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ARCHITECTURAL SPECIFICATIONS

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**SECTION 01045
CUTTING AND PATCHING**

PART 1 GENERAL

1.01 GENERAL PROVISIONS

- A. The General provisions of the Contract, including the Conditions of the Contract (General, Supplementary and other Conditions, if any) and Division 1 as appropriate, apply to the Work specified in this section.

1.02 WORK INCLUDED

- A. Cutting and patching as required to:
1. Make the several parts of the work fit properly;
 2. Uncover work to provide for installing, inspecting, or both, of ill-timed work;
 3. Remove and replace work not conforming with the Contract Documents;
 4. Remove and replace defective work.
- B. Related work:
1. In addition to other requirements specified, upon the Consultant request, uncover work to provide for inspection by the Consultant of covered work, and remove samples of installed materials for testing.
 2. Do not cut or alter work performed under separate contracts without the CONSULTANT written permission.

1.03 SUBMITTALS

- A. Requests for the CONSULTANT Consent:
1. Prior to cutting which affects structural safety, submit written request to Consultant to proceed with the cutting.
 2. Should the conditions of the Work, or schedule indicate a required change of materials or methods for cutting and patching, so notify the Consultant and secure his written permission and the required Change Order prior to proceeding.
- B. Notices to the Consultant:
1. Prior to cutting and patching performed pursuant to a Change Order per the Consultant instructions, submit cost estimate to the Consultant. Secure Consultant approval of cost estimates and type of reimbursement before proceeding with cutting and patching.

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2. Submit written notice to the Consultant designating the time work will be uncovered, to allow the Consultant observation.

PART 2 PRODUCTS

2.01 MATERIALS

- A. For replacement of items removed, use materials complying with pertinent sections of these Specifications.

2.02 PAYMENT OF COSTS

- A. The OWNER will reimburse the CONTRACTOR for cutting and patching performed pursuant to a written Change Order, after claim for such reimbursement is submitted by the CONTRACTOR. Perform all cutting and patching needed to comply with the Contract Documents at no additional cost to the OWNER.

2.03 RESPONSIBILITY

- A. In the case of cutting, the trade requiring the cutting shall be responsible for cutting existing work to provide for passage, mounting, etc. of his work.
- B. In the case of patching, patching shall be accomplished by the trade which installed the work requiring patching.

PART 3 EXECUTION

3.01 SURFACE CONDITIONS

- A. Inspection
 1. Inspect existing conditions, including elements subject to movement or damage during cutting, excavating, patching or backfilling.
 2. After uncovering the work, inspect conditions affecting installation of new work.
- B. Discrepancies:
 1. If uncovered conditions are not as anticipated, immediately notify the Consultant and secure needed directions.
 2. Do not proceed until unsatisfactory conditions are corrected.

3.02 PREPARATION PRIOR TO CUTTING

- A. Provide required protection including, but not necessarily limited to, shoring, bracing, and support to maintain structural integrity of the work.

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3.03 PERFORMANCE

- A. Perform excavating and backfilling as required under pertinent other Sections of the Specifications.
 - 1. Perform cutting and demolition by methods which will prevent damage to other portions of the Work and provide proper surfaces to receive installation of repair and new work.
 - 2. Perform fitting and adjusting of products to provide finished installations complying with the specified tolerances and finishes for new work unless specifically authorized otherwise.

END OF SECTION 01045

SECTION 01300 SUBMITTALS

1.01 GENERAL

- A. Submit to the consultant the shop drawings, product data and samples required by the respective specification sections.
- B. Related requirements specified elsewhere:
 - 1. Contract Closeout: Section 01700.
- C. Definitions
 - 1. Shop Drawings: Original drawings, prepared by Contractor, Subcontractor, Supplier or Distributor, which illustrate some portion of the Work; showing fabrication, layout, setting or erection details.
 - 2. Product Data: Manufacturer's standard schematic drawings, catalog sheets, brochures, diagrams, schedules, performance charts, illustrations and other standard descriptive data.
 - 3. Samples: Physical examples to illustrate materials, equipment and workmanship, and to establish standards by which completed Work is judged.

1.02 SHOP DRAWINGS

- A. Prepared by a qualified detailer and stamped/signed by Subcontractor and Contractor prior to submittal to Consultant.
- B. Identify details by reference to sheet and detail numbers shown on the Contract Drawings.
- C. Reproductions for submittals: Opaque diazo prints: four (4) copies; sepia reproductions: one (1) copy.

1.03 PRODUCT DATA

- A. Manufacturer's standard schematic drawings:
 - 1. Modify drawings to delete information which is not applicable to the Project.
 - 2. Supplement standard information to provide additional information applicable to the Project.
- B. Manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations and other standard descriptive data.
 - 1. Clearly mark each copy to identify pertinent materials, product or models.

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2. Show dimensions and clearances required.
3. Show performance characteristics and capacities.
4. Show wiring diagrams and controls.

1.04 SAMPLES

- A. Office Samples: Of sufficient size and quantity to clearly illustrate:
 1. Functional characteristics of the product or material, with integrally related parts and attachment devices.
 2. Full range of color samples.
 3. After review, samples may be used in construction of project.
- B. Field samples and mock-ups: As required by each technical section.

