TABLE OF CONTENTS – GENERAL CONSTRUCTION SPECIFICATIONS

END OF TABLE OF CONTENTS

SECTION 01 10 00 - SUMMARY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Contract description.
2. Work by Owner or other Work at the Site.
3. Owner-furnished products.
4. Contractor's use of Site.
5. Future work.
6. Work sequence.
7. Owner occupancy.
8. Permits.
9. Specification conventions.

1.2 CONTRACT DESCRIPTION

A. Work of the Project to Upgrade the Existing Toilet Rooms includes, but necessarily limited to, the following:
1. Remove existing fixtures, hardware, accessories, lighting, doors and associated hardware and frames, and interior tile finishes,
2. Adjustment of plumbing as necessary for the installation of new fixtures and hardware,
3. Installation of new toilet partitions, toilet room accessories, lighting, floor finish, wall finish, doors and hardware and frames, and paint.

B. Perform Work of Contract under stipulated sum Contract with Owner according to Conditions of Contract.

1.3 CONTRACTOR'S USE OF SITE

A. Limit use of Site to allow:

1. Owner occupancy.
2. Work by Owner.
3. Use of Site by Agents of the Authority Having Jurisdiction (i.e. Building Inspectors, etc.).

B. Construction Operations: Limited to as close to the proximity of work being performed to avoid excessive site disruption.

1. Noisy and Disruptive Operations (such as Use of Jack Hammers and Other Noisy Equipment): Shall be permitted during regular hours of operation under certain conditions. Coordinate and schedule such operations with Owner to minimize disruptions.

C. Time Restrictions for Performing Work: To be determined with Owner as the course of the Work progresses.

D. Utility Outages and Shutdown:

1. Coordinate and schedule utility outages (i.e. water, electrical, etc.) with Owner.

1.4 WORK SEQUENCE

A. Construct Work in order to accommodate Owner's occupancy requirements during construction period. Coordinate construction schedule and operations with Owner.

B. Work shall proceed in a manner where the completion of phase or operation of the Work transitions as seamlessly as possible with the commencement of the following phase or operation of the Work.

C. Contractor shall coordinate all phases or operations of the Work to avoid and minimize delays between sequences.

1.5 PERMITS

A. Furnish all necessary permits for construction of Work including the following:

1. Building permit (Including Electrical, Mechanical and Plumbing Permits).

1.6 SPECIFICATION CONVENTIONS

A. These Specifications are written in imperative mood and streamlined form. This imperative language is directed to Contractor unless specifically noted otherwise. The words "shall be" are included by inference where a colon (:) is used within sentences or phrases.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION

SECTION 01 20 00 - PRICE AND PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Application for Payment.

B. Change procedures.

C. Defect assessment.

1.2 APPLICATION FOR PAYMENT

A. Submit one electronic copy of each Application for Payment on AIA G702 - Application and Certificate for Payment and AIA G703 - Continuation Sheet for G702.

B. Content and Format: Use Schedule of Values for listing items in Application for Payment.

C. Submit updated construction schedule with each Application for Payment.

D. Payment Period: At one-third intervals during the Contract time-frame and a final fourth payment releasing the Retainage.

E. Submit submittals with transmittal letter as specified in Section 01 33 00 - Submittal Procedures.

F. Substantiating Data: When Architect/Engineer requires substantiating information, submit data justifying dollar amounts in question. Include the following with Application for Payment:
   1. Current construction photographs specified in Section 01 33 00 - Submittal Procedures.
   2. Partial release of liens from major Subcontractors and vendors.
   3. Record Documents as specified in Section 01 70 00 - Execution and Closeout Requirements, for review by Owner, which will be returned to Contractor.
   4. Affidavits attesting to off-Site stored products.
   5. Construction Progress Schedule, revised and current as specified in Section 01 33 00 - Submittal Procedures.

1.3 CHANGE PROCEDURES

A. Submittals: Submit name of individual who is authorized to receive change documents and is responsible for informing others in Contractor's employ or Subcontractors of changes to the Work.

B. Carefully study and compare Contract Documents before proceeding with fabrication and installation of Work. Promptly advise Architect/Engineer of any error, inconsistency, omission, or apparent discrepancy.

C. Requests for Interpretation (RFI) and Clarifications: Allot time in construction scheduling for liaison with Architect/Engineer; establish procedures for handling queries and clarifications.

1. Use AIA G716 - Request for Information or acceptable alternate document for requesting interpretations.
2. Architect/Engineer may respond with a direct answer on the Request for Interpretation form, Company Letterhead, AIA G710 - Architect's Supplemental Instruction, or AIA G709 - Work Changes Proposal Request.

D. Architect/Engineer will advise of minor changes in the Work not involving adjustment to Contract Sum/Price or Contract Time by issuing supplemental instructions on company letterhead.

E. Architect/Engineer may issue a detailed description of proposed change with supplementary or revised Drawings and Specifications, a change in Contract Time for executing the change. Contractor will prepare and submit estimate within five business days.

F. Contractor may propose changes by submitting a request for change to Architect/Engineer, describing proposed change and its full effect on the Work. Include a statement describing reason for the change and the effect on Contract Sum/Price and Contract Time with full documentation and a statement describing effect on the Work by separate or other Contractors.

G. Stipulated Sum/Price Change Order: Based on Proposal Request and Contractor's fixed price quotation or Contractor's request for Change Order as approved by Owner/Architect/Engineer.

H. Construction Change Directive: Architect/Engineer may issue directive, on AIA G714 - Construction Change Directive or company letterhead signed by Owner, instructing Contractor to proceed with change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work and designate method of determining any change in Contract Sum/Price or Contract Time. Promptly execute change.

I. Document each quotation for change in Project Cost or Time with sufficient data to allow evaluation of quotation.

J. Change Order Forms: AIA G701 - Change Order.

K. Execution of Change Orders: Architect/Engineer will issue Change Orders for signatures of parties as provided in Conditions of the Contract.

L. Correlation of Contractor Submittals:

1. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as separate line item and adjust Contract Sum/Price.
2. Promptly revise Progress Schedules to reflect change in Contract Time, revise subschedules to adjust times for other items of Work affected by the change, and resubmit.
3. Promptly enter changes in Record Documents.

1.4 DEFECT ASSESSMENT

A. Replace the Work, or portions of the Work, not conforming to specified requirements.

B. If, in the opinion of Architect/Engineer or Owner, it is not practical to remove and replace the Work, Architect/Engineer or Owner will direct appropriate remedy or adjust payment.

C. The defective Work may remain, but unit sum/price will be adjusted to new sum/price at discretion of Architect/Engineer/Owner.

D. Defective Work will be partially repaired according to instructions of Architect/Engineer or Owner, and unit sum/price will be adjusted to new sum/price at discretion of Architect/Engineer/Owner.

E. Individual Specification Sections may modify these options or may identify specific formula or percentage sum/price reduction.

F. Authority of Architect/Engineer/Owner to assess defects and identify payment adjustments is final.

G. Nonpayment for Rejected Products: Payment will not be made for rejected products for any of the following reasons:

1. Products wasted or disposed of in a manner that is not acceptable.
2. Products determined as unacceptable before or after placement.
3. Products not completely unloaded from transporting vehicle.
4. Products placed beyond lines and levels of the required Work.
5. Products remaining on hand after completion of the Work.
6. Loading, hauling, and disposing of rejected products.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION

SECTION 01 25 00 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Quality assurance.

B. Product options.

C. Product substitution procedures.

1.2 QUALITY ASSURANCE

A. Contract is based on products and standards established in Contract Documents with consideration of proposed substitutions of an 'or-equal' or 'greater' item.

B. Products specified define standard of quality, type, function, dimension, appearance, and performance required.

C. Substitution Proposals: Permitted for specified products except where specified otherwise. Do not substitute products unless substitution has been accepted and approved in writing by Owner.

1.3 PRODUCT OPTIONS

A. See Section 01 60 00 - Product Requirements.

1.4 PRODUCT SUBSTITUTION PROCEDURES

A. Architect/Engineer will consider requests for substitutions only within 15 days after date of Owner-Contractor Agreement.

B. Substitutions may be considered when a product becomes unavailable through no fault of Contractor.

C. Document each request with complete data, substantiating compliance of proposed substitution with Contract Documents, including:

1. Manufacturer's name and address, product, trade name, model, or catalog number, performance and test data, and reference standards.

2. Itemized point-by-point comparison of proposed substitution with specified product, listing variations in quality, performance, and other pertinent characteristics.
3. Reference to Article and Paragraph numbers in Specification Section.
4. Cost data comparing proposed substitution with specified product and amount of net change to Contract Sum.
5. Changes required in other Work.
6. Availability of maintenance service and source of replacement parts as applicable.
7. Certified test data to show compliance with performance characteristics specified.
8. Samples when applicable or requested.
9. Other information as necessary to assist Architect/Engineer's evaluation.

D. A request constitutes a representation that Bidder or Contractor:

1. Has investigated proposed product and determined that it meets or exceeds quality level of specified product.
2. Will provide same warranty for substitution as for specified product.
3. Will coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
4. Waives claims for additional costs or time extension that may subsequently become apparent.
5. Will coordinate installation of the accepted substitute, making such changes as may be required for the Work to be complete in all respects.
6. Will reimburse Owner and Architect/Engineer for review or redesign services associated with reapproval by authorities having jurisdiction.

E. Substitutions will not be considered when they are indicated or implied on Shop Drawing or Product Data submittals without separate written request or when acceptance will require revision to Contract Documents.

F. Substitution Submittal Procedure:
1. Submit electronic copies of Request for Substitution for consideration. Limit each request to one proposed substitution.
2. Submit Shop Drawings, Product Data, and certified test results attesting to proposed product equivalence. Burden of proof is on proposer.
3. Architect/Engineer will notify Contractor in writing of decision to accept or reject request.

1.5 INSTALLER SUBSTITUTION PROCEDURES

A. Architect/Engineer will consider requests for substitutions only within 15 days after date of Owner-Contractor Agreement.

B. Document each request with:

1. Installer's qualifications.
2. Installer's experience in work similar to that specified.
3. Other information as necessary to assist Architect/Engineer's evaluation.

C. Substitution Submittal Procedure:
   1. Submit electronic copies of Request for Substitution for consideration. Limit each request to one proposed substitution.
   2. Architect/Engineer will notify Contractor in writing of decision to accept or reject request.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION

SECTION 01 30 00 - ADMINISTRATIVE REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Coordination and Project conditions.

B. Preconstruction meeting.

C. Site mobilization meeting.

D. Progress meetings.

E. Preinstallation meetings.

F. Closeout meeting.

1.2 COORDINATION AND PROJECT CONDITIONS

A. Coordinate scheduling, submittals, and Work of various Sections of Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.

B. Verify that utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate Work of various Sections having interdependent responsibilities for installing, connecting to, and placing operating equipment in service.

C. Coordinate space requirements, supports, and installation of mechanical and electrical Work indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit as closely as practical; place runs parallel with lines of building. Use spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

1. Coordination Drawings: Prepare as required to coordinate all portions of Work. Show relationship and integration of different construction elements that require coordination during fabrication or installation to fit in space provided or to function as intended. Indicate locations where space is limited for installation and access and where sequencing and coordination of installations are important.

D. Coordination Meetings: In addition to other meetings specified in this Section, hold coordination meetings with personnel and Subcontractors to ensure coordination of Work.

E. In finished areas, conceal pipes, ducts, and wiring within construction. Coordinate locations of fixtures and outlets with finish elements.

F. Coordinate completion and clean-up of Work of separate Sections in preparation for Substantial Completion and for portions of Work designated for Owner's occupancy.

G. After Owner's occupancy of premises, coordinate access to Site for correction of defective Work and Work not complying with Contract Documents, to minimize disruption of Owner's activities.

1.3 PRECONSTRUCTION MEETING

A. Owner will schedule and preside over meeting after Notice of Award.

B. Attendance Required: Architect/Engineer, Owner, Resident Project Representative, appropriate governmental agency representatives, major Subcontractors, and Contractor.

C. Minimum Agenda:

1. Execution of Owner-Contractor Agreement.
2. Submission of executed bonds and insurance certificates.
3. Distribution of Contract Documents.
4. Submission of list of Subcontractors, list of products, schedule of values, and Progress Schedule.
5. Designation of personnel representing parties in Contract, and Architect/Engineer.
6. Communication procedures.
7. Procedures and processing of requests for interpretations, field decisions, submittals, substitutions, Applications for Payments, proposal request, Change Orders, and Contract closeout procedures.
8. Scheduling.
9. Critical Work sequencing.
10. Scheduling of Owner-supplied items.

D. Contractor: Record minutes and distribute to participants within two days after meeting, with electronic copies each to Architect/Engineer, Owner, and those affected by decisions made.

1.4 SITE MOBILIZATION MEETING

A. Owner may schedule and preside over meeting at Project Site prior to Contractor occupancy.

B. Attendance Required: Architect/Engineer, Owner, Contractor, Contractor's superintendent, special consultants, major Subcontractors,.

C. Minimum Agenda:

1. Use of premises by Owner and Contractor.
2. Owner's requirements and occupancy.
3. Construction facilities and controls.
4. Temporary utilities.
5. Survey and building layout.
6. Security and housekeeping procedures.
7. Schedules.
8. Procedures for testing.
9. Procedures for maintaining record documents.
10. Requirements for startup of equipment.
11. Inspection and acceptance of equipment put into service during construction period.

D. Contractor: Record minutes and distribute to participants within two days after meeting, with electronic copies each to Architect/Engineer, Owner, and those affected by decisions made.

1.5 PROGRESS MEETINGS

A. Schedule and administer meetings throughout progress of the Work at maximum bi-monthly intervals.

B. Make arrangements for meetings, prepare agenda with copies for participants, and preside over meetings.

C. Attendance Required: Job superintendent, major Subcontractors and suppliers, and Architect/Engineer, Owner, as appropriate to agenda topics for each meeting.

D. Minimum Agenda:

1. Review minutes of previous meetings.
2. Review of Work progress.
3. Field observations, problems, and decisions.
4. Identification of problems impeding planned progress.
5. Review of submittal schedule and status of submittals.
6. Review of off-Site fabrication and delivery schedules.
7. Maintenance of Progress Schedule.
8. Corrective measures to regain projected schedules.
9. Planned progress during succeeding work period.
10. Coordination of projected progress.
11. Maintenance of quality and work standards.
12. Effect of proposed changes on Progress Schedule and coordination.
13. Other business relating to Work.

E. Contractor: Record minutes and distribute to participants within two days after meeting, with electronic copies each to Architect/Engineer, Owner, and those affected by decisions made.

1.6 PREINSTALLATION MEETINGS

A. When required in individual Specification Sections, convene preinstallation meetings at Project Site before starting Work of specific Section.

B. Require attendance of parties directly affecting, or affected by, Work of specific Section.

C. Notify Owner/Architect/Engineer four days in advance of meeting date.

D. Prepare agenda and preside over meeting:

1. Review conditions of installation, preparation, and installation procedures.
2. Review coordination with related Work.

E. Record minutes and distribute to participants within two days after meeting, with electronic copies each to Architect/Engineer, Owner, and those affected by decisions made.

1.7 CLOSEOUT MEETING

A. Schedule Project closeout meeting with sufficient time to prepare for requesting Substantial Completion. Preside over meeting and be responsible for minutes.

B. Attendance Required: Contractor, major Subcontractors, Architect/Engineer, Owner, and others appropriate to agenda.

C. Notify Architect/Engineer four days in advance of meeting date.

D. Minimum Agenda:

1. Start-up of facilities and systems.
2. Operations and maintenance manuals.
3. Testing, adjusting, and balancing.
4. System demonstration and observation.
5. Operation and maintenance instructions for Owner's personnel.
6. Contractor's inspection of Work.
7. Contractor's preparation of an initial "punch list."
8. Procedure to request Architect/Engineer inspection to determine date of Substantial Completion.
9. Completion time for correcting deficiencies.
10. Inspections by authorities having jurisdiction.
11. Certificate of Occupancy and transfer of insurance responsibilities.
12. Partial release of retainage.
13. Final cleaning.
14. Preparation for final inspection.
15. Closeout Submittals:

a. Project record documents.
b. Operating and maintenance documents.
c. Operating and maintenance materials.
d. Affidavits.

