

SPECIFICATIONS

FOR:

FILER SCHOOL DISTRICT  
AUDITORIUM REMODEL

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FILER, IDAHO

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**Laughlin Ricks Architecture**

architecture/planning

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SECTION 010010 - BASIC REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Summary of Work: Contract, work by owner, contractor use of premises, future work.
- B. Contract Considerations: Cash allowances, contingency allowance, inspection and testing allowances, schedule of values, applications for payment, change procedures, alternates.
- C. Coordination and Meetings: Coordination, field engineering, cutting and patching, meetings, progress meetings, equipment electrical characteristics and components, examination, preparation, cutting and patching.
- D. Submittals: Submittal procedures, construction progress schedules, proposed products list, shop drawings, product data, samples, manufacturers' installation instructions, manufacturers' certificates.
- E. Quality Control: Quality assurance - control of installation, tolerances, references, mock-ups, inspection and testing laboratory services, manufacturers' field services and reports.
- F. Construction Facilities and Temporary Controls: Temporary electricity, temporary lighting for construction purposes, temporary heat, temporary ventilation, telephone service, temporary water service, temporary sanitary facilities, barriers and fencing, water control, exterior enclosures, interior enclosures, protection of installed work, security, access roads, parking, progress cleaning and waste removal, project identification, field offices and sheds, removal of utilities, facilities, and controls.
- G. Material and Equipment: Products, transportation, handling, storage, and protection, products options, substitutions.
- H. Starting of Systems: Starting systems, demonstration and instructions, testing, adjusting and balancing.
- I. Contract Closeout: Contract closeout procedures, final cleaning, adjusting, project record documents, operation and maintenance data, spare parts and maintenance materials, warranties.

1.2 CASH ALLOWANCES

- A. None

1.3 SCHEDULE OF VALUES

- A. Submit schedule on AIA Form G703, or as approved by Architect.

- B. Submit Schedule of Values in duplicate within fifteen (15) days after date of Owner-Contractor Agreement.

#### 1.4 APPLICATIONS FOR PAYMENT

- A. Submit three copies of each application on AIA Form G702 and G703 or as approved by Architect.
- B. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.
- C. Payment Period: Monthly. Pay request to be submitted by the 25<sup>th</sup> day of the month and payment to be made within 30 days of approval of the pay request.

#### 1.5 CHANGE PROCEDURES

- A. Stipulated Sum/Price Change Order: Based on Proposal Request and Contractor's fixed price quotation or Contractor's request for a Change Order as approved by Architect.
- B. Change Order Forms: AIA G701, or as approved by Architect.

#### 1.6 COORDINATION

- A. Coordinate scheduling, submittals, and Work of the various sections of specifications to ensure efficient and orderly sequence of installation of interdependent construction elements.
- B. Verify utility requirement characteristics of operating equipment are compatible with building utilities.
- C. Coordinate space requirements and installation of mechanical and electrical work which are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable.
- D. In finished areas, conceal pipes, ducts, and wiring within the construction.

#### 1.7 FIELD ENGINEERING

- A. Establish elevations, lines, and levels and certify that elevations and locations of the Work conform with the Contract Documents.
- B. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.

#### 1.8 CUTTING AND PATCHING

- A. Employ a skilled and experienced installer to perform cutting and patching new Work; restore Work with new Products.

- B. Submit written request in advance of cutting or altering structural or building enclosure elements.
- C. 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 non-conforming Work.
  - 4. Provide openings in elements of Work for penetrations of mechanical and electrical Work.
- D. Cut masonry and concrete materials using masonry saw or core drill. Restore Work with new Products in accordance with requirements of Contract Documents.
- E. Fit Work tight to adjacent elements. Maintain integrity of wall, ceiling, or floor construction; completely seal voids. Provide all required protection including, but not necessarily limited to shoring, bracing, and support to maintain structural integrity of the Work. Provide proper dust abatement materials and/or procedures to protect persons and property.
- F. Fit Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- G. Refinish surfaces to match adjacent finishes.
- H. Remove and properly replace defective or damaged Work in place.
- I. Restoration of existing and/or newly installed surfaces, assemblies, systems, etc.
- J. Thoroughly clean and restore areas, finishes and spaces where work is performed or used to access the Work.

#### 1.9 SUBMITTAL PROCEDURES

- A. Submittal form to identify Project, Contractor, Subcontractor or supplier; and pertinent Contract Document references.
- B. The General Contractor shall review all submittals prior to submitting to Owner. The responsibility to properly review and coordinate the submittals is solely the Contractor's and is the means by which the Contractor can confirm that the products, materials, systems, etc., by his Subcontractors will be constructed in accordance with the Contract Documents. Review of each submittal by the Architect and the Engineer shall not be construed as a complete or comprehensive check. The Architect/Engineer review shall not relieve the Contractor from responsibility for errors which may exist in the submittal.

- C. Apply Contractor's stamp, signed or initialed, certifying that review, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.
- D. Identify variations from Contract Documents and Product or system limitations which may be detrimental to successful performance of the completed Work.
- E. Revise and resubmit submittals as required; identify all changes made since previous submittal.
- F. No extension of time will be authorized because of the Contractor's failure to transmit submittals which have not been adequately checked or properly coordinated by the Contractor.

#### 1.10 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit initial progress schedule in duplicate within fifteen (15) days after date of Owner-Contractor Agreement for Architect review.
- B. Submit revised schedules with each Application for Payment, identifying changes since previous version. Indicate estimated percentage of completion for each item of Work at each submission.
- C. Submit a horizontal bar chart with separate line for each major section of Work or operation, or section of Work, identifying first work day of each week.

#### 1.11 PROPOSED PRODUCTS LIST

- A. Within fifteen (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.

#### 1.12 PRODUCT DATA

- A. Product Data for Review:
  - 1. Submitted to Owner for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
  - 2. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article above and for record documents.
- B. Product Data for Information:
  - 1. Submitted for the Architect's benefit as contract administrator or for the Owner.

- C. Product Data for Project Close-out:
  - 1. Submitted for the Owner's benefit during and after project completion.
- D. Submit the number of copies which the Contractor requires, plus two copies which will be retained by the Architect.
- E. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information unique to this project.

#### 1.13 SHOP DRAWINGS

- A. Shop Drawings for Review:
  - 1. Submitted to Owner for review for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.
  - 2. After review, produce copies and distribute in accordance with the SUBMITTAL PROCEDURES article above and for record documents.
- B. Shop Drawings for Information:
  - 1. Submitted for the Architect's benefit as contract administrator or for the Owner.
- C. Submit the number of opaque reproductions which Contractor requires, plus two copies which will be retained by Owner.

#### 1.14 SAMPLES

- A. Samples for Review:
  - 1. Submitted to Architect for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
  - 2. After review, produce duplicates and distribute in accordance with SUBMITTAL PROCEDURES article above and for record documents.
- B. Samples for Selection:
  - 1. Submitted to Owner for aesthetic, color, or finish selection.
- C. Submit samples to illustrate functional and aesthetic characteristics of the Product.
- D. Submit samples of finishes from the full range of manufacturers' standard colors, textures, and patterns for Architect's selection.

1.15 MANUFACTURER INSTALLATION INSTRUCTIONS

- A. When specified in individual specification sections, submit manufacturer printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, in quantities specified for Product Data.

1.16 MANUFACTURER CERTIFICATES

- A. When specified in individual specification sections, submit certifications by manufacturer to Architect, 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.

1.17 QUALITY ASSURANCE - CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, Products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions.
- C. Comply with specified standards as minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- D. Defective work deemed to be unsatisfactory due to quality workmanship or installation shall be removed from project at the contractor's expense.

1.18 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 utility services are available, of the correct characteristics, and in the correct location.

1.19 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying new material or substance in contact or bond.

1.20 TOLERANCES

- A. Monitor fabrication and installation tolerance control of installed Products over suppliers, manufacturers, Products, site conditions, and workmanship, to produce acceptable Work. Do not permit tolerances to accumulate.



- B. Comply fully with manufacturers' tolerances.

1.21 REFERENCES

- A. Conform to reference standards by date of issue current as of date of Contract Documents or date for receiving bids.
- B. Should specified reference standard conflict with Contract Documents, request clarification from Architect before proceeding.

1.22 INSPECTION AND TESTING LABORATORY SERVICES

- A. Owner will appoint, employ, and pay for specified services of an independent firm to perform inspection and testing.
- B. Cooperate with independent firm; furnish samples as requested.
- C. Re-testing required because of non-conformance to specified requirements will be charged to the contractor.
- D. Contractor shall employ and pay for services of an independent testing agency to perform other specified testing and inspection.

1.23 TEMPORARY ELECTRICITY

- A. Cost: Contractor to provide and pay for power service required from source.
- B. Provide power outlets for construction operations, branch wiring, distribution boxes, and flexible power cords as required.

1.24 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

- A. Provide and maintain temporary lighting for construction operations. Contractor may use owner's lighting as available.
- B. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required.
- C. Permanent building lighting may be utilized during construction

1.25 TEMPORARY HEAT

- A. Provide temporary heat required by construction activities for curing or drying of complete installations or for protection of installed construction from adverse effects of low temperatures or high humidity. Select safe equipment that will not have a harmful effect of completed installations or elements being installed. Coordinate ventilation requirements to produce the ambient condition required and minimize consumption of energy.

1. Do not use heating equipment that will introduce moisture within enclosed or finished spaces.
  - B. The Contractor shall pay for temporary heating equipment and fuel, necessary accessories and to protect the operating equipment of the building.
  - C. The Contractor shall be responsible for utility expenses of heating and/or air conditioning, including operating of heating system. Contractor shall be responsible for expenses related to maintenance and operation during construction.
- 1.26 TEMPORARY VENTILATION
- A. Contractor shall provide ventilation of enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases for the health and safety of the facility residents.
- 1.27 TELEPHONE SERVICE
- A. Contractor shall provide, maintain and pay for telephone and telephone facsimile service to field office at time of project mobilization.
- 1.28 TEMPORARY WATER SERVICE
- A. Contractor shall provide, maintain and pay for suitable quality water service required.
  - B. At the telephone, post a list of important telephone numbers, including the following:
    1. Local police and fire department
    2. Doctor/emergency room.
    3. Ambulance service.
    4. Contractor's office.
    5. Architects office.
    6. Engineers' offices.
    7. Owner's office.
    8. Principal sub-contractor's offices.
- 1.29 TEMPORARY SANITARY FACILITIES
- A. Contractor shall provide and maintain restroom facilities for contractor use.
  - B. Contractor shall maintain in clean and sanitary condition.
- 1.30 WATER CONTROL
- A. Contractor shall provide water to control dust.

1.31 INTERIOR ENCLOSURES

- A. Provide temporary closures or barriers as required to limit debris, dust and noise control for acceptable conditions and protection of the areas of work.
- B. Temporary Enclosures: At the earliest practical time provide temporary enclosure of materials, equipment, work in progress and completed parts of the work for compliance with OSHA safety regulations. Provide for safe access, exiting and circulation for occupants to, from, and between the various occupied areas of the facility as required for safety and as approved by authorities. Construction aids and miscellaneous general services and facilities include, but are not limited to the following:
  - 1. Guardrails, barriers, fencing, etc.
  - 2. Scaffolding.
  - 3. Temporary access and exit and enclosures.

1.32 PROTECTION OF INSTALLED WORK

- A. Protect installed Work and provide special protection where specified in individual specification sections.
- B. Prohibit traffic or storage upon waterproofed or roofed surfaces.

1.33 SECURITY

- A. Contractor shall coordinate to maintain building from unauthorized entry due to contractors accessing work areas.
- B. Contractor shall establish work schedules and work hours that comply with local jurisdiction.
- C. Contractor shall provide an emergency contact number, with a local contact available 24 hours a day, 7 days a week, for Police/Fire/Owner contact. An answering service must have access to the Contractor at ALL times.
- D. General: Provide a reasonably neat and uniform appearance in security and protection facilities acceptable to the Owner.
- E. Fire Protection: Provide fire protection equipment. Comply with the applicable recommendations of NFPA Standard 10 "Standard for Portable Fire Extinguishers". Locate fire extinguishers where they are most convenient and effective for their intended purpose. Store combustible materials in containers in recognized fire-safe locations.
  - 1. Develop and supervise an overall fire prevention and first-aid fire protection program for personnel at the project site. Review needs with the local fire department officials and establish procedures to be followed. Instruct personnel in methods and procedures to be followed. Post warnings and information and enforce strict

discipline. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire protection facilities, and access routes for fighting fires. Prohibit smoking. Provide supervision of welding operations, combustible type temporary heating units, and similar sources of ignition for possible fires.

1.34 PROGRESS CLEANING AND WASTE REMOVAL

- A. Collect and maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition. All waste material shall be disposed of in strict accordance with all current federal, state, and local requirements and regulations.

1.35 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary utilities, equipment, facilities, materials, prior to Substantial Completion review.
- B. Remove underground installations to a minimum depth of 2 feet.
- C. Clean and repair damage caused by installation or use of temporary work.
- D. Restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

1.36 PRODUCTS

- A. Products: Means new material, machinery, components, equipment, fixtures, and systems forming the Work, but does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work.
- B. Owner or Tenant Supplied Products. – referred to as Owner hereafter
  - 1. Owner shall arrange for and deliver Owner reviewed shop drawings, product data, and samples, to Contractor.
  - 2. Arrange and pay for product delivery to site.
  - 3. Submit claims for transportation damage and replace damaged, defective, or deficient items.
  - 4. Arrange for manufacturers' warranties, inspections, and service.
- C. Contractor's Responsibilities.
  - 1. Review Owner reviewed shop drawings, product data, and samples.

2. Receive and unload products at site; inspect for completeness or damage and report damaged, defective, or deficient items to Owner.
3. Handle and store finished products. Install finished products as indicated in Contract Documents.
4. Repair or replace items damaged after receipt.

1.37 TRANSPORTATION, HANDLING, STORAGE AND PROTECTION

- A. Transport, handle, store, and protect Products in accordance with manufacturer's instructions.

1.38 PRODUCT OPTIONS

- A. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

1.39 SUBSTITUTIONS

- A. Owner will consider requests for Substitutions only within fifteen (15) days after date of Owner-Contractor Agreement.
- B. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.
- C. In making request for Substitution, the Bidder/Contractor represents:
  1. They have personally investigated proposed product and determined that it is equal or superior in all respects to that specified.
  2. They will provide the same guarantee for the substitute as for the product specified.
  3. They will coordinate installation of the accepted substitution into work, making such changes as may be required for work to be complete in all respect.
  4. They waive all claims for additional costs related to substitution(s) which consequently becomes apparent.
  5. Cost data is complete and includes all related costs under this Contract.
  6. Project Schedule will not be altered.

1.40 STARTING SYSTEMS

- A. Provide seven days notification prior to start-up of each item.

- B. Ensure that each piece of equipment or system is ready for operation.
- C. Execute start-up under supervision of responsible persons in accordance with manufacturers' instructions.

1.41 DEMONSTRATION AND INSTRUCTIONS

- A. Demonstrate operation and maintenance of Products to Owner's personnel two weeks prior to date of Substantial Completion.
- B. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.
- C. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at agreed-upon times, at designated location.

1.42 TESTING, ADJUSTING, AND BALANCING

- A. General Contractor shall employ and pay for services of an independent engineering firm to perform testing, adjusting, and balancing and certification of such for the building HVAC to the owner and the mechanical inspector.

1.43 OPERATIONS, TERMINATION AND REMOVAL:

- A. Supervision: Do not allow hazardous, dangerous or unsanitary conditions to develop or persist on the project site.
- B. Maintenance: Operate and maintain temporary services and facilities in good operating condition throughout the time of use and until removal. Protect from damage by freezing temperatures and similar elements.
- C. Termination and Removal: Remove each temporary service and facility promptly when the need for it has ended. Complete and restore permanent and existing work which may have been damaged because of the temporary service or facility.
  - 1. Materials and facilities that constitute temporary services and facilities are and remain the property of the Contractor.
  - 2. Prior to Substantial Completion, Clean and renovate or restore permanent services, facilities and assemblies that have been used to provide temporary services and facilities during the construction period to original condition. Replace "construction" filters in the mechanical system.

1.44 CONTRACT CLOSEOUT PROCEDURES

- A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Architect's inspection.
  
- B. In order to achieve Substantial Completion:
  - 1. Contractor shall prepare a comprehensive list of items to be completed or corrected. Proceed with the completion and correction of the listed items.
  
  - 2. Provide approvals from the Building and the Fire Authority allowing for occupancy of the building.
  
  - 3. Provide the following:
    - a. Operation and maintenance manuals for the Owner's use.
    - b. Complete startup testing procedures and provide documentation.
  
    - c. Complete instruction for proper use, maintenance, and operation of all systems in the building for the Owner's designated personnel.
  
    - d. Submit brief written documentation for type of training undertaken and sign-in sheet showing personnel in attendance for instruction.
      - 1) Complete final cleanup requirements including finishing of flooring.
  