1.05 CONTRACTOR RESPONSIBILITIES

- A. Review Shop Drawings, Product Data and Samples prior to submission.
- B. Verify:
 1. Field measurements.
 2. Field construction criteria.
 3. Catalog numbers and similar data.
- C. Coordinate each submittal with the requirements of the Work and of the Contract Documents.
- D. Contractor's responsibility for errors and omissions in submittals is not relieved by Consultant's review of submittals.
- E. Contractor's responsibility for deviations in submittals from requirements of the Contract Documents is not relieved by the Consultant's review of submittals, unless the consultant gives written acceptance of specific deviations.
- F. Notify the Consultant in writing at time of submission of deviations in submittals from requirements of the Contract Documents.
- G. Begin no work which requires submittals until return of submittals with the consultant stamp and initial or signature indicating review.

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- H. After the Consultant's review, distribute copies.

1.06 SUBMISSION REQUIREMENTS

- A. Schedule submissions at least 14 days before dates reviewed submittals will be needed.
- B. Submit number of copies of Shop Drawings, Product Data and Samples per Section 1.02.
- C. Submit the number of Samples specified in each of the specification sections.
- D. Accompany submittals with a transmittal letter, in duplicate, containing:
1. Date
 2. Project Title
 3. Contractor's name and address.
 4. The number of each Shop Drawing, Product Datum and Sample submitted.
 5. Notification of deviations from the Contract Documents.
- E. Submittals shall include:
1. Date and revision dates.
 2. Project Title.
 3. The names of:
 - a. consultant
 - b. Consulting Engineer (if applicable).
 - c. Contractor.
 - d. Subcontractor.
 - e. Supplier.
 - f. Manufacturer.
 - g. Separate detailer when pertinent.
 4. Identification of product or material.
 5. Relation to adjacent structure or materials.

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6. Field dimensions, clearly identified as such.
7. Specification section number.
8. Applicable standards, such as ASTM number or Federal Specifications.
9. A blank space, 3" x 4", for the Consultant's stamp.
10. Identification of deviations from the Contract Documents.
11. Contractor's stamp, initialed or signed, certifying to his review of submittal, verification of field measurements and compliance with the Contract Documents.
12. A professional seal shall be signed and affixed to all submittals requiring engineering by Contractor or his Subcontractors.

1.07 RESUBMISSION REQUIREMENTS

- A. Shop Drawings
 1. Revise initial drawings as required and resubmit as specified for initial submittal.
 2. Indicate on the Drawings any changes which have been made other than those requested by the Consultant.
- B. Product Data and Samples: Submit new data and samples as required for initial submittal.

1.08 DISTRIBUTION OF SUBMITTALS AFTER REVIEW

- A. Distribute copies of Shop Drawings and Product Data which carry the Consultant's stamp to:
 1. Contractor's file.
 2. Job site file.
 3. Record documents file.
 4. Subcontractors.
 5. Supplier.
 6. Fabricator.
- B. Distribute samples as directed.

1.09 CONSULTANT'S DUTIES

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- A. Review submittals with reasonable promptness.
- B. Review for:
 - 1. Design concept of project.
 - 2. Information given in the Contract Documents.
- C. Review of a separate item does not constitute review of an assembly in which the item functions.
- D. Affix stamp and initials or signature certifying to review of submittal.
- E. Return submittals to the Contractor for distribution.

END OF SECTION 01300

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**SECTION 01600
MATERIALS AND EQUIPMENT**

PART 1 GENERAL

1.01 GENERAL PROVISIONS

- A. The General Provisions for the Contract, including the Conditions of the Contract (General, Supplementary and other Conditions, if any) and Division 1 as appropriate, apply to the Work specified in this section.

1.02 REQUIREMENTS INCLUDED

- A. Material and equipment incorporated into the work:
1. Conform to applicable specifications and standards;
 2. Comply with size, make, type and quality specified, or as specifically approved in writing by the Consultants.
 3. Manufactured and fabricated products:
 - a. Design, fabricate and assemble in accordance with the best engineering and shop practices;
 - b. Manufacture like parts of duplicate units to standard sizes and gauges, to be interchangeable.
 - c. Two or more items of the same kind shall be identical, by the same manufacturer;
 - d. Products shall be suitable for service conditions;
 - e. Equipment capacities, sizes and dimensions shown or specified shall be adhered to unless variations are specifically approved in writing.
 4. Do not use material or equipment for any purpose other than that for which it is designed or specified.
- B. Materials removed from existing structures shall not be reused in the completed work unless specifically indicated or specified.
- C. For material and equipment specifically indicated or specified to be reused in the Work:
1. Use special care on removal, handling, storage and reinstallation to assure proper function in the completed Work.
 2. Arrange for transportation, storage and handling of products which require off-site storage, restoration or renovation. Pay all costs for such work.

