. Maintain adequate ventilation when using cutting torches.

7. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.

8. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.

9. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.

10. Dispose of demolished items and materials promptly off-site. Contractor shall not use owners dumpsters or waste containers.

B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

C. Removed and Salvaged Items:

1. Clean salvaged items.

2. Pack or crate items after cleaning. Identify contents of containers.

3. Store items in a secure area until delivery to Owner.

4. Transport items to Owner's storage area designated by Owner.

5. Protect items from damage during transport and storage.

D. Removed and Reinstalled Items:

1. Clean and repair items to functional condition adequate for intended reuse.

2. Pack or crate items after cleaning and repairing. Identify contents of containers.

3. Protect items from damage during transport and storage.

4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Engineer, items may be removed to a suitable, protected storage location during selective demolition and reinstalled in their original locations after selective demolition operations are complete.

3.5 DISPOSAL OF DEMOLISHED MATERIALS

A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.

1. Do not allow demolished materials to accumulate on-site.

2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn demolished materials.

3.6 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION

PART 1 GENERAL

1.1 SECTION: SCOPE 08 31 00 - ACCESS DOORS AND PANELS

A. This section includes the following:

1. Ceiling access door and frame units.

1.2 SUBMITTALS

A. Product Data: Provide sizes, types, finishes, hardware, scheduled locations, and details of adjoining work.

B. Manufacturer's Installation Instructions: Indicate installation requirements.

1.3 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

PART 2 PRODUCTS

2.1 WALL AND CEILING MOUNTED UNITS

A. Manufacturers:

1. ACUDOR Products Inc.: www.acudor.com/#sle.

2. Babcock-Davis: www.babcockdavis.com/#sle.

3. Nystrom, Inc.: www.nystrom.com/#sle.

4. Or equal.

B. Wall and Ceiling Mounted Units: Factory fabricated door and frame, fully assembled units with corner joints welded, filled and ground flush; square and without rack or warp; coordinate requirements with type of installation assembly being used for each unit.

1. Material: Steel.

2. Style: Exposed frame with door surface flush with frame surface.

a. Gypsum Board Mounting Criteria: Use drywall bead type frame.

3. Door Style: Single thickness with rolled or turned in edges.

4. Frames: 16 gage, 0.0598-inch, minimum thickness.

5. Single Steel Sheet Door Panels: 1/16-inch, minimum thickness.

6. Steel Finish: Primed.

7. Primed and Field Finish: color match ceiling.

8. Hardware:

a. Hinges for Non-Fire-Rated Units: Concealed, constant force closure spring type.

b. Latch/Lock: Screw driver slot for quarter turn cam latch.

c. Gasketing: Extruded neoprene, around perimeter of door panel.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that rough openings are correctly sized and located.

3.2 PREPARATION

A. Prepare surfaces using methods recommended by manufacturer for applicable substrates in accordance with project conditions.

3.3 INSTALLATION

A. Install units in accordance with manufacturer's instructions.

B. Install frames plumb and level in openings, and secure units rigidly in place.

C. Position units to provide convenient access to concealed equipment when necessary.

END OF SECTION

PART 1 GENERAL

1.1 SECTION: SCOPE 09 05 61 - COMMON WORK RESULTS FOR FLOORING PREPARATION

A. This section includes the following:

1. This section applies to all floors identified in the contract documents as to receive the following types of floor coverings:

a. Resilient tile and sheet.

2. Preparation of existing concrete floor slabs for installation of floor coverings.

3. Testing of concrete floor slabs for moisture and alkalinity (pH).

4. Remediation of concrete floor slabs due to unsatisfactory moisture or alkalinity (pH) conditions.

a. Shall perform all specified remediation of concrete floor slabs. If such remediation is indicated by testing agency's report and is due to a condition not under 's control or could not have been predicted by examination prior to entering into the contract, a contract modification will be issued.

5. Remedial floor coatings.

1.2 REFERENCE STANDARDS

A. ASTM F710.

B. ASTM F1869.

1.3 SUBMITTALS

A. Floor Covering and Adhesive Manufacturers' Product Literature: For each specific combination of substrate, floor covering, and adhesive to be used; showing:

1. Moisture and alkalinity (pH) limits and test methods.

2. Manufacturer's required bond/compatibility test procedure.

B. Testing Agency's Report:

1. Description of areas tested; include floor plans and photographs if helpful.

2. Summary of conditions encountered.

3. Moisture and alkalinity (pH) test reports.

4. Copies of specified test methods.

5. Recommendations for remediation of unsatisfactory surfaces.

6. Submit report to Owner or Owner's representative.

7. Submit report not more than two business days after conclusion of testing.

C. Adhesive Bond and Compatibility Test Report.

1.4 QUALITY ASSURANCE

A. Moisture and alkalinity (pH) testing shall be performed by an independent testing agency employed and paid by.

B. Testing Agency Qualifications: Independent testing agency experienced in the types of testing specified.

1. Submit evidence of experience consisting of at least three test reports of the type required, with project Owner's project contact information.

C. Responsibility Relating to Independent Agency Testing:

1. Provide access for and cooperate with testing agency.

2. Confirm date of start of testing at least 10 days prior to actual start.

3. Allow at least four business days on site for testing agency activities.

4. Achieve and maintain specified ambient conditions.

5. Notify when specified ambient conditions have been achieved and when testing will start.

1.5 FIELD CONDITIONS

A. Maintain ambient temperature in spaces where concrete testing is being performed, and for at least 48 hours prior to testing, at not less than 65 degrees F or more than 85 degrees F.

B. Maintain relative humidity in spaces where concrete testing is being performed, and for at least 48 hours prior to testing, at not less than 40 percent and not more than 60 percent.

PART 2 PRODUCTS

2.1 MATERIALS

A. Remedial Floor Coating: Single- or multi-layer coating or coating/overlay combination intended by its manufacturer to resist water vapor transmission to degree sufficient to meet flooring manufacturer's emission limits, resistant to the level of alkalinity (pH) found, and suitable for adhesion of flooring without further treatment.

PART 3 EXECUTION

3.1 CONCRETE SLAB PREPARATION

A. Perform following operations in the order indicated:

1. Preliminary cleaning.
2. Moisture vapor emission tests; one test in the first 1000 square feet and one test in each additional 1000 square feet, unless otherwise indicated or required by flooring manufacturer.
3. Internal relative humidity tests; in same locations as moisture vapor emission tests, unless otherwise indicated.
4. Alkalinity (pH) tests; in same locations as moisture vapor emission tests, unless otherwise indicated.
5. Specified remediation, if required.
6. Patching, smoothing, and leveling, as required.
7. Other preparation specified.
8. Adhesive bond and compatibility test.
9. Protection.

B. Remediations:

1. Active Water Leaks or Continuing Moisture Migration to Surface of Slab: Correct this condition before doing any other remediation; re-test after correction.

2. Excessive Moisture Emission or Relative Humidity: If an adhesive that is resistant to the level of moisture present is available and acceptable to flooring manufacturer, use that adhesive for installation of the flooring; if not, apply remedial floor coating or remedial sheet membrane over entire suspect floor area.