- C. Architect's Review Procedures
  - 1. Following completion of the provisions listed above, Contractor shall submit a written request for the Architect's inspection. Further, Contractor shall include documentation with the written request for inspection that each of the provisions listed above have been complied with and have been completed. After the above information is received, the Architect will proceed with the requested inspection within a reasonable time or will advise Contractor in writing of unfulfilled requirements.
  
  - 2. If the Work or designated portion of the Work is Substantially Complete in the opinion of the Architect, the Architect will prepare the Certificate of Substantial Completion which shall establish the date of Substantial Completion and other information. If the Work or designated portion of the Work is not complete in the opinion of the Architect, the Architect shall notify Contractor in writing. Contractor shall then complete the work and shall again request, in writing, a second inspection by the Architect.
    - a. The number of inspections the Architect will make to determine Substantial Completion before costs will be incurred by Contractor is specified.

3. The Architect shall attach any listing of punch list items to be corrected by the Contractor to the Certificate of Substantial Completion, which shall indicate the time period in which Final Completion shall be achieved. The punch list shall be completed, with documentation by Contractor showing the date of correction, the party making the correction, and certification by Contractor that all items on the punch list have been completed prior to the request for final inspection.
  4. Following the completion of the punch list and on receipt of the above information and Contractor's certification that the punch list items have been completed, Contractor shall request, in writing, the Architect's final inspection.
- D. Submit final Application for Payment identifying total adjusted Contract Sum/Price, previous payments, and amount remaining due.

#### 1.45 FINAL CLEANING

- A. Execute final cleaning prior to final inspection.
- B. Clean interior and exterior surfaces exposed to view. Vacuum carpeted and soft surfaces.
- C. Clean debris from site, roofs, gutters, downspouts, and drainage systems.
- D. Replace filters of operating equipment.
- E. Remove waste and surplus materials, rubbish, and construction facilities from the site.
- F. Glass: Clean all glass inside and outside.
- G. For all resilient flooring finishes, just prior to Architect's inspection for Substantial Completion, Contractor shall thoroughly clean all flooring materials and apply commercial floor polish, per the manufacturer's directions and will apply proper type of materials and buffing procedures in strict compliance with the manufacture's instructions for each type of flooring. Coordinate with Owner for product used and include instructions for flooring maintenance in Operations and Maintenance Manual.

#### 1.46 ADJUSTING

- A. Adjust operating Products and equipment to ensure smooth and unhindered operation.

#### 1.47 PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of Contract Documents to be utilized for record documents. Indicate all utility location and/or changes to original construction documents.



- B. Record actual revisions to the Work. Record information concurrent with construction progress.
- C. Making Entries of Record Documents: Using and erasable colored pencil (not ink or indelible pencil), clearly describe the change by note and by graphic line, as required. Date all entries. Call attention to the entry by a "cloud" around the area or areas affected. In the event of overlapping changes, different colors may be used for each of the changes. Make entries in the pertinent Documents as approved by the Architect.
  - 1. Documents with unclear or unintelligible markings will be rejected and will be required to be resubmitted.
- D. Tape addenda, revisions, and changes on drawings and/or in specifications and schedules.

1.48 OPERATION AND MAINTENANCE DATA

- A. Submit two sets prior to final inspection, bound in 8-1/2 x 11-inch text pages, three D side ring or capacity expansion binders with durable plastic or cloth covers.
- B. Prepare binder cover with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS" and title of project.
- C. Internally subdivide the binder contents with permanent page dividers, logically organized, with tab titles clearly printed under reinforced laminated plastic tabs.
- D. Contents: Include at least the following:
  - 1. Neatly typewritten index near the front of the Manual, giving immediate information as to location within the Manual of all emergency data regarding the installation.
  - 2. Copy of all guarantees and warranties issued.
  - 3. Complete instructions regarding operation and maintenance of all equipment involved, including lubrication, disassembly, and reassembly.
    - a. For each product, provide the following in list or "spread sheet: format (organized in order by Division and Section):
      - 1) Division and Section name/number.
      - 2) Subcontractor name; address, telephone number; fax number; contact person.
      - 3) Name of product(s); model number(s); part number(s); etc.
      - 4) Name of manufacturer(s); address; telephone number; fax number.
      - 5) Supplier name; address; telephone number; fax number; contact person.

6)

4. Complete nomenclature of all parts of all equipment.
5. Manufacturers' bulletins, cuts, and descriptive data, where pertinent, clearly indicating the precise items included in this installation and deleting, or otherwise clearly indicating, all manufacturers' data with which this installation is not concerned.

1.49 WARRANTIES

- A. Provide duplicate notarized copies.
- B. Execute and assemble transferable warranty documents from Subcontractors, suppliers, and manufacturers.
- C. Submit prior to final Application for Payment.
- D. The starting date of each and every warranty begins at the date of Substantial Completion, Whether or not the warranty is dated otherwise.
- E. Provide certification that all materials and products used in the construction are asbestos (ACM) free.

1.50 NOISE, LANGUAGE, TOBACCO AND FIREARMS

- A. Proper conduct on project shall be maintained at all times. No loud sound systems, no loud music, no loud shouting, no loud language, no smoking or other disruptive noise shall be allowed or generated at any place on the project site. Contractor shall be responsible to maintain a quality work environment that is not disruptive to workers, employees, and others associated with the Work.
- B. Loud or abusive language will not be tolerated by any person on the project site. In the event that any person generates such language and fails to conduct themselves in a proper manner or practices loud and/or abusive language, they shall be informed by the Contractor of these provisions and if repeated, shall be dismissed from the site by the Contractor. Contractor shall have the responsibility to see that such behavior is not tolerated or allowed on site and be responsible for removal of those not in compliance with the above requirements.
- C. Uphold Owner's Policy of no firearms allowed, in any form, on the property.

2 PART 2 - PRODUCTS  
Not Used.

3 PART 3 - EXECUTION  
Not Used.

END OF SECTION

Section 013500 – PROJECT ALTERATION PROCEDURES

PART 1 - GENERAL

1.1 DESCRIPTION OF REQUIREMENTS

- A. General: Procedural requirements and established standards for coordination and provision of interfaces between existing construction to remain and new Work, include, but are not limited to:
  - 1. Restoration of existing Work, areas, surfaces, conditions, systems, etc., as applicable.
  - 2. Restoration and/or correction of existing Work removed or damaged as a result of Work on this Contract or Work that has been rejected, as applicable.
- B. Requirements for demolition of existing Work in preparation of new Work are specified in other Divisions of this specification.
- C. Refer to Technical Specification sections and drawings and schedules for other requirements.

1.2 QUALITY ASSURANCE

- A. Comply with applicable referenced codes, rules, regulations and required approvals by local authorities for each occurrence and condition of Work described in this section.

1.3 SUBMITTALS

- A. Submit notifications of unusual conditions, requests for interpretations, proposals for alternate methods and other communications and requests regarding alteration procedures in writing to the Architect.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Compatibility: Provide new materials which are compatible with existing materials and/or substrates to which they are to be applied or attached.
  - 1. Full restoration of site and site Work and full replacement and restoration of rejected Work is the obligation and responsibility of the Contractor.

2.2 PRODUCTS FOR PATCHING WORK

- A. Match existing products and Work for patching where indicated.
  - 1. Match existing products for areas of non-conforming Work that will be removed and replaced that have been rejected or as a result of a correction notice issued by the Owner or Architect.

### PART 3 - EXECUTIONS

#### 3.1 PREPARATION

- A. Cut, move or remove all items and existing Work for restoration Work; replace and fully restore all aspects of area(s) to prime condition at completion.
- B. Remove and properly dispose of all debris and abandoned items from area and from concealed spaces.
- C. Prepare surfaces and remove surface finishes to provide for proper installation of new Work and new finishes.

#### 3.2 INSTALLATION

- A. Coordinate Work to expedite completion sequentially and to accommodate Owner occupancy. Sequence and schedule Work to minimize construction traffic in Owner occupied spaces.
- B. Remove, cut, and patch Work in a manner to minimize damage and to provide means of restoring products, finishes, surfaces, systems, etc. to match original conditions as acceptable to Owner and Architect.
  - 1. Do not overload or apply excessive forces to existing structures and assemblies.
  - 2. Restore all systems to working condition acceptable to Owner.
- C. Provide products and materials as indicated to result in finished appearance and function acceptable to Owner and Architect.
  - 1. Verify and coordinate exact existing conditions and with details if drawn.
  - 2. If no detail is drawn for a specific condition, verify a similar detail with Architect. Adjust to fit the condition at no extra cost to the contract.

#### 3.3 REPAIR OF DAMAGED SURFACES

- A. Patch or replace portions of existing surfaces which are damaged, lifted, discolored, or showing other imperfections which are the result of work of the contract.
  - 1. Patching procedure must result in a surface or finish that exactly matches existing work. Non-matching work will be the basis for rejection.

#### 3.4 FINISHES

- A. Finish patchings to produce uniform finish and texture over entire area. When textures or colors cannot be matched, retexture or repaint entire surface to nearest intersection(s).

#### 3.5 CLEANING

- A. In addition to cleaning specified in other Division 1 sections and for specific Work specified in Divisions 2 through 33, expertly clean Owner-occupied areas of construction debris daily.

END OF SECTION

SECTION 017000 - SELECTIVE DEMOLITION

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. This Section includes but is not limited to:
  - 1. Demolition and removal of all portions of the building in preparation for the provision of new work; Typical above and below grade elements.
  - 2. Patching and repairs

1.2 DEFINITIONS

- A. Remove: Remove and legally dispose of items except those to be reinstalled, salvaged, or to remain the Owner's property. Removal of existing work shall be in preparation for the provision of new work. The Owner will turn the buildings over to the Contractor and anything left behind is Contractor's option to salvage, save or dispose.
- B. Remove and Salvage: Items to be removed and salvaged remain the Owner's property prior to turning building over to Contractor. Remove, clean, and pack or crate items to protect against damage that are indicated. Otherwise, it is the responsibility of the Owner. Identify contents of containers and deliver to Owner's designated storage area.
- C. Remove and Reinstall: Remove and reinstall items indicated; clean, service, and otherwise prepare them for reuse; store and protect against damage/ Reinstall items in the same locations or in locations indicated.
- D. Existing to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by the Architect, items may be removed to a suitable, protected storage location during selective demolition and then cleaned and reinstalled in their original locations.

1.3 MATERIALS OWNERSHIP

- A. All items remain the ownership of the Owner until building is turned over to the Contractor. Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain the Owner's property and shall be removed from the site with further disposition at the Contractor's option.

END OF SECTION

SECTION 06100 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Structural floor, wall, and roof framing; built-up structural members; shop fabricated trusses; wall and roof sheathing; subfloor sheathing; sill gaskets.
- B. Roof curbs; blocking in wall and roof openings; wood furring; concealed wood blocking.
- C. Moisture Barrier.

1.2 QUALITY ASSURANCE

- A. Perform Work in accordance with the following agencies:
  - 1. Lumber Grading Agency: Certified by ALSC.
  - 2. Plywood Grading Agency: Certified by APA.

PART 2 - PRODUCTS

2.1 LUMBER MATERIALS

- A. Lumber Grading Rules: WCLIB and WWPA.
- B. Joist Framing: Douglas Fir species, dense No. 2 or better grade, 2 x 10 size classification, 19 percent maximum moisture content.
- C. Rafter Framing: Douglas Fir species, dense No. 2 or better grade, 2 x 4 size classification, 19 percent maximum moisture content.
- D. Studding: Douglas Fir species, dense No. 2 or better grade, 2 x 4 and 2 x 6 size classification, 19 percent maximum moisture content.
- E. Sill Plate: Pressure treated.

2.2 SHEATHING MATERIALS

- A. Particleboard Roof Sheathing: Oriented Strand Board
- B. Particleboard Wall Sheathing: Oriented Strand Board
- C. Particleboard Floor Sheathing: ANSI A208.1, Oriented Strand Board
- D. Plywood Floor Sheathing: ASTM D 6305

- E. Telephone and Electrical Panel Boards: Plywood.

### 2.3 SHEATHING AND UNDERLAYMENT LOCATIONS

- A. Sloped Roof Sheathing: 5/8 inch thick, 48 x 96 inch sized sheets, square edges, preservative treated.
- B. Floor Sheathing: 3/4 inch thick, 48 x 96 inch sized sheets, square, tongue and groove edges, preservative treated.
- C. Exterior Wall Sheathing: 7/16", 48 x 96 inch sized sheets.

### 2.4 SHOP FABRICATED TRUSSES (NOT USED)

- A. Design Roof Live and Dead Load: In accordance with current International Building Code.
- B. Truss Type: Wood chord. Plate connected.

### 2.5 ACCESSORIES

- A. Fasteners: Galvanized steel for exterior, high humidity, and treated wood locations, plain finish elsewhere.
- B. Structural Framing Connectors: Joist Hangers: Galvanized steel, sized to suit framing conditions.
- C. Sill Flashing (Under Sill Gasket): Galvanized steel.
- D. Subfloor Glue: APA AFG-01, water base, waterproof.
- E. Building Paper: (2) Two layers Grade D paper.
- F. Roof Felt: #30 roof felt.

## PART 3 - EXECUTION

### 3.1 FRAMING

- A. Erect wood framing members in accordance with applicable code. Place members level and plumb. Place horizontal members crown side up.
- B. Place sill gasket directly on foundation.
- C. Frame double joist headers at floor and ceiling openings. Frame rigidly into joists. Frame double joists under wall studding.



- D. Bridge joists and framing in excess of 8 feet span at mid-span members. Fit solid blocking and bridging at ends of members.
- E. Curb all roof openings except where curbs are provided. Construct curb members of single pieces per side.

### 3.2 SHEATHING

- A. Install subfloor sheathing with longer edge perpendicular to floor framing with end joints staggered. Secure sheet edges over firm bearing. Attach sheathing with subfloor glue and gypsum board screws.
- B. Install sheathing to two span continuous.
- C. Secure wall sheathing with ends staggered from bottom sill plate to top wall plate over firm bearing. (piece-meal sheathing shall not be allowed).
- D. Place building paper over wall sheathing, weather lap joints and end laps, staple in place.
- E. Provide solid edge blocking between sheets as directed by Roof Framing Plan or as indicated on plans.
- F. Install telephone and electrical panel back boards with plywood sheathing material where required. Size the back board by 12 inches beyond size of electrical panel.

### 3.3 Moisture Barrier

- A. Moisture Barrier shall be applied in one operation.
- B. No doors, windows or other openings shall be installed until all openings are properly wrapped with moisture barrier and flashing as per manufacturer's details and recommendations and construction standards.
- C. All openings and surfaces shall be made weather tight.

END OF SECTION

SECTION 062000 - FINISH CARPENTRY

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Finish carpentry items.
- B. Wood standing and running trim.
- C. Plastic laminate panels.

1.2 SUBMITTALS

- A. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, and accessories. Provide the information required by AWI/AWMAC/WI Architectural Woodwork Standards.
- B. Samples: Submit two samples of wood trim 6-inch long.

1.3 QUALITY ASSURANCE

- A. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum five years experience.

PART 2 - PRODUCTS

2.1 FINISH CARPENTRY ITEMS

- A. Quality Grade: Unless otherwise indicated provide products of quality specified by AWI/AWMAC/WI Architectural Woodwork Standards for Custom Grade.
- B. Surface Burning Characteristics: Provide materials having fire and smoke properties as required by applicable code.

2.2 SHEET MATERIALS

- A. Particleboard: ANSI A208.1; composed of wood chips, sawdust, or flakes of medium density, made with waterproof resin binders; of grade to suit application; sanded faces.
- B. Medium-Density Fiberboard (MDF): ANSI A208.2, Grade 130.

2.4 FASTENINGS

- A. Adhesive for Purposes Other Than Laminate Installation: Suitable for the purpose; not containing formaldehyde or other volatile organic compounds.
- B. Fasteners: Of size and type to suit application; use corrosion resistant fasteners for exterior locations.

2.5 ACCESSORIES

- A. Lumber for Shimming and Blocking: Softwood lumber of any appropriate species.
- B. Primer: Alkyd primer sealer.
- C. Wood Filler: Solvent base, tinted to match surface finish color.

2.6 FABRICATION

- A. Shop assemble work for delivery to site, permitting passage through building openings.
- B. Cap exposed plastic laminate finish edges with material of same finish and pattern.
- C. When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide trim for scribing and site cutting.
- D. Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners. Slightly bevel arises. Locate counter butt joints minimum 2 feet from sink cut-outs.

2.7 SHOP FINISHING

- A. Sand work smooth and set exposed nails and screws.
- B. Apply wood filler in exposed nail and screw indentations.
- C. On items to receive transparent finishes, use wood filler that matches surrounding surfaces and is of type recommended for the applicable finish.
- D. Finish work in accordance with AWI/AWMAC/WI Architectural Woodwork Standards, Section 5 – Finishing for Grade specified and as follows:
  - 1. Transparent:

- a. System – 12, Polyurethane, Water-based.
  - b. Stain: As selected.
  - c. Sheen: As selected.
2. Opaque:
- a. System – 4, Latex Acrylic, Water-based.
  - b. Color: As selected.
  - c. Sheen: As selected.
- E. Back prime woodwork items to be field finished, prior to installation.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Verify adequacy of backing and support framing.
- B. Verify mechanical, electrical, and building items affecting work of this section are placed and ready to receive this work.