1.03 MANUFACTURER'S INSTRUCTIONS

- A. When Contract Documents require that installation of work shall comply with manufacturer's instructions, obtain and distribute copies of such instructions to parties involved in the installation, including one copy to consultant
 - 1. Maintain one set of complete instructions at the job site during installation and until completion; include in project record documents.
- B. Handle, install, connect, clean, condition, and adjust products in strict accordance with such instructions and in conformity with specified requirements.
 - 1. Should job conditions or specified requirements conflict with manufacturer's instructions, consult with consultant for further clarification;
 - 2. Do not proceed without clear instructions.
- C. Perform work in accord with manufacturer's instructions. Do not omit any preparatory step or installation procedure unless specifically modified or exempted by Contract Documents.

1.04 TRANSPORTATION AND HANDLING

- A. Arrange deliveries of products in accord with construction schedules, coordinate to avoid conflict with work and conditions at the site.
 - 1. Deliver products in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible.
 - 2. Immediately on delivery, inspect shipments to assure compliance with requirements of Contract Documents and approved submittals, and that products are properly protected and undamaged.
- B. Provide equipment and personnel to handle products by methods to prevent soiling or damage to products or packaging.

1.05 STORAGE AND PROTECTION

- A. Store products in accord with manufacturer's instructions, with seals and labels intact and legible.
 - 1. Store products subject to damage by the elements in weather tight enclosures.
 - 2. Maintain temperature and humidity within the ranges required by manufacturer's instructions.
- B. Exterior storage:
 - 1. Store fabricated products above the ground, on blocking or skids to prevent soiling or staining. Cover products which are subject to deterioration with impervious sheet coverings; provide adequate ventilation to avoid condensation.

2. Store loose or granular materials in a well-drained area on solid surfaces to prevent mixing with foreign matter.
- C. Arrange storage in a manner to provide easy access for inspection. Make periodic inspections of stored products to assure that products are maintained under specified conditions, and free from damage or deterioration.
- D. Protection after installation:
 1. Provide substantial coverings as necessary to protect installed products from damage from traffic and subsequent construction operations. Remove when no longer needed.

1.06 SUBSTITUTIONS AND PRODUCT OPTIONS

- A. Products list
 1. Within 30 days after Contract date, submit to the consultant a complete list of major products proposed to be used, with the name of the manufacturer and the installing subcontractor.
- B. Substitutions
 1. Until a date no later than ten (10) days before the bids are due, the owner (consultant) will consider written requests from Bidders for substitution of products.
 2. Submit a separate request for each product, supported with complete data, drawings and samples as appropriate, including:
 - a. Comparison of the qualities of the proposed substitution with that specified.
 - b. Changes in other elements required by this substitution.
 - c. Effect on Construction schedule.
 - d. Cost data comparing the proposed substitution with the product specified.
 - e. Any required license fees or royalties.
 - f. Availability of maintenance service, and source of replacement materials.
 3. The owner (consultant) shall be the sole judge of the acceptability of the proposed substitution.
- C. The owner (consultant /engineer) will notify the Bidders of the decision to accept a proposed substitution by addendum to the Bidding Documents.

END OF SECTION 01600

**SECTION 01700
CONTRACT CLOSEOUT**

PART 1 GENERAL

1.01 GENERAL PROVISIONS

- A. The General Provisions of the Contract, including the Conditions of the Contract (General, Supplementary and other Conditions, if any) and Division 1 as appropriate, apply to the Work specified in this section.

1.02 REQUIREMENTS INCLUDED

- A. Procedures and submittals required at time of Project Completion as specified and referred to below.

1.03 RECORD DOCUMENTS

- A. Refer to provisions in GENERAL CONDITIONS, SUPPLEMENTARY CONDITIONS, and Section 01300 SUBMITTALS.

1.04 CLEANING UP

- A. Refer to provisions in GENERAL CONDITIONS.

1.05 BREAKAGE AND REPAIR

- A. Any new or existing work damaged due to the construction operations shall be replaced or repaired in a satisfactory manner by the CONTRACTOR causing such damage.

1.06 WARRANTY

- A. Refer to Article 4.5 in the GENERAL CONDITIONS, Form HUD-5370-General Conditions for Construction Contracts. .
- B. Refer to other sections of the specifications for additional guarantee requirements on specific items of work.

1.07 OPERATION & MAINTENANCE INSTRUCTIONS & MANUAL

- A. Prior to final payment, the CONTRACTOR shall collect, neatly assemble, index and bind in loose leaf format with table of contents, all manufacturer's operation and service instruction books, cards, manuals, diagrams, etc. for each piece of equipment furnished under this contract and for other items of construction requiring maintenance. Turn this manual over to the OWNER at substantial completion.
- A. Refer to other Sections of the specifications for specific requirements, including any requirements for instructional periods for OWNER'S personnel.

1.08 INSPECTION AND TEST CERTIFICATES

- A. Before final payment, the CONTRACTOR shall turn over to the consultant/owner all inspection and test certificates required by law and ordinances and/or by the specifications. These include, but are not necessarily limited to:

Electrical Inspection Certificate
Plumbing Inspection Certificate

- B. See other sections of the Specifications for other requirements.