16. Final Application for Payment.
17. Contractor's demobilization of Site.
18. Maintenance.

E. Record minutes and distribute to participants within two days after meeting, with electronic copies each to Architect/Engineer, Owner, and those affected by decisions made.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION

SECTION 01 32 16 - CONSTRUCTION PROGRESS SCHEDULE

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Submittals.

B. Quality assurance.

C. Bar chart schedules.

D. Review and evaluation.

E. Updating schedules.

F. Distribution.

1.2 SUBMITTALS

A. Schedule Updates:

1. Overall percent complete, projected and actual.
2. Completion progress by listed activity and subactivity, to within five working days prior to submittal.
3. Changes in Work scope and activities modified since submittal.
4. Delays in submittals or resubmittals, deliveries, or Work.
5. Adjusted or modified sequences of Work.
6. Other identifiable changes.
7. Revised projections of progress and completion.

B. Narrative Progress Report:

1. Submit with each monthly submission of Progress Schedule.
2. Summary of Work completed during the past period between reports.
3. Work planned during the next period.
4. Explanation of differences between summary of Work completed and Work planned in previously submitted report.
5. Current and anticipated delaying factors and estimated impact on other activities and completion milestones.
6. Corrective action taken or proposed.

1.3 QUALITY ASSURANCE

A. Contractor's Administrative Personnel: Two (2) years' minimum experience in using and monitoring schedules on comparable Projects.

1.4 BAR CHART SCHEDULES

A. Format: Bar chart Schedule, to include at least:

1. Identification and listing in chronological order of those activities reasonably required to complete the Work, including:

a. Subcontract Work.
b. Major equipment design, fabrication, factory testing, and delivery dates including required lead times.
c. Move-in and other preliminary activities.
d. Equipment and equipment system test and startup activities.
e. Project closeout and cleanup.
f. Work sequences, constraints, and milestones.

2. Listings identified by Specification Section number.
3. Identification of the following:

a. Horizontal time frame by year, month, and week.
b. Duration, early start, and completion for each activity and subactivity.
c. Critical activities and Project float.
d. Subschedules to further define critical portions of Work.

1.5 REVIEW AND EVALUATION

A. Participate in joint review and evaluation of schedules with Architect/Engineer at each submittal.

B. Evaluate Project status to determine Work behind schedule and Work ahead of schedule.

C. After review, revise schedules incorporating results of review, and resubmit within 10 days.

1.6 UPDATING SCHEDULES

A. Maintain schedules to record actual start and finish dates of completed activities.

B. Indicate progress of each activity to date of revision, with projected completion date of each activity. Update schedules to depict current status of Work.

C. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.

D. Upon approval of a Change Order, include the change in the next schedule submittal.

E. Indicate changes required to maintain Date of Substantial Completion.

F. Submit sorts as required to support recommended changes.

G. Prepare narrative report to define problem areas, anticipated delays, and impact on schedule. Report corrective action taken or proposed and its effect.

1.7 DISTRIBUTION

A. Following joint review, distribute electronic copies of updated schedules, to Subcontractors, suppliers, Architect/Engineer, Owner, and other concerned parties.

B. Instruct recipients to promptly report, in writing, problems anticipated by projections shown in schedules.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION

SECTION 01 33 00 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Definitions.

B. Submittal procedures.

C. Construction progress schedules.

D. Proposed product list.

E. Product data.

F. Use of electronic CAD files of Project Drawings.

G. Shop Drawings.

H. Samples.

I. Other submittals.

J. Design data.

K. Test reports.

L. Certificates.

M. Manufacturer's instructions.

N. Manufacturer's field reports.

O. Construction photographs.

P. Contractor review.

Q. Architect/Engineer review.

1.2 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require Architect/Engineer's responsive action.

B. Informational Submittals: Written and graphic information and physical Samples that do not require Architect/Engineer's responsive action. Submittals may be rejected for not complying with requirements.

1.3 SUBMITTAL PROCEDURES

A. Transmit each submittal with Owner-accepted form or cover sheet.

B. Sequentially number transmittal forms. Mark revised submittals with original number and sequential alphabetic suffix.

C. Identify: Project, Contractor, Subcontractor and supplier, pertinent Drawing and detail number, and Specification Section number appropriate to submittal.

D. Apply Contractor's stamp, signed or initialed, certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of information is according to requirements of the Work and Contract Documents.

E. Schedule submittals to expedite Project, and submit electronic submittals via email as PDF electronic files. Coordinate submission of related items.

F. For each submittal for review, allow 15 days excluding delivery time to and from Contractor.

G. Identify variations in Contract Documents and product or system limitations that may be detrimental to successful performance of completed Work.

H. Allow space on submittals equal to one-half of the bottom of a page for Contractor and Architect/Engineer review stamps and comments.

I. When revised for resubmission, identify changes made since previous submission.

J. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report inability to comply with requirements.

K. Submittals not requested will not be recognized nor processed.

L. Incomplete Submittals: Architect/Engineer will not review. Complete submittals for each item are required. Delays resulting from incomplete submittals are not the responsibility of Architect/Engineer.

1.4 CONSTRUCTION PROGRESS SCHEDULES

A. Comply with Section 01 32 16 - Construction Progress Schedule

1.5 PROPOSED PRODUCT LIST

A. Within 15 days after date of Owner-Contractor Agreement, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.

B. For products specified only by reference standards, indicate manufacturer, trade name, model or catalog designation, and reference standards.

1.6 PRODUCT DATA

A. Product Data: Action Submittal: Submit to Architect/Engineer for review for assessing conformance with information given and design concept expressed in Contract Documents.

B. Submit electronic submittals via email as PDF electronic files.

C. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

D. Indicate product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

E. After review, produce copies and distribute according to "Submittal Procedures" Article and for record documents described in Section 01 70 00 - Execution and Closeout Requirements.

1.7 ELECTRONIC CAD FILES OF PROJECT DRAWINGS

A. Electronic CAD Files of Project Drawings: May only be used to expedite production of Shop Drawings for the Project. Use for other Projects or purposes is not allowed. Revit models will not be available for release.

B. Electronic CAD Files of Project Drawings: Distributed only under the following conditions:

1. Use of files is solely at receiver's risk. Architect/Engineer does not warrant accuracy of files. Receiving files in electronic form does not relieve receiver of responsibilities for measurements, dimensions, and quantities set forth in Contract Documents. In the event of ambiguity, discrepancy, or conflict between information on electronic media and that in Contract Documents, notify Architect/Engineer of discrepancy and use information in hard-copy Drawings and Specifications.
2. CAD files do not necessarily represent the latest Contract Documents, existing conditions, and as-built conditions. Receiver is responsible for determining and complying with these conditions and for incorporating addenda and modifications.
3. User is responsible for removing information not normally provided on Shop Drawings and removing references to Contract Documents. Shop Drawings submitted with information associated with other trades or with references to Contract Documents will not be reviewed and will be immediately returned.

4. Receiver shall not hold Architect/Engineer responsible for data or file clean-up required to make files usable, nor for error or malfunction in translation, interpretation, or use of this electronic information.
5. Receiver shall understand that even though Architect/Engineer has computer virus scanning software to detect presence of computer viruses, there is no guarantee that computer viruses are not present in files or in electronic media.
6. Receiver shall not hold Architect/Engineer responsible for such viruses or their consequences, and shall hold Architect/Engineer harmless against costs, losses, or damage caused by presence of computer virus in files or media.

C. Architect/Engineer shall provide a Liability Release form that the (sub)Contractor will need to sign and return. This form will be made available upon request of CAD files.

1.8 SHOP DRAWINGS

A. Shop Drawings: Action Submittal: Submit to Architect/Engineer for assessing conformance with information given and design concept expressed in Contract Documents.

B. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

C. When required by individual Specification Sections, provide Shop Drawings signed and sealed by a professional Engineer responsible for designing components shown on Shop Drawings.

1. Include signed and sealed calculations to support design.
2. Submit Shop Drawings and calculations in form suitable for submission to and approval by authorities having jurisdiction.
3. Make revisions and provide additional information when required by authorities having jurisdiction.

D. Submit electronic submittals via email as PDF electronic files.

E. After review, produce copies and distribute according to "Submittal Procedures" Article and for record documents described in Section 01 70 00 - Execution and Closeout Requirements.

1.9 SAMPLES

A. Samples: Action Submittal: Submit to Architect/Engineer for assessing conformance with information given and design concept expressed in Contract Documents.

B. Samples for Selection as Specified in Product Sections:

1. Submit to Architect/Engineer for aesthetic, color, and finish selection.
2. Submit Samples of finishes, textures, and patterns for Architect/Engineer selection.

C. Submit Samples to illustrate functional and aesthetic characteristics of products, with integral parts and attachment devices. Coordinate Sample submittals for interfacing work.

D. Include identification on each Sample, with full Project information.

E. Submit number of Samples specified in individual Specification Sections; Owner and Architect/Engineer will retain one Sample each.

F. Reviewed Samples that may be used in the Work are indicated in individual Specification Sections.

G. Samples will not be used for testing purposes unless specifically stated in Specification Section.

H. After review, produce copies and distribute according to "Submittal Procedures" Article and for record documents described in Section 01 70 00 - Execution and Closeout Requirements.

1.10 OTHER SUBMITTALS

A. Closeout Submittals: Comply with Section 01 70 00 - Execution and Closeout Requirements.

B. Informational Submittal: Submit data for Architect/Engineer's knowledge as Contract administrator or for Owner.

C. Submit information for assessing conformance with information given and design concept expressed in Contract Documents.

1.11 TEST REPORTS and AUTHORITY HAVING JURISDICTION INSPECTIONS

A. Informational Submittal: Submit reports and inspection information for Architect/Engineer's knowledge as Contract administrator or for Owner.

B. Submit test reports for information for assessing conformance with information given and design concept expressed in Contract Documents.

1.12 CERTIFICATES

A. Informational Submittal: Submit certification by manufacturer, installation/application Subcontractor, or Contractor to Architect/Engineer, in quantities specified for Product Data.

B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

C. Certificates may be recent or previous test results on material or product but must be acceptable to Architect/Engineer.

1.13 MANUFACTURER'S INSTRUCTIONS

A. Informational Submittal: Submit manufacturer's installation instructions for Architect/Engineer's knowledge as Contract administrator or for Owner.

B. Submit printed instructions for delivery, storage, assembly, installation, startup, adjusting, and finishing, to Architect/Engineer in quantities specified for Product Data.

C. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

1.14 MANUFACTURER'S FIELD REPORTS

A. Informational Submittal: Submit reports for Architect/Engineer's knowledge as Contract administrator or for Owner.

B. Submit report in duplicate within 5 days of observation to Architect/Engineer for information.

C. Submit reports for information for assessing conformance with information given and design concept expressed in Contract Documents.

1.15 CONSTRUCTION PHOTOGRAPHS

A. Provide photographs of Site and construction throughout progress of Work produced by an experienced photographer acceptable to Architect/Engineer.

B. Twice monthly submit digital images to Owner and Architect/Engineer.

C. Take Site photographs from different directions and interior photographs of progress indicating relative progress of the Work, two days maximum before submitting.

D. Digital Images: Deliver complete set of digital image electronic files on CD-ROM to Owner with Project record documents. Identify electronic media with date photographs were taken. Submit images that have same aspect ratio as sensor, uncropped.

1. Digital Images: Uncompressed TIFF format, produced by digital camera with minimum sensor size of 4.0 megapixels, and image resolution of not less than 1600 by 1200 pixels.
2. Date and Time: Include date and time in filename for each image.

1.16 CONTRACTOR REVIEW

A. Review for compliance with Contract Documents and approve submittals before transmitting to Architect/Engineer.

B. Contractor: Responsible for:

1. Determination and verification of materials including manufacturer's catalog numbers.
2. Determination and verification of field measurements and field construction criteria.
3. Checking and coordinating information in submittal with requirements of Work and of Contract Documents.
4. Determination of accuracy and completeness of dimensions and quantities.
5. Confirmation and coordination of dimensions and field conditions at Site.
6. Construction means, techniques, sequences, and procedures.
7. Safety precautions.
8. Coordination and performance of Work of all trades.

C. Stamp, sign or initial, and date each submittal to certify compliance with requirements of Contract Documents.

D. Do not fabricate products or begin Work for which submittals are required until approved submittals have been received from Architect/Engineer.

1.17 ARCHITECT/ENGINEER REVIEW

A. Do not make "mass submittals" to Architect/Engineer. "Mass submittals" are defined as six or more submittals or items in one day or 15 or more submittals or items in one week. If "mass submittals" are received, Architect/Engineer's review time stated above will be extended as necessary to perform proper review. Architect/Engineer will review "mass submittals" based on priority determined by Architect/Engineer after consultation with Owner and Contractor.

B. Informational submittals and other similar data are for Architect/Engineer's information, do not require Architect/Engineer's responsive action, and will not be reviewed or returned with comment.

C. Submittals made by Contractor that are not required by Contract Documents may be returned without action.

D. Submittal approval does not authorize changes to Contract requirements unless accompanied by Change Order or Construction Change Directive.

E. Owner may withhold monies due to Contractor to cover additional costs beyond the second submittal review.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION

SECTION 01 40 00 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Quality control.

B. Tolerances.

C. References.

D. Labeling.

E. Mockup requirements.

F. Testing and inspection services.

G. Manufacturers' field services.

H. Progress Photographs

1.2 QUALITY CONTROL

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

B. Comply with specified standards as the minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

C. Perform Work using persons qualified to produce required and specified quality.

D. Products, materials, and equipment may be subject to inspection by Architect/Engineer and Owner at place of manufacture or fabrication. Such inspections shall not relieve Contractor of complying with requirements of Contract Documents.

E. Supervise performance of Work in such manner and by such means to ensure that Work, whether completed or in progress, will not be subjected to harmful, dangerous, damaging, or otherwise deleterious exposure during construction period.

1.3 TOLERANCES

A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.

B. Comply with manufacturers' recommended tolerances and tolerance requirements in reference standards. When such tolerances conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.

1.4 REFERENCES

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

B. Conform to reference standard by date of issue current as of date of Contract Documents except where specific date is established by code.

C. Obtain copies of standards and maintain on Site when required by product Specification Sections.

D. When requirements of indicated reference standards conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.

E. Neither contractual relationships, duties, or responsibilities of parties in Contract nor those of Architect/Engineer shall be altered from Contract Documents by mention or inference in reference documents.

1.5 LABELING

A. Attach label from agency approved by authorities having jurisdiction for products, assemblies, and systems required to be labeled by applicable code.

B. Label Information: Include manufacturer's or fabricator's identification, approved agency identification, and the following information, as applicable, on each label:

1. Model number.
2. Serial number.
3. Performance characteristics.

C. Manufacturer's Nameplates, Trademarks, Logos, and Other Identifying Marks on Products: Not allowed on surfaces exposed to view in public areas, interior or exterior.

1.6 MOCK-UP REQUIREMENTS

A. Tests will be performed under provisions identified in this Section and identified in individual product Specification Sections.

B. Assemble and erect specified or indicated items with specified or indicated attachment and anchorage devices, flashings, seals, and finishes.

C. Accepted mockups shall be comparison standard for remaining Work.

D. Where mockup has been accepted by Architect/Engineer and is specified in product Specification Sections to be removed, remove mockup and clear area when directed to do so by Architect/Engineer.

1.7 TESTING AND INSPECTION SERVICES

A. Owner will employ and pay for specified services of an independent firm to perform testing and inspection.

B. Independent firm will perform tests, inspections, and other services specified in individual Specification Sections and as required by Architect/Engineer, Owner or authorities having jurisdiction.