#### 3.2 INSTALLATION

- A. Install work in accordance with AWI/AWMAC/WI Architectural Woodwork Standards requirements for grade indicated.
- B. Set and secure materials and components in place, plumb and level.
- C. Carefully scribe work abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim to conceal larger gaps.
- D. Install trim with appropriate mechanical fasteners.
- E. Install panels with concealed fasteners.

3.3 PREPARATION FOR SITE FINISHING

- A. Set exposed fasteners. Apply wood filler in exposed fastener indentations. Sand work smooth.
- B. Before installation, prime paint surfaces of items or assemblies to be in contact with cementitious materials.

3.4 TOLERANCES

- A. Maximum Variation from True Position: 1/16 inch.
- B. Maximum Offset from True Alignment with Abutting Materials: 1/32 inch.
- C. TCNA W202E.
- D. Framed Walls: Wall sheathing, weather barrier, cementitious backer board, and direct application; TCNA W244E.

END OF SECTION

SECTION 064100 - CASEWORK

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Specially fabricated cabinet units.
- B. Countertops.
- C. Cabinet hardware.
- D. Preparation for installing utilities.

1.2 SUBMITTALS

- A. Shop Drawings: Indicate materials, component profiles, fastening methods, joining details, and accessories. Provide the information required by AWI/AWMAC/WI Architectural Woodwork Standards.
- B. Product Data: Provide data for hardware accessories.

1.3 QUALITY ASSURANCE

- A. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum five years of experience.

PART 2 PRODUCTS

2.1 CABINETS

- A. Quality Grade: Unless otherwise indicated provide products of quality specified by AWI/AWMAC/WI Architectural Woodwork Standards for Custom Grade.
- B. Plastic Laminate Faced Cabinets: Premium grade.
- C. Cabinets:
  - 1. Finish – Exposed Exterior Surfaces: Decorative laminate.
  - 2. Door and Drawer Front Edge Profiles: Self-Edge banding with material of same finish and pattern.
- 3. Casework Construction Type: Type A – Frameless.
- 4. Interface Style for Cabinet and Door: Style 1 – Overlay; Flush overlay.
- 5. Adjustable Shelf Loading: 50 lbs. per sq. ft.

## 2.2 LAMINATE MATERIALS

- A. High Pressure Decorative Laminate (HPDL): NEMA LD 3, types as recommended for specific applications.
- B. Provide specific types as indicated.
  - 1. Horizontal Surfaces: HGL, 0.050-inch nominal thickness, colors as scheduled, finish as scheduled.
  - 2. Vertical Surfaces: VGS, 0.028-inch nominal thickness, colors as scheduled, finish as scheduled.
  - 3. Cabinet Liner: CLS 0.020-inch nominal thickness, colors as scheduled, finish as scheduled.
  - 4. Laminate Backer: BKL, 0.020-inch nominal thickness, undecorated; for application to concealed backside of panels faced with high pressure decorative laminate.
  - 5. Chemical Resistant Grade: 0.036"
- C. Low Pressure Thermofused Polyester and Melamine Laminates: ALA (American Laminators Association).
- D. PVC edge banding (polyvinyl chloride) on seamless rolls to be applied with automatic edge banding machines using hot-melt adhesives. Product to be chip proof, flame and moisture resistant.
- E. Colors of laminates shall be as selected from the following manufacturers: "Nevamar," "Pionite", "Wilsonart", "Formica" and "Advanced Technology, Inc". Color as selected by Architect.
- F. Colors of semi-exposed and concealed melamine shall be as selected from Almond, Folkstone Grey, Black and White. Color as selected by Architect.
- G. Brands, colors, textures and patterns shall be as selected by the Architect from the full range of laminate choices, from any or all of the manufacturers specified above.

## 2.3 COUNTERTOPS

- A. Plastic Laminate Countertops; Medium density fiberboard substrate covered with HPDL, 3-mm PVC edge banding and other specified requirements.
- B. Wall-Mounted Counters: Provide skirts, aprons, brackets, and braces as indicated on drawings, finished to match.
- C. Solid Surface Shelves: Provide solid surface shelves as manufactured by the following:

1. Corian by DuPont;
2. Samsung Chemical USA;
3. Wilsonart Contract.
4. Solid Surface Material:
  - a. Non-porous, homogeneous material maintaining the same composition throughout the part with a composition of acrylic polymer, aluminum trihydrate filler and pigment; not coated, laminated or of composite construction; meeting following criteria:
  - b. Flammability: Class 1 and A when tested to UL 723.
  - c. Finish: Matte, with a 60° gloss rating of 5 - 20.
  - d. Shelves shall be  $\frac{3}{4}$ " thick.

#### 2.4 ACCESSORIES

- A. Adhesive: Type recommended by AWI/AWMAC to suit application to meet requirements of ASTM-D3110.
- B. Solvent Based Contact Cement: MMM-A-J130B.
- C. Fasteners: Size and type to suit application.
- D. Bolts, Nuts, Washers, Lags, Pins, and Screws: Of size and type to suit application; galvanized or chrome-plated finish in concealed locations and stainless-steel chrome-plated finish in exposed locations.
- E. Concealed Joint Fasteners: Threaded steel.
- F. Grommets: Standard plastic, painted metal, or rubber grommets for cut-outs, in color to match adjacent surface. Provide a wiring grommet at each electrical or data outlet and additional grommets as indicated in the contract documents.
- G. Provide National Lock No. C8173-26D for cabinets as indicated in the contract documents.
- H. Workmanship Complies with Industry Standards: AWI (Architectural Woodwork Institute).

#### 2.5 HARDWARE

- A. Hardware: BHMA A156.9, types as recommended by fabricator for quality grade specified.
- B. Drawer and Door Pulls: If not specified in drawings then provide 5/16" "U" shaped wire pull, aluminum with satin finish, 4-inch centers.
- C. Drawer Slides:



1. Box Drawer: Single extension, almond epoxy finish with 75 lb. load rating and positive in and out stops, stay close detent, one side captive and four nylon rollers. Hettich #FR602L, Accuride No. 3832, or Blum No. 230M.
  2. File Drawers: Full extension, zinc finish with 150 lb. load rating and positive in and out stops, stay close detent and steel ball bearing. Accuride #4034.
- D. Adjustable Shelf Support System:
1. Standard adjustable shelf support system shall be provided by inserting nickel plated steel "L" shaped clips into predrilled 5-mm diameter holes 32-mm (1-1/4") on centers. Liberty #A1131 HNP. Shelves shall be fixed using a retaining screw.
- E. Wall Standards and Brackets:
1. All adjustable shelves indicated on the Interior Elevations to have heavy duty metal standards and brackets, to be provided with zinc plated steel, adjustable 2" center. Knappe & Vogt No. 85 and 185 double-slot standards and brackets.
- F. Countertop Support Brackets:
1. Countertop support brackets shall be constructed of 16 gauge 1-1/2" tube steel, with welded construction, designed to support countertops off finished wall at desired heights. Brackets are powder coated. Color as selected by Architect.
  2. 18" x 21" legs for up to 26" deep countertop.
  3. 21" x 27" legs for up to 32" deep countertop.
- G. Hinges: European style concealed self-closing type, steel with satin finish. Maximum door size of 24" x 36" and 24" x 48" shall be provided with 2 knuckles. Maximum door size of 24" x 84" shall be provided with 3 knuckles. Maximum door size of 24" x 90" shall be provided with 4 knuckles.

## 2.6 FABRICATION

- A. Assembly: Shop assemble cabinets for delivery to sit in units easily handled and to permit passage through building openings.
- B. Edging: Fit shelves, doors, and exposed edges with specified edging. Do not use more than one piece for any single length.
- C. Fitting: When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide matching trim for scribing and site cutting.

- D. Plastic Laminate: Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners. Slightly bevel arises. Locate counter butt joints minimum 2 feet from sink cut-outs.
  - 1. Apply laminate backing sheet to reverse side of plastic laminate finished surfaces.
- E. Provide cutouts for plumbing fixtures. Verify locations of cutouts from on-site dimensions. Seal cut edges.

### PART 3 EXECUTION

#### 3.1 EXAMINATION

- A. Verify adequacy of backing and support framing.
- B. Verify location and sizes of utility rough-in associated with work of this section.

#### 3.2 INSTALLATION

- A. Set and secure custom cabinets in place, assuring that they are rigid, plumb, and level.
- B. Use fixture attachments in concealed locations for wall mounted components.
- C. Use concealed joint fasteners to align and secure adjoining cabinet units.
- D. Carefully scribe casework abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim for this purpose.
- E. Secure cabinets to floor using appropriate angles and anchorages.
- F. Countersink anchorage devices at exposed locations. Conceal with solid wood plugs of species to match surrounding wood; finish flush with surrounding surfaces.
- G. Securely attach countertops to cabinets using concealed fasteners. Make flat surfaces level; shim where required.
- H. Attach plastic laminate countertops using screws with minimum penetration into substrate board of 5/8 inch.
- I. Seal joint between back/end splashes and vertical surfaces. Back and end splashes with plastic laminate self edge at tops and exposed ends; construction similar to counter tops.
- J. Framed Walls: Wall sheathing, weather barrier, cementitious backer board, and direct application; TCNA W244E.

END OF SECTION 064100

SECTION 072000 - INSULATION

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Thermal batt-type building insulation, Sound attenuation batt insulation, Film vapor retarder (VR), Flame resistant vapor retarder (FRVR), & Board type rigid insulation.

1.2 SUBMITTALS

- A. Product Data for each type of insulation and vapor retarder material required.
  - 1. After review and approval, submit to Architect.
- B. Certified Test Reports: With product data, submit copies of certified test reports showing compliance with specified performance values, including r-values (aged values for plastic insulation), densities, compression strengths, fire performance characteristics, perm ratings, water absorption ratings and similar properties.
  - 1. Submit with Operation and Maintenance manuals.

1.3 QUALITY ASSURANCE

- A. Thermal Resistivity: Where thermal resistivity properties of insulation materials are designated by r-values they represent the rate of heat flow through a homogeneous material exactly 1" thick, measured by test method included in referenced material standard or otherwise indicated. They are expressed by the temperature difference in degrees F between the two exposed faces required to cause one BTU to flow through one square foot per hour at mean temperatures indicated.
- B. Fire Performance Characteristics: Provide insulation materials which are identical to those whose fire performance characteristics, as listed for each material or assembly of which insulation is a part, have been determined by testing, per methods indicated below, by UL or other testing and inspecting agency acceptable to authorities having jurisdiction.
  - 1. Surface Burning Characteristics: ASTM E 84.
  - 2. Fire Resistance Ratings: ASTM E 119.
  - 3. Combustion Characteristics: ASTM E 136.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. General Protection: Protect insulation from physical damage and from becoming wet, soiled, or covered with ice or snow. Comply with manufacturer's recommendations for handling, storage and protection during installation.
- B. Protection for Plastic Insulation:
  - 1. Do not expose to sunlight, except to extent necessary for period of installation and concealment.
  - 2. Protect against ignition at all times. Do not deliver plastic insulating materials to project site ahead of installation time.
  - 3. Complete installation and concealment of plastic materials as rapidly as possible in each area of work.
- C. Project construction will be conducted in phases. Coordinate all work of this section within each phase as scheduled and approved.

## PART 2 PRODUCTS

### 2.1 ACCEPTABLE MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to, the following:
  - 1. Glass Fiber Batt Insulation:
    - a. CertainTeed Corp.
    - b. Owens-Corning Fiberglas Corp. (Design Standard).
    - c. Schuller International, Inc.
  - 2. Sound Attenuation Blanket/Batt Type Insulation:
    - a. United States Gypsum Co. (Design Standard).
    - b. Manville.
    - c. or Approved.
  - 3. Board Type foundation and Building Extruded Polystyrene Insulation:
    - a. Dow Chemical U.S.A. (complying example).
    - b. Insulae.

## 2.2 INSULATING MATERIALS

- A. General: Provide insulating materials which comply with requirements and with referenced standards.
  - 1. Preformed Units: Sizes to fit applications indicated, selected from manufacturer's standard thicknesses, widths and lengths.
- B. Thermal Batt Insulation: Lightweight unfaced resilient fiberglass insulation complying with ASTM C 665, Type 1 and ASTM E 136. Size width for installation between studs in wall assembly. Maximum flame spread and smoke developed values of 25 and 50, respectively.
  - 1. Exterior Walls: R-value as indicated.
  - 2. Ceiling Attic Space: R-value as indicated.
- C. Sound Attenuation Batt Insulation: Unfaced Mineral Fiber Blanket/Batt Insulation: Acoustical insulation produced by combining mineral fibers of type described below with thermosetting resins to comply with ASTM C 665 for Type I, fibers manufactured from glass, passes ASTM E 136 test, maximum flame spread and smoke developed values of 25 and 50, respectively.
  - 1. Thickness: Full depth of cavity, unless otherwise indicated.
  - 2. Provide in all interior frame partitions.
- D. Extruded Polystyrene Board Type Insulation: Rigid, cellular polystyrene thermal insulation formed from polystyrene base resin by an extrusion process using hydrchlorofluorocarbons as blowing agent to comply with ASTM C 578 for type and with other requirements indicated below.
  - 1. Type IV, 1.60-lb/cu. Ft. (26-kg/cu. m) minimum density, unless otherwise indicated.
  - 2. Surface-Burning Characteristics: Maximum flame-spread and smoke-developed indices of 75 and 450, respectively.
  - 3. Perimeter Foundation Insulation: R-value or thickness as indicated.

## 2.3 AUXILIARY INSULATING MATERIALS

- A. Film Vapor Retarder: ASTM D 4397, 6-mil polyethylene film, with laboratory-tested vapor transmission rating of 0.2 perms, natural color.
- B. Flame Resistant Vapor Retarder: Flame resistant foil scrim kraft (FSK) barrier, flame spread rating of 25 or less, Compac Corp. - FB-1535, Lamtec Corp. - RC-3035, or approved.

1. Provide over all batt insulation not covered by gypsum wall board.
- C. Adhesive for Bonding Insulation: Type recommended by insulation manufacturer and complying with requirements for fire performance characteristics.
- D. Mechanical Anchors: Type and size indicated or, if not indicated as recommended by insulation manufacturer for type of application and condition of substrate.
- E. Foam-In Insulation: Type required to insulate voids at hollow metal door and window frames, vents, louvers, etc.
  1. Complying Example: DAP, Inc., "DAP-TEX" Latex Insulating Foam Sealant.

### PART 3 EXECUTION

#### 3.1 EXAMINATION AND PREPARATION

- A. Examine substrates and conditions with Installer present, under which insulation work is to be performed. A satisfactory substrate is one that complies with requirements of the section in which substrate and related work is specified. Obtain Installer's written report listing conditions detrimental to performance of work in this section. Do not proceed with installation of insulation until unsatisfactory conditions have been corrected.
- B. Clean substrates of substances harmful to insulation or vapor retarders, including removal of projections which might puncture vapor retarders.

#### 3.2 INSTALLATION, GENERAL

- A. Comply with manufacturer's instructions applicable to products and application indicated. If printed instructions are not available or do not apply to project conditions, consult manufacturer's technical representative for specific recommendations before proceeding with work.
- B. Extend insulation in thickness over entire area to be insulated. Cut and fit tightly around obstructions, and fill voids with insulation. Remove projections which interfere with placement.
  1. Provide materials to fully insulate the entire building envelope.
  2. Fill cavities of metal studs and wood framing with insulation as they are installed.
- C. Apply a single layer of insulation of required thickness, unless otherwise shown or required to make up total thickness.
- D. Coordinate the installation of acoustical insulation materials and sequencing, needed to properly construct the acoustical walls, in strict compliance with the requirements of Division 9 Section "Acoustical Wall Construction".

1. Schedule and conduct a pre-installation meeting to discuss the requirements, coordination and the Contractor's planned construction means and methods for acoustical walls.

### 3.3 INSTALLATION OF GENERAL BUILDING INSULATION

- A. Apply insulation units to substrate by method indicated, complying with manufacturer's recommendations. If no specific method is indicated, bond units to substrate with adhesive or use mechanical anchorage to provide permanent placement and support of units as approved by manufacturer.
  1. Support insulation as required to prevent sagging of material over time, which will affect other construction and/or result in gaps in insulation.
  2. Do not cover insulation until inspection/approval of local jurisdiction.
  3. Support board type insulation against foundation walls and protect during back-fill operations.
- B. Unfaced Thermal Batt Insulation: Install by friction-fit method except as otherwise required for support of units. Cut, cope and shape units as required at obstructions to provide most effective wall insulation envelope reasonably achievable. Install in all exterior wood and metal stud frame walls from foundation plate and up as required to form full closure with "ceiling" insulation. Place insulation into concealed corners and similar areas while areas are still accessible, whether or not such placement requires special sequencing of the work.
  1. Use blanket widths and lengths that fill cavities formed by framing members. Where more than one length is required to fill cavity, provide lengths that will produce a snug fit between ends.
  2. Place blankets in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.
- C. Sound Attenuation Batt Insulation: Install in ceilings where indicated and in all interior frame partitions and walls from sill plate up to the top of the wall or partition, unless otherwise indicated. Fill all voids, full depth of cavity unless otherwise indicated, for complete insulation system.
- D. Fill voids surrounding door and window frames, vents, louvers, etc. with foam-in type insulation. Install per manufacturer's directions. Clean excess.

