

BID PACKAGE

PART IV

SPECIFICATIONS

DMH Project#2021-025 Bathrooms Renovation at Pocasset Mental Health Center 830 County Road

Pocasset, Massachusetts 02559

THE COMMONWEALTH OF MASSACHUSETTS EXECUTIVE OFFICE OF HUMAN SERVICES DEPARTMENT OF MENTAL HEALTH

SPECIFICATIONS

FOR

BATHROOMS RENOVATION

AT

POCASSET MENTAL HEALTH CENTER 830 COUNTY ROAD POCASSET, MASSACHUSETTS

PROJECT 2021-025

DEPARTMENT OF MENTAL HEALTH OFFICE OF FACILITIES MANAGEMENT HADLEY BUILDING - 167 LYMAN STREET WESTBOROUGH, MA 01581

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TABLE OF CONTENTS

DIVISION	<u>CONTENTS</u>	PAGES
DIVISION 1 - GENERAL REQUIREMENTS		
011000	SUMMARY OF THE WORK	3 pages
013300	SUBMITTALS	4 pages
015000	CONSTRUCTION FACILITIES	-
01/000	AND TEMPORARY CONTROLS	5 pages
016000	PRODUCT REQUIREMENTS	2 pages
017000	CLOSEOUT PROCEDURES	2 pages
DIVISION 2 - EXISTING CONDITIONS		
024119	SELECTIVE DEMOLITION	4 pages
DIVISION 8 - OPENINGS		
081110	STEEL DOORS AND FRAMES	5 pages
081400	WOOD DOORS	5 pages 4 pages
001400		4 pages
DIVISION 9 - FINISHES		
092116	GYPSUM BOARD SYSTEM	5 pages
093010	TILING	13 pages
0,000		-• p-8•
DIVISION 10 - SPECIALTIES		
102800	TOILET AND BATH ACCESSORIES	4 pages
DRAWINGS		
G0-01	COVER SHEET	
A0-01	DEMOLITION PLAN	
A0-02	FLOOR PLAN & SECTIONS	
A0-03	FLOOR PLAN & SECTIONS	
A0-04	DETAILS & SCHEDULE	
	DICIDIDEC	

PICTURES

A0-05

SECTION 011000 SUMMARY OF THE WORK

PART 1 – GENERAL

1-01 CONTRACT REFERENCES

- A. Attention is directed to the CONTRACT and GENERAL CONDITIONS and all Sections within Division 1 GENERAL REQUIREMENTS that are hereby made a part of this Section of the Specifications.
- B. Equality of material, article, assembly or system other than those named or described in this Section shall be determined in accordance with the provisions of the CONTRACT and GENERAL CONDITIONS.

1-02 WORK UNDER THIS CONTRACT

- A. The work described under this Contract is for the renovation of two inpatient bathrooms located at 830 County Road, MA 02559. Modify the existing bathrooms to comply with Massachusetts Architectural Access Board (MAAB) codes or regulations, and Anti-ligature standards.
- B. The work includes, but is not limited to:
 - 1. Selective Demolition, as noted in drawings.
 - 2. Install new accessible shower.
 - 3. Re-install bathroom fixtures according to the 2006 edition of 521 CMR code.
 - 4. Install new floor and wall finishes.
 - 5. Paint ceilings.
 - 6. Miscellaneous patching and repair.

1-02 PROJECT/SITE CONDITIONS

- A. Coordinate with the facilities management for access and coordination of all work.
- B. The existing building is occupied and will continue to be so during construction. The work shall be done so as to not disrupt existing operation of Owner or tenants.
- C. Any shutdowns of electricity or water supply shall be coordinated with the Owner's representatives at least 48 hours in advance. Minor disruptions not affecting the operation may be allowed during normal working hours. Other disruptions will only be allowed on off hours, shall be properly

scheduled in advance, and shall not be greater than a 4-hour continuous duration.

- D. No existing system shall be left inoperable at any time, except for short periods during normal working hours.
- E. The Contractor shall be completely responsible for protection and guarding of the job site so as to not create a hazard.
- F. Comply with the Owner's requirements concerning work rules in existing buildings, especially with respect to noise, drilling and cutting, etc.

1-03 **PROJECT MEETINGS**

- A. Project meetings shall be held on a weekly basis subject to the discretion of the Project Engineer.
- B. As a prerequisite for monthly payments, weekly payroll reports shall be submitted by the General Contractor.
- C. In order to expedite construction progress on this project, the general contractor shall order all materials immediately after the approval of submittals and shop drawings and shall obtain a fixed date of delivery to the project site for all materials ordered which shall not impede or otherwise interfere with construction progress.
- D. Scheduling shall be discussed with all concerned parties, and methods shall be presented by the General Contractor, which shall reflect construction completion not being deferred, at no additional expense to the Commonwealth.
- E. Weekly project meeting shall be chaired by the Project Engineer.

1-04 PERMITS, INSPECTION AND TESTING REQUIRED BY GOVERNING AUTHORITIES

- A. If the contract documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction required any portion of the work to be inspected, tested or approved, the General Contractor shall give the Project Engineer notice of its readiness so the Project Engineer may observe such inspection and testing.
- B. Prior to the start of construction, the General Contractor shall complete application to the applicable Building Code enforcement authority for a Building Permit. Such Permit shall be displayed in a conspicuous location

at the project site. The General Contractor shall pay all costs associated with the Building Permit.

1-05 TIME OF COMPLETION

A. The Work shall start as stated in the Notice to Proceed and shall be completed within **60** consecutive calendar days.

1-06 THE CONTRACT DOCUMENTS

A. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all. Performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the intended results. In case of inconsistent requirements in the Contract Documents, the requirement for the greater quantity or higher quality shall take precedence and shall be the Contract requirement.

SECTION 013300 SUBMITTALS

PART 1 – GENERAL

1-01 PROVISIONS INCLUDED

Attention is directed to the CONTRACT and GENERAL CONDITIONS and all Sections within DIVISION 1 – GENERAL REQUIREMENTS which are hereby made a part of this Section of the specification.

1-02 <u>REQUIREMENTS</u>

Shop drawings, product data, samples and schedules of values.

1-03 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

A. General:

Review and submit to the Project Engineer, shop drawings, product data and samples required by specification Section.

- B. Shop Drawings:
 - 1. Original drawings shall be prepared by General Contractor, Subcontractor, supplier or distributor, which illustrates some portion of the work showing the fabrication, layout, setting or erection details.
 - a. Shop drawings shall be prepared by a qualified detailer.
 - b. Details shall be identified by reference to sheet and detail number shown on contract drawings.
 - c. Maximum sheet size shall be 30 inch by 42 inch.
 - d. Reproductions for submittals shall be reproducible transparencies with the required number of opaque prints specified herein.
- C. Project Data:
 - 1. Manufacturer's standard schematic drawings:
 - a. Modify drawings to delete information which is not applicable to project.
 - b. Supplement standard information to provide additional information applicable to project.

- 2. Manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations and other standard descriptive data:
 - a. Clearly mark each copy to identify pertinent materials, products or models.
 - b. Show dimensions and clearances required.
 - c. Show performance characteristics and capacities.
 - d. Show wiring diagrams and controls.
- D. Samples: Physical examples to illustrate materials, equipment or workmanship, and to establish standards by which completed work is judged.
 - 1. Office Samples: Of sufficient size and quantity to clearly illustrate:
 - a. Functional characteristics of product or materials, with integrity related parts and attachment devices.
 - b. Full range of color samples.
 - c. After review, approved samples may be incorporated into the project construction if not retained for comparison.
- E. General Contractors Responsibilities:
 - 1. Coordinate each submittal with requirements of work and contract documents.
 - 2. The General Contractors responsibility for errors and omissions in submittals is not relieved by Project Engineer's review of submittals.
 - 3. Notify the Project Engineer in writing at time of submission, of deviations in submittals from requirements of contract documents or previous submissions.
 - 4. Work that requires submittals shall not commence unless submittals have Project Engineer's stamp and initials or signature indicating review and approval.
 - 5. After Project Engineer's review, distribute required copies.
- F. Submission Requirements:
 - 1. Make submittals promptly and in such sequence as to cause no delay in the work.
 - 2. Submit one (1) Portable Document Format (PDF) file of shop drawings, and number of hard copies of product data which contractor requires for distribution, plus two (2) hard copies which will be retained by the Project Engineer.
 - 3. Submit number of samples specified in each specification Section.
 - 4. Forward submittals with transmittal letter.