1. Laboratory: Authorized to operate in State of New York.
2. Laboratory Staff: Maintain full-time specialist on staff to review services.
3. Testing Equipment: Calibrated at reasonable intervals with devices of an accuracy traceable to National Bureau of Standards or accepted values of natural physical constants.

C. Testing, inspections, and source quality control may occur on or off Project Site. Perform off-Site testing as required by Architect/Engineer or Owner.

D. Reports shall be submitted by independent firm to Architect/Engineer, Contractor, and authorities having jurisdiction, in duplicate, indicating observations and results of tests and compliance or noncompliance with Contract Documents.

1. Submit final report indicating correction of Work previously reported as noncompliant.

E. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage, safe access, and assistance by incidental labor as requested.

1. Notify Architect/Engineer and independent firm 24 hours before expected time for operations requiring services.
2. Make arrangements with independent firm and pay for additional Samples and tests required for Contractor's use.

F. Employment of testing agency or laboratory shall not relieve Contractor of obligation to perform Work according to requirements of Contract Documents.

G. Retesting or re-inspection required because of nonconformance with specified or indicated requirements shall be performed by same independent firm on instructions from Architect/Engineer. Payment for retesting or re-inspection will be charged to Contractor by deducting testing charges from Contract Sum/Price.

H. Agency Responsibilities:

1. Test Samples of mixes submitted by Contractor.
2. Provide qualified personnel at Site. Cooperate with Architect/Engineer and Contractor in performance of services.
3. Perform indicated sampling and testing of products according to specified standards.
4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
5. Promptly notify Architect/Engineer and Contractor of observed irregularities or nonconformance of Work or products.
6. Perform additional tests required by Architect/Engineer.
7. Attend preconstruction meetings and progress meetings.

I. Agency Reports: After each test, promptly submit two copies of report to Architect/Engineer, Contractor, and authorities having jurisdiction. When requested by Architect/Engineer, provide interpretation of test results. Include the following:

1. Date issued.
2. Project title and number.
3. Name of inspector.
4. Date and time of sampling or inspection.
5. Identification of product and Specification Section.
6. Location in Project.
7. Type of inspection or test.
8. Date of test.
9. Results of tests.
10. Conformance with Contract Documents.

J. Limits on Testing Authority:

1. Agency or laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.
2. Agency or laboratory may not approve or accept any portion of the Work.
3. Agency or laboratory may not assume duties of Contractor.
4. Agency or laboratory has no authority to stop the Work.

1.8 MANUFACTURER'S FIELD SERVICES

A. When specified in individual Specification Sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe Site conditions, conditions of surfaces and installation, quality of workmanship, startup of equipment, testing, adjusting, and balancing of equipment as applicable, and to initiate instructions when necessary.

B. Submit qualifications of observer to Architect/Engineer 30 days in advance of required observations. Observer is subject to approval of Owner.

C. Report observations and Site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturer's written instructions.

D. Refer to Section 01 33 00 - Submittal Procedures, "Manufacturer's Field Reports" Article.

1.9 PROGRESS PHOTOGRAPHS

A. Contractor shall provide digital photographs during the progress of construction to document the following items:

1. Locations of rough electrical and rough plumbing systems before being covered with finish materials or embedded into slabs or buried.
2. Locations of primary structural members before being covered with finish materials or embedded within slabs or buried.
3. Overall progress of interior construction, exterior construction and site work.

B. Where documenting rough items being embedded, photographs shall include a termination at either a corner, a floor and/or a ceiling in order to document the approximate location of the item to be embedded. There shall be enough information provided on the photograph for the Owner's use in locating those items in the future.

C. Photographs of interior, exterior and site work progress shall be taken on a weekly basis at an agreed upon frequency as the work progresses in order to document the execution of the work.

D. Photographs shall be submitted to the Owner and Architect in digital format in a .jpeg format no smaller than 3200 x 2400 pixels on a CD-Rom, thumb drive or easily accessible and no cost digital file sharing service.

E. Photographs shall be appropriately named, dated and arranged into appropriate subject file folders in a format agreed upon between Owner and Contractor.

1. Generic digital file names created by the digital camera will not be accepted.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION

SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Temporary Utilities:

1. Temporary electricity.
2. Temporary lighting for construction purposes.
3. Temporary ventilation.
4. Temporary water service.

B. Construction Facilities:

1. Parking.
2. Progress cleaning and waste removal.
3. Project identification.
4. Fire-prevention facilities.

C. Temporary Controls:

1. Barriers.
2. Security.
3. Dust control.
4. Noise control.

D. Removal of utilities, facilities, and controls.

1.2 REFERENCES

A. ASTM International:

1. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
2. ASTM E 90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
3. ASTM E 119 - Standard Test Methods for Fire Tests of Building Construction and Materials.

1.3 TEMPORARY ELECTRICITY

A. Until power is provided to the site from the Utility by Electrician, Contractor to provide portable power for construction activities.

B. Provide power outlets with branch wiring and distribution boxes located as required for construction operations. Provide suitable, flexible power cords as required for portable construction tools and equipment.

C. Provide feeder switch at source distribution equipment where connected to Utility provided power.

D. Permanent convenience receptacles may be used during construction for low draw equipment.

1.4 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

A. Until power is provided to the site from the Utility by Electrician, Contractor to provide temporary lighting from portable power for construction activities.

B. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, lamps, and the like, for specified lighting levels.

C. Maintain lighting and provide routine repairs.

D. Permanent building lighting may be used during construction.

1.5 TEMPORARY VENTILATION

A. Ventilate enclosed areas to achieve curing of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

1.6 TEMPORARY WATER SERVICE

A. Until water is provided to the site from the Site Contractor, Contractor to provide water for construction activities.

B. Extend branch piping with outlets located so that water is available by hoses with threaded connections. Provide temporary pipe insulation and heat tape to prevent freezing as necessary.

1.7 PARKING

A. Owner's current parking facility shall be used for construction employee parking.

B. Additional off-site parking available on the street.

C. Use of existing on-Site streets and driveways used for construction traffic is permitted. Tracked vehicles are not allowed on paved areas.

D. Do not allow heavy vehicles or construction equipment in parking areas.

1.8 PROGRESS CLEANING AND WASTE REMOVAL

A. Maintain areas free of waste materials, debris, and rubbish. Maintain Site in clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, before enclosing spaces.

C. Broom and vacuum clean interior areas before starting surface finishing, and continue cleaning to eliminate dust.

D. Collect and remove waste materials, debris, and rubbish from Site and work area weekly (or more often as necessary) and dispose of off-Site.

E. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.9 PROJECT IDENTIFICATION

A. Project Identification Sign:

1. One painted sign[s] of construction, design, and content shown on Drawings, location designated.
2. Content:

    a. Project title, and name of Owner.
    b. Names and titles of authorities.
    c. Names and titles of Architect/Engineer and Consultants.
    d. Name of Prime Contractor and major Subcontractors.

3. Graphic Design, Colors, and Style of Lettering: Approved by Architect/Engineer.

B. Project Informational Signs:

1. Painted informational signs of same colors and lettering as Project identification sign or standard products; size lettering for legibility at50-footdistance.
2. Provide sign at each field office and storage shed, and provide directional signs to direct traffic into and within Site. Relocate as Work progress requires.
3. No other signs are allowed without Owner's permission except those required by law.

C. Design sign and structure to withstand 60-mphwind velocity.

D. Sign Painter: Experienced as professional sign painter for minimum of two years.

E. Finishes, Painting: Adequate to withstand weathering, fading, and chipping for duration of construction.

F. Show content, layout, lettering, color, structure, sizes, and grades of members.

G. Sign Materials:

1. Structure and Framing: New and structurally adequate.
2. Sign Surfaces: Exterior grade plywood with medium-density overlay, minimum of 3/4 inchesthick, standard large sizes to minimize joints.
3. Rough Hardware: Galvanized.
4. Paint and Primers: Exterior quality, two coats; sign background of color as selected.
5. Lettering: Exterior quality paint, contrasting colors as selected.

H. Installation:

1. Install Project identification sign within 15 days after date established by Owner-Contractor Agreement.
2. Erect at designated location selected by Owner.
3. Erect supports and framing on secure foundation, rigidly braced and framed to resist wind loadings.
4. Install sign surface plumb and level, with butt joints. Anchor securely.
5. Paint exposed surfaces of sign, supports, and framing.

I. Maintenance: Maintain clean signs and supports; repair deterioration and damage.

J. Removal: Remove signs, framing, supports, and foundations at completion of Project and restore area.

1.10 FIRE-PREVENTION FACILITIES

A. Prohibit smoking within buildings under construction. Designate area on Site where smoking is permitted. Provide approved ashtrays in designated smoking areas.

B. Establish fire watch for cutting, welding, and other hazardous operations capable of starting fires. Maintain fire watch before, during, and after hazardous operations until threat of fire does not exist.

C. Portable Fire Extinguishers: NFPA 10; 10-pound capacity, 4A-60B: C UL rating.

1. Provide one fire extinguisher at agreed-upon location within buildings under construction.
2. Provide minimum of one fire extinguisher in every construction trailer and storage shed.
3. Provide minimum of one fire extinguisher on roof during roofing operations using heat-producing equipment.

01 50 00 - TEMPORARY FACILITIES AND CONTROLS

1.11 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from damage from construction operations.

1. See Drawings for additional information pertaining to site protection.

1.12 SECURITY

A. Security Program:

1. Protect Work and Site from acts of theft, vandalism, and unauthorized entry.
2. Initiate program at Project mobilization.
3. Maintain program throughout construction period until Owner's acceptance precludes need for Contractor's security.

B. Personnel Identification:

1. Provide identification badge for each person authorized to enter premises.
2. Badge to Include: Personal photograph, name, and employer.
3. Maintain list of accredited persons and submit copy to Owner on request.
4. Require return of badges at expiration of employment on the Work.

C. Restrictions:
1. Do not allow cameras on Site or photographs taken except by written approval of Owner.
2. Do no work on Sundays or other pre-determined days – schedule provided by Owner.

1.13 DUST CONTROL

A. Execute Work by methods that minimize raising dust from construction operations.

B. Provide positive means to prevent airborne dust from dispersing into atmosphere.

1.14 NOISE CONTROL

A. Provide methods, means, and facilities to minimize noise from equipment and noise produced by construction operations when working adjacent to neighboring properties.

1.15 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, and materials before Final Application for Payment inspection.

B. Clean and repair damage caused by installation or use of temporary Work.

C. Restore facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION

SECTION 01 60 00 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Products.

B. Product delivery requirements.

C. Product storage and handling requirements.

D. Product options.

E. Equipment electrical characteristics and components.

1.2 PRODUCTS

A. At minimum, comply with specified requirements and reference standards.

B. Specified products define standard of quality, type, function, dimension, appearance, and performance required.

C. Furnish products of qualified manufacturers that are suitable for intended use. Furnish products of each type by single manufacturer unless specified otherwise. Confirm that manufacturer's production capacity can provide sufficient product, on time, to meet Project requirements.

D. Do not use materials and equipment removed from existing premises except as specifically permitted by Contract Documents.

E. Furnish interchangeable components from same manufacturer for components being replaced.

1.3 PRODUCT DELIVERY REQUIREMENTS

A. Comply with delivery requirements in Section 01 74 19 - Construction Waste Management and Disposal.

B. Transport and handle products according to manufacturer's instructions.

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

D. Provide equipment and personnel to handle products; use methods to prevent soiling, disfigurement, or damage.

1.4 PRODUCT STORAGE AND HANDLING REQUIREMENTS

A. Store and protect products according to manufacturer's instructions.

B. Store products with seals and labels intact and legible.

C. Store sensitive products in weathertight, climate-controlled enclosures in an environment suitable to product.

D. For exterior storage of fabricated products, place products on sloped supports aboveground.

E. Provide bonded off-Site storage and protection when Site does not permit on-Site storage or protection.

F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

G. Store loose granular materials on solid flat surfaces in well-drained area. Prevent mixing with foreign matter.

H. Provide equipment and personnel to store products; use methods to prevent soiling, disfigurement, or damage.

I. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

1.5 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Products complying with specified reference standards or description.

B. Products Specified by Naming One or More Manufacturers: Products of one of manufacturers named and complying with Specifications; no options or substitutions allowed.

C. Products Specified by Naming One or More Manufacturers with Provision for Substitutions: Submit Request for Substitution for any manufacturer not named, according to Section 01 25 00 - Substitution Procedures.

PART 2 - PRODUCTS

2.1 EQUIPMENT ELECTRICAL CHARACTERISTICS AND COMPONENTS

A. Wiring Terminations: Furnish terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated. Include lugs for terminal box.

B. Cord and Plug: Furnish minimum 6-foot long cord and plug including grounding connector for connection to electric wiring system. Cord of longer length may be specified in individual Specification Sections.

PART 3 - EXECUTION - Not Used

END OF SECTION

SECTION 01 70 00 - EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Closeout procedures.

B. Demonstration and instructions.

C. Project record documents.

D. Operation and maintenance data.

E. Manual for materials and finishes.

F. Spare parts and maintenance products.

G. Product warranties and product bonds.

H. Examination.

I. Preparation.

J. Execution.

K. Cutting and patching.

L. Protecting installed construction.

M. Final cleaning.

1.2 CLOSEOUT PROCEDURES

A. Prerequisites to Substantial Completion: Complete following items before requesting Certification of Substantial Completion, either for entire Work or for portions of Work:

1. Submit maintenance manuals, Project record documents, digital images of construction photographs, and other similar final record data in compliance with this Section.
2. Complete facility startup, testing, adjusting, balancing of systems and equipment, demonstrations, and instructions to Owner's operating and maintenance personnel as specified in compliance with this Section.
3. Conduct inspection to establish basis for request that Work is substantially complete. Create comprehensive list (initial punch list) indicating items to be completed or corrected,

value of incomplete or nonconforming Work, reason for being incomplete, and date of anticipated completion for each item. Include copy of list with request for Certificate of Substantial Completion.

4. Obtain and submit releases enabling Owner's full, unrestricted use of Project and access to services and utilities. Include certificate of occupancy, operating certificates, and similar releases from authorities having jurisdiction and utility companies.
5. Deliver tools, spare parts, extra stocks of material, and similar physical items to Owner.
6. Make final change-over of locks eliminating construction master-key system and transmit keys directly to Owner. Advise Owner's personnel of change-over in security provisions.
7. Discontinue or change over and remove temporary facilities and services from Project Site, along with construction tools, mockups, and similar elements.
8. Perform final cleaning according to this Section.

B. Substantial Completion Inspection:

1. When Contractor considers Work to be substantially complete, submit to Owner:

   a. Written certificate that Work, or designated portion, is substantially complete.
   b. List of items to be completed or corrected (initial punch list).

2. Within seven days after receipt of request for Substantial Completion, Owner will make inspection to determine whether Work or designated portion is substantially complete.
3. Should Owner determine that Work is not substantially complete:

   a. Owner will promptly notify Contractor in writing, stating reasons for its opinion.
   b. Contractor shall remedy deficiencies in Work and send second written request for Substantial Completion to Owner.
   c. Owner will reinspect Work.
   d. Redo and Inspection of Deficient Work: Repeated until Work passes Owner's inspection.

4. When Owner finds that Work is substantially complete, Owner will:

   a. Prepare Certificate of Substantial Completion on, accompanied by Contractor's list of items to be completed or corrected as verified and amended by Architect/Engineer and Owner (final punch list).
   b. Submit Certificate to Owner and Contractor for their written acceptance of responsibilities assigned to them in Certificate.

5. After Work is substantially complete, Contractor shall:

   a. Allow Owner occupancy of Project under provisions stated in Certificate of Substantial Completion.
   b. Complete Work listed for completion or correction within time period stipulated.
6. Owner will occupy all of building as specified in Section 01 10 00 - Summary.