1.09 DOCUMENTS REQUIRED PRIOR TO FINAL PAYMENT

- A. Prior to the submission of an invoice for final payment, and before the issuance of a final certificate for payment in accordance with the provisions of the General Conditions, the CONTRACTOR shall file the following papers with to the Owner.

1. Warranty: See paragraph in this section;
2. Contractor shall provide to owner signed and sealed AIA Form G706 – Contractor's Affidavit of Payment of Debts and Claim.
3. Releases of Liens: See General Conditions, AIA Form G706A, or conform to the State law governing Mechanics' Liens.
4. Operation and Maintenance Manuals: See paragraph in this Section.
5. Project Record Documents: See paragraph in this section.
6. Copy of the completed list of items to be completed or corrected (punch list) certifying that the items have been completed or corrected as required.
7. Use and Occupancy Permits granted by the local authority having jurisdiction.

END OF SECTION 01700

**SECTION 01705
PROJECT CLOSEOUT**

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 DESCRIPTION OF REQUIREMENTS

- A. Definitions: Closeout is hereby defined to include general requirements near end of Contract Time, in preparation for final acceptance, final payment, normal termination of contract, occupancy by Owner and similar actions evidencing completion of the work. Specific requirements for individual units of work are specified in sections of Division 2 through 16. Time of closeout is directly related to "Substantial Completion", and therefore may be either a single time period for entire work or a series of time periods for individual parts of the work which have been certified as substantially complete at different dates. That time variation (if any) shall be applicable to other provisions of this section.

1.03 PREREQUISITES TO SUBSTANTIAL COMPLETION

- A. General: prior to requesting Engineer inspection for certification of substantial completion (for either entire work or portions thereof), complete the following and list known exceptions in request:
1. Include supporting documentation for completion as indicated in these contract documents.
 2. Submit statement showing accounting of changes to Contract Sum.
 3. Advise Owner of pending insurance change-over requirements.
 4. Make final change-over of locks and transmit keys to Owner, and advise Owner's personnel of change-over in security provisions.
 5. Complete start-up testing of systems, and instructions of Owner's operating/maintenance personnel. Discontinue (or change over) and remove from project site temporary facilities and services, along with construction tools and facilities, mock-ups and similar elements.
 6. Complete final cleaning up requirements, including touch-up painting of marred surfaces.
 7. Touch-up and otherwise repair and restore marred exposed finishes.

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8. Contractor shall restore the site; grass, walk ways, and any concrete damage to its original condition.
- B. Inspection Procedures: Upon receipt of Contractor's request, Architect will either proceed with inspection or advise Contractor of prerequisites not fulfilled. Following initial inspection, Architect will either prepare certificate of substantial completion, or advise Contractor of work which must be performed prior to issuance of certificate; and repeat inspection when requested and assured that work has been substantially completed. Results of completed inspection will form initial "punch-list" for final acceptance.

1.04 PREREQUISITES TO FINAL ACCEPTANCE

- A. General: Prior to requesting Engineer final inspection for certification of final acceptance and final payment, as required by General Conditions, complete the following and list known exceptions (if any) in request:
 1. Submit final payment request with final releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
 2. Submit updated final statement, accounting for additional (final) changes to Contract Sum.
 3. Submit certified copy of Engineer final punchlist of itemized work to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, endorsed and dated by Architect.
 4. Submit final meter readings for utilities, measured record of stored fuel, and similar data as of time of substantial completion or when Owner took possession of and responsibility for corresponding elements of the work.
 5. Submit consent of surety.
 6. Submit final liquidated damages settlement statement, acceptable to Owner.
 7. Revise and submit evidence of final, continuing insurance coverage complying with insurance requirements.
- B. Reinspection Procedure: Upon receipt of Contractor's notice that the work has been completed, including punch-list items resulting from earlier inspections, and excepting incomplete items delayed because of acceptable circumstances, Architect will reinspect the work. Upon completion of reinspection, Architect will either prepare certificate of final acceptance or advise Contractor of work not completed or obligations not fulfilled as required for final acceptance. If necessary, procedure will be repeated.

1.05 RECORD DOCUMENT SUBMITTALS

- A. General: Specific requirements for record documents are indicated in individual sections of these specifications. Other requirements are indicated in General Conditions. General submittal requirements are indicated in "Submittals" sections. Do not use record

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documents for construction purposes; protect from deterioration and loss in a secure, fire-resistive location; provide access to record documents for Engineer reference during normal working hours.