- 5. Submittals shall include:
 - a. Date and revision date.
 - b. Project title.
 - c. The names of:
 - 1. General Contractor
 - 2. Subcontractor
 - 3. Supplier
 - 4. Manufacturer
 - d. Identification of product or material.
 - e. Relation to adjacent structure of materials.
 - f. Field dimensions, clearly defined as such.
 - g. Specification Section number.
 - h. Applicable standards, such as ASTM number.
 - i. A blank space 5 inches by 4 inch, for the Engineer's stamp.
 - j. Identification of deviations from contract document.
 - k. General Contractors stamp, initialized or signed, certifying review and approval of submittals.
- G. Resubmission Requirements:
 - 1. Shop Drawings:
 - a. Drawings, data or samples shall be designated approved, approved as noted, revise and resubmit or rejected.
 - b. Revise drawings as required and resubmit as specified for previous submittal.
 - 2. Product Data and Samples: Submit new data and samples as required from previous submittals.
- H. Distribution of Submittals after Review:
 - 1. Distribute copies of shop drawings and project data which display Project Engineer's stamp to appropriate Subcontractors.

1-04 <u>SCHEDULE OF VALUES</u>

Prior to the first request for payment, the General Contractor shall submit to the Project Engineer a Schedule of Values of the various portions of the work in sufficient detail to reflect various major components of each trade, including quantities when requested, aggregating the total contract sum, and divided so as to facilitate payments for work under each Section. Each item in the Schedule of Values shall include its proper share of overhead and profit. This schedule shall be used only as a basis for the contractor's request for payment.

1-05 <u>SUBCONTRACT LIST</u>

Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:

- 1. Name, address, and telephone number of entity performing subcontract or supplying products.
- 2. Number and title of related Specification Section(s) covered by subcontract.
- 3. Drawing number and detail references, as appropriate, covered by subcontract.
- 4. Number of Copies: One (1) PDF copy.
 - a. 0Mark up and retain one returned copy as a Project Record Document.

1-06 **PROJECT ENGINEER ACTION**

- A. General: Project Engineer will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Project Engineer will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:
 - 1. "REVIEWED": The portion of Work covered by the submittal may proceed provided it complies with the Contract Documents.
 - 2. "REVIEWED WITH NOTATIONS": The portion of Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal, and with the Contract Documents.
 - 3. "REVISE AND RESUBMIT" or "DISAPPROVED": Revise or prepare a new submittal in accordance with notations; resubmit. Do not proceed with that portion of the Work covered by the submittal.
- C. Informational Submittals: Project Engineer will review each submittal and will not return it, or will return it if it does not comply with requirements. Project Engineer will forward each submittal to appropriate party.
- D. Partial submittals are not acceptable, will be considered nonresponsive, and will be returned without review, as "DISAPPROVED."
- E. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

SECTION 015000 CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 – GENERAL

1-01 GENERAL PROVISIONS

Attention is directed to the CONTRACT and GENERAL CONDITIONS and all Sections within DIVISION 1 – GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1-02 **DESCRIPTION**

The contractor shall be responsible for providing and maintaining temporary construction facilities and controls as specified herein.

1-03 HOISTING EQUIPMENT AND MACHINERY

All hoisting equipment and machinery required for the proper and expeditious prosecution and progress of the work shall be furnished, installed, operated and maintained in safe condition by the General Contractor for the use of all Subcontractor's material and/or equipment delivered to the designated hoisting area except that which is specifically required to be provided by the Subcontractors themselves and is so stated in each appropriately related Section of the Specifications. All costs for hoisting operating services shall be borne by the General Contractor unless specifically excepted in the Contract Documents.

1-04 STAGING AND TEMPORARY LADDERS, RAMPS, RUNWAYS, ETC.

All staging, exterior and interior, required to be over eight feet in height, shall be furnished and erected by the General Contractor and maintained in safe condition by him without change to, and for the use of all trades as needed by them for proper execution of their work, except where specified to the contrary in any filed sub-bid Section of the Specifications.

1-05 DUST CONTROL

- A. The General Contractor shall provide adequate means for the purpose of preventing dust caused by construction operations throughout the period of the construction contract.
- B. This provision does not supersede any specific requirements for methods of construction or applicable general conditions set forth in the contract articles with added regard to performance obligations of the General Contractor.

SECTION 015000 - CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS page 1 of 2

C. The General Contractor shall provide and maintain floor mats at access points to prevent the tracking of dust.

1-06 NOISE CONTROL

- A. Develop and maintain a noise-abatement program and enforce strict discipline over all personnel to keep noise to a minimum.
- B. Execute construction work by methods and by use of equipment which will reduce excess noise.
 - 1. Equip air compressors with silencers and power equipment with mufflers.

1-07 <u>ENCLOSURES</u>

- A. Provide temporary, insulated, weathertight closures of openings in exterior surfaces for providing acceptable working conditions and protection of materials, allowing for heating during construction, and preventing entry of unauthorized persons. Provide doors with self-closing hardware and locks.
- B. Provide temporary partitions and ceilings as required to separate work areas from User Agency's occupied areas, to prevent penetration of dust and moisture into User Agency's occupied areas, to prevent damage to existing areas and equipment. Construction shall be framing and sheet materials with closed joints and sealed edges at intersections with existing surfaces; STC rating 35 in accordance with ASTM E90.
- C. Provide sheet material and tape to seal HVAC supplies and exhaust. Insure that dust does not enter the ductwork.

1-08 CLEANING DURING CONSTRUCTION

- A. Unless otherwise specified under the various trade Sections of the Specifications, the General Contractor shall perform clean-up operations during construction as herein specified.
- B. Control accumulation of waste materials and rubbish, periodically dispose of off-site. The general contractor shall bear all costs, including fees resulting from such disposal.
- C. Store volatile wastes in covered metal containers, and remove from premises.

SECTION 015000 - CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS page 2 of 5

- D. Prevent accumulation of wastes which create hazardous conditions.
- E. Provide adequate ventilation during use of volatile or noxious substances.
- F. Conduct cleaning and disposal operation to comply with local ordinances and anti-pollution laws.
 - 1. Do not burn rubbish and waste materials on site.
 - 2. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
- G. Use only those materials which will not create hazards to health or property and which will not damage surfaces.
- H. Use only those cleaning materials and methods recommended by manufacturer of surface materials to be cleaned.
- I. Provide on-site containers for collection of waste materials, debris and rubbish.
- J. Remove waste materials, debris and rubbish from the site periodically and dispose of at legal disposal areas off the construction site.

1-09 SUPPLEMENTAL GUIDELINES FOR CONSTRUCTION

- A. Limiting Exposures:
 - 1. Workers should follow the General On-the-Job Guidance to Prevent Exposure & Limit the Transmission of the Virus of the COVID-19 Employee Health, protection, guidance and prevention guide.
 - 2. In addition, Contractors should advise workers of best practice to limit exposures off the construction site.
 - 3. When leaving a construction site for breaks, lunch, or other reasons are required to wash hands with soap for at least 20 seconds or use an alcohol-based hand sanitizer with at least 60% ethanol or 70% isopropanol before leaving the site and must maintain social distancing if traveling to other locations off the construction site. Frequent use of handwashing or alcohol-based hand sanitizers should be encouraged and handwashing facilities and/or alcoholbased hand sanitizers should be made readily available at work sites.
- B. Worker Infection Protocol:

- 1. As provided in the guidance document, there is a zero tolerance for sick workers reporting to work. Employees should be instructed that even those with mild symptoms of respiratory infection (cough, shortness of breath, sore throat) or fever should stay off work. Contractors shall take immediate steps to limit infections at the job site in the event that a worker discovered to have tested positive for COVID-19 or has COVID-19 related symptoms.
- 2. Although it is understood that contractors are enforcing Work Site Risk Prevention Practices including social distancing rules and use of PPE, consistent with guidelines it is also recognized that there may be occasions where someone who has tested positive for COVID-19 or who has COVID-19 symptoms has been present in a work area.
- 3. Prompt identification and isolation of potentially infectious individuals is a critical step in protecting workers, vendors, visitors, and others at a worksite.
 - a. IDENTIFICATION OF EXPOSURE. The Contractor shall direct workers with COVID-19 related symptoms to leave the jobsite immediately and contact their healthcare provider. The Massachusetts Department of Health (DPH) or a local board of health will make appropriate notifications to those who had direct prolonged contact with the COVID-19 positive workers.
 - b. NOTIFICATION AND QUARANTINE REQUIREMENTS. As provided by law, the identity of the worker must be kept confidential. Upon learning of an infection, the contractor must immediately notify the designated COVID-19 safety officer, the site safety officer, and the owner.
 - c. SANITIZATION REQUIREMENTS. Contractor shall take immediate steps to sanitize common areas and direct work places. This includes all on-site bathrooms facilities, any break facilities, and any other common areas on the job site that may have been in close contact with the infected worker. Sanitation will be conducted with personnel, equipment, and material approved for COVID-19 sanitization. Identified areas should remain isolated from workers until sanitation process has been completed and area is deemed safe for use.
 - d. RETURNING TO WORK. All impacted workers should follow CDC and DPH recommended steps concerning return to work. Workers who are considered close contacts to a COVID19 case by public health authorities should not return for 14 days and are subject quarantine by public health. Workers who leave during the work day due to COVID-19 symptoms and develop COVID-19 as confirmed

SECTION 015000 - CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS page 4 of 5

by laboratory testing or diagnosis by a healthcare provider shall not return to the site until either released from isolation by healthcare provider or public health.

e. IN ALL CASES, keep all employee names confidential as required by law. Other employees may be sent home while a workspace is being cleaned but will return to work after cleaning unless advised otherwise by a health care provider. Other employees should be asked to contact their health provider if they have any questions Remind other employees to continue to practice proper sanitation and monitor for flu like symptoms.