C. Prerequisites for Final Completion: Complete following items before requesting final acceptance and final payment.

1. When Contractor considers Work to be complete, submit written certification that:

a. Contract Documents have been reviewed.
b. Work has been examined for compliance with Contract Documents.
c. Work has been completed according to Contract Documents.
d. Work is completed and ready for final inspection.

2. Submittals: Submit following:

a. Final punch list indicating all items have been completed or corrected.
b. 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.
c. Specified warranties, workmanship/maintenance bonds, maintenance agreements, and other similar documents.
d. Accounting statement for final changes to Contract Sum.
e. Contractor's affidavit of payment of debts and claims on AIA G706 - Contractor's Affidavit of Payment of Debts and Claims.
f. Contractor affidavit of release of liens on AIA G706A - Contractor's Affidavit of Release of Liens.
g. Consent of surety to final payment on AIA G707 - Consent of Surety to Final Payment Form.

3. Perform final cleaning for Contractor-soiled areas according to this Section.

D. Final Completion Inspection:

1. Within seven days after receipt of request for final inspection, Owner will make inspection to determine whether Work or designated portion is complete.
2. Should Owner consider Work to be incomplete or defective:

a. Owner will promptly notify Contractor in writing, listing incomplete or defective Work.
b. Contractor shall remedy stated deficiencies and send second written request to Owner that Work is complete.
c. Owner will reinspect Work.
d. Redo and Inspection of Deficient Work: Repeated until Work passes Owner's inspection.

1.3 DEMONSTRATION AND INSTRUCTIONS

A. Demonstrate operation and maintenance of products to Owner's personnel two weeks prior to date of Substantial Completion.

B. Demonstrate Project equipment and instructed by qualified representative who is knowledgeable about the Project.

C. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.

D. Use operation and maintenance manuals as basis for instruction. Review contents of manual with Owner's personnel in detail to explain all aspects of operation and maintenance.

E. Demonstrate startup, operation, control, adjustment, troubleshooting, servicing, maintenance, and shutdown of each item of equipment at agreed time, at equipment location.

F. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.

G. Required instruction time for each item of equipment and system is specified in individual Specification Sections.

1.4 PROJECT RECORD DOCUMENTS

A. Maintain on Site one set of the following record documents; record actual revisions to the Work:

1. Drawings.
2. Specifications.
3. Addenda.
4. Change Orders and other modifications to the Contract.
5. Reviewed Shop Drawings, product data, and Samples.
6. Manufacturer's instruction for assembly, installation, and adjusting.

B. Ensure entries are complete and accurate, enabling future reference by Owner.

C. Store record documents separate from documents used for construction.

D. Record information concurrent with construction progress, not less than weekly.

E. Specifications: Legibly mark and record, at each product Section, description of actual products installed, including the following:

1. Manufacturer's name and product model and number.
2. Product substitutions or alternates used.
3. Changes made by Addenda and modifications.

F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction as follows:

1. Include Contract modifications such as Addenda, supplementary instructions, change directives, field orders, minor changes in the Work, and change orders.
2. Include locations of concealed elements of the Work.
3. Identify depth of buried utility lines and provide dimensions showing distances from permanent facility components that are parallel to utilities.
4. Dimension ends, corners, and junctions of buried utilities to permanent facility components using triangulation.
5. Identify and locate existing buried or concealed items encountered during Project.
6. Measured depths of foundations in relation to finish first floor datum.
7. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
8. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
9. Field changes of dimension and detail.
10. Details not on original Drawings.

G. Submit marked-up paper copy documents to Owner before Substantial Completion with claim for final Application for Payment.

H. Submit PDF electronic files of marked-up documents to Owner before Substantial Completion with claim for final Application for Payment.

1.5 OPERATION AND MAINTENANCE DATA

A. Submit in PDF composite electronic indexed file.

B. Prepare binder cover with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS," title of Project, and subject matter of binder when multiple binders are required.

C. Internally subdivide binder contents with permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs.

D. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

E. Contents: Prepare table of contents for each volume, with each product or system description identified, typed on white paper, in three parts as follows:

1. Part 1: Directory, listing names, addresses, and telephone numbers of Architect/Engineer, Contractor, Subcontractors, and major equipment suppliers.
2. Part 2: Operation and maintenance instructions, arranged by system and subdivided by Specification Section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Include the following:

    a. Significant design criteria.
    b. List of equipment.

c. Parts list for each component.
d. Operating instructions.
e. Maintenance instructions for equipment and systems.
f. Maintenance instructions for special finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
g. Safety precautions to be taken when operating and maintaining or working near equipment.

3. Part 3: Project documents and certificates, including the following:

a. Shop Drawings and product data.
b. Air and water balance reports.
c. Certificates.
d. Originals of warranties and bonds.

1.6 MANUAL FOR MATERIALS AND FINISHES

A. For equipment or component parts of equipment put into service during construction and operated by Owner, submit documents within ten days after acceptance.

B. Submit in PDF composite electronic indexed file of final manual within ten days after final inspection.

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

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

E. Moisture Protection and Weather Exposed Products: Include product data listing applicable reference standards, chemical composition, and details of installation. Include recommendations for inspections, maintenance, and repair.

F. Additional Requirements: As specified in individual product Specification Sections.

G. Include listing in table of contents for design data, with tabbed fly sheet and space for insertion of data.

1.7 SPARE PARTS AND MAINTENANCE PRODUCTS

A. Furnish spare parts, maintenance, and extra products in quantities specified in individual Specification Sections.

B. Deliver to Project Site and place in location as directed by Owner; obtain receipt prior to final payment.

1.8 PRODUCT WARRANTIES AND PRODUCT BONDS

A. Obtain warranties and bonds executed in duplicate by responsible Subcontractors, suppliers, and manufacturers within ten days after completion of applicable item of Work.

B. Execute and assemble transferable warranty documents and bonds from Subcontractors, suppliers, and manufacturers.

C. Verify documents are in proper form, contain full information, and are notarized.

D. Co-execute submittals when required.

E. Include table of contents and assemble in three D side ring binder with durable plastic cover.

F. Submit prior to final Application for Payment.

G. Time of Submittals:

1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within ten days after acceptance.
2. Make other submittals within ten days after date of Substantial Completion, prior to final Application for Payment.
3. For items of Work for which acceptance is delayed beyond Substantial Completion, submit within ten days after acceptance, listing date of acceptance as beginning of warranty or bond period.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION

3.1 NOMENCLATURE

A. Where the term 'Owner' appears in this Section, it also refers to 'Architect' or 'Engineer' with equal meaning.

3.2 EXAMINATION

A. Verify that existing Site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.

B. Verify that existing substrate is capable of structural support or attachment of new Work being applied or attached.

C. Examine and verify specific conditions described in individual Specification Sections.

D. Verify that utility services are available with correct characteristics and in correct locations.

3.3 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance according to manufacturer's instructions.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer-required or -recommended substrate primer, sealer, or conditioner prior to applying new material or substance in contact or bond.

3.4 EXECUTION

A. Comply with manufacturer's installation instructions, performing each step in sequence. Maintain one set of manufacturer's installation instructions at Project Site during installation and until completion of construction.

B. When manufacturer's installation instructions conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.

C. Verify that field measurements are as indicated on approved Shop Drawings or as instructed by manufacturer.

D. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1. Secure Work true to line and level and within specified tolerances, or if not specified, industry-recognized tolerances.
2. Physically separate products in place, provide electrical insulation, or provide protective coatings to prevent galvanic action or corrosion between dissimilar metals.
3. Exposed Joints: Provide uniform joint width and arrange to obtain best visual effect. Refer questionable visual-effect choices to Architect/Engineer for final decision.

E. Allow for expansion of materials and building movement.

F. Climatic Conditions and Project Status: Install each unit of Work under conditions to ensure best possible results in coordination with entire Project.

1. Isolate each unit of Work from incompatible Work as necessary to prevent deterioration.

2. Coordinate enclosure of Work with required inspections and tests to minimize necessity of uncovering Work for those purposes.

G. Mounting Heights: Where not indicated, mount individual units of Work at industry recognized standard mounting heights for particular application indicated.

1. Refer questionable mounting heights choices to Architect/Engineer for final decision.
2. Elements Identified as Accessible to Handicapped: Comply with applicable codes and regulations.

H. Adjust operating products and equipment to ensure smooth and unhindered operation.

I. Clean and perform maintenance on installed Work as frequently as necessary through remainder of construction period. Lubricate operable components as recommended by manufacturer.

3.5 CUTTING AND PATCHING

A. Employ skilled and experienced installers to perform cutting and patching.

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

1. Fit the several parts together, to integrate with other Work.
2. Uncover Work to install or correct ill-timed Work.
3. Remove and replace defective and nonconforming Work.
4. Remove samples of installed Work for testing.
5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.

C. Execute Work by methods to avoid damage to other Work and to provide proper surfaces to receive patching and finishing.

D. Cut masonry and concrete materials using masonry saw or core drill.

E. Restore Work with new products according to requirements of Contract Documents.

F. Fit Work tight to pipes, sleeves, ducts, conduits, and other penetrations through surfaces.

G. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.

H. At penetrations of fire-rated walls, partitions, ceiling, or floor construction, completely seal voids with fire-rated material according to Section 07 84 00 - Firestopping, to full thickness of penetrated element.

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

J. Identify hazardous substances or conditions exposed during the Work to Architect/Engineer for decision or remedy.

3.6 PROTECTING INSTALLED CONSTRUCTION

A. Protect installed Work and provide special protection where specified in individual Specification Sections.

B. Provide temporary and removable protection for installed products. Control activity in immediate Work area to prevent damage.

C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

D. Use durable sheet materials to protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects.

E. Prohibit traffic or storage upon waterproofed or roofed surfaces. When traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

F. Prohibit traffic from landscaped areas.

3.7 FINAL CLEANING

A. Execute final cleaning prior to final Project assessment.

1. Employ experienced personnel or professional cleaning firm.

B. Clean interior and exterior glass and surfaces exposed to view; remove temporary labels, stains, and foreign substances; polish transparent and glossy surfaces.

C. Clean equipment and fixtures to sanitary condition with appropriate cleaning materials.

D. Replace filters of operating equipment.

E. Clean debris from roofs, gutters, downspouts, and drainage systems.

F. Clean Site; sweep paved areas, rake clean landscaped surfaces.

G. Remove waste and surplus materials, rubbish, and construction facilities from Site.

END OF SECTION

SECTION 06 10 53 - MISCELLANEOUS ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Blocking in Wall openings.
2. Wood furring and grounds.
3. Concealed wood blocking for support of toilet and bath accessories.

1.2 REFERENCE STANDARDS

A. American National Standards Institute:

1. ANSI A208.1 - Mat-Formed Wood Particleboard.

B. American Wood Protection Association:

1. AWPA M4 - Standard for the Care of Preservative-Treated Wood Products.
2. AWPA U1 - Use Category System: User Specification for Treated Wood.

C. ASTM International:

1. ASTM A153 - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
2. ASTM B695 - Standard Specification for Coatings of Zinc Mechanically Deposited on Iron and Steel.
3. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
4. ASTM F1667 - Standard Specification for Driven Fasteners: Nails, Spikes, and Staples.

D. California Department of Health Services:

1. CA/DHS/EHLB/R-174 - Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers, including 2004 Addenda.

E. Forest Stewardship Council:

1. FSC Guidelines - Forest Stewardship Council Guidelines.

F. The Redwood Inspection Service:

1. RIS - Standard Specifications for Grades of California Redwood Lumber.

G. Southern Pine Inspection Bureau:

1. SPIB - Standard Grading Rules for Southern Pine Lumber.

H. U.S. Department of Commerce National Institute of Standards and Technology:

1. DOC PS 1 - Construction and Industrial Plywood.
2. DOC PS 2 - Performance Standard for Wood-Based Structural-Use Panels.
3. DOC PS 20 - American Softwood Lumber Standard.

I. West Coast Lumber Inspection Bureau:

1. WCLIB - Standard Grading Rules for West Coast Lumber.

J. Western Wood Products Association:

1. WWPA 2011 Western Lumber Grade Rules, including supplements.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit technical data and application instructions on wood-preservative and fire-retardant treatment materials.

1.4 QUALITY ASSURANCE

A. Perform Work according to following:

1. Lumber Grading Agency: Certified by DOC PS 20.
2. Wood Structural Panel Grading Agency: Certified by APA - The Engineered Wood Association.
3. Lumber: DOC PS 20.
4. Wood Structural Panels: DOC PS 1 or DOC PS 2.

B. Surface-Burning Characteristics:

1. Fire-Retardant-Treated Materials: Maximum 25/450 flame-spread/smoke-developed index when tested according to ASTM E84.

C. Apply label from agency approved by authority having jurisdiction to identify each fire-retardant-treated material.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Lumber Grading Rules: RIS SPIB WCLIB and WWPA G-5.

B. Miscellaneous Framing: Stress Group A, grade; 19 percent maximum moisture content.

C. Plywood: APA-rated sheathing, Grade C-D; Exposure Durability 2; sanded.

2.2 ACCESSORIES

A. Fasteners and Anchors:

1. Fasteners: ASTM B695, Class 55 mechanically galvanized steel for high-humidity and treated wood locations, unfinished steel elsewhere.
2. Nails and Staples: ASTM F1667.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation examination.

B. Verify that substrate conditions are ready to receive blocking, curbing, and framing.

3.2 PREPARATION

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation preparation.

B. Coordinate placement of blocking, curbing, and framing items.

3.3 INSTALLATION

A. Set members level and plumb, in correct position.

B. Place horizontal members, crown side up.

C. Space framing and furring 16 inches o.c.

D. Secure sheathing to framing members with ends over firm bearing and staggered.

E. Install telephone and electrical panel backboards with plywood sheathing material where required. Size backboards6 inches beyond size of electrical and telephone panel.

END OF SECTION

SECTION 06 61 16 - SOLID SURFACING FABRICATIONS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Granite Countertops.

1.2 SEQUENCING

A. Section 01 10 00 - Summary: Requirements for Work sequencing.

B. Sequence Work to permit installation of adjacent affected construction, electrical, and plumbing rough-in.

C. Coordinate installation of counters with partition erection and plumbing Work.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit data on countertop materials and available counter edge profiles.

C. Shop Drawings: Indicate dimensions, thicknesses, fabrication details, field jointing, adjacent construction, methods of support, integration of plumbing and electrical interfacing components, and anchorages.

D. Samples: Submit two samples representative of countertop, 4 inch by 4 inch in size, illustrating color, texture, and finish.

1.4 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for closeout procedures.

B. Operation and Maintenance Data: Submit list of approved cleaning materials and procedures required; list substances harmful to component materials. Include instructions for stain removal, surface and gloss restoration.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for maintenance materials.

B. Extra Stock Materials:

1. Furnish three containers of 16 oz. of polishing cream.

1.6 QUALIFICATIONS

A. Fabricator: Company specializing in fabricating products specified in this Section with minimum three years' production experience similar to this Project.

1.7 PROJECT CONDITIONS

A. Field Measurements: Verify field measurements prior to fabrication. Indicate field measurements on Shop Drawings.

1.8 WARRANTY

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for warranties.

B. Furnish one-year manufacturer's warranty for each type of unit.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Granite: 1-1/4" thick material.

B. Polishing Cream: Compatible polishing cream to achieve Owner-specified sheen.

2.2 FABRICATION

A. Fabricate components to achieve shape and configuration required for a tight fit.

B. Radius corners and edges on countertops.

2.3 FINISHES

A. Color and Texture: As selected by Owner.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation examination.

B. Verify that joint preparation and affected dimensions are acceptable.

3.2 PREPARATION

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation preparation.

B. Provide anchoring devices for installation.

C. Provide templates and rough-in measurements.

3.3 INSTALLATION

A. Align Work plumb and level.

B. Install according to manufacturer's printed instructions.

C. Rigidly anchor to substrate to prevent misalignment.

D. Fill nail holes in cellular PVC with exterior-grade spackle of an acceptable manufacturer and product of the trim manufacturer.