### 3.4 INSTALLATION OF VAPOR BARRIERS

- A. General: Extend vapor barrier to extremities of areas to be protected from vapor transmission. Secure in place with adhesives or other anchorage system as indicated.

Extend vapor barrier to cover miscellaneous voids in insulated substrates, including those which have been stuffed with loose fiber-type insulation.

- B. All vapor barriers not covered with gypsum board shall be the flame-resistant type vapor barrier (FRVR).
- C. Seal vertical joints in vapor barriers over framing by lapping not less than 2 wall studs. Fasten vapor barriers to framing at top, end, and bottom edges, at perimeter of wall openings and at lap joints; space fasteners 16" o.c.
- D. Seal overlapping joints in vapor barriers with adhesives per vapor retarder manufacturer's printed directions. Seal butt joints and fastener penetrations with tape of type recommended by vapor retarder manufacturer. Locate all joints over framing members or substrates with mechanical fasteners or adhesives as recommended by vapor retarder manufacturer.
- E. Seal joints caused by pipes, conduits, electrical boxes and similar items penetrating vapor retarders with cloth or aluminized tape of type recommended by vapor retarder manufacturer to create an air-tight seal between penetrating objects and vapor retarder.
- F. Repair any tears or punctures in vapor retarders immediately before concealment by other work. Cover with tape or another layer of vapor retarder.

### 3.5 PROTECTION

- A. General: Protect installed insulation and vapor retarders from harmful weather exposures and from possible physical abuses, where possible by non-delayed installation of concealing work or, where that is not possible, by temporary covering or enclosure.

END OF SECTION 072000



SECTION 079000 - JOINT SEALERS

1 PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Sealants and joint backing.

1.2 ENVIRONMENTAL REQUIREMENTS

- A. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.

2 PART 2 PRODUCTS

2.1 SEALANTS

- A. Exterior Window and Joint Sealant:

- 1. Vertical joints: Sonneborn NP-1 or Sashco "Big Stretch".
- 2. Horizontal joints: Sonneborn SL-1 or Sashco "Big Stretch".
- 3. Standard colors matching finished surfaces.

- B. Interior Glazing Sealant: one-part mildew resistant silicone sealant; DOW

- 1. Standard colors matching finished surfaces.

- C. interior Building Sealants (Painted surfaces)

- 1. One-part Acrylic Latex with Silicone (paintable) sealant:
  - a. Dap – 35-year warranty.

- D. Approved Manufacturers:

- 1. Tremco, Cleveland, OH [www.tremcosealants.com](http://www.tremcosealants.com) .

2.2 ACCESSORIES

- A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.
- B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.
- C. Joint Backing: Round foam rod compatible with sealant; D1667, closed cell polyethylene or polyurethane; oversized 30 to 50 percent larger than joint width, no gassing.
- D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

### PART 3 EXECUTION

#### 3.1 EXAMINATION AND PREPARATION

- A. Verify that substrate surfaces and joint openings are ready to receive work.
- B. Verify that joint backing and release tapes are compatible with sealant.
- C. Remove loose materials and foreign matter which might impair adhesion of sealant.
- D. Clean and prime joints in accordance with manufacturer's instructions.
- E. Perform preparation in accordance with manufacturer's instructions and ASTM C1193. Provide architect with manufacturer's instructions for joint preparation and installation instructions.

#### 3.2 INSTALLATION

- A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions. Provide a copy for the Architect before application.
- B. Perform installation in accordance with ASTM C1193.
- C. Clean off excess sealants or smears adjacent to joints without damaging adjacent surface or finishes.
- D. Clean joint to eliminate all detrimental substances.

- E. Install joint filler and backing without gaps between ends. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.
- F. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.
- G. Tool joints concave.

**END OF SECTION**

SECTION 092900-GYPSUM BOARD ASSEMBLIES

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Interior gypsum wallboard.
- B. Tile Backer Board for application at wall tile and FRP.
- C. Provide Gypsum board assemblies attached to suspended grid system.
- D. Provide Cementitious Backer Board (CBB).
- E. Provide Fiberglass Armor

1.2 SUBMITTALS

- A. Product Data for each type of product indicated.

1.3 FIRE TEST RESPONSE CHARACTERISTICS

- A. For gypsum board assemblies with fire-resistance ratings, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing and inspecting agency acceptable to authorities having jurisdiction.

1.4 SOUND TRANSMISSION CHARACTERISTICS

- A. For gypsum board assemblies with STC ratings, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by a qualified independent testing agency.

1.5 QUALITY ASSURANCE

- A. Fire-resistance ratings: Where fire-resistance ratings are indicated, provide materials/assemblies complying with ASTM E 119 and as required by local authorities.
- B. Comply with recommendations of Gypsum Association GA-216.
- C. Comply with ASTM 1396, "Specification for Gypsum Board".

1.6 FIELD CONDITIONS

- A. Temperature shall be 50 deg F and 95 deg F maximum day and night during entire joint operation and until execution of certificate of Substantial Completion. Provide ventilation to eliminate excessive moisture. Avoid hot air drafts that will cause rapid drying.

## PART 2 – PRODUCTS

### 2.1 MANUFACTURERS

- A. Gypsum Board Products; Georgia-Pacific Corp., Gold Bond Building Products, United States Gypsum.

- 1. Or approved by Architect

### 2.2 PANEL PRODUCTS, GENERAL: provide sizes in maximum lengths and widths available that will minimize joints in each area and correspond with support system indicated.

- A. Gypsum Wallboard: ASTM C36.

- 1. Type X: Fire-resistance-rated.
- 2. Thickness: 5/8" minimum.
- 3. Edges: Tapered

- B. Tile Backer Board unit (TBB): Silicone Based Tile Backer Board installed behind ceramic wall tile and FRP as manufactured by "Denshield" by Georgia Pacific or approved.

- 1. Thickness: 5/8" minimum.
- 2.. Edges: Tapered

- C. Cementitious Backer Board: "Hardi Backer" by James Hardie installed behind all shower wall tile.

- 1. Thickness: 1/2"

### 2.3 INTERIOR TRIM: ASTM C1047

- A. Cornerbead: Use at outside corners.

- B. LC-Bead (J-Bead): Use at exposed panel edges.

- C. L-Bead: Use where indicated or where needed to finish gypsum board edges.

- D. U-Bead: Use where indicated:

- E. Expansion (Control) Joint: One-piece control joint, formed with v-shaped slot and removable strip covering slot opening.

2.4 JOINT TREATMENT MATERIALS, GENERAL: Comply with ASTM C 475

A. Joint Tape:

1. Interior Gypsum Wallboard: Paper.

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

1. Joint Compound: Vinyl-type powder or ready-mixed for interior use.
  - a) Grade: Single multi-purpose grade for entire application.
2. Prefilling: At open joints and damaged surface areas, use setting-type taping compound.
3. Embedded and First Coat: For embedded tape and first coat on joints, flanges of trim accessories, and fasteners, use setting-taping compound.
  - a) Use setting-type compound for installing paper-faced metal trim accessories
4. Fill Coat: For second coat, use setting-type, sandable topping compound.
5. Finish Coat: For third coat, use setting-type, sandable topping compound.
6. Skim Coat: For final coat of Level 4 finish, use drying-type, all-purpose compound.

C. Joint Compound for Exterior Applications:

1. Exterior Gypsum Soffit Board: Use USG Sheetrock setting-type (Durabond) taping, Durabond LC, Sheetrock Lightweight (easy-sand) or approved equal and setting-type, sandable topping compounds as occurs; see architectural drawings.

D. Joint Compound for Tile Backing Panels:

1. Water-Resistant Gypsum Backing Board: Use special water-resistant setting-type taping and setting-type, sandable topping compounds.

2.5 ACOUSTICAL SEALANT FOR EXPOSED AND CONCEALED JOINTS

- A. Nonsag, paintable, nonstaining, latex sealant complying with ASTM XC 834 that effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.

2.6 ACOUSTICAL SEALANT FOR CONCEALED JOINTS:

- A. Nondrying, nonhardening, non-skinning, non-staining, gunnable, synthetic-rubber sealant recommended for sealing interior concealed joints to reduce airborne sound transmission.

2.7 AUXILIARY MATERIALS:

- A. Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.
  - 1. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.
    - a) Use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch (0.84 to 2.84 mm) thick.
    - b) Fastening gypsum board to wood members.
    - c) Fastening gypsum board to gypsum board.

PART 3 – EXECUTION

3.1 POLYETHYLENE VAPOR RETARDER: Install to comply with requirements specified in Division 7 Section "Insulation."

3.2 GYPSUM BOARD APPLICATION: Comply with ASTM C 840 and GA-216.

- A. Space screws a maximum of 12 inches (304.8mm) o.c. for vertical applications.
- B. Space fasteners in panels that are tile substrates a maximum of 8 inches (203.2mm) o.c.
- C. On ceilings, apply gypsum panels before wall/partition board application to the greatest extent possible and at right angles to framing, unless otherwise indicated. Install ceiling boards across framing to minimize the number of end-butt joints and avoid abutting end joints in the central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.
  - 1. Install ceiling board on furring system specified as recommended by manufacturer of system.
- D. On partitions/walls, apply gypsum panels horizontally (perpendicular to framing), unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.
- E.
  - 1. Stagger abutting end joints not less than one framing member in alternate courses of board.

2. At high walls, install panels horizontally, unless otherwise indicated or required by fire-resistance-rated assembly.
- F. On Z-furring members, apply gypsum panels vertically (parallel to framing) with no end joints. Locate edge joints over furring members.
- G. Single-Layer Fastening Methods: Apply gypsum panels to supports with steel drill screw.
- H. Laminate to Substrate: Comply with gypsum board manufacturer's written recommendations and temporarily brace or fasten gypsum panels until fastening adhesive has set.
- I. Provide Control Joints and expansion joints at locations of potential building movement, with space between edges of panels, prepared to receive trim accessories.
- J. Cover both faces of partition framing with gypsum panels in concealed spaces (above ceiling, etc.), except in chase walls which are braced internally.
- K. Tile Backer Board: Install with ¼ - inch (6.4-mm) gap where panels abut other construction or penetrations.
  1. Use at all plumbing walls and all FRP locations
- L. Multi-Layer Fastening: Apply base layers of gypsum panels and face layer to supports with screws.

### 3.3 INSTALLING TRIM ACCESSORIES:

- A. General: For trim accessories with back flanges, use the same fasteners to anchor trim accessory flanges as required to fasten gypsum board to the supports. Otherwise, fasten flanges to comply with manufacturer's recommendations.
- B. Install corner beads at external corners.
- C. Install metal edge trim whenever edge of gypsum board would otherwise be exposed or semi-exposed. Provide type face flange to receive joint compound. Install L-type trim where work is tightly abutted to other work. Install U-type trim where edge is exposed, revealed, gasketed or sealant-filled (including expansion joints).
- D. Install control joints (beaded-type) where indicated and where not indicated according to ASTM C 840. Provide at maximum spacing of 30'-0" or in locations approved by Architect for visual effect.
- E. Install miscellaneous work as shown and/or in accordance with manufacturer's instructions and recommendations. Where required, modify standard units, providing all accessories,



supporting, finish work and installation of durability and appearance acceptable to the Architect.

3.4 FINISHING GYPSUM BOARD ASSEMBLIES:

- A. Treat gypsum board joint, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.
1. Prefill open joints and damaged surface areas
  2. Apply joint tape over gypsum board joints, except those with trim having flanges not intended for tape
  3. **Gypsum Board Finish Levels:** Finish panels to levels indicated below, according to ASTM C 840. For locations indicated:
    - a) Level 1: Embed tape at joints in ceiling plenum areas, concealed areas, and where indicated, unless a higher level of finish is required for fire-resistance-rated assemblies and sound-rated assemblies.
    - b) Level 2: Embed tape and apply separate first coat of joint compound to tape, fasteners, and trim flanges where panels are substrate for tile and where indicated.
    - c) Level 3: Embed tape and apply separate first, fill, and finish coats of joint compound to tape, fasteners, and trim flanges at all gypsum board walls and ceilings to receive paint.

END OF SECTION

SECTION 096800 – CARPET

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Carpet, direct glued to substrate.
- B. Carpet Base.
- C. Accessories: As required.

1.2 REFERENCES

- A. Carpet & Rug Institute (CRI):
  - 1. CRI Indoor Air Quality Testing and Labeling Program.

1.3 PERFORMANCE REQUIREMENTS

A. Comply with the following Performance Requirements:

- 1. Static: (AATCC-134) Under 3.5 KV
- 2. Flammability: (ASTM E 648) Class 1(Glue Down)
- 3. Smoke Density: (ASTM E-662): Less Than 450

B. Warranties

- 1. Lifetime warranty against excessive surface wear. Excessive wear means no more than 10% loss of pile fiber weight measured before and after use as tested under ASTM D-3936.
- 2. Lifetime static protection, meaning built-in protection below 3.0 kv as tested under AATCC-134.
- 3. Tuft Bind (edge ravel, yarn pulls, zippering)
- 4. Delamination
- 5. Lifetime Moisture Barrier (excluding Premier Bac)
- 6. Lifetime Dimensional Stability (for modular products only)

1.4 SUBMITTALS

- A. Manufacturer's Data; Submit two (2) copies of manufacturer's specifications and installation instructions for carpet and related items specified.
- B. Fiber and Backing Verification. Submit certification from the fiber and backing producer verifying use of the branded fiber and backing in the submitted carpet product.
- C. Shop Drawings; For carpeted areas submit shop drawings showing installation of carpeting, pattern direction, necessary installation accessories, and provisions for work of other trades. Show location of different patterns or styles of carpet. Also, show locations of any threshold conditions, columns, enclosing walls, partitions, built-in cabinets, and locations where cutouts are required in carpet.

1. The contractor will supply reproducible prints on request, to facilitate shop drawing preparation.
- D. Samples: Submit standard-size carpet samples of each type of carpet, in each specified pattern, color, and construction.
1. Any alternates to specified products must be submitted for approval by a representative of the end user or owner at least ten (10) working days prior to bid or proposal.
  2. Final Sample Submittal.  
Submit two (2) sets of samples for each carpet type.
  3. No carpet shipments are permitted until acceptance of final samples is given by representative of the owner certifying that samples are the approved color, pattern, and texture.
  4. Custom Color Only: High-quality color samples shall be signed by a representative of the Owner, certifying that samples are the approved color, pattern, and texture.
  5. Samples submitted are assumed to the manufacturer's best obtainable match to the carpet described under Materials Section.
- 1.5 CLOSEOUT SUBMITTALS
- A. Maintenance Data: Include maintenance procedures, recommended cleaning and stain-removal materials, and recommended cleaning schedule. Include product data and Material Safety Data Sheets (MSDS) for cleaning and stain-removal materials.
- 1.6 QUALITY ASSURANCE
- A. Single Source Responsibility: Provide products from a single manufacturer for each carpet type specified.
- 1.7 QUALIFICATIONS
- A. Manufacturer: Company with minimum three (3) years experience specializing in manufacturing specified carpet (fiber to fiber and backing to backing) similar to type specified in this document; and whose published product literature clearly indicates compliance of products.
- B. Installer: Company specializing in installing carpet with minimum five (5) years experience.
- 1.8 PRE-INSTALLATION MEETINGS
- A. Convene one (1) week prior to commencing work of this section.

- B. Require attendance of installer contractor, owner, and other parties directly affecting the work of this section.

1.9 DELIVERY, STORAGE AND HANDLING

- A. Deliver carpet in sealed protective containers. Bind carpet materials with secure protective wrapping. Mark each carpet according to style, color, pattern, dye lot, run number, and quantity.
- B. Store products in an enclosed and dry area protected from damage and soiling.

1.10 ENVIRONMENTAL REQUIREMENTS

- A. Do not install carpet until areas have been fully enclosed and environmental conditions have reached the levels indicated during occupancy.
- B. Maintain ambient temperature and humidity conditions during and after installation of carpet at levels indicated during occupancy.
- C. Allow carpet to reach room temperature or minimum temperature recommended by manufacturer before beginning installation.
- D. Static Resistance: Provide 2.0 KV of lower resistance for 20% R.H. at 70 degrees AATCC 134.
- E. Tests: When installed on concrete slab on grade, submit results of all bond and moisture tests prior to installation including:
  - 1. ASTM F 710: "Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring." Provide temperature and humidity readings per ASTM F 710. Maximum limits for moisture and vapor pressure tests shall not exceed the limits set forth in Table 1. Schedule the referenced tests to be taken after the space to receive flooring is brought to "in-use" conditions through the use and operation of the permanent HVAC system. Tests shall be taken no more than 7 days prior to the installation of the flooring materials.
    - a. Testing shall take place within the building envelope when it is conditioned to the same ambient design temperature and relative humidity levels that will be maintained during the operation of the space(s) after Substantial Completion.
  - 2. ASTM F 2170 "Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using *in situ* Probes."
  - 3. ASTM F 1869 "Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydros Calcium Chloride."