SECTION 016000 PRODUCT REQUIREMENTS

PART 1 – GENERAL

1-01 GENERAL PROVISIONS

Attention is directed to the CONTRACT and GENERAL CONDITIONS and all Sections within DIVISION 1 – GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1-02 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 structures, except as specifically required, or allowed, by the contract documents.

1-03 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.

1-04 MANUFACTURER'S INSTRUCTIONS

- A. When work is specified to comply with manufacturer's instructions, submit copies as specified in Section 013300, SUBMITTALS.
- B. Perform work in accordance with details of instructions and specified requirements.

1-05 TRANSPORTATION AND HANDLING

- A. Refer to CONTRACT and GENERAL CONDITIONS and Specifications Sections for requirements pertaining to transportation and handling of materials and equipment.
- B. Transport products by methods to avoid product damage; deliver in undamaged condition in manufacturer's unopened containers or packaging, dry.
- C. Provide equipment and personnel to handle products by methods to prevent soiling or damage.
- D. Promptly inspect shipments to assure that products comply with requirements, that quantities are correct and products are undamaged.

1-06 STORAGE AND PROTECTION

- A. Refer to CONTRACT and GENERAL CONDITIONS and Specifications Sections for requirements pertaining to storage and protection of materials and equipment.
- B. Store products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive products in weathertight enclosures; maintain within temperature and humidity ranges required by manufacturer's instructions.
- C. 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.
- D. Store loose granular materials on solid surfaces in a well-drained area; prevent mixing with foreign matter.
- E. Arrange storage to provide access for inspection. Periodically inspect to assure that products are undamaged, and are maintained under required conditions.

SECTION 017000 CLOSEOUT PROCEDURES

PART 1 – GENERAL

1-01 GENERAL PROVISIONS

Attention is directed to the CONTRACT and GENERAL CONDITIONS and all Sections within DIVISION 1 – GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1-02 FINAL CLEANING

- A. Unless otherwise specified under the various Sections of the Specifications, the General Contractor shall perform final cleaning operations as herein specified prior to final inspection.
- B. Maintain project site free from accumulations of waste, debris, and rubbish caused by operation. At completion of work, remove waste materials, rubbish, caused by operation. At completion of work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials, and clean all sight-exposed surfaces; leave project clean and ready for occupancy.
- C. Cleaning shall include all surfaces, interior and exterior in which the General Contractor has had access whether existing or new.
- D. Refer to Section of the Specifications for cleaning or specific products or work.
- E. Use only those materials which will not create hazards to health or property and which will not damage surfaces.
- F. Use only those cleaning materials and methods that are recommended by the manufacturer of surface material to be cleaned.
- G. Employ experienced workmen or professional cleaners for final cleaning operations.
- H. Remove grease, mastic, adhesives, dust, dirt, stains, labels, fingerprints, and other foreign materials from sight-exposed interior and exterior surfaces.
- I. Wash and polish mirrors.

- J. Repair, patch and touch up marred surfaces to specified finish, to match adjacent surfaces.
- K. Polish glossy surfaces to a clear shine.
- L. Prior to final completion, or User Agency Use and Occupancy, the General Contractor shall conduct an inspection of sight-exposed interior and exterior surfaces, and all work areas, to verify that the entire work is clean.

1-03 <u>RECORD DRAWINGS</u>

- A. Record Drawings shall consist of <u>all</u> the contract drawings.
- B The General Contractor and all Subcontractors shall be required to maintain one set of Record Drawings, as the work relates to their Sections of the Specifications, at the site.

1-04 GUARANTEES AND WARRANTIES

Submit to the Project Engineer all extended guarantees and warranties that have been specified in various, individual Sections of the Specifications.

SECTION 024119 SELECTIVE DEMOLITION

PART 1 – GENERAL

1-01 GENERAL PROVISIONS

Attention is directed to the CONTRACT and GENERAL CONDITIONS and all Sections within DIVISION 1 – GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1-02 **DESCRIPTION**

- A. It is not the intent herein to describe all the items and work required to be removed under this Section. The General Contractor shall assure himself that all of the work to be removed, not otherwise specified herein or described under other Sections, but shown on the Drawings, shall be removed under this Section at no additional cost to the Commonwealth.
- B. The General Contractor shall also examine other Sections of these Specifications and familiarize himself with their provisions regarding the removal of existing items and work. He shall understand that all items and work not specifically mentioned to be removed by the requirements of other Sections of these Specifications shall be removed as part of the work under this Section.
- C. The scope of work consists of material and services to be furnished under this Section, and without limiting the generality thereof, includes labor, equipment and services required for the removal of existing work, special protection and all work incidental thereto as specified herein and as shown on the Drawings.

1-03 <u>RELATED WORK SPECIFIED ELSEWHERE</u>

- A. The following work is not included in this Section and is to be performed under the designated Sections:
 - 1. Movable items and items of User Agency's equipment in the areas of the existing building affected by the work under this Contract will be removed by the User Agency.
 - 2. Cutting and core drilling for new electrical, heating and plumbing work shall be performed by these respective trades.

3. The patching and repair of ceilings, floors and walls caused by work performed under this Section is included under Sections of these Specifications describing similar construction. The General Contractor shall do his utmost to keep such necessary patching and repairing to a minimum.

1-04 PERMITS AND CODES

- A. Work specified herein shall conform to the Drawings and Specifications and shall comply with all rules, regulations, laws and ordinances of the Commonwealth of Massachusetts.
- B. The General Contractor shall procure and pay for all permits and licenses required for the complete work specified or inferred under this Section.

1-05 <u>SCHEDULING</u>

- A. Before beginning the removal of work and demolition, the General Contractor shall consult jointly with the Facility and Project Engineer to determine the schedule of work, exact places, times and days during which the removal and demolition work may, or may not be carried on, and to determine further reasonable requirements, particularly in regards to noise prevention, dust prevention, weather protection, and safety precautions.
- B. No work shall be started in existing building without prior approval of the Facility. The General Contractor shall give the Facility adequate advance notice of his readiness to start such work in order that they may properly rearrange activities or evacuate the spaces to be affected.

1-06 EXAMINATION OF PREMISES

The Contractor will be held to have examined the premises before submitting proposals for the work and to have satisfied himself as to the existing conditions under which he will be obliged to operate or that will in any way affect the work under this Contract, also the character and amount of materials and debris to be removed. No allowances will be made in this connection for error or negligence of the Demolition Contractor.

1-07 <u>USE OF PREMISES</u>

All apparatus, storage, and the operation of workmen in connection with activities under this Section shall be confined to limits of the Contract.
 Storage will not be permitted on the property without the approval of the Facility.

- B. All parking regulations shall be observed.
- C. All trucks carrying loose, dry material such as debris, broken concrete block, plaster, etc., shall be covered by tarpaulins to prevent blowing away or spillage of contents. All spillage of whatever nature shall be promptly taken up and removed.

1-08 PROTECTION

- A. The removal of all portions of the structure to be removed shall be done with utmost care, using tools and methods that will not transfer any heavy shocks to the remaining portions of the existing building. All possible care shall be taken to avoid vibration and other disturbances.
- B. All existing items directed by the Project Engineer to be retained as the User Agency's property or relocated as shown on the drawings or noted herein, shall be handled and removed with full consideration for their preservation. It is the full responsibility of the General Contractor to replace, without additional charge to the Commonwealth, all such items which are lost or damaged due to the removal operations or handling.
- C. When removing materials and making openings in walls, floors, etc., the General Contractor shall take all precautions and use whatever protective devices, shoring, guardrails, and the like as may be required to assure that the remaining and adjacent portions of the existing work which is to remain is substantially supported and./or not loaded beyond safe limits.
- D. Consult with the Facility Manager regarding the electrical/mechanical equipment.