E. Prime exterior PVC trim and paint with 100% acrylic latex paint with Light Reflectance Value of 58 or higher. Final color as selected by Owner.

F. Seal to adjacent construction as specified in Section 07 90 00 - Joint Protection.

3.4 TOLERANCES

A. Section 01 40 00 - Quality Requirements: Requirements for tolerances.

B. Maximum Variation from Indicated Dimension: 1/8 inch.

C. Maximum Offset from Indicated Position: 1/8 inch.

3.5 CLEANING

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for cleaning.

B. Clean and polish fabrication surfaces of granite countertops.

3.6 PRODUCT TYPES

A. Countertop: Restrooms; 1-inch thick, 24 inches deep, one-piece length, 4-inch-high separate back splash, cored for plumbing sink and accessories; color as selected.

END OF SECTION

SECTION 08 12 14 - STANDARD STEEL FRAMES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes fire rated and non-rated steel frames.

B. Related Sections:

1. Section 08 13 14 – Standard Steel Doors.
2. Section 08 71 00 - Door Hardware: Hardware, silencers, and weatherstripping.

1.2 REFERENCES

A. American National Standards Institute:

1. ANSI A250.8 - Recommended Specifications for Standard Steel Doors and Frames.

B. ASTM International:

1. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

C. National Fire Protection Association:

1. NFPA 80 - Standard for Fire Doors, Fire Windows.
2. NFPA 105 - Standard for the Installation of Smoke Door Assemblies and other Opening Protectives.
3. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies.

D. Underwriters Laboratories Inc.:

1. UL 10B - Fire Tests of Door Assemblies.
2. UL 10C - Positive Pressure Fire Tests of Door Assemblies.
3. UL 1784 - Air Leakage Tests of Door Assemblies.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

B. Shop Drawings: Indicate frame elevations, reinforcement, anchor types and spacing, location of cut-outs for hardware, and finish.

C. Product Data: Submit frame configuration and finishes.

D. Manufacturer's Installation Instructions: Submit special installation instructions.

E. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.4 QUALITY ASSURANCE

A. Conform to requirements of ANSI A250.8.

B. Fire Rated Frame Construction: Conform to one of the following:

1. NFPA 252; with neutral pressure level at 40 inches maximum above sill at 5 minutes into test.
2. UL 10B.

C. Installed Fire Rated Frame Assembly: Conform to NFPA 80 for fire rated class same as fire door.

D. Attach label from agency approved by authority having jurisdiction to identify each fire rated door frame.
1. Attach smoke label to smoke and draft control door frames.

1.5 QUALIFICATIONS

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

1.6 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.

B. Accept frames on site in manufacturer's packaging. Inspect for damage.

C. Break seal on-site to permit ventilation.

1.7 COORDINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Coordinate Work with frame opening construction, door, and hardware installation.

C. Sequence installation to accommodate required door hardware electric wire connections.

PART 2 - PRODUCTS

2.1 STANDARD STEEL FRAMES

A. Manufacturers:

1. Allegion - Steelcraft.
2. ASSA ABLOY (Ceco, Curries, etc.).
3. De La Fontaine.
4. Karpen Steel Doors and Frames.
5. Long Island Fireproof Door.
6. Mesker.
7. North American Door Company.
8. Pioneer.
9. Republic.
10. Substitutions: Section 01 60 00 - Product Requirements.

B. Product Description: Standard shop fabricated steel frames, fire rated and non-rated types.

1. Frame Types:

a. Level 1 for all door frames receiving hollow metal doors; nominal16 gage/0.053 inch thick material and base metal thickness.

2.2 ACCESSORIES

A. Primer: ANSI A250.10 rust inhibitive type.

B. Silencers: Specified in Section 08 71 00.

2.3 FABRICATION

A. Fabricate frames as welded unit.

B. Fabricate frames with hardware reinforcement plates welded in place. Provide mortar guard boxes.

C. Reinforce frames wider than 48 inches with roll formed steel channels fitted tightly into frame head, flush with top.

D. Prepare frames for silencers. Provide three single silencers for single doors on strike side. Provide two single silencers on frame head at double doors without mullions.

E. Attach fire rated label to each fire rated frame.

2.4 SHOP FINISHING

A. Primer: Air dried or baked.

B. Coat inside of frame profile with non-asbestos bituminous coating to minimum thickness of 1/16 inch for frames indicated on Door Schedule.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify opening sizes and tolerances are acceptable.

3.2 INSTALLATION

A. Install frames in accordance with ANSI A250.8.

B. Coordinate with gypsum board wall construction for anchor placement.

C. Coordinate installation of frames with installation of hardware specified in Section 08 71 00 and doors in Section 08 13 14.

D. Install roll formed steel reinforcement channels between two abutting frames. Anchor to structure and floor.

3.3 ERECTION TOLERANCES

A. Section 01 40 00 - Quality Requirements: Tolerances.

B. Maximum Diagonal Distortion: 1/16 inchmeasured with straight edges, crossed corner to corner.

END OF SECTION

SECTION 08 13 14 - STANDARD STEEL DOORS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes non-rated and fire rated steel doors.

B. Related Sections:

1. Section 08 12 14 - Standard Steel Frames.
2. Section 08 71 00 - Door Hardware.
3. Section 09 90 00 - Painting and Coating: Field painting of doors.

1.2 REFERENCES

A. American National Standards Institute:

1. ANSI A250.8 - Recommended Specifications for Standard Steel Doors and Frames.

B. ASTM International:

1. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
2. ASTM C1363 - Standard Test Method for the Thermal Performance of Building Assemblies by Means of a Hot Box Apparatus.
3. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
4. ASTM E413 - Classification for Rating Sound Insulation.

C. Hollow Metal Manufacturers Association:

1. HMMA 810 - Hollow Metal Doors.

D. National Fire Protection Association:

1. NFPA 80 - Standard for Fire Doors, Fire Windows.
2. NFPA 105 - Standard for the Installation of Smoke Door Assemblies and other Opening Protectives.
3. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies.

E. Steel Door Institute:

1. SDI 108 - Recommended Selection and Usage Guide for Standard Steel Doors.

F. Underwriters Laboratories Inc.:

1. UL 10B - Fire Tests of Door Assemblies.
2. UL 10C - Positive Pressure Fire Tests of Door Assemblies.
3. UL 1784 - Air Leakage Tests of Door Assemblies.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Shop Drawings: Indicate door elevations, internal reinforcement, closure method, cut-outs for glazing, and finishes.

C. Product Data: Submit door configurations, location of cut-outs for hardware reinforcement.

D. Manufacturer's Installation Instructions: Submit special installation instructions.

E. Manufacturer's Certificate: Certify Products meet or exceed fire rated requirements for fire rated door assemblies.

1.4 QUALITY ASSURANCE

A. Perform Work in accordance with ANSI A250.8.

B. Fire Rated Door and Panel Construction: Conform to one of the following:

1. NFPA 252; with neutral pressure level at 40 inches maximum above sill at 5 minutes into test.
2. UL 10C.

C. Installed Fire Rated Door and Panel Assembly: Conform to NFPA 80 for fire rated class as indicated on Drawings.

D. Attach label from agency approved by authority having jurisdiction to identify each fire rated door.
1. Indicate temperature rise rating for stair doors.
2. Attach smoke label to smoke and draft control doors.

E. Surface Burning Characteristics:

1. Foam Insulation: Maximum 75/450 flame spread/smoke developed index when tested in accordance with ASTM E84.

F. Apply label from agency approved by authority having jurisdiction to identify each foam plastic insulation board.

1.5 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing Products specified in this section with minimum three years' experience.

B. Installer: Company specializing in performing work of this section with minimum three years' experience.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.

B. Accept doors on site in manufacturer's intact packaging. Inspect for damage. Provide additional protection as required.

C. Break seal on site to permit ventilation.

1.7 COORDINATION

A. Section 01 30 00 - Administrative Requirements: Requirements for coordination.

B. Coordinate Work with door opening construction, door frame, and door hardware installation.

PART 2 - PRODUCTS

2.1 STANDARD STEEL DOORS

A. Manufacturers:

1. Allegion - Steelcraft.
2. ASSA ABLOY (Ceco, Curries, etc.).
3. De La Fontaine.
4. Karpen Steel Doors and Frames.
5. Long Island Fireproof Door.
6. Mesker.
7. North American Door Company.
8. Pioneer.
9. Republic.
10. Substitutions: Section 01 60 00 - Product Requirements.

B. Product Description:

1. Interior Doors (Non-Rated): ANSI A250.8, 1-3/4 inch thick.

a. Level 2 – Heavy Duty, Model 1, full flush design, or
b. Level 2 - Heavy Duty, Model 2, seamless design.

2. Interior Doors (Fire Rated): ANSI A250.8, 1-3/4 inch thick.

a. Level 2 – Heavy Duty, Model 1, full flush design, or
b. Level 2 - Heavy Duty, Model 2, seamless design.

2.2 COMPONENTS

A. Face: Steel sheet in accordance with ANSI A250.

B. End Closure: Channel, 0.04 inches thick, flush.

C. Core for Exterior Insulated (Non-Rated) Doors: polyurethane.

D. Core for Interior (Non-Rated) Doors: Cardboard honeycomb.

E. Core for Interior (Rated) Doors: Temperature Rise Core – Highest R-Value available by door Manufacturer.

F. Thermal Insulated Door: Total insulation R-Value of 11, measured in accordance with ASTM C1363.

G. Sound Rating for Fire-Rated Door: STC of 32, measured in accordance with ASTM E413.

2.3 ACCESSORIES

A. Primer: ANSI A250.10 rust inhibitive type.

2.4 FABRICATION

A. Fabricate doors with hardware reinforcement welded in place.

2.5 SHOP FINISHING

A. Primer: Air dried or Baked.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting work.

B. Verify opening sizes and tolerances are acceptable.

3.2 INSTALLATION

A. Install doors in accordance with ANSI A250.8.

B. Install door louvers, plumb and level.

C. Coordinate installation of glass and glazing specified in Section 08 80 00.

D. Coordinate installation of doors with installation of frames specified in Section 08 12 14 and hardware specified in Section 08 71 00.

E. Touch-up damaged shop finishes.

3.3 ERECTION TOLERANCES

A. Section 01 40 00 - Quality Requirements: Tolerances.

B. Maximum Diagonal Distortion: 1/16 inchmeasured with straight edge, corner to corner.

3.4 ADJUSTING

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for adjusting.

B. Adjust door for smooth and balanced door movement.

END OF SECTION

SECTION 08 71 00 - DOOR HARDWARE

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes hardware for steel and aluminum doors.

B. Related Sections:

1. Section 08 12 14 – Standard Steel Frames: Silencers integral with steel frames.
2. Section 08 13 14 - Standard Steel Doors.

1.2 REFERENCES

A. American National Standards Institute:

1. ANSI A156.1 - Butts and Hinges.
2. ANSI A156.2 - Bored and Preassembled Locks and Latches.
3. ANSI A156.3 - Exit Devices.
4. ANSI A156.4 - Door Controls - Closures.
5. ANSI A156.5 - Auxiliary Locks and Associated Products.
6. ANSI A156.6 - Architectural Door Trim.
7. ANSI A156.7 - Template Hinge Dimensions.
8. ANSI A156.8 - Door Controls - Overhead Holders.
9. ANSI A156.12 - Interconnected Locks and Latches.
10. ANSI A156.13 - Mortise Locks and Latches.
11. ANSI A156.14 - Sliding and Folding Door Hardware.
12. ANSI A156.15 - Closer Holder Release Devices.
13. ANSI A156.16 - Auxiliary Hardware.
14. ANSI A156.18 - Materials and Finishes
15. ANSI A156.19 - Power Assist and Low Energy Power Operated Doors.
16. ANSI A156.23 - Electromagnetic Locks.
17. ANSI A156.24 - Delayed Egress Locks.
18. ANSI A156 - Complete Set of 24 BHMA Standards (A156 Series) with Binder.

B. Builders Hardware Manufacturers Association:

1. BHMA Directory of Certified Products.

C. National Fire Protection Association:

1. NFPA 80 - Standard for Fire Doors, Fire Windows.

2. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies.

D. Underwriters Laboratories Inc.:

1. UL 10B - Fire Tests of Door Assemblies.
2. UL 305 - Panic Hardware.
3. UL - Building Materials Directory.

E. Intertek Testing Services (Warnock Hersey Listed):

1. WH - Certification Listings.

1.3 PERFORMANCE REQUIREMENTS

A. Fire Rated Openings: Provide door hardware listed by UL or Intertek Testing Services (Warnock Hersey Listed), or other testing laboratory approved by applicable authorities.

1. Hardware: Tested in accordance with NFPA 252.

1.4 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

B. Product Diagrams:

1. Indicate locations and mounting heights of each type of hardware, schedules, catalog cuts,.
2. Submit manufacturer's parts lists.

C. Manufacturer's Installation Instructions: Submit special procedures, and perimeter conditions requiring special attention.

1.5 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Closeout procedures.

B. Project Record Documents: Record actual locations of installed cylinders and their master key code.

C. Operation and Maintenance Data: Submit data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.

D. Keys: Deliver with identifying tags to Owner by security shipment direct from hardware supplier.

1.6 QUALITY ASSURANCE

A. Perform Work in accordance with the following requirements:

1. ANSI A156 series.
2. NFPA 80.
3. UL 305.

B. Furnish hardware marked and listed in BHMA Directory of Certified Products.

1.7 QUALIFICATIONS

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

B. Hardware Supplier: Company specializing in supplying commercial door hardware with minimum three years' experience.

1.8 PRE-INSTALLATION MEETINGS

A. Section 01 30 00 - Administrative Requirements: Pre-installation meeting.

B. Convene minimum one week prior to commencing work of this section.

C. Include persons involved with installation of doors, frames, and hardware.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.

B. Package hardware items individually with necessary fasteners, instructions, and installation templates, when necessary; label and identify each package with door opening code to match hardware schedule.

1.10 COORDINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Coordinate Work with other directly affected sections involving manufacture or fabrication of internal reinforcement for door hardware and recessed items.

1. Provide templates or actual hardware as required to ensure proper preparation of doors and frames.

C. Sequence installation to accommodate required utility connections.

D. Coordinate Owner's keying requirements during course of Work.

1.11 WARRANTY

A. Section 01 70 00 - Execution and Closeout Requirements: Product warranties and product bonds.

B. Furnish five year manufacturer warranty for locksets and door closers.

1.12 MAINTENANCE MATERIALS

A. Section 01 70 00 - Execution and Closeout Requirements: Maintenance materials.

B. Furnish special wrenches and tools applicable for each different and for each special hardware component.

C. Furnish maintenance tools and accessories supplied by hardware component manufacturer.

PART 2 - PRODUCTS

2.1 DOOR HARDWARE

A. Hinge

1. Manufacturers:

a. Baldwin Hardware Corp.
b. DORMA America.
c. Hager Companies.
d. Ives.
e. Lawrence Hardware.
f. McKinney Products.
g. Stanley Commercial Hardware.
h. Zero International.
i. Substitutions: Section 01 60 00 - Product Requirements.

B. Lockset, Latch Set, and Cylinder

1. Manufacturers:

a. Arrow USA.
b. Best Access Systems.

c. Falcon.
d. Hager.
e. Medeco.
f. SARGENT.
g. Schlage.
h. Yale.
i. Substitutions: Section 01 60 00 - Product Requirements.

C. Closers

1. Manufacturers:

a. Arrow USA.
b. Corbin Russwin.
c. Falcon.
d. Hager.
e. SARGENT.
f. Yale.
g. Substitutions: Section 01 60 00 - Product Requirements.

D. Door Controls and Overhead Holders

1. Manufactures:

a. Arrow USA.
b. Falcon.
c. Glynn-Johnson.
d. Hager.
e. LCN.
f. SARGENT.
g. Yale.
h. Substitutions: Section 01 60 00 - Product Requirements.