3. Excessive Alkalinity (pH): If remedial floor coating is necessary to address excessive moisture, no additional remediation is required; if not, if an adhesive that is resistant to the level present is available and acceptable to the flooring manufacturer, use that adhesive for installation of the flooring; otherwise, apply a skim coat of specified patching compound over entire suspect floor area.

3.2 PRELIMINARY CLEANING

A. Clean floors of dust, solvents, paint, wax, oil, grease, asphalt, residual adhesive, adhesive removers, film-forming curing compounds, sealing compounds, alkaline salts, excessive laitance, mold, mildew, and other materials that might prevent adhesive bond.

B. Do not use solvents or other chemicals for cleaning.

3.3 MOISTURE VAPOR EMISSION TESTING

A. Where the floor covering manufacturer's requirements conflict with either the referenced test method or this specification, comply with the manufacturer's requirements.

B. Where this specification conflicts with the referenced test method, comply with the requirements of this section.

C. Test in accordance with ASTM F1869 and as follows.

D. Plastic sheet test and mat bond test may not be substituted for the specified ASTM test method, as those methods do not quantify the moisture content sufficiently.

E. In the event that test values exceed floor covering manufacturer's limits, perform remediation as indicated. In the absence of manufacturer limits, perform remediation if test values exceed three pounds per 1000 square feet per 24 hours.

F. Report: Report the information required by the test method.

3.4 ALKALINITY TESTING

A. Where the floor covering manufacturer's requirements conflict with either the referenced test method or this specification, comply with the manufacturer's requirements.

B. The following procedure is the equivalent of that described in ASTM F710, repeated here for the Owner's convenience.

C. Use a wide range alkalinity (pH) test paper, its associated chart, and distilled or deionized water.

D. Place several drops of water on a clean surface of concrete, forming a puddle approximately one-inch in diameter. Allow the puddle to set for approximately 60 seconds, then dip the alkalinity (pH) test paper into the water, remove it, and compare immediately to chart to determine alkalinity (pH) reading.

E. In the event that test values exceed floor covering manufacturer's limits, perform remediation as indicated. In the absence of manufacturer limits, perform remediation if alkalinity (pH) test value is over 10.

3.5 PREPARATION

A. See individual floor covering section(s) for additional requirements.

B. Comply with requirements and recommendations of floor covering manufacturer.

C. Fill and smooth surface cracks, grooves, depressions, control joints and other non-moving joints, and other irregularities with patching compound.

D. Do not fill expansion joints, isolation joints, or other moving joints.

3.6 ADHESIVE BOND AND COMPATIBILITY TESTING

A. Comply with requirements and recommendations of floor covering manufacturer.

3.7 APPLICATION OF REMEDIAL FLOOR COATING

A. Comply with requirements and recommendations of coating manufacturer.

3.8 PROTECTION

A. Cover prepared floors with building paper or other durable covering.

END OF SECTION

PART 1 GENERAL

1.1 SECTION: SCOPE 09 21 16 - GYPSUM BOARD ASSEMBLIES

A. This section includes the following:

1. Metal stud wall framing.
2. Gypsum wallboard.
3. Joint treatment and accessories.

1.2 REFERENCE STANDARDS

A. ASTM C475/C475M.

B. ASTM C645.

C. ASTM C754.

D. ASTM C840.

E. ASTM C954.

F. ASTM C1002.

G. ASTM C1396/C1396M.

H. ASTM D3273.

I. GA-216.

1.3 SUBMITTALS

A. Product Data: Provide data on gypsum board, accessories, and joint finishing system.

PART 2 PRODUCTS

2.1 GYPSUM BOARD ASSEMBLIES

A. Provide completed assemblies complying with ASTM C840 and GA-216.

1. See PART 3 for finishing requirements.

2.2 METAL FRAMING MATERIALS

A. Manufacturers - Metal Framing, Connectors, and Accessories:

1. Clarkwestern Dietrich Building Systems LLC: www.clarkdietrich.com.

2. Or equal.

B. Non-Loadbearing Framing System Components: ASTM C645; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 for the spacing indicated, with maximum deflection of wall framing of L/120 at 5 psf.

1. Studs: "C" shaped with flat or formed webs with knurled faces.

2. Runners: U shaped, sized to match studs.

3. Furring: Hat-shaped sections, minimum depth of 7/8".

C. Partition Head to Structure Connections: Provide track fastened to structure with legs of sufficient length to accommodate deflection, for friction fit of studs cut short and fastened as indicated on drawings.

2.3 BOARD MATERIALS

A. Manufacturers - Gypsum-Based Board:

1. CertainTeed Corporation: www.certainteed.com.

2. Georgia-Pacific Gypsum: www.gpgypsum.com.

3. USG Corporation: www.usg.com.

4. Or equal.

B. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.

1. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.

2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.

a. Mold resistant board is required Break Room 80.1.

3. Thickness:

a. Vertical Surfaces: 5/8-inch.

4. Mold Resistant Paper Faced Products:

a. Georgia-Pacific Gypsum; ToughRock Mold-Guard.

b. National Gypsum Company; Gold Bond XP Gypsum Board.

c. Or equal.

2.4 ACCESSORIES

A. Acoustic Insulation: As specified in Section.

B. Acoustic Sealant: Acrylic emulsion latex or water-based elastomeric sealant; do not use solvent-based non-curing butyl sealant.

1. Products:

a. Franklin International, Inc; Titebond GREENchoice Professional Acoustical Smoke and Sound Sealant: www.titebond.com/sle.

b. Or equal.

C. Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.

1. Tape: wide, creased paper tape for joints and corners, except as otherwise indicated.

2. Ready-mixed vinyl-based joint compound.

D. High Build Drywall Surfacer: Vinyl acrylic latex-based coating for spray application, designed to take the place of skim coating and separate paint primer in achieving Level 5 finish.

E. Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033-inch in Thickness and Wood Members: ASTM C1002; self-piercing tapping screws, corrosion resistant.

F. Screws for Fastening of Gypsum Panel Products to Steel Members from 0.033 to 0.112-inch in Thickness: ASTM C954; steel drill screws, corrosion resistant.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that project conditions are appropriate for work of this section to commence.

3.2 FRAMING INSTALLATION

A. Metal Framing: Install in accordance with ASTM C754 and manufacturer's instructions.

B. Studs: Space studs at 24 inches on center.

1. Extend partition framing to structure where indicated and to ceiling in other locations.

2. Partitions Terminating at Structure: Attach extended leg top runner to structure, maintain clearance between top of studs and structure, and brace both flanges of studs with continuous bridging.

C. Blocking: Install wood blocking for support of:

1. Framed openings.

2. Wall mounted cabinets.

3. Plumbing fixtures.

4. Wall mounted door hardware.

3.3 ACOUSTIC ACCESSORIES INSTALLATION

A. Acoustic Insulation: Place tightly within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.

B. Acoustic Sealant: Install in accordance with manufacturer's instructions.

3.4 BOARD INSTALLATION

A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.