- B. Record Drawings: Maintain a white-print set (blue-line or black-line) of contract drawings and shop drawings in clean, undamaged condition, with mark-up of actual installations which vary substantially from the work as originally shown. Mark whichever drawing is most capable of showing "field" condition fully and accurately; however, where shop drawings are used for mark-up, record a cross-reference at corresponding location on working drawings. Mark with red erasable pencil and, where feasible, use other colors to distinguish between variations in separate categories of work. Mark-up new information which is recognized to be of importance to Owner, but was for some reason not shown on either contract drawings or shop drawings. Give particular attention to concealed work, which would be difficult to measure and record at a later date. Note related change-order numbers where applicable. Organize record drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates and other identification on cover of each set.
- C. Record Specifications: Maintain one copy of specifications, including addenda, change orders and similar modifications issued in printed form during construction, and mark-up variations (of substance) in actual work in comparison with text of specifications and modifications as issued. Give particular attention to substitutions, selection of options, and similar information on work where it is concealed or cannot otherwise be readily discerned at a later date by direct observation. Note related record drawing information and product data, where applicable. Upon completion of mark-up, submit to Architect for Owner's records.
- D. Record Product Data: Maintain one copy of each product data submittal, and mark-up significant variations in actual work in comparison with submitted information. Include both variations in product as delivered to site, and variations from manufacturer's instructions and recommendations for installation. Give particular attention to concealed products and portions of the work which cannot otherwise be readily discerned at a later date by direct observation. Note related change orders and mark-up of record drawings and specifications. Upon completion of mark-up, submit complete set to Architect for Owner's records.
- E. Record Sample Submittal: Immediately prior to date(s) of substantial completion, Architect (and including Owner's personnel where desired) will meet with Contractor at site, and will determine which (if any) of submitted samples maintained by Contractor during progress of the work are to be transmitted to Owner for record purposes. Comply with Engineer instructions for packaging, identification marking, and delivery to Owner's sample storage space.
- F. Miscellaneous Record Submittals: Refer to other sections of these specifications for requirements of miscellaneous record-keeping and submittals in connection with actual performance of the work. Immediately prior to date(s) of substantial completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference. Submit to Architect for Owner's records.
- G. Maintenance Manuals: Organize maintenance-and-operating manual information into suitable sets of manageable size, and bind into individual binders properly identified and

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indexed (thumb-tabbed). Include emergency instructions, spare parts listing, copies of warranties, wiring diagrams, recommended "turn-around" cycles, inspection procedures, shop drawings, product data, and similar applicable information. Bind each manual of each set in a heavy-duty 2", 3-ring vinyl-covered binder, and include pocket folders for folded sheet information. Mark identification on both front and spine of each binder.

PART 2 - PRODUCTS (not applicable)

PART 3 - EXECUTION

3.01 CLOSEOUT PROCEDURES

- A. General Operating/Maintenance Instructions: Arrange for each installer of work requiring continuing maintenance or operation, to meet with Owner's personnel, at project site, to provide basic instructions needed for proper operation and maintenance of entire work. Include instructions by manufacturer's representatives where installers are not expert in the required procedures. Review maintenance manuals, record documentation, tools, spare parts and materials, lubricants, fuels, identification system, control sequences, hazards, cleaning and similar procedures and facilities. For operational equipment, demonstrate start-up, shut-down, emergency operations, noise and vibration adjustments, safety, economy/efficiency adjustments, energy effectiveness, and similar operations. Review maintenance and operations in relation with applicable warranties, agreements to maintain, bonds, and similar continuing commitments.

3.02 FINAL CLEANING

- A. General: Special cleaning for specific units of work is specified in sections of Divisions 2 through 16. General cleaning during progress of work is specified in General Conditions and as temporary services in "Temporary Facilities" section of this Division. Provide final cleaning of the work, at time indicated, consisting of cleaning each surface or unit of work to normal "clean" condition expected for a first-class building cleaning and maintenance program. Comply with manufacturer's instructions for cleaning operations. The following are examples, but not by way of limitation, of cleaning levels required:
1. Remove labels which are not required as permanent labels.
 2. Clean transparent materials, including mirrors and window/door glass, to a polished condition, removing substances which are noticeable as vision-obscuring materials. Replace broken glass and damaged transparent materials.
 3. Clean exposed exterior and interior hard-surfaced finishes, to a dirt-free condition, free of dust, stains, films and similar noticeable distracting substances. Except as otherwise indicated, avoid disturbance of natural weathering of exterior surfaces. Restore reflective surfaces to original reflective condition.
 4. Wipe surfaces of mechanical and electrical equipment clean, including elevator equipment and similar equipment; remove excess lubrication and other substances.

5. Remove debris and surface dust from limited-access spaces including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics and similar spaces.
 6. Clean concrete floors in non-occupied spaces broom clean.
 7. Vacuum clean carpeted surfaces and similar soft surfaces.
 8. Clean plumbing fixtures to a sanitary condition, free of stains including those resulting from water exposure.
 9. Clean light fixtures and lamps so as to function with full efficiency.
 10. Clean project site (yard and grounds), including landscape development areas, of litter and foreign substances. Sweep paved areas to a broom-clean condition; remove stains, petro-chemical spills and other foreign deposits. Rake grounds which are neither planted nor paved, to a smooth, even-textured surface.
- B. Removal of Protection: Except as otherwise indicated or requested by Architect/Engineer, remove temporary protection devices and facilities which were installed during course of the work to protect previously completed work during remainder of construction period.
- C. Compliances
1. Comply with safety standards and governing regulations for cleaning operations. Do not burn waste materials at site, or bury debris or excess materials on Owner's property, or discharge volatile or other harmful or dangerous materials into drainage systems; remove waste materials from site and dispose of in a lawful manner.
 2. Where extra materials of value remaining after completion of associated work have become Owner's property, dispose of these to Owner's best advantage as directed.