E. Push/Pulls, Manual Bolts, Protection Plates, Gaskets, Thresholds, and Trim

1. Manufacturers:

a. Corbin Russwin.
b. Hager.
c. Ives.
d. Pemko.
e. Trimco.
f. Zero International.
g. Substitutions: Section 01 60 00 - Product Requirements.

2.2 COMPONENTS

A. General Hardware Requirements: Where not specifically indicated, comply with applicable ANSI A156 standard for type of hardware required. Furnish each type of hardware with accessories as required for applications indicated and for complete, finished, operational doors.

1. Templates: Furnish templates or physical hardware items to door and frame manufacturers sufficiently in advance to avoid delay in Work.
2. Reinforcing Units: Furnished by door and frame manufacturers; coordinated by hardware supplier or hardware manufacturer.
3. Fasteners: Furnish as recommended by hardware manufacturer and as required to secure hardware.

    a. Finish: Match hardware item being fastened.

4. Fire Ratings: Provide hardware with UL or Intertek Testing Services (Warnock Hersey Listed) listings for type of application involved.
5. Electrical Devices: Make provisions and coordinate requirements for electrical devices and connections for hardware.

B. Hinges: ANSI A156.1, full mortise type complying with following general requirements unless otherwise scheduled.

1. Widths: Sufficient to clear trim projection when door swings 180 degrees.
2. Number: Furnish minimum three hinges to 90 inches high, four hinges to 120 inches high for each door leaf.

    a. Fire Rated Doors To 86 inches High: Minimum three hinges.

3. Size and Weight: 4-1/2 inch heavy weight typical for 1-3/4 inch doors.

    a. Doors Over 40 inches Wide: Extra heavy weight ball or oilite bearing hinges.
    b. Doors 1-3/8 inch Thick: 3-1/2 inch size.
    c. Doors 2 inch Thick: 5 inch extra heavy weight ball or oilite bearing.
    d. Doors Over 48 inches Wide: 5 inch extra heavy weight ball or oilite bearing.

4. Pins: Furnish nonferrous hinges with non-removable pins (NRP) at exterior and locked outswinging doors, non-rising pins at interior doors.
5. Tips: Flat button tips with matching plug.

C. Locksets: Furnish locksets compatible with specified cylinders. Typical 2-3/4 inch backset. Furnish standard strikes with extended lips to protect trim from being marred by latch bolt verify type of cutouts provided in metal frames.

1. Mortise Locksets: ANSI A156.13, Series 1000, Grade 1 unless otherwise indicated.
2. Bored (Cylindrical) Locksets: ANSI A156.2, Series 4000, Grade 1 unless otherwise indicated.

3. Preassembled (Unit) Locksets: ANSI A156.12, Series 2000, Grade 1 unless otherwise indicated.
4. Interconnected Locksets: ANSI A156.12, Series 5000, Grade 1 unless otherwise indicated.
5. Auxiliary Locksets: ANSI A156.5, Grade 1, rim locks unless otherwise indicated.

D. Latch Sets: Match locksets. Typical 2-3/4 inch backset. Furnish standard strikes with extended lips to protect trim from being marred by latch bolt verify type of cutouts provided in metal frames.

1. Mortise Latch Sets: ANSI A156.13, Series 1000, Grade [1] [2] [3] unless otherwise indicated.
2. Bored (Cylindrical) Latch Sets: ANSI A156.2, Series 4000, Grade [1] [2] [3] unless otherwise indicated.

E. Cylinders: ANSI A156.5, Grade 1, Match existing facility cylinder set-up.

1. Keying: Keyed as directed by Owner. Keyed in like-groups. Master keyed.
2. Include construction keying.
3. Keys: Nickel silver. Stamp keys with "DO NOT DUPLICATE".
4. Supply keys in the following minimum quantities:

    a. 2 master keys.
    b. 2 construction keys.
    c. 3 control keys and 2 extra cylinder cores.
    d. 2 change keys for each bitting.

F. Closers: ANSI A156.4 modern type with cover, surface mounted closers; full rack and pinion type with steel spring and non-freezing hydraulic fluid; closers required for fire rated doors unless otherwise indicated.

1. Adjustability: Furnish controls for regulating closing, latching, speeds, and back checking.
2. Arms: Type to suit individual condition; parallel-arm closers at reverse bevel doors and where doors swing full 180 degrees.
3. Location: Mount closers on inside of exterior doors, room side of interior doors typical; mount on pull side of other doors.
4. Operating Pressure: Maximum operating pressure as follows.

    a. Interior Doors: Maximum 5 pounds.
    b. Exterior Doors: Maximum 10 pounds or the required minimum as dictated by the local authority having jurisdiction.
    c. Fire Rated Doors: As required for fire rating, as dictated by the local authority having jurisdiction.

G. Door Controls and Overhead Holders: Furnish with accessories as required for complete operational installation.

1. Manual Door Holders and Overhead Stops: ANSI A156.8, Grade 1 types as specified

H. Push/Pulls, Manual Bolts, Protection Plates, Gaskets, Thresholds, and Trim: Furnish as indicated in Schedule, with accessories as required for complete operational door installations.

1. Push/Pulls: ANSI A156.6; push plates minimum 0.050 inch thick. Furnish straight push-pull type pulls with bolts to secure from opposite door face; furnish with minimum 0.050 inch pull plates unless otherwise indicated.
2. Manual Bolts: ANSI A156.16 Grade 1 top and bottom flush bolts, with dust-proof floor strike, unless otherwise indicated.
3. Kickplates Mop Plate: ANSI A156.6, metal; height indicated in Schedule by 1 inch less than door width; minimum 0.050 inch thick finished per schedule.
4. Weatherstripping: Furnish continuous weatherstripping at top and sides of exterior doors.
5. Fire Rated Gaskets: Furnish continuous fire rated gaskets at top and sides of fire rated doors.
6. Thresholds: Maximum 1/2 inch height.

2.3 ACCESSORIES

A. Lock Trim: Furnish levers with rose as selected from manufacturer's full range of levers and roses.

1. Do not permit through bolts on solid wood core doors.

B. Through Bolts: Do not permit through bolts and grommet nuts on door faces in occupied areas unless no alternative is possible.

2.4 FINISHING

A. Finishes: ANSI A156.18; furnish BHMA finishes indicated below for Hardware in the Schedule on the Drawings.

1. All hardware finishes as selected by Owner. Assume to match existing throughout remainder of building..

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify doors and frames are ready to receive door hardware and dimensions are as instructed by manufacturer.

3.2 INSTALLATION

A. Coordinate mounting heights with door and frame manufacturers. Use templates provided by hardware item manufacturer.

B. Mounting Heights From Finished Floor to Center Line of Hardware Item: Comply with manufacturer recommendations and applicable codes where not otherwise indicated.

1. Locksets: 38 inch.
2. Push/Pulls: 42 inch.
3. Dead Locks: 48 inch.
4. Push Pad Type Exit Devices: 42 inch.
5. Cross Bar Type Exit Devices: 38 inch.
6. Top Hinge: Jamb manufacturer's standard, but not greater than 10 inches from head of frame to center line of hinge.
7. Bottom Hinge: Jamb manufacturer's standard, but not greater than 12-1/2 inches from floor to center line of hinge.
8. Intermediate Hinges: Equally spaced between top and bottom hinges and from each other.
9. Hinge Mortise on Door Leaf: 1/4 inch. to 5/16 inch from stop side of door.

3.3 FIELD QUALITY CONTROL

A. Section 01 70 00 - Execution and Closeout Requirements: Field inspecting, testing, adjusting, and balancing.

3.4 ADJUSTING

A. Section 01 70 00 - Execution and Closeout Requirements: Testing, adjusting, and balancing.

B. Adjust hardware for smooth operation.

3.5 PROTECTION OF INSTALLED CONSTRUCTION

A. Section 01 70 00 - Execution and Closeout Requirements: Protecting installed construction.

B. Do not permit adjacent work to damage hardware or hardware finish.

END OF SECTION

SECTION 08 83 00 - MIRRORS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes glass mirrors for frameless installation.

1.2 REFERENCES

A. American National Standards Institute:

1. ANSI Z97.1 - Safety Glazing Materials Used in Buildings Safety.

B. ASTM International:

1. ASTM C920 - Standard Specification for Elastomeric Joint Sealants.
2. ASTM C1036 - Standard Specification for Flat Glass.
3. ASTM C1048 - Standard Specification for Heat-Treated Flat Glass-Kind HS, Kind FT Coated and Uncoated Glass.
4. ASTM C1172 - Standard Specification for Laminated Architectural Flat Glass.
5. ASTM C1193 - Standard Guide for Use of Joint Sealants.

C. Consumer Product Safety Commission:

1. CPSC 16 CFR 1201; Safety Standard for Architectural Glazing.

D. Glass Association of North America:

1. GANA - FGMA Sealant Manual.
2. GANA - Glazing Manual.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

B. Product Data:

1. Mirror Types: Submit structural, physical and environmental characteristics, size limitations, special handling or installation requirements.
2. Glazing Materials: Submit chemical, functional, and environmental characteristics, limitations, special application requirements. Identify available colors.

C. Manufacturer's Certificate: Certify mirrors meet or exceed specified requirements.

1.4 QUALITY ASSURANCE

A. Perform Work in accordance with GANA Glazing Manual and GANA Sealant Manual for mirror installation methods.

1.5 ENVIRONMENTAL REQUIREMENTS

A. Section 01 60 00 - Product Requirements.

B. Do not install glazing when ambient temperature is less than 50 degrees F.

C. Maintain minimum ambient temperature before, during and 24 hours after installation of glazing sealants.

1.6 WARRANTY

A. Section 01 70 00 - Execution and Closeout Requirements: Product warranties and product bonds.

B. Furnish ten (10) year warranty to include coverage for reflective coating on mirrors and replacement of same.

PART 2 - PRODUCTS

2.1 COMPONENTS

A. Mirror Glass (Type MR-F): ASTM C1036, Type 1 transparent flat, Class 1 clear, Quality Q1 mirror select; type with copper and silver coating, and organic overcoating.

1. Type: Full Width – Single Piece.
2. Edges: Beveled.
3. Thickness: Minimum 1/4 inch unless otherwise indicated.
4. Size: Custom – See interior elevations.

2.2 ACCESSORIES

A. Elastomeric Glazing Sealant: Materials compatible with mirrors and adjacent materials.

1. Silicone Sealant: ASTM C920, Type S, Grade NS, Class and Use as recommended by manufacturer for mirror installation; single component; solvent curing; capable of water

immersion without loss of properties; non-bleeding, non-staining, cured Shore A hardness of 15 to 25.

a. Color: Clear.

B. Mirror Adhesive: Chemically compatible with mirror coating and wall substrate.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify openings for mirrored glazing are correctly sized and within tolerance.

C. Verify surfaces of glazing channels or recesses are clean, free of obstructions, and ready to receive mirrors.

3.2 PREPARATION

A. Clean contact surfaces with solvent and wipe dry.

B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.

C. Prime surfaces scheduled to receive sealant.

3.3 INSTALLATION

A. Perform installation in accordance with GANA Glazing Manual.

1. Glazing Sealants: Comply with ASTM C1193.
2. Set mirrors plumb and level, free of optical distortion.
3. Set mirrors with edge clearance free of surrounding construction including counter tops and backsplashes.

B. Frameless Adhesive Installation:

1. Set mirrors with adhesive.
2. Place plumb and level without visible distortion.

3.4 FIELD QUALITY CONTROL

A. Section [01 40 00 - Quality Requirements] [01 70 00 - Execution and Closeout Requirements]: Field inspecting, testing, adjusting, and balancing.

B. Inspect for quality of glazing.

3.5 CLEANING

A. Section 01 70 00 - Execution and Closeout Requirements: Final cleaning.

B. Remove wet glazing materials from finish surfaces.

C. Remove labels after Work is complete.

D. Clean mirrors and adjacent surfaces.

END OF SECTION

SECTION 09 30 00 - TILING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes ceramic, porcelain, ceramic mosaic, and porcelain mosaic tile for floor, wall, and ceiling applications using thin set crack isolation application methods; backer board as tile substrate and thresholds at door openings.

1.2 REFERENCES

A. American National Standards Institute:

1. ANSI A108.1 - Installation of Ceramic Tile, A collection.
2. ANSI A108.1A - Specifications for Installation of Ceramic Tile in the Wet-Set Method with Portland Cement Mortar.
3. ANSI A108.1B - Specifications for Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry-Set or Latex Portland Cement Mortar.
4. ANSI A108.1C - Specifications for Contractors Option: Installation of Ceramic Tile in the Wet-Set Method with Portland Cement Mortar -or- Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry-Set or Latex Portland Cement Mortar.
5. ANSI A108.4 - Specifications for Ceramic Tile Installed with Organic Adhesives or Water-Cleanable Tile Setting Epoxy Adhesive.
6. ANSI A108.5 - Specifications for Ceramic Tile Installed with Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar.
7. ANSI A108.6 - Specifications for Ceramic Tile Installed with Chemical-Resistant, Water-Cleanable Tile-Setting and -Grouting Epoxy.
8. ANSI A108.7 - Specifications for Electrically Conductive Ceramic Tile Installed with Conductive Dry-Set Portland Cement Mortar.
9. ANSI A108.8 - Specifications for Ceramic Tile Installed with Chemical-Resistant Furan Mortar and Grout.
10. ANSI A108.9 - Specifications for Ceramic Tile Installed with Modified Epoxy Emulsion Mortar/Grout.
11. ANSI A108.10 - Specifications for Installation of Grout in Tilework.
12. ANSI A118.1 - Standard Specification for Dry-Set Portland Cement Mortar.
13. ANSI A118.3 - Chemical-Resistant, Water-Cleanable, Tile-Setting and -Grouting Epoxy and Water-Cleanable Tile-Setting Epoxy Adhesive.
14. ANSI A118.4 - Latex-Portland Cement Mortar.
15. ANSI A118.5 - Chemical-Resistant Furan Mortar and Grout.
16. ANSI A118.6 - Ceramic Tile Grouts.
17. ANSI A118.8 - Modified Epoxy Emulsion Mortar/Grout.

18. ANSI A118.9 - Test Methods and Specifications for Cementitious Backer Units.
19. ANSI A136.1 - Organic Adhesives for Installation of Ceramic Tile.
20. ANSI A137.1 - Ceramic Tile.

B. ASTM International:

1. ASTM C847 - Standard Specification for Metal Lath.

C. Scientific Certification Systems:

1. SCS EC10.2 - Environmental Certification Program Indoor Air Quality Performance.

D. Tile Council of America:

1. TCA - Handbook for Ceramic Tile Installation.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

B. Product Data: Submit instructions for using grouts, accessories, and adhesives.

C. Samples: Submit tile and grout samples illustrating pattern, color variations, and grout joint size variations.

1.4 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Closeout procedures.

B. Operation and Maintenance Data: Submit recommended cleaning methods, cleaning materials, stain removal methods, and polishes and waxes.

1.5 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years [**documented**] experience.

B. Installer: Company specializing in performing Work of this section with minimum three years [**documented**] experience [**and approved by tile manufacturer**].

1.6 PRE-INSTALLATION MEETINGS

A. Section 01 30 00 - Administrative Requirements: Pre-installation meeting.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.

B. Protect adhesives and grouts from freezing or overheating.

1.8 ENVIRONMENTAL REQUIREMENTS

A. Section 01 60 00 - Product Requirements.

B. Do not install adhesives and grouts in unventilated environment.

C. Maintain ambient and substrate temperature of 50 degrees F during installation of mortar materials.

1.9 EXTRA MATERIALS

A. Section 01 70 00 - Execution and Closeout Requirements: Spare parts and maintenance products.

B. Supply 16 sq ft of each size, color, and surface finish of tile specified, unless directed otherwise by Owner.

PART 2 - PRODUCTS

2.1 COMPONENTS

A. Ceramic and Porcelain Mosaic Tile: ANSI A137.1, as selected by Owner.

B. Ceramic and Porcelain Wall Tile: ANSI A137.1, as selected by Owner.

C. Base: Match floor tile for moisture absorption, surface finish, and color:

D. Wainscot Cap: Match wall tile for moisture absorption, surface finish, and color, tile length, bull nosed top edge.

2.2 ACCESSORIES

A. Mortar Materials:

1. Mortar Bed and Thinset Materials: Portland cement, sand, and polymers.
2. Mortar Bond Coat Materials:

a. Dry-Set Portland Cement type: ANSI A118.1.
b. Latex-Portland Cement type: ANSI A118.4.
c. Epoxy: ANSI A118.3.
d. Furan: ANSI A118.5.