3.5 JOINT TREATMENT

A. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:

1. Level 5: Walls and ceilings to receive semi-gloss or gloss paint finish and other areas specifically indicated.

2. Level 1: Wall areas above finished ceilings, whether or not accessible in the completed construction.

B. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.

1. Feather coats of joint compound so that camber is maximum 1/32-inch.

C. Where Level 5 finish is indicated, spray apply high build drywall surfacer over entire surface after joints have been properly treated; achieve a flat and tool mark-free finish.

3.6 TOLERANCES

A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8-inch in 10 feet in any direction.

END OF SECTION

PART 1 GENERAL

1.1 SECTION: SCOPE 09 65 00 - RESILIENT FLOORING

A. This section includes the following:

1. Static control resilient tile flooring.

2. Resilient base.

3. Installation accessories.

1.2 RELATED REQUIREMENTS

A. Section: Independent agency testing of concrete slabs, removal of existing floor coverings, cleaning, and preparation.

B. Section: Grounding and bonding of static control flooring to building grounding system.

1.3 REFERENCE STANDARDS

A. ASTM F710.

B. ASTM F1700.

C. ASTM F1861.

1.4 SUBMITTALS

A. Product Data: Provide data on specified products, describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.

B. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning, stripping, and re-waxing.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Upon receipt, immediately remove any shrink-wrap and check materials for damage and the correct style, color, quantity and run numbers.

B. Store all materials off of the floor in an acclimatized, weather-tight space.

C. Maintain temperature in storage area between 55 degrees F and 90 degrees F.

1.6 FIELD CONDITIONS

A. Store materials for not less than 48 hours prior to installation in area of installation at a temperature of 70 degrees F to achieve temperature stability. Thereafter, maintain conditions above 55 degrees F.

PART 2 PRODUCTS

2.1 TILE FLOORING

A. Static Control Tile: Homogeneous; color and pattern throughout thickness.

1. Basis of design iQ Granit SD by Tarkett.

2. Minimum Requirements: Solid vinyl tile complying with ASTM F1700, Class 1, Type A.

3. Electrical Resistance:

a. Dissipative Tile: Resistance between 1.0 megohms and 1000 megohms as tested in accordance with ASTM F150.

4. Tile Size: 24 by 24 inches.

5. Total Thickness: 0.125-inch.

6. Color: As indicated on drawings.

2.2 RESILIENT BASE

A. Resilient Base: ASTM F1861, Type TS rubber, vulcanized thermoset; top set Style B, Cove.

1. Manufacturers:

a. Burke Flooring: www.burkeflooring.com.

b. Johnsonite, a Tarkett Company: www.johnsonite.com.

c. Roppe Corp: www.roppe.com.

d. Or equal.

2. Height: 4 inches.

3. Thickness: 0.125-inch.

4. Finish: Satin.

5. Length: Roll.

6. Color: As indicated on drawings.

2.3 ACCESSORIES

A. Primers, Adhesives, and Seam Sealer: Waterproof; types recommended by flooring manufacturer.

B. Moldings, Transition and Edge Strips: Same material as flooring.

C. Copper Grounding Strips: Type and size as recommended by static control flooring manufacturer.

D. Floor Polish for Static Control Flooring: Fluid-applied polish, intended to protect electrical properties of flooring, as recommended by static control flooring manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that surfaces are flat to tolerances acceptable to flooring manufacturer, free of cracks that might telegraph through flooring, clean, dry, and free of curing compounds, surface hardeners, and other chemicals that might interfere with bonding of flooring to substrate.

B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive resilient base.

C. Cementitious Sub-floor Surfaces: Verify that substrates are dry enough and ready for resilient flooring installation by testing for moisture and pH.

1. Test in accordance with Section.

2. Obtain instructions if test results are not within limits recommended by resilient flooring manufacturer and adhesive materials manufacturer.

3.2 INSTALLATION - GENERAL

A. Starting installation constitutes acceptance of sub-floor conditions.

B. Install in accordance with manufacturer's written instructions.

C. Spread only enough adhesive to permit installation of materials before initial set.

D. Place copper grounding strip in conductive adhesive and apply additional adhesive to top side of strip before installing static control flooring. Allow strip to extend beyond flooring in accordance with static control flooring manufacturer's instructions. Refer to manufacturer installation guide for grounding and bonding to building grounding system.

E. Fit joints and butt seams tightly.

F. Set flooring in place, press with heavy roller to attain full adhesion.

G. Where type of floor finish, pattern, or color are different on opposite sides of door, terminate flooring under centerline of door.

H. Install edge strips at unprotected or exposed edges, where flooring terminates, and where indicated.

I. Scribe flooring to walls, columns, cabinets, floor outlets, and other appurtenances to produce tight joints.

3.3 INSTALLATION - TILE FLOORING

A. Mix tile from container to ensure shade variations are consistent when tile is placed, unless otherwise indicated in manufacturer's installation instructions.

3.4 INSTALLATION - RESILIENT BASE

A. Fit joints tightly and make vertical. Maintain minimum dimension of 18 inches between joints.

B. Install base on solid backing. Bond tightly to wall and floor surfaces.

3.5 CLEANING

A. Remove excess adhesive from floor, base, and wall surfaces without damage.

B. Clean in accordance with manufacturer's written instructions.

3.6 PROTECTION

A. Prohibit traffic on resilient flooring for 48 hours after installation.

END OF SECTION

PART 1 GENERAL

1.1 SCOPE: SECTION 09 80 00 - ACOUSTICAL TREATMENT

A. This section includes:

1. Decorative fabric wrapped custom acoustical wall panels.

1.2 REFERENCES

A. American Society for Testing and Materials (ASTM):

1. ASTM C423 - Sound Absorption by Reverberation Room Method.

2. ASTM C1338 - Standard Test Method for Determining Fungi Resistance of Insulation Materials and Facings.

3. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

4. ASTM E413 - Classification for Rating Sound Insulation.

B. Federal Specification CCC-T-191 - Textile Test Methods.

C. National Fire Protection Association (NFPA) 255 - Standard Method of Test of Surface Burning Characteristics of Building Materials.

D. UL 723 - Standard for Test for Surface Burning Characteristics of Building Materials.

1.3 SUBMITTALS

A. Submit under provisions of Section 01 30 00 - Administrative Requirements.

B. Product Data: Manufacturer's data sheets on each product to be used, including:

1. Preparation instructions and recommendations.

2. Storage and handling requirements and recommendations.

3. Installation methods.

C. Certificates: Submit manufacturer's certificate that products meet or exceed specified requirements.

D. Shop Drawings: Submit shop drawings in detail of all work in scale to indicate size, location and attachment methods required for the installation of the required work.

E. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square representing actual product, color, and patterns.

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications: Minimum 5 year experience manufacturing similar products.

B. Installer Qualifications: Minimum 2 year experience installing projects of similar size and complexity.

1.5 PRE-INSTALLATION MEETINGS

A. Convene minimum two weeks prior to starting work of this section.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver material in the manufacturer's original, unopened, undamaged containers with identification labels intact.