END OF SECTION 01705

**SECTION 02060
DEMOLITION**

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 DESCRIPTION OF WORK

- A. Extent of demolition is as shown and illustrated on the demolition plans/drawings.

1.03 SCHEDULE OF DEMOLITION WORK

- A. Demolition requires removal and disposal, off site, of the following:
1. Interior building (Mechanical Room) construction as indicated on drawings.
 2. Floor finishes down to subfloors (except where indicated).

Site items (sidewalks, etc.) as shown on plans.

- B. Contractor shall carefully remove and store on site all re-usable items of value to Delaware State Housing Authority.

1.04 SUBMITTALS

- A. Schedule: Submit proposed methods and operations of building demolition to consultant for review prior to start of work. Include in schedule coordination for shut-off, capping, and continuation of utility services as required.

1.05 CONDITION OF STRUCTURES

- A. Owner assumes no responsibility for actual condition of structures to be demolished. Conditions existing at time of inspection for bidding purposes will be maintained by Owner in so far as practicable. However, variations within structure may occur by Owner's removal and salvage operations prior to start of demolition work.

1.06 PARTIAL REMOVAL

Items of salvageable value to owner may be removed from structure as work progresses. Salvaged items must be transported from site as they are removed.

- A. Storage or sale of removed items on site will not be permitted.

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1.07 EXPLOSIVES

- A. Use of explosives will not be permitted.

1.08 TRAFFIC AND SHORING

Conduct demolition operations and removal of debris to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities.

- A. Do not close or obstruct streets, walks, or other occupied or used facilities without permission from authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.
- B. Provide interior and exterior shoring, bracing or support to prevent movement, settlement or collapse of structures to be demolished and adjacent facilities to remain.

1.09 DAMAGES

Promptly repair damages caused to adjacent facilities by demolition operations at no cost to owner.

1.10 UTILITY SERVICE

Maintain existing service panel for temporary services required for demolition equipment and lighting. All other elements shall be removed.

PART 2 - PRODUCTS

Not Applicable

PART 3 - EXECUTION

3.01 DEMOLITION

- A. Pollution Controls: Use water sprinkling, temporary enclosures, and other suitable methods to limit dust and dirt rising and scattering in air to lowest practical level. Comply with governing regulations pertaining to environmental protection.

Do not use water when it may create hazardous or objectionable conditions such as ice, flooding, and pollution.

Clean adjacent structures and improvements of dust, dirt, and debris caused by demolition operations, as directed by Architect or governing authorities. Return adjacent areas to condition existing prior to start of work.

3.02 BUILDING DEMOLITION

Demolish building components completely and remove from site as shown on drawings. Use such methods as required to complete work within limitations of governing regulations.

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- A. Proceed with demolition in systematic manner.
- B. Demolish concrete and masonry, or drywall as required in small sections.
- C. Locate demolition equipment throughout structure and remove materials so as to not impose excessive loads to supporting walls, floors, or framing.
- D. If asbestos is found on site, it is the responsibility of the owner to notify the proper authorities and remove all asbestos in a professional manner. Owner shall receive from authorities' written documentation verifying that site is free from asbestos.

3.03 FILLING VOIDS

Completely fill below-grade areas and voids resulting from demolition of structures.

- A. Use satisfactory soil materials consisting of stone, gravel, and sand, free from debris, trash, frozen materials, roots and other organic matter.
- B. Prior to placement of fill materials, ensure that areas to be filled are free of standing water, frost, frozen material, trash and debris.
- C. Place fill materials in horizontal layers not exceeding 6" in loose depth. Compact each layer at optimum moisture content of fill material to a density equal to original adjacent ground, unless subsequent excavation for new work is required. Minimum soil compaction to be 95%.
- D. After fill placement and compaction, grade surface to meet adjacent contours and to provide flow to surface drainage structures.

3.04 DISPOSAL OF DEMOLISHED MATERIALS

General: Remove from site debris, rubbish, and other materials resulting from demolition operations.

- A. Burning of removed materials from demolished structures will not be permitted on site.

3.05 REMOVAL

- A. Transport materials removed from demolished structures and dispose of offsite.

END OF SECTION 02060

SECTION 09250 - GYSPUM BOARD

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Interior gypsum board.
- B. Related Sections include the following:
 - 1. Division 6 Section "Rough Carpentry" for wood framing and furring that supports gypsum board.
 - 2. Division 6 Section "Sheathing" for gypsum sheathing.
 - 3. Division 7 Section "Fire-Resistive Joint Systems" for wall assemblies that incorporate gypsum board.
 - 4. Division 7 Section "Joint Sealants" for acoustical sealants installed in assemblies that incorporate gypsum board.
 - 5. Division 9 Section "Gypsum Veneer Plaster" for gypsum base for veneer plaster and for other components of gypsum-veneer-plaster finishes.
 - 6. Division 9 painting Sections for primers applied to gypsum board surfaces.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples: For the following products:
 - 1. Trim Accessories: Full-size Sample in 12-inch long length for each trim accessory indicated.
 - 2. Textured Finishes: Manufacturer's standard size for each textured finish indicated and on same backing indicated for Work.