- G. Alkalinity Tests: Alkalinity of the concrete surface shall not be less than pH 7.5, minimum, and shall not exceed pH 8.5, maximum. The test for alkalinity shall be taken at the floor surface only following completion of all abrasive removal operations (shot blasting, sanding, or grinding).

1.11 FIELD MEASUREMENTS

- A. Verify that field measurements are as indicated on Drawings.

1.12 SEQUENCING

- A. Sequence installation so as to minimize possibility of damage and soiling of carpet.
- B. Do not commence installation until painting and finishing work are complete, and ceiling and overhead work have been tested, approved, and completed.
- C. Heat, ventilate and air condition the space to "in-use" conditions for a sufficient period of time to allow for proper cure and adhesion of flooring adhesives. Minimum time limits and temperatures are specified as indicated.
- D. Perform alkalinity testing of concrete floors. If alkalinity exceeds pH 7.5 – 8.5, remedy by providing an approved floor sealer at no expense to the Owner.
- E. Perform moisture testing. If calcium chloride moisture test exceeds 3 lbs-pressure/1000SF/24hr (maximum) for flooring products, continue to condition the room until the manufacturer's requirements are met. As an alternative, if Testing indicates less than 7 lbs-pressure/1000SF/24hr, provide an approved floor sealer at no expense to the Owner.
- F. Verify with the Contractor that no liquid or membrane-forming curing compound has been used, and if one has been used, remove completely and continue drying process until concrete floor slab is acceptable for proper material installation and adhesive cure.
- G. Clean by vacuuming all construction joints thoroughly and prepare for installation of specified leveling and patching compounds.
- H. Meet all manufacturer's printed directions and instructions for project conditions prior to installation.

1.13 WARRANTY

- 1. Lifetime warranty against excessive surface wear. Excessive wear means no more than 10% loss of pile fiber weight measured before and after use as tested under ASTM D-3936.
- 2. Lifetime static protection, meaning built-in protection below 3.0 kv as tested under AATCC-134.
- 3. Tuft Bind (edge ravel, yarn pulls, zippering)
- 4. Delamination
- 5. Lifetime Moisture Barrier

- 6. Lifetime Dimensional Stability

1.14 EXTRA MATERIALS

- A. Provide three (3) percent overage of calculated yardage for each type of carpet (include carpet needed for complete installation plus waste and usable scraps in calculated yardage).
- B. Deliver specified overrun and usable pieces of carpet to owner's designated storage space, properly packaged and identified.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Core Elements Flooring Solutions Made Simple (Carpet)

- 1. Eaves BL manufactured by Core Elements
- 2. Color: 4391 Unbelievable
- 3. Construction: Multi-Level Loop
- 4. Backing: TrueBac
- 5. Dye Method: Solution Dyed
- 6. Fiber Type: 100% BCF Solution Dyed Polyester
- 7. Face Weight: 20 ox/sy
- 8. Pile Density: 6,545 oz./y<sup>3</sup>
- 9. Gauge: 1/12
- 10. TARR: 3

- B. Carpet Base to Match Carpet: 4" with hemmed edge

2.2 ADHESIVES

- A. Commercialon Modular Adhesive, Commercialon Premium Carpet Adhesive, Commercialon Seam Sealer, Commercialon Tile Tabs
- B. Zephyr Primer by Taylor adhesives shall be provided at all carpet installation locations.

2.3 ACCESSORIES

- A. Leveling Compound: Type as recommended by carpet manufacturer; compatible with carpet adhesive and curing/sealing compound used on concrete.
- B. Multi-Purpose Adhesive: Low VOC permanent strippable carpet adhesive as recommended by carpet manufacturer for direct glue down of carpet; Use slow-set permanent adhesive for patterned carpet to facilitate pattern match.
- C. Non-Metallic Carpet Edge Guard: Extruded or molded heavy-duty vinyl or rubber carpet edge guard of size and profile indicated; minimum two (2) inch wide anchorage flange; colors selected by owner from manufacturer's standard range of colors.

### PART 3 EXECUTION

#### 3.1 EXAMINATION

- A. Exam substrates for conditions under which carpeting is to be installed.
- B. Verify that floor surfaces are smooth and flat within  $\frac{1}{4}$  " per 10' and are ready to receive work..
- C. Beginning of installation means installer accepts substrate conditions.

#### 3.2 PREPARATION

- A. Substrates are required to be structurally sound and free of foreign substances that may compromise the carpet or its installation. Patching compounds are required to be suitable for the intended application. Select polymer-fortified patching compounds according to the carpet manufacturer's instructions. (Refer to current version of ASTM E1155).
- B. Remove sub-floor ridges and bumps. Fill minor or local low spots, cracks, joints, holes, and other defects with sub-floor filler.
- C. Vacuum floors again immediately before installation of carpeting.
- D. Preheat areas to receive carpet to a minimum temperature of 68 degrees F for 72 hours prior to installation. Maintain minimum temperature of 68 degrees F thereafter. Carpet and adhesive must be stored at a minimum temperature of 68 degrees F for 72 hours prior to installation.
- E. Provide a primer on the substrate to improve bond strength of the patch. Primer shall be as recommended and approved by the carpet manufacturer.

#### 3.3 INSTALLATION

- A. Install carpet in accordance with manufacturer's instructions and CRI 104.
- B. Install carpet under open-bottom obstructions and under removable flanges and furnishings and into alcoves and closets in each space.
- C. Provide cutouts where required. Conceal cut edges with protective edge guards or flanges.
- D. Run carpet under open-bottom items and install tight against walls, columns, and cabinets so that the entire floor area is covered with carpet. Cover over floor-type door closers.

- E. Install edging guard at openings and doors wherever carpet terminates, unless indicated otherwise.
- F. Perform cutting in accordance with manufacturer's recommendation using tools designed for carpet being installed. Verify carpet match before cutting to ensure minimal variation between dye lots.
- G. Use leveling compound where necessary. Feather floor leveling compound minimum of 4 ft.

### 3.4 FIELD QUALITY CONTROL

- A. Inspect completed carpet installation on each floor.
- B. Verify that installation is complete; work is properly done and acceptable.
- C. Remove and replace, at no additional cost to owner, any work found not to be acceptable.

### 3.5 CLEANING

- A. On completion of installation in each area, remove dirt and carpet scraps from surface of carpet. Remove soiling, spots, or excess adhesive on carpet with cleaning materials recommended by carpet manufacturer.
- B. Remove debris from site and dispose of properly.
- C. At completion of work, vacuum carpet using commercial vacuuming equipment as recommended by carpet manufacturer. Remove spots and replace carpet where spots cannot be removed. Remove rejected carpeting and replace with new carpeting. Remove any protruding yarns with shears or sharp scissors.

### 3.6 PROTECTION

- A. Do not permit traffic over unprotected floor surface.
- B. Protect carpet against damage during construction. Cover with 6-mil thick polyethylene covering with taped joints during construction period whenever protection is required, so that carpet will be without any indication of deterioration, wear, or damage at time of completion.
- C. Maintain protection of carpeting on each floor or area until work is accepted.

END OF SECTION



SECTION 099120 – PAINTS AND COATINGS

PART 1 GENERAL

1.1 SUMMARY

A. This Section includes surface preparation and the application of paint systems on the following substrates:

1. Concrete masonry units (CMU).
2. Steel.
3. Wood.
4. Gypsum board.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Samples for Verification: For each type of paint system and in each color and gloss of topcoat indicated.

1. Submit Samples on rigid backing, 8 inches square.
2. Step coats on Samples to show each coat required for system.
3. Label each coat of each Sample.

C. Product List: For each product indicated, include the following:

1. Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.
2. Printout of current "MPI Approved Products List" for each product category specified in Part 2, with the proposed product highlighted.

1.3 QUALITY ASSURANCE

A. MPI Standards:

1. Products: Complying with MPI standards indicated and listed in "MPI Approved Products List."
2. Preparation and Workmanship: Comply with requirements in "MPI Architectural Painting Specification Manual" for products and paint systems indicated.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
  - 1. Maintain containers in clean condition, free of foreign materials and residue.
  - 2. Remove rags and waste from storage areas daily.

1.5 PROJECT CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F.
- B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

1.6 EXTRA MATERIALS

- A. Furnish extra materials described below that are from same production run (batch mix) as materials applied and that are packaged for storage and identified with labels describing contents.
  - 1. Quantity: Furnish an additional 5 percent, but not less than 4 gal. of each material and color applied.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - 1. Benjamin Moore & Co.
  - 2. PPG Architectural Finishes, Inc.
  - 3. Sherwin-Williams Company (The).
  - 4. Rodda Paint

2.2 PAINT, GENERAL

A. Material Compatibility:

1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

B. Colors: As selected by Architect.

C. Finishing System: Premium Grades unless otherwise indicated.

2.3 BLOCK FILLERS

A. Interior/Exterior Latex Block Filler: MPI #4.

1. VOC Content: E Range of E2.

2.4 PRIMERS/SEALERS (INTERIOR)

A. Interior Latex Primer/Sealer: MPI #50.

1. VOC Content: E Range of E2

B. Interior Alkyd Primer/Sealer: MPI #45.

1. VOC Content: E Range of E2

C. Wood-Knot Sealer: Sealer recommended in writing by topcoat manufacturer for use in paint systems indicated.

2.5 METAL PRIMERS (INTERIOR)

A. Quick-Drying Alkyd Metal Primer: MPI #76.

1. VOC Content: E Range of E2

2.6 WOOD PRIMERS (INTERIOR)

A. Interior Latex-Based Wood Primer: MPI #39.

1. VOC Content: E Range of E2.

2.7 LATEX PAINTS (INTERIOR)

- A. High-Performance Architectural Latex (Eggshell): MPI #139 (Gloss Level 3).
  - 1. VOC Content: E Range of E2.

2.8 METAL TRIM, DOORS & FRAMES (INTERIOR & EXTERIOR)

- A. Quick-Drying Enamel (Semi-gloss): MPI #163 (Gloss Level 5).
  - 1. VOC Content: E Range of E2.

2.9 DRY FOG/FALL COATINGS (INTERIOR)

- A. Interior Latex Dry Fog/Fall: MPI #118.
  - 1. VOC Content: E Range of E2.

2.10 METAL PRIMERS (EXTERIOR)

- A. Quick-Drying Alkyd Metal Primer: MPI #76.
  - 1. VOC Content: E Range of E1.
- B. Waterborne Galvanized-Metal Primer: MPI #134.
  - 1. VOC Content: E Range of E1.
  - 2. Environmental Performance Rating: EPR 1.

2.11 ACRYLIC LATEX (EXTERIOR)

- A. Exterior Acrylic Latex (Satin): MPI #10, 15 (Gloss Level 2).
  - 1. VOC Content: E Range of E2.

2.12 LINE MARKING PAINT

- A. Line Marking Paint: Alkyd resin-type, ready-mixed complying with AASHTO M 248, Type I.

2.13 EPOXY PAINT:

A. Epoxy Paint Walls and Floor: 2 coats 2 component, polyamide epoxy coating low sheen: MPI #108.

B. Epoxy Paint Shower and Toilet floors: 2 coats 2 component, polyamide epoxy coating low sheen: MPI #108.

1. Provide Rust-Oleum Durability additive at Shower and Toilet stall.

2.14 MASONRY SEALER: (Exterior)

A. Weather Seal Blok-Guard & Graffiti Control II.

2.15 CONCRETE FLOOR SEALER (INTERIOR)

A. Rust-Oleum Clear-Seal

2.16 CONCRETE SIDEWALK SEALER (EXTERIOR)

A. Rust-Oleum Clear-Seal

B. Green Umbrella SoloCure

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of work.

B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:

1. Masonry (Clay and CMU): 12 percent.

2. Wood: 15 percent.

3. Gypsum Board: 12 percent.

C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

D. Begin coating application only after unsatisfactory conditions have been corrected and surfaces are dry.

1. Beginning coating application constitutes Contractor's acceptance of substrates and conditions.

### 3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates indicated.
- B. Remove plates, machined surfaces, and similar items already in place that are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
  1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
  2. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
- C. Clean substrates of substances that could impair bond of paints, including dirt, oil, grease, and incompatible paints and encapsulants.
  1. Remove incompatible primers and re-prime substrate with compatible primers as required to produce paint systems indicated.
- D. Concrete Masonry Substrates: Remove efflorescence and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces to be painted exceeds that permitted in manufacturer's written instructions.
- E. Steel Substrates: Remove rust and loose mill scale. Clean using methods recommended in writing by paint manufacturer.
- F. Wood Substrates:
  1. Scrape and clean knots and apply coat of knot sealer before applying primer.
  2. Sand surfaces that will be exposed to view and dust off.
  3. Prime edges, ends, faces, undersides, and backsides of wood.
  4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.
- G. Gypsum Board Substrates: Do not begin paint application until finishing compound is dry and sanded smooth.

### 3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions.
  - 1. Use applicators and techniques suited for paint and substrate indicated.
  - 2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
  - 3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
- B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat but provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
- E. Painting Mechanical and Electrical Work: Paint items exposed in equipment rooms and occupied spaces including, but not limited to, the following:
  - 1. Mechanical Work:
    - a. Uninsulated metal piping.
    - b. Uninsulated plastic piping.
    - c. Pipe hangers and supports.
    - d. Tanks that do not have factory-applied final finishes.
    - e. Visible portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets.
    - f. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.
    - g. Mechanical equipment that is indicated to have a factory-primed finish for field painting.

2. Electrical Work:

- a. Panelboards.
- b. Electrical equipment that is indicated to have a factory-primed finish for field painting.

3.4 FIELD QUALITY CONTROL

A. Testing of Paint Materials: Owner reserves the right to invoke the following procedure at any time and as often as Owner deems necessary during the period when paints are being applied:

- 1. Owner will engage the services of a qualified testing agency to sample paint materials being used. Samples of material delivered to Project site will be taken, identified, sealed, and certified in presence of Contractor.
- 2. Testing agency will perform tests for compliance with product requirements.
- 3. Owner may direct Contractor to stop applying paints if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying-paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.

3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 INTERIOR PAINTING SCHEDULE

A. Steel Substrates:

- 1. Quick-Drying Enamel System: MPI INT 5.1A.



- a. Prime Coat: Quick-drying alkyd metal primer.
  - b. Intermediate Coat: Quick-drying enamel matching topcoat.
  - c. Topcoat: Quick-drying enamel (semi-gloss).
2. Alkyd Dry-Fall System: MPI INT 5.1D at all exposed ceiling areas.
    - a. Prime Coat: Quick-drying alkyd metal primer.
    - b. Topcoat: Interior alkyd dry fog/fall.
- B. Dressed Lumber Substrates:
1. High-Performance Architectural Latex System: MPI INT 6.4A.
    - a. Prime Coat: Interior latex-based wood primer.
    - b. Intermediate Coat: High-performance architectural latex matching topcoat.
    - c. Topcoat: High-performance architectural latex (semi-gloss).
- C. Gypsum Board Substrates:
1. High-Performance Architectural Latex System: MPI INT 9.2B.
    - a. Prime Coat: Interior latex primer/sealer.
    - b. Intermediate Coat: High-performance architectural latex matching topcoat.
    - c. Topcoat: High-performance architectural latex (semi-gloss).
- D. Concrete Masonry Units MPI 4.2D (interior & exterior)
1. Latex Block Filler at interior locations MP4
  2. Latex, 2 coats of high performance at interior locations MPI-139
  3. Latex, 2 coats of MPI Exterior Latex (MPI # 10, 15), exterior locations.

END OF SECTION 099120

## **SECTION 12610 - FIXED AUDIENCE SEATING**

### **PART 1 GENERAL**

#### **1.01 SUMMARY**

- A. Section Includes: Fixed upholstered chairs with self-rising seat mechanisms, aisle and intermediate standards.
  - 1. Typical applications include the following
    - a. Floor mounted chairs.
  - 2. Special applications include the following
    - a. None
- B. Related Sections:
  - 1. Division 16 Electrical sections for electrical wiring and connections for aisle lights.

#### **1.02 REFERENCES**

- A. American Welding society (AWS):
  - 1. AWS D1.1 Structural Welding Code - Steel.
  - 2. AWS D1.3 Structural Welding Code - Sheet Steel.
- B. American Institute of Steel Construction (AISC):
  - 1. AISC - Design of Hot Rolled Steel Structural Members.
- C. American National Standards Institute (ANSI).
- D. American Iron & Steel Institute (AISI):
  - 1. AISI - Design Cold Formed Steel Structural Members.
- E. Aluminum Association (AA):
  - 1. AA - Aluminum Structures, Construction Manual Series.
- F. American Society for Testing Materials (ASTM)
  - 1. ASTM - Standard Specification for Properties of Materials.
- G. National Forest Products Association (NFPA):
  - 1. NFPA - National Design Specification for Wood Construction.
- H. National Bureau of Standards/Products Standard (NBS/PS):
  - 1. PS1 - Construction and Industrial Plywood.
- I. Americans with Disability Act (ADA)
  - 1. ADA - Standards for Accessible Design.