PART 2 – MATERIALS

2-02 DISPOSAL OF WORK REMOVED

- A. All non-salvageable refuse and debris which accumulate as a result of work under this Section shall be removed. No refuse or debris of any nature shall be allowed to accumulate to the detriment of the work.
- B. All existing items removed under this Section shall become the responsibility of the Demolition Contractor, and legally be disposed of off-site at his expense, unless such existing items to be removed are specifically noted on the drawings to be relocated or unless otherwise directed by the Project Engineer to be rendered to and become the property of the Commonwealth.
- C. Remove debris in covered containers on a route designated by the Facility.

PART 3 – EXECUTION

3-01 PREPARATION

Before starting the removal of work, the Contractor shall arrange for the disconnection of active utility services in the areas to be worked in. All work on existing utilities shall be accomplished by the respective sub trades or utility companies having jurisdiction.

3-02 <u>REMOVAL OF EXISTING WORK</u>

- A. Remove existing bathroom fixtures.
 - 1. Store existing equipment and appliances for reinstallation only as noted.
- B. Remove existing floor covering and cove down to sub-floor floor.
- C. Remove wall paneling and other miscellaneous materials as noted on drawings.
- D. Provide dust protection to contain dust and debris to the work area.
- E. Disconnect all utilities as required.

3-04 <u>CLEAN-UP</u>

At the completion of work, all rubbish, debris, waste, materials, and salvaged materials shall be removed from the site. All tools, scaffolds, apparatus and appliances used in connection with work under this Section shall be removed by the Contractor, and the premises shall be left in clean condition, ready for the alteration work as described under other Sections of these Specifications.

SECTION 081110 STEEL DOOR FRAMES

PART 1 – GENERAL

1-01 GENERAL PROVISIONS

Attention is directed to the CONTRACT and GENERAL CONDITIONS and all Sections within DIVISION 1 – GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1-02 **DESCRIPTION**

A. Work included: Prefinished steel frames for interior doors

1-03 <u>RELATED SECTIONS</u>

A. Section 081400 Wood Doors.

1-04 <u>REFERENCES</u>

- A. ASTM International (ASTM):
 - 1. ASTM A366 Standard Specification for Commercial Steel (CS) Sheet, Carbon (0.15 Maximum Percent) Cold-Rolled.
 - 2. ASTM A653 Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - 3. ASTM B117 Standard Practice for Operating Salt Spray (Fog) Apparatus.
 - 4. ASTM D1735 Standard Practice for Testing Water Resistance of Coatings Using Water Fog Apparatus.
 - 5. ASTM D3363 Standard Test Method for Film Hardness by Pencil Test.
- B. American National Standards Institute (ANSI):
 - 1. ANSI 115.1 Specifications for Steel Door and Frame Preparation for Hardware.
 - 2. ANSI A224.1 Accelerated Physical Endurance Test Procedure for Steel Doors, Frames and Frame Anchors.
 - 3. ANSI A250.5 Accelerated Physical Endurance Test Procedure for Steel Doors, Frames and Frame Anchors.
- C. National Fire Protection Association (NFPA):

- 1. NFPA 80 Fire Doors and Windows.
- D. Steel Door Institute (SDI):
 - 1. SDI-107 Hardware on Steel Doors (Reinforcement Application).
- E. Underwriters' Laboratories of Canada Ltd. (ULC):
 - 1. CAN 4-S104 Fire Tests of Door Assemblies Performance.
- F. Underwriters Laboratories, Inc. (UL):
 - 1. UL 10B Fire Tests of Door Assemblies.
 - 2. UL 10C Positive Pressure Fire Tests of Door Assemblies.

1-05 <u>SUBMITTALS</u>

- A. Submit under provisions of Section 01 30 00 Administrative Requirements.
- B. Product Data: Submit product data, including manufacturer's product sheet, for specified products. Include details of design and construction and printed instructions covering installation.
- C. Shop Drawings: Submit shop drawings showing layout, profiles and product components, including anchorage, accessories, finish colors and textures. Indicate installation requirements of finish hardware and reinforcements.

1-06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum 5 year experience manufacturing similar products.
- B. Installer Qualifications: Installer experienced in performing work of this section who has specialized in the installation of work similar to that required for this project.
 - 1. Personnel: Assembly and installation shall be performed by qualified personnel who have successfully completed manufacturer's prefinished steel door frame installation course online and have been approved by the manufacturer.

- C. Regulatory Requirements: Fire-rated steel frames shall be of types tested and approved by Intertek Testing Services, Warnock Hersey and shall bear labels of same.
 - 1. Three-sided frames shall receive a permanent embossed 90 minute label. Sidelite and borrowed lite frames shall receive a Mylar Warnock Hersey label when required by Authority having Jurisdiction (AHJ).
 - 2. 1-1/2 hour fire rating assembly in accordance with UL 10B.
 - 3. Assembly passes positive pressure test in accordance with UL 10C.

1-07 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
 - 1. Factory package components in protective cartons to prevent damage during shipping.
- B. Storage and Protection: Store materials protected from exposure to harmful weather and at temperature conditions recommended by manufacturer.
 - 1. Store material on wooden skids under cover in a protected area and keep vented to avoid condensation until ready for installation.
- C. Handling: Handle materials to avoid damage.

1-08 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.

1-09 <u>SEQUENCING</u>

- A. Field Measurements: Verify actual measurements/openings by field measurements before fabrication. Show recorded measurements on shop drawings. Coordinate field measurements and fabrication schedule with construction progress schedule to avoid construction delays.
- B. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

1-10 WARRANTY

- A. Manufacturer's Warranty: Submit manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under the Contract Documents.
 - 1. Warranty Period: 1 year.

PART 2 – PRODUCTS

2-01 MANUFACTURED UNITS

- A. General: Frames shall be prefinished type designed for installation at rough wall openings over prefinished walls. Frames shall be designed for installation by sleeving the frame over the finish wall and placing screws through the face of the frame; then the casing is snapped in place to conceal the fasteners.
 - 1. Material: ASTM A366 commercial quality cold rolled steel.
 - 2. Smoke Rating: UL 1784
 - 3. Frame Construction: 14ga minimum with 7ga hinge backing.
 - 4. Frame Style: Cased Header, Cased Hinge Jamb, and Single Rabbeted Latching Jamb.
- B. Construct jamb member to interlock and align with header members to form a strong joint.

PART 3 - EXECUTION

3-01 MANUFACTURER'S INSTRUCTIONS

- A. Site Verification of Conditions: Verify that conditions of substrates previously installed under other sections are acceptable for product installation in accordance with manufacturer's instructions.
- B. Do not begin installation until substrates have been properly prepared.
- C. If substrate preparation is the responsibility of another installer, notify Project Engineer of unsatisfactory preparation before proceeding.

3-02 EXAMINATION

A. Site Verification of Conditions: Verify that conditions of substrates previously installed under other sections are acceptable for product installation in accordance with manufacturer's instructions.

- B. Do not begin installation until substrates have been properly prepared.
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3-03 INSTALLATION

- A. Install frames plumb and square, in accordance with shop drawings and manufacturer's instructions. Verify opening and dimensions with shop drawings. Use door as a template to ensure proper alignment and clearances.
- B. Attach hinges and hang door in frame. Adjust frame to door for equal and uniform clearance between top and sides of door and frame.
- C. Secure frame to wall with the appropriate type fasteners.
- D. Adjust strike plate to hold door tight to stops when closed.
- E. Install fire-rated door frames in accordance with NFPA 80.

3-04 <u>CLEANING</u>

A. Cleaning: Remove temporary coverings and protection of adjacent work areas. Repair or replace damaged installed products. Clean installed products in accordance with manufacturer's instructions prior to Owner's acceptance. Remove construction debris from project site and legally dispose of debris.

3-05 **PROTECTION**

- A. Protection: Protect installed product and finish surfaces from damage during construction.
 - 1. Repair or replace damaged or defective frames.
 - 2. Touch up damaged areas of factory-applied finishes with aerosol spray cans of same paint as used in factory.

SECTION 081400 WOOD DOORS

PART 1 – GENERAL

1-01 GENERAL PROVISIONS

Attention is directed to the CONTRACT and GENERAL CONDITIONS and all Sections within DIVISION 1 – GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1-02 **DESCRIPTION**

A. Work included: Ligature resistant wood doors and ADA and ligature resistant hardware. Base of design Switch Anti-Barricade Door System, by Kingsway Group, USA.

1-03 <u>RELATED SECTIONS</u>

A. Section 081110 Steel Door Frames.

1-04 <u>SUBMITTALS</u>

- A. Submit under provisions of Section 01 30 00 Administrative Requirements.
- B. Shop Drawings:
 - 1. Show every door on the project and schedule its location in the building.
 - 2. Indicate type, grade, finish and size; include detail of glazing and other pertinent details.
 - 3. Provide information concerning any specified requirements not included in the manufacturer's literature and data submittal.
- C. Manufacturer's Literature and Data:
 - 1. General product information of doors and all the hardware.
- D. Laboratory Test Reports:
 - 1. Direct screw withdrawal test report in accordance with NWWDA TM-10.
 - 2. Split resistance test report in accordance with NWWDA TM-5.
 - 3. Cycle/Swing test report in accordance with NWWDA TM-7.