1.4 QUALITY ASSURANCE

- A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.

- B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.
 - 1.

1.5 STORAGE AND HANDLING

- A. Store materials inside under cover and keep them dry and protected against damage from weather, condensation, direct sunlight, construction traffic, and other causes. Stack panels flat to prevent sagging.

1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.
- B. Do not install interior products until installation areas are enclosed and conditioned.
- C. Do not install panels that are wet, those that are moisture damaged, and those that are mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 PANELS, GENERAL

- A. Size: Provide in maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.2 INTERIOR GYPSUM BOARD

- A. General: Complying with ASTM C 36/C 36M or ASTM C 1396/C 1396M, as applicable to type of gypsum board indicated and whichever is more stringent.
 - 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. American Gypsum Co.
 - b. BPB America Inc.
 - c. G-P Gypsum.

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- d. Lafarge North America Inc.
- e. National Gypsum Company.
- f. PABCO Gypsum.
- g. Temple.
- h. USG Corporation.

B. Regular Type:

- 1. Thickness: 1/2 inch
- 2. Long Edges: Tapered and featured (rounded or beveled) for prefilling .

C. Ceiling Type: Manufactured to have more sag resistance than regular-type gypsum board.

- 1. Thickness: 1/2 inch
- 2. Long Edges: Tapered.

D. Abuse-Resistant Type: Manufactured to produce greater resistance to surface indentation and through-penetration (impact resistance) than standard, regular-type and Type X gypsum board.

- 1. Core: As indicated on Drawings 5/8 inch
- 2. Long Edges: Tapered.

E. Moisture- and Mold-Resistant Type: With moisture- and mold-resistant core and surfaces.

- 1. Core: 5/8 inch
- 2. Long Edges: Tapered.
- 3.

2.3 JOINT TREATMENT MATERIALS

A. General: Comply with ASTM C 475/C 475M.

B. Joint Tape:

- 1. Interior Gypsum Wallboard: Paper.

C. Joint Compound for Interior Gypsum Wallboard: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.

- 1. Prefilling: At open joints, rounded or beveled panel edges, and damaged surface areas, use setting-type taping compound.
- 2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping drying-type, all-purpose compound.
 - a. Use setting-type compound for installing paper-faced metal trim accessories.
- 3. Fill Coat: For second coat, use setting-type, sandable topping drying-type, all-purpose compound.

4. Finish Coat: For third coat, use setting-type, sandable topping drying-type, all-purpose compound.
5. Skim Coat: For final coat of Level 5 finish, use setting-type, sandable topping compound drying-type, all-purpose compound high-build interior coating product designed for application by airless sprayer and to be used instead of skim coat to produce Level 5 finish .

PART 3- EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames and framing, for compliance with requirements and other conditions affecting performance.
- B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 APPLYING AND FINISHING PANELS, GENERAL

- A. Comply with ASTM C 840.
- B. Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.
- C. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.
- D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.
- E. Form control and expansion joints with space between edges of adjoining gypsum panels.
- F. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.
 1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. in area.
 2. Fit gypsum panels around ducts, pipes, and conduits.
- G. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments, except floors. Provide 1/4- to 1/2-inch wide spaces at these locations, and trim

edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

- H. Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.
- I. Wood Framing: Install gypsum panels over wood framing, with floating internal corner construction. Do not attach gypsum panels across the flat grain of wide-dimension lumber, including floor joists and headers. Float gypsum panels over these members, or provide control joints to counteract wood shrinkage.

3.3 APPLYING INTERIOR GYPSUM BOARD

- A. Install interior gypsum board in the following locations:
 - 1. Regular Type: As indicated on Drawings Vertical surfaces, unless otherwise indicated.
 - 2. Ceiling Type: [As indicated on Drawings Ceiling surfaces.
 - 3. Foil-Backed Type: [As indicated on Drawings] <Insert requirements>.
 - 4. Abuse-Resistant Type: [As indicated on Drawings] <Insert requirements>.
 - 5. Moisture- and Mold-Resistant Type: [As indicated on Drawings] <Insert requirements>.
- B. Single-Layer Application:
 - 1. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing, unless otherwise indicated.
 - 2. On partitions/walls, apply gypsum panels [vertically (parallel to framing)] [horizontally (perpendicular to framing)], unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.
 - a. Stagger abutting end joints not less than one framing member in alternate courses of panels.
 - b. At stairwells and other high walls, install panels horizontally, unless otherwise indicated or required by fire-resistance-rated assembly.
 - 3. On Z-furring members, apply gypsum panels vertically (parallel to framing) with no end joints. Locate edge joints over furring members.
 - 4. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

3.4 FINISHING GYPSUM BOARD

- A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.
- B. Prefill open joints rounded or beveled edges and damaged surface areas.
- C. Apply joint tape over gypsum board joints, except those with trim having flanges not intended for tape.