B. Grout Materials:

1. Epoxy Grout: ANSI A118.8, modified epoxy emulsion grout, color as selected.

C. Cleavage Membrane: Woven or non-woven, uncoupling membrane with integrated backing.
1. Basis of Design: Mapei 'MapeiGuard UM' or equal/similar.

D. Cementitious Composite Fiberglass Gypsum Backer Board: Fiberglass faced water-resistant gypsum backer board with cementitious surface for the adhesion of tile. Panels to be 5/8 in. thick.

E. Thresholds: Granite, width of wall or frame opening, beveled both sides, radiused edges from bevel to vertical face; maximum height difference between lowest floor surface and top of threshold to be 1/2 in. or less to conform with ANSI A117.1.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify surfaces are ready to receive work.

3.2 PREPARATION

A. Protect surrounding work from damage.

B. Vacuum clean surfaces and damp clean.

C. Seal substrate surface cracks with filler. Level existing substrate surfaces to acceptable flatness tolerances.

D. Install backer board. Tape joints and corners, cover with skim coat equivalent ANSI A118.10 waterproofing membrane mortar to feather edge.

E. Prepare substrate surfaces for adhesive installation.

3.3 INSTALLATION

A. Install tile, thresholds, and grout in accordance with applicable requirements of ANSI A108.1 through A108.10, and TCA Handbook recommendations.

B. Request tile pattern. Do not interrupt tile pattern through openings.

C. Place thresholds at locations indicated.

D. Cut and fit tile to penetrations through tile, leaving sealant joint space. Form corners and bases neatly. Align floor, base and wall joints if requested by Owner.

E. Place tile with joints uniform in width, subject to variance in tolerance allowed in tile size. Make joints watertight, without voids, cracks, excess mortar, or excess grout.

F. Form internal angles square and external angles bullnosed.

G. Install ceramic accessories rigidly in prepared openings.

H. Sound tile after setting. Replace hollow sounding units.

I. Keep control joints free of adhesive or grout. Apply sealant to joints.

J. Allow tile to set for a minimum of 48 hours prior to grouting or longer if required by manufacturer.

K. Grout tile joints.

L. Apply sealant to junction of tile and dissimilar materials and junction of dissimilar planes.

M. Installation - Floors - Thin-Set Method:

1. Over interior concrete substrates, install in accordance with TCA Handbook Method F111, with cleavage membrane, unless otherwise indicated.
2. Grout with epoxy grout.
3. Seal joints between tile work and other work with sealant Type-4 specified in Section 07 90 00.

N. Installation – Walls within Men's and Women's Rooms:

1. Shower Stall Floor: Install in accordance with TCA Handbook Method B415, mortar bed floor.
2. Shower Stall Walls and Ceilings: Install in accordance with TCA Handbook Method W244, thin-set over cementitious backer units at walls and ceilings.
3. Grout with epoxy grout.
4. Seal joints between tile work and other work with sealant Type-4 specified in Section 07 90 00.

3.4 CLEANING

A. Section 01 70 00 - Execution and Closeout Requirements: Final cleaning.

B. Clean tile and grout surfaces.

3.5 PROTECTION OF INSTALLED CONSTRUCTION

A. Section 01 70 00 - Execution and Closeout Requirements: Protecting installed construction.

B. Do not permit traffic over finished floor surface for 4 days after installation.

END OF SECTION

SECTION 09 90 00 - PAINTING AND COATING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Surface preparation and field application of paints.

1.2 DEFINITIONS

A. Refer to ASTM D16 for definitions of terms used in this Section.

1.3 REFERENCE STANDARDS

A. ASTM International:

1. ASTM D16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications.
2. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Materials.
3. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

B. Green Seal:

1. GS-03 - Anti-Corrosive Paints.
2. GS-11 - Paints and Coatings.

C. Master Painters Institute:

1. MPI - Approved Products List.
2. MPI - Architectural Painting Manual.

1.4 PREINSTALLATION MEETINGS

A. Section 01 30 00 - Administrative Requirements: Requirements for preinstallation meeting.

1.5 SEQUENCING

A. Section 01 10 00 - Summary: Requirements for sequencing.

1.6 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Product Data:

1. Submit manufacturer data on paint.
2. Include MPI - Approved Products Lists with proposed products highlighted.

C. Samples:

1. Submit two paper chip samples, illustrating range of colors and sheen available for each surface finishing product as scheduled.

1.7 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for submittals.

B. Operation and Maintenance Data: Submit information on cleaning, touchup, and repair of painted and coated surfaces.

1.8 MAINTENANCE MATERIAL SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for maintenance materials.

B. Extra Stock Materials:

1. Furnish 1 gal.of each color as provided for Project.
2. Store where directed by Owner.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.

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

C. Inspection:

1. Accept materials on Site in manufacturer's sealed and labeled containers.
2. Inspect for damage and to verify acceptability.

D. Store materials in ventilated area and otherwise according to manufacturer instructions.

E. Protection:

1. Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.
2. Provide additional protection according to manufacturer instructions.

1.10 AMBIENT CONDITIONS

A. Section 01 50 00 - Temporary Facilities and Controls: Requirements for ambient condition control facilities for product storage and installation.

B. Storage Conditions:

1. Per painting manufacturer's requirements

C. Application Conditions:

1. Do not apply materials when surface and ambient temperatures are outside temperature ranges required by paint manufacturer.
2. Do not apply exterior coatings during rain or snow, when relative humidity is outside humidity ranges, or when moisture content of surfaces exceeds those required by paint manufacturer.

1.11 WARRANTY

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for warranties.

B. Furnish five-year manufacturer's warranty for paint and coatings.

PART 2 - PRODUCTS

2.1 PAINTS AND COATINGS

A. Manufacturers:

1. Behr.
2. Benjamin Moore.
3. California Paints.
4. Glidden Professional.
5. Zinsser.
6. Substitutions: As specified in Section 01 60 00 - Product Requirements.

B. Materials:

1. Coatings:

a. Acrylic or acrylic latex, ready mixed, capable of drying or curing free of streaks or sags.

2. Primers compatible with substrate and top coat.
3. Patching Materials: Filler as compatible with paint manufacturer's product.
4. Fastener Head Cover Materials: Filler as compatible with paint manufacturer's product.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for application examination.

B. Verify that surfaces and substrate conditions are ready to receive Work as recommended by product manufacturer.

C. Examine surfaces scheduled to be finished prior to commencement of Work, and report conditions capable of affecting proper application to Architect/Engineer.

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

E. Moisture Content:

1. Measure moisture content of surfaces using electronic moisture meter.
2. Do not apply finishes unless moisture content of surfaces are below the recommended minimums of the paint manufacturer.

3.2 PREPARATION

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for application preparation.

B. Prepare coatings as follows:

1. To soft paste consistency, capable of being readily and uniformly dispersed to homogeneous coating.
2. For smooth flow and brushing properties.

C. Surface Appurtenances: Remove electrical plates, hardware, light fixture trim, escutcheons, and fittings prior to preparing surfaces or finishing.

D. Defects:

1. Correct defects and clean surfaces capable of affecting Work of this Section.
2. Remove or repair existing coatings exhibiting surface defects.

E. Marks: Seal marks that may bleed through surface finishes with shellac.

F. Gypsum Board Surfaces:

1. Fill minor defects with filler compound.
2. Spot-prime defects after repair.

G. Galvanized Surfaces:

1. Remove surface contamination and oils, and wash with solvent.
2. Apply coat of etching primer.

H. Uncoated Steel and Iron Surfaces:

1. Remove grease, mill scale, weld splatter, dirt, and rust.
2. If heavy coatings of scale are evident, remove by [**hand**] [**power tool**] wire brushing or by sandblasting.
3. Clean by washing with solvent.
4. Apply treatment of phosphoric acid solution, ensuring that weld joints, bolts, and nuts are similarly cleaned.
5. Spot-prime paint after repairs.

I. Shop-Primed Steel Surfaces:

1. Sand and scrape to remove loose primer and rust.
2. Feather edges to make touch-up patches inconspicuous.
3. Clean surfaces with solvent.
4. Prime metal items, including shop-primed items.

3.3 APPLICATION

A. Do not apply finishes to surfaces that are not dry.

B. Apply each coat to uniform appearance.

C. Apply each coat of paint slightly darker than preceding coat, unless specified otherwise.

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

E. Cleaning:

1. Vacuum surfaces to remove loose particles.

2. Use tack cloth to remove dust and particles just prior to applying next coat.

F. Fillers:

1. If clear finishes are required, tint fillers to match wood.
2. Work fillers into grain before set, and wipe excess from surface.

3.4 FIELD QUALITY CONTROL

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for testing, adjusting, and balancing.

B. Inspecting and Testing: Comply with MPI - Architectural Painting Manual.

3.5 CLEANING

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for cleaning.

B. Collect waste material that may constitute fire hazards, place in closed metal containers, and remove daily from Site.

3.6 FINISHES

A. Steel - Unprimed:

1. One coat of alkyd primer.
2. Two coats of latex enamel, semigloss.

B. Steel - Primed:

1. Touch up with alkyd primer.
2. Two coats of alkyd enamel, semigloss.

C. Gypsum Board and Plaster Walls:

1. One coat of Latex primer sealer.
2. Two coats of latex acrylic enamel, sheen as selected by Owner.

D. Gypsum Board and Plaster Ceilings:

1. One coat of Latex primer sealer.
2. Two coats of latex acrylic enamel, sheen as selected by Owner.

END OF SECTION

SECTION 10 21 15 - PLASTIC TOILET COMPARTMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Solid plastic toilet compartments.
2. Urinal screens.

B. Related Requirements:

1. Section 06 10 00 – Rough Carpentry: Concealed wood framing and blocking for compartment support.
2. Section 10 28 00 – Toilet Accessories: Execution requirements for accessories specified in this Section.

1.2 REFERENCE STANDARDS

A. ASTM International:

1. ASTM A666 - Standard Specification for Annealed or Cold Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.

1.3 COORDINATION

A. Section 01 30 00 - Administrative Requirements: Requirements for coordination.

B. Coordinate Work of this Section with placement of support framing and anchors in wall.

1.4 PREINSTALLATION MEETINGS

A. Section 01 30 00 - Administrative Requirements: Requirements for preinstallation meeting.

1.5 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit data on panel construction, hardware, and accessories.

C. Shop Drawings: Indicate partition plan, elevation views, dimensions, details of wall supports, and door swings.

D. Samples: Submit two compartment samples, 3 inch by 3 inch in size, illustrating panel finish, color, and sheen.

1.6 MAINTENANCE MATERIAL SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for maintenance materials.

B. Spare Parts:

1. Furnish two sets of manufacturer's recommended spare parts.

C. Tools: Furnish special installation tools and other devices required for Owner to maintain panels and hardware.

1.7 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum three years' experience.

B. Installer: Company specializing in performing Work of this Section with minimum three years' experience.

1.8 PROJECT CONDITIONS

A. Field Measurements: Verify field measurements prior to fabrication. Indicate field measurements on Shop Drawings.

1.9 WARRANTY

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for warranties.

B. Furnish fifteen-year manufacturer's warranty for solid plastic components.

PART 2 - PRODUCTS

2.1 SOLID PLASTIC TOILET COMPARTMENTS

A. Manufacturers:

1. Bradley Corporation.
2. General Partition Manufacturing Corp.
3. Global Partitions.
4. Hadrian Manufacturing, Inc.
5. Substitutions: Section 01 60 00 - Product Requirements.

B. Compartments and Screens: Floor and wall mounted, head-rail braced.

C. Door and Panel Dimensions:

1. Thickness: Manufacturer's standard.
2. Door Width: 36 in, out-swinging.
3. Height: 58 in.

D. Pilaster Dimensions:

1. Thickness: Manufacturer's standard.
2. Width as required to suit compartment width and spacing.

E. Urinal Screens:

1. Wall mounted and cantilevered with continuous extruded, clear-anodized aluminum (6063-T5 alloy) bracket full height of screen.
2. Width: As indicated on Drawings.
3. Height: 42 in.
4. Depth: 18 in.

2.2 MATERIALS

A. Toilet Compartments: Solid, molded thermoset, and waterproof; high-density polyethylene (HDPE) plastic panels, doors, and pilasters,

1. Color: Single color, as selected from manufacturer's standard color selection.

2.3 ACCESSORIES

A. Pilaster Shoe:

1. Formed ASTM A666 Type 304 stainless steel with No. 4 finish, 3 in manufacturer's standard height to conceal floor fastenings.

B. Head Rails: Hollow anodized aluminum tube with anti-grip profiles and cast socket wall brackets.

C. Brackets: Stainless steel.

D. Attachments, Screws, and Bolts: Stainless steel, tamper-proof type.

1. For attaching panels and pilasters to brackets: Through-bolts and nuts; tamper proof.

E. Hardware: Stainless steel.

1. Pivot hinges, gravity type, adjustable for door-close positioning; two for each door.
2. Nylon bearings.
3. Thumbturn door latch with exterior emergency access feature.
4. Door strike and keeper with rubber bumper; mounted on pilaster in alignment with door latch.
5. Coat hook with rubber bumper; one for each compartment, mounted on inside face of door.
6. Door pull for out-swinging doors.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Requirements for installation examination.

B. Verify field measurements.

C. Verify correct spacing of and between plumbing fixtures and location of built-in framing, anchorage, and bracing.

3.2 INSTALLATION

A. Maintain maximum of 1/2 in space between wall and panels and between wall and end pilasters.

B. Attach panel brackets securely to walls using anchor devices.

C. Attach panels and pilasters to brackets.

3.3 TOLERANCES

A. Section 01 40 00 - Quality Requirements: Requirements for tolerances.

B. Maximum Variation from Indicated Position: 1/4 in.

C. Maximum Variation from Plumb: 1/8 in.

3.4 FIELD QUALITY CONTROL

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for testing, adjusting, and balancing.

B. Field touch-up of scratches or damaged finish will not be permitted. Replace damaged or scratched materials with new materials.

3.5 ADJUSTING

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for starting and adjusting.

B. Adjust and align hardware to uniform clearance at vertical edge of doors, not exceeding 3/16 in.

C. Adjust hinges to position doors in fully open position when unlatched. Return out-swinging doors to closed position.

D. Adjust adjacent components for consistency of line or plane.

3.6 CLEANING

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for cleaning.

B. Clean partition and screen surfaces with materials and cleansers according to manufacturer's recommendations.

END OF SECTION

SECTION 10 28 00 - TOILET AND SHOWER ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Toilet accessories.

B. Related Requirements:
1. Section 06 10 00 - Rough Carpentry: Concealed wood framing and blocking for support of accessories.
2. Section 08 83 00 - Mirrors: Other mirrors.
3. Section 09 30 00 - Tiling: Ceramic washroom accessories.
4. Section 10 21 15 - Plastic Toilet Compartments.

1.2 REFERENCE STANDARDS

A. ASTM International:
1. ASTM A123 - Standard Specification for Zinc (Hot Dip Galvanized) Coatings on Iron and Steel Products.ASTM A153 - Standard Specification for Zinc Coating (Hot Dip) on Iron and Steel Hardware.
2. ASTM A269 - Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service.

3. ASTM A653 - Standard Specification for Steel Sheet, Zinc Coated (Galvanized) or Zinc Iron Alloy Coated (Galvannealed) by the Hot Dip Process.

