SECTION 12 36 00
COUNTERTOPS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Countertops for architectural cabinet work.

1.02 RELATED REQUIREMENTS

A. Section 06 41 00 - Architectural Wood Casework.

1.03 REFERENCE STANDARDS

A. ANSI A208.2 - Medium Density Fiberboard (MDF) for Interior Applications; 2016.

B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2021a.

C. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition; 2014, with Errata (2016).

D. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards, U.S. Version 4.0; 2021.

E. ISFA 2-01 - Classification and Standards for Solid Surfacing Material; 2013.

F. NEMA LD 3 - High-Pressure Decorative Laminates; 2005.

G. PS 1 - Structural Plywood; 2009 (Revised 2019).

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Specimen warranty.

C. Shop Drawings: Complete details of materials and installation; combine with shop drawings of cabinets and casework specified in other sections.

D. Selection Samples: For each finish product specified, color chips representing manufacturer's full range of available colors and patterns.

E. Test Reports: Chemical resistance testing, showing compliance with specified requirements.

F. Installation Instructions: Manufacturer's installation instructions and recommendations.

G. Maintenance Data: Manufacturer's instructions and recommendations for maintenance and repair of countertop surfaces.

1.05 QUALITY ASSURANCE

A. Fabricator: Same fabricator as for cabinets on which tops are to be installed.

B. Installer Qualifications: Company specializing in performing work of the type specified in this section, with not less than three years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.

B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.07 FIELD CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

PART 2 PRODUCTS

2.01 COUNTERTOPS

A. Solid Surfacing Countertops: Solid surfacing sheet or plastic resin casting over continuous substrate.
   1. Flat Sheet Thickness: 1/2 inch, minimum.
   2. Solid Surfacing Sheet and Plastic Resin Castings: Complying with ISFA 2-01 and NEMA LD 3; acrylic or polyester resin, mineral filler, and pigments; homogenous, non-porous and capable of being worked and repaired using standard woodworking tools; no surface coating; color and pattern consistent throughout thickness.
      a. Surface Burning Characteristics: Flame spread index of 25, maximum; smoke developed index of 450, maximum; when tested in accordance with ASTM E84.
      b. Color and Pattern: As selected by Owner from manufacturer's full line.
   3. Back and End Splashes: Same sheet material, square top; minimum 4 inches high.
   4. Fabricate in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), Section 11 - Countertops, Premium Grade.

2.02 MATERIALS

A. Plywood for Supporting Substrate: PS 1 Exterior Grade, A-C veneer grade, minimum 5-ply; minimum 3/4 inch thick; join lengths using metal splines.

B. Medium Density Fiberboard for Supporting Substrate: ANSI A208.2.

C. Adhesives: Chemical resistant waterproof adhesive as recommended by manufacturer of materials being joined.

D. Joint Sealant: Mildew-resistant silicone sealant, clear.

2.03 FABRICATION

A. Fabricate in accordance with standards governing fabrication quality that are specified in Section 06 41 00.

B. Fabricate tops and splashes in the largest sections practicable, with top surface of joints flush.
   1. Join lengths of tops using best method recommended by manufacturer.
   2. Fabricate to overhang fronts and ends of cabinets 1 inch except where top butts against cabinet or wall.
   3. Prepare all cutouts accurately to size; replace tops having improperly dimensioned or unnecessary cutouts or fixture holes.

C. Provide back/end splash wherever counter edge abuts vertical surface unless otherwise indicated.
   1. Secure to countertop with concealed fasteners and with contact surfaces set in waterproof glue.
   2. Height: 4 inches, unless otherwise indicated.

D. Solid Surfacing: Fabricate tops and wall panels up to 144 inches long in one piece; join pieces with adhesive sealant in accordance with manufacturer's recommendations and instructions.

E. Wall-Mounted Counters: Provide skirts, aprons, brackets, and braces as indicated on drawings, finished to match.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect Engineer of unsatisfactory preparation before proceeding.

C. Verify that wall surfaces have been finished and mechanical and electrical services and outlets are installed in proper locations.

3.02 PREPARATION

A. Clean surfaces thoroughly prior to installation.

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

3.03 INSTALLATION

A. Securely attach countertops to cabinets using concealed fasteners. Make flat surfaces level; shim where required.

B. Seal joint between back/end splashes and vertical surfaces.

3.04 CLEANING

A. Clean countertops surfaces thoroughly.

3.05 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Date of Substantial Completion.

END OF SECTION

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SECTION 22 05 10
BASIC PLUMBING REQUIREMENTS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 PROJECT MANAGEMENT

A. Drawings are diagrammatic, all offsets, fitting, valves and accessories are not shown. Refer to all drawings in the contract documents and plan work accordingly. Coordinate with all trades and crafts.

B. In case of interference between trades, Architect Engineer will decide which work is to take precedence regardless of work that might be installed.

1.03 CODES, ORDINANCES, INSPECTIONS, AND PERMITS

A. Execute and inspect Work in accordance with local and state codes, laws, ordinances, rules and regulations applicable to particular class of Work.