4. Door Finish Test report in accordance with NWWDA TM-9.

1-05 DELIVERY AND STORAGE

- A. Factory seal doors and accessories in heavy polyethylene bags or cardboard packages which shall remain unbroken during delivery and storage.
 NOTE: These bags or packages will be required to be reinstalled to protect the doors after installation, see Paragraph, DOOR PROTECTION.
- B. Doors: Store flat, uniformly support and store under cover, in dry and well ventilated areas, off the floor, at temperatures between 40 and 100 degrees F, and at relative humidity between 30 and 60 percent.

PART 2 – PRODUCTS

2-01 **DOORS**

- A. Flush Doors:
 - 1. Solid Core Wood Flush Doors meeting requirements of AWI and NWWDA I.S.1 Series for Wood Flush Doors.
 - 2. Type I bond for interior doors.
 - 3. Solid wood or solid mat-formed wood particleboard core.
 - 4. 1-3/4 inches thick, unless otherwise shown or specified.
- B. Face Veneer:
 - 1. Door faces shall be in accordance with AWI and NWWDA I.S.1-A.
 - 2. Premium, plain sliced, "Birch" for transparent finishes. One species throughout the project unless scheduled or otherwise shown.
 - 3. Lauan is not acceptable.
 - 4. Factory sand transparent finish doors.
 - 5. Final sanding of faces and stiles shall be clean and smoothly sanded prior to finishing. The grade of sandpaper will depend on the wood specie of the veneer.
 - 6. Match face veneers (book match) for doors required to have transparent finish for uniform effect of color and grain at all joints.
- C. Vision Panel: Base of design Duralux D4400 Privacy Vision Panel with key and thumb turn control Panel, by Kingsway Group USA.
 - 1. Glass:
 - a. Bathroom Side: Trident 3/4" tempered glass

- b. Corridor Side: Trident 3/8" tempered glass
- c. Center Panel: 1/8" polycarbonate
- 2. Pressed stainless steel fascia bolted from the outside with security bolts.

2-02 HARDWARE

- A. Hardware for application on wood doors and metal frames shall be made to standard templates. Templates shall be furnished to the fabricator of these items in sufficient time so as not to delay the construction.
- B. Hinge system: KG280 Switch anti barricade hinge system by Kingsway Group, USA, including locking mechanism and indicator, or approved equal.
- C. Mortise lock: Re-use existing mortise lock.
- D. Deadbolt: Reuse existing
- E. Anti-ligature Floor Mounted Door Stop. Base of design KG181, by Kingsway Group.
- F. Kick-plate: Door Protection Plate, Stainless Steel, 8" Height, 34" Width or door's width.
 - 1. Finish: Dull 304
 - 2. Thickness: 0.05"

PART 3 - EXECUTION

3-01 DOOR PREPARATION

- A. Field, shop or factory preparation shall not violate the qualified testing and inspection agency label requirements for fire rated doors.
- B. Clearances Between Doors and Frames and Floors: Doors shall have a maximum 1/8-inch clearance at the jambs, heads, and meeting stiles, and a 3/4-inch clearance at the bottom, except as otherwise specified.
- C. Provide cutouts for glass and special details required and specified.
- D. Rout doors for hardware using the templates and the location heights specified drawings.

- E. Fit doors to frame bevel lock edge of doors 1/8-inch for each two inches of door thickness.
- F. Immediately after fitting and cutting of doors for hardware, seal edges of doors to receive transparent finish with two coats of water resistant sealer. Finish all surfaces, including both faces, top and bottom and edges of the doors smooth to the touch.

3-02 INSTALLATION OF DOORS AND APPLICATION OF HARDWARE

- A. Site Verification of Conditions: Verify that conditions of substrates previously installed under other sections are acceptable for product installation in accordance with manufacturer's instructions.
- B. Do not begin installation until substrates have been properly prepared.
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
- D. All hardware mounting heights shall comply with the requirements of MAAB and ADA, no exceptions.

3-03 **PROTECTION**

- A. As each door installation is completed, place the polyethylene bag or cardboard shipping container over the door and tape in place.
- B. The protective covering shall encompass knobs and handles in addition to covering the door. Maintain the covering in good condition until removal is approved by the Project Engineer.

SECTION 092116 GYPSUM BOARD SYSTEM

PART 1 – GENERAL

1-01 GENERAL PROVISIONS

Attention is directed to the CONTRACT and GENERAL CONDITIONS and all Sections within DIVISION 1 – GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1-02 **DESCRIPTION**

- A. Work included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
 - 1. Backer board at solid surface surrounds.
 - 2. All required accessories.

B. IN GENERAL

1. Walls shall be single layer 1/2" moisture/mold resistant cementitious backer board on both sides of 3-1/2" 25 gauge steel studs. Studs and wallboard shall run floor to underside of deck.

1-03 <u>SUBMITTALS</u>

- A. Product Data: Submit manufacturer's literature for each product specified, indicating conformance to specifications.
- B. Samples: not required.
- C. Qualification Data: Submit evidence of fire resistance for all rated materials specified.

1-04 <u>REFERENCES</u>

- A. American National Standards Institute: ANSI A118.9: Specification for Cementitious Backer Units.
- B. American Society for Testing and Materials
 - 2. ASTM C1325: Standard Specification for Non-Asbestos Fiber-Mat Reinforced Cement Interior Substrate Sheets.

- 3. ASTM E84: Standard Test Method for Surface Burning Characteristics of Building Materials.
- 4. ASTM E119: Test Method for Fire Tests of Building Construction and Materials.

1-05 **QUALITYASSURANCE**

- A. Source limitations: obtain all boards, joint compound and accessories from a single manufacturer, to constitute a "system".
- B. Installation shall conform to the requirements of 780CMR, Massachusetts State Building Code.
- C. Fire Resistance Rated Assembly Characteristics: Provide materials and construction identical to those tested in accordance to ASTM E119 by an independent testing and inspection agency acceptable to authorities having jurisdiction.
 - 1. Fire Resistance Ratings: Indicated by design designations from UL Fire Resistance Directory.

1-06 **QUALITYASSURANCE**

- 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.
- B. Environmental Limitations: Comply with ASTM C840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.
- C. Do not install interior products until installation areas are enclosed and conditioned.
- D. 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

2-01 BOARD MATERIALS

- A. Cement Backer Board:
 - 1. Type: Coated Glass Mat Water-Resistant Gypsum Backing Panel
 - 2. Size: largest panels practical.
 - 3. Thickness: $\frac{1}{2}$ "
 - 4. Standard: ASTM C1178
- B. Accessories:
 - 1. All accessories shall meet ASTM C1047.
 - 2. Joint Materials: ANSI/ASTM C475; GA 201 and GA 216; reinforcing tape, joint compound, adhesive, water, and fasteners.
 - 3. Joint Compound: ASTM C475, drying orsetting type (contractor's preference)
 - 4. Joint Reinforcing: ASTM 474
 - a. Outside corners shall be metal or metal/paper combination.
 - b. Inside corners shall be paper tape.
 - c. Joints where drywall meets other materials shall receive plastic L trim with tear-away strips.
 - 5. Drywall screws: ASTM C954, C1002, bugle-headed self-drilling drywall screws intended for use with metal studs. Screws at MR board locations shall be galvanized.

2-03 METAL STUDS AND FURRING

- A. Non-Load Bearing Studs and Runner Tracks:
 - 1. <u>Studs</u>

ASTM C645, cold rolled steel, galvanized, channel shape, with punched webs for utility passage. Provide studs of sizes as indicated on the Drawings, 25-gauge typically, except provide 20gauge studs at jambs of pressed steel door frames, walls scheduled to receive ceramic tile finish, and partitions exceeding 13-feet-6 inches in height.

2. **Runner Tracks**

Shall be of same materials and finish as studs with provisions for crimp locking to studs.

2-04 JOINT MATERIALS

Joint Reinforcement Tape: Open weave coated glass fiber tape. "Imperial" type 'S' by U.S. Gypsum Company, "Kal-Mesh" by National Gypsum Company, or equal.

PART 3 - EXECUTION

3-01 COORDINATION

A. Coordinate the location of blocking at all wall mounted items, such as grab bars and shower controls.

3-02 INSPECTION

- A. Verify that site conditions are ready to receive work and opening dimensions are as indicated on shop drawings and instructed by the manufacturer.
- B. Verify that all required blocking for wall mounted items has been installed in proper locations.
- C. Beginning of installation means acceptance of conditions.