B. Provide labels indicating brand name, source of procurement, style, size and thickness.

C. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.

D. Handling: Handle materials to avoid damage.

1.7 PROJECT CONDITIONS

A. 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 recommended limits.

1.8 SEQUENCING

A. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

1.9 WARRANTY

A. Warranty Period: One year.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers: Acoustical Surfaces, Inc., Acoustimac LLC., Audimute Acousticolor.

B. Requests for substitutions will be considered in accordance with provisions of Section 01 25 00 and 01 60 00.

2.2 DECORATIVE FABRIC WRAPPED CUSTOM ACOUSTICAL WALL PANELS

A. Core Materials:

1. Material: 6 to 7 lb. density glass fiber.

2. Acoustical Properties:

a. 2-inch thickness: NRC of 1.15.

3. Fire Resistance: This pattern meets the requirements of National Fire Protection Association (NFPA) Class A or 1.

a. Flame Spread: 15.

b. Smoke Developed: 40.

B. Attachment Materials:

1. Mechanical clips.

C. Product: Decorative Fabric Wrapped Custom Acoustical Wall Panels

1. Core Thickness: 2 inches (51 mm).

2. Size: 2 feet by 4 feet (610 mm by 1219 mm).

3. Edge Detail: Square.

4. Edge Treatment: Soft.

5. Mounting: Mechanical Clips.

D. Vinyl Facing Materials:

1. Type: Web core micro perforated.

2. Style and Color: see drawings.

3. Total Weight (oz./lin. yd.): 8.0.

4. Vinyl Weight (oz./lin. yd.): 5.0.

5. Fabric Weight (oz./lin. yd.): 3.0.

6. Fabric type and count: Polyester Sheeting (22 x 26).

7. Total average thickness: 0.018 inch (0.45 mm).

8. Light Reflectance Value (LR Value) is reported as average percent reflectance as measured by ASTM E-97 test method.

9. Web Core was applied to 1 inch (25 mm) thick 7 PCF rigid acoustical fiberglass on a #4 mounting and tested for noise reduction coefficient. The result is 0.80 NRC.

10. This pattern satisfactorily passes physical requirements for type I as listed in G.S.A. Federal Specification CCC-W-408A. (Federal Specification CCC-T-191 details test procedures required.)

11. Fire Resistance: This pattern meets the requirements of National Fire Protection Association (NFPA) Class A or 1.

a. Flame Spread: 20.

b. Smoke Developed: 65.

12. Stain Resistance: ASTM D-1308, METHOD B-24 hour exposure followed by washing with soap and water.

PART 3 EXECUTION

3.1 EXAMINATION

A. Site Verification of Conditions:

1. Examine surfaces scheduled to receive furred out or directly attached acoustical units for unevenness, irregularities and dampness that would affect quality and execution of work.

2. Do not proceed with installation of acoustical panels until unacceptable conditions are corrected.

B. Environmental Requirements:

1. Do not install acoustical panels until space is closed in and HVAC system is operational.

3.2 INSTALLATION - GENERAL

A. General: Do not begin installation until materials sufficient to complete an entire room are received and are ready for installation.

1. Install acoustical wall panels in accordance with quantity and lay-outs as shown on the architectural drawings.

2. Acoustical wall panels shall be mechanically mounted in accordance with manufacturer's recommendations.

B. Manufacturer's Instructions:

1. Comply with the instructions and recommendations of the acoustical panel manufacturer.

2. Install materials in accordance with governing regulations, fire resistance rating requirements and industry standards applicable to work.

3.3 PANEL MOUNTING

A. Mechanical Clips: The panel clips are mounted onto the panels at the time of shipment. The wall clips are installed on the wall at the location established by the position of the panel clips or wall bars.

3.4 CLEANING

A. Clean exposed surfaces of acoustical panel to comply with manufacturer's instructions for cleaning.

B. Remove and replace tiles, which cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

3.5 PROTECTION

A. Protect installed work from damage due to subsequent construction activity, including temperature and humidity limitations and dust control, so that the work will be without damage and deterioration at the time of acceptance by the Owner.

END OF SECTION

PART 1 GENERAL

1.1 SECTION: SCOPE 09 91 23 - INTERIOR PAINTING

A. This section includes the following:

1. Surface preparation.

2. Field application of paints, stains, and varnishes.

3. Scope: Finish interior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated.

4. Do Not Paint or Finish the Following Items:

a. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.

b. Items indicated to receive other finishes.

c. Items indicated to remain unfinished.

d. Fire rating labels, equipment serial number and capacity labels, bar code labels, and operating parts of equipment.

e. Floors, unless specifically indicated.

f. Glass.

g. Concealed pipes, ducts, and conduits.

1.2 REFERENCE STANDARDS

A. 40 CFR 59, Subpart D.

B. ASTM D4442.

C. MPI (APSM).

D. SSPC-SP 1.

E. SSPC-SP 6.

1.3 SUBMITTALS

A. Product Data: Provide complete list of products to be used, with the following information for each:

1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").

2. MPI product number (e.g. MPI #47).

3. Cross-reference to specified paint system(s) product is to be used in; include description of each system.

B. Samples: Submit two paper chip samples, in size illustrating range of colors and textures available for each surface finishing product scheduled.

C. Maintenance Data: Submit data including finish schedule showing where each product/color/finish was used, product technical data sheets, material safety data sheets (MSDS), care and cleaning instructions, touch-up procedures, repair of painted and finished surfaces, and color samples of each color and finish used.

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified, with minimum three years documented experience.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Paint Materials: Store at minimum ambient temperature of and a maximum of, in ventilated area, and as required by manufacturer's instructions.

PART 2 PRODUCTS

2.1 PAINTS AND FINISHES - GENERAL

A. Paints and Finishes: Ready mixed, unless intended to be a field-catalyzed paint.

1. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.

2. Supply each paint material in quantity required to complete entire project's work from a single production run.

3. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.

B. Volatile Organic Compound (VOC) Content:

1. Provide paints and finishes that comply with the most stringent requirements specified in the following:

a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.

2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.

C. Colors: As indicated on drawings.

2.2 PAINT SYSTEMS - INTERIOR

A. Paint I-OP - Interior Surfaces to be Painted, Unless Otherwise Indicated: Including gypsum board, uncoated steel, and shop primed steel.

1. Two top coats and one coat primer.

2. Top Coat(s): High Performance Architectural Interior Latex; MPI #138, 139, 140, or 141.

3. Primer: As recommended by top coat manufacturer for specific substrate.

B. Paint I-OP-MD-DT - Medium Duty Door/Trim: For surfaces subject to frequent contact by occupants, including metals:

1. Medium duty applications include door frames.

2. Two top coats and one coat primer.

3. Top Coat(s): Interior Epoxy-Modified Latex; MPI #115 or 215.

C. Paint I-TR -W - Transparent Finish on Wood.

1. Stain: Semi-Transparent Stain for Wood; MPI #90.

2.3 ACCESSORY MATERIALS

A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.