B. Should any part of Drawings or specifications be found to be in conflict with applicable codes or ordinances, notify the Architect Engineer, in writing, 72 hours prior to receiving of bids. After the receiving of bids, any discovery of code violations shall be promptly reported to the Architect Engineer. Any work performed knowingly in violation of codes shall be corrected without additional expense to the Owner or his representative.

C. All plumbing work shall comply with latest local codes and the the State in which the Project is located plumbing code.

D. Arrange with County, City, or State, if City has no ordinances covering work, for complete inspection, paying all charges pertaining thereto. Give proper authority all requisite notice relating to work under such; afford Architect Engineer and all authorized inspectors every facility for inspection and be responsible for all violations of law. Upon completion of Work, have Work inspected, if required, obtaining certificate of inspection and approval from inspecting agency and deliver such certificate to Architect Engineer. Comply with Division 01.

1.04 COORDINATION

A. Conduct multi-trade coordination and preinstallation meetings to establish bottom elevations of all piping, ductwork and conduit before fabrication and installation. Comply with Division 01.

B. All equipment shall be installed in accordance with the manufacturer's recommendations. It is the contractor's responsibility to follow all installation requirements and guidelines provided in the manufacture's installation manual. If there is a conflict with regards to installation, the contractor shall stop work and notify the design Architect Engineer representative.

1.05 SUBMITTALS

A. Comply with Division 01.

B. Product Data: Include rated capacities, operating characteristics, furnished specialties, and accessories for plumbing fixtures, plumbing specialties, plumbing equipment, and others as may be requested.

C. Shop Drawings: Miscellaneous steel for pipe support, duct support, pipe guides, anchors, and miscellaneous steel used for supporting any mechanical equipment.

1.06 SUBSTITUTIONS

A. Comply with Division 01.

B. Any proposed substitutions of equipment shall be accompanied by shop drawings showing revised equipment layouts, piping diagrams, ductwork drawings and/or wiring diagrams. Where substituted equipment furnished requires use of larger, more, or differently arranged

connections, such connections shall be installed to the complete satisfaction of Architect Engineer without additional cost to Owner.

C. Should a substitution be accepted and subsequently proven unsatisfactory for the service intended within the warranty period, the Contractor shall replace this material or equipment with that as originally specified, or corrected as directed by Architect Engineer.

1.07 CLEAN UP

A. Comply with Division 01.

B. Do not allow waste material or rubbish to accumulate in or about job site.

C. Any discoloration or other damage to parts of building, its finish or furnishings due to failure to properly clean or keep clean mechanical systems shall be repaired without cost to Owner.

1.08 EQUIPMENT START-UP AND SYSTEM COORDINATION

A. Comply with Division 01.

B. The Contractor shall be responsible for placing all equipment and system components into operation. Individual components shall be coordinated with other parts of Mechanical, Electrical, Plumbing and/or Fire Protection Systems to ensure that the entire project functions as designed and described by the contract documents.

1.09 CUTTING AND PATCHING

A. Comply with Section 01 1700 - Execution and Closeout Requirements.

B. Provide all cutting and patching required to perform the mechanical work, when alteration, repair, renovation, or addition, to existing construction.

1.10 DEMOLITION

A. Comply with Section 02 4100 - Demolition.

B. Alterations and Minor Demolition: Comply with Section 01 1700 - Execution and Closeout Requirements.

1.11 RECORD DOCUMENTS

A. Comply with Division 01.

1.12 OPERATION INSTRUCTIONS

A. Comply with Division 01.

B. Printed instructions, installed in a suitable frame with a glass front, covering the operation and maintenance of each major item of equipment, shall be posted at locations designated by the Architect Engineer. Provide 2 bound manuals containing complete repair parts lists, and operating service and maintenance instructions for all equipment provided.

1.13 INSTRUCTION

A. Comply with Section 01 7900 - Demonstration and Training.

1.14 FLASHINGS

A. Refer to Division 07 for roof flashings.

1.15 ACCESS PANELS

A. Comply with Section 08 3100 - Access Doors.

B. Provide access panels as necessary for servicing of fire dampers, smoke dampers, valves, VAV terminals and any other equipment in concealed spaces.

1.16 PAINT EXTERIOR PIPING

A. All exterior steel piping shall be painted using a metal primer coat, second coat of enamel, top coat of enamel and a finish coat of gloss.

B. Natural gas piping shall be painted yellow.

1.17 DOMESTIC WATER PIPING

A. Valve, strainer and other domestic water piping specialties shall be bronze, brass, stainless steel or epoxy coated cast iron only for the services that are in contact with domestic water.

B. No cast iron valves, strainers or any other accessories that contact domestic water are allowed without epoxy coating.

1.18 LOCAL SITE CONDITIONS

A. Before bidding, make complete investigation at site in order to be informed as to location of utilities and as to conditions under which work is to be performed. Utility locations shown were obtained from surveys and/or local utility companies and are not to be assumed as being accurate.

B. Make determination of soil conditions before bidding. These specifications and accompanying drawings in no way imply as to condition of soil to be encountered.