3-04 INSTALLATION, GENERAL

- A. Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- B. Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction, unless otherwise indicated.

3-04 GYPSUM SHEATHING INSTALLATION

- A. Comply with 780 CMR Section 2509, ASTM C1280, GA-253 and manufacturer's written instructions
 - 1. Fasten sheathing to metal framing with galvanized drywall screws.
 - 2. Install boards with a 3/8-inch gap where non-load-bearing construction abuts structural elements.
- B. Apply fasteners so heads bear tightly against face of sheathing boards but do not cut into facing.
- C. Vertical Installation: Install board vertical edges centered over studs. Abut ends and edges of each board with those of adjacent boards. Attach boards at perimeter and within field of board to each stud.
 - 1. Space fasteners approximately 8 inches o.c. and set back a minimum of 3/8 inch from edges and ends of boards.

SECTION 093010 TILING

PART 1 - GENERAL

1-01 GENERAL PROVISIONS

Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 1 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1-02 **DESCRIPTION**

A. This section specifies ceramic tile work.

1-03 <u>REFERENCES</u>

- A. Section 07 90 00, SEALANTS AND CAULKING.
- B. Section 09 21 16, GYPSUM BOARD SYSTEM.

1-04 <u>SUBMITTALS</u>

- A. Submit in accordance with Section 01 33 00, SUBMITTALS.
- 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. Selection Samples: Samples of actual tiles and threshold for selection.
- D. Manufacturers Certifications:
 - 1. Certify that products meet or exceed specified requirements.
 - 2. For each shipment, type and composition of tile provide a Master Grade Certificate signed by the manufacturer and the installer certifying that products meet or exceed the specified requirements of ANSI A137.1.
- E. Maintenance Data: Include recommended cleaning methods, cleaning materials, stain removal methods, and polishes and waxes.

1-05 **QUALITY ASSURANCE**

- A. Installer Qualifications: Company specializing in performing the work of this section with minimum two-year experience.
- B. Single Source Responsibility: Obtain each type and color of tile from a single source. Obtain each type and color of mortar, adhesive and grout from the same source.

1-06 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Deliver and store products in manufacturer's unopened packaging until ready for installation.
- B. Protect adhesives and liquid additives from freezing or overheating in accordance with manufacturer's instructions.
- C. Store tile and setting materials on elevated platforms, under cover and in a dry location and protect from contamination, dampness, freezing or overheating.

1-02 EXTRA MATERIALS

- A. Provide for Owner's use a minimum of 5 percent of the colors and types of tile specified, boxed and clearly labeled.
- B. American National Standards Institute (ANSI) (Published by Tile Council of America, Inc.):

A108.1Glazed Wall Tile, Ceramic Mosaic Tile, Quarry and
Paver Tile Installed with Portland Cement Mortar
A108.4Ceramic Tile Installed with Organic Adhesives or
Water Cleanable Tile-Setting Epoxy Adhesive
A108.5Ceramic Tile Installed with Dry-Set Portland Cement
Mortar or Latex-Portland Cement Mortar
A108.6Ceramic Tile Installed with Chemical-Resistant,
Water-Cleanable Tile-Setting and Grouting Epoxy
A108.8Ceramic Tile Installed with Chemical-Resistant Furan
Mortar and Grout
A108.9Ceramic Tile Installed with Modified Epoxy Emulsion
Mortar/Grout
A108.10Installation of Grout in Tile work.
A118.1Dry-Set Portland Cement Mortar
A118.3Chemical-Resistant, Water-Cleanable Tile-Setting and
Grouting Epoxy and Water-Cleanable Tile-Setting Epoxy
Adhesive

A118.4 Latex-Portland Cement Mortar
A118.5 Chemical-Resistant Furan Mortars and Grouts
A118.6 Ceramic Tile Grouts
A118.7 Polymer Modified Cement Grouts
A118.8 Modified Epoxy Emulsion Mortar/Grout.
A118.9 Test Methods and Specifications for Cementitious Backer
Units
A118.10 Load bearing, Bonded, Waterproof Membranes for Thinset
Ceramic Tile and Dimensional Stone.
A118.11 Exterior Grade Plywood (EGP) Latex-Portland Cement
Mortar.
A136.1 Organic Adhesives for Installation of Ceramic Tile
A137.1 Ceramic Tile

PART 2 - PRODUCTS

2-01 <u>TILE</u>

- A. General: Provide tile that complies with ANSI A137.1 for types, compositions and other characteristics indicated. Provide tile in the locations and of the types colors and pattern indicated on the drawings and identified in the schedule in this Section. Tile shall also be provided in accordance with the following:
 - 1. Factory Blending: For tile exhibiting color variations within the ranges selected under Submittal of samples, blend tile in the factory and package so tile taken from one package shows the same range of colors as those taken from other packages.
 - 2. Mounting: For factory mounted tile, provide back or edge mounted tile assemblies as standard with the manufacturer, unless otherwise specified.
 - 3. Factory Applied Temporary Protective Coatings: Where indicated under tile type, protect exposed surfaces of tile against adherence of mortar and grout by precoating with a continuous film of petroleum paraffin wax applied hot. Do not coat unexposed tile surfaces.
 - 4. Factory Cut: Tile shall be cut in factor for "true edges" in sizes specified and as shown on drawings.
- B. Wall:
 - 1. Moisture Absorption: Less than .01 percent to less than 20 percent.
 - 2. Trim Units: Cove Base, Cove Nose, Jolly shapes in sizes coordinated with filed tile shapes.
- C. ColorBody Porcelain Tile:

- 1. Water Absorption: ASTM C373, <0.5% to less than 20 percent.
- 2. Breaking Strength: ASTM C648, >320 lbs.
- 3. Scratch Hardness: ASTM MOH's, 6.5.
- 4. Chemical Resistance: ASTM C650, Resistant.
- 5. Coefficient of Friction: ASTM C1028, Wet > 0.60, Dry > 0.66.
- 6. Pattern: As indicated on the drawings.
- 7. Trim Units: Matching cove base, cove base corner, cove base outcorner, jolly, shapes in sizes coordinated with field tile.

2-02 CERAMIC FLOOR TILE

- A. Floor Tile in All Restrooms: Nominal 12" x 12" x 3/8" thick.
 - 1. Product: Haut Monde[™] by DalTile or "approved equal".
 - 2. Color: Matte finish, selected by Owner.
 - 3. Description: Color Body Porcelain.
 - 4. Grout Joint Dimension: 1/8", and 3/16" when multiple sizes are installed in a modular pattern, and/or when installing tile with a length 15" or greater in a staggered brick-joint pattern.
- B. Floor Mosaic in Shower: Nominal 2" x 2" x 3/8" thick.
 - 1. Product: Haut Monde[™] by DalTile or "approved equal".
 - 2. Color: Matte finish, selected by Owner.
 - 3. Description: Color Body Porcelain.
 - 4. Grout Joint Dimension: 1/8"

2-03 <u>CERAMIC WALL TILE</u>

- A. Wall Tile in All Restrooms: Nominal 12" x 24" x 3/8" thick.
 - 1. Product: Haut Monde[™] by DalTile or "approved equal".
 - 2. Color: Polished finish, selected by Owner.
 - 3. Description: Color Body Porcelain.
 - 4. Grout Joint Dimension: 1/8", and 3/16" when multiple sizes are installed in a modular pattern, and/or when installing tile with a length 15" or greater in a staggered brick-joint pattern.

2-04 SETTING MATERIALS OR BOND COATS

- A. Conform to TCA Handbook for Ceramic Tile Installation.
- B. Portland Cement Mortar: ANSI A108.1.
- C. Latex-Portland Cement Mortar: ANSI A118.4.

- 1. For wall applications, provide non-sagging, latex-Portland cement mortar complying with ANSI A118.4.
- 2. Prepackaged Dry-Mortar Mix: Factory-prepared mixture of Portland cement; dry, redispersible, ethylene vinyl acetate additive; and other ingredients to which only water needs to be added at Project site.
- D. Dry-Set Portland Cement Mortar: ANSI A118.1. For wall applications, provide non-sagging, latex-Portland cement mortar complying with ANSI A118.4.
- E. Organic Adhesives: ANSI A136.1, Type 1.

2-05 GROUTING MATERIALS

- A. Coloring Pigments:
 - 1. Pure mineral pigments, limeproof and nonfading, complying with ASTM C979.
 - 2. Add coloring pigments to grout by the manufacturer.
 - 3. Job colored grout is not acceptable.
 - 4. Use is required in Commercial Portland Cement Grout, Dry-Set Grout, and Latex-Portland Cement Grout.
- B. Commercial Portland Cement Grout: ANSI A118.6 color as specified.
- C. Dry-Set Grout: ANSI A118.6 color as specified.
- D. Latex-Portland Cement Grout: ANSI A118.6 color as specified.
 - 1. Unsanded grout mixture for joints 3.2 mm (1/8 inch) and narrower.
 - 2. Sanded grout mixture for joints 3.2 mm (1/8 inch) and wider.
- E. Color to be selected from manufacturer's full range of colors.