#### **1.03 MANUFACTURER'S SYSTEM ENGINEERING DESCRIPTION**

- A. Structural Performance: Engineer, fabricate and install fixed audience seating to the following structural loads without exceeding allowable design working stresses of materials involved, including anchors and connection. Apply each load to produce maximum stress in each respective component of each audience seat unit.

B. Manufacturer's System Design Criteria:

1. Seats and Backs:

- a. Shall embody a timeless sculptured appearance to harmonize with any architectural form or room decor.
- b. Shall exhibit moderate compound contours for supportive comfort avoiding excess anatomical pressures.
- c. Seat shall be semi-cantilevered, self-centering, automatic three-quarter (3/4) lift with over center retract feature, for ease of passage and janitorial access.
- d. Seat shall be tested and professionally certified through an independent testing laboratory to support and withstand an evenly distributed 600 lb.[272 Kg] static load without failure or irregularities that would impair usefulness.
- e. Self-lifting seat shall be tested and professionally certified through an independent testing laboratory to withstand 350,000 operating cycles without failure of seat mechanism or measurable component wear.
- f. Seat shall be tested and professionally certified to withstand 10,000 impacts of a 40 lb.[18 Kg] sandbag dropped on the center of the seat from each of the following heights: 6"[152mm], 8"[203mm], 10"[254mm], and 12"[305mm]. The rate of impacts shall be approximately 18 per minute with the total quantity of impacts equaling 40,000.
- g. Back shall withstand an evenly distributed front or rear static load of 450 lbs.[205 Kg].
- h. Back shall be tested and professionally certified to withstand, without failure, 40,000 swinging impacts each to the front and rear of the back by means of two opposing 40 lb. [18 Kg] sandbags. The sandbags shall be moved horizontally and equally for 10,000 cycles each at the following distances of 6"[152mm], 8"[203mm], 10"[254mm], and 12"[305mm] at a rate of 35 cycles per minute.
- i. Back shall withstand, without failure, an evenly distributed Horizontal Traverse Static Load of 200 lbs.[90.70Kg]. The load shall be applied to the top of the back at a 45-degree angle to the row of seats.
- j. Armrests shall be tested and professionally certified to withstand, without failure, a 200 lb.[91 Kg] static load applied both perpendicular to and vertically down on the arm.

2. Materials (Flammability) shall satisfy applicable test, codes, standards, or requirements as follows:

- a. Copolymer polypropylene shall have a burn rate of 1 inch [25.4mm] or less per ASTM 635.
- b. Upholstery materials shall meet requirements as set forth in the state of California Bureau of Home Furnishings Technical Bulletin 117.
- c. Fire-performance Characteristics of Seat Padding: Provide seating that complies with test method: California Technical Bulletin 117
- d. Cushioning and padding shall be self-extinguishing as defined in the requirements as set forth in the State of California Bureau of Home Furnishings Technical Bulletin 117.

**1.04 SUBMITTALS**

- A. Section Cross-Reference: Submit required submittals in accordance with "Conditions of the Contract" and Division
  1. General Requirements sections of this "Project Manual."
- B. Project Data: Manufacturer's product data for each system. Include the following:

- C. Shop Drawings: Indicate fixed upholstered chair seating layout. Show all equipment to be furnished with details of accessories to be supplied including necessary electrical service to be provided by others.
- D. Samples: Seat materials and color finish as selected by Architect from manufacturers standard color finishes.
- E. Manufacturer Qualifications: Certification of insurance coverage and manufacturing experience of manufacturer.
- F. Installer Qualifications: Installer qualifications indicating capability, experience, and manufacturer acceptance.
- G. Owners Manuals: Provide Owner's maintenance manual and demonstrate operating procedures.
- H. Warranty: Manufacturers standard five-year warranty documents.

#### **1.05 QUALITY ASSURANCE**

- A. Welding Standards & Qualification: Comply with AWS D1.1 Structural Welding Code - Steel and AWS D1.3 Structural Welding Code - Sheet Steel.
- B. Insurance Qualifications: Mandatory that each bidder submit with his bid an insurance certificate from the manufacturer evidencing the following insurance coverage:
  - 1. Workers Compensation - including Employers Liability with the following limits:
    - a. \$500,000.00 Each Accident
    - b. \$500,000.00 Disease - Policy Limit
    - c. \$500,000.00 Disease - Each Employee
  - 2. Commercial General Liability - including premises/ operations, independent contractors and products completed operations liability. Limits of liability shall not be less than \$2,000,000.00
- C. Manufacturer Qualifications: Manufacturer who has 10 years of experience manufacturing spectator seating equipment.
- D. Installer Qualifications: Engage experienced Installer who has specialized in installation of audience seating similar to types required for this project and who is acceptable to, or certified by, fixed upholstered chair seating manufacturer.

#### **1.06 DELIVERY, STORAGE AND HANDLING**

- A. Deliver fixed upholstered chair seating in manufacturers packaging clearly labeled with manufacturer name and content.
- B. Handle seating equipment in a manner to prevent damage.
- C. Deliver the seating at a scheduled time for installation that will not interfere with other trades operating in the building.

#### **1.07 PROJECT CONDITIONS**

- A. Field Measurements: Coordinate actual dimensions of construction affecting fixed upholstered chair seating installation by accurate field measurements before fabrication. Show recorded measurements on final shop drawings. Coordinate field measurements and fabrication schedule with construction progress to avoid delay of Work.

### 1.08 WARRANTY

- A. Manufacturer's Product Warranty: Submit manufacturer's standard warranty form for fixed upholstered chairs. This warranty is in addition to, and not a limitation of other rights Owner may have under Contract Documents.
  - 1. Warranty Period: Five years from Date of Substantial Completion.
  - 2. Beneficiary: Issue warranty in legal name of project Owner.
  - 3. Warranty Acceptance: Owner is sole authority who will determine acceptance of warranty documents.

### 1.09 MAINTENANCE AND OPERATION

- A. Instructions: An owners manual shall be transmitted to the Owner by the manufacturer of the seating or his representative.
- B. Service: Maintenance and operation of the seating system shall be the responsibility of the Owner or his duly authorized representative, and shall include the following:
  - 1. Only attachments specifically approved by the manufacturer for the specific installation shall be attached to the seating.
  - 2. Periodic annual inspections and required maintenance of each seating system shall be performed according to the owners manual to assure safe conditions.

## PART 2 - PRODUCTS

### **"OR APPROVED EQUAL"**

### 2.01 MANUFACTURERS

- A. Manufacturer: Hussey Seating Company, U.S.A.
  - 1. Address: 38 Dyer St Ext., North Berwick, Maine, 03906
  - 2. Telephone: (207) 676-2271; Fax: (207) 676-9690
  - 3. email: [info@hussyseating.com](mailto:info@hussyseating.com)
  
- B. Manufacturer: Dealer Direct Office Furniture:
  - 1. Address: 8440 W. Fairview Avenue, Boise, Idaho 83709
  - 2. Telephone: 208-658-2252
  - 3. Email: [Sales@dealerdirectofficefurniture.com](mailto:Sales@dealerdirectofficefurniture.com)
  - 1. Product:
    - a. Model: **Quattro or Showman**
    - b. Series: Classic
    - c. Back Foam: 2" [51mm]
    - d. Seat Type: 4" Molded Foam, Full enveloped
    - e. Armrest Type: Plastic
    - f. Standards: Steel or Cast aluminum
    - g. Chair Mount: Floor Mount
    - h. End Panels: laminated
  - 2. Product Description/Criteria:

- a. Number of Chairs: \_\_\_\_\_
- b. Number of Rows: \_\_\_\_\_
- c. Number of Wheelchair Locations: \_\_\_\_\_
- d. Number of ADA Easy Access End Standards: \_\_\_\_\_
- e. Row Spacing: \_\_\_\_\_
- f. Rise: \_\_\_\_\_
- g. Fabric: \_\_\_\_\_

- 3. Product Accessories: Armrest, End Panels laminated, Row letters, Removable chairs, Aisle lights

## 2.02 MATERIALS

- A. Cast Aluminum: AA - 380
- B. Steel Tubing: ASTM A513
- C. Steel Sheet/Coil: ASTM A607
- D. Mechanical
- E. Exposed Hardwood Lumber:
- F. Concealed Plywood: Engineered Wood Association PS1-95 2000: Poplar
- G. Exposed Plywood: Hardwood Plywood ANSI/HPVA-1 2000: Birch
- H. Plastic Laminate: NEMA LD3.1-1985, GP 48
- I. Polyurethane Foam Padding: ASTM D-3574
- J. Fabric: 100% Marquesa Lana continuous filament Olefin in the following standard selections:
  - 1. Fabric shall have 16 fill picks per inch, 19 warp ends per inch, weighing 12 oz. [340grams] per linear yard including backing.
- K. Molded plastic: Injection Molded copolymer polypropylene or nylon 6/6.

**2.04 DESIGN AND CONCEPT:** Auditorium chairs shall be designed to exhibit a modern appearance that will enhance any auditorium's décor. Seats, backs, and standards shall complement each other without the need for end panels or other adornments. Superior comfort will be derived through careful ergonomic engineering, selection of materials, and design of supportive structures.

## 2.05 FABRICATION

- A. Upholstered Seats:
  - 1. The seat assembly shall consist of a stylish padded and upholstered top surface, a polypropylene bottom shell with dual contours, and a dual sprung lifting mechanism. Seat shall have the ability to achieve a full fold position when rearward pressure is applied. Superior comfort shall be derived through careful ergonomic engineering.

2. Upholstery Pad: The upholstered seat topper shall consist of a 5/8" thick formed ply form base with contoured molded polyurethane foam padding and fabric upholstered cover. Seat padding shall be properly contoured to support the body without causing discomfort. The upholstered seat cover shall exhibit a high degree of tailoring and will be affixed to the base with upholstery staples.
3. Seat Mechanism: Seat lifting mechanism shall use lubricated lifting springs to provide whisper quiet fail-safe operation. The seat structure shall rotate on a 3/4" [19mm] spanner bar to assure shaft alignment and eliminate binding due to irregular floor conditions. Seats shall be certified to withstand 350,000 lifting cycles and a 600lb static load without failure.
4. Standard Bottom Cover: Seat shell/bottom shall be constructed of polypropylene plastic to provide a durable yet aesthetic design. The cover shall protect the mechanical parts of the lifting hinge and upholstered seat topper. The shell / bottom shape shall compliment the overall design of the chair.
5. Fully Enveloped Bottom Cover: Seat shell/bottom cover shall be constructed of polypropylene plastic covered with the specified upholstery laminated with foam for distinctive styling. Tailoring shall display a superior level of design workmanship and fit. Seams shall be straight, continuous and neat, without unsightly puckering.
6. **SEAT FOAM 4" Molded, Plush**
7. **SEAT COVER TAILORING. Waterfall**
8. Visual appeal and mask typical parasin marks from the blow molding process, The top seating surface shall have no "witness lines" from tooling size inserts but shall have a recessed design reveal to outline the area for a recessed pad option. All structural fasteners shall be molded into the polymer seat.
9. Seat mechanism: Seat lifting mechanism shall use lubricated lifting springs and rubber end stops to provide whisper quiet fail-safe operation. The seat structure shall rotate on a 3/4" [19mm] spanner bar to assure shaft alignment and eliminate binding due to irregular floor conditions. Seats shall be certified to withstand 350,000 lifting cycles and a 600lb static load without failure. The 2 individual seat lifting mechanisms shall be hidden and protected from dirt and contamination with an injection-molded cover, attaching to the polyethylene seat.

B. Classic Series Back (Plastic Outer Back Cover)

1. The outer back panel shall be constructed of injection molded polypropylene Plastic. The panel shall be no less than 27" in length and conceal the rear and sides of the upholstered inner panel. The panel shall extend below the rear of the seat to protect the chair occupant s back.
2. The inner upholstered panel shall be 5/8" (15mm) 11 ply thick-formed hardwood with an ergonomically engineered contour. The wings for attachment of chair back to standard shall be not less than 14 ga (1.9mm) and will be attached via concealed fasteners. Wings shall position the chair back at one of three positions: 15, 18, or 21 degrees. There shall be no exposed fasteners above the seat. Chair back upholstery shall exhibit a high degree of workmanship and customization.
  - a. Round – 36" The top of the back is radiused for stylish looks and a timeless appearance. Overall back height is 36" above the floor allowing proper shoulder support of the chair

occupant. The back surface shall be contoured to facilitate proper posture of a seated individual.

3. **BACK FOAM TYPE.** 2”(51mm) cut
4. **BACK COVER TAILORING.** Waterfall,

C. Steel Standards:

1. The top of the standard shall provide for vandal resistant attachment of the armrest, without the use of exposed fasteners on the surface of the arm.
2. Floor mounted standards shall have a 14 gauge [1.9mm] formed steel foot. The formed foot shall be full perimeter welded to the upright tubular member. The floor mount standards shall be manufactured to match floor inclines in order to maintain proper seat height and angle.

D. Cast Aluminum Standards:

1. Standards shall be die cast Aluminum AA380 grade.
2. **FLOOR MOUNT STANDARDS** Standards shall be floor attached, designed to maintain a constant seat height to floor.
3. Cast Aluminum Standards shall be an integral aesthetic part of the chair's appearance and do not require the use of end panels.

E. Seat Hinges:

1. Seat hinges shall be fully contained within the seat pan and fitted with a pair of independent nylon bushings.
2. Each of the independent seat hinges shall be fitted with double acting; self-centering, pre-loaded coiled seat return spring.
3. Seat hinge and spring installation shall be designed not to require periodic adjustment or lubrication.

F. Finish:

1. Finish for Steel / Aluminum Components: (Indoor) Material shall be pre-treated in an iron phosphate wash system prior to finish application. Finish shall be a specially blended polyester T.G.I.C./Epoxy powder coating with a minimum dry film thickness of 1.5 mils.
2. Injection molded polypropylene or nylon: Shall be pigmented, in one of manufacturers standard colors and have a textured surface.
3. Fabric: Upholstery material shall be 100% Marquesa Lana continuous filament Olefin yarn with one of manufacturer's standard fabric offerings.
4. Color: Shall be per manufacturer's standards. Seating Contractor shall submit color samples for owner's approval prior to manufacture.

G. Armrests:

5. Armrests, Injection Molded Plastic: Armrests shall be of injection molded, textured polypropylene. Armrest to be secured to standard with concealed fasteners.

## 2.05 FASTENINGS



- A. Chair Assembly
  - 1. All welds shall be made at the factory by welders that are certified on the equipment and process used.
  - 2. All structural connections shall be made with S.A.E. stress rated zinc plated or, black oxide steel bolts, washers and nuts.
- B. Concrete Floor Attachment
  - 1. Chair stanchions shall each be attached by means of two 1/4"[6mm] mechanical wedge anchors set in holes drilled to a minimum depth of 2"[50mm] in the concrete.

Wedge anchors shall be tested to ASTM E488 criteria and listed by ICBO and SBCCI. Wedge anchors feature a type 18-8 stainless steel split expansion ring and a threaded stud bolt body and integral cone expander, and a nut and washers. Stanchion shall be placed on the bolts, stanchions to be permanently secured with a flat washer, lock washer and nut.

## 2.06 ACCESSORIES

- A. End Panels, Plastic Laminate: End panels to be 1/2"[13mm] MDF, finished with laminated plastic. (Select End Panel Shape: Quattro Style, SoftSquare, Round or T1 Tablet Arm) End panels to be furnished per Plan of Seating.
- B. Standard Row Letters: Black text with gray background on a 23/32" x 2 7/32" [18.5mm x 56.5mm] elliptical Lexan plate. Plate fitted in a vandal resistant recess located in rear of armrest and secured with adhesive.
- C. T2m Folding Laptop Tablet Arm for reduced row spacing: Tablet arm to be 18 7/8" x 12 1/2" [480mm x 320mm] with rounded corners. Top and bottom surfaces to be high pressure laminate over solid core plywood. Tablet arm to store within users' chair beneath the seat.
- D. Removable Chairs: Provide chairs to be floor mounted and ganged in groups of one, two, or three chair units for easy removal. Chair standards shall be mounted to a painted steel skid base. Skid base with chairs shall be easily removed from the concrete floor by means of flush mounted internally threaded expansion anchors positioned under each leg of the skid. When removed, the anchor holes are filled by flat head bolts to provide a flat surface and prevent dirt and debris from entering.
- E. Aisle Lights: Aisle lights will operate from 24 volts (low voltage) requiring a transformer system (supplied by Hussey). "Low Voltage Luminaire" electrical system approved by Underwriters Laboratories Inc. Aisle lights to be mounted onto end panel or aisle standard and will be furnished with cover as an integral part of the chair standard. Select: Low or High Mount)

## PART 3 - EXECUTION

### 3.01 EXAMINATION

- A. Verification of Conditions: Verify areas to receive fixed upholstered chair seating are free of impediments interfering with installation and condition of installation substrates are acceptable to receive audience seats in accordance with seating manufacturer's recommendations. Do not commence installation until conditions are satisfactory.