B. Patching Material: Latex filler.

C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially effect proper application.

C. Test shop-applied primer for compatibility with subsequent cover materials.

D. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:

1. Gypsum Wallboard: 12 percent.

2. Interior Wood: 15 percent, measured in accordance with ASTM D4442.

3.2 PREPARATION

A. Clean surfaces thoroughly and correct defects prior to application.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.

D. Seal surfaces that might cause bleed through or staining of topcoat.

E. Gypsum Board: Fill minor defects with filler compound. Spot prime defects after repair.

F. Ferrous Metal:

1. Solvent clean according to SSPC-SP 1.

2. Shop-Primed Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Re-prime entire shop-primed item.

3. Remove rust, loose mill scale, and other foreign substances using methods recommended in writing by paint manufacturer and blast cleaning according to SSPC-SP 6 "Commercial Blast Cleaning". Protect from corrosion until coated.

G. Wood Surfaces to Receive Transparent Finish: Wipe off dust and grit prior to sealing, seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after sealer has dried; sand lightly between coats. Prime concealed surfaces with gloss varnish reduced 25 percent with thinner.

3.3 APPLICATION

A. Apply products in accordance with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual".

B. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

C. Apply each coat to uniform appearance in thicknesses specified by manufacturer.

D. Sand wood and metal surfaces lightly between coats to achieve required finish.

E. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

F. Wood to Receive Transparent Finishes: Tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.

G. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.4 PROTECTION

A. Protect finishes until completion of project.

B. Touch-up damaged finishes after Substantial Completion.

END OF SECTION

PART 1 GENERAL

1.1 SCOPE: SECTION 26 05 10 – BASIC MATERIALS AND METHODS

A. Provide all Work as shown on the Drawings and in these Specifications for a complete, safe, and functional installation. All Work shall comply with the latest edition of the National Electrical Code (NEC).

B. The Contractor is responsible for providing a complete and operating facility. The intention of the Contract Documents is to include all labor and materials, equipment, and transportation necessary or reasonably inferable as being necessary for the execution of the work. Where minor adjustments of the work are necessary for purposes of fabrication or installation of items or resolution of conflicts between items within the intent of the Contract Documents, the Contractor shall make such adjustments at no added expense to the Owner. Where such adjustments affect functional or aesthetic design of the work, they shall first be submitted to the Owner's Representative for review and approval.

C. Obtain and pay for all permits, plan reviews and inspections required for the Work covered by this Division of the Specifications.

D. Unless otherwise noted, all materials shall be of new manufacture, and installed before expiration of their shelf life, if applicable.

E. Materials and equipment are to be those of major and reputable manufacturers with ability to render competent and thorough service through local and regional organizations capable of expeditiously providing service, parts and assistance.

F. Materials of similar nature, style, function, purpose and/or appearance shall be like products from the standard product line of the same manufacturer.

G. All products shall be listed by Underwriter's Laboratories for their intended use and location in all cases where UL lists such products. Where no product listed by UL for the application is available, provide certification of performance, function and rating from an independent testing agency or laboratory approved by the Owner.

H. The omission of express reference to any parts, supplies, services, or facilities necessary for, or incidental to, a complete installation shall not be construed as a release from furnishing such items.

I. Verification is required of all equipment sizes and locations prior to the ordering or installation of connection materials and disconnecting equipment to ensure that the power connections are of the proper size and type, and in the proper location. Verify all electrical loads (voltage, phase, full load amperes, number and point of connections, minimum circuit ampacity, etc.) for equipment furnished under all divisions of this specification, by reviewing respective shop drawings furnished under each division. Meet with each subcontractor furnishing equipment requiring electrical service and review

electrical characteristics. Report any variances from electrical characteristics noted on the drawings with the Owner before proceeding with rough work. Obtain and review the equipment shop drawings to determine particular final connection requirements before rough-in begins for each equipment item.

J. All materials shall be installed in a neat, orderly, and secure fashion, as required by these Specifications and commonly recognized standards of good workmanship. The norms for execution of the work shall be in conformity with NEC Chapter 3 and the National Electrical Contractors' Association "National Electrical Installation Standards", for which the Owner's judgment shall be final.

K. Electrical equipment shall be installed in spaces that are accessible and in a manner that allows for maintenance and replacement. Entries into spaces shall allow for the passage of equipment. Coordinate the final locations with piping and equipment of other trades to insure proper access for all trades. Coordinate location of concealed equipment, disconnects and boxes with access panels and doors.

L. Furnish and install all fasteners and other hardware necessary for the proper, secure installation of all electrical features.

1.2 DRAWINGS

A. Unless otherwise indicated, drawing symbols conform to the applicable standards of ANSI. The Drawings (or Contract Drawings) rely heavily upon symbolic representation of the features shown, and represent exact details only so far as indicated.

1. The Drawings are, to some extent, diagrammatic and are not intended to show exact details.

2. Dimensions scaled from the Drawings may vary due to tracing tolerances, printing distortion, field conditions, field changes, and other factors. For these reasons, it shall be the Contractor's responsibility to field verify dimensions that pertain to their Work. The Contractor shall make minor relocations where necessary to resolve conflicts or present a uniform appearance. The Drawings show exact location of electrical features only where specifically dimensioned.

3. The Electrical Contractor shall review the Contract Documents of the other trades on the Project, and shall coordinate the installation of electrical features with the Work of all other trades.

4. Provide fixtures, devices, equipment, conduit, conductors and accessories indicated on the Drawings unless it is specifically indicated that the fixture, device, equipment, conduit, conductor, or accessory is existing.

1.3 REPAIR OF EXISTING FEATURES

A. Where existing or previously completed building surfaces or other features must be cut, penetrated or otherwise altered for the installation of electrical features, such work shall be carefully laid out and performed, and any subsequent patching or repairs that it necessitates shall be performed by skilled mechanics of the trades involved.

1.4 PROTECTION AND CLEANING

A. All electrical equipment shall, during the entire duration of construction work, be protected against water, dust, debris, overspray or any other contamination, whether environmental in origin or as a result of construction Work.

B. Clean up all equipment to factory condition. Use touch-up paint where required. All cleaning shall be in accordance with the manufacturer’s recommendations.

C. All construction dust, debris, overspray, scrap and surplus materials, etc. resulting from this Work shall be cleared away, leaving the installation in completely clean condition.

1.5 SUBMITTALS

A. Prior to the purchase of any materials or equipment, the Contractor shall submit for acceptance data completely describing all items intended for use in the work. This data shall include the manufacturer and identifying number or nomenclature; the manufacturer's published data as to size, capacity, power requirements and dimensions, shop drawings; and such other information as necessary to properly describe each item. Catalog cuts fulfilling these requirements will be considered appropriate for this application

PART 2 PRODUCTS

2.1 RACEWAYS

A. Minimum size for all raceways shall be 1/2-inch diameter.

B. Raceways shall be of types and characteristics recognized by the NEC.

2.2 CONDUIT AND TUBING

A. Rigid Steel Conduit shall be hot-dip galvanized, Schedule 40 Dimensions with smooth interior; Allied Tube & Conduit, J & L, Triangle, Western Tube & Conduit, Youngstown, or equal.