2-06 PATCHING AND LEVELING COMPOUND

- A. Portland cement base, polymer-modified, self-leveling compound, manufactured specifically for resurfacing and leveling concrete floors. Products containing gypsum are not acceptable.
- B. Shall have minimum following physical properties:
 - 1. Compressive strength 3500 psig per ASTM C109/C109M.

- 2. Flexural strength 1000 psig per ASTM C348 (28 day value).
- 3. Tensile strength 600 psi per ANSI 118.7.
- 4. Density 1.9.
- C. Capable of being applied in layers up to 1-1/2 inches thick without fillers and up to four inches thick with fillers, being brought to a feather edge, and being trowelled to a smooth finish.
- D. Primers, fillers, and reinforcement as required by manufacturer for application and substrate condition.
- E. Ready for use in 48 hours after application.

2-07 <u>METAL EDGES</u>

- A. Bullnose Profile (Outside Corners):
 - 1. Schluter®-RONDEC, or approved equal. bullnose-type profile with symmetrically rounded visible surface with 1/4 inch radius, integrated trapezoid-perforated anchoring leg, and integrated grout joint spacer.
 - 2. Material and Finish: Brushed chrome anodized aluminum.

2-08 <u>WATER</u>

A. Clean, potable and free from salts and other injurious elements to mortar and grout materials.

2-09 <u>CLEANING COMPOUNDS</u>

- A. Specifically designed for cleaning masonry and concrete and which will not prevent bond of subsequent tile setting materials including patching and leveling compounds and elastomeric waterproofing membrane and coat.
- B. Materials containing acid or caustic material not acceptable.

2-10 <u>SEALER</u>

- A. High performance transparent penetrating silicone sealer for ceramic tile and grout.
- B. Manufacturer: "Super- Sealcote" by Super-Tek Products or approved equal.

PART 3 - EXECUTION

3-01 ENVIRONMENTAL REQUIREMENTS

- A. Maintain ambient temperature of work areas at not less than 60 degrees F, without interruption, for not less than 24 hours before installation and not less than seven days after installation.
- B. Maintain higher temperatures for a longer period of time where required by manufacturer's recommendation and ANSI Specifications for installation.
- C. Do not install tile when the temperature is above 100 degrees F.
- D. Do not install materials when the temperature of the substrate is below 60 degrees F.
- E. Do not allow temperature to fall below 50 degrees F after fourth day of completion of tile work.
- F. Do not install adhesives in an unventilated environment.

3-02 EXAMINATION

- A. Verify that wall surfaces are free of substances which would impair bonding of setting materials, smooth and flat within tolerances specified in ANSI A137.1, and are ready to receive tile.
- B. Verify that sub-floor surfaces are dust-free, and free of substances which would impair bonding of setting materials to sub-floor surfaces, and are smooth and flat within tolerances specified in ANSI A137.1.
- C. Verify that concrete sub-floor surfaces are ready for tile installation by testing for moisture emission rate and alkalinity; obtain instructions if test results are not within limits recommended by tile manufacturer and setting materials manufacturer.
- D. Verify that required floor-mounted utilities are in correct location.

3-03 ALLOWABLE TOLERANCE

A. Variation in plane of sub-floor, including concrete fills leveling compounds and mortar beds:

- 1. Not more than 1/4 inch in 10 feet from required elevation where Portland cement mortar setting bed is used.
- 2. Not more than 1/8 inch in 10 feet where dry-set Portland cement, and latex-Portland cement mortar setting beds and chemical-resistant bond coats are used.
- B. Variation in Plane of Wall Surfaces:
 - 1. Not more than 1/4 inch in eight feet from required plane where Portland cement mortar setting bed is used.
 - 2. Not more than 1/8 inch in eight feet where dry-set or latex-Portland cement mortar or organic adhesive setting materials is used.

3-04 SURFACE PREPARATION

- A. Cleaning New Concrete or Masonry:
 - 1. Chip out loose material, clean off all oil, grease dirt, adhesives, curing compounds, and other deterrents to bonding by mechanical method, or by using products specifically designed for cleaning concrete and masonry.
 - 2. Use self-contained power blast cleaning systems to remove curing compounds and steel trowel finish from concrete slabs where ceramic tile will be installed directly on concrete surface with thinset materials.
 - 3. Steam cleaning or the use of acids and solvents for cleaning will not be permitted.
- B. Patching and Leveling:
 - 1. Mix and apply patching and leveling compound in accordance with manufacturer's instructions.
 - 2. Fill holes and cracks and align concrete floors that are out of required plane with patching and leveling compound.
 - a. Thickness of compound as required to bring finish tile system to elevation shown.
 - b. Float finish except finish smooth for elastomeric waterproofing.
 - c. At substrate expansion, isolation, and other moving joints, allow joint of same width to continue through underlayment.
 - 3. Apply patching and leveling compound to concrete and masonry wall surfaces that are out of required plane.

- 4. Apply leveling coats of material compatible with wall surface and tile setting material to wall surfaces, other than concrete and masonry that are out of required plane.
- C. Mortar Bed for Slopes to Drains:
 - 1. Slope compound to drain where drains are shown.
 - 2. Install mortar bed in depressed slab sloped to drains not less than 1/16 inch per foot.
 - 3. Allow not less than 2 inch depression at edge of depressed slab.
 - 4. Screed for slope to drain and float finish.
 - 5. Cure mortar bed for not less than seven days. Do not use curing compounds or coatings.
- D. Additional preparation of concrete floors for tile set with epoxy, or furanresin shall be in accordance with the manufacturer's printed instructions.
- E. Cleavage Membrane:
 - 1. Install polythene sheet as cleavage membrane in depressed slab when waterproof membrane is not scheduled or indicated.
 - 2. Turn up at edge of depressed floor slab to top of floor.
- F. Walls:
 - 1. Apply patching and leveling compound to concrete and masonry surfaces that are out of required plane.
 - 2. Apply leveling coats of material compatible with wall surface and tile setting material to wall surfaces, other than concrete and masonry that are out of required plane.

3-05 <u>METAL DIVIDER STRIPS</u>

- A. Install metal divider strips in floor joints between ceramic and quarry tile floors and between tile floors and adjacent flooring of other materials where the finish floors are flush unless shown otherwise.
- B. Set divider strip in mortar bed to line and level centered under doors or in openings.

3-06 <u>CERAMIC TILE – GENERAL</u>

A. Comply with ANSI A108 series of tile installation standards in "Specifications for Installation of Ceramic Tile" applicable to methods of installation.

- B. Comply with TCA Installation Guidelines.
- C. Setting Beds or Bond Coats:
 - 1. Where recessed or depressed floor slabs are filled with Portland cement mortar bed, set ceramic mosaic floor tile in either Portland cement paste over plastic mortar bed or latex-Portland cement mortar over cured mortar bed except as specified otherwise, ANSI A108-1C, TCA System F121-02 or F111-02.
 - 2. Set wall tile installed over concrete or masonry in dry-set Portland cement mortar, or latex-Portland cement mortar, ANSI 108.1B.and TCA System W211-02, W221-02 or W222-02.
 - 3. Set wall tile installed over concrete backer board in latex-Portland cement mortar, ANSI A108.1B.
 - 4. Set wall tile installed over Portland cement mortar bed on metal lath base in Portland cement paste over plastic mortar bed, or dryset Portland cement mortar or latex-Portland cement mortar over a cured mortar bed, ANSI A108.1C, TCA System W231-02, W241-02.
 - 5. Set tile installed over gypsum board and gypsum plaster in organic adhesive, ANSI A108.4, TCA System W242-02.
 - 6. Set trim shapes in same material specified for setting adjoining tile.
- D. Workmanship:
 - 1. Lay out tile work so that no tile less than one-half full size is used. Make all cuts on the outer edge of the field.
 - 2. Set tile firmly in place with finish surfaces in true planes. Align tile flush with adjacent tile unless shown otherwise.
 - 3. Form intersections and returns accurately.
 - 4. Cut and drill tile neatly without marring surface.
 - 5. Cut edges of tile abutting penetrations, finish, or built-in items:
 - a. Fit tile closely around electrical outlets, piping, fixtures and fittings, so that plates, escutcheons, collars and flanges will overlap cut edge of tile.
 - b. Seal tile joints water tight as specified in Section 079000, SEALANT AND CAULKING, around electrical outlets, piping fixtures and fittings before cover plates and escutcheons are set in place.
 - 6. Completed work shall be free from hollow sounding areas and loose, cracked or defective tile.
 - 7. Remove and reset tiles that are out of plane or misaligned.
 - 8. Floors:
 - a. Extend floor tile beneath casework and equipment, except those units mounted in wall recesses.