### **3.02 INSTALLATION**

- A. Manufacturer's Recommendations: Comply with seating manufacturer's recommendations for product installation requirements.
- B. General: Install fixed upholstered chair system in accordance with manufacturer's installation instructions and final shop drawings. Provide accessories, anchors, fasteners, inserts and other items for installation of seating and for permanent attachment to adjoining construction.

### **3.03 ADJUSTMENT AND CLEANING**

- A. Adjustment: After installation completion, all equipment is to be adjusted for smooth and proper operation.
- B. Cleaning: Clean work area and remove debris from site.

### **3.04 PROTECTION**

- A. General: Provide final protection and maintain conditions, in a manner acceptable to manufacturer and installer to ensure audience seats are without damage or deterioration at time of substantial completion.

END OF SECTION

**FS SERIES**  
Fully Assembled Rack System w/ DC Fans



SR-FS-SYSTEM-DC- 15U / 21U / 27U

**Product Overview**

**Package Contents**

- A. Top Cover
- B. Frame
- C. Front Door - Tinted Glass
- D. Side Panel (x2)
- E. Rear Panel
- F. Bottom Cover
- G. 2U Rack Shelf (varies per rack units)
- H. 2U Vented Panel (varies per rack units)
- I. Casters (x4)
- J. DC Fans (x2)
- K. Locking Door Latch
- L. Door Latch Plate
- M. Ground Studs (4) (located on top and bottom covers in the rear of rack)
- N. Nylon Washers (3)
- O. Pre-installed Bushings (3) (located inside hinge holes)

**Key Features**

- 750 lbs. Max Load Capacity
- Tamper Resistant Lock on Reversible Tempered Glass Front Door
- Removable Side and Rear Panels for Easy Serviceability
- Front and Rear Rails Tapped with 10/32 Threads to Allow for Mounting of Components in Front or Rear of Rack
- Superb Ventilation System - Strategically Placed Fans\* & Vents to Ensure that Equipment Stays Cool
- Lifetime Limited Warranty

**Included Accessories**

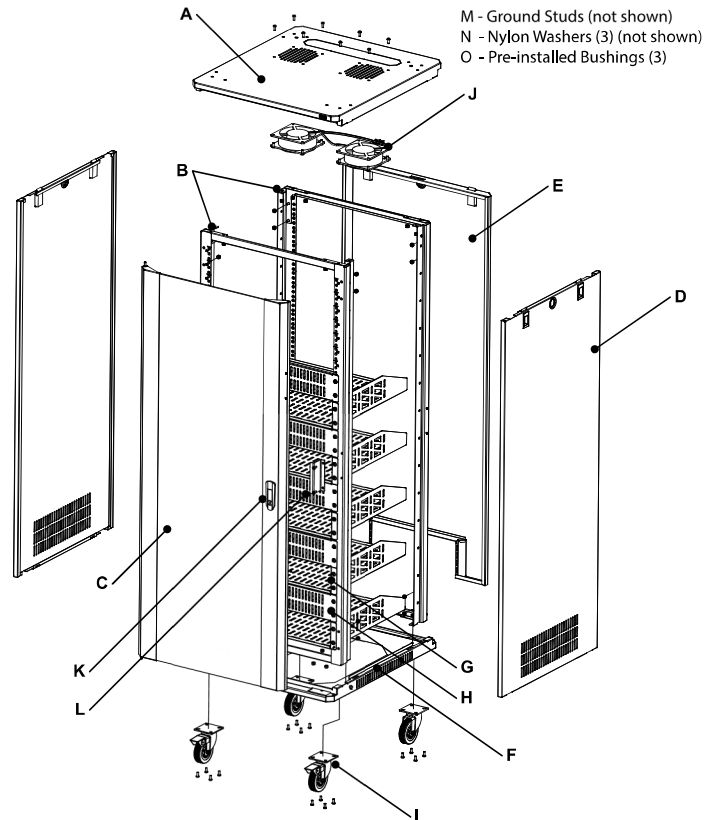
Each rack includes the following number of shelves and vent panels.

Rack	Shelves	Vented Panels
SR-FS-SYSTEM-DC-15U	2	2
SR-FS-SYSTEM-DC-21U	3	3
SR-FS-SYSTEM-DC-27U	5	5

**\*Notes:** Fans are always on, we recommend they are plugged into a switching surge protector or AV receiver.

Please be sure to check with local authorities in regard to code requirements for compliance.

If the door is rubbing against the base, then add the necessary amount of nylon washers (N) onto the bottom hinge pin to allow for extra clearance.



**CAUTION!**

When loading equipment into cabinet, ensure that the casters are locked, and load heavier equipment at the bottom of the rack.

**Reversing Front Door**

**Tools Required:**

#2 Phillips Head Screwdriver

**Reversal Steps**

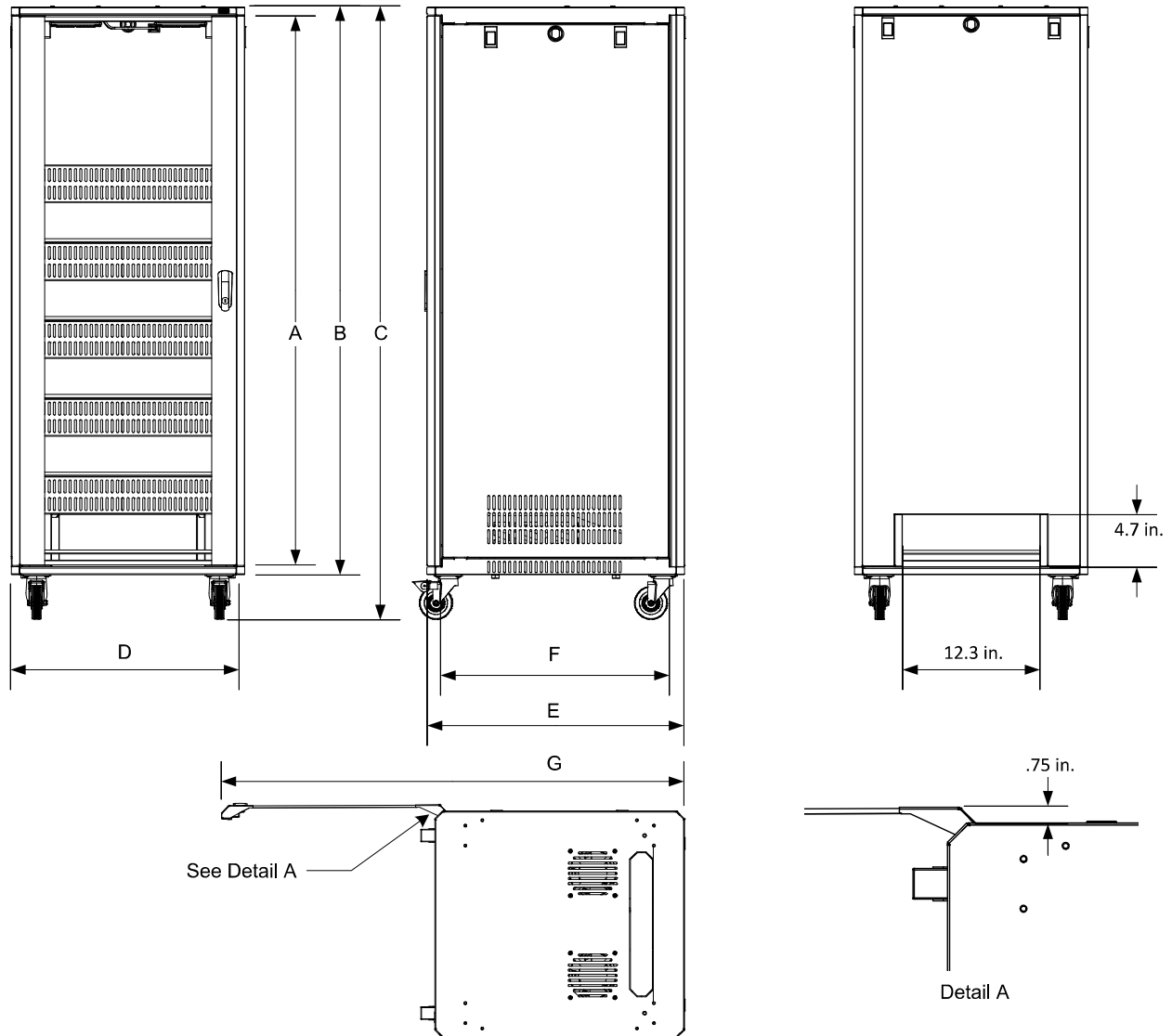
1. Remove both side panels (D), and open the front door (C).
2. Remove the Door Latch (K) by removing the clamp with a #2 Phillips screwdriver, and slide the latch out of the door.
3. Remove the Latch Plate (L) using a #2 Phillips screwdriver.
4. Pull the top and bottom hinge pins out of the locking position and slide the door up and out. Remove the bottom, pre-installed bushing (O).
5. Insert the bushing into the opposite bottom hinge pin hole.
6. Flip the door over, and slide the bottom hinge pin in first. Once in place, insert the top hinge pin. Ensure hinge pins are secure.
7. Attach the Latch Plate (L) to the rack opposite the door hinges using a #2 Phillips screwdriver.
8. Insert the Door Latch (K) into the door, and secure with the clamp using a #2 Phillips screwdriver.
9. Close and latch the door, and reattach the side panels (D).



**FS SERIES**  
Fully Assembled Rack System w/ DC Fans

SR-FS-SYSTEM-DC - 15U / 21U / 27U

Dimensions



Product	A-Racking Height	B-Height (Overall)	C-Height (With Casters)	D-Width (Overall)	E-Depth (Overall)	F-Usable Depth	G-Depth (Door Open)
SR-FS-SYSTEM-DC-15U	15U	30.25"	34"	21.1"	23.25"	18.25"	43.2"
SR-FS-SYSTEM-DC-21U	21U	40.75"	44.5"	21.1"	23.25"	18.25"	43.2"
SR-FS-SYSTEM-DC-27U	27U	51.25"	55"	21.1"	23.25"	18.25"	43.2"



**Lifetime Limited Warranty**

All Strong™ products have a Lifetime Limited Warranty. This warranty includes parts and labor repairs on all components found to be defective in material or workmanship under normal conditions of use. This warranty shall not apply to products which have been abused, modified or disassembled. Products to be repaired under this warranty must be returned to SnapAV or a designated service center with prior notification and an assigned return authorization number (RA).

For Technical Support: 1.866.838.5052



SR-DRAWER-3U

### Strong™ Lockable Rack Drawer

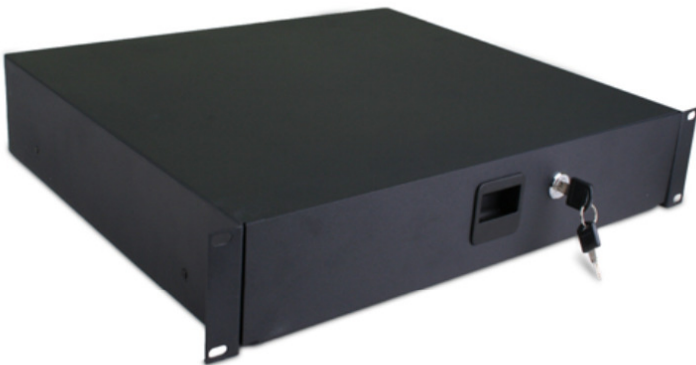
Every rack could use a drawer - DVDs, remotes, game controllers, 3D glasses... where else are you going to put all that stuff? These drawers feature ball bearing slides that provide a smooth roll, and a lock to keep your valuables secure. Plus the face of these drawers sits flush with the rack for a clean and finished look, and we placed a black plastic pull directly in the center for easy opening. Smart design that anticipates all your integrated network needs.



**Storage**



**Smooth Operator**



**Lock It Down**

In commercial applications, rental properties - even in your own home - you may have the need to lock the drawer to keep others out. This drawer is fitted with a locking latch and comes with two keys.



**Rear Access Grommet**

If you were thinking about putting anything powered, wired or otherwise connected to equipment inside a drawer - we've got you covered. Along the backside of the drawers is a 1 7/8" diameter sliced grommet to allow wire pass through.

#### Lifetime Limited Warranty

Strong® Rack products have a Lifetime Limited Warranty. This warranty includes parts and labor repairs on all components found to be defective in material or workmanship under normal conditions of use. This warranty shall not apply to products which have been abused, modified or disassembled. Products to be repaired under this warranty must be returned to Snap One or a designated service center with prior notification and an assigned return authorization number (RA).

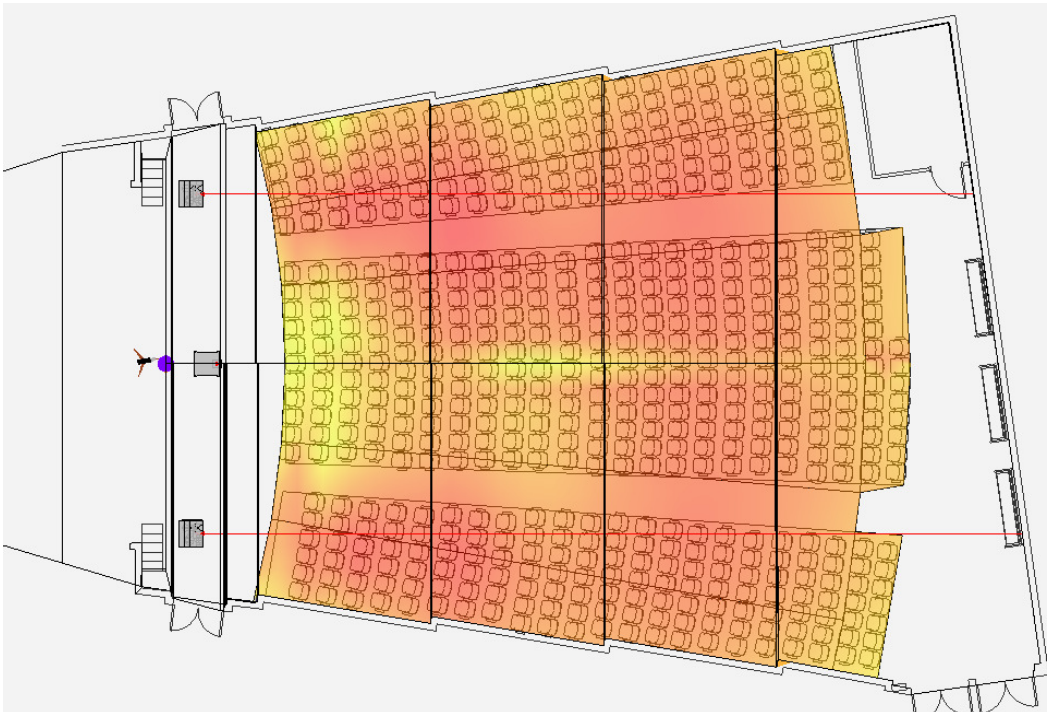


AUDIO • VIDEO • NURSE CALL • SYSTEM INTEGRATION  
7840 W Gratz • Boise, Idaho 83709  
Phone: 208.343.0900 • Toll-free: 800.635.5945  
Fax: 208.344.9087  
Web: www.aatronics.com