D. Gypsum Board Finish Levels: Finish panels to levels indicated below:

1. Level 1: Ceiling plenum areas, concealed areas, and where indicated.
2. Level 3: Where indicated on Drawings

3.5 PROTECTION

- A. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- B. Remove and replace panels that are wet, moisture damaged, and mold damaged.
 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 09250

**SECTION 09900
PAINTING**

PART I - GENERAL

1.01 DESCRIPTION

A. Work specified herein:

1. Painting Interior and Exterior of Mechanical Room Including Doors and Modified doors

1.02 QUALITY ASSURANCE

- A. Provide primers and other undercoat paint produced by same manufacturer as finish coats(Paint manufacturer and color, including paint Number to be provided by DSHA)
- B. Use only thinners approved by paint manufacturer and use only within recommended limits.

1.03 SUBMITTALS

- A. Company – PPG/Glidden (Only-No Substitution Permitted)
Low luster enamel tinted to Dover White; 1433-0110V
Gripper Primer 3210-1200 tinted to Dover White

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Delivery of materials: Deliver paint products in their manufacturer's original containers, with labels intact.
- B. Storage of Materials:
1. Store only acceptable Project materials on the Project site.
 2. Store all paint materials and painting equipment in an assigned area.
 3. Comply with all applicable safety and health regulations.

1.05 JOB CONDITIONS

- A. Environmental Requirements:
1. Comply with the manufacturer's recommendations as to the environmental conditions under which their paints and painting systems can be applied successfully.
 2. Do not apply finish coats in areas where dust is being generated.
- B. Protection:
1. Remove and protect finish hardware, factory-finished work and similar items or provide suitable in-place protection. Upon completion of painting in each room or space, carefully replace all items removed and all in-place protection. Use only skilled mechanics for removal and replacement.

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2. Protect adjoining work against damage or soiling from materials, tools and utensils used in painting. Use drop cloths of adequate size, free of holes, to protect adjoining finished work.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. DSHA SPECIFICATION
Company – PPG/Glidden (Only-No Substitution Permitted)
Low luster enamel tinted to Dover White; 1433-0110V
Gripper Primer 3210-1200 tinted to Dover White.

2.02 MIXING AND TINTING

- A. At the Contractor's option, paints and enamels may be delivered ready-mixed and tinted, or they may be job-mixed and tinted.
- B. Where thinning is necessary, follow label direction.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Examine surfaces scheduled to receive paint for conditions that will adversely affect execution, permanence or quality of Work and which cannot be put into an acceptable condition by means of the preparatory Work, specified in the following article.
- B. Do not proceed with surface preparation or paint application until conditions are suitable.

3.02 PREPARATION OF SURFACES

- A. Wood and Gypsum:
 1. Clean wood surfaces of foreign substances with scrapers, mineral spirits and/or sandpaper. After priming fill holes and imperfections with wood filler and sand smooth.
- B.. Cementitious Materials: Prepare concrete and cement plaster surfaces to be painted. Remove efflorescence, chalk, dust, dirt, grease, oils, and release agents. Roughen as required to remove glaze. If hardeners or sealers have been used to improve curing, use mechanical methods of surface preparation.
 1. Use abrasive blast-cleaning methods if recommended by paint manufacturer.
 2. Determine alkalinity and moisture content of surfaces by performing appropriate tests. If surfaces are sufficiently alkaline to cause the finish paint to blister and burn, correct this condition before application. Do not paint surfaces if moisture content exceeds that permitted in manufacturer's written instructions.

3.03 APPLICATION

- A. General Requirements:
 1. Do not apply initial coat of paint until moisture content of surface to be painted is within the limitations recommended by the paint manufacturer.
 2. Apply paints with suitable brushes, rollers and/or equipment.

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- a. Rate of application shall not exceed that recommended by the paint manufacturer.
- b. Keep brushes, rollers and equipment clean, dry, free of contaminants and suitable for the finish required.
3. Comply with recommendations of product manufacturers for drying time between succeeding coats.
4. Vary slightly the color of successive coats.
5. Finish coats shall be smooth, free of brush marks, runs, sags, curtains, streaks, laps or pile-up of paints.
6. Make edges of paint adjoining other materials or colors clean and sharp with no overlapping.
7. Apply additional coats of paint as may be required to cover surfaces completely and to provide uniformity of color and appearance.

3.04 CLEANING

- A. Touch up and restore finish where damaged.
- B. Remove spilled, splashed or splattered paint from all surfaces.
- C. Do not mar surface finish of items being cleaned.
- D. Leave storage space clean and in condition required for equivalent spaces in Project.

3.05 PAINTING SCHEDULE

- A. Surfaces not to be painted:
 1. Stainless steel.
 2. Non-ferrous metals.
 3. Items furnished with factory applied final finish.
 4. Concealed ductwork, pipe and conduit.
- D. Interior Gypsum Wallboard: Flat finish
 1. First coat: Interior flat primer coat.
 2. Second coat: Interior flat finish coat.

END OF SECTION 09900