1. Rigid Steel Conduit shall be made up with threaded fittings only.

B. Electrical Metallic Tubing shall be hot-dip galvanized, with smooth interior; Allied Tube & Conduit, J & L, Triangle, Western Tube & Conduit, Youngstown, or equal.

1. EMT shall be made up with concrete-tight compression fittings. Provide rain-tight compression EMT fittings for exterior locations. Connectors shall have insulated throats.

C. Intermediate Metal Conduit shall be hot-dip galvanized steel, with smooth interior; Allied Tube & Conduit, Cyprus, Western Tube & Conduit, or equal.

1. IMC shall be made up with threaded fittings only.

D. Flexible Metal Conduit ("flex") shall be Greenfield type, made of interlocking galvanized steel armor; Alflex, American Metal, Carol Cable Co., Electri-flex, National Electric, RACO, Thomas & Betts, Triangle, or equal.

E. Flexible Metal Conduit ("flex") shall be Greenfield type, made of interlocking galvanized steel armor, Alflex, American Metal, Carol Cable Co., Electri-flex, National Electric, Thomas & Betts, Triangle, or equal.

F. Liquid-tight Flexible Metal Conduit ("sealtite" flex or "LT flex") shall have a flexible galvanized steel spiral core with a flexible outer jacket of PVC, resistant to water, oil, grease, corrosive agents, and abrasion; Carol, Anaconda, or equal.

1. Fittings for liquid-tight flexible conduit shall be steel or malleable iron of a type incorporating a threaded grounding cone, nylon or plastic compression ring, and a tightening gland, providing a low resistance ground connection. All throats shall be insulated.

2. Exterior or other extreme temperature applications of Liquid Flexible Metal Conduit shall have temperature rating of minus 67 degrees F to plus 220 degrees F, Liquatite “ATLA”, or equal.

3. If used without a separate equipment grounding conductor, liquid-tight flex shall have a continuous copper ground wire integral with its construction, and shall be made up with fittings approved for grounding.

2.3 WIRES AND CABLES

A. Provide wire and cable as shown on the Drawings and further specified herein. All wire and cable shall be of types recognized by the NEC and meeting the specifications of the NEC and ICEA.

B. Conductors:

1. All conductors shall be copper, except as otherwise noted. Conductors No. 10 AWG and smaller shall be solid or stranded. Conductors No. 8 AWG or larger shall be stranded.

C. Insulation Types:

1. Branch circuit conductors shall be 600 volt insulated, and unless otherwise noted on the Drawings, shall have the following insulation types:

   a. Heated indoor spaces - THHN/THWN or XHHW.

   b. In conduit, outdoors or other cold locations (such as attics) - XHHW.

2. Feeder conductors shall have type XHHW insulation.

3. Nylon-jacketed conductors such as types THHN or THWN shall not be used in any location subjected to ambient temperatures below 32 degrees F.

4. Special applications: Conductors in fluorescent fixture wiring channels shall have 90 degrees C insulation rating, types THHN, XHHW, or equal. Conductors in high temperature locations shall have one of the high temperature insulation types suitable for the use and as permitted by the NEC.

D. Metal Clad (MC) Cable

1. Provide metal-clad cable (Type MC) that complies with UL Standard 1569, the NEC, and this Section.

2. Metal-clad cable shall consist of THHN insulated solid copper conductors, a Mylar wrapping around the conductor bundle, and a close-fitting aluminum or galvanized steel outer sheath.

3. Provide minimum 12 AWG conductors in Type MC cables.

   a. Provide larger conductor sizes as required to limit branch circuit voltage drop to 3 percent at the full connected load.

   b. Use larger conductor sizes to adjust allowable ampacity if there are more than 3 current-carrying conductors in a cable.

   c. For isolated ground power circuits provide Type MC cables with a separate neutral conductor for each phase conductor; uniquely identify each neutral with a colored stripe on the white insulation corresponding to the phase conductor insulation color.

4. Provide MC cables with the specified conductor color coding.

5. Metal-clad cable manufacturer: AFC Cable Systems Inc., or equal

6. Provide NRTL listed, insulated throat, snap-in steel box connectors for Type MC cables. Manufacturer: O-Z/Gedney ETP “Speed-Lock”.

2.4 OUTLET BOXES

A. Cast boxes with threaded hubs, external mounting brackets or holes, and gasketed covers shall be used in the following locations:

1. Exterior locations.

2. Wet or Damp locations.

B. Exposed interior locations below 8 feet above finished floor, for use with exposed raceway systems, shall be of the threaded-hub cast metal type, with matching cover suitable for the device being installed.

2.5 WIRING DEVICES AND PLATES

A. Switches:

1. Switches shall be premium specification grade, AC quiet type, with screw terminals.

2. Rated 20 amperes at 120 volts for 120 volt circuits.

3. Two-pole, three-way, four-way and other types of switches shall be provided where indicated on the Drawings. Where not otherwise designated, switches shall be single-pole, single-throw.

4. Switch handles shall be ivory, except where pilot-light switches are called for, in which case they shall have a neon lamp mounted in a translucent red handle.

B. Receptacles:

1. Single and duplex receptacles shall be Commercial Specification grade, nylon faced, white color, self-grounding, 120 volt, 20 amp, 3-wire, NEMA 5-20R configuration, with screw terminals.

2. Special purpose receptacles shall be Specification grade, with the NEMA configuration noted on the drawings.

3. Weatherproof covers shall have a full width hinged cover suitable for receptacles installed in wet locations to maintain the integrity of the receptacle when the attachment plug is inserted. Covers shall be constructed of die cast aluminum, for duplex receptacles, drilled for four screw holes for horizontal.

4. GFI receptacles shall be of NEMA 5-20R configuration, tamper and weather resistant rated when required for installation in a wet location, for single-strap mounting, with "test" and "reset" buttons accessible from front. Ground fault trip level shall be 5 mA, and the trip circuitry shall be essentially immune to nuisance tripping due to spurious influences such as RF noise. Feed through terminals shall be provided for protection of downstream outlets.

5. Cover plates for devices in recessed boxes shall be made of satin-finished 430 stainless steel. Cover plates for devices in surface-mounted boxes shall be of pressed or machined metal construction, specifically designed to suit the boxes.

C. Terminals:

1. Wiring devices shall have binding-screw type terminals only. Terminals using spring pressure to secure the wire and make electrical contact are not permitted.

D. Manufacturers:

1. Among the acceptable wiring devices and plates are the products of Arrow-Hart, Bryant, Hubbell, Leviton, P&S, or equal.

E. Dimmers:

1. Dimmers shall be 120/277 volt, single pole, electro-mechanical electronic 0-10VDC LED power supply dimmers, suitable for use with Class 1 or Class 2 wiring. Dimmers shall be rated for a minimum load of 1,200 VA, and provided with standard on/off push button control with slide dimmer, white finish and Radio/TV filter.