- b. Align finish surface of new tile work flush with other and existing adjoining floor finish where shown.
- c. In areas where floor drains occur, slope to drains where shown.
- d. Shove and vibrate tiles over 8 inches square to achieve full support of bond coat.
- 9. Walls:
 - a. Cover walls and partitions, including pilasters, furred areas, and freestanding columns from floor to ceiling, or from floor to nominal wainscot heights shown with tile.
 - b. Finish reveals of openings with tile, except where other finish materials are shown or specified.
 - c. At window openings, provide tile stools and reveals, except where other finish materials are shown or specified.
 - d. Finish wall surfaces behind and at sides of casework and equipment, except those units mounted in wall recesses, with same tile as scheduled for room proper.
- 10. Back Buttering: For installations indicated below, obtain 100 percent mortar coverage by complying with applicable special requirements for back buttering of tile in referenced ANSI A108 series of tile installation standards:
 - a. Tile wall installations in wet areas, including showers, tub enclosures, laundries and swimming pools.
 - b. Tile installed with chemical-resistant mortars and grouts.
 - c. Tile wall installations composed of tiles 200 by 200 mm (8 by 8 inches or larger.
 - d. Exterior tile wall installations.

3-07 <u>CERAMIC TILE INSTALLED WITH PORTLAND CEMENT MORTAR</u>

- A. Mortar Mixes for Floor, Wall and Base Tile (including Showers): ANSI A108.1. except specified otherwise.
- B. Installing Wall and Base Tile: ANSI A108.1, except specified otherwise.

3-08 <u>PORCELAIN TILE INSTALLED WITH LATEX PORTLAND CEMENT</u> <u>BONDING MORTAR</u>

A. Due to the denseness of porcelain tile use latex Portland cement bonding mortar that meets the requirements of ANSI A118.4. Bonding mortars shall be mixed in accordance with manufacturer's instructions. Improper liquid ratios and dwell time before placement of bonding mortar and tile shall affect bond.

3-09 <u>GROUTING</u>

- A. Grout Type and Location:
 - 1. Grout for base tile, paver tile and unglazed mosaic tile, use Portland cement grout, latex-Portland cement grout, dry-set grout, or commercial Portland cement grout.
- B. Workmanship:
 - 1. Install and cure grout in accordance with the applicable standard.
 - 2. Portland Cement grout: ANSI A108.10.

3-10 <u>CLEANING</u>

- A. Thoroughly sponge and wash tile. Polish glazed surfaces with clean dry cloths.
- B. Methods and materials used shall not damage or impair appearance of tile surfaces.
- C. The use of acid or acid cleaners on glazed tile surfaces is prohibited.
- D. Clean tile grouted with epoxy, furan and commercial Portland cement grout and tile set in elastomeric bond coat as recommended by the manufacturer of the grout and bond coat.

3-11 PROTECTION

- A. Keep traffic off tile floor, until grout and setting material is firmly set and cured.
- B. Where traffic occurs over tile floor, cover tile floor with not less than 3/8 inch thick plywood, wood particle board, or hardboard securely taped in place. Do not remove protective cover until time for final inspection. Clean tile of any tape, adhesive and stains.
- C. Seal all tile 14 calendar days after grout has cured.

3-12 <u>TESTING</u>

A. Test walls in accordance with ASTM C627 to show compliance with codes 1 through 10.

3-13 MAINTENANCE SUPPLY

A. Provide Owner with one (1) full, unopened case of ceramic wall, and (1) full, unopened case of ceramic floor tile for future maintenance and repair.

**** END OF SECTION ****

SECTION 102800 TOILET AND BATH ACCESSORIES

1-01 GENERAL PROVISIONS

Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 1 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1-02 <u>SUMMARY</u>

- A. This Section includes the following:
 - 1. Washroom accessories.
 - 2. Installation of salvaged accessories.

1-03 <u>SUBMITTALS</u>

- A. Submit in accordance with Section 01 33 00, SUBMITTALS.
- B. Product Data: Submit manufacturer's data sheets for each product specified, including the following:
 - 1. Installations instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Cleaning and maintenance instructions.
 - 4. Replacement parts information.
 - 5. Warranty.

1-04 <u>CLOSEOUT SUBMITTALS</u>

A. Maintenance Data: For toilet and bath accessories to include in maintenance manuals.

1-05 **QUALITY ASSURANCE**

- A. Source Limitations: For products listed together in the same articles in Part 2, provide products of same manufacturer unless otherwise approved by Designer.
- B. Accessibility: Comply with applicable provisions in the 2010 ADA Standards, and the 521 CMR Massachusetts Architectural Access Board (AAB).
- C. Ligature resistant

1-06 COORDINATION

- A. Coordinate accessory locations with other work to prevent interference with clearances required for access by people with disabilities, and for proper installation, adjustment, operation, cleaning, and servicing of accessories.
- B. Deliver inserts and anchoring devices set into concrete or masonry as required to prevent delaying the Work.

1-07 <u>RELATED SECTIONS</u>

A. Section 09 30 10, TILING.

PART 2 - PRODUCTS

2-01 MATERIALS

- A. Stainless Steel: ASTM A 666, Type 304, 0.0312-inch minimum nominal thickness, unless otherwise indicated.
- B. Steel Sheet: ASTM A 1008/A 1008M, Designation CS (cold rolled, commercial steel), 0.0359-inch minimum nominal thickness.
- C. Fasteners: Screws, bolts, and other devices of same material as accessory unit and tamper-and-theft resistant where exposed, and of galvanized steel where concealed.

2-02 MANUFACTURERS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide products indicated by:
 - 1. Kingsway Group, Inc.,
 - 2. BestCare by Whitehall Manufacturing, or
 - 3. Approved equal.
- B. Grab Bar:
 - 1. Basis-of-Design Product: Whitehall WH1109-1 and WH1109-5.
 - 2. Mounting: 3" O.D stainless steel flange.
 - 3. Material: Type 304 stainless steel.
 - 4. Outside Diameter: 1-1/2 inches, Intermittent Welded Closure Strip w/ Anchoring Flange.
 - 5. Configuration and Length: Provide in straight lengths, in sizes indicated.

- C. Shower Seat:
 - 1. Basis-of-Design Product: Kingsway KG28.
 - 2. Material: 5 mm. Glass-reinforced Plastic.
 - 3. Color: White
 - 4. Mounting: 304 Stainless steel frame.
- D. Flush Valve Cover with Hydraulic Flush Valve:
 - 1. Basis of design product: Whitehall WH2802SLPT-ADA
 - a. Hydraulic Flush Valve. 1.6 GPF with cast bronze body, ligature resistant push button, union angle stop, and vacuum breaker.
 - b. Flush Valve Cover. 16 gage, type 304 stainless steel, powder coted white finish.
- E. Ligature resistant Handheld Shower and Collapsible Handheld Shower Mounting Bracket.
 - 1. Basis of design product: Whitehall WHCHS.
 - a. 1.5 GPM Handheld shower with pushbutton non-positive shut-off.
 - b. 60" stainless steel flexible hose.
 - c. Stainless steel finish.
- F. Recessed Soap Dish with Plaster Flanges.
 - Basis of design product: Whitehall WH1832-PF-SS.
 a. Type 304 stainless steel finish.
- G. Shower Valve.
 - Basis of design product: Whitehall WHSV16.
 a. Meets ASSE 1016-2011
- H. Ligature Resistant Floor Drain.
 - 1. Basis-of-Design Product: Whitehall WHFD-6RD-2NH.
- I. Anti-Ligature Dual Coat Hook Rack.
 - 1. Basis-of-Design Product: Kingsway KG177 GR

PART 3 - EXECUTION

3-01 INSTALLATION

- A. Install products in strict compliance with manufacturer's written instructions and recommendations, including the following:
 - 1. Verify blocking has been installed properly.
 - 2. Verify location does not interfere with door swings or use of fixtures.
 - 3. Comply with manufacturer's recommendations for backing and proper support.
 - 4. Use fasteners and anchors suitable for substrate and project conditions.
 - 5. Install units rigid, straight, plumb, and level, in accordance with manufacturer's installation instructions and approved shop drawings.
 - 6. Conceal evidence of drilling, cutting, and fitting to room finish.
 - 7. Test for proper operation.

3-02 ADJUSTING AND CLEANING

- A. Adjust accessories for unencumbered, smooth operation. Replace damaged or defective items.
- B. Remove temporary labels and protective coatings.
- C. Clean and polish exposed surfaces according to manufacturer's written recommendations.

**** END OF SECTION ****

DRAWINGS