4. ASTM A666 - Standard Specification for Annealed or Cold Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
5. ASTM B456 - Standard Specification for Electrodeposited Coatings of Copper Plus Nickel Plus Chromium and Nickel Plus Chromium.
6. ASTM C1036 - Standard Specification for Flat Glass.

B. California Department of Health Services:

1. CA/DHS/EHLB/R-174 - Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers.

C. South Coast Air Quality Management District:

1. SCAQMD Rule 1168 - Adhesive and Sealant Applications.

1.3 COORDINATION

A. Section 01 30 00 - Administrative Requirements: Requirements for coordination.

B. Coordinate Work of this Section with placement of internal wall reinforcement and reinforcement of toilet partitions to receive anchor attachments.

1.4 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures Requirements for submittals.

B. Product Data: Submit data on accessories, describing size, finish, details of function, and attachment methods.

1.5 QUALITY ASSURANCE

A. Flame-Resistant Fabric: Passes when tested according to NFPA 701, Test 1 or Test 2.

1.6 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum three years' experience.

B. Installer: Company specializing in performing Work of this Section with minimum three years' experience.

1.7 WARRANTY

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for warranties.

PART 2 - PRODUCTS

2.1 TOILET AND BATH ACCESSORIES

A. Manufacturers:

1. American Dryer.
2. Bobrick Washroom Equipment.
3. Bradley Corporation.
4. GAMCO Specialty Products.
5. Plumberex Specialty Products.
6. Seachrome.

7. Truebro.
8. Tubular Specialty.
9. World Dryer Corp.
10. Substitutions: Section 01 60 00 - Product Requirements.

B. Performance and Design Criteria:

C. Design grab bars, shower seats and attachments to resist minimum 250 lbconcentrated load applied at any point in any direction forces as required by applicable code.

2.2 MATERIALS

A. Accessories: Shop assembled, free of dents and scratches, and packaged complete with anchors and fittings, steel anchor plates, adapters, and anchor components for installation.

1. Grind weld joints smooth.
2. Fabricate units made of metal sheet of seamless sheets with flat surfaces.

B. Keys: Furnish two keys for each keyed accessory to Owner.

C. Stainless Steel Sheet: ASTM A666 stainless steel.

D. Stainless Steel Tubing: ASTM A269 stainless steel.

E. Galvanized Sheet Steel: ASTM A653, G90zinc coating.

F. Adhesive: Two-component epoxy type, waterproof.

G. Fasteners, Screws, and Bolts: Hot-dip galvanized, tamper-proof.

H. Expansion Shields: Fiber, lead, or rubber as recommended by accessory manufacturer for component and substrate.

I. Primer: Manufacturer's standard.

2.3 FINISHES

A. Stainless Steel: No. 4 satin brushed finish, unless otherwise indicated.

B. Chrome/Nickel Plating: ASTM B456, satin finish, unless otherwise indicated.

C. Baked Enamel: Pretreat to clean condition, apply one coat primer and minimum two coats manufacturer's standard baked enamel.

D. Galvanizing: ASTM A123; hot-dip galvanize after fabrication.

E. Galvanizing for Nuts, Bolts, and Washers: ASTM A153.

2.4 TOILET ROOM ACCESSORIES

A. Types of accessories required are listed in schedule located on Drawings.

B. Manufacturer's name or model numbers as listed serve as a basis of design for product features, functions, and general appearance.

2.5 TOILET ROOM ACCESSORIES

A. Toilet Paper Dispenser: Dual roll, partition mounting, stainless steel unit with pivot hinge, tumbler lock.

B. Paper Towel Dispenser: Owner's preferred manufacturer and model as specified on the drawing.

C. Soap Dispenser: Satin Finish Stainless steel liquid soap dispenser, mirror-mounted, with internal polyethylene container.

D. Grab Bars: Stainless steel, 1-1/4 inoutside diameter, minimum 0.05 inwall thickness, nonslip grasping surface finish, concealed flange mounting; 1-1/2 inclearance between wall and inside of grab bar.

1. Length and configuration: As indicated on Drawing schedule.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Requirements for installation examination.

B. Verify exact location of accessories for installation.

C. Verify field measurements and rough-in dimensions for recessed accessories are as indicated on product data instructed by manufacturer.

D. Comply with Section 06 10 53 – Miscellaneous Rough Carpentry for installation of blocking, reinforcing plates, and concealed anchors in walls.

3.2 PREPARATION

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation preparation.

B. Deliver inserts and rough-in frames to Site for timely installation.

C. Provide templates and rough-in measurements as required.

3.3 INSTALLATION

A. Do not install accessories until after completion of all finishes to adjacent wall and ceiling surfaces.

B. Install plumb and level, securely and rigidly anchored to substrate.

C. Turn over to Owner all keys and special tools required for lockable or secured accessories.

D. Mounting Heights and Locations: As required by accessibility regulations and as indicated on Drawings.

3.4 REPAIR

A. Clean and repair existing toilet accessories that remain or are to be reinstalled.

3.5 CLEANING

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for cleaning.

B. Clean exposed surfaces using procedures as recommended by accessory manufacturer.

END OF SECTION

SECTION 22 40 00 - PLUMBING FIXTURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Water closets.
2. Urinals.
3. Lavatories.

B. Related Sections:

1. See Mechanical Drawings for additional requirements related to Plumbing Fixtures.

1.2 REFERENCES

A. American National Standards Institute:

1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
2. ANSI Z124.1 - Plastic Bathtub Units.
3. ANSI Z124.2 - Plastic Shower Units.
4. ANSI Z358.1 - Emergency Eyewash and Shower Equipment.

B. Air-Conditioning and Refrigeration Institute:

1. ARI 1010 - Self-Contained, Mechanically Refrigerated Drinking-Water Coolers.

C. American Society of Mechanical Engineers:

1. ASME A112.6.1 - Floor-Affixed Supports for Off-the-Floor Plumbing Fixtures for Public Use.
2. ASME A112.18.1 - Plumbing Fixture Fittings.
3. ASME A112.19.1M - Enameled Cast Iron Plumbing Fixtures.
4. ASME A112.19.2M - Vitreous China Plumbing Fixtures.
5. ASME A112.19.3 - Stainless Steel Plumbing Fixtures (Designed for Residential Use).
6. ASME A112.19.4 - Porcelain Enameled Formed Steel Plumbing Fixtures.
7. ASME A112.19.5 - Trim for Water-Closet Bowls, Tanks and Urinals.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

B. Product Data: Submit catalog illustrations of fixtures, sizes, rough-in dimensions, utility sizes, trim, and finishes.

C. Manufacturer's Installation Instructions: Submit installation methods and procedures.

D. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.4 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Closeout procedures.

B. Operation and Maintenance Data: Submit fixture, trim, exploded view, and replacement parts lists.

1.5 QUALITY ASSURANCE

A. Perform Work according to Code standards and per Drawings.

B. Provide products requiring electrical connections listed and classified by UL as suitable for purpose specified and indicated.

C. Provide plumbing fixture fittings according to ASME A112.18.1 that prevent backflow from fixture into water distribution system.

D. Maintain one copy of each document on Site.

1.6 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum three years' documented experience.

B. Installer: Company specializing in performing Work of this Section with minimum three years' documented experience.

1.7 PRE-INSTALLATION MEETINGS

A. Section 01 30 00 - Administrative Requirements: Pre-installation meeting.

B. Convene minimum one week prior to commencing Work of this Section.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.

B. Accept fixtures on Site in factory packaging. Inspect for damage.

C. Protect installed fixtures from damage by securing areas and by leaving factory packaging in place to protect fixtures and prevent use.

1.9 WARRANTY

A. Section 01 70 00 - Execution and Closeout Requirements: Product warranties and product bonds.

B. Furnish five-year or manufacturer's standard warranty, whichever is greater, for plumbing fixtures.

1.10 EXTRA MATERIALS

A. Section 01 70 00 - Execution and Closeout Requirements: Spare parts and maintenance products.

B. Furnish two sets of faucet washers and one each of flush valve service kit, lavatory supply fitting, shower head, and toilet seat.

PART 2 - PRODUCTS

2.1 FLUSH VALVE WATER CLOSETS

A. Manufacturers: See Drawings for Specified 'Basis of Design' manufacturer. Additional allowable manufacturers as follows:

1. American Standard.
2. Bradley Corporation.
3. Crane Plumbing.
4. Gerber Plumbing Fixtures.
5. Kohler Co.
6. Peerless.
7. TOTO USA.
8. Zurn Industries.
9. Substitutions: Section 01 60 00 - Product Requirements.

B. Bowl: ASME A112.19.2M; floor mount, vitreous china closet bowl, with elongated rim, 1-1/2-inch top spud.

C. Sensor Operated Flush Valve: ASME A112.18.1; concealed rough brass, diaphragm type with battery operated solenoid operator, infrared sensor and over-ride button in chrome-plated plate, wheel handle stop and vacuum breaker; maximum 1.6 gallon flush volume.

D. Seat: Solid white plastic, open front, extended back, self-sustaining hinge, brass bolts, without cover.

2.2 WALL HUNG URINALS

A. Manufacturers: See Drawings for Specified 'Basis of Design' manufacturer. Additional allowable manufacturers as follows:

1. American Standard.
2. Crane Plumbing.
3. Gerber Plumbing Fixtures.
4. Kohler Co.
5. Peerless.
6. TOTO USA.
7. Zurn Industries
8. Substitutions: Section 01 60 00 - Product Requirements.

B. Urinal: ASME A112.19.2M or ANSI Z124.9, vitreous; vitreous china, wall hung urinal with shields, integral trap, 3/4-inch top spud, steel supporting hanger.

C. Sensor Operated Flush Valve: ASME A112.18.1; exposed chrome plated, diaphragm type with battery operated solenoid operator, infrared sensor and over-ride button in chrome-plated plate, wheel handle stop and vacuum breaker; maximum 1 gal. flush volume.

D. Wall Mounted Carrier: ASME A112.6.1; cast iron and steel frame with tubular legs, lugs for floor and wall attachment, threaded fixture studs for fixture hanger, bearing studs.

E. Provide elastomeric gasket complying with ASME A112.4.3, or approved setting compound, for fixture to flange connection.

2.3 LAVATORIES

A. Manufacturers: See Drawings for Specified 'Basis of Design' manufacturer. Additional allowable manufacturers as follows:

1. American Standard.
2. Crane Plumbing.
3. Gerber Plumbing Fixtures.
4. Kohler Co.
5. Peerless.
6. TOTO USA.
7. Zurn Industries.
8. Substitutions: Section 01 60 00 - Product Requirements.

B. Undercounter Lavatory: ASME A112.19.2M; vitreous china, unglazed rim for under counter mount with overflow,ANSI A117.1 Compliant with drillings on 4-inch centers.

C. Metered Faucet: ASME A112.18.1; chrome-plated metered mixing faucet with battery operated solenoid operator and infrared sensor, aerator and cover plate, open grid strainer.

D. Waste Fittings: ASME A112.18.2 or ASTM F 409.

E. Provide tempered water through regulating device conforming to ASSE 1070.

F. Accessories:

1. Chrome-plated 17-gage brass P-trap and arm with escutcheon.
2. Offset waste with perforated open strainer.
3. Wheel handle or Screwdriver stops.
4. Flexible supplies.
5. Trap and waste insulated and offset to meet ADA compliance.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify walls and floor finishes are prepared and ready for installation of fixtures.

C. Verify electric power is available and of correct characteristics.

D. Confirm millwork is constructed with adequate provision for installation of counter top lavatories and sinks.

3.2 PREPARATION

A. Rough-in fixture piping connections according to minimum sizes indicated in fixture rough-in schedule for particular fixtures.

3.3 INSTALLATION

A. Install Work according to State of New York and Local Authority having Jurisdiction standards.

B. Install each fixture with trap, easily removable for servicing and cleaning.

C. Provide chrome-plated rigid or flexible supplies to fixtures with screwdriver stops, reducers, and escutcheons.

D. Install components level and plumb.

E. Install and secure fixtures in place with wall carriers and bolts.

F. Seal fixtures to wall and floor surfaces with sealant as specified in Section 07 90 00, color to match fixture.

G. Solidly attach water closets to floor with lag screws. Lead flashing is not intended hold fixture in place.

H. For ADA accessible water closets, install flush valve with handle to wide side of stall.

3.4 INTERFACE WITH OTHER PRODUCTS

A. Review millwork shop-drawings. Confirm location and size of fixtures and openings before rough in and installation.

3.5 ADJUSTING

A. Section 01 70 00 - Execution and Closeout Requirements: Testing, adjusting, and balancing.

B. Adjust stops or valves for intended water flow rate to fixtures without splashing, noise, or overflow.

3.6 CLEANING

A. Section 01 70 00 - Execution and Closeout Requirements: Final cleaning.

B. Clean plumbing fixtures and equipment.

3.7 PROTECTION OF INSTALLED CONSTRUCTION

A. Section 01 70 00 - Execution and Closeout Requirements: Protecting installed construction.

B. Do not permit use of fixtures before final acceptance.

END OF SECTION 22 40 00

SECTION 26 51 00 - INTERIOR LIGHTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes interior luminaires, lamps, ballasts, emergency battery supplements, and accessories.

1.2 REFERENCES

A. American National Standards Institute:

1. ANSI C82.1 - American National Standard for Lamp Ballast-Line Frequency Fluorescent Lamp Ballast.
2. ANSI C82.4 - American National Standard for Ballasts-for High-Intensity-Discharge and Low-Pressure Sodium Lamps (Multiple-Supply Type).

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

B. Shop Drawings: Indicate dimensions and components for each luminaire not standard product of manufacturer.

C. Product Data: Submit dimensions, ratings, and performance data.

1.4 QUALIFICATIONS

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

PART 2 - PRODUCTS

2.1 INTERIOR LUMINAIRES

A. Manufacturers: See Drawings for Specified 'Basis of Design' manufacturer. Additional allowable manufacturers as follows:

1. Acuity Brands.
2. Cree Lighting.

3. General Electric.
4. Samjin.
5. Substitutions: Section 01 60 00 - Product Requirements.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install suspended luminaires using pendants supported from swivel hangers. Install pendant length required to suspend luminaire at indicated height.

B. Support luminaires larger than 2 x 4 foot size independent of ceiling framing.

C. Locate recessed ceiling luminaires as indicated on reflected ceiling plan.

D. Install surface mounted luminaires plumb and adjust to align with building lines and with each other. Secure to prevent movement.

E. Exposed Grid Ceilings: Install auxiliary members spanning ceiling grid members to support surface mounted luminaires.

F. Install recessed luminaires to permit removal from below.

G. Install recessed luminaires using accessories and firestopping materials to meet regulatory requirements for fire rating.

H. Install clips to secure recessed grid-supported luminaires in place.

I. Install wall-mounted luminaires at height as indicated on Drawings.

J. Install accessories furnished with each luminaire.

K. Connect luminaires to branch circuit outlets as indicated on Electrical Drawings.

L. Make wiring connections to branch circuit using building wire with insulation suitable for temperature conditions within luminaire.

M. Install specified lamps in each luminaire.

N. Ground and bond interior luminaires in accordance with the Authority Having Jurisdiction.

3.2 FIELD QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements: Field inspecting, testing, adjusting, and balancing.

B. Operate each luminaire after installation and connection. Inspect for proper connection and operation.

3.3 ADJUSTING

A. Section 01 70 00 - Execution and Closeout Requirements: Testing, adjusting, and balancing.

B. Aim and adjust luminaires per Owner.

3.4 CLEANING

A. Section 01 70 00 - Execution and Closeout Requirements: Final cleaning.

B. Remove dirt and debris from enclosures.

C. Clean photometric control surfaces as recommended by manufacturer.

D. Clean finishes and touch up damage.

3.5 PROTECTION OF FINISHED WORK

A. Section 01 70 00 - Execution and Closeout Requirements: Protecting finished work.

B. Replace LED luminaires having any failed diodes at Substantial Completion.

END OF SECTION 26 51 00