2. Dimmers shall be Leviton Cat. No. IP710-LFZ, or equal.

2.6 OVERCURRENT PROTECTION DEVICES

A. Circuit Breakers:

1. Unless otherwise noted, circuit breakers shall be of the molded-case thermal-magnetic type, with the following features:

a. Size, number of poles, and interrupting capacity as shown on the Drawings. Ampere ratings shall be clearly visible, even when the breaker is installed in its appropriate enclosure.

b. Voltage rating to suit the voltage of the system on which they are used.

c. Each breaker pole shall provide both instantaneous and inverse-time tripping, with tripping clearly indicated, and a common-tripping tie to any other poles in the same breaker. Handle-ties are not acceptable for this purpose.

d. Breakers shall be operated by a toggle handle and shall have a quick-make, quick-break, overcenter switching mechanism that includes a trip-free feature so that the contacts cannot be held closed against tripping currents.

e. Circuit breakers shall be labeled or listed by an independent testing laboratory, and shall conform to the latest NEMA Standards and the short-circuit test parameters of NEMA Publication AB 1.

f. Circuit breakers shall not use solid-state components for any function except ground-Fault tripping.

2.7 FASTENERS

A. Raceway supports, boxes, and other electrical devices shall be fastened by wood screws or sheet metal screws on wooden surfaces, toggle bolts on hollow masonry units, expansion bolts on concrete or brick, and machine screws or welded threaded studs on steel work. Threaded studs driven by a powder charge and provided with a lock washer, flat washer, and nut(s) are acceptable in lieu of expansion bolts or machine or wood screws.

B. All fasteners shall be provided with flat washers. All fasteners having untapered threads (such as machine screws) shall also be provided with a lock washer under the bolt head or nut, whichever is turned in the process of tightening. Fasteners through resilient materials shall have stop sleeves.

C. All threaded fasteners and associated hardware shall be steel, with a cadmium-plated finish.

D. Bolts shall have Hex or Allen heads. Screws shall have straight-slotted, Phillips, or Allen heads.

2.8 GROUNDING

A. All metal raceways, enclosures, other electrical equipment and non-electrical equipment such as tanks and dispenser platforms that may pick up harmful potentials from the electrical system, shall be securely bonded and grounded as required by the NEC and the Drawings.

B. All grounding conductors and bonding jumpers shall be copper, sized according to the NEC or as noted on the Drawings.

C. Provide a green equipment grounding conductor in all feeders and branch circuits. Terminate each end on a suitable bus or lug.

D. Telecommunications Grounding:

1. All telecommunications grounding shall be provided and installed in accordance with the Motorola Standards and Guidelines for Communications Sites, R56.

2. The telecommunications grounding busbar shall be a predrilled copper bus bar provided with standard NEMA bolt hole sizing and spacing, suitable for two-hole lugs. It shall be provided with mounting brackets and insulators. It shall have a minimum thickness of 1/4-inch, a minimum width of 2 inches and a minimum length of 12 inches. It shall be electrotin plated for reduced contact resistance. The grounding bus bar shall be listed.

2.9 INTERIOR LIGHTING

A. Provide luminaires as indicated on the drawings. Provide luminaires complete with lamps of number, type and wattage indicated. Details, shapes and dimensions are indicative of the general type desired but are not intended to restrict selection to luminaires of a particular manufacturer. Luminaires of similar designs, light distribution and brightness characteristics, and of equal finish and quality may be submitted.

B. Lamps shall have the following features:

1. LED solid state elements shall be inclusive of the fixture and not require periodic replacement. When replacements are required, the fixture shall allow the replacement of the solid state lighting elements (LED's), the associated frequency generators, power couplers and other related components required to refresh the fixture.

C. Accessories:

1. Lighting fixtures shall be provided complete with all suspension, trim, mounting, and operating accessories normally considered necessary for a complete, functional, and safe installation, whether specifically called for in the Contract Documents or not.

2.10 TELECOMMUNICATIONS SYSTEM

A. Provide a complete telecommunications network system, consisting of building infrastructure, interior raceways, telecommunications cables, outlets and connections to existing patch panels as shown on the drawings and further specified herein.

B. Provide and conduct all tests as specified herein, requested by the Contracting Officer, or otherwise required to certify, validate and demonstrate the safety, completeness and proper installation of all system components.

C. Install all work in strict accordance with TIA/EIA standards, and with the manufacturer's recommendations.

D. Distribution cables shall be 4 pair, 24 AWG solid, unshielded, plenum rated outer jacket, UL/NEC rated Type CMP, TIA/EIA-568-C Category 6, 100 ohm impedance. Cable shall be provided with an overall jacket with sequential footage markings and a ripcord for easy cable entry. Distribution cables shall be Berk-Tek Lanmark-6 Category 6, Four-Pair Plenum Cable, or similar products by Comscope, Belden or equal.

E. Outlets

1. Faceplates shall be available in single gang arrangement with 2, 4 or 6 module capacities.

2. Faceplates for standard outlets shall be single gang, capacity for a minimum of four ports or modules. Outlets shall mount in a single gang plaster ring in outlet boxes as specified in these specifications. Surface mounted outlets shall mount on a single gang box, unless otherwise required by the indicated configuration.

3. The standard communications outlet shall include 4 communication ports unless otherwise noted in the drawings. The telecommunications ports shall be constructed of high impact rated thermoplastic housing, RJ-45 non-keyed type, 8 position, 8 conductor (8P8C), modular in construction, with reusable insulation displacement terminations, conforming to TIA/EIA-568-C Category 6 requirements, configured and color coded for TIA/EIA-568-C designation T568B wiring.

4. Blank modules shall be provided to fill unused ports in the faceplate. Provide color coded snap-in icon tabs denoting the current media service (e.g., phone, data, video, etc.) with color as chosen by the Owner. Fill all unused openings with blank modules and insert one data tab per utilized port.

5. The outlets and associated components shall be products manufactured by Ortronics, Siemens, Leviton, or equal.

PART 3 EXECUTION

3.1 IDENTIFICATION OF ELECTRICAL EQUIPMENT

A. Panelboards, disconnect switches, push-buttons, selector switches, distribution gear and switches and circuit breakers therein, and the like shall be labeled with laminated plastic labels engraved with white letters on black background. Lettering shall be block style, 1/4-inch tall, except where space limitations, drawing notes, or other requirements in these Specifications dictate otherwise. Labels shall be secured with pop rivets or screws. Adhesive attachment is not acceptable.

B. Terminals on strips shall be numbered with indelible markings on special strips designed for the purpose, and a diagram or typed directory shall be provided in the terminal enclosure to identify the origin, function and destination of each conductor in the enclosure.

C. All receptacle plates shall be labeled with the panel and circuit number for the branch circuit that supplies the receptacle.

D. All conductors in pull or junction boxes or other enclosures shall be permanently and legibly tagged or labeled with panel and circuit numbers or other data which clearly identifies their origin, function and destination.