1.19 GUARANTY-WARRANTY

A. This guarantee shall include capacity and integrated performance of component parts of various systems in strict accord with the true intent and purpose of these specifications. Conduct such tests as herein specified or as may be required by the Architect Engineer to demonstrate capacity and performance ability of various systems to maintain specified conditions.

B. All materials and equipment shall be new and unused and shall carry a full year's warranty from time Owner accepts building or the date of substantial completion, whichever is earlier, regardless of start-up date of equipment, unless a longer warranty period is specified under other sections.

1.20 EQUIPMENT CONNECTIONS

A. Each equipment item with drain connections, shall be provided with a properly-sized drain run to the nearest floor drain or as directed.

B. Rough-in and make final connection to all equipment requiring same, furnished under other Divisions of these specifications or by the Owner.
   1. Provide necessary labor and materials, including stop valves, traps, pressure-reducing valves, etc. necessary. Trap and vent drainage connections as required.
   2. If equipment or fixtures to be furnished by Owner and/or Owner's vendor are not delivered prior to final acceptance, services shall be capped or plugged at walls or floor as directed, ready for future connection.

C. No equipment or fixture shall be "roughed-in" until proper rough-in drawings are in the hands of the trade doing the work.

1.21 ELECTRICAL

A. Furnish and install all electrical interlock, control and other wiring, not covered specifically under the electrical plans and specifications, for proper operation and control of all equipment specified under this Division of the specifications.

B. Supervise and coordinate all electrical work in connection with mechanical system.

1.22 MOTOR CONTROLLERS

A. Furnish all motor controllers or contactors, not furnished as part of a motor control center, for proper operation of all motors.

B. Where motor controllers or contactors are furnished as part of a motor control center, provide a schedule of every motor or equipment item furnished, its voltage requirements, type controller required, accessories required and interlocks. This schedule shall be submitted within 45 days of Notice to Proceed to Architect Engineer and supplier of motor control center for approval.

C. Provide magnetic starters and with overload protection for single phase motors larger than 1/2 horsepower and all 3 phase motors. Starters for 3-phase motors shall have 3-pole overload protection. All starters shall have pilot lights. Starters being controlled by other devices shall

have "hand"-"off"-"auto" switches. Starters being controlled locally shall have push button stations mounted on starter or remote. Provide auxiliary contacts as required. Provide manual starter with overload on all motors 1/2 HP or less that are not inherently protected, and if required for remote control, a magnetic contactor.

D. All starters and switches shall be in a proper NEMA enclosure and shall be identified with engraved laminated plastic label.

E. Provide variable frequency drive controllers on all pump motors that are three phase powered regardless if they serve a constant flow or variable flow system.

F. Provide a motor mounterd potentiometer dial on all pump motors that are electronic commutation (EC) motors.

G. Provide variable speed solid state controllers on all pump motors that are single phase powered and are not electronic commutation (EC) motors.

H. All starters and switches shall be in a proper NEMA enclosure and shall be identified with engraved laminated plastic label.

1.23 EXCAVATION, TRENCHING, AND BACKFILLING

A. All excavation, trenching and backfilling in connection with the mechanical system, to a point 5'0" outside the building, is included as part of this Division.

B. All excavation required shall be done as part of the bid price regardless of any implied conditions on the plans or in these specifications.

C. Excavation to have 12 inch minimum and 24 inch maximum clearance on all sides. Do not carry excavation below required level unless indicated otherwise on the drawings. Excess excavation below required level shall be backfilled at no expense to Owner with earth, sand, gravel or concrete, as directed by Architect Engineer and thoroughly compacted. Remove any unstable soil and replace with gravel, crushed stone or clean sand and thoroughly compact. Architect Engineer will determine the depth of removal of any unstable soil encountered. Grade ground adjacent to excavations to prevent water running in. Remove, by pumping or other means any water accumulated in excavation.

D. Banks of trenches shall be vertical or as shown on the drawings. Width of trench to be 5 inches minimum, 8 inches maximum on each side of pipe bell. Bottom of trench for sewers and culverts shall be rounded so that an arc of circumference equal to 0.6 of outside diameter or pipe rests on undisturbed soil wherever practicable. Excavate bell holes accurately to size by hand. In rock, excavations shall be carried 8 inches below bottom of pipe. Use loose earth or gravel for backfill and tamp thoroughly.

E. Bracing, sheathing and shoring shall be performed as necessary to complete and protect excavations indicated on the drawings, as required for safety, as directed by Architect Engineer, or to conform to governing laws.

F. After piping, conduit, ducts, etc. have been installed, inspected, tested and approved by governing agency, backfill trenches with clean, stable soil free from stones. Place backfill in 4 inch layers, tamped under and around pipe and conduit to height of at least 2'0" above pipe. Tamping shall be done in such manner as not to disturb underlying work. Remainder of trenches and excavations shall be backfilled with clean, stable earth, deposited in 8 inch layers and brought up to rough grade, with each layer compacted to density of surrounding soil. Remove sheathing and shoring as backfill is placed and fill space with dry sand. Compaction tests in accordance with Division 31 may be required by the Architect Engineer, with the costs paid by the Contractor.

G. Replace existing appurtenances removed or damaged in connection with work, and restore to original conditions, unless otherwise directed.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

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