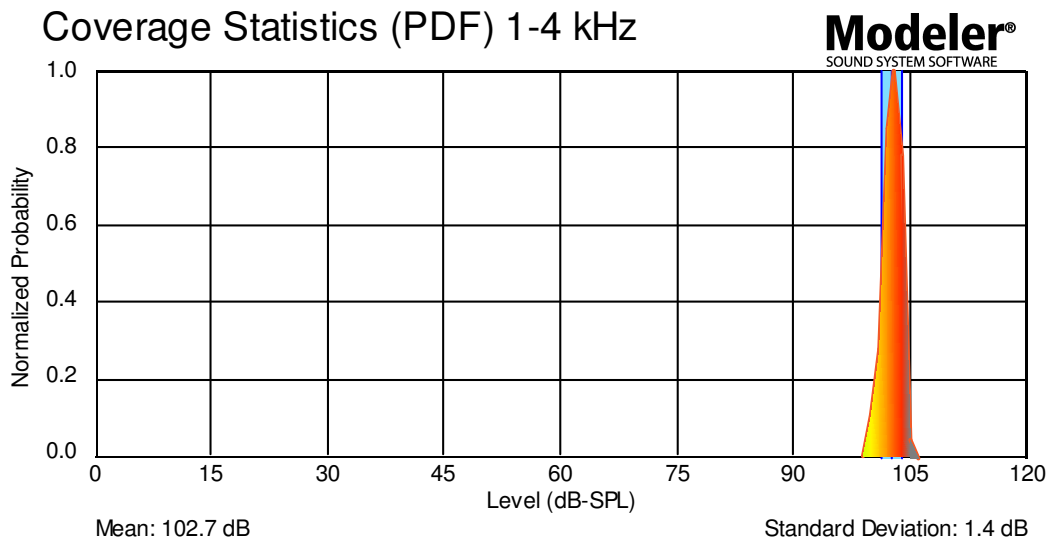
## Filer Middle School

### Update Auditorium Audio System

#### 1. Coverage Map: 1-4 KHz, Direct Field



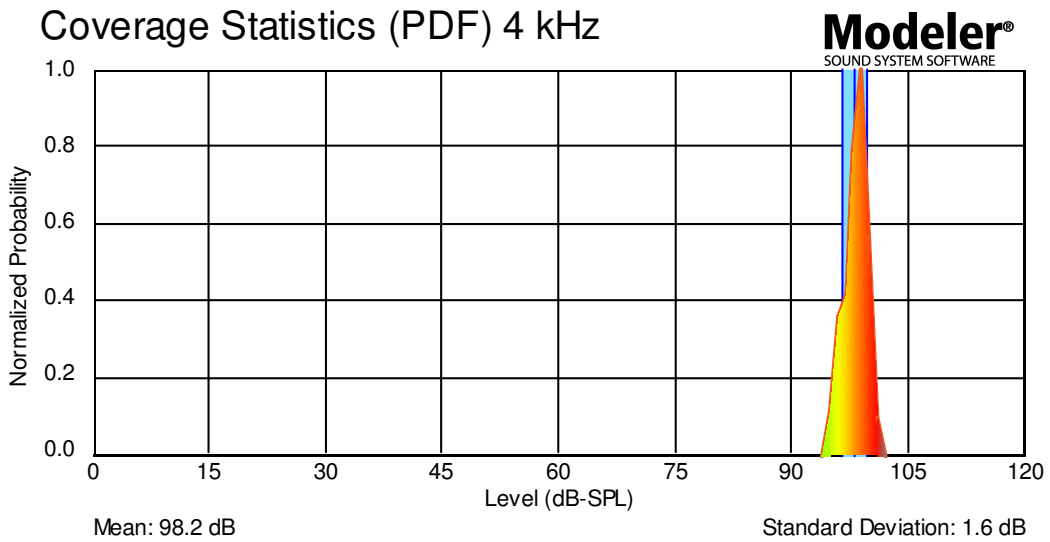
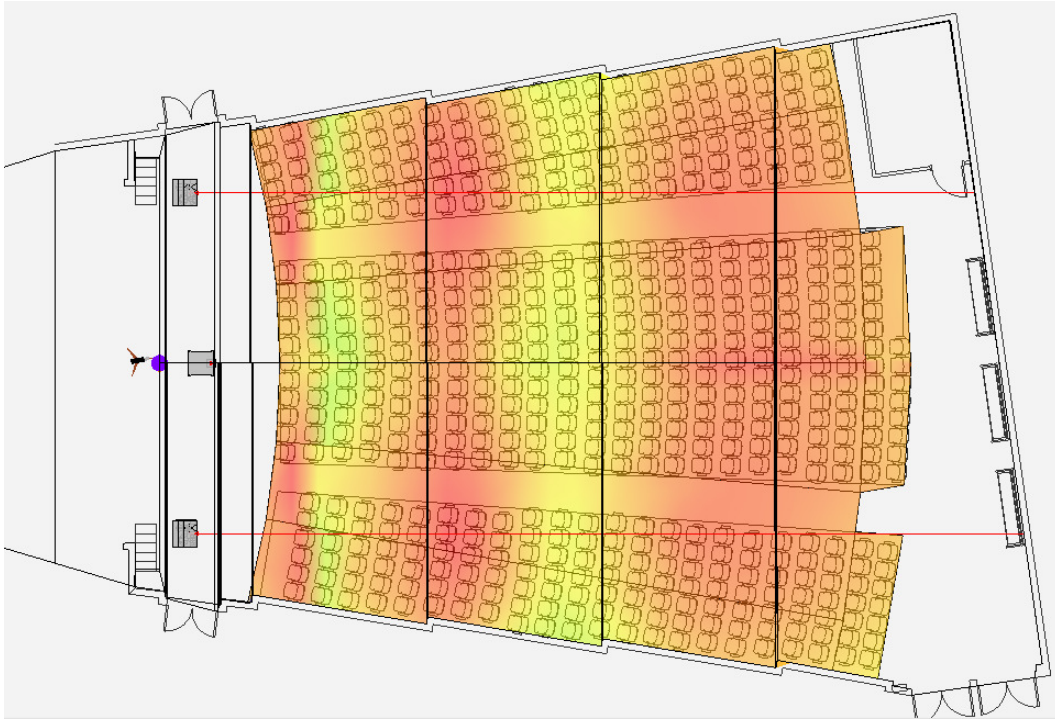
Coverage Statistics (PDF) 1-4 kHz





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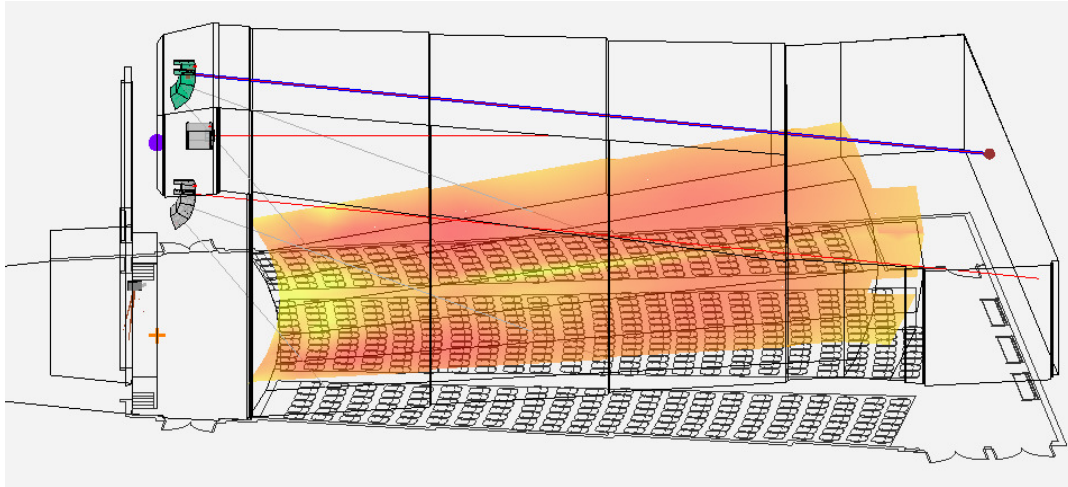
2. Coverage Map: @ 4 KHz, Direct Field





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3. Side View of Speaker Array:



4. Rigging Information:

ArenaMatch Array Rigging Data - Cluster 1				
Array Within WLL	Pickup Point	⊕ Frame Pitch		Pull Bracket
YES	F7	Target	Predicted	NA
		-1.04 °	-1.03 °	
Array Design is Within Acceptable Limits				
<b>Calculated Values</b>		<b>Metric</b>	<b>US</b>	
Total Array Weight		132.9 kg	293.0 lb.	
Ⓜ Array Hang Height		6.43 m	21.09 ft.	
Ⓜ Array Frame Load (per side)		66.4 kg	146.5 lb.	
Ⓜ Array Center of Gravity (X-axis)		-26.2 cm	-10.3 in.	
Ⓜ Array Center of Gravity (Z-axis)		-41.6 cm	-16.4 in.	
<b>Key Dimensions</b>			<b>Notes</b>	
<p>           ① Frame Pitch            ② Array Hang Height *            ③ Array Frame Load (per side)            C Center of Gravity            R Distance from Front Fastener to C.O.G.            * relative to z=0 in room model         </p>			<p>1) The design safety factor for all ArenaMatch array rigging hardware is 10:1</p> <p>2) The Center of Gravity dimensions are referenced to the front threaded insert of the first (topmost) module of the array.</p>	

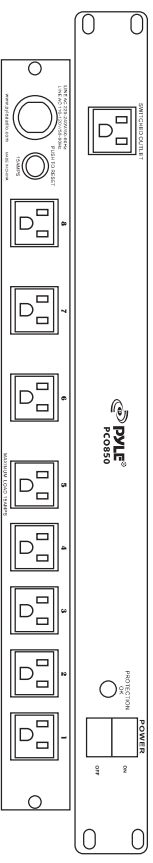


# 19" RACK MOUNT POWER SUPPLY

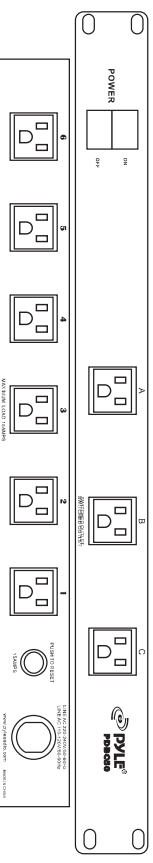


## PC0850/PDBC50/PDBC70

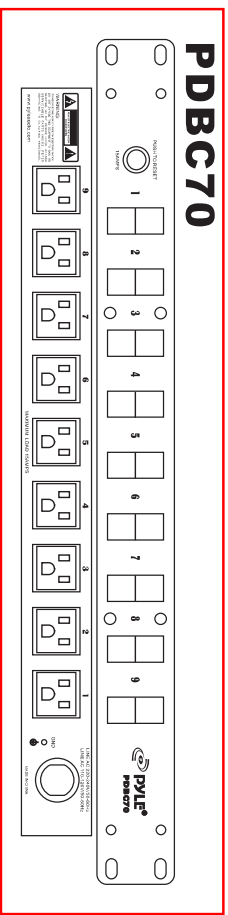
### PC0850



### PDBC50



### PDBC70



[www.pyleaudio.com](http://www.pyleaudio.com)

718.535.1800 718.236.2400 (fax)

1600 63rd Street, Brooklyn NY 11204

# OWNER'S MANUAL

[www.pyleaudio.com](http://www.pyleaudio.com)

**INTRODUCTION:**

Thank you for purchasing PYLE series 1 U Rack Mount Power Supply Conditioner, and congratulations on your choice. The Power Supply Conditioners feature excellent surge protection for all your systems, and they supply multiple outlets for your powering equipment. It not only protects anything plugged into them from spike and surges, but also has a built-in AC noise filter to rid the system of radio frequency and electromagnetic interference. And this allows all your equipments to function better and last longer.

**SAFETY INFORMATION:**

To obtain best results from our Power Supply Conditioner Unit, please read the manual carefully before using.

**WARNINGS:**

To reduce the risk of electrical shock, do not expose this equipment to rain or moisture. Dangerous high voltage is present inside the enclosure. Do not remove the covers. Refer servicing to qualified personnel only.

**CAUTION:**

These equipments shall be connected a 20 Ampere rated receptacle of the branch circuit. The total current drawn from the receptacles of these equipments is 15 Amperes maximum, and no individual receptacle shall draw more than 12 Ampere.

**IMPORTANT SAFETY GUIDELINES:**

- \*Please pay close attention to the important operating and maintenance instruction in this manual.
- \*Read the instructions.
- \*Keep and follow all the instructions.
- Heed all warnings.
- \*To prevent fire or electric shock, do not expose this equipment to rain or moisture. Do not use this apparatus near water.
- \*Clean the unit with a damp cloth only, Do not use solvents or abrasive cleaners. Never pour liquid on or into the unit.
- \*Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatuses (including amplifiers) that produce heat.
- \*Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding plug has two blades and round grounding prong. The wide blade or third prong is provided for your safety. If the provided plug does not fit your outlet, consult an electrician for the placement of the obsolete outlet.
- \*Route the power cord and other cables so that they are not likely to be walked on, tripped over, or stressed. Pay particular attention to the condition of the cords and cables at the plugs, and the point where the Power Supply Conditioners. To prevent risk of fire or injury, damaged cords and cables should be replaced immediately.
- \*Unplug the unit during lightning storms or when unused for long periods of time
- \*When wiring this unit and all other equipment used in connection to this unit make sure that all of your equipment it turned OFF

\*Once installation and wiring is complete power on all your equipment with the volume and level controls DOWN. Once all the equipment is ON slowly raise the volume or level controls to their proper positions.

\*Before placing, installing, rigging, or suspending any product, inspect all hardware, suspension, cabinets, brackets, and associated equipment of damage. Any missing corroded, deformed, or non-load rated component could significantly reduce the strength of the installation, placement or array. Any such condition severely reduces the safety of the installation and should be immediately corrected. Use only hardware which is rated for the loading condition of the installation and any possible short-term, unexpected over-loading. Never exceed the rating of the hardware or equipment.

\*Consult a licensed, professional engineer regarding physical equipment installation. Ensure that all local state and national regulations regarding the safety and operation of equipment are understood and adhered to.

\*Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way. Such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

**PCO850 FEATURES:**  
\* 1U Rack Mountable  
\* AC noise filtering to reduce radio frequency and electromagnetic interference

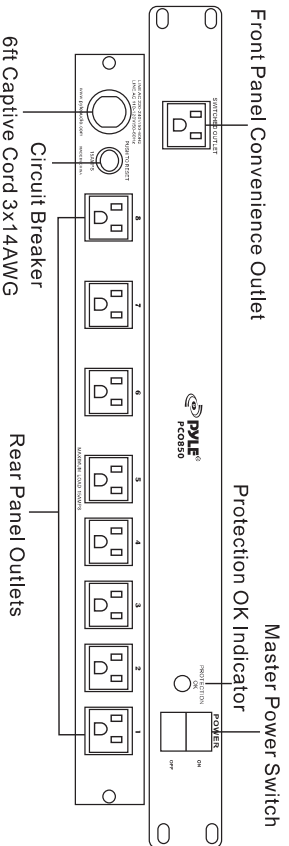
\* Spike & surge protection ensures equipment stays safe and your power stays clean  
\* " Protection Ok " indicator  
\* 8 real panel outlets, and with one front panel convenience outlet  
\* 15 amp rating with circuit breaker, and push to reset function with current protection

**PCBC50 FEATURES:**  
\* 1U Rack Mountable  
\* Spike & surge protection ensures equipment stays safe and your power stays clean  
\* 6 real panel outlets, and with 3 front panel convenience outlet  
\* ON/OFF power supply switch  
\* 15 amp rating with circuit breaker, and push to reset function with current protection

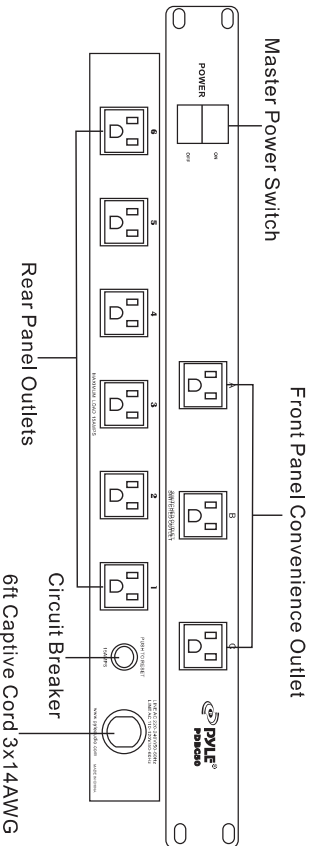
**PCBC70 FEATURES:**  
\* 1U Rack Mountable  
\* Spike & surge protection ensures equipment stays safe and your power stays clean  
\* 9 separate LED ON/OFF power supply switch on the front panel  
\* 9 separate power supply outlets on the back panel  
\* 15 amp rating with circuit breaker, and push to reset function with current protection

**Front & Real Features:**

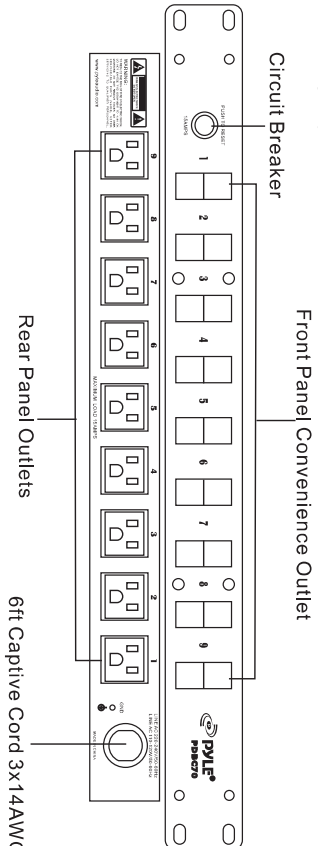
**PCO850**



**PDBC50**



**PDBC70**



**Specifications:**

- Maximum Output Current: ..... 15 amps
- Line Cords: ..... Captive 6 foot cord, 3X14 AWG
- Operating Voltage: ..... 120VAC 60Hz
- Energy Dissipation: ..... 150 joules
- Peak Impulse Current: ..... 12000 amps
- Operating Voltage: ..... 115V/60Hz (PCO850)  
115-230V/50-60Hz (PDBC50 & PDBC70)
- Machine Dimension:
- PCO850: ..... 485 (L) X 100 (D) X45 (H) MM
- PDBC50: ..... 485 (L) X 100 (D) X45 (H) MM
- PDBC70: ..... 485 (L) X 170 (D) X 45 (H) MM
- Machine Weight: ..... PCO850:1.6KG  
PDBC50:1.7KG  
PDBC70:2.5KG
- Construction(PCO850): ..... Aluminum Front Panel, Steel Chassis,  
Black painted
- Construction(PDBC50 & PDBC70): ..... Steel Front Panel, Steel Chassis,  
Black painted