3.2 RACEWAYS

A. All conductors shall be run in metal raceways as follows, unless otherwise noted on the Drawings.

B. Feeder Raceways - Rigid Steel Conduit (RSC). Electrical Metallic Tubing (EMT) may be used for indoor feeder raceways where not subject to physical damage.

C. Branch Raceways - Unless otherwise shown, raceways concealed in non-concrete walls may be Electrical Metallic Tubing (EMT).

D. The substitution of Intermediate Metal conduit for Rigid Steel Conduit where permitted by the NEC is permitted by this Specification, except RSC and IMC shall not be intermixed in any conduit run unless a pullbox or conduit body is provided between them.

E. Exposed raceways shall be run square with the building lines.

F. Structural members shall not be cut, drilled, or notched for raceways or other electrical features unless specifically accepted by the Engineer.

3.3 WIRING AND CABLES

A. Branch circuit conductors shall be color-coded by factory pigmentation of the insulation. Larger conductors may be color-coded by wrapping the ends with colored tape in all enclosures, except that white and green conductors may never be phase-taped for any use other than neutral and ground, respectively.

B. Conductors No. 6 AWG and smaller shall be color-coded by factory pigmentation of the insulation. Larger conductors may be color-coded by wrapping the ends with colored tape in all enclosures, except that white (or gray) and green conductors may never be phase-taped for any use other than neutral and ground, respectively. Color-coding throughout the entire installation shall be as follows:

Conductor	208Y/120
Phase A	Black
Phase B	Red
Phase C	Blue

Neutral	White
Ground	Green

3.4 SYSTEM VOLTAGE

A. Branch circuit conductors shall be No. 12 AWG copper, except for the following:

1. On 120 volt, 20 amp circuits over 70 feet (actual measured one-way distance) from panel to the last receptacle or middle of the lighting string (as appropriate), use No. 10 conductors for the entire circuit.

2. Where branch circuit conductor sizes are indicated on the Drawings, they shall take precedence over the foregoing. Where field conditions dictate circuit routings that increase conductor lengths beyond what would be expected from the layout shown on the Drawings, they shall be submitted to the Engineer for acceptance.

B. All conductor connections shall be made up securely with solderless pressure connectors such as setscrew lugs, split-bolts, wirenuts, "wingnuts", or suitable crimp fittings. Live-spring connectors which cannot be tightened to a point where conductor deformation occurs (such as "Scotchloks") are not permitted. Each wirenut-type connector shall not contain more than four conductors, regardless of size.

C. Use compression type connectors for copper wire splices and taps, #6 AWG and larger. Utilize heat shrink tubing of the proper voltage rating for un-insulated conductors and connectors.

D. Thoroughly clean wires before installing lugs and connectors.

E. Make splices, taps and terminations to carry full ampacity of conductors without perceptible temperature rise.

F. Terminate spare conductors with wire nuts.

G. Where stranded conductors are used, their ends shall be twisted and "tinned" with solder prior to connection, or else terminated with crimp-on connectors (T & B Sta-Kon, or equal), set screw lugs, box lugs, or self-lifting pressure terminals.

H. Flexible cords shall be connected to equipment, fixtures, boxes, or other enclosures only by means of cord-grip bodies or other strain-relief fittings specifically designed for the purpose. NM cable clamps are not permitted for this use.

I. Where conductors or their connectors are to be connected to metal surfaces, the surface shall first be scraped free of any paint, oxide, or other non-conductive substances.

J. Conductors shall be pulled into raceways only by constant-tension pulling methods. Where necessary, wire-pulling lubricants of a type that is not harmful to conductor insulation and will not harden shall be used.

K. Completely and thoroughly swab raceway system before installing conductors.

L. Neatly train and lace wiring inside boxes, equipment and panelboards.

M. Type MC Cable installation.

1. Install MC cables according to NECA 1 Standard Practices for Good Workmanship in Electrical Construction, NECA 120 Standard for Installing Armor and Metal Clad Cable, the NEC section 330, and requirements in this Section.

2. Route MC cables to meet Project conditions.

3. Use Type MC cables for 15- and 20-ampere branch circuit wiring beyond the first outlet or junction box; however, use conduit for the “homerun” from the first outlet or junction box to the branch circuit panelboard.

4. Use Type MC cables in interior, dry locations where it will be concealed above ceilings, in dry-wall partitions, in equipment enclosures, or below raised floors.

5. Install and support Type MC cables as required in Article 330 of the NEC. Use NRTL listed spring steel MC cable supports or UV resistant plastic tie wraps to support Type MC cables; do not use wire to support Type MC cables.

3.5 LIGHTING

A. Provide support to all fixtures:

1. Fixtures (other than those designed for simple box mounting) that are mounted directly on the building structure shall be supported with fasteners appropriate for the type of construction, in the following configuration. Fluorescent fixtures up to 2 feet by 4 feet shall have four fasteners, one near each corner.

2. Fasteners into wooden members shall be appropriately sized sheet metal or lag screws, penetrating at least 1-1/4 inches into members at least 2 inches thick.

3. Pendant or chain-hung fixtures no more than 8 feet long shall have two such supports, each approximately 1/4 of the fixture length in from each end. End connections shall be an inverted ‘Y’ configuration or other means used to stabilize the fixture to be approximately parallel to the floor in the final installed condition.

B. Align luminaires and clean lenses and diffusers at completion of Work. Clean paint splatters, dirt and debris from installed luminaires.

C. For fixtures weighing over 20 pounds provide seismic anchors per FEMA E-74 standard.

3.6 PAINTING

A. Paint all exposed conduit to match surface to which it is attached or crosses. Clean greasy or dirty conduit prior to painting in accordance with paint manufacturer's instructions.

3.7 TELECOMMUNICATIONS SYSTEM

A. WIRING AND RACEWAYS

1. Equipment or devices shall have complete cable systems from the equipment or device outlet box to a terminal block or patch panel location. All cables shall be terminated in a modular jack at the outlet port, and left coiled above the rack or future rack location. One separate run per outlet port shall be provided.

2. All wiring shall be continuous from the communications outlet to the rack location. No splices shall be allowed.

3. Wiring in ceilings shall be supported by cable supports specifically designed to support and secure cables above suspended ceiling tiles, or shall be installed in cable tray where indicated on the Drawings. Neatly bundle and tag wiring.

4. Where cables are run exposed in finished areas, where subject to physical damage, or where raceways are indicated on the Drawings, wiring shall be run in metal raceways as specified for power wiring. Conduit fill shall not exceed 40 percent.

5. Maximum distribution cable length for computer outlets shall not exceed 90 meters (295 feet).

6. Wiring in cable trays shall be neatly bundled and tagged with Cable Management Straps.

7. Wiring shall not share raceways or be bundled with other building systems.

8. All cables shall be labeled at each end with the location of the other end.

9. A nylon pull cord shall be pulled into all empty raceways, with a minimum 12-inch tail at each end.

10. Computer distribution cable shall be punched down by approved methods for TIA/EIA 568-C standards for Category 6 wiring and properly terminated at each outlet configured for TIA/EIA 568B wiring.

END OF SECTION